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What works to support brief smoking cessation in acute hospital settings?

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What works to support brief smoking cessation in acute hospital settings?

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Abstract

Study Aim

The National Institute for Health and Care Excellence's (2013) guidance on smoking cessation in acute services indicates healthcare professionals have a duty to provide people with support to stop smoking. However there is a lack of evidence on how this is best achieved in practice. This implementation study sought to determine what works to support brief smoking cessation (BSC) in acute hospital settings, through exploration of organisational delivery and the role of healthcare professionals.

Methods

The study utilised a realist approach with embedded stakeholder engagement to develop an initial programme theory with three provisional theory areas: *organisational consistency*, *the healthcare professionals' role* and *the window of opportunity*. A realist synthesis of the evidence resulted in contingent context mechanism outcomes configurations (CMOs) on these theory areas. These CMOs were then interrogated within a Health Board through a mixed methods approach, using interviews (n=27), a survey (n=279) and a review of Health Board documentation (n=44). This culminated in final CMO configurations and a programme theory to explain how BSC implementation in acute hospital settings can be supported.

Findings

Healthcare professionals implement BSC when they value it as an important part of their role in contributing to improved patient outcomes; this is due to personal and professional influences, such as knowledge or experience. Organisational support, training and working in an environment where BSC is visible as standard care, positively influences implementation. However, the context exerts a strong influence on whether BSC is implemented or not. Healthcare professionals make nuanced judgements on whether to implement BSC based on their assessment of the patient's responses, the patient's condition and other acute care demands. Healthcare professionals are less likely to implement BSC in dynamic and uncertain environments, as they are concerned about adversely impacting on the clinician-patient relationship and prioritise other acute care requirements.

Conclusions

Organisations should actively promote BSC as a core function of the acute hospital setting and improve professional practice through leadership, training, feedback and visible indicators of organisational commitment. Healthcare professionals can be persuaded that implementing BSC is an acute care priority and an expectation of standard practice for improving patient outcomes.

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Glossary of Terms

Brief smoking cessation (BSC): the process of *assessing* people's smoking status, *advising* them to quit and *assisting* them to access support and nicotine replacement therapy (NRT); this is usually less than 20 minutes.

Conjecture: inferred propositions or hypotheses.

Context: "the spatial and institutional locations of social settings", including the norms, values and interrelationships within them (Pawson & Tilley, 1997, p. 216)

Context-Mechanism-Outcome (CMO) configurations: a proposition stating what it is about a programme that works for whom in what circumstances.

Critical Realism: a philosophy which "distinguishes between the world and our experience of it", "to look beyond what is directly observable in an endeavour to offer more comprehensive understanding" (Wand, White & Patching, 2010, p. 234).

Cumulation: is the process of developing transferable knowledge from abstract CMOs.

Demi-regularity: uniformities and semi-predictable patterns (Pawson, 2006).

Health Board (HB): the organisation responsible for the three acute hospital sites within this study.

Healthcare professionals (HCPs): health workers who have completed specific education and are registered with a professional body to practice.

Hypotheses: in this study the proposition of how the programme theory may work and for whom.

Mechanism: "the choices and capacities which lead to regular patterns of social behaviour" (Pawson & Tilly, 1997, p. 216).

Middle-range theory: specific enough to generate hypotheses to be tested, or to explain findings but may be applied across other domains (Wong, Westhorp, Pawson & Greenhalgh, 2013).

Public Health Wales: the organisation which provides independent public health advice to support the Health Board within this study, to facilitate health and wellbeing for its target population.

Realist evaluation: this recognises the significance of context to understand why an intervention works, for whom and in what circumstances.

Realist synthesis: a review of evidence using a realist approach.

Smoking cessation (SC): the process of support to assist smokers to quit.

Stop Smoking Wales (SSW): the Welsh community support service for smoking cessation.

Outcomes: the intended and sometimes non-intended results of a programme.

Foreword

Coronary care nursing has been a key part of my nursing career since registering as an adult nurse in 1993 in St Mary's Paddington. My subsequent development as a coronary care nurse, and later within advanced clinical practice, had a strong focus on health promotion, in particular smoking cessation. Having worked in coronary care units in several hospitals, I gained my current post as a Lecturer of Adult Nursing and brought this influence of health promotion to my teaching for pre and post registration healthcare professionals.

I have always felt that smoking cessation was intrinsic to my role, as this has both personal and professional resonance for me with regard to improving patient outcomes. As I developed professionally, and with continuing links to clinical practice, I gained more insight into the complexity surrounding tobacco addiction and how this translated into the evident difficulties in embedding it as part of standard care in acute hospital environments. The intricacies involved in conveying respect for patients and balancing the demands of a competing priorities and legal requirements for tobacco control, was a trigger for the exploration of brief smoking cessation in acute hospital settings within this study.

This study is part of a taught doctorate in Healthcare commenced on a part-time basis in 2011. The doctorate comprised of taught modules and an implementation project, which is the focus of this thesis. The doctorate has been challenging but has offered a wealth of insight into a range of subjects, such as change management and epidemiology, which positively informed this study. Additionally the final module, *Advancing Professional Skills*, required a reflective portfolio to chart the process and outcomes of the doctorate journey; an excerpt from one entry is in Appendix 1.

My clinical, educational and personal experiences therefore influenced the focus and design of this study. I was interested in opening the 'black box' of brief smoking cessation with a particular focus on patient and healthcare professional interaction and the influence of context. The aim of the study is to offer insight into how good practice may be promoted within the vitally important area of brief smoking cessation in acute hospital settings.

Chapter One

Introduction

This study advances knowledge on what works to support the healthcare professional's role in the implementation brief smoking cessation (BSC) in acute hospital settings. It offers an explanation of the complexity surrounding BSC and how this influences healthcare professionals' decisions to implement the intervention. The study's findings enhance understanding on how professional practice may be improved. Smoking is a global societal and individual health burden, with smoking cessation a key focus for health service provision (World Health Organisation, WHO, 2012). Consequently hospital smoking cessation is embedded within national strategy and guidance (National Institute for Health and Clinical Excellence, NICE, 2013; Welsh Government, WG, 2012). The study uses a realist approach, which is theory informed, and may offer insight into the factors influencing the implementation of complex interventions (Pawson & Tilley, 1997).

The study begins by exploring the influences and impact of smoking and the development of policy and guidance for tobacco control. It articulates the importance of the healthcare professional's role with regard to the facilitation of smoking cessation. As this study has an implementation focus, Chapter Two explores implementation research and the impact of complexity, context and causality. The realist approach is critiqued in Chapter Three to articulate the rationale for its use in the study. Chapter Four and Five detail the methods and findings of a realist synthesis based on a provisional programme theory of BSC in acute hospital settings and the emergence of contingent context-mechanism-outcome (CMOs) configurations. These served as hypothesis for a realist approach to evaluation in testing the programme theory within a Health Board. Chapter Six explains the study methods and Chapter Seven articulates the study's findings. The discussion in Chapter Eight analyses the refined CMO configurations in light of evidence and middle-range theories to provide demi-regularities that explain the impact of context on the mechanisms influencing BSC. This culminates in recommendations for policy, practice and research for BSC in acute hospital settings.

BSC in acute hospital settings presents challenges for healthcare professionals due to the impact of context, patient acuity and other competing priorities. Provision of smoking cessation in acute hospitals is acknowledged to be suboptimal (Slattery et al. 2016). Therefore furthering understanding and knowledge on BSC in acute hospital settings can be seen as important for multiple stakeholders, with the potential to impact both on public well-being and resources. The realist approach culminates in a revised programme theory of what works for whom, how and why in the implementation of brief smoking cessation in acute hospital settings. This new knowledge can inform on multiple levels, from policy, to best practice care, and guide the development of further research. Smoking cessation is a societal imperative and this study offers insight into how it may be implemented successfully in acute hospitals.

1.1 Background to the study

There is overwhelming evidence of the harms of smoking tobacco on health. Since the landmark research of Doll and Hill (1950), smoking is acknowledged as the undisputable leading cause of preventable death (WHO, 2011). This informs strategic drives for smoking cessation within healthcare in the United Kingdom (UK) (Department of Health, DH, 2010; WG, 2012). This study aims to review the implementation of a brief smoking cessation intervention in acute hospital settings within a Health Board in Wales. In 2010 there were 1,340 smoking related deaths in this Health Board (Public Health Wales, PHW, 2010).

The Health Board examined was established following the merger of several Trusts over a large geographical area. The acute hospitals within the Health Board are smoke-free sites for staff, patients and the public. Whilst the merger had provided opportunities for sharing good practice, continual reorganisation had also led to job uncertainty and role change at all levels. More recently failures in care delivery have led to high profile scrutiny. Whilst this study was designed to focus on the role of healthcare professionals (HCPs), to determine what works to support the implementation of BSC in acute hospital settings, examining the impact of contextual

factors was vital to gaining understanding on the influences on healthcare professionals that impacted on their decisions to implement BSC, or not.

1.1.1 Tobacco smoke

Globally smoking causes deaths mainly from cancers, cardiovascular and respiratory diseases; furthermore non-smokers who are significantly exposed to environmental tobacco smoke may increase their risk of these diseases by 30% (WHO, 2011). The WHO (2007) asserts that there is no safe level of exposure to environmental tobacco smoke. The nicotine in tobacco is highly addictive, and whilst smokers feel tobacco relaxes them, this sensation only stems from the easing of the tobacco craving whilst physiologically the reverse occurs with the initiation of cardiovascular and psychomotor stimulation (Jarvis, 2004). Yet smoking is a complex addiction, initiated and sustained through multiple social, cultural and environmental factors (British Medical Association, BMA, 2011).

Smoking is strongly associated with socio-economic deprivation, with Marmot et al. (2010) describing smoking as a proximal cause of health inequalities. Whilst smoking levels have reduced in recent decades, prevalence remains constant in lower socio-economic groups who are at higher risk of starting to smoke, more likely to be addicted and have less likelihood of giving up compared to affluent smokers (BMA, 2007). In the UK smoking is the leading cause of premature death and health inequalities (PHW, 2011). In Wales smoking levels have reduced, yet 19% of the population still smokes (WG, 2016), causing around 5,650 preventable deaths each year (PHW, 2011). Widening health inequalities are also of concern, as rates are highest in the most deprived populations reaching levels over 35% (WG, 2012). There is no doubt of consistent relationships between socio-economic deprivation and higher illness and mortality rates with divisions widening (Marmot et al. 2010; WG, 2012). Additionally tobacco may trap people in poverty (Hiscock, Bauld, Amos, Fidler & Munafo, 2012). As tobacco tax increases, the proportion of people's expenditure on smoking also increases; the Acheson report (1998) found 70% of people on income support spent 15% of household income on tobacco.

In Wales life expectancy in the most deprived areas is 8.6 years lower for men and 6.5 years lower for women, compared to the least deprived areas (PHW, 2011).

Smokers from lower socio-economic status (LSES) are as likely to try to quit as those from higher status but have far less chance of succeeding, this has increased social inequalities (David, Esson, Percucic & Fitzpatrick, 2010). In LSES more immediate concerns negatively impact on the motivation to quit (Hiscock et al. 2012), such as higher financial strain (Kendzor et al. 2010); a lack of social support is also a factor (Hiscock et al. 2012). In Wales 70% of smokers would like to stop but quit rates are lower in the more deprived areas (Public Health Wales Observatory, PHWO, 2012).

Adolescence is the most vulnerable period to start the cycle of tobacco addiction, particularly for those from socially deprived areas with low educational achievement (Graham, Inskip, Francis & Harman, 2006; Mathur, Erikson, Stigler, Foster & Wong, 2013). Multiple factors influence children to smoke, such as peer pressure and insufficient knowledge on its harms (David et al. 2010). A key influence is having parents who smoke; this is thought to increase the chance of starting by 90% (WG, 2012). In Wales 19% of adults report being exposed to other people's smoke (WG, 2013), and 39% of children live with adults who smoke (Welsh Assembly Government, WAG, 2010a). Children from deprived areas with parents who are unemployed or in routine or manual classes are more likely to be exposed to people smoking particularly in the home (PHWO, 2012). In Wales it is estimated that one in six girls and one in nine boys aged 15 -16 smoke (PHWO, 2012).

Smoking is often viewed as a bad habit however, Lawn (2011) underlines that smoking does not become a choice but an addiction requiring treatment, as arguably the choice to smoke may be determined as a child, with adults living with the consequences of addiction. *Smoking Kills* (DH,1998) highlighted the detrimental impact of smoking to society in terms of health and cost and established smoking as key strategic target for health promotion in the UK, this has been underpinned by recent legislation.

1.1.2 Legislation

The UK is a signatory of the WHO's (2003) international treaty the *Framework Convention on Tobacco Control* (FCTC), which since 2005 confers a legal requirement on member states to have legislation and policies in place to protect its

citizens from the harms of tobacco through the development of smoke-free laws and importantly, by promoting smoking cessation (SC). This resulted in the prohibition of smoking in public premises under the Health Act (2006). Although primary legislation on health was applicable to England and Wales, following devolution, Wales had powers to formulate health regulations and policy. Consequently *The Smoke-free Premises (Wales) Regulations* (2007) emerged, followed by further stringent regulation (WG, 2015).

1.1.3 Healthcare organisation and policy on smoking in Wales

Since devolution in 1999, the Welsh Government has primary accountability for health in Wales. The Minister for Health and Social Services has direct responsibility for delivering health services through the Department for Health and Social Services. There are seven Local Health Boards who preside over primary, community, hospital and specialised services. These Local Health Boards have a statutory requirement for working in collaboration with the twenty two Local Authorities who are responsible for social care. Additionally there are three All Wales NHS Trusts for public health, ambulance and cancer services. Public Health Wales provides the strategy and delivery of public health at national and local level and this encompasses the strategy for smoking cessation in Wales. The responsibility for achievement of strategy related to smoking cessation rests with the Local Health Boards, Trusts and Local Authorities. In Wales smoking related illness convey significant costs to the NHS, accounting for 7% of the total healthcare expenditure from 2007-8 (Phillips & Bloodworth, 2009). Smoking cessation has been incorporated into a range of health initiatives and standards such as *Health Challenge Wales* (WAG, 2010b) and the National Service Frameworks, for example *Cardiac Disease* (WAG, 2009a). In 2012 the Welsh government launched its *Tobacco Control Action Plan for Wales* with its over-arching aim of reducing tobacco use prevalence levels to 16% by 2020, with yearly monitoring (WG, 2012). Five core action areas are cited: promoting leadership, reducing the uptake of smoking, reducing smoking prevalence levels and exposure to environmental tobacco smoke.

The priority for tobacco control is set out in the Health Board's strategic plan (2010) and smoke-free policy (2011). The Health Board collaborates with several authority partners on tobacco control, the key strategic ones being Public Health Wales and

the Stop Smoking Wales service (SSW). Clients generally self-refer to SSW and 30% are non-smokers at 52 weeks post intervention (SSW, 2011). This area of Wales had lower SSW referral rates compared to all Wales figures for self-referrals and for referrals directly from the Health Board (only 2.2% of referrals compared to 2.6% all Wales) (PHW, 2010). Health Board guidance requires all hospital HCPs to deliver BSC advice to inpatients, consisting of 3 components: *Assess, Advise and Act*, which involves asking patients about their smoking status, briefly advising those who smoke to quit and, if required, referring them to stop SSW and for Nicotine Replacement Therapy (*Provision of smoking cessation brief advice*, Health Board, 2014). It is preferable that HCP's refer patients as those who attempt to quit alone are less likely to succeed (NICE, 2006). This is supported by the Public Health Wales (2013) slogan "Making every contact count" for lifestyle health promotion.

1.1.4 The role of the healthcare professional

The WHO (2005) emphasizes the importance of the role of HCPs in tobacco control, through working to reduce tobacco consumption in acting as role models and addressing tobacco dependence as part of their standard care practice. It advocates BSC and referral to more intensive smoking cessation counselling. Public Health Wales has secured that smoking cessation training, provided by Stop Smoking Wales, is available for all Health Board staff. However there are strong indicators that healthcare professionals within the Health Board evaluated within this study have some progression to make to reach the all Wales target of 16% smoking prevalence by 2020, as 21% of adults smoke in this area of Wales (PHWO, 2015).

1.1.5 Smoking cessation in hospital

Smoking cessation (SC) in secondary care, which is acute hospital settings, is part of action area on reducing smoking prevalence, with aims to increase inpatient referrals to the specialised community smoking cessation service *Stop Smoking Wales* to 5% (WG, 2012). Each year over 27,000 of Welsh hospital admission are related to smoking (PHW, 2010). In 2010 this was 8% of male and 5% female admissions from the most deprived areas (PHWO, 2012). Hospitals are expected to promote an ethos health promotion (WHO, 1997), so offer a logical focus for smoking cessation within the *Tobacco Control Action Plan* (WG, 2012). Hospitals are

smoke-free due to the Health Act (2006) but smoking is also prohibited anywhere on hospital premises in Wales (WG, 2012). The aim of the hospital smoke-free environment is to deliver a public health message about the dangers of smoking, protect patients, employees and the public from the harms of environmental tobacco smoke and increase patients' impetus to quit.

The advent of smoking bans within hospital has reportedly reduced smoking amongst hospital staff (Martinez, 2009; Ratschen, Britton & McNeill, 2008). However, patients continue to smoke in hospital grounds, particularly congregating at hospital entrances exposing people entering the building to tobacco smoke, and creating the opposite image of a healthy hospital (Ratschen et al. 2008). Certainly this phenomenon is evident within acute hospitals in the Health Board.

Hospitalisation has long been identified as a "window of opportunity" for HCPs to offer SC (Emmons & Goldstein, 1992; Glasgow, Stevens, Vogt & Mullooly, 1991); this refers to a brief unique period of time that can be capitalised on to motivate patients to quit smoking. Whilst smokers appear to understand the risks involved in smoking they may not accept their personal risk (Chapman & Liberman, 2005) and deteriorating health may contribute to a decline in motivation to stop smoking (Gritz et al. 2005). However, "Personal health events may increase perceptions of personal vulnerability to threat, and in doing so, increase motivation for behavioural change" (McBride, Emmons & Lipkus, 2008, p 3). Lando, Hennrikus, McCarty and Vessey (2003) found the experience of hospitalisation itself led to substantial long-term quitting for all categories of hospitalised smokers. Patients may be more receptive to SC and motivated to quit especially when hospitalised with smoking-related disorders (Lando et al. 2003; Orleans, Kirsteller & Gritz, 1993; Twardella et al. 2006). Although UK studies indicate smokers from lower socio-economic groups are more likely to object to SC advice (Roddy, Antoniak, Britton, Molyneux & Lewis, 2006); increasingly smokers expect their tobacco use will be addressed in health care (Shultz, Hossain & Johnson, 2009). SC in hospital may be further supported by the enforced smoking abstinence.

The "window of opportunity" appears to be synonymous with the *teachable moment*; this is when "naturally occurring life transitions or health events thought to motivate individuals to spontaneously adopt risk-reducing health behaviours" (McBride et al.

2003 p.156). Teachable moments for health promotion have been identified in several contexts, for example in primary care (Cohen, Clark, Lawson, Casucci & Flocke, 2011); for cancer patients (McBride et al. 2008); and with regard to alcohol use for patients being discharged from Intensive Care (Clark & Moss, 2011) but they have particularly been applied to smoking cessation, for example Butler, Pill and Stott (1998), McBride et al. (2003), and Flocke et al. (2012). Rigotti, Clair, Munafo and Stead (2012) describe hospitalisation as a teachable moment for smoking cessation.

1.2 The evidence for brief smoking cessation in hospital

Gritz et al. (1991 & 1993) demonstrated that BSC advice given in the context of medical care is a powerful tool. However BSC lacks conceptual clarity with an unclear time component and multiple terms of use such as: “level 1”, “low intensity” or “minimal intervention/contact”. Bolman, de Vries and van Breukelen (2002) felt 15-30 minutes was a minimal intervention, yet Miller and Wood (2003) defined low intensity as less than 5 minutes. Cochrane reviews (Rigotti et al. 2012; Stead et al., 2013), define BSC as less than 20 minutes. The BSC intervention advocated by the Health Board can take two minutes to complete (DH, 2009).

There is some support for the opportunistic method of *Assess, Advise, Act* (Aveyard et al. 2012; DH, 2009; Eadie, Bauld & MacAskill, 2008; Ghodse et al. 2008).

However, Butler et al. (1998) cautioned that making assumptions on the benefit of opportunistic repetitive anti-smoking advice requires careful reconsideration. The DH (2009) guidelines do not cite evidence for BSC and although the Health Board refer to Coleman’s (2004) guidance to indicate BSC may have a positive effect once for every forty patients, these claims are not substantiated with evidence.

Wolfenden, Campbell, Wiggers, Raoul and Bailey (2007) critically analysed seven Cochrane reviews on SC concluding there was little supporting evidence for BSC, despite its recommendation. A recent Cochrane review of 50 randomised controlled trials on interventions for SC in hospitalised patients concluded that intensive interventions during hospital stay and continued for at least one month post discharge did increase smoking cessation (RR 1.37, 95% [CI 1.27- 1.28]; 25 trials), with no statistically significant benefit found for less intensive counselling

intervention (Rigotti et al. 2012). Nicotine Replacement Therapy was found to increase cessation significantly when added to intensive counselling.

Rigotti et al. (2012) indicated that effective counselling interventions were generally delivered by a dedicated practitioner and not a HCP responsible for other aspects of patient care. Recent NICE guidance (2013) echoes these findings, recommending that smoking cessation in hospital should be supported by dedicated on site specialist staff to provide intensive support. It therefore appears that BSC enables identification and referral of patients but intensive smoking cessation increases chances of quitting; with recommendations for BSC in acute hospital settings based on practical reasons rather than compelling evidence. This conflict may have implications for BSC implementation as HCPs may not value or adopt it.

The Health Board has no inpatient smoking cessation service, with SSW providing community provision. Without the expertise of a hospital smoking cessation service HCPs may not feel they have the knowledge, skill or time to tailor the intervention to the patient's individual needs, BSC may also conflict with HCPs' clinical judgement in identifying whether patients are receptive or the circumstances appropriate.

Furthermore, HCPs feel they have other more important priorities in the acute hospital setting, often related to patient acuity (Schultz, Bortoff & Johnson, 2006; Thy, Boker, Gallefoss & Bakke, 2007). Despite national and local guidance for HCPs to offer BSC advice and refer to smoking cessation services (Health Board 2012; NICE 2013; WG, 2012), evidence suggests smoking cessation is not standard care in hospital (Freund et al. 2009a). Contextual issues appear to adversely impact on HCPs implementation of BSC (Segaar, Wilemsen, Bolman & De Vries, 2007a; Targhetta et al. 2011). Findings suggest HCPs focus on documenting patients' smoking status rather than offer smoking cessation advice (Borrero & Kupferschmid, 2005; Sabatino et al. 2007). Public Health Wales (2013) indicated that only 8% of patients identified as smokers received smoking cessation advice in Welsh hospitals. Brief smoking cessation in acute hospital settings therefore presents an implementation challenge.

1.3 Aims and Objectives of the study

The aims of the study were to explore the healthcare professional's role and the impact of context, to determine what works to support brief smoking cessation in acute hospitals.

The study objectives were:

1. To understand organisational delivery of brief smoking cessation in acute hospital settings in a Health Board.
2. To investigate the intentions of individual healthcare professionals in the delivery of brief smoking cessation interventions.
3. To determine how the implementation of brief smoking cessation in acute hospital settings may become embedded as part of standard practice.

1.4 Summary

The implementation of BSC in acute hospital settings appears to be compromised by competing interests, resource scarcity and dynamic contexts. Furthermore, the emphasis on a standard approach for BSC may be at odds with healthcare professionals' perceptions of individualised patient care requirements, particularly as patient acuity and patients' expectations create a focus on acute care delivery during hospital admissions. This implementation study uses a realist approach to explore why recommended practice for BSC is not part of standard care within acute hospital settings, to determine how best to facilitate its implementation. The next chapter discusses implementation research.

Chapter Two

Introduction to implementation research

As brief smoking in acute hospital settings presents an implementation challenge, this study is shaped by the ethos of implementation research. Implementation in healthcare can be seen as the active introduction of an intervention into daily routine (Davis & Taylor-Vaisey, 1997); with this requiring behavioural change (Curran, Grimshaw, Hayden & Campbell, 2011). Sustained implementation is challenging, as it is dependent on organisational change and the capacity of complex organisations to be receptive (Ferlie, 2009). Strategies are therefore required to systematically introduce information and identify barriers to change, then utilise effective communication and techniques to overcome them (Rycroft-Malone & Bucknall, 2010). Implementation in healthcare should be viewed a continuous, interactive process, rather than as a final outcome; and as a complex intervention made up of multiple components introduced into a social system (May, 2013).

2.1 Evidence-based healthcare

Implementation in health relates to the adoption and embedding of evidence into clinical practice. Evidence-based practice is the underpinning requirement for healthcare today, and is synonymous with the provision of quality care. It was originally defined, in relation to medicine, as “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care for individual patients” (Sackett, Rosenberg, Grey, Haynes & Richardson, 1996 p.71). Rycroft- Malone and Bucknall (2010) chart how the term has evolved to acknowledge the influence of multiple sources of information on clinician decision-making, including patient preferences, contextual influences and organizational resources, emphasising “it remains unknown how components are weighted and trade-offs made for specific decisions”(p.3).

Evidence-based practice is recognised as challenging as it is contingent on multiple factors (Kitson, Harvey & McCormack, 1998). Clinical practice, of proven effectiveness within research studies, often fails to offer the anticipated

improvements to patient care when translated into different contexts, impeded by implementation barriers at multiple levels (Damschroder et al. 2009). Glasziou and Haynes (2005) highlight a “practice famine amidst the evidence glut” (p 36), with clinicians bombarded with evidence of varying quality and neither having the time or the skills to get the appropriate evidence into use. Importantly, Eccles et al. (2009a) claim that the haphazard and unpredictable transfer of research findings into practice is costing lives.

2.2 Implementation research

Implementation research aims to improve the quality and effectiveness of healthcare provision through the “scientific study of the methods to promote the systematic uptake of research findings and other evidence-based practice into routine practice” (Eccles & Mittman, 2006, p.1). Implementation science relates to the body of knowledge on implementation. Knowledge translation (KT) is a different lens on implementation. KT is the process of moving from research findings to “application in different decision-making contexts” (Curran et al. 2011, p 174). Implementation research has emerged to examine this knowledge translation gap between evidence and its application, within both clinical and policy contexts (Curran et al. 2011). This is the so called ‘black box’ of implementation (Rycroft- Malone, 2007); and offers a valid perspective to underpin the review of brief smoking cessation (BSC) in acute hospital settings to determine what facilitates or impedes its implementation.

Eccles et al. (2009a) indicate that successful implementation of evidence-based practice should be built on the understanding of the determinants of behavioural change and its maintenance at individual and organisational level. Implementation research uses strategies to adopt and integrate evidence-based health interventions and change practice patterns within specific settings (Glasgow et al. 2012).

Furthermore implementation research aims to provide a basis for understanding, designing, predicting, and evaluating implementation processes (May, 2013); so offering guidance on methods for the study of BSC within a complex organisation.

However, implementation research faces a number of challenges. Terminology is an issue, with Eccles et al. (2009a) calling for a common understanding of terms related

to the science of implementation. 'Implementation research' is often used interchangeably with 'implementation science'. Kent, Hutchinson and Fineout-Overholt (2009) also highlight how 'implementation science' is used interchangeably with KT science; furthermore, in addition to KT, there many terms used for getting knowledge into practice, such as knowledge utilisation and knowledge transfer (Wallin, 2009). Terms such as knowledge exchange, knowledge integration and research utilisation are used to describe overlapping and integrated research for implementation science (Nilsen, 2015). The lack of clarity may be due to different geographical and stakeholder perspectives (Straus, Tetro & Graham, 2009), or as Demiri, Parker Oliver, Capurro & Wittenberg-Lyles (2013) state that implementation is "not a completely new discipline" (p.164) but one that has developed from the convergence of years of research into the adoption of innovations, to a more active process.

2.3 What is evidence?

Key concepts within implementation research are often contested. At the heart of implementation research is the debate about the nature and quality of evidence and how this translates into evidence-based practice. Evidence-based practice has strongly been associated with proof and rationality, this propositional, reductionist view has traditionally been more highly valued to the neglect of multiple other forms of non-propositional evidence, such as informally derived or intuitive craft knowledge (Rycroft-Malone et al. 2004a). Non-propositional, constructivist forms of evidence stand up to scrutiny if credible and supportable (Rycroft-Malone & Stetler, 2004). Yet although some see these aspects as important, they contest that they are not evidence, but knowledge, as they lack the objectivity to be used for clinical decision-making (Scott-Findlay & Pollock, 2004). This focus on propositional evidence is reflected in the imbalance of investment into implementation research (Eccles et al. 2009a). Yet constant emphasis on objective forms of evidence ignores that evidence is implemented into complex social systems (Rycroft-Malone et al. 2004a). Pawson (2006) comments that the highly rigid and reductionist format for meta-analysis, which is at the pinnacle of the hierarchy of evidence, actually eliminates most of the evidence that could offer information on how interventions work and how differences

in effectiveness can be accounted for in different contexts. Hence the notion of evidence has expanded and with it the view that evidence is perceived and mobilised differently by professional groups within different organisational contexts (Dopson & Fitzgerald, 2005).

Implementation research adheres to the notion of evidence as “inherently uncertain, dynamic, complex, contestable and rarely complete.” (CHSRF, 2005, p.9).

Implementation research acknowledges the complexity of the healthcare systems within which knowledge is mobilised, or not, and that evidence can be socially constructed and interpreted, adopted or rejected. The implementation of evidence within implementation research has been further expanded upon to consider that decisions on evidence-based practice, “should be made by those receiving care, informed by the tacit and explicit knowledge of those providing care within the context of available resources” (Dawes et al. 2005, p.4). This directs implementation research to emphasise adaption and testing in real-world settings and diverse populations (Glasgow et al. 2012) and involves the study of the influences on healthcare professionals and organisational behaviour (Eccles et al. 2009a); all important for the study on brief smoking cessation within different settings and contexts.

2.4 How context is interpreted

Context is an essential element of the successful implementation of evidence into practice (Rycroft-Malone et al. 2004b); with multi-dimensional contextual factors significant barriers to research use (Dopson & Fitzgerald, 2005; French, 2005).

Conceptually, context also has diverse connotations and this also presents challenges (Squires et al. 2014). McCormack et al. (2002) found the meaning of context as “the setting in which practice takes place” lacking in clarity with it encapsulating characteristics of culture, leadership and evaluation. Whereas May et al. (2007) saw context as the influence of physical, organisational, institutional and legislative structures; however, French (2005) highlighted social, political and economic influences with different impact at different levels, such as the care team. Of key importance is the understanding that contexts are dynamic (Dopson & Fitzgerald, 2005); with culture and leadership influencing receptivity of innovations

(Stetler, Damschroder, Helfrich & Hagedorn, 2011). However, the synthesis of findings on context remains difficult due to operationalisation difference of context in studies and the effect of multiple influences (French, 2005). This is further compounded by evolving definitions of context (Squires et al. 2014). Additionally the impact of context on the process, diffusion and sustainability of evidence-based practice renders universal application impossible (Greenhalgh, Roberts, Macfarlane, Bate & Kyriakidou, 2004a).

Context, therefore presents challenges within implementation research in determining appropriate methods used to explore, capture and explain it. Given that “Implementation and embedding in practice takes place in complex organisational and clinical environments” (May, 2013, p.10); Rycroft-Malone and Burton (2010) emphasise that complexity in implementation is due to multi-factorial and frequently uncertain processes. This poses measurement challenges in determining effective methodology to capture process and outcomes (Eccles et al. 2009a). The generation of appropriate approaches for implementation research and evaluation are therefore also complex and frequently contested. Identification of effective methods for implementation research is developing and expanding with the emergence of appropriate theories, models and frameworks (Nilsen, 2015). Implementation research therefore offers a selection of appropriate approaches for studies on complex interventions, such as BSC in acute hospital settings within a Health Board.

2.5 Theoretical approaches within implementation research

Theoretical approaches have been increasingly used within implementation research. Estabrooks, Thompson, Lovely and Hofmeyer (2006), with regard to KT, comments that theory is needed in order to develop testable and useful interventions “Theories provide maps for different kinds of terrain” (p33). Eccles et al. (2009a) see theory as offering three potential advantages for implementation research, these are: generalizable frameworks for different settings, the opportunity for knowledge generation and an explicit framework for analysis. Theories are recommended as the starting point for selecting effective implementation strategies (Van Achterberg, Schoonhoven & Grol, 2008) and theory helps to deal with complexity (Rycroft-

Malone & Burton, 2010). Nilson (2015) suggests that although the use of theoretical approaches may not necessarily yield more effective implementation it certainly offers transparency and promotes scrutiny; this may facilitate the advancement of implementation research.

Theories are needed to be comprehensive, robust and rigorous to explain the social processes innate to implementation into practice (May, 2013). Wacker (1998) states the goal of theory is to offer a clear explanation of “how or why specific relationships led to specific events” (p.364). Three levels of abstraction exist: grand theories offering unlimited scope and high abstraction; compared to more middle-range theories, which explain limited sets of phenomena; finally lower level theories have very limited scope and serve to identify relationships in specific circumstances. Importantly for the implementation of complex interventions within clinical practice middle-range theories offer testable propositions which may be refined (Pawson & Tilley, 1997). Models and frameworks have also been applied to implementation (Wacker, 1998). Nilson (2015) describes how models have a more narrowly defined scope of explanation than a theory, whereas frameworks denote an outline or set of categories to describe phenomena. Rycroft-Malone and Burton (2010) propose that a theoretical approach offers an evidence-base for intervention design, facilitates theory development, and offers increased understanding on influences of success; which suggests such an approach would be useful for the study of brief smoking cessation.

Theory selection and development can be contentious. Estabrooks et al. (2006) indicated there had been calls for several decades for a grand theory for KT; possibly to promote clarity and consistency. Recently May (2013) linked the domains of coherence, cognitive participation and reflexive monitoring from normalization process theory, to suggest core constituents of a theory of implementation. This views implementation as a social process of collective action with four constructs: capacity, potential, capability and contribution. May (2013) has described this as a workable general theory of implementation based on social mechanisms. However, Nilson (2015) feels it unlikely that one grand implementation theory exists, and the use of a single theory will not tell the whole story, rather that the interdisciplinary nature of implementation research has meant the pragmatic use of relevant theoretical approaches. Opportunities should be sought to develop

generalizable theories which may be useful across behaviours (Curran et al. 2011), and transferable to different contexts (Pawson & Tilley, 1997).

Different theories from different disciplinary perspectives have provided insights into the processes within implementation; these range from organisational to marketing theory (Grol & Grimshaw, 2003). Social cognitive theories are particularly prevalent within implementation research to explain health care professionals' behaviour (Michie, Johnston, Francis, Hardeman & Eccles, 2008). Nilson (2015) in his taxonomy of theories, models and frameworks used in implementation science proposed five (often overlapping) categories with three over-arching aims: describing or guiding KT, understanding or explaining what influences outcomes, and evaluating implementation. The categories included process models, determinant frameworks, classic theories, implementation theories, such as: Michie, van Stralen and West's (2011) 'Behaviour change wheel' framework based on capability, opportunity and motivation, and evaluating frameworks, for example Promoting Action on Research Implementation, PARIHS (Kitson et al. 1998).

Implementation research can offer guidance on the selection of appropriate theories, models and frameworks for the study of BSC. However the plethora of potential theoretical approaches to implementation research may prove daunting; with selection of the appropriate theory to test for a particular intervention in a particular setting also challenging (Curran et al. 2011). One theory will not fit all contexts so understanding and application of several different theories may be required (Estabrooks et al. 2006). Eccles et al. (2009a) indicate that there is considerable work to do to develop understanding of existing theories and on testing and developing theories but theoretical approaches may reduce the KT gap.

2.6 Researching the implementation of brief smoking cessation in acute hospital settings.

Given the breadth of approaches within implementation research, it was important to select one that was appropriate to achieve the aims and objectives of the study. Action research was initially considered. This approach seeks to combine "action, reflection, theory and practice, in participation with others, in the pursuit of practical solutions" (Reason & Bradbury, 2006, p.1). Action research is a cyclical collaborative

approach between the researcher and stakeholders, which involves reviewing current practice, identifying an area for improvement, taking agreed action to improve practice and evaluating this against others' critical feedback (McNiff & Whitehead, 2010). The approach depends on an ongoing process of consultation and feedback with study participants; this can empower participants (Ngwerume & Themessl-Huber, 2010). Meyers (2010) suggest action research is a useful approach when there is a gap identified in service provision and people's knowledge, skills and attitudes prevent evidence based practice. This resonated with apparent failures to implement brief smoking cessation in acute hospital settings. Certainly a review of 21 action research studies cautiously concluded that it was a promising approach for the implementation of evidence based practice (Munten, van den Bogaard, Cox, Garretsen, Bongers, 2010).

However there are limitations to action research, as it is a complex approach. Waterman, Tillen, Dickson and de Koning (2001) suggest that it can be time consuming; additionally the changes in relationships created between researchers and stakeholders may disrupt decision-making, or create negative feelings if changes are not implemented. Furthermore the researcher cannot predetermine the focus of the study, as this depends on the participants (Meyers, 2010). Consequently it was felt action research would not be suitable for this study where the researcher had limited time and resources for intensive collaboration, nor the remit for facilitating a change within practice in the Health Board.

Greenhalgh, Robert, Bate, Kyriakidou and Macfarlane (2004b) whilst recommending action research for the spread of evidence-based practice and innovations, also recommends a realist approach; as both are whole systems approaches that recognise complexity. A realist approach is a theory driven approach, where programmes, such as brief smoking cessation, are theories. It aims to explain and understand how programmes work within particular contexts (Asterbury, 2013). Stakeholder engagement is intrinsic to this approach but this is used to inform the programme theory of what works for whom and why, with the researcher able to focus the study so that policy and practice may be informed without having to directly initiate collaborative change. Westhorpe (2014) suggests that a realist approach is useful for evaluating programmes with mixed patterns of outcomes to understand how the differences may occur; so this seemed an effective approach for the

implementation of brief smoking cessation. The realist approach also appeared to offer the most appropriate format for the achievement of the study's aims and objectives in light of time, resources and researcher's spheres of influence within the Health Board.

2.7 Summary

The ethos of implementation research intuitively appeals to the study of an intervention of BSC into practice within acute hospital settings in Wales. Despite evidence-based guidance on the best means of implementing BSC interventions into acute hospital settings (NICE, 2013); the evidence has indicated implementation failures for smoking cessation interventions in hospitals. Certainly there appears to be a knowledge translation gap on the implementation of BSC within acute hospitals within the Health Board; exploration of context here has the potential to offer original knowledge on how the intervention may be embedded within clinical practice. Although an action research study was considered the collaborative cycle was felt to be beyond the remit of the study. A realist approach, underpinned by implementation research, will be applied to the synthesis of the evidence and the evaluation of healthcare professionals' perceptions and practice on BSC. This theory driven approach makes assumptions that interventions only work in certain circumstances and under certain conditions, so is suitable for exploring the implementation challenges associated with BSC. This is believed to be the first time a realist approach has been applied to this area and it will offer the opportunity for the development of programme theory relevant for the local context, to determine what works, for whom and why.

Chapter Three

Introduction to the realist approach

This chapter considers how different philosophical paradigms view the nature of complexity and causality, as these concepts appear intrinsic to the understanding of the implementation of interventions (Pawson, 2006). This process aims to clarify which paradigm offers the best approach for the study of the implementation of brief smoking cessation in acute hospital settings, and examines the chosen approach-realism in depth, and appraises realist methodology.

3.1 Brief smoking cessation as a complex intervention

At first glance BSC appears a relatively simple intervention but on scrutiny it fits with Campbell et al.'s (2007) definition of complex interventions being “built up from a number of components, which may act both independently and interdependently” (p.1). Craig et al. (2008) suggest complexity additionally comprises of several dimensions, such as, the interaction of components and the degree of flexibility within the intervention; these may influence a range of potential outcomes, or their variability in the target population. Hence brief smoking cessation can also be viewed as complex because it depends on healthcare professionals' behaviours and individualised patient interactions, which can produce variable effects on its implementation and outcome. However, complexity can also be interpreted as a property of a system, with a complex system adaptive to changes in its local environment and composed of other complex systems involving structures and relations (Shiell et al. 2008). Complex systems are therefore ‘open systems’ which continually change and re-shape (Bhaskar, 1979). Within them factors relating to organisational structure, culture, resources and the actions of individuals will affect the intervention (Porter & O'Halloran, 2012). In realism the acknowledgement of complexity both within interventions and the systems in which they are implemented has resonance for the “complex, multifaceted and dynamic” contexts within healthcare (Rycroft-Malone, McCormack, DeCorby & Hutchinson, 2010a, p. 303).

Certainly brief smoking cessation in acute hospital settings is implemented into multiple contexts within open systems.

3.2.1 Causality

In order to evaluate a complex intervention, like brief smoking cessation, causation needs to be examined to determine how change is caused and whether it can be attributed to the intervention (Westhorpe, 2014). This offers a focus on ontology defined as “what exists” rather than epistemology “how we can come to know about it” (Wainwright, 1997, p.1263). As the nature of this study on brief smoking cessation is to explain the ‘black box’ of the intervention within acute hospital settings the methodology utilised should be underpinned by a philosophical paradigm that offers explanatory insight to complexity.

3.2.2 Positivism

In a positivist approach, complexity is seen in connective parts. It operates within closed systems requiring stable conditions, such as the laboratory, yet these conditions do not occur in the social world (Wilson & McCormack, 2006); and arguably not within acute hospital settings. Positivist approaches are founded on the ontology that what is experienced exists; its epistemology requires verification of this through deductive methodology. According to Wainwright (1997) its reductionist approach fails to determine causal explanation. Instead positivism sees causation as ‘external’ and infers a successionist logic that cause and effect are linked (Pawson & Tilley, 1997). In this way it does not consider multi-dimension and multi-causal problems (Mingers, 2014), such as those likely within the implementation of complex interventions into complex systems, as brief smoking cessation within acute hospitals. Adopting a positivist paradigm would be useful to examine the effectiveness of smoking cessation but offers little value in this study which aims to explain how, why, where and for whom the intervention works; as positivism aims to de-contextualise the intervention of this valuable detail.

3.2.3 Constructivism

Conversely constructive approaches are founded upon the ontology of what exists is dependent on individual perceptions, with its epistemology one of subjective knowledge (Wainwright, 1997). Social programmes exist in human understanding and interactions (Pawson & Tilley, 1997). Gorski (2013) suggest this is epistemic relativism, where individuals are enmeshed in their language and stories with no neutral basis for analysis. Constructivism accepts complexity but rejects “the causal force of non-discursive structures” (Mingers, 2014, p. 13); believing the concept of causality is misleading and too simplistic (Appleton & King, 2002). Adopting a constructive approach towards brief smoking cessation in acute hospitals would focus on processes rather than outcomes and hold stakeholder views as important. However, a constructivist view would not offer independent explanations of how or why brief smoking cessation works within the structures and institutions of acute hospital, which are likely to be independent of individual standpoints.

3.2.4 Realism

Realism sits between positivism and constructivism. It proposes that interventions are open systems which change people and conditions (Pawson, 2006) and programme effectiveness may “be subverted or enhanced by the unanticipated intrusion of new contexts and causal powers” (Pawson & Tilley, 1997, p. 218). Realism rejects the ‘successionist’ theory of causality which adheres to the notion that causality can be inferred when change occurs but not why (Stame, 2004). It adopts a generative approach to causation to open the black box of an intervention and determine what contributes to the success or failure of a programme, by reconstructing the evidence on supporting theories about how a given intervention works or not, for different people in different contexts (Gough, Oliver & Thomas, 2012).

Pawson and Tilley (1997) developed the realist approach, a form of theory-based evaluation, with the aim of strengthening the explanatory powers of evaluation (Hewitt, Sims & Harris, 2012). With its signature of “what works for whom in what circumstances and why” (Pawson & Manzano-Santaella, 2012, p.178), realism

investigates social interventions to build explanations of how programmes work and the extent that knowledge from one context can be applied to another, to inform policy and practice (Pawson & Bellamy, 2005). It therefore offers the potential to understand how brief smoking cessation in acute hospital settings may work.

3.2.5 Critical realism

Pawson and Tilley's (1997) realist evaluation has been influenced by the work of Popper, who proposed an alternative view to traditional positivist philosophy and the acceptance of observation alone, proposing the move towards accumulation of explanation. Campbell was also a strong influence for his acknowledgement of evidence from multiple sources and, with Merton another key influence, for emphasising the importance of theory testing. Other influences on evaluation are Rossi and Weiss and those from the critical realist philosophy of social science, such as Harré and Archer; but notably realist evaluation has its foundation in Bhaskar's critical realism (Bhaskar, 1975; 1979; Pawson & Tilley, 1997). In critical realism one sees the world as a multidimensional open system where generative mechanisms, which are the powers, structures and relations that influence actions, may be suppressed or triggered by certain contexts (Parlour & McCormack, 2012). In using critical realism the researcher searches for explanations of the mechanisms that underpin a phenomena, acknowledging constantly changing social structures (Wainwright, 1997). Structures are internally related objects that could be physical or material resources and practices (de Souza, 2013). Critical realism acknowledges the possibility of complex causality; mechanisms do not always play out as the same actual events of empirically observed experiences (Angus & Clark, 2012). Critical realism centres on the *epistemic fallacy*, Bhaskar's (1975) criticism that the ontology of science had been ignored, reducing it to epistemology (Ehrbar, 1998). Bhaskar (1975) rejects positivism for its ontology that only events that are experienced exist, its epistemological focus on cause and effect, and the very nature of decontextualizing. Similarly to constructivist approaches, critical realism acknowledges multiple perspectives, but does not accept constructivist's epistemology that these are of equal value. In critical realism knowledge constructions is influenced by underlying power relations (Cruickshank, 2011), and

the impact of social structures (Appleton & King, 2002). Society exists independently of individuals but they reproduce and transform it (Mearns, 2011); “Men are not passive spectators of a given world, but active agents in a complex one” (Bhaskar, 1975, p.117). Therefore the interplay of structure and agency exert influence over individuals (McEvoy & Richards, 2003; Wilson & McCormack, 2011; Cruickshank, 2012).

In adopting the critical realism position there is “a way out of the sterile standoff” to the opposing paradigms of positivist-deductive and constructivist-inductive (Mingers, 2014, p.12). Critical realism rejects that the knowledge offered by these paradigms are distinct and incompatible. It supports acceptance that both can generate the data that enables exploration of the issues and to seek out causal explanations (Mearns, 2011; Angus & Clark, 2011).

3.2.6 Critical realism and ontology

Critical realism switches the focus from epistemology to ontology (Cruickshank, 2012); this offers a new paradigm underpinned by assumptions on the nature of reality. The realist ontology allows that there exists a reality that cannot be directly observed (Kontos & Poland, 2009). Bhaskar (1975) proposed that reality is stratified to three domains: the *Real*, the *Actual* and the *Empirical* (Table 1). The *Real* domain is beyond facts, perceptions and experiences and includes structures, powers and liabilities that allow observable events to emerge (Mearns, 2011). This level is where generative mechanisms exist (Littlejohn, 2003). The *Actual* is what happens if those powers are activated (Kontos & Poland, 2009), but events may not be observed. Within the *Empirical* domain events can be observed and become the basis for research (Mingers, 2014).

Table 1: The domains of critical realism

Domains	Real	Actual	Empirical
Mechanism	✱		
Events	✱	✱	
Experiences	✱	✱	✱

Bhaskar, 1975

In critical realism the epistemology is that appearances do not necessarily reveal the causal mechanisms, and its methodology involves constructing theories to account for these appearances; reality exists that is not contingent on human perception (Wainwright, 1997). Retrodution is the process within critical realism of devising a theory to explain causal patterns. Theories are fallible and iterative (McEvoy & Richards, 2003). Knowledge develops and changes as one theory replaces another (Mearns, 2011). Theories are thus transitive (Cruickshank, 2012), whereas reality is intransitive, it exists independently of our descriptions (Wilson & McCormack, 2006).

3.2.7 Emergence

Within critical realism mechanisms have emergent properties (Kontos & Poland, 2009). They are embedded within social structures and are contextually dependent and work through people's actions (Angus & Clarke, 2011); they may be dormant or inhibited by other mechanisms (Ehrbar, 1998). Different mechanisms operate at different levels with higher level mechanisms rooted in and emergent from the more basic ones but it cannot be assumed that progression will occur (Collier, 1994). Causal mechanisms can neutralise one another so that no events take place (Wilson & McCormack, 2006).

There is criticism of critical realisms claims to exposure of reality through use of diverse methodologies. Al-Amoudi (2011) feels the key distinctions of ontology and epistemology are difficult to separate, and asks how social, cultural and historical perspectives on knowledge can be reconciled with critical realism's claims to expose the real, although acknowledging that it relates this to power and structure.

Furthermore, critical realism does not address the place of values (Appleton & King,

2002). Collier (1994) suggests that fallibility of knowledge claims should be revised and replaced by criticism rather than the adherence to a set of ontological assumptions. It has also been suggested that critical realism lacks empirical research because of the difficulty in translating the approach into a particular method (Wainwright, 1997). Certainly devising research strategies that support identification and analysis of generative mechanisms is the challenge (Angus & Clark, 2011).

3.3.1 The realist approach and critical realism

Whilst Pawson and Tilley's (1997) realist approach builds on the tenets of critical realism and the body of work associated with Bhaskar, Harré and Archer; it is associated with developing realism as an empirical method (Astbury, 2013; de Souza, 2013). In fact Pawson (2013) has distanced himself from critical realism's approach to explanation of complex systems; berating the separation of physical and social science and Bhaskar's (1979) certainties of closed systems; critiquing the limitation of the domains; and the uncritical acceptance of Marxist theory which underplays individual choices. Porter (2015a) has strongly refuted Pawson's critique arguing that many of the points are unfounded, particularly on closed systems and agency; concluding few differences exist between critical realism and realist approaches. Certainly Wilson and McCormack (2006) relate the Context Mechanism Outcome (CMO) of realist evaluation to critical realism's layers of reality. However, Porter (2015b) does state that realist evaluation lacks a consistent approach to realism.

3.3.2 Evaluation

The impetus for evaluation research, according to Wand, White and Patching (2010) is to identify solutions to social problems. An evaluation aims to "assess the worth or value of something", generally within a political context, typically in health this is an intervention, service or programme (Robson, 2010, p.248). The dominant evaluation paradigm has been positivism, with objective assessments employed to determine goal achievement, however process evaluations may promote a deeper understanding within complex health programmes (Wand et al. 2010). Kazi (2001) maintains that the extent to which complexities are addressed within evaluation

depends on the paradigmatic perspective of the researcher. Theory-driven evaluation is an approach associated with complex interventions (Clark, 2013); such as BSC.

3.3.3 Realist evaluation

Realist evaluation is theory driven with an iterative approach to theory development (Westhorp, 2013; Blamey & Mackenzie, 2007). It has been applied to the implementation of interventions, or programmes, within many disciplines, including healthcare, for example: Tolson, McIntosh, Loftus and Cormie (2007); Greenhalgh et al. (2009); Rycroft-Malone, Fontenla, Bick and Seers (2010b). Programmes are deemed multifaceted within a complex reality, which is stratified with actors within their own context (Stame, 2004). Programmes are theories, which trigger *mechanisms* which are taken up, or not, dependent on the characteristics and circumstances of conditions (*context*) resulting in a varied pattern of impact (*outcome*) (Pawson, 2006). A core assumption is that interventions will have different effects in different contexts.

3.3.4 Context in realist evaluation

Realist evaluation acknowledges that systems are complex and change over time (Westhorpe, 2014). This is the context that the programme is introduced into and is congruent with the importance of structure and agency within critical realism. A realist approach recognises that the people within the programme are presented with choices, based on the resources within the programme (material, social cognitive or emotional), and that what contributes to the success of a programme is whether the people internalise the programme resources in order to make them work (Pawson & Bellamy, 2005). Context therefore influences the relationship between the mechanisms and the programme outcome (Wilson & McCormack, 2006).

3.3.5 Mechanisms in realist evaluation

Pawson (2006) describes mechanisms as “the engines of explanation in realist analysis” (p. 23); to illustrate Linsley, Howard and Owens (2015) found ‘confidence’ a

mechanism in training for managing violence and aggression. Realists aim to identify mechanisms that are sufficiently significant to contribute to the pattern of outcomes resulting from the intervention (Wong, Westhorpe, Pawson & Greenhalgh, 2013a). A realist approach assumes that the mechanisms introduced by the programme are not the only ones in operation and the aim is to identify the tendencies of outcomes that result from different combinations of mechanisms and determine the contexts most supportive for interventions (Porter & O'Halloran, 2011).

3.3.6 Outcomes

Outcomes are intended and non-intended consequences of programmes (Pawson & Tilly, 2004) and can therefore be measured with the most ease (Dalkin, Greenhalgh, Jones, Cunningham & Lhussier, 2015), but it is the articulation of the mechanisms which unpack the black box of explanation (Hedström & Ylikoski, 2010; Stame, 2004). As interventions change with context, or due to participants' reactions, which then change the context; then new mechanisms are triggered; so mechanisms are sensitive to context and may generate multiple outcomes (Astbury & Leeuw, 2010).

3.3.7 Stakeholder engagement

Stakeholders within evaluation typically constitute representatives of the organisation and knowledge users. Stakeholder engagement can facilitate understanding of contextual influences from individual, organisational, environmental and political perspectives. Within realist approaches stakeholders can help to formulate and refine programme theories (Pawson & Tilly, 1997); this ensures both the usability of outputs and links to current practice (Saul, Willis, Bitz & Best, 2013). A range of stakeholders engaged with the study, this was facilitated by good links within the Health Board and support from senior practitioners in Public Health. Stakeholder contribution enhanced understanding on the challenges involved in brief smoking cessation in different contexts and the development of the refined programme theory.

3.3.8 Theory and demi-regularities

Realist evaluation generates middle-range theories which, in accordance with Merton (1967), offer partial explanation of a range of different phenomena (Hedström & Ylikoski, 2010). Theories describe how a programme input “intends to reconfigure the existing component elements to produce the desired outcome” (de Souza, 2013, p152). A realist approach emphasises the creation of transferable knowledge on how broad types of social programmes function (Astbury, 2013). Refined candidate theories can be tested in the context of various other programmes, hence generative mechanisms in particular configurations are deemed promising enough to import into other interventions (Blamey & Mackenzie, 2007). Pawson and Tilley (1997) explain how realist cumulation can abstract these interlinked hypotheses for analysis from programme to programme. The same programme theory may run across different domains, for example the use of *incentives* as a mechanism for programme adherence in a variety of interventions and contexts (Pawson, 2002); thus mechanisms may be portable (Astbury & Leeuw, 2010). Pawson (2006) describes how sequences of events or patterns of behaviours are explained as part of a system and mechanisms can explain what it is about the system that “generates uniformity” (p.23). They follow from demi-regularities, so coined by Lawson (1997) to describe the causal connections of outcome patterns. Whilst the context changes; these patterns of demi-regularities, explained by the middle-range theories, tends not to (Wong et al. 2013a). However Wong et al. (2013a) caution that there is no such thing as a one size fits all.

It is important to be cautious with a realist approach as some limitations are highlighted. Marchal, van Belle, van Olmen, Hoerée and Kegels’ (2012) review of eighteen realist studies found diversity in depth and scope of application, with many authors indicating a lack of methodological guidance. Interpretation of concepts have been inconsistent; Blamey and Mackenzie (2007) highlight that there is confusion with multiple terms for ‘middle-range theory’, such as Weiss’ (2000) ‘programme theory’, and some studies have found the practical application of the concept of middle-range theory difficult (Marchal et al. 2012). Furthermore, Astbury (2013) found Pawson’s (2013) explanations of the theory testing method problematic. Certainly where multiple theories may be relevant, the selection of the most

appropriate can be difficult. For this study it is important to note Weiss' (2000) view that it is impractical to pursue too many theories.

Pawson and Manzano-Santaella (2012) demonstrated that CMO configurations have not always been fully understood or applied appropriately within studies, with programme measures often confused with mechanisms. Marchal et al. (2012) and Lacouture, Breton, Guichard and Ridde (2015) found diverging interpretation on the nature of mechanisms. Gerring (2007) highlighted this ambiguity, finding at least nine distinct, often contradictory, meanings in the literature. Gerring (2010) further suggests mechanisms may not be a necessary element of causation and that rigorous testing of mechanisms may be unfeasible and unmanageable, with definitive mechanisms never achievable. More recently, Dalkin et al. (2015) suggest mechanisms should be conceptualised as part of a continuum rather than as an 'on/off' switch. Porter (2015b) also calls for clarification of the relationship between mechanisms, contexts and programmes, proposing that agency should be distinct from mechanisms. Despite contention, useful analysis on the nature and identification of mechanisms for evaluations has emerged, for example, Asterbury and Leeuw (2010) and Lacouture et al. (2015).

Blamey and Mackenzie (2007) felt a realist approach is not well-suited to evaluations of complex multi-site programmes made up of different interventions; however this study reviews only one intervention. Marchal et al. (2012) also found diverse understanding of the concept of context within realist approaches. Greener and Mannion (2009) found Pawson and Tilley's (1997) perspective on context limited, and elaborated on it through applying Archer's (1995, 1996) 'morphogenetic approach' with consideration of contingent relationships and of vested interests.

Astbury (2013) cites the problem of the decay of generalisations; as hypothesis may only be valid temporarily due to the unpredictability and complexities of social programmes. However, this study acknowledges Pawson and Tilley's (2004) emphasis that a realist approach should be explicit on what conclusions it offers, with the focus on mechanisms and contexts over time are not necessarily effective at drawing conclusion on the intervention programme as a whole. Finally, possibly because of the depth of explanation sought, realist techniques require expertise (Rycroft-Malone et al. 2010a; Pawson et al. 2004), and are time consuming (Blamey

& Mackenzie, 2007). Overall an awareness of the potential limitations of a realist approach can promote positive strategies, such as seeking expert advice.

3.4 Summary

As the aim of this study is to determine what works to support the implementation of brief smoking cessation in acute hospital settings. A realist approach to synthesising the literature and evaluation offers the potential for explanatory depth. The lack of success in delivery of brief smoking cessation in hospital (Freund et al. 2009a) suggests a complexity with regard to implementation and a realist approach, despite its limitations, offers the capacity to untangle complexities (Rycroft- Malone et al. 2010a). Through application of a realist approach the influences of *mechanisms* and *contexts* on *outcomes* in brief smoking cessation will be articulated to develop programme theories which will then explored within a realist synthesis to build an explanatory account of how brief smoking cessation in acute hospitals may work. A realist approach to evaluation will then enable candidate theories to be tested and refined within the Health Board.

Chapter Four

Methods for the realist synthesis

Smoking cessation interventions in hospital have been explored within several systematic reviews. Many have primarily been concerned with effectiveness (Angus et al. 2013; Myers, McRobbie & Hajek, 2012a; Rigotti et al. 2012; Wolfenden et al. 2007); others have reviewed barriers and enablers to smoking cessation interventions in acute services (Eadie et al. 2012; Myers, McRobbie, West & Hajek, 2012b). However the question still remains about what works for whom in the implementation of brief smoking cessation in different contexts within hospital settings; this was the over-riding focus for the synthesis. As discussed within Chapter Three a realist approach can strengthen understanding on how programmes work. This chapter explores the realist approach to synthesising evidence and draws on reporting guidance from Wong et al. (2013b) to chart the methods. It examines the initial scoping of the evidence and the collaborative process of formulating a propositional programme theory and the development of study objectives. The chapter also explains the search and appraisal process and the analysis and synthesis of findings.

4.1 Realist synthesis

Realist synthesis is a recently developed methodological framework for synthesising secondary data and stems from the realist approach. A realist synthesis examines a complex intervention to identify programme theories and CMOs configurations, and test these against evidence from the literature (Hewitt et al. 2012). It was developed by Pawson (2002) in response to weaknesses in traditional systematic reviews, where attempts to minimise bias reduces the important details on complexity and context. Consequently it is more “compatible with the complexities of modern health service delivery” (Pawson et al. 2004, piii). Realist synthesis has similar steps to traditional systematic reviews (Table 2), however the focus is explanatory and on theory refinement related to how interventions work, rather than comparison of effectiveness (McCormack et al. 2013).

Table 2: Comparison of traditional and realist synthesis

Stages of Systematic Reviews	Stages of Realist Synthesis
1. Identify the review question	1. Clarify the scope of the synthesis <ul style="list-style-type: none">• Identify the question• Clarify the purpose (s) of the synthesis• Develop programme theories, group and synthesis
2. Search for the evidence using pre-defined criteria	2. Search for the evidence in light of emerging data.
3. Appraise the evidence using pre-defined and validated checklist, consider methodological rigour	3. Appraise the evidence and test relevance to programme theory. Consider relevance and rigour from a 'fitness for purpose' perspective
4. Extract data using template	4. Extract the results using an iterative approach.
5. Synthesise findings to determine effect size or transferable themes.	5. Synthesise findings Consultation on and refinement of programme theory.
6. Draw conclusions as to whether findings are definitive and make recommendations.	6. Make recommendations with reference to contextual issues.
7. Disseminate findings and evaluate extent of behavioural change.	7. Involve decision makers Draft and test out findings with key stakeholders. Determine extent to which existing programmes are adjusted to take account of programme theory. Disseminate review findings, conclusions and recommendations.

Adapted from Pawson et al. (2004) and McCormack et al. (2007).

A realist synthesis allows for the systematic synthesis of the impact of context on complex interventions (Rycroft-Malone et al. 2012), and has been applied to diverse health settings (for example, Leeman et al. 2010; Pearson et al. 2013; Wong, Greenhalgh & Pawson, 2010). In realist synthesis evidence is not decided by research type but by relevance to the review question (Wong et al. 2013a). This offers the potential for consideration of multi-method evidence; “one obtains the best of both worlds by operating in both worlds” (Pawson & Manzano-Santaella, 2012, p.189.) The searching process should be both transparent and systematic (Wong, Greenhalgh, Westthorp, Buckingham & Pawson, 2013b).

Leeman et al. (2010) felt the approach is only suitable where evidence is limited and found explanation was difficult as implementation details in studies were often omitted. The iterative process of realist synthesis may mean it is difficult to reproduce so transparency in documenting processes is vital (Hewitt et al. 2012). Rycroft-Malone et al. (2010a) indicate a high level of expertise is needed in reasoning; furthermore judgements may potentially omit valuable sources of

information (Pearson et al. 2013). Rycroft-Malone et al. (2010a) also caution that the bespoke nature of each review in response to theoretical frameworks renders findings not generalizable, although theoretically transferrable. Terminology is often diverse, with realist review often used, but also rapid realist reviews evident. However, more recently there has been clarification of the processes and standards in realist syntheses (Rycroft-Malone et al. 2012; Wong et al. 2013b).

4.2.1 Scoping the literature

A realist synthesis commences with 'mapping the territory' to establish which programme theories seem important and select chosen questions for review; a process described as 'conceptual sharpening' (Pawson, 2006, p.79). Firstly, to gain an understanding of smoking cessation in acute hospital settings all papers related to 50 studies within Rigotti et al.'s (2012) Cochrane review of *Interventions for Smoking Cessation in Hospitalised Patients* were obtained and scrutinised. Whilst Rigotti et al. (2012) were concerned with reviewing the interventions' effectiveness, for the realist synthesis evidence was extrapolated on the processes, structures and interactions behind the interventions. Emersion in the data in this way facilitated a comprehensive understanding of the key elements of smoking cessation interventions and these were organised into 8 tables (Appendix 2).

The strategy, guidance and literature on smoking cessation in acute hospital detailed in Chapter One was also reviewed as part of the mapping process. The intervention was considered from the perspective of policy, organisation, healthcare professionals and patients. Pawson and Tilley (2004) regard stakeholder engagement to be a key source for formulating programme theory, as stakeholders can provide information on how the programme works. Therefore local stakeholders' views were sought on brief smoking cessation in hospital; all had key roles in its implementation, with many tasked with developing the intervention in hospitals (Table 3). The scoping exercise culminated in an academic workshop where the findings from the initial scope of the evidence and stakeholder engagement were presented to academic and clinical healthcare professionals with expertise in the realist approach.

Table 3: Stakeholders

Stakeholders	Role and involvement in the study	Stage of the study
Consultant in Public Health	The researcher's non-academic supervisor with the remit for brief smoking cessation in hospital, this practitioner shared information on standards, policies and the challenges to BSC implementation within the Health Board.	Involved throughout the study and facilitated liaison with the Health Board for the feedback of findings.
Medical Consultant in Public Health	This practitioner was responsible for brief smoking cessation in primary care and offered insight into the acute care/primary care interface with regard to referrals and continuity.	Formulating the programme theory.
Public Health Practitioner 1	This practitioner was responsible for the delivery of brief smoking cessation in acute hospital settings and liaison with hospital tobacco groups, able to offer insight into implementation challenges in Health Board.	Involved throughout the study from developing the programme theory to gaining feedback on findings.
Public Health Practitioner 2	A practitioner with a liaison role, to facilitate brief smoking cessation, for clinical areas in the Health Board. This practitioner offered insight into implementation challenges within different clinical areas.	Involved throughout the study from developing the programme theory to gaining feedback on findings.
Stop Smoking Wales Manager	This stakeholder was responsible for the community smoking cessation service and training for health care professionals. They offered information on the difficulties in accessing staff for training and how few staff who smoked attended, or that staff did not declare they were smokers during training.	Formulating the programme theory.
Stop Smoking Wales Nurse	A practitioner who is involved in the delivery of smoking cessation care to individuals and groups. The researcher attended one clinic.	Formulating the programme theory
Tobacco Group Forum (members from Public Health Wales, the Health Board, Social Care, Education and Trading Standards)	The researcher was a member of this, now defunct forum, and attended all meetings, to gain understanding of the work between community, social care, law enforcement and acute settings on tobacco control and smoking cessation.	Formulating the programme theory

4.2.2 The provisional programme theory

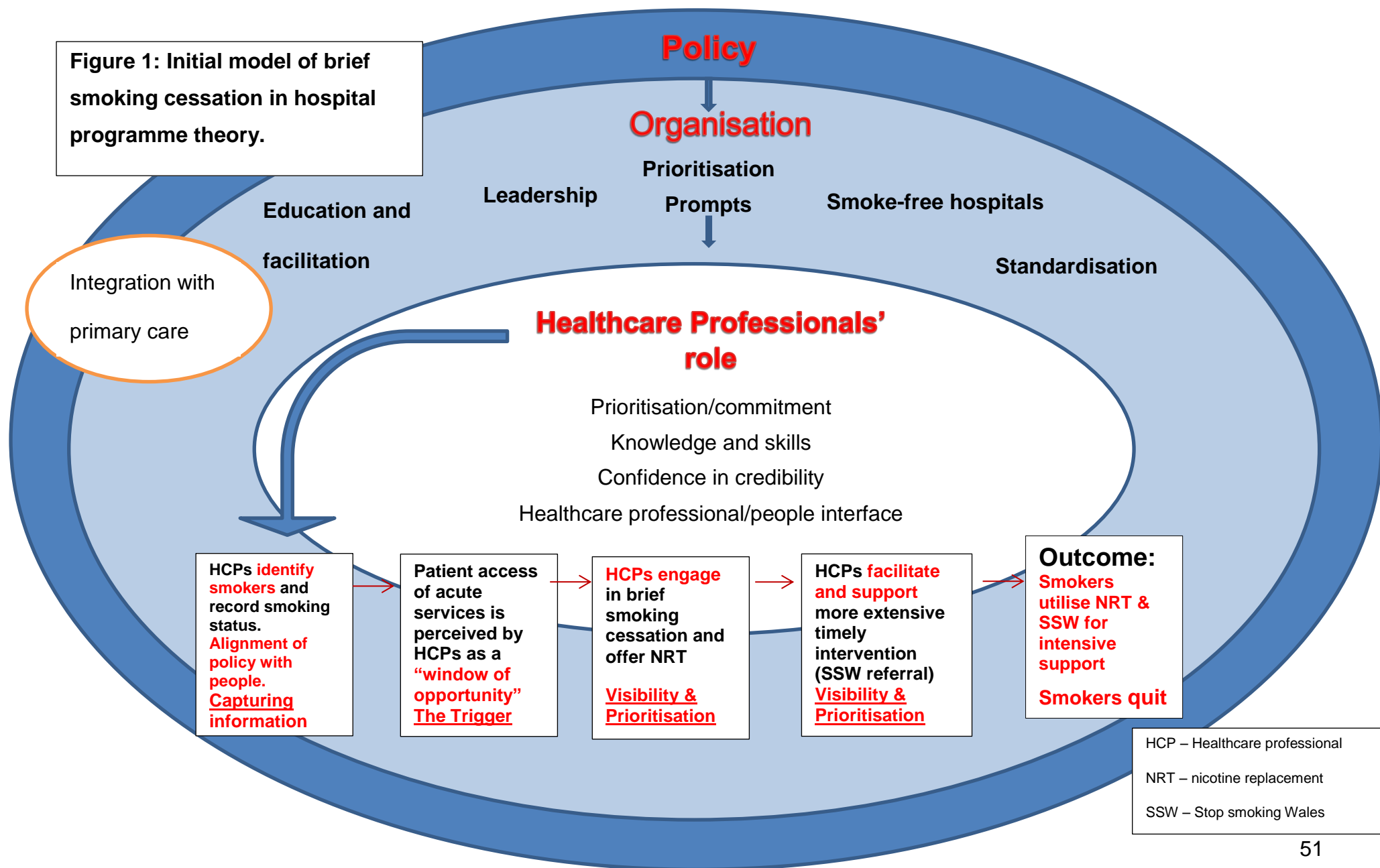
McCormack et al. (2013) indicate that theory development is a key stage in the realist synthesis via development of a theoretical model to explain relationships. Preliminary contextual features and mechanisms of change thought to facilitate or obstruct the success of brief smoking cessation were identified within the academic workshop (Table 4). This scope of the theory was further developed through collaboration with academic and public health supervisors to result in an initial programme theory that proposed the essential elements for successful

implementation brief smoking cessation. The programme was conveyed in a model (Figure 1).

Table 4: Initial scope of programme theory

- People interface – staff to patient/social context, peer to peer, organisational priorities – staff.
- Timing/delivery/content (theory)
- Visibility.
- Outcomes/impacts
- Prioritisation (commitment, context, confidence, attitude, knowledge and skills).

Figure 1: Initial model of brief smoking cessation in hospital programme theory.



The scoping review was undertaken to develop the review questions. Pawson (2006) indicates that the generation of a research question as an ongoing task, with Greenhalgh et al. (2004) referring to this process as 'the swamp'. A preliminary research question and hypotheses were generated, although it was anticipated that the process would be iterative. The question can be seen as within the standard realist review question of what works for whom, how and why (McCormack et al. 2013).

4.3 The synthesis question

The health care professional and their role to support brief smoking cessation intervention in acute hospital settings: what works, how and in which contexts?

Initial Hypotheses (Theory areas identified in initial model, Figure 1)

1. For healthcare professionals to implement brief smoking cessation they must perceive it is part of their role, this is dependent on context.
2. Healthcare professionals are more likely to engage with brief smoking cessation when it is a visible priority within the organisation.
3. Healthcare professionals are likely to implement brief smoking cessation if it is standardised practice within the organisation.
4. Healthcare professionals are more likely to engage with brief smoking cessation when they feel they have the knowledge, skills and credibility to do so, otherwise they fear it will adversely affect their relationship with the patient.
5. The way healthcare professionals interact with each other, and their patients, impacts on the implementation and outcome of brief smoking cessation; this is dependent on context, culture, roles and individuals' perceptions.

The realist synthesis sought to address the above question through interrogation of these initial hypotheses.

4.3.1 The searching process

In realist syntheses materials retrieved are guided by the propositional theory areas. The aim of the synthesis is to test out and refine programme theories (Pawson et al. 2004). As referenced in Chapter One, the body of evidence that exists around smoking cessation is large; therefore a pragmatic decision was made to extrapolate information from existing systematic reviews, on different aspects of smoking cessation in acute hospital settings, to inform the emerging programme theory. An iterative approach to searching was adopted, this is a process recommended within realist synthesis as useful for explanation and examination of specific aspects of process (Wong et al. 2013b). ‘Snowballing’ was used where one reference led to another and ‘pearl growing’ where key items were used to identify search terms, forward and backward chaining of citations.

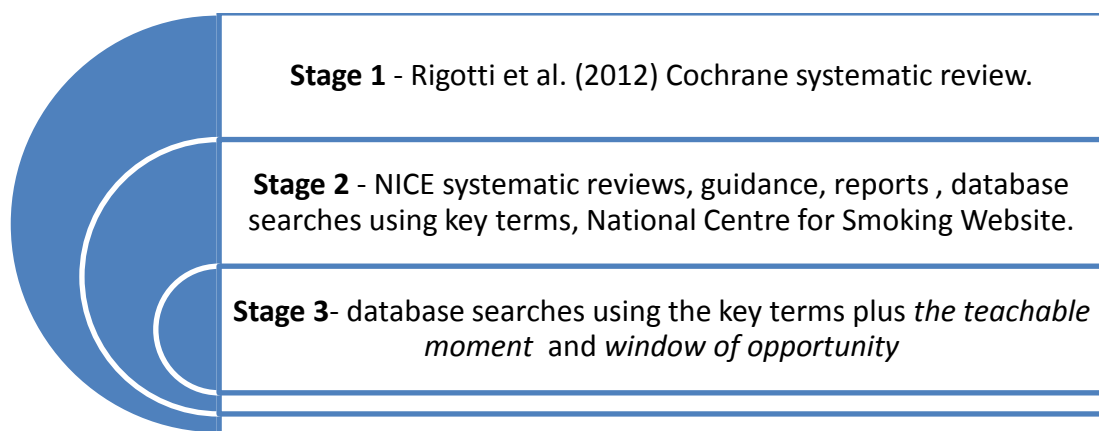
A realist approach recognises that evidence from other programme areas can be illuminating due to shared ‘families of mechanisms’ (Pawson & Bellamy, 2005), thus the synthesis reviewed health promotion and smoking cessation in other settings, such as primary care. Evidence on the management of smoking bans within acute hospital settings was also reviewed as this was thought to impact on the implementation of brief smoking cessation. The search was limited from 1990–2014, to encompass the emergence of smoking cessation in hospital as an important intervention (Batlle, Boixet, Agudo, Almirall & Salvador, 1991; Glasgow et al. 1991).

4.3.2 Initial inclusion and exclusion criteria

- Evidence from national and international papers on the evaluation or analysis of opportune smoking cessation advice within healthcare contexts from the perspectives of healthcare providers and patients.
- Evidence from national and international papers on the evaluation or analysis of smoking bans within healthcare contexts from the perspectives of healthcare providers and patients.
- Evidence from 1990 onwards.

- Evidence from developed countries to ensure transferability to healthcare contexts within the UK.
- Full text accessibility and in English was a requirement as there was little funding to obtain or translate articles outside these limits, although most evidence was in English.

Figure 2 – The stages of the search path.



The search strategy followed three stages (Figure 2). In stage one Rigotti et al.’s (2012) review was re-examined in light of the programme theories but none of these studies contributed to the synthesis; as they lacked the contextual detail required to inform the programme theory. The recently published NICE (2013) guidance on *Smoking cessation in secondary care: acute maternity and mental health services* had been informed by systematic reviews; those focusing on the effectiveness of interventions (Angus et al. 2013; Myers et al., 2012a) were also not felt not to be relevant as they also lacked contextual detail. However in stage 2 of the search the *Review of barriers and facilitators to smoking cessation interventions in acute and maternity services* (Myers et al. 2012b) and the *Review of barriers and facilitators to implementing smoke-free strategies and interventions in secondary care settings* (Eadie et al. 2012), were reviewed and their supportive literature obtained where

possible to inform the emerging programme theory. These reviews offered detail on programmes' successes and limitations.

4.3.3 Key term search

Other literature was obtained through database searches utilising search terms combined with “*and*”, from MeSH and freetext terms for MEDLINE (OVID) which was adapted for other databases. *Strand one* (from Cochrane Tobacco Addiction Group terms and pearl harvesting): ‘Smoking cessation’ as a major concept, but ‘Tobacco-Use-Cessation’ or ‘Nicotine’ or ‘Smoking [prevention or control]’ was also utilised; *strand two* search terms include ‘Hospital and Patient*’ or ‘Hospital*’ or ‘Inpatient*’ or ‘Admission*’. *Strand 3* is ‘brief’ or ‘brief intervention’ or ‘minimal’ or ‘minimal intervention’ or ‘minimal intensity’ or ‘low contact’ or ‘low intensity’ or ‘brief intensity’.

Multiple databases were searched to minimise the risks of omissions. Ovid was utilised to search MEDLINE and CINAHL. Also Proquest was used to search ASSIA and PsychINFO, The final search date was December 2014. Much of the data obtained through the database searches duplicated citations already obtained through scrutinising Myers et al. (2012b) and Eadie et al.’s (2012) reviews but it was felt important to determine if new data had emerged.

Relevant reports were also reviewed were on implementation projects of brief smoking cessation from a variety of sources from the grey literature such as conference presentations and reports from Public Health North Wales. Open Grey and the National Centre for Smoking Cessation and Training website and the Cochrane Tobacco Addiction Group were also searched. In stage three of the literature search, as the programme theory developed, further key words were individually searched in combination with *strand 1* of the search terms; these were ‘window of opportunity’ and ‘teachable moment’.

4.3.4 Selection and appraisal of documents

The realist review takes a different approach to conventional systematic reviews, eschewing conventional reliance on evidence hierarchies and quality appraisal

(Hewitt et al. 2012). Realist reviews make use of purposive sampling, retrieving materials to answer the specific hypotheses. Evidence is fit for purpose if the programme theories can be identified, tested and refined (Pawson et al. 2004). Pawson (2006) refers to this as “digging for trustworthy nuggets of information” (p.60). The appraisal of evidence considered its relevance and contribution to the emerging programme theory and rigour, whether evidence was credible and trustworthy (Wong et al. 2013b); sample size, data collection, analysis and conclusions were used to inform the decision on rigour.

4.3.5 Data extraction

The five initial programme theories to be tested were made explicit and interrogated through the formulation of a bespoke data extraction form, adapted from Curnock, Ferguson, McKay & Bowie (2012) and Rycroft-Malone et al. (2012) (Appendix 3). This was devised to direct detailed data extraction on the initial programme theory, particularly with regard to context, organisation and the healthcare professionals’ role. This template was incorporated within a database with data extracted based on relevance to the initial programme theory; emerging themes were identified for each theory area (Appendix 4).

The process was iterative and although data had initially been extracted within the five theory areas these merged into three, with data collected on prioritisation (initial hypothesis 2) and standardisation (hypothesis 3) found to overlap into the theory area of **organisational consistency** and data collected on role (hypothesis 1) and knowledge, skill and credibility (hypothesis 4) also found to be complimentary becoming the theory area **healthcare professionals** with only patient and healthcare professional interface remained as a stand-alone theory area which emerged as **the window of opportunity**. Reconsidering the hypotheses is acceptable in order to offer better articulation of the programme theory (Pawson, 2006). Searches should then be amended accordingly (Hewitt et al. 2012); so the database was reviewed to determine the evidence on the three new theory areas with emerging themes identified (Appendix 5).

4.3.6 Search results

A key challenge to the synthesis was the volume of potentially relevant data. The use of sources from relevant systematic reviews helped to hone and guide the search but it is acknowledged that explanatory evidence may have been overlooked, as these systematic reviews' aims were different; attempts were made to overcome this through supplementary database searches. The stages of the search path are illustrated in Figure 3; 940 abstracts were reviewed with 317 sources entered into the database for further scrutiny. Ninety nine citations with sufficiently rich data were further appraised in depth considering their strengths, limitations and relevance of their contribution to the three hypotheses (Appendix 6). This process also determined if there was support or refutation for chains of inferences at theory sub-level theory level (Table 5).

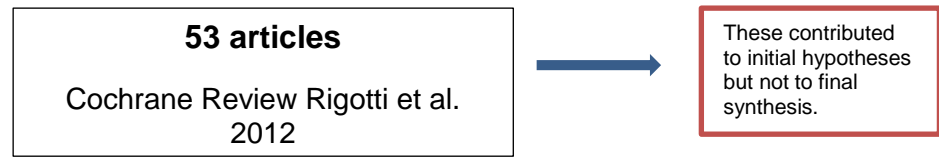
Table 5: Chains of inferences

Theory area	Chain of Inference (theory level)	Chain of inference (sub-theory level)
Organisational consistency Where brief smoking cessation is embedded as a standardised and a visible priority within the organisation, healthcare professionals are more likely to engage with its implementation.	Healthcare professionals will implement brief smoking cessation when it the organisation actively visibly promotes it as part of standard care.	<ul style="list-style-type: none"> • Visibility • Prioritisation • Standardisation • Contextual factors
Healthcare professionals When healthcare professional are knowledgeable and skilled in brief smoking cessation they have the confidence to take ownership and be accountable for its implementation.	Healthcare professionals have to feel confident in their knowledge and skills in order to take responsibility for brief smoking cessation.	<ul style="list-style-type: none"> • Acceptance of role • Personal characteristics • Contextual factors • Social support and role-modelling
The window of opportunity In the implementation of brief smoking cessation the distinct way healthcare professionals commit to interacting with patients depends on their individual beliefs and personal strategies in response to patient concerns and their fear of harming the clinician-patient relationship.	Healthcare professionals have to perceive that brief smoking cessation is beneficial to the patient, that they have the strategies to deal with patient's attitudes towards brief smoking cessation and that it will not harm the clinician patient relationship.	<ul style="list-style-type: none"> • Healthcare professionals' beliefs. • Assessment of patient's requirements and motivation • Perceptions of patient's reactions • Strategies towards the teachable moment. • Strategies to patients' attitudes/personalised approaches.

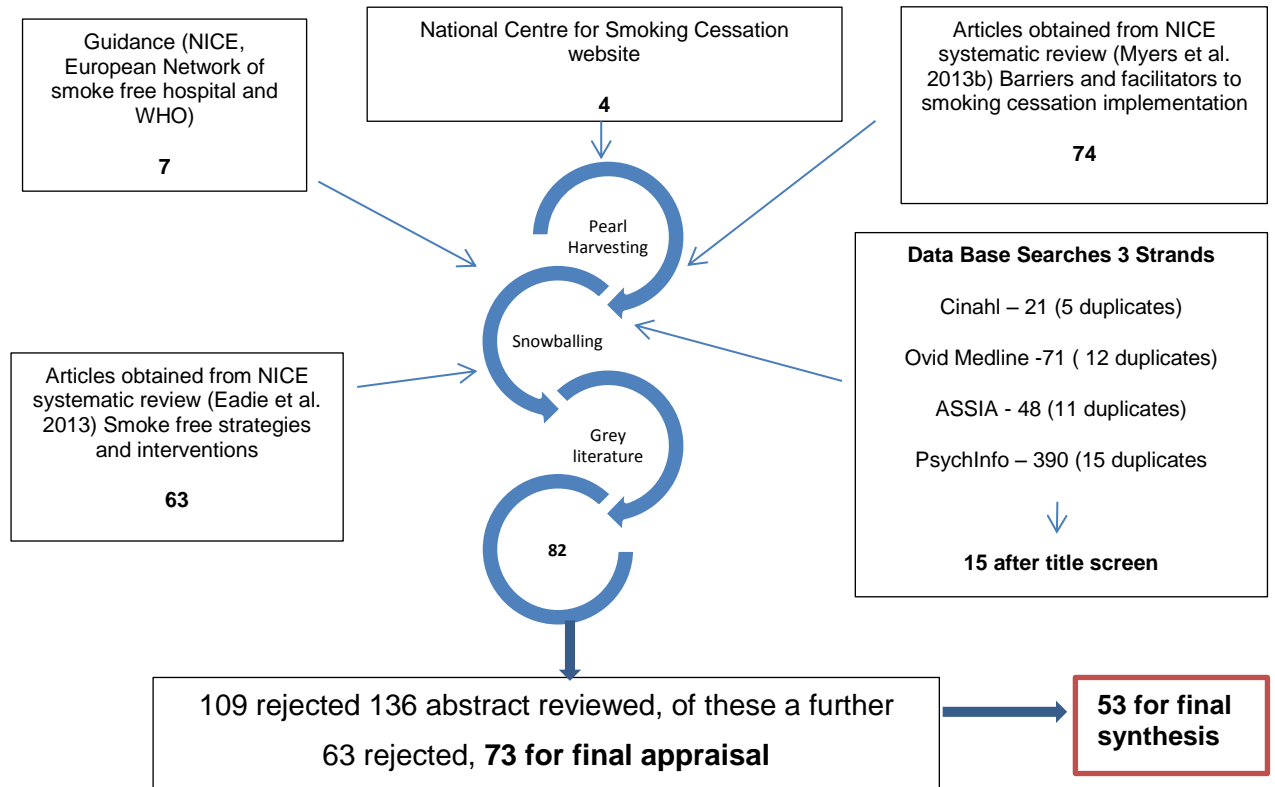
Following the refined the data extraction process, thirty three sources of evidence were discarded at this stage. The 66 articles that contributed to the synthesis are listed in Appendix 7 (Tables vii a, b &c). Thirteen articles contributed to two of the theory areas (Duffy et al. 2009; Eadie et al. 2012; Geller et al. 2011; Hughes, 2013; Katz et al. 2013; McCarty, Hennrikus, Lando & Vessey, 2001; Myers et al. 2012b; Nagle, Schofield & Redman, 1999; Pipe, Sorensen & Reid, 2009; Sarna, Wewers, Brown, Lillington & Brecht, 2001; Slater, McElwee, Flemming & McKenna, 2006; Thy et al. 2007; Tremblay, Cournoyer & O'Loughlin, 2009); and 4 articles contributed to all three theory areas (Johnson, Moffat & Malchy, 2010; Passera 2010; Schultz et al. 2006; Schultz, Finegan, Nykiforuk & Kvern, 2011).

Figure 3 – The search path

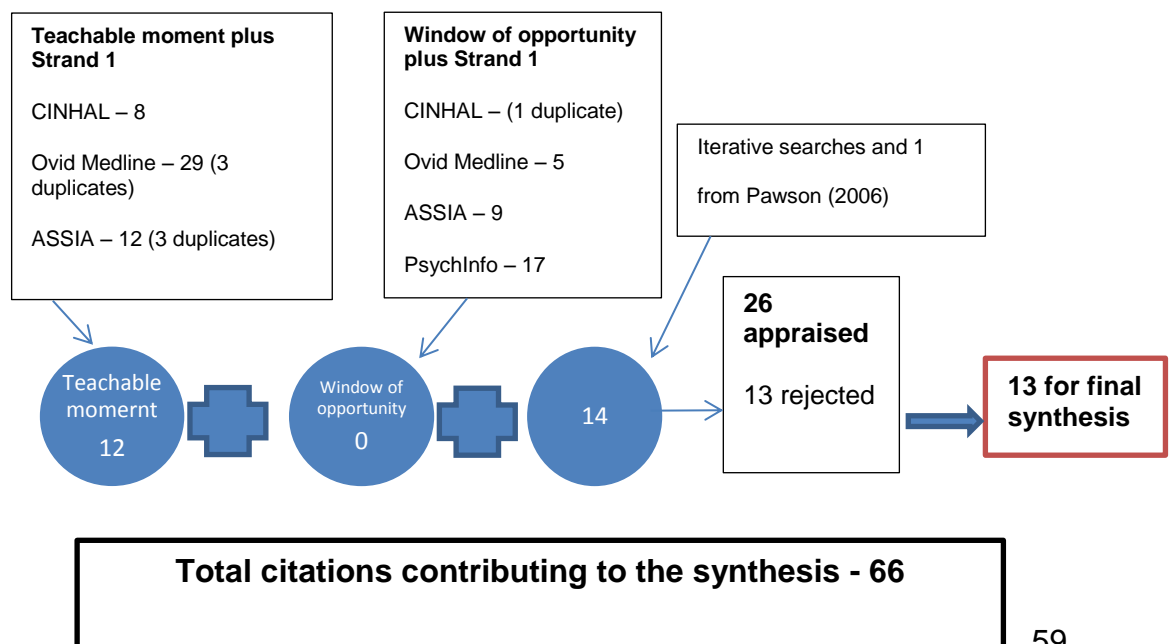
Stage One



Stage Two



Stage 3



4.3.7 Analysis and synthesis process

Pawson (2006) proposes that synthesis involves “juxtaposing, adjudicating, reconciling, consolidating and situating” the evidence to determine if it supports or refutes emerging theories (p97). In line with recommendations by Pawson (2006) and subsequent interpretation by Rycroft-Malone et al. (2012) the synthesis focused on four dimensions: the integrity of theories on brief smoking cessation were examined, with adjudication between competing theories, and the theory areas were considered in differing settings and actual practice was compared to the initial programme theory model. In this way sources were considered for their contribution to the explanation within the synthesis (Hewitt et al. 2012).

The approach to synthesis encompassed organisation of extracted information into key themes for the emerging programme theory in relation to emerging demi-regularities among Context, Mechanisms and Outcome configuration to confirm or disconfirm evidence. The interrogation of the evidence at theory and sub-theory level further refined the synthesis, as this process can detail the potential mechanisms, context and outcome hypotheses (Rycroft-Malone et al. 2012). Patterns or demi-regularities were then linked to develop the hypotheses on the programme theory of brief smoking cessation, through the production of a synthesised middle-ranged theoretical narrative within the three theory areas on organisation consistency, healthcare professionals’ role, skill and knowledge and the patient/healthcare professional interaction within the window of opportunity. Synthesis results were discussed as part of the supervision process to ensure consistency and validity of inferences.

4.4 Summary

This chapter has explained the process involved in the formulation of propositional programme theory and mechanisms of change for brief smoking cessation in acute hospital settings. The identification and synthesis of the literature has been charted the following chapter discusses the findings from this process within the three theory areas highlighted within this chapter.

Chapter Five

The Realist Synthesis

This chapter presents the findings from the realist synthesis of the evidence from the three theory areas: organisational consistency, healthcare professionals' perception of their role in smoking cessation and the window of opportunity.

5.1 Organisational Consistency

Initial Programme theory

Where brief smoking cessation is embedded as a standardised practice and a visible priority within the organisation, healthcare professionals are more likely to engage with its implementation.

The evidence for smoking cessation (SC) in hospital does not always focus on brief smoking cessation (BSC) but often on SC and tobacco control. Organisational commitment and consistency appear essential. "Hospitals that consistently provided counselling seem to take smoking cessation counselling more seriously than low performers" (Williams et al. 2005, p.350).

5.1.1 Strategy and policy

A key obstacle to BSC in hospital appears to be that SC is not seen as a front line issue but a public health and prevention issue (Peterken, 2013). Effective strategy is needed to change Healthcare professionals' (HCPs) perspectives at all levels.

Campbell, Murray, Mullen, Reece and Reed (2011) in reviewing a SC programme in 6 hospitals found, although strategic-level informants saw SC as important within hospitals' corporate objectives of restoring health, or with the hospital's smoke free-policy; these views met with resistance. One medical leadership response was "Is this something that really should fit into the hands of an acute care facility?"

(Campbell et al., p.6). Schultz et al. (2006) found nurses framed smoking as low priority in the context of an acute illness, until it involved managing irritable patients or clinical risk issues with patients leaving wards to smoke. Yet Al-alawy, Roche and

Alwali (2011) in their review of implementing public health in hospital in Rotherham emphasise that smoking is a key public health priority, with the hospital having a “duty and responsibility to promote, prevent and protect the health and wellbeing of the local population” (p. 138). Strategies and policies can initiate the re-framing of BSC as important standard care within hospital.

Strategies need to be clear, with allocation of organisational roles (Martinez, 2009); clear outcome standards (Freund et al. 2009b); and implemented in a timely fashion to increase adherence (Vaughan et al. 2002). Strategy underpins the importance of BSC via the development of policies, protocols and referral systems within care pathways; which are essential (Peterken, 2013). These may become powerful tools; Martinez (2009) found a smoking action plan increased staff engagement whereas Schultz et al. (2006), in an ethnographic study of tobacco-control, found that without documented hospital SC policies and protocols there was “limited legitimised support to integrate smoking cessation into clinical practice” (p.319).

5.1.2 Leadership

Strategies can reinforce BSC as part of standard care when combined with senior management commitment (Seymour, 2000). High level buy-in is essential for SC to be deemed important in hospitals (Al-alawy et al. 2011; Bickerstaffe, 2008; Gilbert & McIlvar, 2014; Myers et al. 2012b; National Centre for Smoking Cessation and Training (NCST), 2011; Peterken, 2013; Reid et al. 2010; Seymour, 2010; Vaughn et al. 2002). Consistency appears vital; Freund et al. (2009b) found support was hampered by change-over in management positions. Senior commitment leads the designation of accountability, which is important for the delivery of SC (Reid et al. 2010); possibly through instigating a sense of ownership. Authority also seems an important component; Jones and Hamilton (2011) found hospital SC was impeded due to a “lack of sufficient widespread authority that would have allowed prioritisation of the stop smoking agenda” (p.1214). Leadership at all levels will drive strategy, particularly clinical leadership (Reid et al. 2010). Passera (2010) found supportive clinical managers enabled HCPs to provide intensive SC in Coronary Care, whereas Jones and Hamilton, (2011) found a lack of support by ward managers for staff to attend training or engage in BSC negatively impacted on delivery.

Leaders need to ensure effective communication of strategy and policies; as this strengthens SC implementation (Freund et al. 2009b; Martinez, 2009; Peterken, 2013). Ongoing communication is an integral part of policy maintenance (Seymour, 2000). Gilbert and McIlvar (2014) describe the “power of face-to face communication with frontline staff” for a SC programme in St Bartholomew’s Health Trust (p.24). Tameside targeted staff to convey the message “this is serious” with regard to a tobacco-control policy (Seymour, 2000, p.4). Communication increases the visibility of SC policy, which is important for HCPs’ engagement; Vaughn et al. (2002) found physicians who were not aware of the Nicotine Replacement Therapy (NRT) prescription policy were less likely to adhere to SC guidance.

An inter-professional approach appears fundamental for embedding BSC as standard care. Battle et al. (1991) in one of the first reviews on hospital SC commented on “the necessity of counting on the acceptance and active participation of the staff and the explicit support of the hospital administration and of the health authorities” (p.716). Leadership can facilitate consensus building. Formulation of a steering group of key strategic figures within the hospital, and community SC programme is recommended (Al-alawy et al. 2011; Hughes, 2013; Kimmel et al. 2009; Lui et al. 2010). Inter-professional teams enable shared accountability and consensus building between hospital and community organisations (Jones & Hamilton, 2011); developing and agreeing priorities (Al-alawy et al. 2011; Kimmel et al. 2009), and assigning responsibility (Reid et al. 2010). Collaboration needs to be multilevel to identify clinical leads (Valanis, Labuhn, Stevens, Lichtentein & Brody, 2003), with team meetings and one to one contact (Gilbert & McIlvar, 2014). Jones and Hamilton (2011) found inter-professional teamwork helped to embed BSC but it was not always successful. Al-alawy et al. (2011) found some busy senior clinicians were unwilling to commit additional time for meetings. Therefore whilst an inter-professional approach may embed and standardise BSC it may be difficult to achieve without effective leadership to drive it.

Leaders need to identify those who are credible and enthusiastic to champion SC as this facilitates implementation (Campbell et al. 2011; Kimmel et al. 2009; Lui et al. 2010); particularly when senior advocates from nursing and medicine “champion the cause at senior management level and down to ward level” (Jones & Hamilton 2011, p. 1213). Campbell et al. (2011) found engaging champions kept the issue of SC “on

the front burner” among competing priorities (p.7). Champions can be used to act as communication links (Jones & Hamilton, 2011), or even as change agents (Kimmel et al. 2009). However champions are associated with particular HCP groups, such as physicians (Campbell et al. 2011), so may not impact across professions; and can be difficult to recruit (Jones & Hamilton, 2011).

5.1.3 Funding and incentives

For SC to be embedded within hospital there need to be “Tangible rather than verbal organizational support” (Valanis et al. 2003 p.245); with the need for dedicated funding prominent in the literature (Campbell et al. 2011; Jones & Hamilton, 2011; Vaughn et al. 2002). Valanis et al. (2003) in examining intensive SC in pre and post-natal clinics emphasized the importance of funding “to introduce the intervention, rain staff counter resistance, support early adopters, problem solve logistical problems that represent barriers, monitor delivery and reach of the intervention and its impact on patient outcomes and provider regular feedback” (p.247).

Unsurprisingly funding positively impacts on the engagement of HCPs with SC. Schultz et al. (2006) in a review of two hospitals found evidence of attempts to integrate SC in the hospital with the most resources. Williams et al. (2005) compared American Joint Commission’s Hospital Accreditation highest ranking (n=76) and lowest ranking (n=33) hospitals for performance indicators on SC. Higher performance hospitals were more likely to address key SC indicators and the Chief Executive Officers (CEOs) in these hospitals generally rated the value of their investment in SC more positively than CEOs of low ranked hospitals ($F=4.78$, $p<0.05$). Tameside Tobacco Control programme’s success was linked to visible investment from senior management (Seymour, 2000).

Where resources for long term funding are not in place, administration and staffing deficits can negatively impact on SC programmes (Jones & Hamilton, 2011). Funding may be difficult to obtain (Al-alawy et al. 2011). Where SC is linked to public health funding emphasis appears to be on community provision. Both Martinez (2009) and Jones and Hamilton (2011) found remuneration going to community not hospital for

patients who quit, this may underpin the view that SC is a public health issue and not a priority in hospital settings.

External funding or incentives are important (Campbell et al. 2011; Valanis et al. 2003). The Commissioning for Quality and Innovations (CQUIN) funding is useful for embedding SC in secondary care (Al-alawy et al. 2011; Jones & Hamilton, 2011; Peterken, 2013). An NCST (2011) audit found SC advisors who had a CQUIN contract increased referrals and BSC training and improved engagement between primary and secondary care. Conversely, Jones and Hamilton (2011) felt a lack of government remuneration schemes will impede programmes. External initiatives can involve SC standard setting, offering an incentive for hospital achievement. The American Joint Accreditation of Healthcare Organizations (2005) standards for care have SC as one of the indicators, and this drove SC initiatives (Lui et al. 2010; Williams et al. 2005; Zhang et al. 2005). In England the Care Quality Commission core standards for public health were cited as a useful driver for hospital SC (Al-alawy et al. 2011). Funding and incentives provide resources that raise the profile of BSC as part of standard care.

5.1.4 Prominent indicators of brief smoking cessation

Smoke-free settings

Smoke-free hospital settings strengthen the implementation of SC (Al-alawy et al. 2011; Lui et al. 2010; Martinez, 2009). Reid et al. (2010) found in Canadian hospitals “Environmentally, smoke-free hospital grounds policies appeared to motivate hospital administrators and staff to implement processes to assist hospitalised smokers” (p.16). This relationship appears to be symbiotic. Eadie et al. (2012) in a systematic review of 53 papers on barriers and facilitators to implementing smoke-free strategies found gaps in SC resources and a lack of senior level leadership commitment were a barrier to the adoption of smoke-free settings.

Although smoke-free sites have “conspicuous indicators”, such as no smoking signs (Schultz et al. 2006), often smoking restrictions are openly flouted with people smoking outside hospital entrances (Arack, Blake, Lee & Coulson, 2009; Schultz et

al. 2006; Schultz et al. 2011). These contrary messages may undermine BSC, as they are "...not a good advert for the NHS, supposed to promote health and well-being" (Arack et al. 2009, p. 115). Opposition to smoking restriction also adversely affects HCPs with worries about patient safety or aggression, and increased fire risk as smoking goes underground (Eadie et al. 2012). HCPs are expected to enforce smoking bans but are reluctant to do so; often allowing patients to smoke (Arack et al. 2009; Johnson et al. 2010; Schultz et al. 2006; Schultz et al. 2011). One staff member in Schultz et al.'s (2011) qualitative review of SC in Canadian hospitals indicated that "Everyone has responsibility to challenge anyone who is smoking...The practice part of that is that it's intimidating to go up to people..." (E.1338). Arack et al. (2009) in reviewing a smoking ban in an English hospital found staff felt the NHS had not enforced the ban, allowing people to smoke unchallenged on hospital grounds with resources lacking for patrolling, and for policy implementation. A lack of organisational consistency and leadership support for smoke-free settings may undermine the implementation of BSC by alienating HCPs.

HCPs cannot smoke in smoke-free hospital settings, yet conversely this increases the visibility of non-compliance, as they smoke off hospital ground in public view, as opposed to staff smoking rooms (Arack et al. 2009). Seymour (2000) and Arack et al. (2009) found support among HCPs for reprimanding staff who smoke on hospital grounds, but found no evidence that staff were disciplined. Batlle et al. (1991) emphasised that hospitals must offer assistance to reduce HCP tobacco consumption, to create an awareness of HCPs' exemplary role. The provision of SC for staff facilitates smoke free secondary care settings (Eadie et al. 2012). Yet Schultz et al. (2011) were not able to access HCP SC support in hospitals where it was supposedly available. BSC may be compromised where organisations do not support HCPs to quit and deal with those who are seen smoking on or near hospital grounds.

Publicity

Schultz et al. (2006) found where SC was inconspicuous it was unlikely to be implemented. Publicising BSC raises HCPs' awareness of their responsibilities (Al-alawy et al. 2011), and their role model status with regard to not smoking (Batlle et

al. 1991). Various publicity techniques have been used: media campaigns (Freund et al. 2009b; Martinez, 2009; Seymour, 2000), catch phrases and information on staff wage slips and on patient pre-admission literature (Seymour, 2000), in-patient booklets (Freund et al. 2009b) posters, staff bulletins (Freund et al. 2009b; Gilbert & McIlvar, 2014; Valanis et al. 2003) and group presentations (Freund et al. 2009b; Lui et al. 2010). Prompts and reminders also increase the visibility of SC strategy and direct HCPs to engage with BSC. Myers et al. (2012b) in a systematic review of 163 papers on barriers and facilitators to SC interventions in acute and maternity services found reminders a facilitator. These could be reminder sheets in progress notes (Freund et al. 2009b; Zhang et al. 2005) or stickers for patient notes (Bickerstaffe, 2008; Freund et al. 2009b; Hughes, 2013; Reid et al. 2010).

Standardisation

Whilst strategy, policies and tools raise HCPs awareness of SC they also ensure standardisation; this is essential for successful implementation (Bickerstaffe, 2008; Gilbert & McIlvar, 2014; Kimmel et al. 2009; Lui et al. 2010; Reid et al. 2010). Standardised practice can be facilitated by standardised forms for referral routes between community and secondary care (Jones & Hamilton, 2011) and standardised prescription protocols for NRT (Al-alawy et al. 2011; Bickerstaffe, 2008; Campbell et al. 2011; Freund et al. 2009b; Myers et al. 2012b; NCSCCT, 2011; Peterken, 2013).

Investment in electronic systems may also publicise and standardised BSC implementation. These facilitate SC for HCPs (Myers et al. 2012b); speeding up the referral process and NRT prescription (Al-alawy et al. 2011; Bickerstaff, 2008; Peterken, 2013; Reid et al. 2010). Hughes (2013) found a huge 602% increase in referrals with a new electronic referral system. However systems should be fit for purpose and committed to. Lui et al. (2010) found where nurses had to fill in paper and electronic forms they felt they lacked time and Freund et al. (2009b) found some aspects of care were not recorded electronically or on paper. Valanis et al. (2003) and Kimmel et al. (2009) both had to develop systems solutions where there were deficits in electronic systems.

Training

Training appears an essential for embedding hospital SC into practice (Al-alawy et al. 2011; Freund et al. 2009b; Gilbert & McIlvar, 2014; Kimmel et al. 2009; Myers et al. 2012b; Peterken, 2013; Reid et al. 2010; Vaughn et al. 2002). Training has a positive effect on HCPs' SC practice (Myers et al. 2012b), whereas a lack of training can be a barrier to SC (Martinez, 2009). Hospitals that adopt SC are more likely to commit resources to train HCPs (Campbell et al. 2011; Williams et al. 2005).

Training can embed SC strategies and policies through communication of standard requirements; "if there's a culture where there's more awareness, there are fewer difficulties" (Seymour, 2000, p.5). Lui et al.'s (2010) HCP SC training also included using the electronic record to document smoking status. More recently Hughes (2013) achieved success in online training for BSC. Yet Bickerstaffe (2008) in a report on developing SC pathways between English Primary and Secondary Care Trusts found problems in freeing staff for training due to staffing levels but felt mandatory training may not work as people may not be "won over" (p.10). However, mandatory training is likely to emphasise the importance of BSC.

Audit/evaluation

Audit and evaluation for baseline, processes and outcomes for hospital SC is recommended (Gilbert & McIlvar, 2014; Jones & Hamilton, 2011; Reid et al. 2010; Valanis et al. 2003). Hospitals who deliver SC successfully are more likely to evaluate the effectiveness of counselling and staff training (Williams et al. 2005). Valanis et al. (2003) found "Monitoring the implementation process and responding quickly to problems contributed to the fidelity of the intervention delivery" (p. 245). Hughes (2013) had success in measuring referrals and training activity on line, but data collection can be problematic where electronic systems are unsuitable for data collection between primary and secondary care; data on effectiveness is lost in these situations (Bickerstaff, 2008; Jones & Hamilton, 2011). Where resources and investment is not prioritised for data collection it will not be effective and this may negatively impact on embedding BSC as standardised care.

Feedback and support

Feedback facilitates SC (Campbell et al. 2011; Freund et al. 2009b; Gilbert & McIlvar, 2014; Peterken, 2013; Reid et al. 2010; Vaughn, et al. 2002). Leaders can communicate audit findings to facilitate a standard BSC approach. Feedback from external facilitators and clinical leaders has been successful (Campbell et al. 2011; Freund et al. 2009b; Reid et al. 2010). The investment in processes for feedback also highlights organisational prioritisation, whereas a lack of feedback may “jeopardize the sustainability of hospital based smoking cessation” (Campbell et al. 2011, p. 9). Sharing evaluation feedback is important for re-enforcing success (Kimmel et al. 2009), and increasing HCPs’ sense of accountability and enabling changes to be made (Campbell et al. 2011). Vaughn et al. (2002) found feedback increased hospital physicians’ adherence to SC guidelines. However, when problems occur, leaders should ensure that negative feedback does not alienate HCPs: “Sometimes I don’t feel supported. Sometimes I feel badgered...I think that at this point we’re feeling a little overwhelmed by what’s before us.” (Campbell et al. 2011, p.7).

5.1.5 Summary

Context: Where the level of strategy, policy, leadership, funding and prominent indicators for embedding BSC within acute hospital settings are in alignment;

Mechanism: Healthcare professionals see BSC as important; they embrace it as part of their role and prioritise it.

Outcome: There is engagement, consistency and standardisation in the implementation of BSC.

The CMO is hindered where there is a lack of integration and consistency to legitimise how BSC is implemented within the organisation so healthcare professionals fail to engage and prioritise it as part of standard care.

5.2 Healthcare professionals' perception of their role in smoking cessation

Initial Programme Theory

When healthcare professional are knowledgeable and skilled in brief smoking cessation they have the confidence to take ownership and be accountable for its implementation.

Generally Healthcare professionals (HCPs) accept that smoking cessation (SC) is part of their role (McCarty et al. 2001; Nagal et al. 1999; Ratschen, Britton, Doody, Leonardi-Bee & McNeil, 2009; Slater et al. 2006; Thy et al. 2007; Tremblay et al. 2009). However, this is by no means universal; Nagle et al. (1999) found 60% of 335 nurses thought SC was part of their role, yet only when patients wanted to quit. Tremblay et al. (2009) surveyed 500 Canadian HCPs from 6 groups (nurses, General Practitioners, respiratory therapists, dentists, dental hygienists and pharmacists) finding 20% of HCPs did not think it was their role to implement SC.

The literature does not always focus on perceptions of role but on related concepts, such as: responsibility, duty and accountability. The evidence on whether HCPs' perceive they have a responsibility for delivering SC is mixed. Slater et al. (2006) surveyed 1074 Northern Irish nurses, of whom 73.7% were hospital nurses, and found them generally willing to engage in SC with perceptions that it was their responsibility to do so. However, Ratschen et al.'s (2009) survey of healthcare staff from 25 English mental health units found only 42.6% of 194 responders felt it was their responsibility to address patients' smoking; this was in the context of maintaining a tobacco-free environment.

Thy et al. (2007) in their survey of 694 Norwegian hospital doctors found 28% did not see it as their task or their duty to help patients stop smoking. Framing SC as a task may relegate it to a more simple procedure, potentially reducing the emphasis on professional accountability; however when SC is related to duty the perception of professional accountability for SC may be strengthened. Passera (2010) described cardiac nurses' contribution to a successful intensive SC programme as "going above and beyond the call of duty" and commented that "ensuring that staff are accountable ...is seen as important" (p.33).

It would appear perceptions of having a duty for SC underpins HCP's sense of accountability and this increases the likelihood that SC is implemented. McCarty et al. (2001) found that whilst only 59% of 397 nurses surveyed believed they had an obligation to advise patients to quit smoking, yet the more positive the attitude on obligation the more likely the nurse was to deliver BSC (0.39, $p < 0.01$). Conversely Thy et al. (2007) found doctors who did not accept the SC role also had higher adjusted odds ratios for self-reports of seldom or never offering BSC, compared to those who had opposing views. It would seem when HCPs perceive they have a duty and responsibility to deliver SC, they feel accountable for its implementation and are more likely to implement SC.

5.2.1 Time

Studies suggest HCPs often feel they do not have enough time for SC due to conflicting priorities with SC adding to an already busy workload (Johnson et al. 2010; Myers et al., 2012b; Ratschen et al. 2009). Many studies indicated hospital nurses felt they were too busy for SC (Duffy et al. 2009; Geller et al. 2011; Katz et al. 2013; McCarty et al. 2001; Nagle et al. 1999; Scanlon, Clark & McGuinness, 2008; Schultz et al. 2009). Similar findings are observed in hospital doctors (Champassak et al. 2014; Thy et al. 2007). It appears HCPs are less likely to implement SC where a lack of time is highlighted among barriers to SC (Bakker, de Vries, Dolan Mullen & Kok, 2005; McCarty et al. 2001; Segaar, Bolman, Willemsen, De Vries, 2007b).

The contextual challenges of hospital settings are indicated by nurses who cite rapid patient turnover impacting on demands on time as a barrier to SC (Geller et al. 2011; Katz et al. 2013). One participant in Katz et al.'s (2013) study indicated:

“.. someone could say they wanted to quit smoking within the next month, and you know they'd be gone the next day, or we get uh, busy, and you know it wasn't done. The referral wasn't put in or it just slipped through the cracks...” (p.1425).

However, Buchbunder, Wilbur, Zuskov, McLean & Sleath (2014) in a review of 52 HCPs' communication with patients, as part of a study on back pain presentation in the Emergency Department, found that encounters where BSC took place were

shorter, by an average of 2.9 minutes compared to those where it did not, this was only 11 encounters but was integrated into the history taking part of the encounter.

Nurses seem to feel a lack of time a barrier to SC more than other HCPs. Nagle et al. (1999) and Duffy et al. (2009) found 63% and 57.7% respectively of hospital nurses felt they lacked the time to offer SC, in comparison to 50% of mental healthcare workers (Ratschen et al. 2009), and 35% of hospital doctors (Thy et al. 2007). Differences in HCPs' perceptions on lack of time may be related to role acceptance with doctors' more accepting of their SC role. Scanlon et al. (2008) found where nurses did not feel they had a responsibility to offer SC this was linked to perceptions of a lack of time among other factors.

There is some indication that where HCPs' accept the SC role a lack of time is not an issue and SC is prioritised. Shultz et al. (2009) and Bakker et al. (2005) found where nurses and midwives had a positive role attitude towards SC, perceptions of barriers, such as a lack of time, were reduced. Similarly a positive attitude appears to negate perceptions of a lack of time; Segaar et al. (2007b) found midwife intenders and users of a BSC protocol were more likely to disagree that BSC would take a lot of time. However, citing time as a problem may also mask more complex issues related to avoidance of SC. Geller et al. (2011) indicated paediatric hospital nurses found it difficult to find the time to talk to parents of hospitalised children but this may have been influenced by fear of parent reactions as 89% felt parents resisted discussions on smoking.

5.2.2 Perceptions of importance

Also linked to perceptions of a lack of time is that some HCPs feel that SC is not sufficiently important to prioritise within acute hospital settings. Ratschen et al. (2009) found hospital Mental Healthcare workers only valued the importance of addressing smoking as a median 5 on a scale of 1-10. Shultz et al.'s (2006) ethnographic study of tobacco-control in hospitals highlighted that nurses thought SC was "not a front line issue" as they had other priorities (p.319). This view frames tobacco-use as an unimportant public health problem, and not as essential as other acute care requirements.

HCPs acceptance of SC within their role may be related to whether health promotion is an accepted part of acute care provision. Both Slater et al. (2006) and Scanlon et al. (2008) found nurses felt they had an important role to play in health promotion but this did not extend this to SC. Slater et al.'s (2006) Australian hospital survey found that although 87% of respondents felt they had responsibility to counsel patients on health related issues for eleven conditions, this reduced to 61.7% for SC, even though all eleven conditions were smoking related.

Where HCPs feel that BSC lacks efficacy they may not implement it. Bakker et al. (2005) found that midwives working in community settings who had a more positive role definition on SC were also more convinced of the health benefits of quitting and more likely to offer SC; this is in the context of the unborn child so risk perception may be heightened here. However, many studies indicated that some hospital HCPs feel that SC has limited effect in hospital (Champassak et al. 2013; Katz et al. 2013; Slater et al. 2006; Thy et al. 2007). Katz et al. (2013) offers a nurse's view

"[The 'SC' intervention] just confirmed my belief that you can't make someone stop if they don't want to unless they're really, really ready to. I have guys come here that, I mean, they're just about on death's door. "I've been smokin' for 62 years, and I'm not quittin' now. I'll have a cigarette in my coffin' and stuff like that, but...No one should smoke, but people do, and I don't think me tellin' 'em what their options are [will help], especially when they first come in." (p.1425)

Thy et al. (2007) also found some doctors did not feel BSC was worth the effort and Champassak et al. (2014) found that uncertainty of the effects of counselling was a barrier to offering SC for physicians; this was linked to prioritizing issues to address:

"Sometimes you don't know if your efforts account to anything in terms of counselling. I mean you know we like to take action, put the patient on medication and see the immediate effects. But with counselling it's kind of like you don't know what's going to happen....." (p. 285).

Some studies suggest SC is only offered when the patient wants to quit (Nagal et al.1998; Slater et al. 2006); the inference here is SC will be facilitated by a positive patient reaction. The implementation of SC is also prioritised by HCPs when patients

have smoking-related disorders (Johnson et al. 2010; Scanlon et al. 2006; Thy et al. 2007). McCarty et al. (2001) found 89% of hospital nurses agreed that patients with a smoking-related illness should have SC but this reduced to 67% for those with a non-smoking related illness. Possibly HCPs prioritise SC for smoking-related disorders as they see it as part of acute care delivery, rather than a public health response; or they feel a hospital admission is effective at prompting the patient to quit. Therefore, it appears that for hospital HCPs to accept SC as part of their role they need to feel it is important within acute care delivery, with this influenced by perceptions of effectiveness and whether or not it should be a priority with regard to the patient's condition.

5.2.3 Social norms and support

The evidence suggests HCP acceptance of the SC role, is influenced by social norms within different HCP groups and roles. Eadie et al.'s (2012) systematic review found where smoke-free norms were already established this increased the acceptance of smoke-free policy, including SC, but there were differences in level of support by occupational group. Tremblay et al. (2009) found marked variability of SC counselling across professional groups with the percentages of HCPs that reported spending 3 or more minutes on SC varying widely, for example, from 33% in dentists to 53% for nurses, and 89% for pharmacists. Thy et al. (2007) found variation between groups of hospital doctors with physicians more likely to do BSC than other doctors. McCarty et al. (2001) also found differences, with cardiology nurses more likely to offer BSC rather than orthopaedic nurses. Willaing and Ladelun (2004) even found differences between clinical departments with staff from medicine more likely to offer SC than those from surgical. Differences may be related to social norms but also may be linked to acceptance that patients in specific clinical settings require SC advice.

The evidence suggests that where there are expectations that others within the professional group are implementing SC, HCPs are positively influenced to implement SC. Where midwives and nurses perceived that colleagues addressed tobacco they were more likely to have a positive role attitude, less likely to see barriers to SC and more likely to offer SC (Bakker et al. 2005; Schultz et al. 2009;

Segaar et al. 2007b). Social support may be important; Cooke, Mattick and Barclay (1996) and Bakker et al. (2005) found midwives who felt their colleagues were supportive of SC reported increased SC interventions. However McCarty et al. (2001) did not find the influence of peers of significance.

HCPs appear more likely to offer SC when it is the norm and they feel supported within their professional group. Where HCPs do not accept SC is part of their role they highlight barriers such as a lack of time, competing priorities and a lack of efficacy; this may be linked to knowledge and skill in delivering effective SC and other personal characteristics.

5.2.4 Healthcare professionals' knowledge and skill

Myers et al.'s (2012b) systematic review found a lack of knowledge and skills are the most commonly cited barriers to acute healthcare staff delivering BSC. Although studies indicate that HCPs have a basic understanding on the effects of tobacco-dependence and the benefits of SC, there are deficits in HCPs' knowledge, particularly on SC strategies (Nagal et al. 1999; Ratschen et al. 2009; Scanlon et al. 2008; Schultz et al. 2006; Schultz et al. 2011; Tremblay et al. 2009; Willaing & Ladelund, 2004). Ratschen et al. (2009) found a "serious lack of knowledge of tobacco-dependence" (p.580), across all mental health professional groups, professional status was a determinant of knowledge, with doctors most knowledgeable. Ratschen et al. (2009) emphasised that although medicine is an influential group, non-medical staff are more likely to provide support as they have more contact time with the patient.

Despite this Schultz et al. (2006) found nurses, who are the largest healthcare group, only had a vague awareness of tobacco-dependence and poor knowledge on SC strategies. Scanlon et al.'s (2008) survey assessed nurses using the Index of Smoking Knowledge based on the 5 A approach, only 22% of the sample achieved the pass score of >65. The least experienced nurses surveyed had most knowledge; it was proposed that this was due to SC education within their training. Additionally, given that HCPs seem to prioritise SC in patients with smoking-related disorders

Willaing and Ladelund (2004) found for some diseases, such as osteoporosis, hospital staff underestimated smoking as an important risk factor.

Studies suggest that HCPs perception of their knowledge and skill in delivering SC impacts on their implementation of it (Cooke et al. 1996; Johnson et al. 2010; Scanlon et al. 2008; Schultz et al. 2009; Thy et al. 2007). This may be linked to confidence in their ability to deliver it effectively. Johnson et al. (2010) found some community mental HCPs saw SC was beyond their domain and requiring specialised skills “It would never be something that I could do” (p7); this was linked to a lack of training and knowledge. Cooke et al. (1996) surveyed 425 midwives (89% of these worked in a hospital) and concluded that overall midwives perceived themselves to lack ability in SC, and this was a barrier to its delivery, but as perceptions on ability increased so did self-reports of SC.

More recent studies echo these findings. Schultz et al. (2009) in their survey of 214 Canadian nurses found poor perceptions on ability to implement SC was the largest barrier to engagement (-0.223 total effect, $p < 0.001$). Scanlon et al.’s (2008) survey found a moderate positive correlation between knowledge score and willingness to implement smoking cessation ($r = 0.354$, $p < 0.01$); although this was not linked to actual implementation. Thy et al. (2007) also found one quarter of hospital doctors cited a lack of knowledge as a reason for not offering BSC; with a lack of knowledge conferring increased odds of not offering various aspects of SC from written advice (OR:1.5, CI [0.9 -2.6]) to negotiating on a quit date (OR: 2.5, CI [1.1 – 5.6]). Furthermore Sarna et al. (2001) found that where nurses felt they lacked the knowledge to deliver SC, their perceptions of other barriers to SC, such as lack of time, increased ($p \leq 0.001$).

Linked to perceptions on a lack of knowledge is the perception that SC requires an expert practitioner. Thy et al. (2007) found two thirds of hospital doctors surveyed would rather refer the patient to a specialist than give BSC advice themselves. In Johnson et al.’s (2010) study a key theme was that SC is someone else’s role, this was also framed as belonging to an “expert”, responsibility for BSC was accepted only for referral, direct accountability for SC was allayed by bringing in expert help. This lack of acceptance of personal responsibility for the role, due to a lack of

knowledge and skill, may mean that BSC is avoided where immediate specialist support is not available.

Training has a positive impact on the implementation of SC (Cooke et al.1996; Duffy et al. 2009; Matten, Morrison, Rutledge, Chen & Wong, 2011; Myers et al. 2012b). Duffy et al. (2009) indicated how training may increase understanding of the importance of SC within acute care settings; prior to training 33% of nurses felt patient's conditions may not be appropriate for SC this reduced to 13% post training. Cooke et al.'s (1996) findings also indicated that SC delivery increased as midwives' perceptions of ability increased ($F=12.23$, $df (2,369)$, $p<0.0001$), findings also suggested that this was linked to reduced perception of barriers ($F=3.09$, $df (2,365)$, $p<0.05$).

Role-modelling may allow HCPs to develop knowledge and skills through observation and this may increase confidence. Evidence on role modelling in SC is limited and related to nursing. Duffy et al. (2009) successfully used research nurses as role models and to teach the tobacco tactics programme gradually recruiting opinion leaders (including clinical managers and nurse champions). Passera (2010) indicated how nurses on a cardiac unit, in addition to formal training, were supported via role-modelling and coaching from other nurses; to help build their confidence inexperienced nurses were encouraged to listen to more experienced nurses implement SC. Whilst knowledge and training may impact on SC implementation this appears to be influenced by personal characteristics.

5.2.5 Personal characteristics

Education

HCPs' education levels appear to influence SC implementation (Sarna et al. 2001; Sarna et al. 2009; Willaing & Ladelun, 2004). Willaing and Ladelun (2004) found the more highly qualified HCPs the more "active attitude" toward counselling, such as medical doctors compared with nurses (OR =1.8, 95% CI [1.1 -3.1]). The highest educated HCPs were more likely to do SC (OR = 0.5, 95% CI [0.3 -0.8]), with odds adjusted for profession, smoking status and qualifications. Sarna et al. (2001) in a

survey of oncology nurses found that the nurses with Masters' degree or above were less likely to perceive barriers to SC. Sarna et al. (2009) found Advanced Nurse Practitioners and Clinical Nurse Specialists were more likely to offer BSC. These results are based on self-reports of frequency of SC, so possibly those with more education offered what they felt were appropriate answers for their role, influenced by role and social expectations. However other personal characteristics may be important.

Confidence

HCPs' confidence in SC ability appears to influence its implementation (Champassak et al. 2014; Cooke et al. 1996; Geller et al. 2011; McCarty et al. 2001; Sarna et al. 2001). Cooke et al. (1996) looked at midwives' ability and willingness to deliver SC, with confidence one of the components of willingness. Although midwives were willing to offer SC, they felt they lacked ability and had far less confidence than other willingness components, such as responsibility. Geller et al. (2011) found paediatric nurses who lacked confidence in delivering SC were significantly less likely to implement it. It may be inferred that where practitioners' perceive they lack knowledge and skill they are less confident in their abilities. Certainly McCarty et al. (2001) found that where nurses were positive about their perceived ability to deliver BSC advice, for example in feeling comfortable in bringing up smoking, this positively impacted on self-reports of BSC.

Confidence in ability appears to relate to the HCP's motivation to prioritise SC. Cooke et al.'s (1996) survey suggested that perceptions on barriers are reduced when confidence in ability increases. However, oncology nurses who lacked confidence in SC felt that there were greater barriers to SC delivery (Sarna et al. 2001). Champassak et al. (2014) found physicians who perceived most barriers to SC also had a lack of confidence in their counselling skills, which made them question whether spending time on SC was justified. Here a lack of confidence in HCPs' abilities may be linked to perceptions of a lack of effectiveness, and contribute to HCPs' lack of acceptance of the role.

Self-efficacy

Many surveys explore the notion of self-efficacy which can be related to HCPs' confidence in their abilities to deliver SC effectively. Segaar et al. (2007a) found that cardiac nurses who used and intended to use a SC protocol had higher levels of self-efficacy than non-intenders, in problematic situations; however self-efficacy was generally low in all groups. Tremblay et al.'s (2009) survey found HCPs' self-efficacy was positively associated with self-reported counselling score for both patients who wanted to quit and those who did not, but self-efficacy differed between HCP groups; this may be associated with social norms and role acceptance. Bakker et al. (2005) related self-efficacy to those midwives with positive role definition (acceptance) towards SC and those without; yet found no overall differences; but importantly in relation to a lack of time for SC, those with self-efficacy were more likely to counsel in these circumstances. Possibly those with confidence in their ability to deliver effective SC will prioritise it, despite the existence of potential barriers.

A fundamental effect of training appears to be that this increased understanding positively impacts on HCPs' confidence to embrace the role and offer SC. Matten et al. (2011) looked at changes to hospital nurses' knowledge, attitudes and behaviour pre and post training, finding as nurses' knowledge increased so did their confidence, which was rated at moderate to high from pre-training level of 23% in skills to 75% post training, and this resulted in more self-reported SC. Duffy et al. (2009) found post training 60% of hospital nurses felt confident and empowered to deliver in a SC protocol; SC increased from 57% to 86% ($p=0.0002$). Increased levels of self-efficacy have also been related to training. Katz et al. (2013) found a direct improvement on self-efficacy with training, from 21 – 38%, this was seen in the context of patients reporting receiving more advice to quit (adjusted OR = 2.1, 95% CI [1.2 – 3.5]).

Healthcare professionals' experience

HCPs' experience may also impact on SC implementation, with more experienced practitioners more likely to offer SC (Geller et al. 2011; Sarna et al. 2001; Scanlon et

al. 2008; Thy et al. 2007). Scanlon et al. (2008) found that the most experienced nurses were more willing to counsel despite having slightly lower knowledge scores. Thy et al. (2007) also found more experienced doctors were more likely to do SC, significantly more of the doctors with less experience found SC too time consuming and unpleasant to discuss. Sarna et al. (2001) found that younger oncology nurses and those with the least experience and were more likely to perceive barriers to SC (Age: OR: 0.97, 95% CI [0.95 – 0.98], $p \leq 0.0001$; Experience: OR: 0.97, 95% CI [0.96-0.99], $p \leq 0.0001$). Experience may be closely related to the HCPs' confidence and self-efficacy to deal with potentially emotionally charged encounters; more experienced practitioners may be more likely to implement SC as they have developed the skills to do this.

Smokers

HCPs' smoking status may influence SC implementation. Some evidence suggests smoking status has little impact on this. Thy et al. (2007) did not find that smoking status in hospital doctors of significance with regard to BSC and Nagle et al. (1999) found hospital nurses who were ex-smokers and smokers were significantly more likely than non-smokers to find their smoking status helpful for SC ($X^2 = 26.6$ df=2, $p = <0.00001$). Sarna et al. (2009) did find nurses who were smokers less likely to arrange follow-up but demonstrated no differences in BSC delivery. However the majority of evidence suggests that HCPs who smoke are less likely to offer SC (McCarty et al. 2001; Pipe et al. 2009; Ratschen et al. 2009; Slater et al. 2006; Willaing & Ladelund, 2003).

In primary care Pipe et al.'s (2009) survey of 2836 physicians across 16 countries found that non-smoking physicians were more likely to discuss smoking with their patients at every visit (45% vs 34%; $p < 0.001$), and were also more likely to assist smokers to quit via referral or prescription. In hospital settings McCarty et al. (2001) found nurses who were smokers were less likely to report offering BSC compared with former or never smokers but there were no significant differences in actual counselling practices ($p < 0.60$). Willaing and Ladelund (2003) found non-smokers were more likely to discuss smoking with patients and were twice as likely to give SC

advice compared to HCPs who smoked (OR =2.1, 95% CI [1.4 - 3.1]). Ratschen et al. (2009) found that healthcare workers who were smokers were significantly less likely to find the time to deal with smokers in comparison to non-smokers (3.5.3% vs 54.6% OR =0.45, $p < .001$).

Myers et al.'s (2012b) systematic review found that where HCPs smoke this influences their attitudes and knowledge; with this a barrier to implementing BSC in acute hospital settings. HCPs who smoke appear less likely to accept that SC is part of their role (Schultz et al. 2009; Slater et al. 2006). Shultz et al. (2009) also found ex and never smokers, when compared to current smokers and had higher perceived ability scores on SC skills and knowledge, with ex-smokers reporting enhanced perceived ability. Where smokers lack confidence in their abilities to deliver SC it may be that they consider themselves poor role models. The influences behind this are complex.

HCPs may lack the confidence to do SC because smoking is at odds with the professional role of health promoter. Slater et al. (2006) found nurses agreed that the nurse had a role as an exemplar but smokers rated this lowest and non-smokers rated this highest. Johnson et al. (2010) describes how one healthcare provider struggled with his role in community Mental Health "we are trying to assist people to quit smoking but we smoke with them" (p.6). However avoidance of SC activity may be more complicated than perceptions of inadequacy as a role model.

Evidence suggests HCPs who are smokers lack knowledge of smoking risks compared to non and ex-smokers (Pipe et al. 2009; Radsma & Bottorf, 2009; Ratschen et al. 2009; Slater et al. 2006; Wallaing & Ladelund, 2004). Pipe et al. (2009) found physicians who smoked less likely to rate smoking a harmful activity compared to non-smoking physician's (64% vs 77%; $p < 0.001$). Apart from emphysema and lung cancer nurse smokers significantly under-estimated a range of smoking related disorders compared to non-smokers ($p < 0.01$) (Slater et al. 2006). Willaing and Ladelund (2004) also found healthcare worker smokers underestimated the health consequences of smoking compared to non-smokers. Similarly smokers held more misconceptions of nicotine replacement's interaction with antipsychotic medication than non and ex-smokers Mental Healthcare workers (Ratschen et al.

2009). Possibly, HCPs who smoke purposely evade developing their knowledge and skill due to their own vulnerabilities.

Radsma and Bottorff (2009) using a grounded theory approach found nurse smokers developed ambivalence to caring for patients who smoked, due to self-protection from feelings of hypocrisy and stigma and were more comfortable re-directing responsibility to others. Nurses avoided confrontation of their own risks as smokers. This has resonance with Slater et al.'s (2006) findings that far fewer smokers had accessed training (11.2% non-smokers, 9.8% ex-smokers compared to 3.9% smokers). Avoidance of training may reduce HCPs' confrontation of their own health risks, but this strategy may also impact on their implementation of SC. Radsma and Bottorff (2009) found that nurse smokers adopted various strategies when dealing with patients who were smokers to manage perceptions of their own vulnerability, particularly where patients had similar characteristics to the nurse; approaches also depended their assessment of patient need, with those without smoking related disorders a low priority for SC.

Although much of the evidence reviewed examines nurses, it does suggest that where HCPs smoke this is likely to adversely impact on their acceptance SC as part of their role, this is due to a range of factors, which may impact on their desire or confidence to implement SC. It would appear there are multiple social and individual influences on HCPs' acceptance of SC as part of their role in acute hospital settings. Where there are positive influences this contributes to increasing HCPs' SC knowledge and skill so they are more confident in implementing SC.

5.2.6 Summary

Context: Healthcare professionals' perceptions of their role in SC, their confidence in their knowledge and skill, and their personal characteristics, all influence the implementation of BSC.

Mechanism: When HCPs perceive that BSC is important they will accept it as part of their role.

Outcome: HCPs will prioritise, and be accountable for the implementation of BSC as part of standard care.

The CMO is hindered where HCPs reject that BSC is part of their role. The CMO is also hindered where HCPs do not feel they have the time to implement BSC because of other more important priorities.

5.3 The window of opportunity

Initial programme theory

In the implementation of brief smoking cessation the distinct way healthcare professionals commit to interacting with patients depends on their individual beliefs and personal strategies in response to patient concerns and their fear of harming the clinician-patient relationship.

In hospital the window of opportunity depends on a constellation of factors (Kells et al. 2013); its identification can lead to a teachable moment for smoking cessation. Bell (2012) commented that the teachable moment is treated as a self-evident truism but conceptual understanding is still developing. Lawson and Flocke (2009) reviewed 81 articles to elucidate its core elements finding, although its use was widespread, the teachable moment lacked conceptual and operational development. They categorised three usages: the first, being synonymous with opportunity; 61 articles conveyed teachable moments as unpredictable and dependent on various factors impacting together fortuitously to present a spontaneous learning moment; yet there was no exploration of its key components or the mechanisms of creating teachable moments. In their second category 14 articles retrospectively linked the teachable moment to a context which led to behavioural change; hospitalisation with a smoking-related disorder was an example here, with reference to the concept of the “window of opportunity” articulated in Glasgow et al.’s (1991) study. However none of the 14 articles provided detailed discussion on contextual contributory factors.

Only two articles in Lawson and Flocke’s (2009) final category considered the essential elements within the teachable moment; the first by McBride and Ostroff (2003) discussed the mechanisms by which the teachable moment might have an impact on learning or behaviour. This is further expanded upon by McBride et al. (2003) who explored the teachable moment in relation to opportunities to discuss SC and suggested a heuristic framework to explain its core concepts.

McBride et al.’s (2003) framework appears seminal as it is referred to by several authors (for example, Bell 2012; Kells 2013). McBride et al. (2003) acknowledge the theoretical basis of cues to action, where an individual conveys significance to an

event which prompts a change in behaviour. In order for a cueing event to convey sufficient significance for it to be a teachable moment the presence of three domains are essential, these are: the extent to which the event increases expectations of personal risk; prompts strong emotional responses; and redefines self-concept or social roles.

McBride et al.'s (2003) emphasis on risk perception is linked to health behavioural models, such as the Health Belief Model (Rosenstock, 1966). Here a smoking-related diagnosis during a hospital admission may force confrontation of risk.

McBride et al. (2003) also related the teachable moment to Social Cognition theory (Bandura, 1986) where prompts trigger individuals to minimize negative and accentuate positive outcomes, for the smoker confronted with a smoking-related disorder this may tip the balance in favour of quitting. Emotional responses are linked to theory on the perceptions of threat and coping (Lazarus, 1993). Social influences are also important in promoting behavioural change with links to theoretical perspectives (for example Social Role Theory, Parson, 1951); events that threaten self-esteem or self-control are important as smoking-related ill health may be incompatible with role obligations. McBride et al. (2003) recommend conceptual and methodological refinements so that teachable moments can be increased, with identification of patients who are receptive and of interventions for targeting teachable moments. They suggest that understanding timing is crucial.

5.3.1 Identification of the right time.

The identification of the window of opportunity and the creation of a teachable moment for BSC appears difficult for HCPs in all settings, with evidence from primary care relevant to acute settings. Cohen et al. (2011) in analysing the teachable moment for SC in 811 audio recorded visits to primary care physicians only identified successful teachable moments in 11% of cases with 31% missed opportunities.

The use of opportunities for BSC appears equally difficult in acute hospital settings. Importantly HCPs appear reluctant to implement BSC where it is deemed inappropriate; this is usually in the context of acute illness (Duffy et al. 2009; Katz et al. 2013; Schultz et al. 2009). However, finding the right time for BSC appears

difficult even when the patient is not acutely unwell, such as in consultation settings, because patients' concerns and priorities do not involve SC. Pilnick and Coleman (2003) indicated that General Practitioners (GPs) found "topicalising smoking as a legitimate item for discussion can be a difficult and delicate activity" (p.137). Johnson et al. (2010) noted that "knowing when was the right time was portrayed as a skill, with the emphasis placed on holistic well-being" (p.8). Preparation of the patient may be a starting point in hospital; Passera (2010) noted the importance of informing Coronary Care patients that someone would be discussing smoking with them. However, Kells et al. (2013) found even when preparation occurred, by making appointments to meet with parents in acute paediatric settings, clinical demands meant nurses were not able to prioritise such conversations.

Identification of the right time may come from a trigger, such as the patient's presenting condition. Patwardhan and Chewning (2009) found community pharmacists more likely to do BSC if they could determine a rationale for doing so, such as worsening health conditions. Johnson et al. (2010) found the right time in community mental health was often associated with client "stability" and "outward signs" of a problem, such as when a client was coughing. The trigger of an acute illness may explain why HCPs focus on BSC for patients with smoking-related disorders in acute hospital settings (McCarty et al. 2001; Thy et al., 2007; Scanlon et al., 2006). Interestingly Patwardhan and Chewning (2009) found pharmacists more likely to offer BSC if doctors had raised the issue. Duffy et al. (2009) also found hospital nurses were less likely to do SC without doctor's support. Here the right time is linked to validation by HCPs with higher status. HCPs' decision to instigate BSC appears to be influenced by many factors, such as their beliefs on smoking and assessment of patient motivation.

5.3.2 Healthcare professionals' beliefs

Smoking as a choice versus addiction

Schultz et al. (2011) in the context of smoke-free hospitals found HCPs generally sympathetic towards smokers "I recognize that it's a dependence and not something they're just really choosing to do" (p. e1138). However when HCPs see smoking as a

choice, they appear to have a different perspective on BSC to those who see smoking as an addiction. Schultz et al. (2006), also in the context of smoke-free hospitals, found nurses felt powerless to intervene for patients who smoked in hospital and linked this to a lack of understanding on the addictive dimension of tobacco. Smokers tended not to be described as addicts, so their need to smoke in the face of deteriorating health was puzzling for nurses. Schultz et al. (2011 p. E.1338) also found there was a lack of understanding where smoking was deemed a personal choice:

“We need to address these people because it is a stressful time to give up your bad habit”

“It’s only nicotine; they say most of its psychological”

Schultz et al. (2011) found some patients felt judged for continuing to smoke in hospital. Champassak et al. (2014) cites a hospital doctor who acknowledged this perspective. “There are some doctors that tend to make the patients feel like they’re somehow morally culpable for their smoking, like they’re doing something that is a sin....”(p.285)

Pipe et al. (2009) illustrated how perceptions on the complex addictive nature of smoking can impact on SC implementation. In comparing smoking and non-smoking primary care doctors they found both groups felt smoking was addictive but non-smokers were more likely to say that SC was up to the individual’s will power and a life-style choice, than those doctors who smoked. However, doctors who smoked were also more likely to cite patient stress as a barrier to SC; all these perspectives were linked to the doctors saying they had less time for SC.

Johnson et al. (2010) found community mental health HCPs saw smoking as therapeutic, “providing relief from symptoms associated with mental illness” and a “comfort” (p.5). Both Johnson et al. (2010) and Schultz et al. (2006) found some evidence that tobacco use was framed as an individual choice and one that should be respected with the responsibility to stop placed on the patient. Johnson et al. (2010) described this discourse as revealing a distancing strategy which offered defence for omitting to give SC advice.

Perceptions of patient motivation

HCPs may offer BSC according to their assessment of the patient's motivation to quit; where HCPs feel patients lack motivation to quit this may hamper their implementation of BSC. Duffy et al. (2009) found 64% of 104 nurses indicated a lack of patient motivation a barrier to SC, Sarna et al. (2001) cited similar findings with oncology nurses.

Conversely both nurses (Slater et al. 2006) and doctors (Thy et al. 2007) are more likely to offer SC if patients expressed a desire to stop. Tremblay et al. (2009) compared HCPs' attitudes to patients who were ready to quit and those not ready, finding all HCPs examined more likely to offer SC to those ready to quit. Levels differed dependent on HCP group, for example 32% of pharmacists would offer SC to those who wanted to quit but only 14% for those who did not, in comparison to 35% to 23% in GPs. Where a lack of motivation manifests as resistance HCPs may be even more reluctant to offer SC, Geller et al. (2011) found 89% of paediatric nurses reported resistance the most commonly reported barrier to BSC for parents.

Coleman, Cheater and Murphy (2004) filmed 27 GPs consultations with smokers, with their knowledge. Over half the GPs avoided long discussions on smoking if they felt the patient lacked interest (although many were self-critical of this approach on reviewing the film). Pilnick and Coleman (2006) following their primary care study, suggested it is understandable for GPs not to pursue advice where patients state they have no intention of stopping. However Aveyard, Begh, Parsons and West's (2011) important systematic review and meta-analysis of 13 randomised controlled trials on BSC found physicians are more effective when offering assistance to all smokers and not only those who express an interest in doing so. Here HCPs' perceptions on effectiveness and the evidence appears to conflict.

Assessing motivation may be a means of avoiding the confrontational aspects of SC. Patwardhan and Chewning (2009) found community pharmacists' fear of patients' negative reactions was the most prominent barrier to initiating BSC. Coleman et al. (2004) also found a preference for non-confrontational approaches, GPs aimed to collaborate with patients feeling this more likely to elicit truthful responses on their motivation to quit. GPs avoided repeating advice perceiving it as 'nagging'; and few

felt frightening patients was effective. However, when smokers had significant smoking-related morbidity GPs appeared more confrontational.

Yet BSC appears challenging in hospital even where admissions are due to smoking-related disorders. Nagle et al. (1999) found hospital nurses often felt the confrontational aspects of SC unacceptable, such as indicating how smoking was harming a person's health; 33% of 335 nurses surveyed felt patients would resent being told to stop smoking. McBride and Ostroff (2003) suggested primary care clinicians often retreat from circumstances of high emotionality believing smokers have enough to deal with, giving SC a lower priority. This may be even more of an issue with an acute hospital admission where emotions run high. Certainly Schultz et al. (2011) found, in managing the smoke-free hospital, patients who smoked could be angry when confronted about their smoking.

Fear of harming the clinician-patient relationship

Behind the avoidance of confrontation appears to be the fear of harming the clinician-patient relationship. Pilnick and Coleman (2006) found the fear of offending or upsetting patients a major reason for avoiding SC in primary care; one GP indicated offering advice was pointless and would risk alienating patients.

Champassak et al. (2014) found hospital doctors also felt BSC could potentially damage their patient rapport. Conversely, where nurses did not feel BSC impacted negatively on their patient-relationship there was a slight positive correlation with self-reported BSC implementation (Spearman 0.16) (McCarty et al. 2001). Butler et al. (1998) reviewed patients' perceptions of GPs' opportunistic SC advice, and suggested patient-clinician relationships were more likely to be damaged if patients felt guilty or irritated.

In avoiding BSC HCPs may be protecting themselves from feelings of discomfort; with some doctors finding BSC unpleasant (Thy et al. 2007). Avoidance may be due to fear of harming clinician-patient relationships by provoking patients' feelings of stress or guilt; Sarna et al. (2001) found this in oncology nurses and Abrahamsson, Springnett, Karisson, Hakansson and Ottoson (2005) in midwives. Abrahamsson et al.'s study also found avoidance eased midwives' discomfort at blaming pregnant

women. Yet avoidance of SC can provoke guilt in HCPs: “Sometimes I feel guilty not addressing it with the patient” (Schultz et al. 2011, p. 1340)

HCPs may over-estimate the potential for BSC to negatively impact on the clinician-patient relationship. Butler et al. (1998) found most patients expected their smoking would be addressed. This expectation is underpinned by Bremberg and Nilstun’s (2005) study where vignettes were used to compare views from the public (n=620), with oncologists (n=154) and physicians (n=132) on justification of clinical decisions relating to BSC implementation. Both physicians and public agreed that BSC should be implemented for the healthy person with a sore throat. In contrast public expectations differed from HCPs with regard to whether BSC should be implemented for the inoperable cancer patient who has previously stated that she is too stressed to quit; 4/5s of the public felt it should, whereas only 2/3 of physicians and 1/2 of oncologists would have offered BSC. The remaining clinicians justified avoidance citing respect for patient choice and enhancement of the relationship. The results may be linked to more attuned perceptions by the doctors or increased public perceptions of duty of care. Hughes’ (2013) more recent study suggests some HCPs realise patients do not mind being approached about their smoking: “Initially you feel a bit hesitant about asking patients. But if you realise that they’re coming to the hospital expecting to be asked that question... it gives you a bit more confidence to go ahead....”(p.16)

5.3.3 Patients’ perceptions and responses

When HCPs attempt to offer BSC, patients’ reactions influence whether the teachable moment is created and pursued. It appears important for HCPs to understand patients’ perceptions, and recognise and negotiate patients’ strategies to avoid discussing SC. The literature generally relates to SC in primary care but offers detail on the complex undercurrents within interactions which may be extrapolated to hospital settings.

Butler et al. (1998) in studying patients’ views on GPs’ opportunistic SC, found over half of 42 patients anticipated receiving SC but were sceptical of its influence. Of the three broad groups of smokers identified, two groups indicated the clinician-patient

relationship could be harmed by discussing SC; as some felt it an invasion of privacy. The 'contrary' group were less convinced of the need to quit due to "ritualistic advice" from GPs, or of the GP's ability to influence them; they were also more likely to recount negative experiences in SC encounters with doctors. 'A matter of fact group' shrugged off advice, although felt it was reasonable for doctors to give it. The 'self-blaming group' felt guilty and shameful about smoking, more commonly they had experience of smoking-related disorders; so this group may align with the experience of smokers in hospital. Two participants had not sought health advice because they feared the GP would discuss SC. One participant described one encounter: "Everything was being blamed on smoking.., and I felt that was pretty unfair, it made me feel pretty low.... He was pounding over and over... I felt I had a knot in my stomach every time I had to go to see him." (Butler et al.1998, p.1880).

Further insight on the complexity of patients' reactions on receiving BSC in hospital may be gained from Bell's (2012) commentary on the teachable moment in the context of cancer survival, post-traumatic growth and expectations of lifestyle change (such as SC). Bell (2012) suggests there is an expectation that post-traumatic growth following cancer will initiate transformation; she relates this to McBride et al.'s (2003) framework of the teachable moment where strong emotional response and redefinition of self-concept occurs. However Bell (2012) suggests a cancer diagnosis is not enough to create a teachable moment for change, this has to be created or exploited and requires external triggers from HCPs to "kick start" the patient into action by taking advantage of the situation. Bell (2012) sees fear as central to McBride et al.'s (2003) model, as the more the patient is scared the more their motivation to change. This perspective may be linked to the fear created by an acute hospital admission, which may be seen as traumatic, and the push to implement BSC during this 'window of opportunity' when the patient is open to change.

Dohnke, Will, Weiss-Gerlach and Spies (2012) to determine if hospital presented cueing events for the teachable moment, applied the Trans theoretical (TTM) model (Prochaska, Redding & Chang, 1997) to identify hospital patients' stages of change with regard to SC; they also reviewed social cognitive factors, such as risk perception. In comparing patients in the Emergency Department (ED) (n=185), pre-operative clinics (n=193) and a control group recruited in a citizen's office (n=290) they found hospital treatments triggered a teachable moment with both ED and pre-

operative patients more likely to be in TTM higher stages with corresponding changes of cognition. However, surprisingly all hospital patients perceived lower smoking-related risks than controls; Dohnke et al. (2012) proposed risk suppression facilitated coping.

Bell (2012) comments on the questionable ethics of intentionally intervening at moments of trauma induced disruption to stimulate development; certainly this may be why HCPs are reluctant to perform BSC in hospital, when they consider the patient particularly vulnerable; and also why patients may see BSC as exploitation and resent this. Bell (2012) highlights the obligation placed on the patient post “trauma-induced disruption” from cancer to self-improve, with those who do not experience or desire “growth” are rendered “abnormal” (p. 594), as development post-trauma is a cultural and societal expectation. This may resonate with HCPs views on patients who continue to smoke in hospital where smoking is seen as a choice and not an addiction (Schultz et al. 2006; Schultz et al. 2011). Bell (2012) refers to previous research findings where patients felt guilty where they failed to live up to these expectations (Bell, 2010).

Capitalising on the window of opportunity for BSC seems to depend on HCPs creation of the teachable moment through enhancing patients’ awareness of their personal risk; however, patients may use strategies to avoid confrontation of risk and any unwelcome emotions. “Patients negotiate and are the final judge of the salience of a concern and use a range of strategies to resist attempts to motivate” (Cohen, et al. 2011, p.12).

Pilnick and Coleman’s (2003; 2006) research on GPs’ opportunistic SC offers some insight. Pilnick and Coleman (2003) found patients directly contradicted GPs when they tried to link patient’s presenting complaint to their smoking. It was proposed patients did so to avoid accepting responsibility for their condition; the authors referred to Parson’s (1951) sick role, where patients are not responsible for their illness but its legitimacy is on condition of trying to get well, therefore by stopping smoking.

Pilnick and Coleman (2003) suggested moral dimensions to these SC encounters, with patients “morally implicated in their illness” (p.140) as they do not take responsibility; but doctors also have a moral responsibility to help the patient regain

health. Pilnick and Coleman (2003) offer an example of a patient who continually refutes the doctor's attempts to link his cough to smoking finally stating "I'm not that bad I'm only trying to get help" (p140). Patients were not passive recipients of healthcare but offered resistance and challenged the GPs' assumptions, as they do not perceive smoking is a problem, or do not want to acknowledge this. This moral clash renders BSC interaction difficult to pursue and may be amplified within hospital, where patients are perceived as vulnerable due to illness.

In further analysis of their 2003 study Pilnick and Coleman (2006) identified that patients used avoidance strategies for SC based on three types of behaviours: 'presenting clinically problematic information', 'told troubles' or 'defensive expansion'. With 'clinically problematic information' the patient presents a problem that takes precedence over smoking; such as psychiatric illness, acute infection or illness following bereavement. In primary care this deflected prioritisation away from SC, so it can be strongly suggested that this strategy will impact on HCPs prioritisation in hospital, where these issues may be acutely presented.

'Trouble telling' involved elaborating on difficult life circumstances rendering SC improbable due to stress and coping; this encouraged doctors to terminate the discussion; occasionally reinforcing patients' justification for smoking due to stressful circumstances. Possibly HCPs are more likely to accept 'trouble telling' due to the inevitable stress following a hospital admission for an acute event. The third strategy 'defensive expansion' was observed most frequently. Patients used this to indicate they know what should be done to quit, so avoiding further intervention by the doctor. In a busy hospital environment HCPs may feel that the patient has accepted BSC advice but Pilnick and Coleman (2006) propose that whilst the strategy appears self-motivational, it is the direct opposite and patients often lack understanding.

5.3.4 Creation of the teachable moment

HCPs appear to choose to implement BSC based on their assessment during patient interaction. The literature explores how the teachable moment is recognised or even created. Lawson and Flocke (2009) propose the teachable moment is not

unpredictable or a convergence of contextual factors, but a moment that can be can be co-created through interaction. This view has a key focus on communication between the HCP and the patient. McBride et al. (2003) indicate how context may elicit emotional responses, suggesting acute care settings can prompt emotions if links are 'emphasised' or 'dramatized' by healthcare providers between the presenting complaint and smoking. Kells et al. (2013) emphasised the importance of instigating 'capturable' moments for interventions in fast-paced inpatient settings. Coleman et al. (2004) found GPs used strategies for 'testing the water' for SC, to determine patients' reactions based on their body language, sometimes using humour and taking greatest care with unfamiliar patients. Such strategies may be useful for hospital HCPs but patients are more likely to be unfamiliar, and humour may be inappropriate in acute illness.

Pilnick and Coleman (2003) found GPs' advice to quit was legitimised when clear links were made between smoking and patients' medical complaints. They identified three subcategories of linkage: smoking as a general problem for people in a particular circumstance; smoking as a specific problem for a particular person in their particular circumstances or invoking 'worst case scenario', where smoking is an immediate and potentially life threatening problem. The initial situation may not be perceived as relevant by patients but the latter may have resonance especially for hospitalised patients.

Buchbunder et al. (2014) reviewed 52 patient-clinician SC interactions as part of a study on back pain presentation in ED, and identified how HCPs offered motivating reasons linking to patients' specific medical, family, or economic situations: "It's super important both for your health and your daughter's health that you stop" (p.10). McBride and Ostroff (2003) suggest timing the SC teachable moment to delivering abnormal or normal results; indicating the diagnosis of cancer can be a catalyst that personalizes the risks of smoking and direct the patient to restore and maintain good health. Pawson (2013) terms diagnosis as a turning point "the handling of which may prompt distress or confidence building, which reactions themselves may go on to impede or facilitate further progress in the treatment pathway" (p.146). Pawson (2013) links the significance of diagnosis as an opportunity to influence future treatment to the concept of the teachable moment. In accordance with McBride et al.'s (2003) model, HCPs can use these events to increase smokers' feelings of

vulnerability and build on emotional responses of relief or worry to encourage the patient to consider SC, thus demonstrating HCPs exploitation of fear (Bell, 2012); this may however, provoke patients' denial of risk in order to cope (Dohnke et al. 2012).

Cohen et al. (2011) proposed teachable attempts can fail because physicians link to concerns that are not relevant to the patient. Patients present with a salient concern, such as a symptom, and physicians should learn to identify these concerns and seize on opportunities to reframe them and link them to unhealthy behaviours, such as smoking. This is crafting the teachable moment and may motivate patients to change their behaviour, by suggesting improvement in their salient concern. HCPs reactions to patient responses appear fundamentally important in creation of the successful teachable moment.

5.3.5 Strategies in response to patients' attitudes.

For successful implementation of BSC, HCPs must negotiate in response to patients' reactions. The evidence on strategies relates to physician-patient interaction; offering some insight into effective HCP responses. However, patients' attitudes to physicians may differ to other HCPs, due to physicians' higher status; which may impact on the effectiveness of strategies.

Certainly some SC strategies appear unhelpful. Butler et al. (1998) found although some patients suggested scare tactics may be feasible, overall they did not think this would help and Champassak et al. (2014) found scare tactics were largely dismissed by doctors as potentially damaging the doctor-patient rapport. Flocke et al. (2012) suggested where patients were resistant to change this sometimes led to shaming or blaming language by the physician and resulted in a 'lecture', which is not only ineffective but may damage the clinician-patient relationship. Likewise Coleman et al. (2004) found few GPs felt confrontational approaches would be effective. Opposing these strategies the development of a collaborative approach is seen as important (Cohen et al. 2011; Flocke et al. 2012; Lawson & Flocke, 2009). "Physicians do not, however accomplish teachable moments unilaterally; patient participation is essential." (Cohen et al. 2011, p.e12).

Personalised approaches

Pilnick and Coleman (2003) suggest a personalised approach is important, where problems are reframed in negotiation with the patient. Buchbunder et al. (2014) found positive reinforcement and encouragement important strategies. Patients accepted GPs' opportunistic SC when patient receptivity was acknowledged; these interactions were characterised by showing respect for the patient and a caring attitude (Butler et al. 1998). One participant in Champassak et al. (2014) reiterated the need for respect.

“You have to be sensitive. There are some doctors that tend to make patients feel like they're somehow morally culpable for their smoking, like their doing something that is a sin. You're a bad person because you smoking, you're dirt, and your breath smells, and all that sort of crap.”(p.285)

Midwives in Abrahamsson et al.'s (2005) study demonstrated a person-centred approach. Although SC was avoided by some midwives, SC strategies used were: 'informing', 'friend making' and 'co-operating'. In 'informing' the woman was expected to make an informed choice. In 'friend making' this relationship was a tool to encourage SC, finally in 'co-operating' a more systematic SC approach was offered where it was recognised that the woman understood SC was important and was offered support. These strategies are in the context of a developing relationship over several contacts so may not be appropriate for BSC in hospital. However, Abrahamsson et al. (2005) noted that woman's defence reactions were avoided by following the patient's view of smoking and pointing out her right to make a decision; thus respecting the patient's view: “You try to work them out, how motivated they are or what they think about their smoking. They know more than I thought. They often realise themselves what they can do, that they should stop smoking” (p. 341).

More recent strategies on the teachable moment are usually associated with intensive theoretical approaches to SC but the emphasis on personalised responses may be useful for all hospital HCPs implementing BSC. Dohnke et al. (2012) recommended interventions should be tailored to individuals' current stage within the TTM, for example targeting: risk perceptions, pros, intention, adoption self-efficacy and planning for those in the pre-contemplation stage. Lawson and Flocke (2009)

proposed HCPs communication as therapy-based framework utilising the Health Belief Model: a cue to action, perceptions of threat of disease, a belief in the benefit of behavioural change and that change is achievable.

Flocke et al.'s (2012) the Teachable Moment Communication Process (TMCP) for primary care facilitates clinicians' responses to patients' expressed readiness to change, allowing for formulation of SC plans acceptable to the patient. The TMCP builds on work by Cohen et al. (2011) and uses aspects of motivational interviewing (Miller & Rollnick, 1991) and the TTM (Prochaska et al. 1997). It starts with addressing the patient's salient concern and linking this to smoking. Then a brief quit message is given that conveys concern for the patient. This is followed by the use of the **OPEN** mnemonic **O**ptimism **P**artnership **E**licit and **N**o more. Its simplicity may offer an effective BSC framework for hospital HCPs.

The evidence suggests HCPs should select BSC strategies appropriate to the patient's responses with effective communication skills essential for formulation of a collaborative-partnership. HCPs need to negotiate any patient's attempt to subterfuge SC. Pilnick and Coleman (2006) suggest counter-strategies for those patients who aim to deflect or avoid SC. They propose patient's 'trouble telling' is unlikely to be with the aim of seeking advice. One counter-strategy is to give advice and not act as a recipient of 'troubles'. In reaction to 'defensive expansion' Pilnick and Coleman (2006) suggest GPs should question patients' to determine their knowledge on the harms of smoking and provide behavioural advice, closing the encounter by clarifying the decision to stop rests with the patient. Flocke et al. (2012) through application of the TMCP suggests HCPs must use communication skills to address patient resistance and ensure alignment of their response with the patient's expressed level of readiness to change. Goals for the ambivalent patient are to validate this ambivalence and identify a small step. Where patients do not want to quit, the goal is to maintain the relationship so future discussion can be facilitated.

HCPs, through effective communication skills should adopt strategies to deliver BSC in hospital, based on individualised patient needs. Whether the patient is motivated to quit or not, conveying respect will enhance patient engagement and may result in collaboration.

5.3.6 Summary

Context: Where there is alignment of opportunity and identification of the right time, HCPs use a variety of ways to meaningfully interact with patients to determine their potential responses to BSC.

Mechanism: HCPs make a judgement that BSC is appropriate to initiate and that it will not harm the clinician-patient relationship, irrespective of their patients' motivation.

Outcome: HCPs adopt an individualised approach to instigating and pursuing BSC using appropriate strategies for the patient.

The CMO is hindered where HCPs make a judgement that BSC is not in the patient's best interests, or where HCPs feel patients lack motivation and that individualised strategies will not work. The CMO is hampered where HCPs fear harming the clinician-patient relationship. The CMO is also hindered when HCPs deliver BSC in a tokenistic fashion in a format that is unacceptable or irrelevant to the patient.

5.4 Chapter Summary

This realist synthesis has offered contingent CMO configurations on three theory areas that are thought to integrate to influence the programme theory of BSC in acute hospital settings. The evidence suggests there are clear interactions between these CMOS, for example where organisations embed and support BSC as part of standard practice, HCPs' knowledge and skill can be facilitated through training, and this positively impacts on the adoption of the individualised patient strategies required to successfully implement BSC. The following chapter discusses the methods used to test these propositional CMOs within a Health Board.

Chapter Six

Study Methods

Following an explanation of the methodological approach chosen for the study within Chapter Three, and the methods and findings from the realist synthesis of the literature in Chapters Four and Five, the thesis now reports on testing the context-mechanism-outcome (CMO) propositions through empirical means, to review the implementation of brief smoking cessation (BSC) in acute hospital settings in a Health Board. It was important to evaluate the CMOs in a real-world setting to explore the impact of different contexts and so contribute to the development of knowledge on how healthcare professionals can be supported to implement BSC.

6.1 Study purpose

Pawson and Tilley (1997) propose research should extend knowledge and inform stakeholders but should be realistic and modest in its aims. This study was ultimately designed to inform the stakeholders within the Health Board of where and why BSC is working and where it is not.

6.1.1 Study aims

The aims were to explore the healthcare professional's role (HCPs) and the impact of context, to determine what works to support BSC in acute hospitals. The study sought, through the development of middle-range theories, to offer insight into how BSC may become embedded as standard care.

The study objectives were:

4. To understand organisational delivery of brief smoking cessation in acute hospital settings in a Health Board.
5. To investigate the intentions of individual healthcare professionals in the delivery of brief smoking cessation interventions.

6. To develop and refine the CMOs proposed within the three theory areas: *organisational consistency*, the *healthcare professionals' role* and the 'window of opportunity' (Table 6); to further develop the programme theory and determine what works for whom, in what circumstances and why, with the implementation of brief smoking cessation in acute hospital settings.

Table 6: Initial programme theory and CMOs

<p>Theory Area One <i>Where brief smoking cessation is embedded as a standardised practice and a visible priority within the organisation, healthcare professionals are more likely to engage with its implementation.</i></p> <p>Context: Where the level of strategy, policy, leadership, funding and prominent indicators for embedding BSC within acute hospital settings are in alignment; Mechanism: Healthcare professionals see BSC as important; they embrace it as part of their role and prioritise it. Outcome: There is engagement, consistency and standardisation in the implementation of BSC.</p>
<p>Theory Area Two <i>When healthcare professionals are knowledgeable and skilled in brief smoking cessation they have the confidence to take ownership and be accountable for its implementation.</i></p> <p>Context: HCPs' perceptions of their role in smoking cessation, their confidence in their knowledge and skill, and their personal characteristics, all influence the implementation of BSC. Mechanism: When HCPs perceive that BSC is important they will accept it as part of their role. Outcome: HCPs will prioritise, and be accountable for the implementation of BSC as part of standard care.</p>
<p>Theory Area Three <i>In the implementation of brief smoking cessation the distinct way healthcare professionals commit to interacting with patients depends on their individual beliefs and personal strategies in response to patient concerns and their fear of harming the clinician-patient relationship.</i></p> <p>Context: Where there is alignment of opportunity and identification of the right time, HCPs use a variety of ways to meaningfully interact with patients to determine their potential responses to BSC. Mechanism: HCPs make a judgement that BSC is appropriate to initiate and that it will not harm the clinician-patient relationship, irrespective of their patients' motivation. Outcome: HCPs adopt an individualised approach to instigating and pursuing BSC using appropriate strategies for the patient.</p>

6.2 Theoretical territory

As discussed in Chapter Two the application of theory and frameworks is of value in dealing with complexity in implementation research. This study used the

Consolidated Framework for Implementation Research (CFIR) (Damschroder et al. 2009) to guide data collection and analysis. The CFIR unifies key constructs from implementation theories, models and frameworks which influence the implementation of complex interventions across multiple contexts. Multiple constructs are organised into 5 domains with interaction between the domains (Table 7). Damschroder et al. (2009) propose the CFIR can be used to guide evaluations and build knowledge on implementations. It has been applied extensively to primary research and evidence synthesis within implementation research to determine whether and how interventions work (Smith, Damschroder & Lewis, 2015); and to evaluation “rooted in realist philosophy” (Damschroder & Lowery, 2013, p. 2). The CFIR does not have to be used in its entirety and a menu approach to selection of constructs has been applied (Fredriksson et al. 2014). Ongoing development has clarified the operationalization of some constructs and an online Wiki provides guidance and opportunity for construct refinement (Damschroder & Lowery, 2013).

Table 7: The Consolidated Framework for Implementation Research (CFIR)

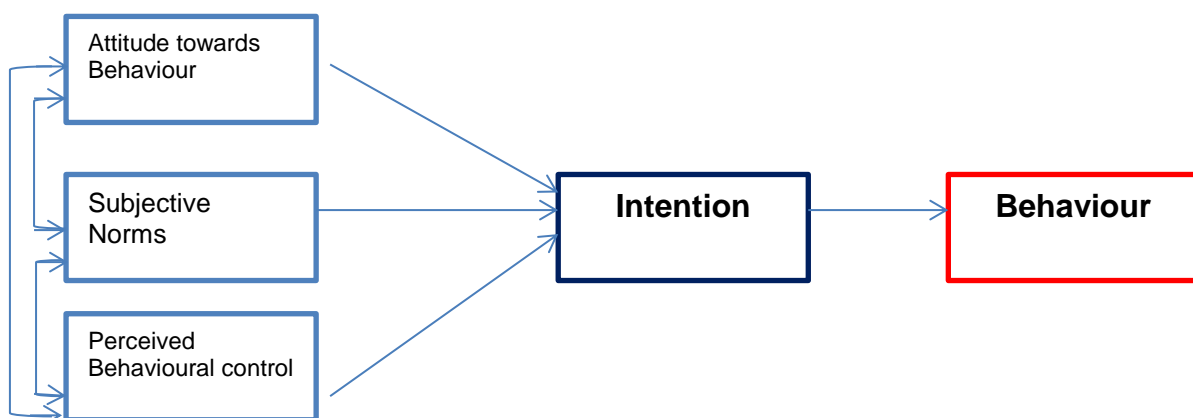
Domain	Constructs
Intervention Characteristics	Intervention Source, Evidence strength and Quality, Relative Advantage, Adaptability, Trialability, Complexity, Design Quality and Packaging, Cost.
Outer Setting	Patient Needs and Resources, Cosmopolitanism (external networking), Peer Pressure, External Policy and Incentives.
Inner Setting	Structural Characteristics, Networks & Communications, Culture, Implementation Climate (Tension for Change, Compatibility, Relative Priority, Organizational Incentives and Rewards, Goals and Feedback, Learning Climate). Readiness for Implementation (Leadership Engagement, Available Resources & Access to Knowledge and Information).
Characteristics of Individuals	Knowledge & Beliefs about the intervention, Self-efficacy, Individual Stage of Change, Individual Identification with Organization, Other Personal Attributes.
Process	Planning, Engaging (Opinion Leaders, Formally appointed internal implementation leaders, Champions, External Change Agents), Executing, Reflecting and Evaluating.

Source: Damschroder, Aron, Keith, Alexander, & Lowery (2009).

The CFIR domains acknowledge constructs such as peer pressure, self-efficacy, knowledge and beliefs about an intervention; likewise this study's initial programme theory suggests these areas are important for the implementation of BSC. The Theory of Planned Behaviour (TPB) (Ajzen, 1991) offered a means of examining these influences. Damschroder et al. (2009) refer to the TPB within the domain of the characteristics of individuals relating this to whether positive or negative values are placed on new behaviours and how that impacts on intention to change.

The TBP is an extension to the Theory of Reasoned Action (Ajzen & Fishbein, 1980), and the most favoured theory within implementation research; reviewing the knowledge transition gap between evidence and healthcare professional behaviour (Godin, Belanger-Gravel, Eccles & Grimshaw, 2008). Brehaut and Eva (2012) suggest this popularity is due to its broad scope and applicability to a wide range of behaviours. The theory proposes behaviours may be predicted from a persons' intention to perform them (Perkins et al. 2007). Intention is predicted by attitudes, subjective norms and perceived behavioural control (Figure 4). Behavioural control comprises of perceptions of control over the behaviour, and confidence felt about performing the behaviour (Ramsay, Thomas, Coral, Grimshaw & Eccles, 2010). Ajzen (2002) acknowledged the concept of self-efficacy, as developed by Bandura (1977b), is part of perceptions of control related to assessment of the ease or difficulty of performing behaviour.

Figure 4: The Theory of Planned Behaviour



Ajzen, 1991

Godin et al.'s (2008) systematic review of 72 studies found the TPB does appear to predict behaviour but is better at explaining intention than the behaviour itself. Eccles et al. (2009b) have applied it to prescription intentions and actual behaviours in primary care; intentions successfully predicted behaviour in individuals but not in teams. Clinician's learning needs can be assessed using the TPB so education on interventions can be tailored (Perkins et al. 2007).

However, the TPB has been less useful for generating improvement recommendations on knowledge transfer (Brehaut & Eva, 2012). The theory has been criticised for failing to account for broader influences on behaviour, such as habit and emotion (West, 2006), and for being too generalizable for testing (Ogden, 2003); the latter claim strongly refuted by Ajzen and Fishbein (2004). Taylor et al. (2006) suggested, with regard to public health behaviour, that the focus on individual cognition is unlikely to influence material or social-cultural differences; this may also be inferred to extend to healthcare professionals' behaviour.

Ogden (2003) suggests the use of the TPB may be considered pragmatic but the researcher should consider its flaws. It is deemed appropriate for situations where the focus of interest is on the planned behaviour of clinicians (ICEBeRG, 2006); and therefore appeared suitable for the examination of HCPs' intention to deliver BSC in acute hospital settings, with the potential to offer insight into the influences on their behaviour.

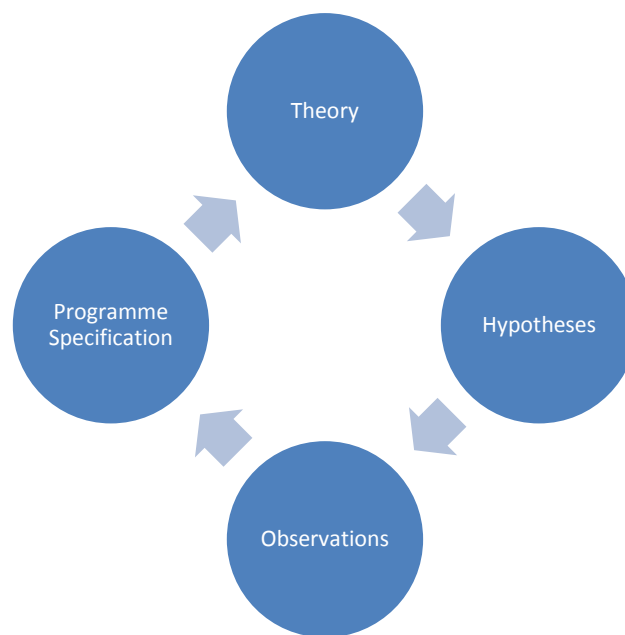
6.3 Study design

6.3.1 Methods

Study methods relate to the "steps, procedures and strategies for gathering and analysing data" (Polit & Beck, 2006, p.504). This study followed the stages of Pawson and Tilley's (1997) realist evaluation cycle (Figure 5). Following the cycle the programme *theory* was identified through scoping the literature and stakeholder engagement. The second stage, the *hypotheses*, is described as "what might work for whom in what circumstances" (Pawson & Tilley, 1997, p.85), and suggests the programme mechanisms, which groups might benefit most or least, and which contextual factors are linked (Hewitt et al. 2012). The realist synthesis proposed

hypotheses on three theory areas: organisational consistency, the role of the health care professional and the window of opportunity. During the next stage of the evaluation cycle, *observation*, these findings were tested within the Health Board, to achieve the study aims and objectives to attain *programme specification* and determine what works for whom, in what circumstances and why, in the implementation of BSC in acute hospital settings within the Health Board.

Figure 5: The realist evaluation cycle



Pawson and Tilley, 1997.

6.3.2 Method within a realist evaluation

Pawson and Tilley (1997) state that “data construction should be theory driven” (p.155) advocating the use of multi-method data collection and analysis on the CMOs within the observation stage. The realist researcher is a pluralist employing any method to investigate both process and outcomes that help to explain the programme theory’s CMOs (Hewitt et al. 2012). However, Pawson and Tilley (1997) reject outright pluralism, as it lacks guidance for prioritisation; advocating the methods used should be appropriate to the research task. In realist evaluation there is no single analytical purpose; and suitable data collection design should be guided

by the proposed theories and the availability of the data (Pawson & Tilley, 2004). The theory directs to “a toolkit of appropriate methods” (Pawson & Tilley, 1997, p.159). The study design combined quantitative and qualitative methods to collect data; this is common within theory-driven evaluations (Marchal, McDamien & Kegels, 2010). Methods were guided by the three theory areas to determine the organisational infrastructure and individual HCP’s views.

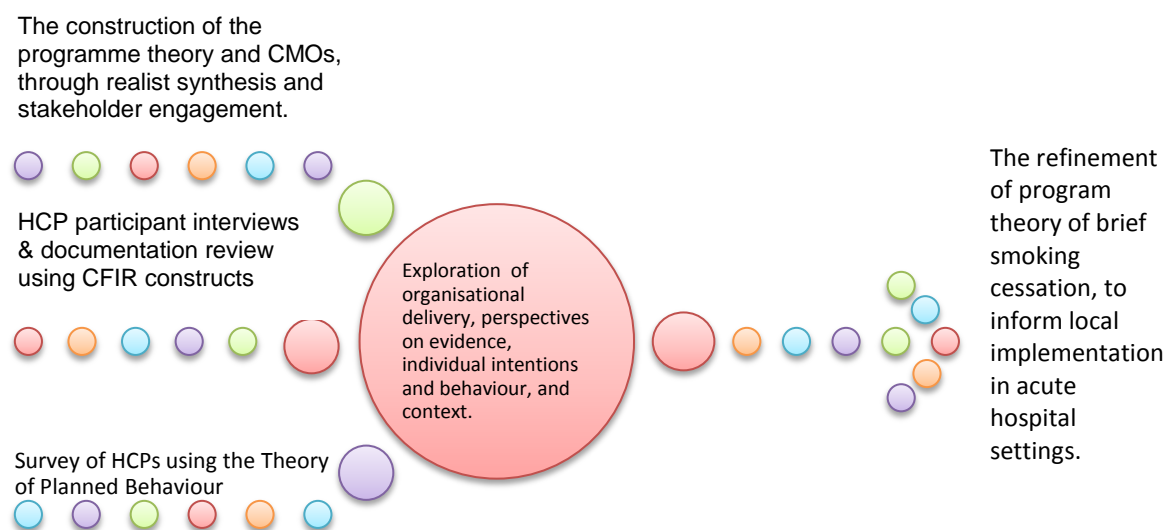
A mixed-methods approach is proposed as the best means for advancing understanding of what impedes and facilitates the implementation of evidence based practice (Palinkas et al. 2011). Mixed-methods offer multiple approaches to address the complexity of interventions through promoting understanding of professional influence on implementation and contribute to theory development (Dixon-Woods, Agarwal, Young, Jones & Sutton, 2004); therefore it would seem an appropriate approach for the evaluation of the implementation of BSC.

McEvoy and Richards (2006) suggest data collection methods are not exclusively linked to specific philosophical standpoints, nevertheless the quantitative and qualitative data collection methods utilised within the study are associated with different methodological perspectives; those of constructivism and positivism. Concerns have been raised about mixed methodology within data collection methods due to the potential for philosophical incompatibility between different research perspectives, from ontological, epistemological and methodological differences (Sandelowski, 2000). Doyle, Brady and Byrne (2009) see this concern as a “false dichotomy” (p.175). Data collection from a variety of sources and perspectives overcomes bias inherent within a single method (Mearns, 2011). Furthermore corroboration of findings illuminating the same phenomenon from different data collection strategies can result in triangulation (Topping, 2010), which is the comparison of range of perspectives on a particular issue (Dixon-Woods et al. 2004). Importantly for this evaluation, Pawson and Tilley (1997) emphasise that a realist approach stands between the poles of positivism and relativism to be “free of paradigmatic chains” (p.159).

Rolfe (2006) suggests all data should be treated equally. In a mixed-method approach quantitative methods, privileged within evidence hierarchies, should not dominate; as it is increasingly recognised that qualitative data may add dimensions

to understanding on objective findings (Evans, 2008). The methods chosen were selected to enable the programme theory to be tested; data was collected on outcomes related to BSC implementation and the features of context hypothesised to be important. The articulation of links between context and outcomes facilitated understanding on causation and prompted data collection on the hypothesised mechanisms. The study used parallel mixed-methods to test the programme theory (Figure 6); this is a common mixed-methods approach (Palinkas et al. 2011). Utilising mixed-methods may be complex and challenging, with potential for bias due to the methodological and analytical judgements required (Whitmore, 2007), however it offers the potential for rich data collection required for evaluation of the implementation of BSC in acute hospital settings.

Figure 6: Study design



6.4.1 Setting and population

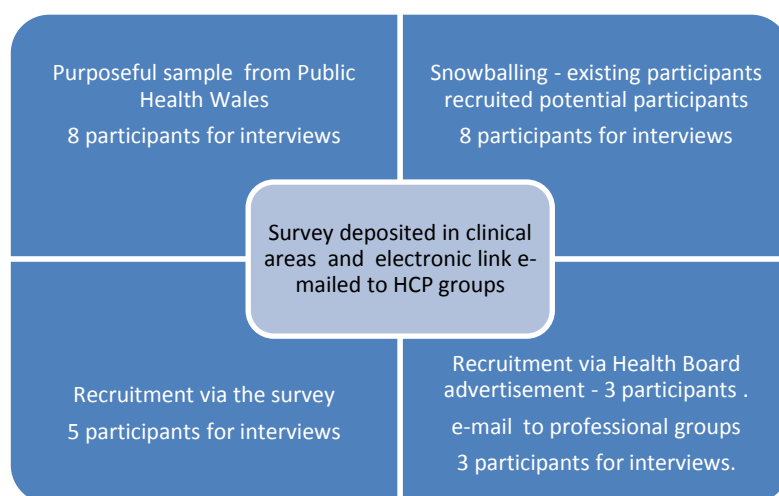
There are about 5000 healthcare professionals working in the 3 acute hospitals in the Health Board. All hospital sites have large catchment areas, encompassing densely populated and rural areas. Site A has the largest rural catchment area but does encompass a small city and towns. It sits in an area of natural beauty so is a tourist destination and a well-known retirement area. It is relatively isolated from

larger UK cities and has key pockets of both rural and urban deprivation. As site A, site B is situated near the coast and is also a tourist destination but previous success in tourism is no longer evident, this site has multiple areas of deprivation and contains the most deprived town in Wales. High profile failures in care have occurred at this site. Site C is the most densely populated site in the Health Board. It has more industry and better links to larger UK cities. It is in a more densely populated area than the other sites and also has pockets of deprivation both urban and rural.

6.4.2 Sampling

Purposeful sampling involves seeking out people from a pre-specified group (Procter, Allan & Lacey, 2010). This sampling strategy ensures that study participants will contribute best to the information needs of the study (Polit & Beck, 2006). In a realist approach this is those who might be expected to know about the programme theory (Pawson & Tilley, 1997). The study used a combination of sampling techniques (Figure 7). A purposeful sample of key facilitators of the intervention was obtained through contacts with Public Health Wales. Opportunistic sampling techniques were also used, as accessing a range of healthcare professionals was important. The sampling technique aimed to capture those known to be engaged with brief smoking cessation but also those who may not deliver the intervention, such as healthcare professionals who felt it was not their role. The sampling technique aimed to access healthcare professionals who smoked.

Figure 7: sampling methods



6.4.3 Sampling criteria

The sample consisted of HCPs from the Health Board's three acute hospitals for comparisons across different contexts to determine the existence of consistent patterns or divergent characteristics.

Inclusion criteria

HCPs from the three acute hospitals who had responsibilities for the implementation of BSC, and /or were required to engage in BSC were eligible to participate. For the interviews criterion sampling ensured the inclusion of participants from different professional backgrounds and organisational roles (Table 8); this offers a rich source of data for testing explanatory frameworks (Procter, Allen & Lacey, 2010).

Exclusion Criteria

HCPs were excluded if they did not have direct patient contact or responsibility for ensuring BSC implementation. HCPs who were not working in the three acute hospital settings were excluded. Non-healthcare professionals, such as healthcare assistants, were excluded; as professional requirements and expectations were key elements for exploration.

Table 8: Sample for interviews

Healthcare professionals working in the three acute hospitals involved in direct patient care or with responsibility to ensure the implementation of brief smoking cessation.	
<ul style="list-style-type: none">• Smoking Cessation Champions for Surgery, Cancer, Medicine, Anaesthetics and Therapies Clinical Practice Groups.• Doctors• Nurses• Physiotherapists• Occupational Therapists• Pharmacists• Radiographers	

6.5 Data collection methods

Interviews and a survey were the data collection methods used to address the study's aims and objectives. In addition Health Board documentation, strategy and policy were scrutinised to add depth to the findings. These included minutes for the Health Board's *Tobacco Control* group and *Tier 1 Target* group for smoking cessation and audit figures. Documents were accessed via stakeholders in the Health Board and Public Health Wales. Initially focus groups were also proposed but organisation of these proved unfeasible. Data collection adhered to Pawson and Tilley's (1997) notion of being theory driven; these methods were selected as they offered effective means of gaining information to inform and refine the CMOs and the programme theory. Table 9 charts the data collection process.

Table 9: Study timeline

August 2012 – March 2014	March 2014 –June 2015	June 2015- January 2016	December 2015 – June 2016
<ul style="list-style-type: none"> • Scoping the literature. • Programme theory development. • Stakeholder engagement and feedback on emerging theory. 	<ul style="list-style-type: none"> • Realist review of the literature. • Review of Health Board documents. • Ethical approval. • Access to sites. 	<ul style="list-style-type: none"> • Recruitment of participants. • Survey distribution. • Survey results entered into SPSS • Semi-structured interviews. • Interview data transcribed. 	<ul style="list-style-type: none"> • Analysis of survey data using SPSS. • Interview and survey commentary applied to CFIR constructs. • Thematic analysis of qualitative data • CMO configuration • Stakeholder review

Semi-structured interviews

Interviews are a commonly used data collection method and offer a flexible way of facilitating a depth of explanation and understanding of context, through clarification of participant's views (Tod, 2010). However, Taylor (2005) cautions that their complexity is often under-estimated and they have an inherent risk of bias at any stage, from sampling to question formulation; furthermore the interviewer may influence participants to alter their views. Researcher reflexivity is important to identify and overcome these issues (Hesse-Biber & Leavy, 2011).

Pawson and Tilley (1997) see the traditional interview as difficult sense-making conversations as the participant lacks understanding on the study's aims; they propose the *teacher-learner function*. This is where the researcher teaches the participant about the theoretical approach guiding the study, by offering explanation to link information provided to make the emerging theory explicit. "The researcher's theory is the subject matter of the interview, and the subject (participant) is there to confirm, to falsify and, above all, to refine the theory" (Pawson & Tilley, 1997, p.155). "Asking questions like a realist" requires an active role to "interrogate ideas about the programme" (Manzano, 2016, p.10-11).

Constructs from the CFIR (Damschroder et al. 2009) and the initial programme theory, informed the framework for semi-structured interviews (Appendix 8). Semi-structured interviews offer a guide but allow respondents to talk freely about what is important to them, allowing the interviewer discretion to follow participant's lead (Hesse-Biber & Leavy, 2011). For a realist evaluation the form of the interview depends on "the precise stage of theory development or testing which the inquiry has reached" (Pawson & Tilley, 1997, p.169). HCP's perceptions of their role and ability to implement BSC, organisational visibility and standardisation, and the interfaces between HCPs, and between HCPs and patients were focused on. This meant that the programme theory could be interrogated via honing questions to the information the participant could provide; enabling development of conjectured CMOs on the three theory areas through application of the CFIR (Table 10).

Table 10: The teacher learner interview

Interview question - examples from the study	Purpose and interpretation
<p><i>Do you feel that the health board has helped you to develop knowledge and skills in this area? Do you think they've supported you? Not the health board specifically, no. As I say, we recognised the need for the training and we organised the training with Stop Smoking Wales but other than that it's probably information I've learnt from obviously knowledge of the products from my general role.</i></p>	<p>Using CFIR Domain III The Inner Setting, <i>Access to knowledge and skill.</i></p> <p>To examine the <u>context</u> for theory 2 on knowledge and skill development and confidence to do BSC.</p>
<p><i>I've spoken to some practitioners who've said they are feeling overwhelmed with all the health messages they have to give out basically. No I don't think so, I think it's part of the parcel isn't it, we'll talk about drugs, we'll give advice. It's part of; you know stopping smoking is the one thing that can affect quite a lot of patients that smoke with a medical problem. It's probably up there as much as, handing out statins or aspirin or whatever.</i></p>	<p>Using CFIR Domain IV, Characteristics of the individual. <i>Knowledge and beliefs about the intervention.</i></p> <p>To examine the <u>mechanism</u> for theory 3 – healthcare professional's judgement that BSC is a positive contribution to patient care.</p>
<p><i>You're not observing this in your practice that any healthcare professionals are doing it. Would that be correct? That's correct yes. People might just about ask about smoking but they might not offer an intervention.</i></p>	<p>Using CFIR Domain V, Process, <i>Executing.</i></p> <p>To examine the <u>outcome</u> of BSC and for theory area 1 the <u>mechanism</u> HCPs 'seeing' BSC - visibility.</p>

Recruitment methods for interviews

HCPs involved in smoking cessation provision known to Public Health Wales and other key strategic figures, such as hospital Matrons and Medical Directors were invited to participate in the study via e mail. Pawson and Tilley (1997) suggest 'utility players' offer ideas on what works and have experience of outcomes success and failure in specific contexts but may be unable to generalise their understanding of programmes.

A snowballing technique was employed to invite a range of HCPs to participate. There are potential biases with this sampling technique as the sample may be

restricted to a small network of acquaintances (Polit & Beck, 2006), and only those HCPs who are motivated in BSC may have been proposed and then volunteered. However it was felt that inviting survey respondents for interviews could capture different perspectives on BSC, particularly from healthcare professionals who smoke, as they may have initially been more comfortable in completing the survey rather than participating in interviews. Five HCPs, who had indicated they could be contacted for further information, were recruited from the survey respondents. One of these participants indicated that they were a smoker on the survey. Three participants volunteered following invitations to participate in the study in the Health Board's newsletter and a University and Health Board conference.

The interviews were recorded and transcribed verbatim; their duration ranged from 30-55 minutes. The participants were offered a choice of face-to face or phone interviews. Phone interviews can be convenient, less time-consuming and less threatening for the participants (Tod, 2010). However Hesse-Biber and Leavy (2011) suggest the quality of the interview is decreased significantly when not done in person, as body language, gestures and other means of showing interest and building a rapport are missing which may be vital for interpretation.

The questionnaire

A survey comprising of a questionnaire based assessment (Appendix 9) was available in hard copy and electronically for HCPs from each of the Health Board's three acute hospitals. Questionnaires offer an advantage of obtaining wide coverage where the sample is geographically dispersed, particularly web-based questionnaires (Polit & Beck, 2006). The information obtained can be anonymous so may offer a more accurate picture of responders' views, without the social desirability factor to provide certain expected responses (Denscombe, 2014). The survey facilitated data collection from a range of healthcare professionals, potentially capturing data from those healthcare professionals who felt smoking cessation was not part of their role, or achievable in acute settings. Additionally the anonymity of the survey may have encouraged participants to declare they were smokers, as smoking is at odds with their role (WHO, 2005). This facilitated comparison of data on attitudes to BSC with smoking status.

Reaching the population sample

The mode of survey administration can impact on the quality of data generated; this includes sampling methods and the ability to reach all eligible respondents (Meadows, 2003). Response rates increase where there are personalised requests (Edwards, 2010); however, as the Health Board does not assign acute or community categories to their HCP data, the names of individual clinicians were not available so the questionnaire could only be targeted at groups of clinicians. To maximise response rates efforts were made to reach as many eligible participants as possible. Seven hundred questionnaires with free-post envelopes were dispersed within the three sites, and left in clinical areas, such as wards, to be accessed by a range of clinicians, but particularly nurses. Other HCP groups were targeted by leaving copies within their departments; these were Pharmacy, Physiotherapy, Radiography, Occupational Therapy and the Doctors' Mess.

The questionnaire was also available electronically via a link to Survey Monkey. The quality of data from internet surveys is as effective as more traditional formats with similar response rates (Sue & Ritter, 2012). The link to the survey was available to all staff via the staff newsletter on two occasions. It was also e mailed out twice to key groups of clinical and strategic figures, who were asked to forward it to their staff. In this way all matrons, pharmacists, doctors, occupational therapists and radiographers received the e mail inviting them to participate in the survey.

Both electronic and hard copies clearly stated that the questionnaire was for HCPs working in acute hospital settings. Participants were asked their profession, date qualified, smoking status and whether they had received brief or intensive smoking cessation training and whether this had been provided by the Health Board or elsewhere. The participants could choose to give contact details and choose whether they could be contacted for further information.

Engaging the target sample

The questionnaire, in both formats, indicated that the study's purpose was to determine what supports the implementation of BSC in acute hospitals. This information was also available on the invitation to participate e mails and on leaflets

distributed to the clinical areas with the questionnaires. Response rates may improve if the topic has salience and indicates that participation will make a difference (Denscombe, 2014); however those who did not feel that BSC was their role, or were smokers, may not have identified with this issue. As HCPs were not personally targeted it was anticipated they may have felt BSC was not relevant to them and response rates could be low as a result. A prize was offered as an incentive to complete the questionnaire; this was an electronic tablet. Incentives do increase response rates for surveys (Edwards, 2010). However; participants had to provide their contact details to be entered into the draw so negating the advantages of anonymous feedback; there was also the potential for inaccurate responses, as participants may have completed the survey without thought, just to be entered into the draw.

Survey design

The survey followed a validated format for constructing questionnaires using the Theory of Planned Behaviour (TPB) (Francis et al. 2004). Michie, Johnston, Abraham, Parker and Walker (2005) suggest that evidence-based practice is often not achieved because of a lack of theoretical understanding on the psychological processes involved. Evidence derived from theory also facilitates standard approaches and the generalisability of findings (Brehaut & Eva, 2012). Therefore it was important that the survey was underpinned with theory. The TPB was selected to facilitate a rich understanding of the factors influencing healthcare professionals' attitudes towards their role for the intention to deliver brief smoking cessation. This facilitated scrutiny of the programme theory and refinement of the CMOs. Certainly, Michie et al. (2011) propose that the constructs from the TPB are valid for understanding behaviour in implementation research; although they acknowledge they do not cover the full range of possible influences. Furthermore, the theory predicts the occurrence of specific behaviour, provided that this is intentional, and not habitual or automatic (Eccles et al. 2009b). The TPB therefore, provided a means of proxy measurement to predict the outcome of the implementation of BSC. Statements in the survey were grouped according to the concepts within the theory. The outcome was to predict the HCPs' *generalised intention* to deliver BSC. The

predictor variables were their *attitude* towards BSC, the perceived expectations of *subjective norms* and their perceptions of *behavioural control*. Eccles et al.'s (2006) systematic review found self-reported intentions do predict clinicians' behaviour. Although generally utilised to determine health behaviours Francis et al.'s (2004) recommended format has been used to predict HCPs' behaviour in many studies, for example in the management of upper respiratory tract infections (Eccles et al. 2007); pharmacists intention to consult physicians (Charoenung, Nimitakpong, Chaijinda & Jedsadayanmata, 2012) and the clinical management of diabetes in primary care (Hrisos et al. 2009).

The questionnaire was adapted to a brief format as response rates are more likely to increase where questionnaires take less time, so "minimising the burden of participation"(Denscombe, 2014, p.24). Certainly Giles et al. (2007) found most respondents felt the full version of the TPB questionnaire too long; however, adaptation may have implications for reliability and validity (Meadows, 2003). The questionnaire adhered to the brief format recommended by Francis et al. (2004), who suggest that a 12 item questionnaire of direct measures is the minimum sufficient for predicting intention. The questionnaire had 21 items, 3 for generalised intention and 18 predictor variables: 4 for attitude, 9 for subjective norms and 5 for behavioural control. The emphasis on subjective norms explored the different influences on the HCPs as these were relevant to all three theory areas. The format allowed for analysis to predict variance in behavioural intentions according to a seven point likert scale. Generally the scale progressed from negative to positive but three questions reversed this scale, as this may minimize the danger of acquiescent response bias (Jones & Rattray, 2007).

Brief smoking cessation was referred to in the survey as 'asking patients whether they smoke, facilitating nicotine replacement and referral to Stop Smoking Wales'. This statement was generally added to the exact statements recommended by Francis et al. (2004), for example the three items for *generalised intention*:

'Asking patients whether they smoke, facilitating nicotine replacement and referral to Stop Smoking Wales'

.....*is something I expect to do.*

.....*is something I want to do*

.....*is something I intend to do*

(statements in italics from Francis et al. 2004, p.11)

Five questions did not follow Francis et al.'s exact phrases; these were the two last questions in Question 2 (with the descriptors *foolish* to *sensible* and *pointless* to *useful* on the likert scale); the last two questions in 3e where perceptions of pressure from policy and the healthcare environment were assessed; and finally Question 4e on perception of skills and knowledge were related to *behavioural control*.

Francis et al. (2004) suggest predictor variables can be measured directly or indirectly, and although both methods have drawbacks, positive correlations between both types of measurement indicate greater validity. The questionnaire used only direct measures to enable analysis to predict variance in behavioural intentions in order to refine the emerging programme theory. Direct measurement of the theory of planned behaviour is a popular method in questionnaires. Oluka, Nie and Sun (2014) in their assessment of the quality of 10 TPB questionnaires for use with patients found 6 had used direct measurements only; with 5 of these rated as high quality. Francis et al.(2004) caution that direct measurement requires participants to offer a summary of underlying cognitive responses on global attitude, subjective norms and perceived level of control, which may disregard complex, ambivalent or irrelevant beliefs. However inclusion of the indirect question format would have first required an elicitation study on beliefs to construct valid questions, so increasing the questionnaire length to 40 questions. Furthermore, indirect measures can be internally inconsistent with individuals holding both positive and negative beliefs about behaviour (Lee, Cerreto & Lee); therefore Francis et al. (2004) recommend test-retest studies for indirect measures; which was not feasible within this study. Question 3e did ask about injunctive norms related to social pressure to do BSC from specific groups, for example pressure from professional peers; these norms are usually associated with indirect measures but should additionally be assessed from the perspective of their motivating factors these were not applied in order to keep the questionnaire brief. Therefore as in other studies (Boileau , Rashed, Sylla & Zunzunegui, 2008; Lopez-McKee, 2010; Ghazanfari , Niknami, Ghofranipour, Hajizadeh & Montazen, 2010) these injunctive norms were used as direct measures of subjective norms. As indirect questions were not included this may have impeded a depth of understanding on influences on the HCPs' intention to do BSC but a direct approach seems congruent with Pawson and Tilley's (1997) recommendation for the contextualising of the study to the participants so allowing for "mutual

understanding to emerge” (p.168). In addition to quantitative data the questionnaire provided opportunity for commentary on BSC.

The questionnaire took no more than 10 minutes to complete. It was piloted on 11 occasions in hard copy format and 3 times electronically. As the questionnaire closely followed the wording of the validated format of Francis et al. (2004) the pilot aimed to test clarity and understanding of these standard questions in relation to BSC. Jones and Rattray (2010) emphasise that the layout should be enable easy completion, and feedback indicated this was the case, so no revisions were made. Participants were recruited between June 2015 and January 2016.

Response bias

Comprehensive efforts were made to capture opinion from HCPs. However those with access to the electronic survey may have felt the invitation was more personal and may have accessed it away from the clinical area, in an office for example; so may have had more time to consider the study’s purpose and complete the questionnaire. It was felt that ward based nurses, the largest Health Board group, were less likely to access e mail accounts to do the survey; hence it was ensured that hard copies were available for this group. Although strategic figures for physiotherapy were contacted, an e mail was not forwarded specifically to this group. The electronic format offered the advantage of reviewing partial completions of the questionnaire this provided some information on non-responder bias.

6.6 Data analysis

6.6.1 Interviews

The data from the interviews and survey commentaries was managed using ATLAS.ti 7 software for content analysis, to organise information according to emerging themes and concepts, based on constructs from the 5 domains within CFIR in Table 7 (Damschroder et al. 2009). The CFIR ensured important elements of the implementation were scrutinised enabling a realist approach of CMO identification, testing, refinement and the development of the programme theories (Table 9). The CFIR can embrace multiple approaches in measurement and

analysis, providing a framework for “guiding collection of qualitative data systematically and comprehensively” (Damschroder & Hagedorn 2011, p.202). It has been applied within varied settings, for example mental health (Kimber et al. 2012) and critical care (Balas et al. 2013); Fredriksson et al. (2014) have successfully used it to guide analysis as a coding framework with the application of policy agreements. Richardson, Abramson, Pfoh and Kausha (2012) found it enabled a trustworthy and flexible, system wide view of a community implementation within their qualitative evaluation but did call for further guidance on comparison evaluation. The CFIR aims to promote comparisons of results across studies but further research is recommended (Damschroder & Lowery, 2013).

The literature has highlighted some limitations of the CFIR. Sorensen and Kosten (2011) suggest its complexity a drawback and may lessen its utility. Martinez et al. (2014) found the CFIR comprehensive but criticised that implementation outcomes are not included. Williams et al. (2011), in relation to a brief intervention and alcohol screening review, felt the CFIR made assumptions that interventions are homogenous and found this a barrier to use. There is also contention about the choice of domains; Williams et al. (2011) proposes there are multiple layers to complex interventions and the inner and outer domains are not mutually exclusive. Damschroeder et al. (2009) acknowledge that differentiating these domains is difficult and depends on the context. Nilson (2015) also cautions that whilst the CFIR, recognises the relationship between the domains, it does not clarify them. Frederiksson et al. (2014) suggested the CFIR should acknowledge the potential for multiple tiers in the inner setting, some of which are non-clinical.

The limitations of domains’ constructs have also been critiqued. Kimber, Barwick and Fearing (2012) commented on the lack specification of interactions between constructs and Williams et al. (2011) suggest guidance is needed on identification of the most influential elements. Martinez et al. (2014) found a lack of clarity on the merging of construct definitions between similar concepts in frameworks, models and theories, and suggested this may lead to confusion in selecting which to use, and that combining constructs may neglect important unique factors. They welcomed the Wiki as a means of clarification. There have been iterations and adaptation to the CFIR. Richardson et al. (2012) included a ‘relationships’ construct for their evaluation and Chaudoi, Dugan and Barr (2013) adapted the CFIR to include a patient-level

factor 'characteristics of the individual involved'; Abbott , Foster, de Fatima Marin and Dykes (2014) applied this modified version for case study assessment. Despite its limitations, the CFIR presented a flexible framework offering the scope for a tailored examination of implementation of interventions using standard constructs within complex contexts, and so was appropriate for data collection and analysis of the implementation of BSC in acute hospitals. Only one construct was not examined: stage of change within domain IV; however some were only superficially examined, such as costs in domain I.

Data reduction and display

The exact definitions of the CFIR domains' constructs were used from the guidance (<http://cfirguide.org/>) and domains were colour coded and organised into ATLAS.ti code manager. Text was selected and relevant codes assigned from the menu of the domain constructs, sometimes several codes were assigned to the same text. Data was organised for the three hospital sites using the query function within ATLAS.ti. Findings were reviewed in light of Health Board documentation and audit figures. The CFIR website was utilised for practical guidance to facilitate systematic assessment of the potential barriers and facilitators for BSC implementation. It offers guidance and examples from the literature, on both qualitative and quantitative data analysis and interpretation. The code book template offers inclusion and exclusion criteria for the selection of data to illustrate the defined code. Each CFIR construct for each hospital site was rated for high or low influence on the implementation using CFIR rating rules (<http://www.cfirguide.org/tools.html>). These rating rules offer explicit guidance on the rating of implementation sites from -2 to +2, dependent on the influence the coded data has on the implementation process; hence minus figures indicate the existence of barriers to implementation and positive figures indicate facilitators. The guidance specifies how to gauge the strength of the construct, stipulating that it is not the presence or absence of the construct that is rated but its influence to implementation. Using the theory-based constructs also facilitated the development of context-specific explanations and middle-range theories. Data from each of the three hospital sites was aggregated and summarized

and applied to CFIR matrix template form to facilitate comparison and scrutiny of patterns; important to support or refute the propositional CMOs (Pawson, 2013). The data within CFIR domains was focused on refining the propositional CMOs, following the realist approach (Pawson & Tilley, 1997); for example codes for *characteristics of individuals* domain on knowledge and beliefs were linked to relevant CMOs within theory areas two and three. Data that could not be assigned to pre-determined codes were analysed to determine if they represented new constructs important for the emerging programme theory on BSC. Through iterative refinement this process enabled the final verification of relationships between different CMOs.

6.6.2 The survey

A potential drawback of questionnaires is the data is reviewed in isolation rather than considering its implication for theory development (Denscombe, 2014); findings were used to refine the CMOs and programme theory. The data from the survey was analysed using SPSS 22.0 (SPSS, Inc., Chicago, IL, USA). All data was entered into SPSS, directly from the hardcopies, the data from the electronic questionnaires was downloaded in an excel spread sheet and then entered manually into SPSS. The demographic data, such as the HCPs' smoking status, enabled comparison of baseline characteristics.

Statistical analysis

Francis et al.'s (2004) guidance on scoring of the direct questions was adhered to, which involved recoding items with negatively worded endpoints on the right (Q2b, Q3a, Q4b), so that higher numbers always reflected a positive attitude, social pressure or greater level of control. The mean of the item scores of each construct were calculated to give overall scores. The required sample size for testing multiple correlation, utilising Green's (1991) guidance ($N \geq 50 + 8m$ – with m as the predictor variables), was $50 + (21 \times 8) = 218$

A multiple regression procedure used to assess the predictive value of attitudes, subjective norms and perceived behavioural control on intention to do BSC with the mean scores of *generalised intention* as the dependent variable and the mean

scores of *attitude*, *subjective norms* and *perceived behavioural control* as predictor variables. Further correlation with *generalised intention* to deliver BSC enabled comparison between the three hospitals and professional groups and other characteristics, such as time since qualified, smoking status and smoking cessation training. Univariate analysis enabled *generalised intention* to be compared with perception of pressure from peers (Q3b); health care policy (Q3d); the smoke free environment (Q3e), confidence to deliver brief smoking cessation (Q4a) and knowledge and skill (Q4e). Time qualified was compared to self-reported confidence to deliver BSC. Findings were again organised to enable comparisons between sites and outcome patterns related to intention to perform BSC were determined, explained and applied to CMO configurations to confirm or refute them. The refined CMOs were compared to the theory areas.

Within the final stage the findings from the survey and interviews were synthesised and adjudicated in light of the theory areas and emerging rival theories. Astbury (2013, p.394) refers to this stage as “organised scepticism” requiring close scrutiny on judgements made to culminate in the explanatory programme theory.

6.7 Rigour

This use of mixed-methods enabled triangulation of findings, yet establishing the quality and trustworthiness of the data from quantitative and qualitative methods is paramount (Roberts & Priest, 2006; Elo et al. 2014). Rigour refers to the strength of the research design and attention to the research process so there can be confidence in the dependability of findings (Lacey, 2010). Concepts used to judge rigour differ in quantitative and qualitative research. In quantitative data these are reliability and validity (Topping, 2010), whereas Lincoln and Guba (1985) proposed qualitative research should be credible, have transferability, dependability and confirmability. Specific strategies were used to ensure rigor within the study.

Credibility indicates a fit between the participant’s views and the researcher’s representation of them (Lacey, 2010). Within this study participant’s meanings were constantly clarified during interviews. Themes emerged from multiple participants’ views; as they should not be based on one interview (Denscombe, 2014).

Transferability relates to how the quality of data can be compared to other situations

(Lacey, 2010); this has also been linked to external validity (Farrelly, 2013). When utilising a content analysis approach context may be neglected (Hsieh & Shannon, 2005); however the examination of context is embedded within CFIR and is in harmony with the realist approach so it was important for this study that context was effectively described and understood. Detailed description is also linked to dependability which requires transparency of the research process for data collection and analysis (Thomas & Magilvy, 2011). Transparency of processes was facilitated through audio taping, field notes and use of software for charting data management decisions. Conformability refers to the potential for congruence between independent researchers about the data's meaning or accuracy (Elo et al. 2014). Findings were discussed in depth throughout the supervision process and with stakeholders with data analysis over-seen by experienced researchers. Reflexivity is fundamental to rigour and relates to the awareness of the reciprocal influence of participants and researcher (Jootun & McGhee 2009); adopting a reflective stance enabled monitoring of subjective decisions on findings.

For the survey it was important to establish the reliability and validity of the questionnaire. Reliability refers to the repeatability of a questionnaire, that it will measure accurately and consistently (Jones & Rattray, 2010). It was important that questionnaire scores for direct measures of attitudes, subjective norms and perceived behavioural control all had high internal consistency; this is a measure of how well items are correlated with each other, and determines if items measure the same concept or construct (Jones and Rattray, 2010). An item analysis was performed using Cronbach's alpha (α) to the direct measures to establish consistency; this establishes the homogeneity of a measure composed of several sub-parts (Polit & Beck, 2006). Francis et al. (2004) indicate that when all internal coefficients are >0.6 it is appropriate to include all items in the composite variables. Direct measures of attitudes and subjective norms had satisfactory internal coefficients of Cronbach's $\alpha = 0.74$ and 0.829 ; whereas behavioural control had a relatively low reliability of Cronbach $\alpha = 0.320$. By excluding question 4e this gave a Cronbach's alpha of 0.598 , it was therefore decided to omit this question to improve internal consistency for behavioural control as recommended (Francis et al. 2004). Internal validity within quantitative instruments refers to the accuracy of measurement; so measuring what it is supposed to measure (Polit & Beck, 2006). Francis et al. (2004) have demonstrated construct validity within the questionnaire

with regard to the Theory of Planned Behaviour. External validity, where results can be generalised to other contexts and populations (Topping, 2010), has also been established, as the questionnaire's format has been applied to many contexts, for example: Hrisos et al. (2009); Zetu, Zetu, Doagaru, Duta and Dumitrscu (2013). Content validity related to BSC was based on judgement but was supported by the theory areas within the realist synthesis and cross-validated by academic supervisors and stakeholders, for example the synthesis suggested that perceptions of knowledge and skill appears to influence HCPs doing BSC and the Health Board had invested in training; therefore Question 4e examined knowledge and skill related to self-efficacy within behavioural control.

6.8 Ethical considerations

It is a fundamental requirement that ethical principles and legal obligations are adhered to during the conduct of research under the Research and Governance Framework (WAG, 2009b). The ethical considerations for the study adhered to the 13 core principles of the Good Clinical Practice (NIHR CRN, 2011). For this study ethical approval was granted by the University Research Ethics Committee (reference: 172959). Access to all sites was granted by the Health Board's Research Development Committee (Appendix 10). These committees reviewed all the participant information and the questionnaire. In preparation for the study the researcher developed her skills and knowledge to ensure good practice through undertaking a post-graduate module in research and attending government funded training (Appendix 11). Throughout the study the researcher had monthly supervision from experienced academic supervisors. The key ethical issues within the proposed project were the rights of study participants, consent, maintaining confidentiality and anonymity and strategies for dealing with information on poor practice (NIHR CRN, 2011). The research process is explained below in relation to these core principles.

6.8.1 The rights of the participants

The rights, safety and well-being of study participants enshrined in the Declaration of Helsinki (1964) remain a key feature of the research process (Johnson & Long, 2010). Participants and potential participants were treated with respect and courtesy

throughout the recruitment and data collection process. It is vital that participants have access to information which allows them to understand and evaluate the issues involved to make effective choices (Johnson & Long, 2010). Participant information was provided for the interviews, which detailed that participation was voluntary and participants could withdraw at any time (Appendix 12). Participants were also made aware that they could contact the researcher at any stage to clarify the purpose of the study and discuss their contribution. The researchers contact details were also available on the hardcopy and electronic surveys. It was important that participants felt the time they had committed to the study would be utilised appropriately and they were comfortable with their contribution.

6.8.2 Gaining consent

Principle 2.9 of Good Clinical Practice states “Freely given informed consent should be obtained from every subject prior to clinical trial participation” (NIHR CRN, 2011,2.9, p.24). It was important that subjects did not feel that they were coerced into participation. Where potential participants were contacted it was emphasised that they were being invited to read the participant information and choose to participate in an interview or complete a questionnaire. To ensure clarity with the on-line survey the initial question asked participants to confirm they were consenting to participate with the survey. Only those participants who wished to be entered for the prize draw entered their contact details on the questionnaire. Participants could choose to indicate whether they were happy to be contacted for further information on the study; there was no contact with participants who just chose to give their details for the draw. Invitations to participate in the interviews were sent via e mail or letter, where possible. Where this was not possible potential participants were contacted via the phone; this occurred in very few cases. As there was no face to face contact by the researcher the risk of perceptions of coercion was minimised. As potential participants were HCPs employed within the Health Board it was understood that they had the capacity to consent. Consent forms were signed by those who agreed to participate in the interviews (Appendix 13).

6.8.3 Maintaining confidentiality

Confidentiality is paramount within the research process (NIHR CRN, 2011). Participants' rights to confidentiality were upheld throughout the research process and written information relayed on this on the questionnaire and participant information. Participants were made aware of their rights to anonymity; this was upheld by removing any reference to personal details such as: name, workplace or location, in the recorded transcripts and assigning codes. Johnson and Long (2010) do emphasise that the duty of confidentiality is not absolute where there are risks of harm to individuals. In this study this could have been on unacceptable service quality, however no issues of concern were raised.

6.9 Data management

To ensure anonymity, all participants were assigned a unique identifier to organise the study's survey and interview transcripts. Hard copies of questionnaires, consent forms and other correspondence were stored securely in a locked filing cabinet. Each questionnaire had an identifying number, data was extracted and the hardcopy questionnaires shredded on completion of the study. Consent forms will be retained securely for 10 years. Electronic data, including audio data, was coded and stored on an encrypted password protected laptop, accessible only by the researcher.

6.10 Summary

This chapter has presented an overview of the research methods and processes undertaken for the realist approach in this study. The next chapter presents the findings from the study.

Chapter Seven

Findings

7.1 Introduction

This section presents the findings from the survey, semi structured interviews and documentation review. The findings from the survey describe participants' profiles, with comparison across hospitals. The values influencing HCPs generalised intention to perform BSC are explored, using the multiple regression analysis outlined in Chapter Six. Data from the documents, interviews and survey commentary is presented within the constructs incorporated into the five domains of the CFIR (Table 7, p. 101). The findings contributed to the refinement of Context Mechanism Outcome (CMO) configurations from the realist synthesis.

7.2 The survey

172 completed questionnaires were returned by post; of these, 150 contributed towards the final analysis. 129 internet surveys contributed towards the final sample. 58 people had entered the electronic survey but chosen not to complete it after filling in the first few questions. 41 completed surveys were excluded as it could not be established that participants fulfilled the sample inclusion criteria (for example date qualified was omitted). The final sample was 279.

7.2.1 Missing values

There was no missing demographic data within the final sample. Data was missing in Section Two, this followed a pattern, with the majority of data missing on the three responses for question one (Table Xiv, Appendix 14). This was more evident on the electronic survey and is likely to have been due to the slight variation in the format of question one required for survey monkey (Q.9, Appendix 15). It was postulated that respondents either felt only one response was required to all three questions in question one or felt the same score was indicated for all three questions and only submitted one answer. Question one measured *general intention*, and a mean score from 3 answers was required for the multivariate analysis (Francis et al. 2004). Therefore, where only one answer was submitted this was treated as a mean value. Although there were relatively few missing values, this did present the potential for bias. Therefore an identical analysis was carried out with the participants with missing values from question one removed; this demonstrated no difference in results. The remaining missing data was under the 5% threshold recommended as acceptable (Tabachnick & Fidell, 2013).

7.2.2 Participant profile

Responses from each hospital site

Most respondents worked in Hospital B (Table 11).

Table 11, Responses per hospital site

Hospital	Frequency	Percent
A	87	31
B	105	38
C	87	31

Response by profession

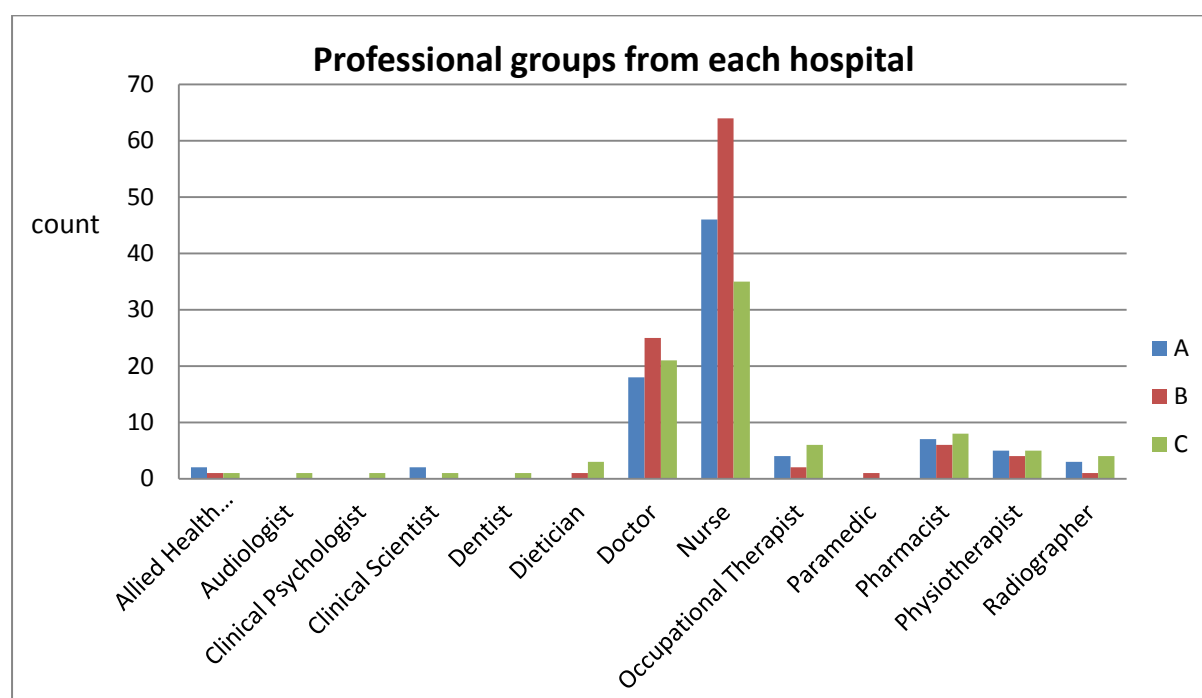
As anticipated the largest group of professionals to respond were nurses (Table 12); this was on each site (Figure 7). Nurses are the largest group in the Health Board.

Table12: Responses by profession

Professional group	Frequency	Percent
Allied Health professional *	4	1.4
Audiologist	1	0.4
Clinical Psychologist	1	0.4
Clinical Scientist	3	1.1
Dentist	1	0.4
Dietician	4	1.4
Doctor	64	22.9
Nurse	145	52.0
Occupational Therapist	12	4.3
Paramedic based in hospital	1	0.4
Pharmacist	21	7.5
Physiotherapist	14	5.0
Radiographer	8	2.9

*self-reported description of profession.

Figure 8: Healthcare professional response from hospital sites: A, B & C.



Time since registration

Over all sites participants had been registered over a broad span of time; the earliest date qualified was 1973 and the latest 2015. 5.3% (n=15) had been qualified in 1970s, 23.2% (n=65) in the 1980s, 21.1% (n=59) in the 1990s, 32.2% (n=90) 2000s, 17.9% (n=50) had qualified since 2010.

Respondents smoking status

The vast majority of respondents (91.8%) were non-smokers. 9% of respondents were current smokers in hospital A, 9.5% in hospital B and 6% in hospital C (Table 13). A Pearson's chi-squared test indicated no statistical difference between smoking status and place of work, $\chi^2 (2, n=279) = 1.385, p = 0.847$.

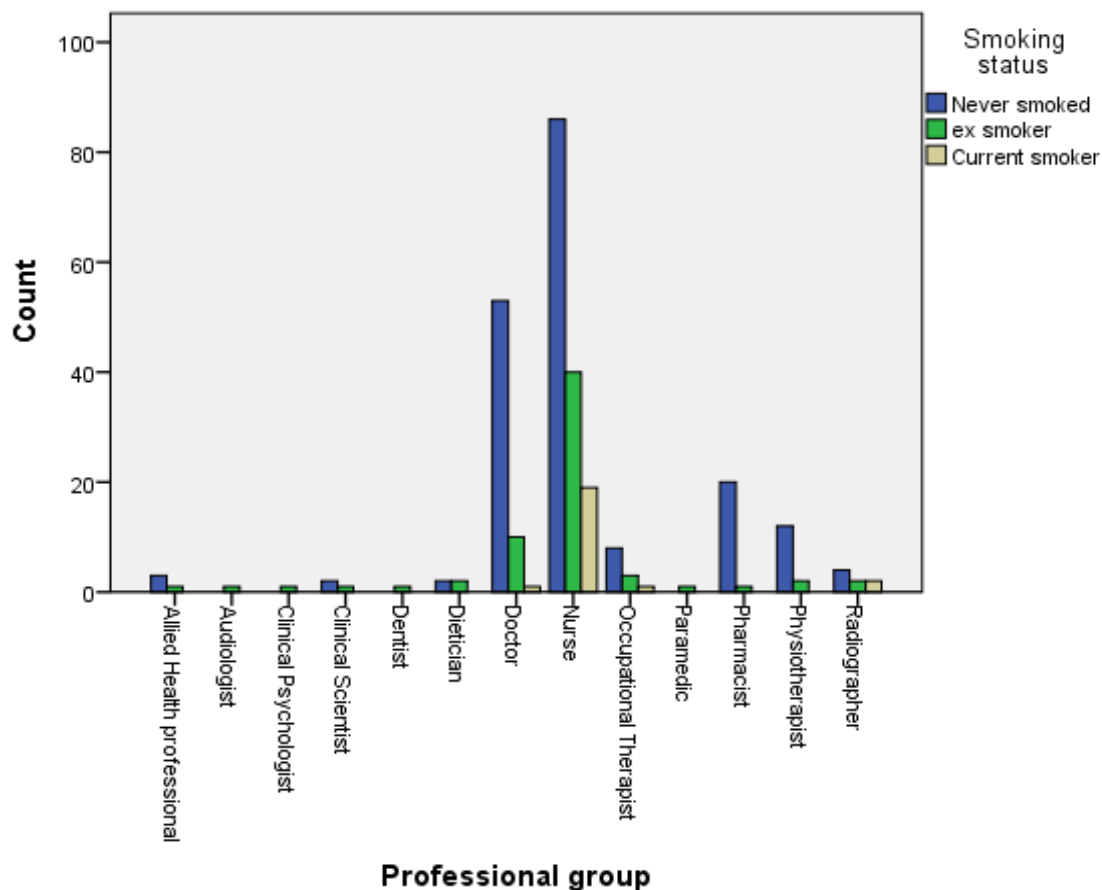
Table 13: Smoking status and place of work

Place of work	Smoking status			Total
	Never smoked	Ex-smoker	Current smoker	
A	61	18	8	87
B	70	25	10	105
C	59	23	5	87
Total	190	66	23	279

Smoking status by profession

Generally the majority of current smokers were nurses but this was the largest group surveyed. 13% of nurse respondents smoked compared to 1.5% of doctors, in addition 1 of the 12 occupation therapists smoked (8%) and 2 of the 8 radiographers smoked (25%). No other professions had members who were current smokers (Figure 8).

Figure 9: Smoking status by profession.



Training in smoking cessation

From all sites 21.5% of responders (n=60) had attended brief smoking cessation training within the Health Board provided by Stop Smoking Wales (SSW) (Table 14). Of these only 4 were current smokers. From hospital A, 25% of respondents had received the training, 24% of respondents from hospital B and 14% from hospital C. There was no statistical significance in the proportions between trained respondents from each hospital (A & B: $Z = 0.084$, $p = 0.9$; Site A & C: $Z = 1.91$, $p = 0.6$; Site B and C: $Z = 1.90$, $p = 0.6$).

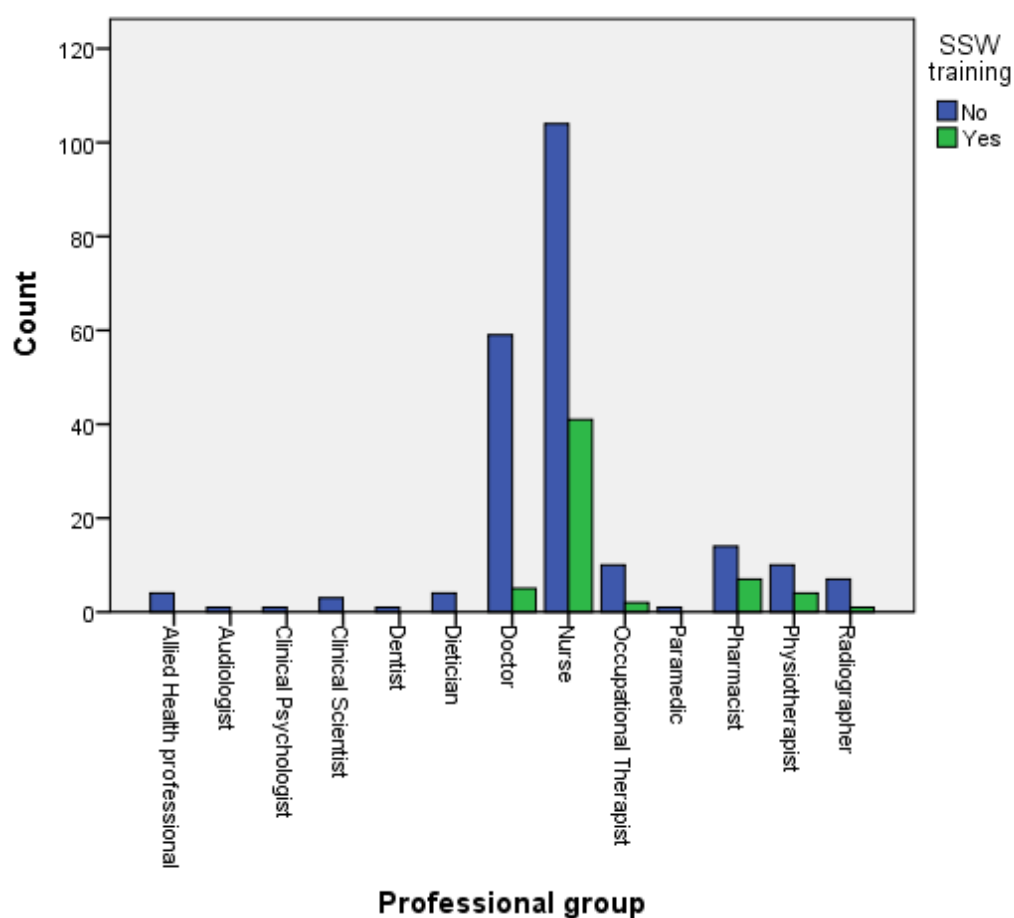
Table 14: Brief smoking cessation training attendance from hospital site

Place of work	SSW training attendance	Total respondents
A	22	87
B	26	105
C	12	87

Brief smoking cessation training by profession

Over all sites more nurses had attended brief smoking cessation training by Stop Smoking Wales via the Health Board than other professions but they were the largest group surveyed (Figure 9).

Figure 10: SSW training in the Health Board by profession.



Generally there were significant variations between professions and attendance of smoking cessation training by Stop Smoking Wales (SSW); 66% of pharmacists had attended training compared to 28% of nurses, 8% of doctors, 3% of physiotherapists, 2% of occupational therapists and 1% of radiographers.

Intensive training

Over all sites 16 respondents (6%) had done intensive training, 15 of these had also done the brief smoking cessation training by SSW. Only one person who had done the intensive training was a smoker.

Training with other organisations

From all sites 36 respondents (13%) had done training with other organisations, 24 respondents named these organisations (Table 15):

Table 15: Organisations where training took place.

Organisation where training attended	Numbers of respondents.
Other Health Board/hospital	7
WCPPE	8
Pharmaceutical company	2
Professional training (doctors)	2
E learning	3
NSCT	1
Under graduate training	1

WCPPE – Wales Centre for Pharmacy Professional Education;
NSCT – National Centre for Smoking Cessation and Training.

2 nurses had attended brief and intensive smoking cessation training as well as training with other organisations. 12 nurses, 2 pharmacists and 1 occupational therapist had done SSW brief and intensive smoking cessation.

7.2.3 Multiple regression

The aim was to determine participants' intention to do brief smoking cessation, and identify influencing factors on intention. The Theory of Planned Behaviour proposes intention is correlated with actual behaviour. Standard multiple regression was used to assess the predictive value of *attitudes*, *subjective norms* and perceived *behavioural control* on *intention* to do brief smoking cessation; as the theory proposes these factors influence intention. Preliminary analyses were conducted to ensure there were no violations of the model assumptions of normality, linearity, homoscedasticity and multicollinearity. It was determined that there was independence of errors.

The data was normal as residuals were normally distributed when assessed with Q-Q plots. Regression between the dependent and predictor variables indicated linearity. Homoscedasticity was determined from scatter plots, which demonstrated reasonably constant spread through the residuals. Multicollinearity was tested via variance inflation factors (VIF) shown in Table 16 and were all below 10 and close to 1, indicating no collinearity (Field, 2012).

Table 16: Variance inflation factors

Model	VIF
1(Constant)	
Attitude mean	1.112
Subjective norm mean	1.025
Behavioural mean	1.122

In order to establish whether there was collinearity between the predictor variables Pearson's correlation was performed producing low values indicating limited collinearity (Table 17). The highest correlation was between *attitude* and *behaviour* ($r=.312$, $p<0.01$ 2-tailed), however the coefficient was small here so it was assumed the variables were reflecting different phenomena.

Table 17: Correlations

		Attitude mean	Subject mean	Behavioural mean
Attitude mean	Pearson Correlation	1	.106	.312**
	Sig. (2-tailed)		.076	.000
	N	279	279	279
Subject mean	Pearson Correlation	.106	1	.140*
	Sig. (2-tailed)	.076		.019
	N	279	279	279
Behavioural mean	Pearson Correlation	.312**	.140*	1
	Sig. (2-tailed)	.000	.019	
	N	279	279	279

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The standardized residuals (ZPRED) against standardised predicted values (ZRESID) gave a random graph suggesting that the model was probably adequate as there was no pattern.

All predictor variables had a significant impact on intention to deliver brief smoking cessation as indicated by β values but changes in *behaviour* ($r=.502$, $p=.001$) had a stronger impact on intention than *attitude* ($r=.414$, $p=.001$) and *subjective norm* means ($r=.298$, $p=.001$). Following the addition of the three predictor variables the total variance of the model was 36.4%, $F(3,275) = 54.05$, $p=.001$ to predict intention

to deliver brief smoking cessation (Table 18). This is a moderate effect according to Cohen (1988).

Table 18: Linear model of predictors of intention to deliver brief smoking cessation

	b unstandardized coefficient	SEB	β standardized coefficient	P
Constant	-1.00 [CI: -2.06 -0.51]	0.54		$p=.062$
Attitude mean	0.45 [CI: 0.287-0.622]	0.09	.27	$p=.001$
Subjective norm mean	0.27 [CI: 0.15 -0.39]	0.06	.22	$p=.001$
Behaviour mean	0.53 [CI: 0.40 -0.67]	0.07	.39	$p=.001$

Adjusted R² = .36($p=.001$) [95% confidence intervals, CI].

Although general intention had been found to be in part predicted by attitude, subjective norm and behaviour, univariate analysis of variance was conducted to determine if general intention was also predicted by other influencing factors these co-variables were: work place, profession, smoking status and training. Although the initial model was robust and demonstrated significance between generalised intention and the independent variables there was no significance between general intention with co-variants. Analysis was repeated with removal of interaction terms (Table 19) which indicated professional group significantly impacted on generalised intention to deliver brief smoking cessation, with doctors more likely to do so, $F(12, 258) = 3.11, p=.005$). None of the other co-variants were significant indicating that training, place of work and smoking status had no significant effect on generalised intentions.

Table 19: Tests of between-subjects effects

Dependent Variable: General Intention mean

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	351.225 ^a	20	17.561	11.047	.000
Intercept	.949	1	.949	.597	.440
Work	1.919	2	.959	.604	.548
Profession	59.365	12	4.947	3.112	.000
Smoking	6.993	2	3.496	2.199	.113
Training	2.391	1	2.391	1.504	.221
Attitudemean	45.268	1	45.268	28.475	.000
Subjectmean	12.458	1	12.458	7.836	.006
Behavioural3	43.073	1	43.073	27.094	.000
Error	410.154	258	1.590		
Total	8861.778	279			
Corrected Total	761.380	278			

a. R Squared = .461 (Adjusted R Squared = .420)

On reviewing parameter estimates using 95% confidence intervals the professional groups who had significant *general intention* to deliver brief smoking cessation were firstly doctors (*beta*= 1.93, *p*=.001 CI [.940-2.925]); then pharmacists (*beta*=1.83 *p*= .001 CI [.736-2.932]); and then nurses (*beta*=1.77, *p*=.001 CI [.817-2.728]). Other professions results lacked statistical significance. Doctors were almost twice likely than Allied Health Professionals *beta*= .959, *p*=.224 CI [-.591-2.509]); with dieticians least likely (*beta* = -1.28, *p*=.103 CI [-2.818- .262]). However, confidence is small in the results where there were sometimes single values in many of the other groups. The estimated marginal means can be seen in Table 20. These report the mean

response for general intention for each profession, on a scale of 1-7, adjusted for other variables in the model to reduce confounding effects. Mean scores for general intention each site were Site A, 5.48; Site B, 5.50; Site C, 5.51.

Table 20: Estimated marginal means for professional group

Dependent Variable: General intention mean

Professional group	N	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Allied Health professional	4	4.763 ^a	.666	3.451	6.075
Audiologist	1	3.774 ^a	1.283	1.248	6.299
Clinical Psychologist	1	5.285 ^a	1.278	2.768	7.803
Clinical Scientist	3	4.938 ^a	.747	3.466	6.410
Dentist	1	4.691 ^a	1.286	2.158	7.224
Dietician	4	2.526 ^a	.658	1.230	3.821
Doctor	64	5.736 ^a	.210	5.323	6.150
Nurse	145	5.576 ^a	.134	5.311	5.841
Occupational Therapist	12	5.045 ^a	.385	4.287	5.802
Paramedic based in hospital	1	5.234 ^a	1.286	2.701	7.767
Pharmacist	21	5.637 ^a	.305	5.036	6.239
Physiotherapist	14	5.311 ^a	.361	4.601	6.021
Radiographer	8	3.803 ^a	.469	2.880	4.727

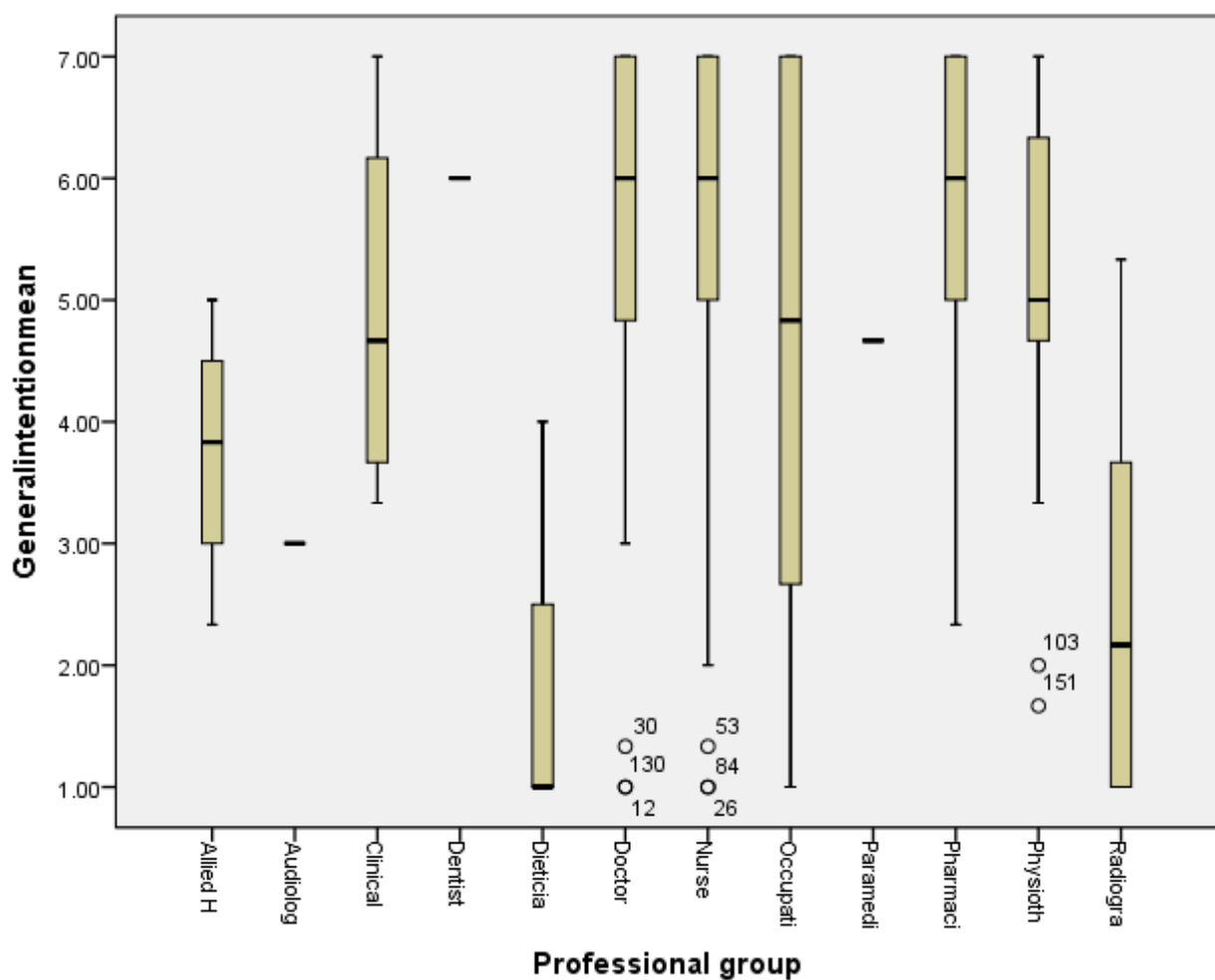
a. Covariates appearing in the model are evaluated at the following values:

Attitudemean = 5.7521, Subjectmean = 3.6274, Behavioural3 = 5.2333.

Outliers

Although Doctors had the highest mean scores of 5.68 95% CI [5.30 – 6.07], for this group there were 3 lower outliers who had mean scores less than 2. Pharmacists were the group next likely to intend to deliver brief smoking cessation with means of 5.85 95% CI [5.25 – 6.46] and had no outliers. Nurses had a mean score of 5.63 95% CI [5.40 – 5.86] but also had three lower outliers. Physiotherapists were the other group who had outliers (Figure 10). This suggests that for doctors, nurses and physiotherapists there were some individuals whose general intention for doing brief smoking cessation was low.

Figure 11: Box plot of general intention means of professional groups.



Training

Although training appeared to not impact on generalised intention in the univariate analysis, or graphically via visualisation of box plots, its impact was further examined, using a one factor at a time non-parametric approach. This demonstrates rapidly whether a factor has any effect but may not identify the presence of interactions (Qu & Wu, 2005). Distributions of the generalised intention scores for no training and training were found to be different, as assessed by visual inspection. Smoking cessation training did have some impact on the general intention score to deliver brief smoking cessation (n=60) Median 6.50 95% CI [5.80-6.41] compared to no training (n= 219) with a Median 5.67 95% CI [4.97 -5.41]; training was statistically significant $U = 4427.50$, $z = -3.935$, $p = .001$.

Using the same non-parametric approach, a difference was found with intention to give brief smoking cessation following intensive training, (n=16) $U = 1245.000$, $z = -2.788$, $p = .005$. Here the median value for no training increased from 5.67, 95% CI [5.12 -5.53] to a median of 7.00, 95% CI [6.06 -6.81] with intensive training. There was less significance of intention to deliver brief smoking cessation if you had received training in another organisation (n=36) $U = 3598.00$, $z = -1.747$, $p = 0.81$, median 6.00, 95% CI [5.23 -6.30] compared to no training median 5.67 95% CI [5.12 -5.54].

A Mann-Whitney U test was run to determine if there were differences in general intention to do BSC from those who had received brief training compared to those who had received intensive training. Distribution scores were similar as assessed by visual inspection. General intention scores for brief training (mean rank= 29.37) and intensive training (mean rank = 33.90) were not statistically significantly different, $U = 287$, $Z = -.914$, $p = 0.36$. This suggests there is no advantage in intensive training compared to brief training. However this does not support a strong effect because of the small numbers for training and the potential for hidden variables.

Correlations were carried out between time trained and general intention to give brief smoking cessation. This did not demonstrate significance visually or using Kendall's tau-c ($\tau = -.036$, $p = .360$). Likewise there was no relationship between time qualified and confidence to do brief smoking cessation ($\tau = -.061$, $p = .149$). There was also no significant correlation between feeling under pressure from the smoke free

environment ($\tau=.058$, $p=.241$) or healthcare policy ($\tau=.087$, $p=.086$) and generalised intention to do brief smoking cessation. However there was a visible effect and significant correlation between levels of confidence to carry out brief smoking cessation and general intention to do so ($\tau=.451$, $p=.001$), with lesser effects on pressure from peers on general intention to do brief smoking cessation ($\tau=.114$, $p=.020$). Healthcare professionals were less likely to intend to deliver brief smoking cessation when they felt they lacked the knowledge and skills to do so ($\tau=-.218$, $p=.001$). Perceptions of a lack of knowledge and skill also reduced Healthcare professional's confidence to deliver brief smoking cessation ($\tau=-.215$, $p=.001$).

7.2.4 Survey summary- participant profile and statistical analysis

The results suggest that, in general, healthcare professionals do intend to deliver BSC. The intention to do so does depend on professional group with different intentions evident within groups, which were quite marked in some cases.

Pharmacists were the most cohesive group. Other individual characteristics such as length of time qualified, smoking status, or place of work, had no effect; although there were only small numbers of current smokers. Perceptions of behavioural control had the biggest impact on intention to deliver BSC compared to attitudes and subjective norms. Confidence to deliver BSC had a positive effect, and perceptions of a lack of knowledge and skill may hamper delivery of BSC. Smoking cessation training did increase general intention to deliver BSC but there was little difference between the impact of brief and intensive training.

7.3 Semi-structured interviews, survey commentary and Health Board documents.

Participants

27 participants consented to take part in the study; they had a range of professional and managerial roles, with some having a specific remit for BSC implementation. Participants' roles, hospital sites and allocated code names can be found in Table 21.

Documentary evidence

A range of Health Board (HB), Public Health (PH) and Stop Smoking Wales (SSW) documents were obtained from stakeholders and reviewed. These included minutes of meetings, relevant policies, audits and clinical documentation related to smoking cessation (SC) (Table 21).

Table 21: Participants and Health Board documents

Site A	Site B	Site C	Documents Accessed
10 participants	8 participants	9 participants	n= 44
1 Nurse Manager Outpatients (NM) 1 Mental Health Nurse (MHN) 1 Ward Manager (WM) 2 Consultants (Cons A, Cons B)* 1 Junior Doctor (JDR) 1 Ward Nurse (WN) 1 Pre-operative nurse (Pre-op N) 1 Pharmacist (Pharm) 1 Specialist Nurse (SN) *Consultant A was a smoking cessation champion (SCC)	1 Physiotherapist (Physio) 3 Specialist Nurses (SN A, B or C)* 1 Children's Nurse (Ch. N) 1 Matron * (M) 1 Advanced Nurse Practitioner (ANP) 1 Associate Specialist (DR) *The Matron and Specialist Nurse A (SN. A) were SCC	1 Occupational Therapist (OT) 1 Specialist Nurse (SN) 1 Pharmacist (Pharm) 1 Radiographer (Rad) 2 Consultants (Cons A , Cons B) 1 Ward Nurse (WN) 1 Pre-operative Nurse Manager (NM) 1 Ward Manager (WM) No SCC participated on this site.	HB five year and annual plans x3 HB monthly SC reports HB and PH audit WG Delivery Framework HB smoke free policy version 1 & 2 Minutes Tobacco Control group x 5 Minutes Tier 1 Target group x 5 Tobacco Control Action Plan SSW referral form Outpatient SC referral form Outpatient Stamp for SSW Nursing Admission Documentation Public Health list of SC Champions HB action plans HB SC profile x 2 SSW annual reports x 2 SSW quarterly report x3 (2013-2016) HB NRT algorithm North Wales Health Profiles x 2 Public Health presentations x3 SSW training figures x 3 SC e bulletin HB e notice board HB SC performance delivery & recovery plan (2016)

7.3.1 Intervention characteristics

The constructs examined include the source and evidence for the intervention, whether stakeholders preferred alternatives or could adapt and trial. The interventions complexity, design quality and packaging are considered.

The Welsh Government was the source of the intervention having issued a standard for *Improved uptake in smoking cessation services*, this was elevated to tier 1 priority, with requirements to 'monitor progress, provide support and intervention as necessary' (WG, 2014, p.1). Health Board target areas were maternity, pre-operative assessment (pre-op), manual workers and staff. Strategic, clinical and managerial stakeholders were aware of the initiative, particularly those involved with Tier 1 Project Response and Tobacco Control Health Board groups (Tobacco Groups) formed to drive the strategy. These groups devised an action plan, patient safety notice for BSC and established champions (SCC). Clinicians in targeted areas, such as pre-op and outpatients in all sites were also aware of the source of the intervention. Some HCPs felt BSC was not the remit of acute care;

Site B, survey commentary (Doctor) *This is more something that should be pursued out in the community.*

HCPs were familiar with the strong evidence for the harms of smoking and the benefits of quitting; particularly in relation to their specialist area. Doctors and specialist HCPs were most likely to comment on the evidence for smoking cessation but few questioned the evidence for BSC;

Site A, survey commentary (Doctor) *... I'd like to see the data: for each 'ask': how many (n and %) want to be referred? how many (n and % of all asked) are referred and attend or engage with the agency? The latter figures should be compared with figures for other smokers who are not asked ... That would begin to give us an idea of how effective is the initiative.*

Few HCPs were aware of the guidance recommending referral to extensive advice by a specialist hospital-based practitioner (NICE, 2013). The initial Patient Safety Notice (2012) required HCPs to signpost patients to SSW but the second version (2014) indicated HCPs could refer to SSW (Appendix, 17); few HCPs were aware that referrals improved quit rates more than self-referral. Some felt they needed to be convinced BSC's effectiveness in addition to delivering other healthcare messages;

Site B (DR) if there was some evidence to say that delivering a whole pack of health promotion messages at once is effective... we go through history taking, we mention smoking, we mention alcohol and advise them about safe alcohol limits and we go on to examine them and make a diagnosis, well most of them have forgotten that we mentioned the other stuff, I presume but I don't know that there is any evidence about that?

It was difficult to determine if HCPs felt BSC was advantageous as many were not aware of Health Board requirements for the intervention; a few even recommended that a policy was required;

Site C, (Rad) I think the health board could possibly mandate that it's something that we ask every patient, ... you could say 'Do you smoke and if so would you like some advice on how to stop smoking?' and that could be like Health Board policy.

There were multiple suggestions to improve hospital smoking cessation. The most listed was a dedicated hospital service. Other suggestions included ward champions, pharmacists prescribing Nicotine Replacement Therapy (NRT) via Patient Group Directives and mandatory training. There were calls for a more effective database to identify smokers and smoking cessation as part of discharge planning. It was also suggested that non-trained staff or volunteers could identify, inform and signpost smokers. Many HCPs felt that more information should be given to patients;

Site C, survey commentary (Doctor) *it would really help if each hospital site had a dedicated 7 day smoking cessation service to refer patients to directly instead of giving them a telephone number to ring.*

The intervention was adapted to local needs in pre-op, respiratory and outpatients on all sites. Outpatients demonstrated the most adaption to fit with workflow, although only certain clinics were targeted, such as cardiology. Innovations consisted of gaining approval for a stamp and referral form for patient notes, and the integration of smoking cessation within Fundamentals of Care. Pre-op had patient information packs. The respiratory team ensured SC was in a care bundle and asked about it on follow-up phone calls. Children's wards focused on NRT inhalator prescription as part of risk management to avoid children leaving the ward to smoke. There was little evidence of piloting the intervention across all three sites; although the Health Board had piloted a maternity initiative using carbon monoxide assessment which was later adopted. In outpatients and pre-op the intervention had developed from paper to electronic referral; with pre-op using the outpatient referral. The complexity of BSC was contentious. For some the intervention was simple, taking less than 10 minutes;

Site C (OT) *We just fill a form out and fax it through.....I think it's easy enough for everybody to do. It's not rocket science it's not something that you need to be specialised in to do.*

However although many HCPs *Assessed* and *Advised* smokers to quit they often did not *Act*; leaving it to the patient without information to self-refer or NRT. Generally few HCPs referred patients;

Site C, survey commentary (Doctor) *I routinely ask about smoking but it is neither my role nor my area of competence to suggest nicotine replacement or providing advice regarding a smoking cessation programme.*

BSC was sometimes viewed as a complex intervention delivered to patients in diverse contexts with varied clinical pressures; involving a judgement process based on the patient's condition or attitude, and priorities for care delivery. Having time to deliver BSC was a major factor in the decision making process;

Site A (Cons B) if he's a smoker you advise him to stop smoking but do you have enough time to explain in detail why he should stop smoking and how to stop smoking and what help he needs, that's a different matter, usually there is not enough time for that. You have 10 minutes, 15 minutes maximum with a patient if you want to detail about smoking for him; that takes more than 10/15 minutes.

The quality of design was varied. BSC was integrated into Health Board documentation and the Patient Safety Notice gave clear guidance for documentation. Where BSC had been integrated into targeted areas or specialities on all sites, it had improved understanding;

Site A (SN) we've developed this COPD discharge bundle and smoking cessation is on there so it needs to be achieved. ... we are trying to encourage the nursing staff to take it on, .. there is definitely, I think, on the respiratory ward, more awareness..... they've become more aware of nicotine replacement and things to help patients.

Despite prompts on admission documentation, BSC was not always implemented on all sites if HCPs judged the time was not appropriate for the patient, or felt there were other care priorities. There were no mechanisms to remind HCPs to follow up BSC, unless it was part of risk management for individual patients. Assessment documentation was extensive with many HCPs not aware of BSC prompts. To illustrate nursing documentation (Appendix 18) asks about smoking history, daily cigarette consumption and whether NRT or SC advice is required but there was no requirement to advise on SC. On the same page assessments are also required on a

range of issues from communication difficulties to memory impairment and illicit drug use;

Site A (JDR) **Does anything in your documentation say referral to Stop Smoking Wales?** *There probably is a bit of a blurb I can't say I've read it. Well I probably have read it but I can't say I've noted it.*

Site C (WM) *I find there is a lot of information crowded into different parts [in the new documentation], even things that we are trying to audit, they get lost in things, people have missed writing them but you can't blame people because there is so much information on one sheet, you know..... literally I think it's a tick box, isn't it. 'Would you like to give up?'*

There was no reference to a universal referral form in data collected; one was obtained from outpatients and one from Stop Smoking Wales (SWW). Many HCPs, except for those in target areas or some specialist nurses, were not aware of their existence and lacked knowledge on the referral process to SWW. HCPs could fax, e mail or refer by web but most advise patients to self-refer. Few HCPs knew of the nicotine replacement algorithm. Although the patient safety notice described BSC as very cost effective, costs incurred included printing documentation, signage and other aspects, such as the availability of computers for referral. NRT is prescribed for two weeks and per patient was costed at £160 in 2013, with Tobacco Groups concerns that this may make departments go over budget. Training was funded by the Welsh Government but did not cover staff release. Generally the intervention did not appear to be well funded;

Site A (Cons A, SCC) *it might sound cynical, but if we don't put any money in it, it's quite obvious it hasn't got a status. It hasn't got a status you know.*

7.3.2 The outer setting

This reviews patient's needs and resources, networking with external agencies, peer or competitive pressure and external policy and incentives.

Generally HCPs were mindful of patients' needs and followed a patient-centred, non-confrontational approach with BSC. HCPs sought to convey respect and empathy for patients and treat them with dignity;

Site A (Pre-op N) I'm not going to lecture them and try not to make them feel bad about it, because most people feel bad about it anyway..... I hope I let them depart feeling that they haven't been harangued about it because I think that's important.

HCPs were cautious when making judgements to deliver BSC based on patients' reactions to questions on smoking status; HCPs were conscious that patients may feel guilty, irritated or even aggressive. BSC was not pursued if patients were felt to be too ill, either mentally or physically, or too stressed, or where it was not a patient's priority;

Site C (Pharm) if they've got something more pressing, as they perceive it, so they're waiting to find out about their scan results or something, they are fixated on that and they're not going to listen or want to explore anything else.

HCPs made a judgement on when the time was right;

Site A, survey commentary (Nurse) Smoking continues to be an emotive subject and despite firmly believing my patients should be given information and support and referred to services to help, I still sometimes struggle. This is mainly because

they are often coping with bad news and overwhelmed with other information which influences my decision as to when to bring up the subject.

Site B (DR) ...it's a complex algorithm that's probably a bit sub-conscious, because it depends how busy the clinic is, what I feel the sense of rapport is with that patient so far, and you're beginning to get a picture of how we might prioritise. You get a sense very quickly that it's going to be very difficult to get into that sort of emotional space of helping somebody for all sorts of reasons.

There was evidence across all sites that some doctors may be more direct in their approach. Generally HCPs felt it was easier to deliver BSC if there was a clear and acute link to the patient's condition;

Site C (Cons A) I resort to very blunt and put it in black and white terms..... to some extent I resort to scaremongering as well. I tell them that 'look if you don't stop then you might lose your leg'

Site A (Cons B) timing of advising the patient is very important. If you advise them at the peak of their acute illness and link that acute illness to smoking then experience tells you that they will stop but if you advise them outside the peak of their acute illness they don't listen too much.

Some HCPs were comfortable offering lifestyle advice, whilst others felt that they were overwhelmed with the health messages they had to convey and feared making patients feel guilty;

Site A (Pre-op N) I think you've just got to decide which is the most priority and if somebody is drinking a lot, that might be your priority because people get fed up

of being nagged. So if you are going to say, 'you smoke, you're fat and you're drinking too much' you're in a bit of an overload situation aren't you?

Groups of patients had specific needs. Tobacco group documents highlighted the importance of BSC for mental health patients but acknowledged they were allowed to smoke in hospital grounds. HCPs suggested there was a lack of knowledge about nicotine's reaction with neuroleptics;

Site A (MHN) the patients we have they're extremely ill, ... all you think about is keeping them safe.....getting them where they are not suffering mentally. ... but then again, on the other hand, if that patient fell over and broke their femur or needed a cholecystectomy they wouldn't have a cigarette on a medical ward or an orthopaedic ward, it just wouldn't happen. So what difference is it? I think it's a lot to do with the culture of mental health.

There were negative views about patients smoking outside the hospitals; this was felt to convey a poor public health message. The Tobacco Groups raised concerns about the risks to patients smoking on hospital grounds and discussed reinstating shelters. Managing nicotine withdrawal to avoid this risk was felt important, particularly for vulnerable patients such as children and those with dementia. HCPs shared views about how smokers were treated with a lack of respect; it was felt smoking outside was demeaning and did not help their addiction;

Site A (Cons B) these are human beings, yes they are smoking, but they are still human beings. How do you treat somebody with drug abuse, give him a nice syringe and give him methadone. Why can't you build a hall for those who are smoking?

The external networking most evident was with SSW and Public Health (PH), with PH leading on the Tobacco Groups. HCPs were aware of SSW and the services offered, describing links as 'none', 'distant', 'reasonable' to 'good' and 'very good'. HCPs in certain areas on all sites, such as pre-op, or with specialist roles generally felt SSW and PH offered support and expertise and could be contacted for advice. HCPs valued this personal contact. A few HCPs criticised the length of referral time and the quality of service, others felt the service had improved and was flexible. SSW (2015) indicated a wait of 8 days. The charity ASH was also cited as a source of knowledge. Some HCPs had accessed training and resources via pharmaceutical companies;

Site C (NM) I think we've got a very good relationship with Stop Smoking Wales and we've always forged good links with them really and there's a couple of people that I know from when I went for the training and I can put a name to a face sort of thing, so any problem I can usually just ring the office..

Site A (Pharm) I have no contact with them really I just really tell the patient about the service ... perhaps we should refer, I don't know?

Achievement of referral targets drove the intervention. Tobacco Groups compared referrals between hospitals and with other Health Boards and discussed strategies to increase levels. Peer pressure was effective in targeted areas where inter-site comparison galvanised staff to increase referrals. Some HCPs noted when the Health Board had the best referral figures in Wales. However, most HCPs were unaware of other clinical areas' practice. Where some HCPs had experience of other hospitals strategies it had not impacted on their BSC implementation;

Site A (NM). On a three monthly basis we have the [department] management meeting, and we have a performance management report, ... and smoking cessation referrals is on that report, and if we see that X have referred 14, we think oh we've only done 10! So it becomes a bit of a competition but a healthy one, in a way. The motive might not be right but it gets the job done. I believe that we are the best in Wales as regards to referring.

The Health Board was accountable to achieve an outcome of 5% of smokers accessing SC services and required to report progress to the government Quality and Delivery group. Failure to achieve Tier 1 standards can result in escalation action under formal intervention powers NHS (Wales) Act (2006). 50% of inpatients smokers were to be offered BSC. Despite its high priority evident in Health Board documents, generally HCPs had little awareness of the external policy and guidance related to smoking cessation; with the exception of targeted areas and respiratory specialists. Many HCPs on all sites were aware of smoking cessation guidance for specific clinical conditions.

7.3.3 Inner setting

This large domain examines organisational structure, networks and communication, culture and implementation climate, encompassing constructs such as tension for change, compatibility with workflow and relative priority. Also included is the organisation's readiness for the intervention considering constructs such as leadership and resources.

The Health Board's structural characteristics were dynamic; it was formed following a merger of three Trusts resulting in an organisation covering a wide geographical area. This instigated re-organisation with staff moved to different sites and given responsibilities across all three hospitals within Clinical Practice Groups (CPGs). There was job uncertainty as roles were altered. Recently, high profile failures resulted in government intervention. There had also been a return to three separate areas; again causing uncertainty;

Site B (M, SCC) we were hoping some way in the new structure that we could have an opportunity to share all those standards, the governance, the audits that we are doing with other outpatients. . if it goes site specific, what has benefitted X has been that over-arching Health Board component to the management because we standardise skill mix etc. across the sites, we work as one entity but we have still got the rivalry between the sites.

Some active networks were evident. Initially Tobacco Groups met in different venues offering support for some HCPs; latterly this was limited to site B. The groups had a strong emphasis on communicating to Health Board staff via champions, e mail and electronic newsletters. In targeted areas managers cascaded information. Outpatients publicised BSC achievements in Health Board newsletters. Some HCPs felt communication on BSC had tailed off with many feeling there was little information. Mainly senior HCPs accessed e mails and possibly missed BSC messages as they were bombarded with information;

Site B (Ch. N) I don't think we particularly get a lot of information through, I know there is some alerts that come through about it..... I think just making people more aware of what other people are doing because it's only when I went to the meetings and heard how outpatient clinics and other wards are doing it that made me think

A culture of loyalty to one hospital remained and there were subtle rivalries between the sites. Some HCPs commented on the lack of trust between staff and management. As anticipated there were cultural differences between clinical areas and hospitals but there had been collaboration in several areas, due to CPGs, with examples of effective implementation climate where HCPs worked together to promote BSC; for example respiratory and stroke services. The Tobacco Groups tried to facilitate a positive implementation climate formulating action points and assigning responsibilities. There were expectations in targeted areas that BSC would be delivered, with many positive comments about shared receptivity;

Site C (NM) it's a team effort, isn't it and if everyone can enforce it all the way along then it's going to have an improvement.

Site A (NM) I think we feel obliged [to deliver BSC] yes, I think that it's moved forward from another paper pushing exercise, to what we thought it would be in

the beginning to now to a patient centred issue really and to actually promote health.

However participants generally felt small groups of HCPs were the driving force in implementing BSC and not the organisation; this was a key tension for change;

Site C (Cons B) it needs more sort of push and hard work and sort of commitment from everyone, rather than just a few people, you know it's not that generalised or sort of coming from everywhere, They [Health Board] can make a difference. Their decisions or their commitment or you know their protocols or policies will directly affect patients.

Some HCPs shared a degree of scepticism about the Health Board's receptivity;

Site A (Cons A, SCC) I think a lot of it is to do with change management on the whole. I think it's independent of it being smoking cessation. I think we are not necessarily an organisation that embraces change or sees it as the norm..... I think it is the organisational culture that breaks these things.

The overwhelming tension for change associated with BSC, on all sites, was the lack of a smoke-free environment. This dominated the survey commentary; participants expressed concerns about patients and staff smoking in hospital grounds. The Health Board policy (2014, v2) stated people and staff should not smoke on hospital property; staff smoking in uniform or wearing a name badge could face disciplinary action. Some HCPs expressed anger about smoking on all sites and cited examples of patients struggling through smoke to enter hospital. All acknowledged it was a difficult issue; there were suggestions of policing and fines and the re-introduction of smoking shelters to remove people from hospital entrances and prevent littering.

HCPs strongly felt the organisation was not doing enough but also felt ill-equipped to challenge people;

Site B, survey commentary (Doctor) *The hospital management set a very bad example by allowing patients and relatives etc. to smoke in public view in the hospital grounds openly and without doing anything effective about it. in fact it's getting worse. Staff are often verbally abused when they ask people to stop smoking in the hospital.*

Site C, survey commentary (Doctor) *Whoever decided that this site should smoke free (WAG, Hospital Management Team???) should come and demonstrate how to approach a recently bereaved family who have tragically lost a loved one, young child or a still born, and are standing at the main entrance SMOKING Maybe they could teach us how easy this is to do in practice..... NOT!!!*

The clinical context impacted on BSC's compatibility with workflow. BSC was generally compatible within targeted areas in all sites and where smoking was a risk factor for the presenting complaint, likely to be followed up by a specialist service, such as cardiac rehabilitation. Implementing BSC was linked to HCPs perceptions on whether it was their role to do BSC; this depended on context;

Site C (Pharm) *It's almost part of our [pre-op] job whereas I would imagine that pharmacists seeing the patient on a ward their role is something else at that point in time..... I work on the wards as well and I don't think I've ever really done an intervention on the ward. ... I wouldn't say on the ward I necessarily felt it was my role as such, unless the patient mentioned it to me.*

Site C, survey commentary (Dietician).... *My aim is to aid patients with behaviour change with regards to their diet; this would be too much for a patient to do change their smoking as well as their diet. I feel this is up to a Nurse or Doctor.*

BSC appeared to be implemented haphazardly on all sites due to clinical practicalities, patient's conditions, or if the presenting complaint was not related to smoking. In these situations there were no formal systems for flagging up when BSC had been omitted, particularly if this was on admission; some HCPs assumed it would be followed up by other HCPs;

Site B (SN A, SCC) *it might not be appropriate to on the initial clerking because that patient has literally just come in and they might be really poorly or stressed or whatever. I think it's OK asking then, what your smoking status is but I don't think that would be the appropriate time to spend a bit of time with them because that's not the sort of thing you can rush, you can't just say 'do you want me to refer you – yes or no?'*

Site A (JDR) *If you are seeing a patient for a completely unrelated problem when you don't even ask about whether they smoke or not, say I'm going to see them for leg pain or something, I might not ask them if they smoke, I wouldn't ask them.*

Although BSC was a Health Board Tier 1 priority, this was only acknowledged in targeted areas on all sites; some felt it was not prioritised. In many areas prioritisation was only led by HCP's conviction that BSC was important;

Site A (Cons A, SCC) *it's not a priority. The priority is to get people through the system and get them out and to deliver pharmacological treatments and that's got things to do with how things are being promoted and what their status is.*

Site C, (Cons A) *I have never heard of anything whatsoever from the organisation what I do is based on my clinical response rather than the organisation's responsibility.*

The Health Board strategy related to smoking cessation appears to have been strongly publicised initially on all sites but no longer emphasised. There was evidence that other policy driven targets took precedence, such as advice on alcohol; mandatory training and the Fundamentals of Care took priority on acute wards;

Site B (M, SCC) *... if we are not continually reminded of what are pressures are, one can slip in favour of something else that could be considered a higher priority which it may be but nevertheless this [BSC] is still a priority. It's always got to be there.*

Site A (NM) *I think it was briefly when they set those new targets but I have not seen much evidence of it lately..... I think they've [Health Board] got other concerns that are bigger that take priority at the minute, don't they. at the end of the day [pause] you feel overwhelmed sometimes by the number of things that you are supposed to be doing.*

Site C (WM) *You've been told to prioritise this lot, so the stuff that you don't really have to do gets put to the back burner. So if it becomes a mandatory requirement to talk about smoking cessation and know about smoking cessation then people are more likely to do it. ... in the grand scheme of everything, that the nurses' workload as well, it gets lost because they are focused on things that we get monthly audited on.*

The only organisational incentive appeared to be the achievement of referral targets. There was little celebration where performances had been the best in Wales. Except for targeted areas in all sites, most HCPs were not aware of the Health Board's strategy and goals for referral to SSW;

Site C (Pharm) we are supposed to refer 20% of all smokers who attend prior to surgery... someone came from public health to one of our MDT meetings and they said, you know, it equates to sort of two patients a day or something, which we are no-where near hitting that but we have pushes where we make more of an emphasis on it, and we seem to do better those times.

Site B (SN A,SCC) I bet my bottom dollar if you went to another member of staff and you said 'Do you know the hospital have got targets for smoking?' they wouldn't know what you are talking about. They wouldn't have a clue.

There were some elements of a positive learning climate within the Tobacco Groups who debated, monitored and audited in order to achieve targets. However the general impression was there was little time to plan and reflect within clinical areas; the focus was on reacting to increasing pressures rather than innovating;

Site A (WM) It does get lost [BSC] doesn't it? I do think the work load has got a big impact, there's so many factors isn't there? We've got so many more care of the elderly patients now, we've definitely got less nurses than we've ever had on the ground, you know, everything, there's pressure.

Tangible indicators of organizational readiness for BSC were evident in some areas. It was promoted via posters, cards, leaflets and campaigns plus electronic communication; with publicity about helping staff to quit. Many HCPs felt that the

Health Board needed to do more to publicise BSC to convey how it can help people to give up smoking;

Site B (SN A,SCC) *There's not enough literature, posters, nothing apart from them black boring little cards and those blue posters that we have had for years. A few posters are not going to persuade people, you know I think we need to have much more visually.. there's nothing apart from signs everywhere saying it is a non-smoking trust but nothing to say this is what we can do to help you, just big signs everywhere saying you can't smoke..... But I just don't think it is out there. Nobody sort of sells it.*

The lack of smoke-free sites was strongly felt to be contrary to the Health Board's image as a promoter of SC;

Site C, survey commentary (Nurse) *Being a Smoke Free site is completely pointless as no one enforces it. Therefore being smoke free is a tick box exercise I find it totally disgusting to see staff in uniform sitting at the roadside during their breaks smoking, and to see patients standing outside in their nightwear at the main entrance smoking. The floor is littered with cigarette ends.*

Site C, survey commentary (Doctor) *...the first thing that many patients see on entering the hospital site is a large group of smokers, and this sets a precedent for any guidance we give on smoking cessation to be ignored.*

There was good evidence of participants' perception of leadership engagement within the Health Board's tobacco groups, targeted areas and some specialist services, such as respiratory. Clinical leaders involved and supported their staff with the intervention. HCPs understood the importance of leadership but there were examples of a lack of clinical leadership and failure to engage leaders;

Site A (NM) *in fairness to our clinical nurse manager she's the one who liaises with public health, and she's very keen and very much promoting the smoking cessation agenda, so of course we want to support that then.*

Site A, survey response (Radiographer) *I have never been asked by my managers or colleagues to discuss smoking and stopping smoking with patients.*

Site A (MHN) *We've recently had a new matron in X, so I have been sending e mails about SC. But no reply! I've got a meeting with one of the senior managers in August, so I'm going to broach it with her as well....it's difficult when you are not a manager.*

Key resource deficits on all sites were a lack of time, due to work pressure, and lack of staff. It was recognised that BSC could become intensive if the patient needed information and time was needed for referral and facilitating nicotine replacement. However many HCPs refuted time issues and prioritised BSC;

Site C (WM)...*the skill mix particularly at the moment is really bottom heavy ... they are just trying to get through their day sometimes and then on top of that you say, 'I'm going to spend half an hour with this person to go to talk about', well any referral, whether it's smoking cessation or not. You know it tends to be, it tends to go to the back of people's minds.*

Site A (Cons A, SCC) **Do you think the pressure of work is a barrier?** *I think that's a poor excuse, I think you know we manage to get quite a lot done, despite pressures of work but we get things done that we think are important.*

Resources that were lacking were leaflets and cards. Stop Smoking Wales (SSW) did visit wards to restock SSW cards and resources were supplied on request, from SSW or Public Health; but HCPs did not always know how to access them;

Site B (ANP) I was told that ward X had forms to do a direct referral but when I went up there none of the nurses, and ward X is a respiratory ward, knew about the forms and I'd never seen one myself, it was only that the X consultant said, so she was a bit disgusted as well.

The Tobacco Groups highlighted deficits in resources, however attendance at group meetings itself was difficult; the Tier 1 group and Tobacco Control groups merged then disbanded due to poor attendance, to be replaced by site specific groups but only one materialised on site B, driven by local enthusiastic leaders. A Smoking Cessation Strategic Implementation Group was formed on site C but had one meeting only. This suggested group members themselves were not given time to develop the intervention. In targeted and some specialist areas, e.g. cardiology, there were adequate resources and the use of risk assessment programmes.

Generally HCPs from targeted areas or specialities, where smoking was a risk factor, had undergone BSC training; one via e-learning. In 2014 SSW trained 145 people from the Health Board over 11 half day courses for general BSC in different venues. There were also courses for specific groups, such as midwives, and courses taught on request; the e learning module was completed by 50 HB employees (SSW, 2015). However in reviewing the roles of 31 people trained from April to June 2014 a maximum of 4 of these were from acute care. Pharmaceutical companies had trained some HCPs, particularly doctors; BSC is part the junior doctors' induction. Those who had been trained valued it;

Site A (Cons A, SCC) your training schedule implies that these things are important otherwise we wouldn't spend the time on it and take people off the shop floor so to do it .. so it is implicit to them that we are spending time and money on this so therefore it must be important, you know.

Many HCPs had not been trained. Non-trained HCPs or those who had been trained some time ago were not sure of the intervention or the requirements for referral. Few were aware that training was still available; it no longer seemed to be prioritised;

Site B (SN A, SCC) *I don't think people have an understanding of it [BSC], which is why I think they should all go on the brief intervention training*

Site B (Physio) *a few years ago it was everybody should do it and then it has died a death hasn't it really.*

Access to training was difficult due to staff release and other commitments. Some HCPs felt the training would be facilitated if more courses were available or training was mandatory;

Site B (SN B) *it's a matter of time and being able to get time to do it, that's the major issue. I don't think it is the lack of training. There has been training and I did put myself down but I couldn't attend because of covering the bleep.*

Many HCPs seemed to not have access to people with SC knowledge. However in some areas HCPs acted as resources or organised specific training for other HCPs;

Site B (Ch. N) *The pharmacist was brilliant, when I spoke to her about it; she was the one who helped me get it [NRT] onto the ward. I know the doctors were a bit worried about how to prescribe it she sorted all that out.*

7.3.4 Characteristics of the individual

This examines individual beliefs and knowledge on the intervention, self-efficacy, identification with the organisation and other personal attributes.

In the data participants reflected that SC was an important part of their role but some were not aware of the BSC intervention, some lacked knowledge on NRT prescription. HCPs understood how SC could positively impact on patients. Some HCPs felt it should be offered as part of a holistic assessment and life style review;

Site C (Cons B) these smokers, the rheumatoid arthritis is more aggressive, causes more erosions and damage in the joints and after all you know they are relatively poor responders to treatment so this is the driving it sort of,.....

Most participants understood the unique nature of addiction but there were indications that some HCPs felt smoking was a choice;

Site C (WN) I think it's like any addiction isn't it? It's very much a lifestyle thing and if someone, you know has smoked since they were a teenager and now they are in their fifties or sixties then that's going to be much more difficult than somebody who perhaps just has a cigarette when they go out at night. You know there are different degrees aren't there of what smoking means to people.

Site C (SN C) I don't know if they [nurses] fully understand the addiction. You know if they [patients] have not smoked for one day they [nurses] say 'they're not smoking now', they don't understand that they can still have the cravings, they'll still want the cigarette, and just because they haven't smoked for a few hours.

A few (mainly survey participants) felt hospital was not the time to give BSC as this was not the primary purpose;

Site C, survey commentary (Nurse) *Often people are at their most stressed when in hospital and this is not always the best time to start smoking cessation.*

Site B, survey commentary (Nurse) *I feel this is a waste of time as patients who wish to stop smoking seek help and others will dismiss help offered, not always politely.*

Some HCPs were reluctant to do BSC due to a lack of confidence concerns about alienating the patients;

Site B (M, SCC) *at first they found it difficult to ask the question but as they have been using it they have become more confident with asking because it seems quite an intrusive question 'do you smoke?' but now it is just part of what they do It obviously becomes easier the more you do it and you get more confident.*

Most HCPs were confident to do BSC this appeared to be linked to knowledge via training and observation of role-models;

Site C (Pharm) *I think it [knowledge via training] maybe gave people a bit more ownership and a way of improving their confidence because I think a lot of it is confidence. I think if you feel more confident about something you feel more empowered to do it, that's a big part.*

Site B (SN A, SCC), *if you've been in a ward where everyone is really into smoking cessation and everyone does it, you'll feel confident within no time.*

Some felt experience generally increased confidence;

Site A (Cons B) *I think experience is very important in these matters especially when you are dealing with a patient, you can't read it in a book, you just life will tell you how to deal with patients differently and you learn from your experience.*

Site A (WN) *sometimes I feel that I would come across as young and they've been smoking for so many years and why should I really ask them? Yes, it can, it's difficult sometimes...it comes with experience because whilst I feel as a newly qualified nurse that because I don't have that experience behind me.*

With regard to individual identification with the HB, there were a few participants who made an autonomous decision to do BSC were not influenced by the HB. A minority viewed the Health Board in a negative light;

Site A (MHN) *the general apathy in X [Health Board] at the moment with everything that has gone on but I won't allow it to break me. I think it's because I've been in the game too long. You know I know that I'm doing good work and the patients do change, they do change their life styles.*

Personal attributes did impact on BSC; the majority of HCPs felt BSC was a professional duty. This was influenced by the HCP's professional body;

Site A (Cons B) *I think the doctors have moral obligation and moral responsibility if you find smoking causing a disease it's your obligation, it's part of your duty, it's different, it's not giving advice for the sake of advice.*

Site A (Cons A, SCC) *I'm a member of the British X society so I get e mails from them and that's very clear and the Royal College of X puts out stuff, so yes it's part of my professional status.*

Site C (Rad) *the professional body doesn't really push it I don't think. I don't suppose our profession sees us as somebody who needs to give healthcare advice, other than delivering healthcare episodes.*

HCP's personal experience of smoking did appear to influence how they valued BSC, particularly ex-smokers. Very few smokers participated in the study;

Site A (Pharm) *even though I've never smoked my father smoked and I know it was very difficult for him to give up so I have a lot of empathy with people.*

Site B (M, SCC) *I think maybe if you are a smokers you feel a bit of a fraud asking somebody else if they smoke and then giving that advice to stop smoking but when I did it I did say 'look I know where you are coming from this is going to be hard' and in some ways you've got that mutual kind of understanding, which helps.*

7.3.5 Process

Planning and engagement is reviewed, considering champions and other key figures. Finally, executing and evaluation is examined.

The initial Health Board Tobacco action plan was reflected in Clinical Practice Groups' operating plans. The action plan involved communication of the strategy, a focus on target areas, training, appointment of champions, ensuring NRT availability and intervention evaluation. There was effective engagement of HCPs in the targeted areas via champions, supported by Public Health and Stop Smoking Wales;

Site B (M, SCC) *I was asked to go along to the original public health group SSW and I had huge insight then into what were the recommendations from the Welsh government etc. of what our future was going to be, so I've been very lucky in that and I have fed that back to the service meetings*

In many areas on all sites, HCPs were assigned to more extensive training to lead BSC and cascade information; role modelling was evident;

Site C (NM) *Well you know, the thing is, you lead by example don't you, so what you do, if you've got members of staff your responsible for, what you do should have a positive impact on them... You need to be supporting and encouraging them and doing it yourself, for them to, to motivate your staff, isn't it really.*

The three formally appointed HCP champions appeared positive opinion leaders, passionate about BSC but all felt more could be done. BSC was implemented where champions involved their staff. The champion who managed a targeted clinical area was positive about BSC, which had been embedded successfully through adaptation to workflow. Other champions felt their ideas for improvements had been blocked due to a lack of resources and a lack of Health Board prioritisation. Interestingly all were the only participants who challenged people smoking on site. Champion roles were in addition to normal duties, there was a suggestion of lack of engagement; in 2013 not all champions responded to a survey request and by 2015 there had been six personnel changes, with one post remaining vacant;

Site B (M, SCC) *I suppose in a way it has been my baby as such as I was in it from inception and it's been good to see how a simple idea has worked, I'm very proud of the staff for taking it on.*

There were several informal champions, mostly in specialist roles, who felt BSC was important. They had limited spheres of influence but they drove BSC and acted as sources of expertise and did practical things like ensuring SSW cards availability;

Site A (MHN) so weekends is a good time [for BSC], leaving stuff, reading material, so they might think 'Oh I might just go and read this before I go to sleep' and putting little posters up on the walls

Site C (Cons B) I have emphasised on the team and everybody has taken that on board, so not only myself but other, my consultant colleagues as well, they are obviously well aware of this and, you know the juniors and the nurses, they all sort of have that discussion with the patients.

Public Health practitioners provided external facilitation on all sites; generally in targeted areas and respiratory where they gave support and referral feedback. Their role was viewed positively;

Site B (M, SCC) I was asked to be one of the stop smoking Wales leads..... I'm going back, it must be 3 years ago and I started with X [Public Health practitioner] and X [manager], and the idea was that somehow we would get X [clinical area] involved in the brief intervention... we were discussing that how could we capture this information, how would it work

Executing according to plan was variable; most HCPs did not always offer BSC. There was some evidence that staff did not know how to refer;

Site B, survey commentary (Nurse) Clients are under extremely stressful conditions in hospital and I feel that sometimes it is inappropriate to address the

above matter. I work in a surgical ward and am acutely aware that clients cannot access the outdoors for many days. I offer nicotine patches in these cases with a good intake in general. As I am sure you are aware people can be reluctant to disclose their nicotine consumption, so we monitor for signs of mood swings and agitation. If a referral system was to be set-up the way we refer would have to be quick and not time-consuming as at present our computer is slow, outdated and often does not work. So if it is via the computer it needs improving.

The key impetus for NRT prescription was for managing symptoms to discourage patients from leaving the ward; not for smoking cessation. Some prescribers did not feel it was their role to prescribe NRT. Public Health had done a 'walk around review' on the wards, in site B and C, and found wards were stocked with NRT but many HCPs lacked awareness of the NRT algorithm. NRT was often offered too late and patients left wards to smoke.

Site B, survey commentary (Nurse) I feel we let the patients down because of the limited access to the replacement therapy to support patients as there is an expectation that the therapy needs prescribing by a doctor and obtaining from pharmacy. Due to delays this cannot always be obtained causing patient frustration and withdrawal.

The 2013 Health Board audit indicated only 8% recorded inpatient referrals, way below the 50% target. Compliance was very poor in site A, 2% (down from 25% from previous audit, 2012), Site B 11 % (up from 8%) and site C 15% (up from 9%). Even smoking status was very poorly recorded (Site A, 7%, Site B 6% and Site C 7%). Only Mental Health was commended for reaching 35% in recording smoking status and 100% compliance on SC. In January 2014 SSW reported Health Board referrals had plummeted by minus 52%. In September 2014, 337 inpatient smokers were referred but the target was 624 per month. By 2015 SSW reported only 2.2% of the HB's population of smokers had accessed SSW; 14.6% were referred from primary and secondary care, and 18% of smokers were made aware of the service in

hospital. The 5% target was not met in any Welsh Health Board. In 2015 the Health Board launched a Performance Delivery and Recovery plan to drive existing policies, embed BSC in pathways and proposed on-site smoking cessation advisors.

SSW referral figures were fed back to targeted areas and some respiratory departments. In targeted areas this involved comparison between hospitals. Where shortcomings were revealed some areas challenged figures and performed their own audits. Feedback, even when contended, prompted reflection and HCPs worked together to improve referrals. Some information on smoking cessation was captured in service audits for specific patient groups or into Fundamentals of Care;

Site B, (M, SSC) if you've got it on Fundamentals then you have it as a standing agenda item at staff meetings and there is an opportunity to say, oh we've referred so many to SSW and pick up really good ones, members of staff, who are referring and you know, give that positive feedback.

Most areas had no feedback. HCPs really valued the occasional patient's feedback;

Site A (Pharm) it would be nice to see some independent figures because it's my impression that we do ok but do we do ok? .. yes I think real life feedback you know, how people stopped smoking, if for example I give them the nicotine patches, do they ever reduce the nicotine content and do they stop within four or five months or does it work?

Site C (Cons. B) I was so happy that she had stopped smoking, ... if we are able to, you know stop them from smoking that's a big achievement I feel you know.

7.3.6 Qualitative findings summary

There were concerted efforts from strategic leaders to drive BSC with some successes in targeted areas; here HCPs were supported to develop knowledge and confidence in BSC. However BSC was not visible in most clinical areas. The Health Board's clinical leadership, resources and smoke-free environment did not convey positive messages about the importance of BSC; and failed to influence most HCPs. Although not captured, most HCPs do give BSC but this is haphazard and informal, it is based on their role perception in relation to patient care requirements. Many HCPs are passionate about BSC. Where BSC is not prioritised this is due to contextual influences such as, patient's condition, lack of time and fears of alienating the patient.

7.4 Interpretative findings

7.4.1 The synthesis

The data from the survey and from the application of the CFIR was analysed and synthesised in relation to the study's aims and objectives and compared to the conjectured Context(C), Mechanisms (M) and Outcomes (O) from the realist synthesis of the evidence in order to test the programme theory.

7.4.2 Cumulation

Data analysis involved cumulation, which results in deepening understanding of the CMO configurations, from abstract configurations from theory to focused configurations from studies in order to refine the middle range programme theory (Pawson & Tilley, 1997). Cumulation of the findings from three sites, through pattern matching, enabled corroboration, refutation and finally refinement of the initial three CMOs.

7.4.3 CMO configuration

CMO propositions use a “configurational approach to causality” (Pawson & Tilley, 2003, p. 10). This enables the realist researcher to “pinpoint the configuration features needed to sustain a programme” (Pawson & Tilley, 2004, p.9). Pawson and Manzano-Santaella (2012) emphasise the function of CMO configurations in testing explanations. Part of the process is determining which contextual differences may impact on the effectiveness of causal mechanisms to produce variation in patterns, or demi-regularities, of outcomes (Pawson & Tilley, 1997). This may highlight differences in outcomes for certain groups or within certain contexts which may require revision of the programme theory (Hewitt et al. 2012). Table 22 gives an example of the process of CMO development within the study considering configurations that work but also (red script) considers contextual issues which misfire mechanisms so BSC is not achieved. Pawson and Tilley, (1997) suggest this process reveals which problem mechanisms can be overcome by which blocking mechanisms to develop the programme theory. The final CMOs do have intersecting themes.

Table 22: CMO configuration development

Brief smoking cessation programme theory	Context 'The spatial and institutional locations of social situations, with the norms, ...values and interrelationships'	Mechanism 'Choices and patterns which lead to regular patterns of social behaviours'	Outcome How programmes work, examined to review the conjectured mechanism/context theories are confirmed.
HCPs perceptions of BSC	Care delivery priorities	HCPs perceptions on BSC as an important part of care delivery	The implementation of BSC
<p>Survey question:</p> <p><i>For me to ask patients whether they smoke, and facilitate nicotine replacement therapy and referral to Stop Smoking Wales [doing BSC] would be: easy.... hard</i></p> <p>Code: Complexity 'it's not rocket science'</p> <p><i>'it's difficult sometimes'</i></p>	<p>Survey question:</p> <p><i>I feel under pressure to do BSC from patients, peers etc.: strongly agree...strongly disagree.</i></p> <p>Codes: Patient needs 'Some might say 'Oh I'm dying for a cigarette' and then you'd sort of be able to talk to them about that '</p> <p><i>'it's more about getting that patient's condition stable'</i></p> <p>Priority <i>'the priority is investigation and medicine'</i></p> <p>Health Board document: Nursing Admission document</p>	<p>Survey question:</p> <p><i>Doing BSC is: pointless...useful</i></p> <p>Codes: Individual Knowledge and beliefs 'It's really important it might stop their admissions more than the actual inhalers.'</p> <p>Other personal attributes 'It is obviously my professional job'</p> <p><i>'this is not my role'</i></p> <p>Relative advantage 'They have come to see a X consultant and NOT BE HASSLED BY OTHER things which could be done in primary care'</p>	<p>Survey question:</p> <p><i>BSC is something I: expect, want and intend to do: strongly agree ...strongly disagree.</i></p> <p>Code: Executing 'We give them their details we fax their phone number over and someone from SSW phones them within two days'</p> <p><i>'on some wards there will be some patients where it won't even be mentioned'</i></p>

Definitions from Pawson and Tilley (1997,p.216)

7.5 Initial Theory Area One

Where brief smoking cessation is embedded as a standardised practice and a visible priority within the organisation, healthcare professionals are more likely to engage with its implementation.

7.5.1 Conjectured CMO

Context: Where the level of strategy, policy, leadership, funding and prominent indicators for embedding BSC within acute hospital settings are in alignment;

Mechanism: Healthcare professionals see BSC as important; they embrace it as part of their role and prioritise it.

Outcome: There is engagement, consistency and standardisation in the implementation of BSC.

Conveying the importance of strategy and policy

Most HCPs perceive that BSC is part of their role but different contexts impact on whether they prioritise it within clinical practice. The organisation's role is therefore essential in embedding BSC as part of standard care; through continually conveying its importance in acute hospital settings. Communication is successful where it is not just in electronic format but through other formats, for example a poster explaining the referral process may be more appropriate in a ward. Where BSC strategy and policy is communicated effectively the organisation conveys that it is a priority because of its benefit for patient care; as this is of key importance for HCPs.

Resources

For BSC to be embedded as part of standard care in acute hospital settings, organisations need to provide funding for time, resources and to publicise the intervention. This investment confers status on BSC and underlines that it is an important part of patient care. HCPs need time to be able to develop the intervention

and develop their own skills and knowledge so they can support and facilitate other HCPs. The intervention is facilitated where organisations ensure resources are available for patient information, nicotine replacement and to facilitate the referral process. Investment in computerised systems and databases may identify patient smoking status and alert HCPs to requirement for BSC and facilitate referral.

Leadership

Effective leadership plays a fundamental role in communicating strategic goals for BSC through emphasising its value. Through effective communication leaders can raise the profile of BSC and place it high on the agenda within care delivery priorities. It is vital that leaders are recruited who are convinced that BSC will benefit patient care and can convey this to their staff and support them to engage with it. Leaders can embed BSC as part of clinical practice through investing time and resources into training HCPs, this underpins that BSC is an important priority and enables responsibilities to be cascaded down so the intervention becomes a team effort; role modelling is part of this process. Leaders can drive innovation and develop BSC so that it is incorporated into workflow systems and adapted to the context of the clinical environment as part of standard practice. Embedding BSC within care delivery systems also underpins its importance. Regular feedback is a vital element; this ensures that BSC remains on the agenda and is prioritised

Prominent Indicators

Where BSC is publicised by the organisation, its visibility creates an expectation in HCPs and patients that this is an essential element of care delivery. Having systems to identify smokers can alert HCPs that patients need BSC. Care delivery documentation can embed BSC if HCP's compliance is audited and fed back; otherwise it may not be deemed to have value. Incorporation of BSC on discharge planning is important as BSC is often not implemented on admission due to other care priorities. BSC is facilitated where organisations ensure HCPs know how to obtain nicotine replacement for patients and are familiar with the referral process,

which should be appropriate for the clinical context. The organisation can facilitate this through training but key HCPs within the clinical area can be visible resources. BSC is more likely to be implemented when the environment conveys the hospital takes SC seriously. Posters and signs can demonstrate that organisations want to facilitate BSC and it is part of standard care to offer this to patients. Implementing BSC is made easier where smoke-free sites are maintained.

Table 23: Final CMO One Prioritisation: The organisation conveys expectation that BSC is part of standard care
<p>Context: Where strategy and policy are visibly aligned with funding, leadership and prominent indicators, HCPs are supported in embedding BSC within acute hospital settings;</p> <p>Mechanism: Healthcare professionals are persuaded that BSC is an expected organisational requirement for improving patient outcomes; they embrace it as part of their role and prioritise it.</p> <p>Outcome: There is engagement, consistency and standardisation in the implementation of BSC.</p>

7.6 Initial Theory Area Two

When healthcare professional are knowledgeable and skilled in brief smoking cessation they have the confidence to take ownership and be accountable for its implementation.

7.6.1 Conjectured CMO Two

Context: HCPs' perceptions of their role in SC, their confidence in their knowledge and skill, and their personal characteristics, all influence the implementation of BSC.

Mechanism: When HCPs perceive that BSC is important they will accept it as part of their role.

Outcome: HCPs will prioritise, and be accountable for the implementation of BSC as part of standard care.

Perception of role

HCPs are more likely to implement BSC when they see it as intrinsic to their role. This occurs when they perceive they have a duty of care, with BSC an essential element of the care they provide in order to respond to their patient's needs. When this occurs HCPs take ownership of the intervention and do not feel that it is someone else's role. They prioritise and make time to implement BSC as part of a holistic approach to patient care, even if it is not their primary purpose within care delivery. This is often independent of organisational expectations to implement BSC.

Confidence in knowledge and skills

HCPs who perceive BSC is part of their role are more confident in their abilities to implement it. They see the intervention as reasonably straightforward; although they acknowledge that it can require a depth of professional understanding. Where HCPs are confident they anticipate they have the professional knowledge and skills to deliver BSC; this may be linked to their previous professional experience. Knowledge and skill can be developed from observing other HCP's practice. Confidence may be linked to training; HCPs value training and those who are trained appear more likely to deliver BSC.

Personal characteristics

Where HCPs understand the complex nature of nicotine addiction they empathise with smokers and are more likely to see BSC as an important part of their contribution to patient care. Increased understanding may come from training or personal experience of tobacco addiction. Personal characteristics impact on their perceptions that BSC is a professional duty of care and influences their confidence to deliver it. HCPs impose personal expectations on themselves to implement BSC as professionals responding to patient's needs.

Table 24: Final CMO Two Ownership: Making a positive difference to the patient's outcomes
<p>Context: HCP's perception of their role in care delivery, the expectations and practices of the clinical environment, their personal characteristics and their confidence in their skills and knowledge all influence the implementation of BSC.</p> <p>Mechanism: When HCPs value BSC as an important part of their contribution to the patient's care outcomes it has meaning for them and they will accept it as part of their role.</p> <p>Outcome: HCPs will prioritise, and be accountable for the implementation of BSC as part of standard care.</p>

7.7 Initial Theory Area Three

In the implementation of brief smoking cessation the distinct way healthcare professionals commit to interacting with patients depends on their individual beliefs and personal strategies in response to patient concerns and their fear of harming the clinician-patient relationship.

7.7.1 Conjectured CMO Three

Context: Where there is alignment of opportunity and identification of the right time, HCPs use a variety of ways to meaningfully interact with patients to determine their potential responses to BSC.

Mechanism: HCPs make a judgement that BSC is appropriate to initiate and that it will not harm the clinician-patient relationship, irrespective of their patients' motivation.

Outcome: HCPs adopt an individualised approach to instigating and pursuing BSC using appropriate strategies for the patient.

Opportunity

HCPs need to recognise the window of opportunity. Documentation, the assessment process, interaction with the patient and family or the patient's condition may prompt this recognition. This 'trigger' highlights that the HCP should consider BSC.

The Right Time

HCPs assess whether the time is right; they consider the patient's condition and the patient's priorities for the care episode; HCPs also consider the whole clinical context to determine whether they have the time to implement BSC or if other priorities are more pressing. They understand that starting BSC may result in spending time with the patient.

Assessing patient responses

HCPs prepare the ground for the teachable moment; sometimes through forming a relationship with the patient. It may be that through the patient's reaction to queries about smoking status or just within general conversation with the patient that the HCP begins to get a sense of the patient's possible attitudes and reactions to BSC.

Making a judgement

HCPs decide to create a teachable moment when they can see it is in the best interest of the patient. They base this decision on how they think BSC can improve patient's care outcomes and judge that the intervention will not adversely impact on their care outcomes in the immediate future. HCPs decisions are based on the assumption that they have the skill and knowledge to deliver the intervention without alienating the patient.

Individualised strategies

The strategies used to create a teachable moment may depend on the profession, with doctors possibly offering a more direct approach. Communication strategies are adapted to the individual. HCPs use a depth of skill to try to demonstrate respect for the patient and empathy; acknowledging the difficulties of addiction. HCPs try to convey how they feel it is important that the patient quits and how it is their role to try to help.

Table 25: Final CMO Three Professional judgement: Getting it right for the patient, through individualised strategies.
<p>Context: Where there is acceptance of the value of BSC, with alignment of opportunity and identification that it is the right time, HCPs use a variety of ways to meaningfully interact with patients to determine their potential responses to BSC.</p> <p>Mechanism: Using different processes HCPs make a judgement that BSC is appropriate to initiate, as they think it is in the best interest of the patient and believe it will not harm the clinician-patient relationship, irrespective of the patients' motivation.</p> <p>Outcome: HCPs adopt an individualised and empathic approach to instigating and pursuing BSC using strategies which are appropriate for the patient.</p>

7.8 Summary of CMOs

The final CMOs suggest that both organisational and individual values and priorities have to align for BSC to be an essential component of standard patient care. The organisation needs to create the expectation that BSC is a requirement for care and facilitate the development of knowledge and skill in HCPs. The lynch-pin of this process is that BSC is valued by the HCP as an important part of their role.

7.9 Revisiting the programme theory

The study findings can test and refine the conjectured theory areas. The initial theory area one, starts with the premise that BSc will be done when it is embedded as part

of standard care, the findings suggest that the starting point is how the organisation communicates that BSC is a visible priority by aligning resources, leadership and tangible indicators to publicise BSC. The crux is more than creating an awareness of BSC but emphasising that the organisation values it and expects it, because it can improve patient care outcomes. HCPs are more likely to be responsive to this message.

The premise of theory area two is that knowledge and skill in BSC does increase HCPs confidence to implement it. However the findings suggest that underpinning confidence is how HCPs value BSC as a means of improving their patient's outcomes. They take ownership of BSC when they have confidence in their ability to make a positive difference. Theory area three proposes that individual beliefs impact on the delivery of BSC and how personal strategies are used in response to patient attitudes; with HCPs aiming to avoid harming their relationship with the patient. Although there are some similarities with the synthesis findings, a strong pattern emerged to suggest it is the alignment of individual beliefs that BSC is in the best interest of the patient and HCP's perception in their ability to negotiate BSC without alienating the patient. Ultimately HCPs do the intervention because they believe they can make a positive contribution to patient outcomes.

7.9.1 Stakeholder review

In realist evaluation it is important to engage stakeholders to gain understanding on individual interpretation of findings and demi-regularities and corroborate interpretation (Pawson & Tilley, 1997). Findings were presented to individual Public Health practitioners and in a meeting of the Site B Tobacco Group. The findings and study recommendations were also circulated to the board members of Public Health (Table 26). Stakeholders strongly concurred with the importance of visible organisational prioritisation of BSC to embed it as an expected requirement for standard care. Stakeholders also felt that HCPs would value the intervention if it was associated with making a positive difference to patient outcomes and strongly felt this would be influenced by increased organisational commitment through funds and resources to publicise the importance of BSC.

Table 26: Stakeholder feedback

Stakeholder Event	Date
Discussion with Public Health practitioners	14.4.16
Tobacco group meeting for dissemination of the findings.	21.4.16
Discussion with Public Health Wales Consultant, who circulated study findings and recommendations to Public Health Board members.	9.6.16

7.10 Summary

This chapter has reviewed the findings from the survey, interviews and Health Board documents to consider the implementation of BSC in three acute hospitals. The conjectured CMOs from the realist synthesis were revisited and refined to illuminate the developing programme theory. There were some similarities between the conjectured and final CMOs suggesting demi-regularities between the literature and the study findings but new knowledge did emerge. Additionally the final CMOs had cross-cutting themes. Realist evaluation aims to inform the thinking of policy-makers, practitioners and other stakeholders (Pawson & Tilley, 1997). In Chapter Eight the key themes from the findings will be discussed to explore how they can inform understanding on how BSC can be implemented successfully in acute hospital settings.

Chapter Eight

Discussion

8.1 Introduction

Within this chapter the study findings are discussed and the study's contribution to new knowledge is articulated. The final CMOs, developed from the findings, provide an explanation or programme theory of BSC in acute hospital settings, which summarise emerging demi-regularities. In this chapter the demi-regularities are analysed in relation to relevant evidence and theory from different disciplines; this enables 'sense-making' of outcome patterns on similar programmes (Pawson & Manzano-Santaella, 2012). Finally, the discussion summarises the development of the original programme theory areas to a refined programme theory to inform the implementation of BSC in acute hospital settings.

8.2 Context-Mechanisms-Outcomes

Realist evaluation aims to explain the nature of programmes, which are "complex social systems introduced amidst complex social systems", to make sense of observed outcomes (Pawson & Tilley, 2004, p.15). BSC is a complex intervention within complex acute hospital systems; hence throughout the study it was important to pay attention to context. For Pawson and Tilley (1997) context is multi-dimensional encompassing spatial and institutional locations, norms and values of different social situations. The application of the CFIR (Damschroder et al. 2009) to the data analysis process helped to unpack multifaceted contextual influences within the Health Board's three hospitals. The constructs within the five domains facilitated consideration of strategic, political, leadership and individual influences on BSC. Although BSC was a key strategic requirement, the study found this was not clearly mandated within all clinical areas. It is recognised that the cascading down of policy into guidelines can be suboptimal (Grimshaw et al. 2006); with organisational culture and professional autonomy influencing implementation uptake (Davies et al. 2000). Yet, in some areas, HCPs embedded BSC within their standard practice. The study's findings highlighted where certain contexts worked to facilitate, or constrain, HCPs to implement BSC. Within a realist perspective the activation of mechanisms are

contingent on context; the study's findings offered explanation on the contextual conditions on which the success or failure of mechanisms depended.

Mechanisms are "the choices and capacities which lead to regular patterns of social behaviour" (Pawson & Tilley, 1997, p. 216). Employing a realist approach resulted in articulation of mechanisms associated with changes in reasoning or resources which influenced HCPs to implement BSC. Relating mechanism to different contexts identifies which contexts trigger programme mechanisms and their impact on outcomes, resulting in CMO configurations to explain the programme theory (Pawson & Tilley, 1997). The outcome was that HCPs implemented BSC. Health Board audits indicated poor implementation of BSC, yet data on outcomes alone does not identify causation (Westhorp, 2014). The study's realist perspective offered explanatory depth opening the 'black box' of influences on BSC. The CMO configurations that emerged from the study's findings highlighted what worked for whom in which contexts in the implementation of BSC.

8.2.1 Developing theory

Through iteration a realist approach offers the possibility to develop a novel programme theory. Yet, Pawson (2013) reminds there is "nothing new under the sun" (p.183). The cumulation process recognises the relevance of previous experiences and middle-range theories to cross-validate demi-regularities in findings, through scrutinising CMO interactions (Wong et al. 2010). A middle-range theory is "abstract enough to underpin a range of programmes types yet concrete enough to withstand testing in the details of programme implementation" (Pawson & Tilley, 1997, p. 116). From this, it is argued programme theory can emerge to inform the decision-making process on policy and practice and contribute to new understanding on BSC in acute hospital settings.

Demi-regularities were identified from the CMO configurations, which emerged from the findings, and were considered in relation to middle-range theories to facilitate understanding on the programme theory. In CMO1, which provided an explanatory account of organisational influences, those factors with most impact were prioritisation, persuasion and visibility. In CMO 2, HCP's beliefs and self-efficacy dominated. Finally in CMO 3 professional judgement influenced the teachable

moment. The following section considers the relationship between context and mechanisms, and provides a refined account of the programme theory.

8.3 CMO One

“I think we feel obliged yes, and it’s more that obligation I think that it’s moved forward from another paper pushing exercise, to what we thought it would be in the beginning to now to a [pause] patient centred issue really and to actually promote health.” [Site A, NM]

8.3.1 Prioritisation

In this study the Health Board created an expectation that BSC should be prioritised by HCPs in acute settings. In the realist synthesis of evidence, it was demonstrated how investment in resources, such as publicity and training, positively impacted on BSC implementation. The study findings further explained that resource availability triggered HCPs’ prioritisation of BSC. This linked to organisational promotion of health promotion as a function of acute hospitals and HCPs’ acceptance of this view, for example in outpatients clinics. In the study, where BSC was implemented haphazardly, such as within wards, it lacked resources and was therefore not prioritised as relevant to acute contexts.

Traditionally acute hospital settings have focused on the treatment of disease with the NHS described as the “national sickness service” (Wanless, 2004). Despite recommendations and standards for health promoting hospitals (WHO, 1997; 2004), health promotion is generally associated with primary care and public health (Kelly & Abraham, 2007); and not seen as an acute hospital priority (Casey, 2007a & b). Lee, Knuckley and Cook (2013) found although lifestyle risk assessment in hospital is slightly improving, acting on risk factors remains low. This is contrary to the “Making every contact count” mandate (PHW, 2013); and referral to intensive smoking cessation services (Myers et al. 2012a). Little therefore seems to have changed since Lalonde (1989) summed up hospital attitudes to health promotion as “let somebody else do it: we already have too much to do” (p. 40).

In this study where investment indicated prioritisation of BSC, the Health Board conferred BSC equal status with other aspects of acute clinical care. However prioritisation did not manifest in all clinical teams and wards. Prioritisation was contingent on investment in resources and personal development through training. In targeted and specialist areas, such as pre-operative assessment and respiratory care, where investment occurred, BSC moved from an organisational expectation “*to a patient centred issue to actually promote health*” [Site A, NM]. However where there was a lack of investment, particularly in wards, this hampered BSC, “*it gets lost*” [Site A, WM]; as other priorities were more pressing. In the study it was revealed how individual HCPs prioritised BSC independently. Here HCPs felt they were at odds with an organisation that was failing to prioritise BSC, by a lack of investment and attention. Other HCPs did not value BSC; the Health Board had failed to persuade them that it an important care priority. Persuasion was an important mechanism to convey organisational prioritisation.

8.3.2 Persuasion

HCPs are expected to offer smoking cessation (Haynes, 2008). However data from the study demonstrated how the multiple demands of acute contexts detracted HCPs from prioritising BSC. The findings from this study can explain how the Health Board required hospital HCPs to move away from the medicalised focus of acute hospitals to implement BSC, as part of a wider health agenda. Persuasion, through communication, leadership and visible investment, was identified as the underlying mechanism to achieve this.

Anything that involves moulding or shaping attitudes involves persuasion (Perloff, 2010). O’Keefe (2016) identifies common features of persuasion: it is always successful; the persuader intends to influence; the person to be persuaded has free will; communication is intrinsic and finally persuasion changes the person’s attitude. Multiple theories have been associated with persuasion, including the Theory of Planned Behaviour (Ajzen, 1991) and Cognitive Dissonance (Festinger, 1957). However, Duran (2011) suggests the complexity of persuasion belies its restriction into models and theories as it underpins cultural and social influences on discourse. Persuasion is “a symbolic process” as it is rich with cultural meaning (Perloff, 2010,

p.12). In this study investment in BSC symbolised Health Board prioritisation and this tended to persuade HCPs, who had the autonomy to decide to do BSC, of its value.

HCPs were more likely to do BSC where prominent indicators, such as assessment documentation, prompted them; these can be interpreted as nudges. Nudges are a subtle form of persuasion. Nudge theory (Thaler & Sunstein, 2009) is a manifestation of libertarian paternalism, which aims to guide people's choices, whilst allowing them liberty to choose (Goodwin, 2012). Kusters and Van der Heijden, (2015) propose Type 1 nudges assist individuals to make choices in their own best interest, Type 2 nudges are governance interventions to steer individuals' behaviour to achieve a societal desired action (such as waste reduction, Perry, Chhatralia, Damesick, Hibden & Volpe, 2015); the latter equates with BSC in acute hospitals. A nudge is "any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives" (Thaler & Sunstein, 2009, p. 6). Choice architecture structures people's behaviour more effectively through incentives, mapping, giving feedback and structuring complex choices. In the study these were evident in documentation and referral pathways; feedback through audit provided a competitive incentive. These Health Board nudges prompted HCPs to implement BSC, whilst maintaining their autonomy to choose, but audit also made it explicit if implementation did not occur; this may also have been a powerful incentive to do BSC.

Nudge invokes automatic and not rational process. Hence utilising the default choice to guide decision-making is effective as people tend to be passive decision-makers. For some HCPs implementing BSC was an automatic process but for others it was automatic not to do it because of their perceptions of acute care priorities. Nudge proposes people respond according to biases, and is about "finding a way to lessen the negative impacts of automatic thinking on a worthy goal" (Selinger & Whyte, 2011, p. 925). Where HCPs were persuaded to do BSC by effective Health Board prompts, inherent in the choice architecture, BSC became the default position.

The theory of nudge is contentious with criticisms of a lack of conceptual clarity and evidence-base (Marteau, Ogilvie, Roland, Suhrcke & Kelly, 2011; Selinger & Whyte, 2011; Kusters & Van der Heijden, 2015). Although nudge advocates transparency, there is concern that covert nudges remove personal responsibility for decision

making (Selinger & Whyte, 2011). This is important where autonomous HCPs value their expertise in making judgements. Furthermore the successes of nudges are highly context dependent (Lucke, 2013). Where the organisation invested time and effort in establishing BSC, such as pre-operative assessment, and initiated what can be seen as choice architecture, BSC was implemented. However nudges in ward admission documentation were not effective; possibly the choice architecture did not ease the decision to do BSC in this busy environment. Many HCPs felt hospital was not the place for BSC; the Health Board strategies for prioritising BSC succeed where HCPs' attitudes changed.

Originally defined as "a learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a give object" (Fishbein & Ajzen, 1975, p6.), evidence evolved to suggest people can simultaneously hold two different attitudes in the same context (Ajzen, 2001). Persuasion is linked to attitudes as a stage in the diffusion of innovations; people are persuaded that innovations fit with their cultural values, forming a positive attitude towards them (Rogers, 2003). Certainly in this study, HCPs universally had the attitude that smoking cessation is important for patient outcomes but some also felt it was not their priority in hospital care. HCPs' attitudes are shaped by local contexts (Wilkinson et al. 2011). Rogers (2003) suggests attitude change is based on knowledge and psychological involvement. Both the synthesis and study indicated that increased knowledge, through training, persuaded HCPs to do BSC. Yet there was little evidence that the organisation harnessed HCPs' emotions through emphasising how BSC can improve patients' outcomes; although in the study, it is suggested because of this many HCPs were committed to BSC. Findings from the study also highlighted how professional freedoms both drove and hampered BSC, within this context the organisation needed to persuade rather than compel.

8.3.3 Persuasion, autonomy and power

HCPs have to be persuaded; they cannot be coerced or manipulated as their professional status conveys certain freedoms; although these are moderated by professional regulation, organisational control and public expectation (Evetts, 2003). In the study HCPs demonstrated their autonomy to choose to do BSC, or not, based

on competing priorities and perceptions of patient needs. Professional autonomy is essential for self-managed responses to unpredictable situations but at odds within bureaucratic, hierarchical, healthcare environments (Currie & White, 2012); and can make healthcare organisations vulnerable to a lack of control (Lewy, 2010). Röthlin, (2013) suggests HCPs can block hospital management influences on professional decisions; therefore strategies are required for indirect governance of professional practice to pursue comprehensive health promotion. In this study, an explanation is offered on the organisation's need for persuasion, often through nudges, as a mechanism for indirect governance of BSC.

Persuasion is associated with power. Power grants independence (Dewitt & Baldwin, 2007). According to French and Raven's (1959) classification, HCPs have both expert and legitimate power with rights to prescribe conditions or behaviours, based on specialist knowledge. This confers authority and control (Kroezen, van Dijk, Groenewegen & Francke, 2013). The findings from the study provided an explanation of how HCPs had the power to choose to do BSC, whilst others chose not to, sometime under the auspice of best patient care. Power in healthcare, predominantly in relation to medicine, has been the subject of criticism (Friedson, 1970; Zola, 1976). Illich (1977) proposed medicine "a major threat to health" due to the "disabling impact of professional control" which diminished people's autonomy (p.4). However Foucault's views offers greater insight into the power influences underpinning the mechanism of persuasion within this study.

For Foucault (1975) health is managed by power, this is 'body politic' a subtle pervasive power over life; medical power is the resource by which illness is identified and dealt with. Perceptions of health and normality are socially constructed through discourse, depending on cultural, political and economic influences. The patient is seen through the 'clinical gaze' this is "omnipresent and acceptable because its objective is to promote health" (Gastaldo, 1997, p.116). For some HCPs, this gaze determined a broad construction of health with hospital patients requiring BSC as part of acute care. For others the hegemony of acute 'clinical gaze' was that health promotion, such as BSC was secondary to other acute care priorities. These HCPs needed to be persuaded to alter their perception of acute healthcare, so BSC was perceived as a legitimate part of their acute care delivery.

Power is within structures, HCPs' power is rooted in social networks, linked to state institutions, such as hospitals (Foucault, 1982). HCPs cannot dominate as their power is tempered by market, public and government forces (Dewitt & Baldwin, 2007). More recently, it has been proposed increased government power, calls for transparency and evidence-based standardisation have eroded HCPs' power; threatening clinical freedom (Ferlie & Shortell, 2001). This has particular resonance within the publically funded NHS where high profile failures have led to calls for increased regulation (Francis, 2013). From a Foucauldian perspective, this is the emergence of new truths underpinning knowledge and power. Knowledge is contingent on changes within power (Polfroni, 2010). Truth fulfils the requirement for power, through knowledge, when sanctioned by society (Foucault, 1976).

This emergence of new truths and power relates to how society's views on smoking have changed; with a marked shift in public and political perceptions on tobacco (Cabrera & Gostin, 2011). Following decades of debate, the evidence of the harms from smoking can no longer be refuted and society no longer sees smoking as socially acceptable (Chapman & Freeman, 2008). The costs incurred by society from smoker's ill health, is a key impetus for society's views on smoking. Societal disapproval of smoking is enshrined in legislation (WHO, 2003), strategy and policy (WG, 2012). The findings from this study indicated contextual change where national strategy prompted the organisation to invest and prioritise BSC in acute hospitals; this aimed to create the power and the new truth that health promotion is a function of acute hospital settings, to persuade HCPs that BSC is both a Health Board and political imperative. Foucault indicates that as part of the power of the clinical gaze, 'HCPs are entitled by scientific knowledge and power...to prescribe healthy lifestyles' (Gastaldo, 1997, p.116). This societal expectation channelled, through the clinical gaze, has implications for patients and also for healthcare professionals who smoke.

Although this study did not examine patient's perceptions of brief smoking cessation, the realist synthesis offered insight into how patients may fear confrontation over their smoking (Bell, 2012; Butler et al. 1998). The synthesis highlighted how patients use strategies to resist and deflect the disapproval of the clinician and avoid discussing their smoking (Pilnick & Coleman, 2003; 2006). In Foucauldian terms this may be because they feel shame and guilt, as they come under scrutiny from the powerful clinical gaze, ratified by the truth of the harms of smoking and societal

disapproval. Foucault (1975) highlights how medicine embraces knowledge of the 'healthy man' where the clinical gaze and society dictate model standards for physical and moral health. The findings from the realist synthesis suggests some healthcare professionals have intolerant attitudes towards smoking (Schultz et al. 2011; Champassak et al. 2014). Indeed there is evidence in the UK that smokers are refused treatments, such as cardiac surgery, as their condition is deemed self-inflicted (Senderovich, 2016). However, despite powerful societal sanctions for those who avoid healthy behaviours, realistically few may achieve these standards. Ultimately, this stance leads to a slippery slope where many patients, from the obese, to those who partake in extreme sports, could also be refused healthcare if their condition is deemed their fault.

Foucault's (1975) concept of the 'model man' who adheres to society's expectations of healthy behaviour is further magnified for healthcare professionals, as guidance dictates they are to be role models with regard to smoking (WHO, 2005). The synthesis and study findings suggest healthcare professionals who smoke feel at odds with the professional role, with many avoiding declaring their status. In this study only one HCP who smoked agreed to be interviewed; yet whilst acknowledging that they "*felt a fraud*", they were able to use their status for mutual understanding with the patient [Site B, M, SCC].

Within the study many HCPs implemented BSC because they concurred with the organisation's expectation, channelled by organisational requirements and nudges to complete documentation and audit. This aligns with Foucault's (1982) notion of governmentality where power is constructed between healthcare organisations and HCPs. This is governing through the freedom of subjects, with management using persuasive technology to govern professionals through the use of symbols and language, altering professionalism to absorb such concepts as standardisation (Numerato, Salvatore & Fattore, 2012).

Although the importance of smoking cessation appeared to be universally accepted some HCPs asserted their power to not implement it in the acute context, citing patient acuity, competing priorities or avoidance of conflict. This was contrary to what the organisation was persuading them to do. The realist synthesis also revealed how HCPs who are smokers may use strategies to avoid smoking cessation, as they may

confront their own vulnerabilities (Radsma & Bortoff, 2009). It should be noted that although the study did not indicate that smoking impacted on HCP's intention to deliver BSC, it cannot be discounted that self-reports may not accurately indicate actual implementation of BSC. Evidence-based practice has prompted power struggles as professional groups question rationalistic and managerial perspectives on it (Ferlie et al. 2005). Foucault (1977) highlighted 'technologies of self', with the individual within governmentality having the capacity to resist, due to autonomy; enabling empowerment (Ferlie et al. 2012). This aligns with the discussion in Chapter Three on the independence of structure and agency within critical realism (Bhaskar, 1979); social systems may change and people have the capacity to change them and to be changed by them (Archer, 1995). Hence within complex acute hospital settings some HCPs were influenced to engage with BSC and champion it, to embed BSC as part of standard practice

Where HCPs were persuaded that BSC was an organisational prioritisation they adapted to the acute context. BSC was implemented flexibly based on clinical judgement "*we get things done that we think are important*" [Site A, Cons A]. Evidence-based practice occurs because of "a desire by individuals or groups to redress contradictions between what is espoused about practice and the reality of practice" (McCormack, 2006, p. 92). In Foucault's governmentality this is the partnership where HCPs exert their power acting on their very subjectivities, with their own will guiding their actions (Martin, Myles, Minion, Willars & Dixon-Woods, 2013). Within the study HCPs who were persuaded to implement BSC did so understanding that they retained a significant degree of control over patient care.

8.3.4 Persuasion and conveying organisational expectation

Where the Health Board framed BSC as important (underpinned by prominent indicators and publicity) it was more able to persuade HCPs to prioritise BSC. The message was straightforward – 'all HCPs should do BSC', the 'sticking point' was the acute hospital setting. Frames are "schemata of interpretation" that enables agents to make sense of experiences and understand problems within social structures (Goffman, 1974, p. 21). Framing works as a powerful nudge. In public opinion formulation, Chong and Druckman's (2007) Framing Theory articulates how people

“develop a particular conceptualization of an issue or re-orientate their thinking” (p.104), through storing a given consideration in the memory, accessible for retrieval when triggered by a communication frame. In the study, the benefits of smoking cessation were given consideration but this needed to be framed within hospital settings.

Framing theory proposes the impact of knowledge on the person’s attitudes depends on perceptions of strength or personal relevance of the issue, individual motivation or competitive context, which can stimulate individuals to deliberate over competing frames in order to reconcile conflicting considerations. Organisational framing of the importance of BSC resonated with HCPs who were pointedly aware of the harms of smoking, particularly where this was linked to disease processes, but for some this conflicted with their experience of the acute setting and perceptions of multiple barriers to BSC. However priming helped in specialist and target areas, this is where attention is drawn to one construct while ignoring others (Sherman, Mackie, & Driscoll, 1990). The Health Board succeeded when it framed the acute setting as unimportant in comparison to BSC’s positive impact on patient outcomes. Admission documentation for example required HCPs to implement BSC no matter the setting or context.

Professional boundaries can adversely impact on knowledge mobilisation and implementation; HCPs can prevent change if they are not engaged (Ferlie, Fitzgerald, Wood & Hawkes, 2005). Different groups of HCPs may have to be convinced by specific types of arguments and evidence (Pelikan, 2007). Within the study the same frame was directed to all HCPs; yet often senior doctors and nurses were more aware of policy and organisational requirements for BSC. HCP behaviour is shaped by “social processes and filtering through professional networks and local hierarchies”, with medicine often dominating (Wilkinson et al. 2011, p.10). The organisation failed to frame the message to specific professional groups or junior HCPs neglecting the issue of cultural differences. Certainly the survey results suggested resistance to BSC, often as it was someone else’s role (usually doctors). However, where HCPs felt persuaded by the organisation to do BSC they also felt it was everybody’s role, with some HCPs describing how BSC was embedded across specialities. HCPs who were not influenced by the Health Board, but did BSC, lacked inter-disciplinary perspectives.

8.3.5 Visibility

In the synthesis it was noted that HCPs were likely to prioritise BSC when there were prominent indicators and promotion of BSC from multiple sources, such as documentation and leadership. The study revealed that these visible manifestations of organisational investment, often in the form of nudges, persuaded HCPs of BSC's important status. However, there was some evidence that this was inadequate. Some participants chose to do BSC but had no awareness, or regard, for the organisation's efforts. Many focused on the negative visible image of people smoking outside the hospital, highlighting its powerful contradictory message to the organisation's claim to value BSC. For some HCPs it was not worth doing BSC because smokers were so visible; they blamed the Health Board for failing to be consistent, perceiving the organisation and themselves as powerless. Yet where HCPs felt BSC was an important part of their role, the visibility of smokers outside the hospital did not prevent their implementation of BSC.

Rogers (2003) suggests communication and publicity promotes innovation. Whilst some HCPs viewed the organisation's promotion of BSC positively, for others this was inadequate, particularly impersonal communication via e mail. Credible sources are more likely to shape opinions (Perloff, 2010) with judgements of credibility based on the believability of a communicator, their trustworthiness and expertise (O'Keefe, 2016). Where the organisation used credible leaders both, formally and informally, as opinion leaders within professional groups, this increased the visibility of BSC and persuaded HCPs that BSC should be prioritised. Local champions and external facilitators from Public Health were visible sources of expertise on BSC, with external facilitators acting as boundary spanners; these are known to spread interventions across professional and organisational boundaries (Gilbert, 2016). There was some sharing of good practice between target areas and children wards, facilitated by Public Health.

Social cognition theory may explain how leaders raise the profile of BSC; it suggests knowledge acquisition and behaviour is influenced by observing others (Bandura, 1977a). This is as a result of social modelling, or imitation, of others' behaviours and attitudes (Evans, Hersey, Renaud & Powers, 2006). Unlike nudge, this widely accepted theory assumes people are self-regulating and make intentional rational decisions. The incentive is the approval of others. Roger's (2003) diffusion of

innovation is linked to observability. Within the synthesis role modelling was also found to be important for facilitating the implementation of BSC (Schultz et al. 2009) and the study highlighted how effective leaders and champions were visible role models, doing BSC and conveying the message that BSC was the HCPs' role in the acute setting. Smoking cessation champions felt empowered by their visible image and confronted smokers outside the hospital.

The synthesis demonstrated that where BSC is a social norm, it positively impacts on HCPs performing BSC (Bolman et al. 2002). Thaler and Sunstein (2009) see peer pressure as social nudges to influence behaviour. Rogers (2003) terms this recruitment of a critical mass. In the study some professional groups were more likely to do BSC than others, for example doctors in comparison to radiographers. Where HCPs implemented BSC this was often underpinned by the expectation that other HCPs implemented it. However the study also found professional expectations did not just relate to professional boundaries, specialist teams saw BSC as a multidisciplinary approach. Within this study, expectations on HCP group behaviour may be analysed through the Foucauldian lens of visibility and power.

For Foucault visibility is embedded within discipline and is a technique for surveillance and normalising judgements as part of an integrated system "in which power marks its presence in multiple, regular, and anonymous ways" (Velloso, Ceci, & Alves, 2013, p.260). Foucault (1979) used Bentham's notion of the 'Panopticon', a disciplinary institution that through its architectural design, permitted detailed observation of individuals within, without the observer being seen (the external gaze). The observed regulate their own behaviour as there is the constant possibility of surveillance and punishment, should the rules be broken (Ferlie et al. 2012). This leads to the internalisation of disciplinary power and the manifestation of desirable behaviours (Martin et al. 2013). Linking back to the notion of governmentality, power is not contained individually but within structures, with everyone a potential power holder and the surveyors are perpetually surveyed. This social use of surveillance is a subtle mode of influence (Numerato et al. 2012).

In the study most HCPs rarely observed other HCPs doing BSC; as this is not overtly visible behaviour, as in hand hygiene. HCPs in areas that were audited and gained feedback knew whether others were doing BSC. Generally senior practitioners were

the role models where practice was observed. Therefore within this study, visibility may have been linked to perceptions of more subtle social surveillance. This links Martin et al.'s (2013) proposition that combined product of interaction of between panopticism and governmentality can create spaces where behaviour change was achieved through social persuasion . However, HCPs submit themselves to the gaze and judgement of others but retain considerable control over judgement criteria, with autonomy to choose (Levay & Waks, 2009).

This discussion has reviewed key theoretical perspectives underlying the organisation's use of multiple techniques, both overt and subtle, to persuade autonomous HCPs to do BSC and how social influences have impacted on these choices. Underpinning this is the understanding that HCPs have the final decision based on their patient assessment.

8.4 CMO Two

"It's obviously part of my job and you know I think it is part of every healthcare professional's job to do smoking cessation" [Site A, Pharm].

8.4.1 Saliency

The findings from this study suggest that where HCPs accept that BSC is part of their role, they do so because it has saliency for them. Benner and Tanner (1987) link saliency to prioritisation: "to have a sense of saliency is to live in a meaningful world where events stand out as more important or less important" (p.27). The findings suggest where BSC was visibly prioritised by the organisation some HCPs were persuaded to see it as a salient issue in the context of acute hospital settings. HCPs implemented BSC because they felt health promotion was an important priority within acute care. This was also shaped by their personal experiences and sense of professional responsibility to improve patient outcomes. Those HCPs who implemented BSC were conscious that it was intrinsic to their professional identity. This was underpinned by perceptions of a duty of care. For some, BSC was fundamentally linked to the purpose of their role; described by one consultant as a

“moral obligation” [Site A, Cons B]. Perceptions of salience influenced how decisions and actions were prioritised. Where BSC had salience for HCPs, contextual barriers, such as a lack of time and resources did not prevent implementation, they were more likely to ensure BSC took place, despite having other priorities.

The meaning of salience can lack consensus (Wleizen, 2005); with Stryker (1980) refuting that it merely implies prominence. Its broad scope has facilitated consideration in multiple fields where choices have to be made and issues prioritised; notably identity theory (Stryker, 1980) but also politics (Wleizen, 2005), game theory (Alberti, Sugden & Tsutsui, 2013) and management (Bundy, Shropshire & Buchholtz, 2013). Stryker (1980) highlighted salience as key in identity theory as it relates to where one behaviour option is selected over another; he suggests that people may not be aware of the values within activities that represent their identity. Also in relation to identity theory, individuals have moral identity salience. Aquino and Reed (2002) propose moral identity salience relates to moral identity, which is central to the self, but fluctuates according to situational cues. Moral salience is the temporary activation of moral identity triggered by situational factors. Behaviour is consistent with the meanings that an individual associates with an accepted level of morality (Stets & Carter, 2011). The study’s findings implied that where HCPs linked BSC to a moral duty of care to the patient, they were more likely to implement it. However in some context HCPs may prioritise other acute care issues if they perceive them to have greater moral salience and this may be linked to beliefs, attitudes and subjective norms.

Salience underpins how behavioural beliefs, attitudes and subjective norms influence behaviour in the Theory of Planned Behaviour (Ajzen, 1991). In the findings perceptions of salience appeared to influence how HCPs viewed the consequences of BSC and evaluated their performance of its implementation. HCPs were more likely to implement BSC where they felt it may positively impact on patient outcomes and they could implement it effectively. Furthermore influenced by social learning and peer pressure, salience is an emergent property of human interaction; people become proficient in recognising conventions others follow and apply these consciously and unconsciously to familiar and unfamiliar situations to inform decisions on behaviour (Alberti et al. 2012). This particularly occurred where BSC was embedded as accepted practice within a clinical area or specialism, for example

respiratory care. Organisational nudges within these environments further fostered implementation. Changing salient beliefs has also been linked to persuasion via framing (O’Keefe, 2016). In the study where the organisation had visibly prioritised and therefore re-framed BSC as a function of acute hospital settings HCPs were persuaded that BSC was a salient issue and part of their acute role. As a concept, salience has therefore been linked to motivation to comply (Newton, Newton & Ewing, 2014).

However, perceptions of salience may also have a negative impact (Stryker & Serpe, 1994). Greer and Egan (2012) explain how salience can impact on role choice. The study’s findings help to explain how some HCPs did not view BSC as a core part of their role in acute care, they prioritised other care issues; feeling these issues more salient. The study’s findings have highlighted how role acceptance was dependent not only on context, or profession, but sometimes on personal characteristics, such as whether HCPs smoked or not. Furthermore, Rogers (2003) highlights that innovations should produce clear salient rewards; for an innovation to have meaning it should have a positive impact on the individual. The findings suggest HCPs who did not implement BSC, felt it offered no salient rewards and incurred more costs, such as increased pressure of work, than benefits to their patients or themselves; and it was not part of their role: *“I feel this is a waste of time”* [Survey commentary Nurse]. For these HCPs, BSC had consequential salience. Although smoking cessation had salience for them, these HCPs placed an expectancy value on implementing BSC, which meant considering its potential positive and negative consequences in acute settings. These HCPs prioritised their salient beliefs according to a hierarchy of consequences; this selection of importance is influenced by social norms, including reviewing others’ experiences (Newton et al. 2014). Hence for some HCPs, despite the salience of BSC, its consequences, such as alienating the patient or wasting time, had a negative impact on their prioritisation, impeding implementation. However, most HCPs did not know whether BSC was successful, or if they had improved the patient’s outcomes; even where the patient was persuaded to have nicotine replacement therapy. The findings suggest that HCPs who implemented BSC did not have consequential salience; their salience can be described as moral, stemming from their perceptions of a duty to deliver the best care to the patient. This salience can be viewed in terms of moral legitimacy; where

there is a constructed system of ethical norms (Neville, Bell & Whitwell, 2011). For HCPs this moral salience meant that they had a professional duty to implement BSC, as it may improve patient outcomes; no matter what the consequences from the actual intervention, such as the potential to alienate the patient, or even positive consequences with the patient agreeing to quit. However positive feedback was rewarding “*I was so happy that she had stopped smoking*” [Site C, Cons B]. Importantly, where BSC had salience for them, HCPs implemented it anyway as they felt it was vital for the patient and part of their role. Where BSC was a salient issue it persuaded and incentivised HCPs and influenced the impetus for self-efficacy.

8.4.2 Self-efficacy

The study’s findings have highlighted that HCPs who were confident to do BSC were more likely to implement it than those who lacked confidence; perceiving that BSC was relatively simple and that there were fewer barriers within the hospital environment. The survey’s findings suggest perceptions of a lack of knowledge and skill reduced confidence and intention to do BSC. In the synthesis increased knowledge, skill and confidence was linked to self-efficacy. Self-efficacy can also be viewed as an important explanatory construct for BSC implementation with the study.

Self-efficacy theory (Bandura, 1977b; 1982) relates to personal judgements on capabilities to execute actions to deal with situations; linked to goal setting (Bandura, 1995). “People process, weigh, and integrate diverse sources of information concerning their capability, and they regulate their choice behaviour and effort expenditure accordingly” (Bandura, 1977b, p. 212). Self-efficacy is postulated to influence behaviour; although it is not such a strong predictor of behaviour where tasks are complicated (Bandura, 1977b). Michie et al. (2005) suggest it is a construct for implementing evidence-based practice, and for behavioural change interventions (Michie et al. 2011). Bandura’s (1977, 1982) work on self-efficacy supports the relationship between perceived control and behavioural performance within the Theory of Planned Behaviour (Ajzen, 1985). The survey’s findings found perceived behavioural control was the largest influence on general intention to do BSC; this suggests that for HCPs’ self-efficacy is vital.

Self-efficacy is derived from four sources of information: performance mastery, vicarious experience, verbal or social persuasion and physiological states (Bandura, 1977b). Mastery relates to “the strengths of people’s convictions in their own effectiveness and is likely to affect whether they will even try to cope with given situations” (Bandura, 1977b, p.193). This feature is linked to persistence and the resilience to overcome occasional failures. Within the study where HCPs implemented BSC they felt capable of delivering it effectively “*it obviously becomes easier the more you do it and you get more confident*” [Site C, Pharm], and coping with a range of patient reactions, without alienating the patient “*life will tell you how to deal with patients differently and you just learn from your experience*” [Site A, Cons. B].

Vicarious experience is linked to observation, role modelling and imitation; all of which were highlighted as important within the synthesis’ findings. This relates to seeing others perform, without adverse consequences, inferring the importance of social comparison. Within the study, as previously discussed, participants suggested that there was little evidence of opportunity for overt observation of other HCPs implementing BSC, but where role modelling did occur it had a positive impact and was linked to increased confidence “*where everyone is really into smoking cessation and everyone does it you feel confident in no time*” [Site B, SN A]. Where HCPs reported that they knew their peers did BSC they themselves were more likely to implement it.

Bandura (1977, 1982) indicates verbal or social persuasion stems from a credible source raising outcome expectations; it requires facilitation through incentives and feedback. Laws et al. (2009) in a study examining brief lifestyle advice in primary care links self-efficacy not only to internal factors (e.g. skill), but also to external factors (e.g. role support, from colleagues or referral services and system support where interventions are congruent with service delivery aims). The social persuasion aspects of self-efficacy theory inter-relates with the previous discussion on organisational persuasion to convey expectations for BSC as a salient issue.

Finally, emotional arousal within self-efficacy is the ability to control anxiety to enable coping. Role-modelling, incentives and feedback teach coping skills (Bandura, 1977a). Learning from responses is a consequence of processing feedback.

Generally in the findings HCPs, although not all doctors, were concerned about adverse patient reactions. Where HCPs felt they could cope with negative reactions this did not impact on their delivery of BSC, however for some HCPs it was a reason to avoid it. Feedback on BSC may have incentivised BSC for this reason.

In self-efficacy theory coping is contingent on outcome expectancy, the belief that behaviour will, or will not, lead to a given outcome; and self-efficacy expectancy, which is the individual's belief in their capabilities (Maddux & Stanley, 1986); although not without contention (Hawkins, 1995; Marzillier & Eastman, 1984), outcome and efficacy expectation are therefore differentiated (Ajzen, 2002; Bandura, 1977b). People believe that a course of action will result in certain outcomes but it is their belief about performing the activity that influences their behaviour and not the control over outcome. Hence, where HCPs implemented BSC this was dependent on their belief in their capabilities in broaching BSC successfully, irrespective of the patient's motivation, reaction or success in quitting. Where HCPs had self-efficacy they demonstrated ownership of BSC as they had the confidence to embrace BSC as part of their acute role.

8.4.3 Ownership

Within the study HCPs who implemented BSC appeared to have a sense of ownership; they felt responsible and accountable for the intervention as part of patient care. Psychological ownership is the "state in which individuals feel as though the target of ownership (material or immaterial in nature) or a piece of it is 'theirs'" (Pierce, Kostova & Dirks, 2003 p.86). Feelings of ownership can shape identity (Belk, 1988) and behaviour (Van Dyne & Pierce, 2004). Ownership can be developed towards organisations, jobs or tasks (Van Dyne & Pierce, 2004). Ownership for a job and ownership for an organisation are not synonymous and play distinct roles in the development and maintenance of work attitudes and behaviours (O'Driscoll, Pierce & Coghlan, 2006). Organisational ownership can be influenced by context, culture and climate (Mayhew, Ashkansay, Bramble & Gardner, 2007). Within the study where the organisation had persuaded HCPs that BSC was a salient issue, for example in outpatients, this conveyed organisational ownership of BSC, hence individual HCPs developed a sense of ownership towards the intervention. However,

the findings suggested that HCPs were strongly influenced by their professional role ownership to implement BSC; this was linked to their perceptions of salience and self-efficacy but not always due to organisational ownership: *“I think it’s [BSC] more of a personal thing rather than an institutional thing”* [Site C, Rad].

Pierce, Kostova and Dirks (2001) suggest ownership has important behavioural, emotional and psychological consequences. In their theory of ownership they propose its roots develop from efficacy and effectance, self-identity and having a place. Efficacy relates to Bandura’s (1977b) view of a general human need to feel capable in specific areas. As discussed self-efficacy was an important mechanism noted in the study for influencing HCPs to do BSC, where they felt competent to deal with a range of patient reactions, this can be linked to ownership of the intervention. Effectance is the need to feel capable of interacting effectively in a setting (Van Dyne & Pierce, 2004). In this study HCPs who did BSC in acute settings felt competent to do so, despite other acute care priorities and pressures of work. They were able to integrate BSC into their acute role.

Pierce et al. (2003) suggest motivation for ownership is in part grounded in self-identity. This was notably evident with regard to professional role in HCPs who did BSC. They defined themselves as a health promoter, and were happy to express this to others as part of their acute role. Having a sense of ownership of something has been linked to its salience to the individual (Belanger & Meguid, 2008). Finally, having a place is about possessing a space or territory but can also be about having a sense of belonging (Van Dyne & Pierce, 2004). In the study’s findings HCPs were found to be comfortable with their role in delivering both acute care and health promotion.

Pierce et al. (2001) suggest that the routes to ownership are: control, intimate knowledge and investment of self. Rudmin and Berry (1987) in their review of the semantics of ownership linked the ability to control to an emerging sense of ownership; this is linked to autonomy within jobs. HCPs have the autonomy to choose to do BSC or not, tempered by professional regulation, managerial requirements and context. Walshe, Caress, Chew-Graham and Todd (2010) highlight how the sense of ownership felt by HCPs in palliative care to their role and patients was important for explaining both negative and positive outcomes related to

power and control, for example HCPs valued patients but did not want referrals to other HCPs. Possibly those HCPs who did not own BSC did not feel they could control either the outcome (whether the patient quit) or process (the patients' reaction) of the intervention; hence they lacked self-efficacy.

Ownership can emerge through intimate knowledge and this may have hampered a sense of ownership in acute settings as patient turn-over is high and there is less opportunity to develop relationships or gain experience in BSC. However in the study's findings, where HCPs did BSC they understood the needs of their patients: "*these smokers, the rheumatoid arthritis is more aggressive*" [Site C, Cons B] and/or had knowledge on organisational requirements.

Finally, where an individual invests the self this develops an increased sense of ownership, this could be time, skill or physical or intellectual energy; which could be BSC training for HCPs but also years of experience with patient interaction. Pierce et al. (2001) felt self-investment is more likely where the target for ownership is complex so individuals have more discretion to invest unique ideas, knowledge and personal style; this links to HCP autonomy in their delivery of BSC. Responsibility and social recognition further reinforces the fact that people see themselves in the target (Pierce et al. 2003). Where HCPs engaged with BSC they felt they were delivering good care for the benefit of the patient and this brought satisfaction, hence salient rewards positively influenced a sense of ownership.

8.5 CMO Three

Well it's a complex algorithm that's probably a bit sub-conscious, because it depends how busy the clinic is, what I feel the sense of rapport is with that patient so far, and you're beginning to get a picture of how we might prioritise. [Site B, DR]

8.5.1 Professional judgement

The data from this study suggest that HCPs use professional judgement during patient interaction, as within their professional role they have the autonomy to decide if it is appropriate to implement BSC. HCPs appear to utilise both implicit (intuitive/tacit) and explicit (rationale/analytical) forms of cognition to make judgements to do BSC or not. This is dependent on context and assessment of patient's responses; as some HCPs fear harming the clinician-patient relationship.

HCPs who implement BSC hold patient-centred care central to the judgement process. They do not expect patients to be compliant, passive recipients of care, overawed by the power invested by their professional expert status, as Illich (1976) suggested. Rather, HCPs who do BSC espouse to the Ottawa Charter's view of patient empowerment as a central process in health promotion (WHO, 1986); this is "a process through which people gain control over decisions and actions affecting their health" (Nutbeam, 1998, p. 6). *I told him 'you know I'll try my best to help you with medications but you have to help yourself as well' [to stop smoking]* [Site C, Cons B]. HCPs use professional judgement to determine if BSC is in their patient's best interest through maximising opportunities for empowerment, as patients "*do change their life styles*" [MHN].

Maule (2001) highlights that there is no consensus on the nature of judgement; it is often used interchangeably with other psychological process such as decision-making. Professional judgement can be defined as the assessments of alternatives, whilst decision-making is the act of choosing between alternatives (Thompson, Aitken, Doran & Dowding, 2013). For Maule (2001) judgement involves "integrating different aspects of information about a person, object or situation to arrive at an overall evaluation" (p.100).

Table 27: Typology of decision and uncertainties

Decision (Uncertainty)
<ul style="list-style-type: none">• Intervention: choosing between interventions• Targeting: choosing which patients will most benefit• Timing: choosing the best time• Communication: choice in delivering and receiving information• Service organisation, delivery and management• Experiential, understanding or hermeneutic: the interpretation of cues in the process of care

Adapted from: Thompson, Aitken, Doran & Dowding (2013)

Implementation occurs when contexts and mechanisms align to trigger the HCP to instigate a ‘teachable moment’. However this may not be a linear process but dependent on multiple factors, which influence judgements. The implementation of BSC can be applied to Thompson and Dowding’s (2009) typology of nursing decisions, based on judgements where there is uncertainty in clinical practice (Table 27). This comprises of decisions on which intervention to employ; identification of who to target; timing; how best to communicate the intervention; consideration of service organisation delivery; and interpretation of cues. HCPs reported making judgements on whether to implement BSC or not, based on prioritising care in the best interest of the patient. In many situations HCPs make decisions to address acute care interventions, rather than BSC, because of the patients’ physical or mental status. However the findings suggest BSC was often neglected in order to complete tasks related to service delivery requirements, for example areas audited for Fundamentals of Care. This meant deciding to choose acute care priorities over BSC due to a lack of time, as although BSC should be a short intervention “*that’s not the sort of thing you can rush*” [Site B, SN A]. This suggests BSC may initiate discussions with the patient on the issues surrounding their addiction. HCPs may avoid BSC because they perceive they do not have time for lengthy interaction. This will be influenced by whether BSC has salience for them. The findings suggested HCPs will prioritise BSC, no matter the time it takes, if they value it and have the self-efficacy to negotiate complex patient responses.

Social influences are also important in the data; ward based HCPs implied that doing BSC may be viewed as inappropriate when there was other ‘acute’ work to do.

Targeting patients who had expressed interest or had smoking related disorders was

evident in the synthesis and the study's findings; for example only certain outpatient clinics were targeted, such as cardiac. Possibly HCPs made a judgement that these patients would understand the risks of smoking and accept BSC as part of the care process. However targeting still depended on the locational context; nurses on cardiac wards often did not prioritise BSC due to perceptions of other pressures. Choosing the right time was highlighted as instrumental in data captured in the synthesis and strongly featured in the study's findings as HCPs feared getting this wrong and adversely impacting on the clinician-patient relationship. HCPs struggled to know when the time was right for BSC. This centred on the patient's anticipated needs and priorities; some participants noting that the events surrounding hospitalisation, such as coping with diagnosis, was stressful enough; without tackling tobacco addiction and potentially making the patient feel guilty. One participant stated how she did not "*want to make them feel bad about it*" [Site A, Pre-op N], particularly where there were multiple lifestyle issues to address. The judgements within Table 27 are all relevant to BSC. Timing and how best to communicate both relate to the final area, 'interpretation of the cues', as this is fundamental to the judgements required in order to reach the decision on when to implement BSC, and how best to do so.

Rationality is related to judgement. Rationality assumes people maximise choices through having comprehensive knowledge and understanding of all alternatives, with a goal preference based on utility (Barros, 2010). Some HCPs implemented BSC as part of a rational judgement based on the overwhelming harms of smoking, possibly influenced by their status, or personal and patient expectations that BSC is part of their role. Often where HCPs had been trained this also influenced rational decisions to do BSC, influenced by perceptions of self-efficacy. However, the study's findings suggest HCPs' judgements to implement BSC are rarely so linear.

As rationality requires unlimited cognitive capabilities, "fully rational man is a mythical hero" (Selten, 1999, p.3); people are rarely purely rational and there exists distinction between rationale beliefs and rational actions (Thompson & Dowding, 2009).

Rationality is bounded; compromised by attention, memory, comprehension and communication (Simon, 1971). The response to bounded rationality is to resort to heuristics (rules of thumb or socially constructed frameworks to shortcut) or satisficing, making choices that are good enough (Thompson & Dowding, 2009). However, Selten (1999) suggests a decision-maker who is guided to adapt

aspirations rather than seek utility maximisation may be perfectly rational. In the study's findings, HCPs suggested a decision not to do BSC was a rational judgement response to time and resource scarcity, or patient need. Dynamic situations bring task goals into conflict with each other and goal conflict resolution is an important element in judgement (Maule, 2001). Additionally some HCPs, despite concern of smoking's harms, were bound by their framing of hospital as not a place for health promotion and perceptions that BSC was not their role in the hospital context. This may relate to individuals characteristics and beliefs. Judgements depend on motivation (Selten, 1999), and on salience and how issues are framed (Kahneman, 2003).

Kienle and Kiene (2011) link rational judgement to modern research methodology, proposing its privileging of objectivity discredits use of judgement. "Clinical thinking and clinical judgement have come into seeming conflict with efficiency and economics" (Kienle & Kiene, 2011, p.625). Evidence-based practice has sought to reduce the variability of decision-making by simplifying judgements through protocol-based care, creating tension between standardisation and individualised decision-making (Rycroft-Malone et al. 2009). The complexity of implementing evidence into dynamic, uncertain environments may therefore be unsuited for standard approaches, as nuanced judgements may be more appropriate. For some HCPs the documentation, requiring them to do BSC on admission, was too rationalistic, failing to account for patients' complex requirements. In acute care contexts HCPs often dismissed documentation nudges, and made the judgement that BSC was not a priority, nor in the best interests of the patient. Benner and Tanner (1987) suggested clinical judgement cannot be brought down to rational calculation.

Kahneman, an economist, proposed two parallel systems for cognition on judgements. System one is fast, automatic and instinctual, governed by habits or emotion, and difficult to control. System two is slower, rational, analytical, and likely to be consciously monitored and deliberately controlled (Kahneman, 2003). This underpins the distinction between reasoning and intuition and how the rational judgement to implement BSC, may be impeded or enhanced by automatic decisions or decision-based on context or patient cues. Thaler and Sunstein (2009) suggest choice architecture can nudge system one.

Judgement is intuitive when “reached by an informal unstructured mode of reasoning without the use of analytical methods or deliberate calculation” (Kahneman & Tversky 1982, p.124); or simply “understanding without rationale” (Benner & Tanner, 1987, p.23). Schön (1991) highlighted how professional knowledge is more than applied science and technique (technical rationality) but encompasses artistry and intuition; with reflection important for skills development in professional judgement. Professionals also depend on tacit knowledge when making judgements (Schön, 1991). For Polanyi (1967) tacit knowledge was unarticulated; it offers understanding on people, situation, intuition or implicit rules (Eraut, 2000). Professionals have to negotiate the complexity of practice, described by Schön, (1991) as the swampy lowlands, “problematic situations characterized by uncertainty, disorder and indeterminacy” (p.16). In the study’s findings this complexity of context influenced HCPs’ intuitive judgements to implement BSC.

Dreyfus and Dreyfus (1982) proposed intuitive judgment as the hallmark of expertise based on making immediate, unreflective situational responses. Their model of intuitive judgement suggests development from novice through to advanced beginner, competent, proficient and expert; and was utilised by Benner (1984) in her seminal work on nurses. It charts how novices follow rules rigidly to make judgements, (rationale system two), through stages of attainment until, at expert level, the person has a repertoire of situational patterns and understands how to achieve goals through intuitive situational response (system one). “No amount of rules and facts can capture the knowledge an expert has when he or she has stored experience of the actual outcomes of tens of thousands of situations” (Dreyfus & Dreyfus, 2005, p.788). Intuitive judgements were evident in the study’s findings, related to whether to implement BSC or not, based on patients’ responses: “...*it’s a complex algorithm that’s probably a bit sub-conscious...*” [Site B, DR]

Benner and Tanner (1987) used Dreyfus and Dreyfus’ (1982) model to identify key concepts related to intuitive judgements in nursing. These were pattern and similarity recognition; common sense understanding; skilled know how; a sense of salience; and deliberative rationality. These offer some insight into intuitive judgements related to BSC, highlighting how HCPs require skill and flexibility as the hospital context is complex and uncertain.

With pattern recognition patients can present with patterns of responses that may be recognised, depending on the expertise of the practitioner. Recognition of similarities and dissimilarities in patients to previous experience further contributes to judgements to do BSC, or not, based on the best option for the patient. For example, one pharmacist suggested when patients have other priorities “*they are fixated on that and they’re not going to listen*”. Such judgements are related to common sense understanding based on “a deep grasp of the culture and language” (Benner & Tanner, 1987, p. 25), and complex know-how related to the in-exactitude of the situation. HCPs articulated that they were aware that they may get their judgements wrong on BSC, or anger the patients, “*you get a sense very quickly that it’s going to be very difficult to get into that sort of emotional space of helping somebody*” [Site B, DR]. Benner and Tanner (1987) related expert judgement to experience; the expert has learnt to anticipate certain outcomes and knows which aspects of a situation require action. Some study participants did feel experience was important; however the survey’s findings suggested that length of time qualified did not relate to intention to do BSC. Certainly the literature suggests that quality of decisions do not improve with experience (Thompson et al. 2007).

According to Benner and Tanner (1987) salience is important for intuitive judgments, as situations are viewed from different perspectives. As discussed, BSC has to be a salient issue for HCPs to consider implementation, but salience is context dependent; BSC may not be perceived as important in some situations. Furthermore, salience requires advanced context-dependent skills, determined by the ability to react, with knowledge, experience and interpretive skills to what is happening in a given situation (Manara, Villa & Moranda, 2014). Benner (1984) also suggests emotional involvement is vital for intuitive judgements; this is consistent with investment of self and ownership of BSC as part of HCPs role: “*I know that I’m doing good work*” [MHN].

In the findings many HCPs appeared to adopt a tentative approach to BSC, because the situation is undetermined and, despite their experience, or because of it, they were aware they may judge the situation wrongly and upset, or anger the patient. However McBride et al.’s (2003) framework on the teachable moment, discussed in the synthesis, proposes a strong emotional response as a cue to patient action to quit, along with perception of risk and re-defining self-concept. Yet in the findings

HCPs seemed to fear emotional responses, possibly envisaging they would have to prioritise time to support the patient and/or 'mend' the clinician-patient relationship. However, some doctors appeared not to fear emotional reactions; this may be due to status and personal and patient role-expectation, also their contact with patients may not be as lengthy as other HCPs, like ward nurses, so doctors may not have to deal with the consequences if the patient is unhappy.

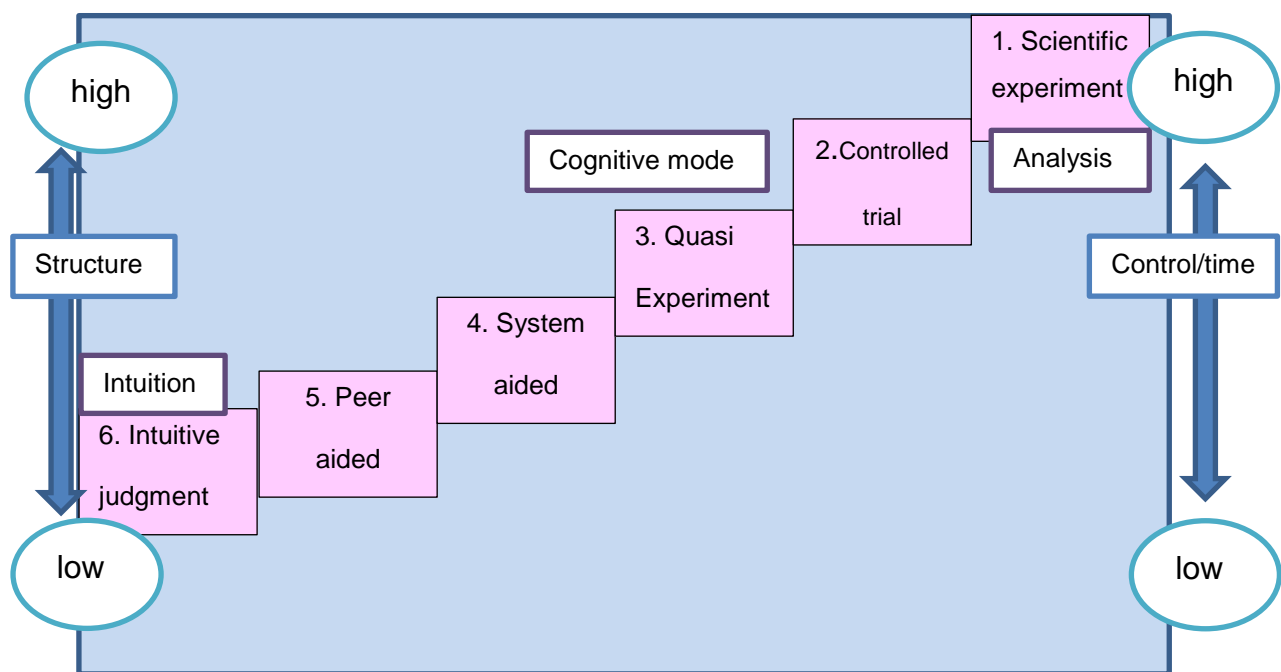
In complex situations experts may have the wrong set of perspectives and a 'closed mind'; or project their own fears onto a situation (Benner & Tanner, 1987). HCPs may intend to implement BSC but they may judge it would upset, or alienate, the patient. However intuition does have the potential for error and bias in judgement, particularly linked to heuristics (Thompson et al. 2007). Inaccurate use of intuition may have led to the decision to not do BSC when the patient would have valued this. HCPs may have faulty perception of cues due to poor skills or interruption due to multiple distractions within busy acute environment. The complexity of acute hospitals does have impact and this can be related to Social Judgement theory.

Social judgement theory proposes that environmental cues are used to make judgements. It stems from Brunswick's (1943) lens model where observable environmental (ecological) cues act like lenses to relay information, enabling judgement about unobservable phenomena (Standing, 2008). Judgement depends on how individuals use information, with cues contingent on their construction of the 'reality' of an environment. Certainly the study's findings suggested HCPs' judgements on whether to do BSC, or not, are influenced by multiple contextual factors, such as rapid patient turn-over, or whether BSC is seen as standard care within the clinical environment and perceptions of best interest. However, for accurate judgements cues need to be weighted correctly, according to the environment; if weighted differently they will be inaccurate (Dowding & Thompson, 2003). Biases in judgement can influence which indicators are attended to and how they are used. Hence HCPs may not attend to indicators for BSC if they perceive other priorities are more salient.

HCPs' judgements on BSC in acute settings may therefore be rational, or intuitive, and likely to be dependent on their perceptions of context. HCPs' judgements may best be explained by Hammond's (1978) Cognitive Continuum (Figure 12), also derived from Social Judgement theory (Cader et al. 2005). This synthesises system

one and two judgements (Standing, 2008) and may help decision-making (Rycroft-Malone et al. 2009). Hammond (1978) proposed the mode of cognition for judgement is determined by the structure of the task, the time available and the number of cues available. The continuum contains six modes, ranging from analytical judgements, where there are fewer cues and more time, to intuitive judgements in unstructured tasks, with multiple cues availability but little time; with blended cognitions centrally. Certainly Thompson et al. (2007) found nurses drew on intuition when time was limited. Ham (1988 a,b) developed the continuum in studies on engineers and doctors, to demonstrate how different cognitions are used moment to moment depending on the person's perception of the task.

Figure 12: The Cognitive Continuum



Adapted from Hamm (1988a).

In the Cognitive Continuum analysis and intuitions are not therefore not mutually exclusive, but complement each other, with different judgement tasks suited to different thought processes; effective decisions result “from appropriately matching cognitive tactics to characteristics and demands of the situation in question” (Standing, 2008, p.125). Well-structured tasks could be related to when BSC is

implemented in the target areas, such as outpatients, or with specialist services where smoking was a priority. Possibly within these encounters, tasks are more structured, facilitating adherence to prompts; so judgements to do BSC are more rational/analytical. In more acute environments, such as wards, situations may lack certainty and time may be more limited. Here HCPs use intuition for judgements on BSC, they may respond to nudges in documentation but maybe negatively influenced by environment cues and competing priorities. Hammond (1996) acknowledged cues are fallible indicators and may be weighted differently, dependent on the urgency of the situation. Context therefore appears vital for the judgement process on BSC. HCPs also may associate different judgement processes with different contexts, for example one pharmacist had a strong focus of BSC in outpatient clinics, but had never done BSC on the wards, possibly perceiving the ward requirements were too unpredictable for the analytical judgement process she was used to for BSC. Environmental cues influence judgements to do BSC but only in certain contexts; the pharmacist had been persuaded that BSC was an organisational requirement in outpatients but this did not translate to expectations to do BSC on the wards.

In conclusion, professional judgment cognitions on BSC directly relate to context and the interplay of the complexity of the clinical environment, organisation requirements and the personal perceptions, attitudes and skill of the HCP. For BSC to be implemented the judgement has to be appropriate to the context. HCPs use a range of judgements processes and often blend judgements. Whilst analytical judgements appear to be positively linked to BSC, HCPs only make these in certain contexts. It is however, vitally important that HCPs have autonomy in the judgement process and do not implement BSC in a mechanist fashion. Intuitive judgements are utilised in contexts where there is more uncertainty, to ensure patient-centred care is paramount. However, it is recognised that biases based on perceptions of role and hospital function may adversely impact on the decision to implement BSC in these contexts. The judgement process will always need to be individualised but can be strongly influenced by organisational persuasion that BSC has salience and healthcare professional ownership.

8.6 Summary of discussion on CMOs

The study's findings have uncovered three demi-regularities which demonstrate how BSC can be successfully implemented into acute hospital settings. The first demi-regularity was *organisational prioritisation*. The organisation needs to persuade HCPs that BSC is an organisational expectation and part of the HCP's role in acute hospitals. The organisation can convey organisational requirements for BSC by re-framing the messages on health promotion, so BSC is perceived as a function of the acute hospital and a priority for patient care. BSC needs a high organisational profile for effective persuasion; this can manifest with consistent and prominent publicity through communication, leadership, documentation, protocols, monitoring and feedback. BSC has to be visibly marketed so that HCPs, patients and the public understand that it is a priority.

Importantly the organisational message should convey that BSC is in the patients' best interest; as HCPs value where they can positively impact on patient care. This leads to the second demi-regularity of *ownership*. A sense of ownership increases where BSC is an expected part of the HCPs' role, either due to perceptions of organisational, professional or clinical expectations, or because it is part of normal practice within acute hospital settings, particularly where HCPs are supported within their clinical area. HCPs will take ownership of BSC and implement it where it has salience for them. For some HCPs BSC was morally salient irrespective of organisational expectation, based on their professional duty of care and their acceptance that BSC was part of their role. HCPs who have ownership of BSC believe they can implement it effectively and cope with the challenges of patients' reactions without compromising the clinician-patient relationship. This self-efficacy and sense of ownership can increase through training and education and possibly through experience.

The final demi-regularity is *professional judgement*. HCPs have to have the control to determine when it is appropriate to implement BSC, given the complexity of the patients' acute care requirements and demands of the hospital environment. HCPs make nuanced judgements on whether to do BSC in particular contexts and when to time the intervention. HCPs make these judgements because BSC has personal and professional salience for them and they feel a sense of ownership towards the

intervention. This is because they believe it is in the patients' best interest and an organisational expectation of their role. HCPs have the self-efficacy to make a judgement on the approach most appropriate to individual patient, as these judgements require skill and knowledge.

8.7 Refining the initial programme theory.

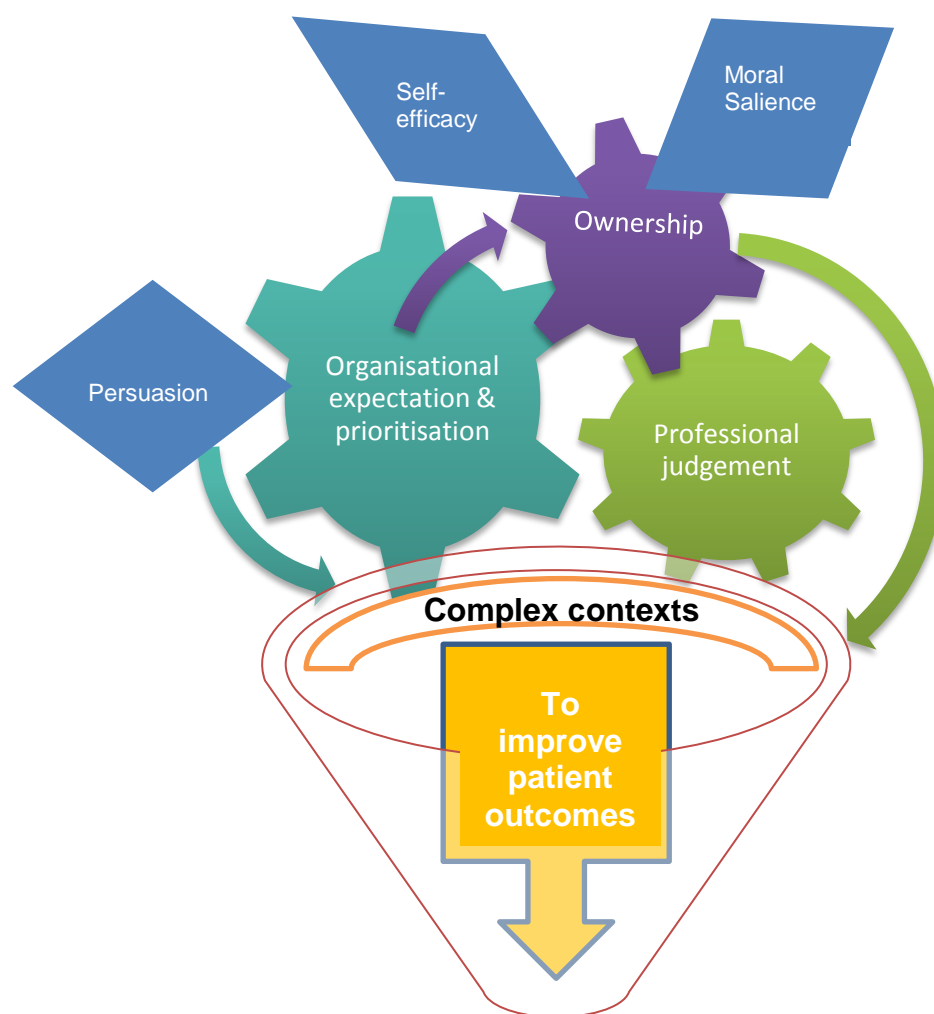
Table 28: Initial programme theory

Organisation: <i>Where brief smoking cessation is embedded as a standardised practice and a visible priority within the organisation, healthcare professionals are more likely to engage with its implementation.</i>
Health Care Professionals (HCPs): <i>When HCPs are knowledgeable and skilled in brief smoking cessation they have the confidence to take ownership and be accountable for its implementation.</i>
The window of opportunity: <i>In the implementation of brief smoking cessation the distinct way healthcare professionals commit to interacting with patients depends on their individual beliefs and personal strategies in response to patient concerns and their fear of harming the clinician-patient relationship.</i>

The initial programme theory was organised into statements on three theory areas to hypothesise what works for who, how and why for BSC in acute hospitals (Table 28). This was formulated from the review of studies informing Rigotti et al.'s (2012) Cochrane review of smoking cessation in acute hospital settings and from initial stakeholder engagement. Following analysis of three theory areas within the realist synthesis initial CMO configurations were proposed (Chapter Five). These CMOs underwent further refinement following analysis of the study's findings (Chapter Seven). The findings proposed far more explanation on the implementation of BSC in acute hospitals. The Theory of Planned Behaviour (Ajzen, 1991) offered some insight on the importance of behavioural beliefs, attitudes and subjective norms on the implementation of BSC but the study's findings augmented this theoretical

explanation through revealing how organisational prioritisation, a sense of ownership and professional judgement all influence the implementation of BSC. The study highlighted the complexity of BSC and how strategies to convey organisational prioritisation interact with professional values and self-efficacy to impact on HCPs' judgements in response to the clinical context and patients' individualised needs (Figure 13).

Figure 13 – The conceptual model of the programme theory.



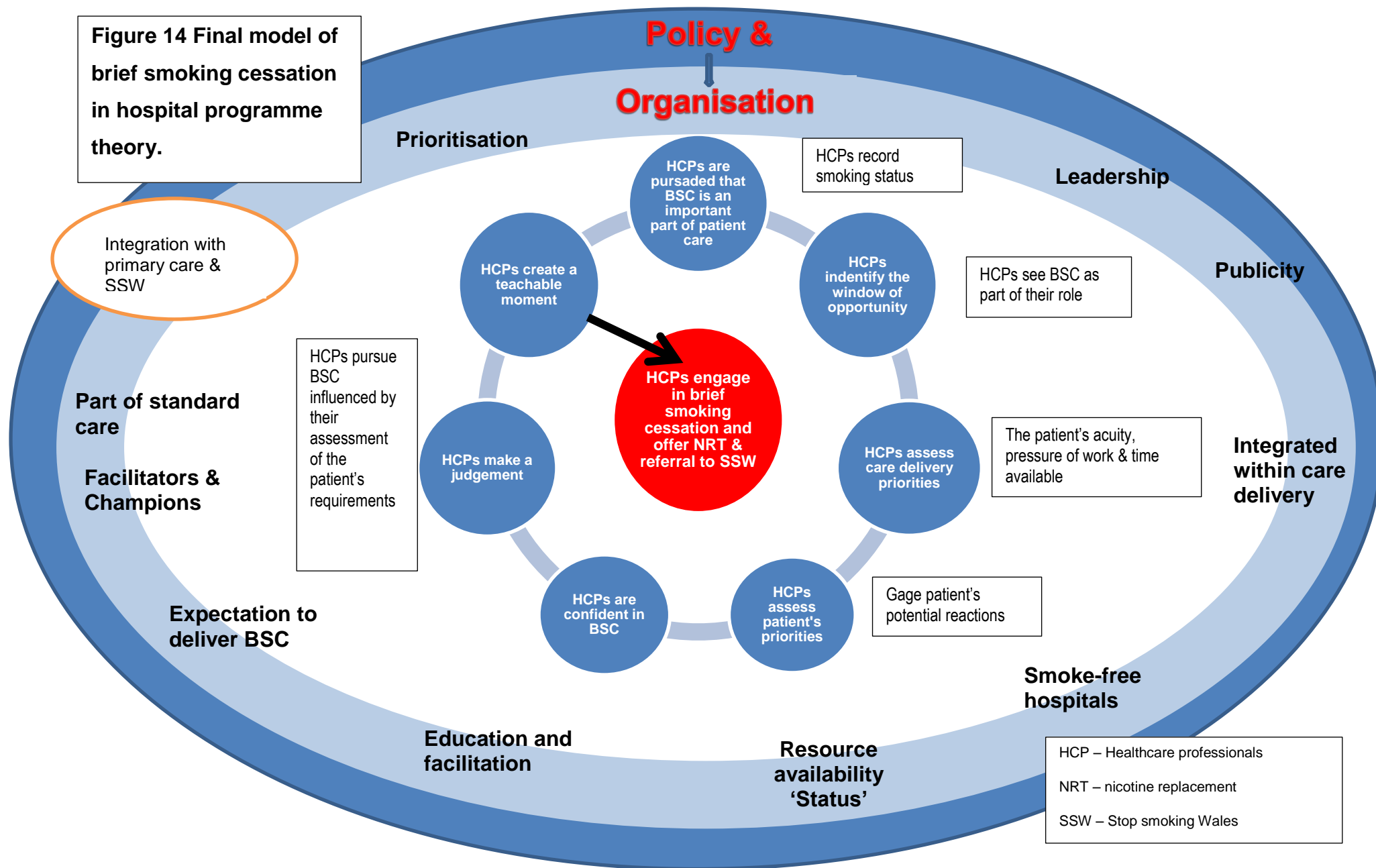
**Implementation of
Brief smoking cessation**

8.7.1 The refined programme theory

Whilst the initial theory areas guided data collection and CMO configuration the study's findings were able to propose demi-regularities that have the potential to inform policy and practice on developments in BSC. The discussion has linked the elements within the CMO configurations revealed within the study to underlying theory, hence theoretical perspectives will be embedded within the study's recommendations for practice. The findings from both the realist synthesis and study have been consolidated to contribute to the formulation of the revised programme theory. This programme theory is represented in detail in Figure 14. The programme theory can be articulated as follows:

Organisations need to persuade all healthcare professionals that BSC should be prioritised as part of their role in the acute hospital setting, because it is in the best interest of their patients. This process is facilitated through multiple visible indicators to convey that the organisation expects and prioritises BSC as an important aspect of standard care. Healthcare professionals require support to develop the confidence and skill to implement BSC; as they have to make individualised judgements, on when and how to implement BSC, in the patients' best interest. Where healthcare professionals value BSC as important for patient outcomes, and understand the contribution their role can make, BSC has moral salience for them and they strive to ensure its implementation.

Figure 14 Final model of brief smoking cessation in hospital programme theory.



8.8 Limitations

A realist approach to evidence synthesis and the study on BSC in acute hospital settings was chosen as this may contribute to knowledge in policy relevant areas for complex interventions (Hewitt et al. 2012; Wong et al. 2013a). However, there were challenges to adopting this approach as a novice. Certainly skill is required for CMO identification and configuration (Pawson et al. 2004). However, there are increased published examples of using a realist approach to both synthesis and evaluation, with recently developed guidance available (Wong et al. 2013b; Wong et al. 2016). Invaluable support was also gained from experts within the institution of study.

The programme theory was tested in one organisation and this was an organisation in flux, however the study did take place on three sites, within a variety of clinical areas. As the study had no funding, results may have been limited by a lack of time and resources. Although a mixed methods approach is recommended for contribution to theory refinement (Pawson, 2013); it is recognised that there are inherent challenges in and potential for confusion (Rolfe, 2006). Certainly there was the potential for bias in the interview format, survey construction and analysis of findings but the realist approach guides as it is directed by programme theory. Generally a range of HCPs were recruited. There were attempts to ensure that the interviews were theory driven, however it is recognised that a lack of experience may have hampered 'asking questions like a realist' (Manzano, 2016).

The study did not set out to determine the rate or frequency that HCPs implement BSC but had a strong explanatory focus, therefore the survey was based on the Theory of Planned Behaviour to determine intention and understand the influences on intention. However, care was taken not to limit the analysis in scope due to overarching theoretical perspective of this theory. There are, however, well recognised limitations with surveys (McKenna et al. 2010). Although the survey adhered to a validated format, missing data may have impacted on the results; and whilst the use of direct questions simplified the format, this may have impeded the depth of understanding on behavioural intention (Oluka et al. 2014). Those people who responded to the survey, due to the incentive, may not have believed their responses were important and completed the survey with care. Finally few HCPs who smoked consented to be interviewed or responded to the survey.

The challenge encompassing explaining the complexity of the intervention and setting also benefited from expert support. However, it is recognised the synthesis findings may be limited by the sensitivity of the search strategy due to the complex and diverse range of literature on smoking cessation. Within the study, a lack of resources meant a depth of understanding on multiple clinical areas in different hospital sites was beyond reach. Additionally, the patient's voice was omitted from the study; this neglected an important aspect relating to the teachable moment and the complexity of BSC. However, utilising the CFIR (Damschroder et al. 2009) was of value in exploring complexity, as it encouraged a close attention to multiple contextual issues. Yet information assigned to constructs was only based on general commentary and not objective assessment. It was sometimes difficult to assign commentary to constructs due to overlap, for example this was found with *Readiness for Change* and *Leadership*, and this may have hampered contextual understanding on complexity.

Pawson and Manzano-Santaella, (2012) explain how the CMO configuration is vital otherwise this leaves disconnected elements that are untested. Yet, as with other studies, for example Rycroft-Malone et al. (2010b), distinguishing between mechanisms and context was initially problematic. The process of identification of CMOs benefited from expert support. This support also helped with guidance on knowing where to focus on, and on which middle-range theories; although it is acknowledged that the theories selected can never encompass all possible explanations.

Stakeholder involvement was intrinsic to the study; information was gathered from a Health Board but fed back to Public Health to be shared with the Health Board. Public Health did facilitate that feedback of findings with the one remaining Tobacco group in Hospital B. Pawson and Tilley (1997) emphasise that a realist approach aims to improve accomplishment of policy and programme objectives. However, the route of feedback may limit the Health Board's acceptance of the study's results and recommendations

The very iterative nature of a realist approach does require multiple judgements. Although care was taken to give detailed explanations of method and decisions; Hewitt (2012) has highlighted how the approaches very flexibility may lack

reproducibility and this is important for further evidence to emerge. Pawson (2013) suggests evaluation is an “endless journey” (p.194) with the end result of “partial knowledge about partial improvement we can make in the delivery and targeting of social interventions” (p.112). With evidence constantly emerging it is hoped that the findings may provide a platform for future studies to test CMO in different settings.

8.9 Conclusion and recommendations

The aims of this study were to determine what works to support BSC in acute hospitals, and to explore the healthcare professional’s role and the impact of context. The use of the realist approach facilitated the articulation of context, mechanism, outcome configurations, and development of middle-range theories. The findings from this study advance knowledge into how BSC may become embedded as standard care in acute hospitals settings. The study’s refined programme theory can offer new knowledge and highlight areas for development within policy, research and practice.

8.9.1 Recommendations for policy

The policy context of smoking cessation is central to this study with this being a Tier 1 target for acute hospital settings (WG, 2014). Smoking cessation policy has been influenced by multiple historical, political, social and organisational perspectives. The complexity of the different influences were difficult to unravel at times, particularly as interventions are contentious due to the balance required between individual choice and best interest care, and the entwinement of tobacco control interventions which “always raise the hackles and the emotions” (Pawson, 2013, p. 194). The national policy and guidance (NICE, 2006, 2013; WG, 2012a) does support BSC in hospital and recommends multiple strategies to support smoking cessation. Importantly NICE (2013) recommends referral for intensive support and the importance of smoke-free hospital settings; both neglected areas in the study’s findings. Furthermore, despite some headway in policy on health promotion in all settings (PHW, 2013), national policy fails to sufficiently promote the ethos of the healthy hospital; where health

promotion is embedded into the function of the acute setting (WHO,1997). For hospital HCPs to engage with BSC they must see it as their role. The findings of the study suggest that leadership and visible indicators such as marketing and education can raise the profile of health promotion and BSC. Therefore the findings concur with Pelikan (2007) that the paradigm of health promoting settings needs to further expand into hospitals. It is recommended that future policy does more to articulate the importance of the hospital in health promotion, through publicising that this is a service provision of acute hospitals so public and HCPs expectations are created that BSC is part of acute care delivery. Identification and exploration of potential nudges to achieve this aim needs to be investigated. Further research may provide understanding on how policy may be implemented.

8.9.2 Recommendations for future research

Whilst evidence highlights the efficacy of BSC for all smokers (Aveyard et al. 2011) and within hospital settings (Rigotti et al. 2013), the findings from this study suggest there are important areas for knowledge development with regard to the patient and HCP interaction. Greater understanding is needed about the intricate processes within the teachable moment where judgements are influenced by time and competing priorities. This aspect of the programme theory could be tested across health organisations and has the potential to offer insight into strategies, such as nudges in clinical pathway documentation or discharge forms, where judgements to do BSC in these contexts are maximised. Importantly these judgements may be linked to how HCPs perceive their role with regard to health promoters within acute hospital settings; so further research is also recommended in this area to determine perceptions on health promotion in acute care. Finally the study highlighted how some HCPs were overwhelmed when addressing health promotion when confronted by multiple life-style risks, such as obesity or alcohol intake. Lifestyle risk factors are increasing causes of preventable mortality and morbidity (WHO, 2002) and a public and policy imperative (WAG, 2010). The findings suggested HCPs made judgements on which lifestyle issue to address; in focusing on other risks BSC may be omitted. This is an area for further research to identify effective strategies for prioritisation but

also to ensure important risk factors are not neglected and therefore enhance care delivery within practice. Proposed research questions are:

- How does the influence of context on healthcare professionals' decisions to implement brief smoking cessation compare across different health organisations?
- What strategies will support healthcare professionals to see health promotion as part of their role in acute hospital settings?
- How do healthcare professionals prioritise health messages in acute hospital settings where there are multiple lifestyle factors to address?

8.9.3 Recommendations for practice

Although the implementation of smoking cessation within hospitals is developing, evidence suggests deficits and the need for enhancement of care strategies (Slattery et al. 2016). Within this study, despite its Tier 1 status, BSC was implemented haphazardly, even in target areas. The findings explained the impact of multiple contexts in triggering, or suppressing, the mechanisms influencing BSC implementation. Hence low organisational prioritisation, from a lack of consistent investment, resulted in BSC having a low profile in some contexts; so HCPs did not feel it was their role. Yet the study highlighted how many HCPs, due to personal and professional beliefs, were passionate about the intervention. This enthusiasm could be channelled to offer effective leadership and embed BSC.

In times of limited resources evaluations can enhance the decision-making process for effective choices within complex health systems (Lamont et al. 2016). Consideration of appropriate nudges, relevant to specific contexts, may enhance the implementation of BSC. Within the study, stakeholder and participant involvement offered the potential to enhance organisational understanding on the implementation of BSC and tap into the enthusiasm of those HCPs who felt BSC was part of their role. Table 29 lists 9 actionable recommendations based on the findings from this study; all of these recommendations, including reducing the visibility of smokers, are effectively nudges to prompt HCPs to implement BSC. These were circulated to the Public Health Board members with a strategic remit for smoking cessation in

partnership with the Health Board. The study offered insights into specific local factors that may impact on future Health Board decisions; but these findings also have the potential to be translated to different organisations, with different contextual challenges.

Table 29: Recommendations for the implementation of BSC within acute hospital settings in the Health Board.

1.	Investment in a specialist service would raise the status of BSC and facilitate referral.
2.	The smoke-free environment: the re-introduction of shelters could disguise the visibility of smoking at the main entrances.
3.	Posters and signs should convey that the organisation wants to facilitate patients and public to quit (not just 'Don't smoke here!')
4.	Clear electronic referral pathways
5.	Online mandatory training would convey the importance of BSC to Health Care Professionals and underline how valuable their role is in improving the patient's health.
6.	Local champions in clinical areas to drive the local implementation.
7.	Incorporating smoking cessation and referral into discharge planning as well as admission processes.
8.	Putting smoking cessation into fundamentals of care would enable audit and feedback.
9.	The Health Board could publicise success stories.

Whilst it is acknowledged that some recommendations are not novel, such as establishing a specialist service (NICE, 2013); the findings from this study illustrate how the Health Board's difficulty in adhering to guidance and offering a specialist smoking cessation service, because of financial pressures, may have contributed to the haphazard implementation of BSC. Additionally, the recommendation for smoking shelters may be contentious; the underlying rationale is supported by the programme theory of persuasion through enhancing the smoke-free hospital image. Engaging HCPs through education, training and support are also recognised strategies for smoking cessation (NICE, 2006; 2013) and implementation (Greenhalgh et al. 2004); underpinning these strategies the programme theory explains how they also nudge and enhance organisational persuasion and HCP s' judgements, where contextual complexity and competing priorities impact on the teachable moment. The programme theory therefore, provides a platform for development of supportive contexts to facilitate BSC within acute hospitals.

8.10 Personal reflection

This study was the culmination of a doctorate programme, reflected on in Appendix 1. Reflection is essential for the development of practitioners involved with health improvements (Lucer & Nacer, 2015); as it facilitates new understandings (Nairn, Chambers, Thompson, McGarry & Chambers, 2012). Utilising reflection during the study enabled me to develop new ideas and improved my creativity and resilience. I felt that the study could make an important contribution to clinical practice in a neglected area of care; this conviction sustained my commitment and encouraged innovation and personal development. During the study I was conscious of how my professional background influenced my practice. I found my clinical experience useful for stakeholder engagement and data collection. The clinical credibility of being a registered nurse, helped to create common understanding with study participants; particularly as I had experience of the demands and restraints of acute hospital settings. However self-reflection did acknowledge that my experiences may confer bias. This was however, offset by stakeholder contribution to the programme theory. The adoption of a realist approach created challenges in learning new techniques, such as the teacher learner interviewer. Nevertheless I felt the approach complemented the subject exactly; it intuitively felt the right approach. Using mixed methods to interrogate the programme theory pushed me beyond my comfort zone but here I benefited from supportive supervision. Pursuing different techniques successfully, conferred both increased understanding and confidence. The completion of the study offered a sense of achievement, as dissemination of findings can contribute to the development of clinical practice.

8.11 Summary

This implementation study on BSC in acute hospital settings has offered explanation of what works to support BSC within different contexts, through exploration of the HCPs' role. Smoking cessation is a major public health focus, with implementation in hospital settings an important area for research. BSC was identified as a complex intervention implemented within a complex open system. Therefore a realist approach (Pawson & Tilley, 1997) was deemed appropriate to achieve the study's

aim, as it offers a comprehensive means of explaining interventions within complex environments (Marchal et al. 2010). The author is not aware of other studies that have applied realist approach to BSC, so this was a novel, theory informed way to open up the 'black box' between intervention and outcome. Through systematic, iterative application of the approach the study culminated in a programme theory of what, works for whom, how and why in BSC.

The study was developed over three stages. The initial programme theory of BSC was articulated through a consideration of the evidence (Rigotti et al. 2013) and stakeholder consultation. This resulted in three theory areas: *organisational consistency*, the *healthcare professional's role* and the *window of opportunity*. These theory areas guided the second stage of the study, a realist synthesis of the evidence. This was challenged by the vast range of evidence but the search strategy focused on literature offering rich contextual information, and this resulted in explanatory conjectured configurations of CMOs. In the final stage these CMOs were then tested within a Health Board. Although the study only involved one organisation it did provide an examination of different areas within three sites. Mixed methods were used to capture a range of HCPs' views and determine what influenced their implementation of BSC in acute hospital settings. A realist approach to interviews aimed to gain a depth of understanding from key stakeholders, whereas a survey sought to broaden the study's sample, using the Theory of Planned Behaviour (Ajzen, 1985; 1991) to determine participants' intention to implement BSC. The impact of context was analysed through application of the CFIR (Damschroder et al. 2009).

CMO configurations are hypotheses of how the programme works and enables the generalization to middle-range theories, providing analytical frameworks for comparisons with other programmes (Pawson & Tilly, 1997). The study's findings resulted in refined CMOs. These were analysed in light of the current evidence and middle-range theories to articulate demi-regularities, these were: prioritisation, ownership and professional judgement. These demi-regularities enhanced the understanding of how contexts may impact on mechanisms to positively influence the implementation of BSC. The study provides new knowledge culminating in a revised programme theory of what works, for whom and in what circumstances, with

regard to BSC in acute hospital settings and proposed recommendations for research, policy and actionable recommendations for practice.

The realist approach drew attention to important themes on the factors that can influence good practice in BSC in acute settings. However, it is acknowledged that “theories only hold for the time being” (Pawson et al. 2011, p.542), particularly in complex, dynamic systems, such as healthcare. Therefore whilst the programme theory may guide best practice on BSC it may also stimulate further enquiry to establish how its implementation may develop.

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Appendix 1

Reflection on the taught doctorate

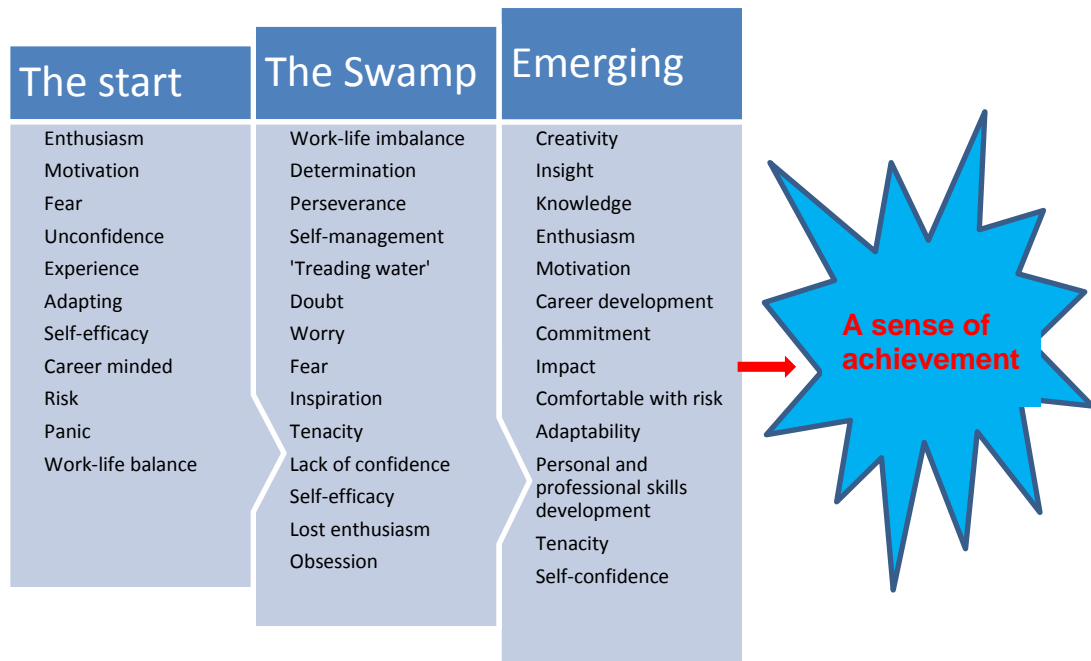
I had chosen a taught doctorate as I felt this would give me a more structured approach, with points to work towards. I felt this compartmentalisation would be more manageable in addition to full time work. This choice proved valuable and challenging. It did enable me to complete modules and have the satisfaction of moving on. Additionally I was able to select each module with my thesis topic in mind: brief smoking cessation in acute hospital settings. The application of the topic within each module built a breadth of understanding to inform and shape my thesis, study design and analysis (Table i). However, constantly learning about different perspectives was demanding, and the time and commitment was intense. The pressure to get good marks was both a positive spur and created stress but I was generally encouraged by my results.

Table i: Modules completed as part of the Doctorate in Healthcare

Year One	Implementation, Evidence Synthesis Research
Year Two	Principles and Practices of Public Health Accountability in Health and Social Care Quality, leadership and Change
Year Three	Social and Behavioural Change, Needs Assessment and Epidemiology Advancing Professional Knowledge, Health Economics (as an observer)
Year Four	Advancing Professional skills.

I recall my supervisor's comments at the start of the doctoral journey on how we would be changed: 'taken apart' and 'put back together differently'. On the whole the process has been positive. However there were times when the uncertainties of development ranged from uncomfortable to very stressful. One lecturer compared the process to climbing a mountain but for me the doctorate is a long journey with initially the glimpse of an interesting and attractive path then on to very stony ground, through swamps and other challenges (a few hills and dips on the way). These are best portrayed in diagram format, with many contradictory emotions at each stage (Figure i):

Figure i: The doctoral journey.



The process has been unsettling yet stimulating. I can see how I have emerged to have a greater depth of knowledge and how this has positively impacted on my role as a nurse lecturer and researcher. My development with regard to knowledge and skills has been far greater than I anticipated. When I look back it is rather unbelievable that I have learnt so much. Certainly during the process of personal and professional development I have been 'deconstructed' in some regard but essentially it was a process of continuation and honing skills I had already developed. I am more comfortable with networking and recognise that I did have the skills but lacked the confidence to use them effectively. I also had organisational skills and the ability to self-manage, from years as a single parent, but these skills were further developed, ensuring I could study and still contribute to my full time role effectively. Possibly I made some headway in putting my own professional and personal needs foremost but I still have some way to go with this.

Ultimately I always have been a person who wants to get it right, and part of the challenge of the doctorate was trying to balance getting it right with so many other components going on. Essential to achieving this was an acceptance that sometimes I am going to get it wrong. I feel the doctorate has made me more comfortable with the fear of failure. I've started to see failure (even small fails, such as a poor presentation) as a component of the developmental process. I know I will not regret gaining the qualification. It has been a powerful, eventful and sometime exhausting journey. I think it helped that I always considered it a process and not just an outcome but I will be glad when it is over. I am sustained by thoughts of the outcome.

Appendix 2

Findings from the scope of the evidence on brief smoking cessation in hospital

All studies within the Rigotti et al.'s (2012) Cochrane review on interventions for smoking cessation in hospitalised patients were obtained and scrutinised to determine key themes for the programme theory on brief smoking cessation in acute hospitals. This programme theory formed the basis for the realist synthesis of the evidence and the evaluation study within the health board.

Key findings

50 studies met the inclusion criteria and contributed to Rigotti et al.'s (2012) review. The review concluded that high intensity behavioural interventions that begin during a hospital stay, and include at least one month of supportive contact after discharge, promote smoking cessation among hospitalised patients. Brief smoking cessation was therefore not effective unless immediately followed with intensive advice. This update found that adding nicotine replacement therapy (NRT) to intensive counselling significantly increases cessation rates over counselling alone. There is insufficient evidence that bupropion or varenicline have the same effect.

Categories of level of intervention intensity.

1. Single contact in hospital lasting ≤ 15 minutes, no follow-up support.
2. One or more contacts in hospital lasting in total > 15 minutes, no follow-up support.
3. Any hospital contact plus follow-up ≤ 1 month.
4. Any hospital contact plus follow-up > 1 month.

Most interventions involved individualised inpatient counselling, with a few studies using group counselling (Table iia). Initial assessment was often used as a basis for structuring the counselling, assessing factors such as: self-efficacy, degree of addiction and stages of readiness to quit. Some studies assessed for the presence of depression and anxiety (Table iib). Counselling methods were largely based on the Transtheoretical model of change (TTM) (Prochaska & Diclemente, 1983) and Social Learning theory (Bandura, 1977) with a focus on self-efficacy. Cognitive behavioural approaches and motivational interviewing

(Miller & Rollnick, 1991) were also key features. There were several studies who focused on relapse prevention and formulation of coping strategies. Instigation of social support was also featured. Many studies used combinations of theories and methods (Table iic).

Interventions also included other features, such as: physician advice, provision of written self-help materials, such as manuals and staff reminders (Table iid). Some studies only focused on pharmacotherapy, this was dominated by NRT, however other pharmacotherapy was often used dependent on individual requirement (Table iie). Many trials replicated Taylor et al.'s (1990) seminal study in post myocardial infarction patients, which was the basis of the Stanford Heart Attack Staying free program. These were Feeney (2001), Miller et al. (1997), DeBusk et al. (1994), Pelletier et al. (1998), Rigotti et al. (2006), Smith (2009) and Smith (2011). Most studies offered face-to-face or telephone counselling post discharge (Table iif). There were some novel methods or unique features in trials, such as web based or telephone counselling only (Table iig). These tended to be more recent studies.

Staff education and training was also reviewed as part of the intervention. Most of the studies used nurses or physicians, with some using researchers, psychologists, health educators or pharmacists. Not all studies indicated the process of training and education but the key features indicated can be found in Table iih.

Some studies were translated into English (Cossette, 2011; Floter, 2009; Hasuo, 2011; Metz, 2007; Ortigosa, 2000; Pederson, 2005; Pelletier et al., 1998). Due to a lack of resources these were translated using basic internet packages so may lack accuracy, particularly with regard to Hasuo (2011) translated from Japanese.

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Table ii(a) - Counselling Format

Inpatient (Individual)	Bolman (2002), Campbell (1991), Campbell (1996), Caruthers (2006), CASIS (1992), Chouinard (2005) Cossette (2011), Croghan (2005), de Azevedo (2010), Dornelas (2000), Feeney (2001), Froelicher (2004), Hajek (2002), Hasuo (2004), Haug (2011) web based vai expert system,Hennrikus (2005),Lacasse (2008),Molyneux (2003) Lewis (1998) very brief, Miller (1997), Meysman (2010),Mohiuddin (2007), Nagal (2005), Ortega (2011), Ortigosa (2000), Pederson (2005), Pederson (1991), Pelletier (1998), Planner (2011), Reid (2003), Reid (2007), Rigotti (1994), Rigotti (1997), Rigotti (2006), Simon (1997), Simon (2003), Simon (2009), Smith (2009), Smith BJ(2011), Smith PM (2011), Steinberg (2011), Stevens (1993), Stevens (2000), Taylor (1990), Vial (2002).
Inpatient (Group)	Borglykke (2002), CASIS (1992), deBusk (1992), Floter (2009) , Metz (2007), Quist-Paulson (2003)

Table ii(b) -Initial Assessment	
Transtheoretical Model stage of readiness to quit	Bolman (2002), CASIS (1992), Chouinard (2005), Cossette (2011), Croghan (2005), Dornelas (2000), Hasuo (2004), Haug (2011), Hennrikus (2005), Metz (2007), Meysman (2010), ? Nagal (2005) [discusses stage of readiness to change but does not refer to TTM], Rigotti (1997), Simon (1997), Simon (2003), Simon (2009) patients only recruited if at contemplation or preparation stage, Stevens (1993), Vial (2002)
Social Support	Chouinard (2005), Pederson (2005) & Smith (2009)– examined if other smokers in the home,
Degree of addiction assessment	Bolman (2002), Froelicher (2004), Hasuo (2004), Haug (2011), Metz (2007), Miller (1997), Nagal (2005), Ortigosa (2000), Vial (2002).
Self-efficacy to quit	Bolman (2002), Caruthers (2006), Chouinard (2005), deBusk (1992), Froelicher (2004), Hasuo (2004), Lacasse (2008), Meysman (2010), Miller (1997), Rigotti (1997), Simon (2003), Simon (2009), Smith (2009), Taylor (1990)
Previous quit attempts	Haug (2011), Lacasse (2008)
Motivation to quit	de Azevedo (2010), Froelicher (2004), Lacasse (2008), Pederson (2005), Rigotti (1997), Smith (2011) only those who were willing to make a serious attempt were included. Stevens (1993), Stevens (2000)
Depression and anxiety assessment	Chouinard (2005), Cossette (2011), Froelicher (2004), Simon (1997), Simon (2009),
Quiz/examination of knowledge and beliefs on smoking	Hajek (2002), Metz (2007), Pederson (2005)
Assessment tools	<p>Bolman use the Attitude social influence and self-efficacy model (De Vries, 1998) and Relapse Situation Efficacy Questionnaire.</p> <p>Froelicher (2004) Cohen Stress scale</p> <p>deBusk (1992), Feeney (2001) used a self-efficacy to resist smoking in 28 potentially high risk situations.</p> <p>Miller (1997) & Smith (2009) used the 14 Baer self-efficacy scale.</p> <p>Simon (1997) and Simon (2009) used the Beck's depression scale</p> <p>Simon (2003) used Prochaska's confidence in quitting score.</p> <p>Stevens (2000) used Biener and Abraham's smoking cessation intention ladder (11 point scale).</p>

Table ii(c) - Counselling methods and theory	
Appropriate to Transtheoretical model stage of change	Bolman (2002), Chouinard (2005), Cossette (2011), Dornelas (2000), Haug (2011), Hennrikus (2005), Metz (2007), Meysman (2010), Nagal (2005), Simon (1997), Simon (2003), Stevens (1993), Vial (2002).
Based on social learning theory	Bolman (2002), deBusk (1992), Froelicher (2004), Miller (1997), Pelletier (1998), Simon (1997), Simon (2003), Simon (2009), Taylor (1990)
Increasing self-efficacy	Chouinard (2005), Cossette (2011), Dornelas (2000), Hasuo (2004), Lacasse (2008), Meysman (2010), Pelletier (1998), deBusk (1992) Feeney (2001), Froelicher (2004), Miller (1997), Smith (2009) & Smith PM (2011), Taylor (1990) counselled on managing situations where patients were less than 70% confident of relapse.
Cognitive Behavioural approach	CASIS (1992), deBusk (1992), Feeney (2001), Floter (2009), Froelicher (2004), Hasuo (2004), Lewis (1998), Metz (2007), Miller (1997), Mohiuddin (2007), Ortega (2011), Rigotti (1994), Rigotti (1997), Rigotti (2006), Simon (1997), Simon (2003), Simon (2009), Smith (2009), Smith PM (2011), Steinberg (2011), Taylor (1990)
Motivational Interviewing	Bolman (2002), Cossette (2011), de Azevedo (2010), Dornelas (2000), Floter (2009), Hennrikus (2005), Lewis (1998), Metz (2007), Planner (2011)(motivational support), Rigotti (1997), Rigotti (2006), Stevens (2000),
Decisional balance (review of pros and cons to smoking cessation).	Chouinard (2005), Metz (2007), Stevens (2000)
Review of barriers to cessation and relapse prevention through identification of high risk situations and devising coping strategies.	Bolman (2002), Caruthers (2006), CASIS (1992), Cossette (2011), de Azevedo (2010), deBusk (1992), Dornelas (2000), Feeney (2001), Floter (2009), Hajek (2002) limited to booklet, Hasuo (2004), Hennrikus (2005), Lacasse (2008), Metz (2007), Miller (1997), Mohiuddin (2007), Nagal (2005), Ortega (2011), Ortigosa (2000), Quist-Paulson (2003), Reid (2007), Rigotti (1997), Rigotti (2006), Simon (1997), Simon (2003), Simon (2009), Stevens (1993), Stevens (2000), Taylor (1990) The Relapse Prevention Model (Marlatt and Gordon, 1985) was used by Froelicher (2004), Smith (2009), Smith PM (2011)
Counselling based on algorithms around whether patient had stopped, relapsed or never quit.	Floter (2009), Hennrikus (2005), Lewis (1998), Mohiuddin (2007), Reid (2003) – outpatient counselling only for those who had not quit. Reid (2007) via automated phone system, Stevens (2000)
Encouragement of social support	CASIS (1992), Chouinard (2005), deBusk (1992), Floter (2009), Froelicher (2004), Lacasse (2008), Metz (2007), Miller (1997), Mohiuddin (2007), Reid (2003), Reid (2007), Smith (2009), Smith PM (2011)
Use of 5 A approach	Lacasse (2008), Meysman (2010)

Table ii(d) -Additional Features	
Physician advice	Bolman (2002), CASIS (1992), Croghan (2005), deBusk (1992), Feeney (2001), Froelicher (2004), Hennrikus (2005), Lacasse (2008), Lewis (1998), Miller (1997), Ortigosa (2000), Pederson (1991), Pelletier (1998), Rigotti (1997), Rigotti (2006), Simon (2009), Smith (2009), Smith PM (2011)
Reminders to staff	Bolman (2002), Hajek (2002), Hasuo (2004), Hennrikus (2005), Lacasse (2008), Nagal (2005), Rigotti (1997), Rigotti (2006), Smith PM (2011),
Provision of self-help materials	Berglykke (2008), Bolman (2002), Caruthers (2006), CASIS (1992), deBusk (1992), Feeney (2001), Floter (2009), Froelicher (2004), Hajek (2002), Hasuo (2004), Hennrikus (2005), Lacasse (2008), Lewis (1998), Metz (2007)- designed own manual, Meysman (2010), Miller (1997) a workbook, Mohiuddin (2007), Nagal (2005), Pederson (1991) a manual, Pelletier (1998), Quist-Paulson (2003), Reid (2003), Reid (2007), Rigotti (1994), Rigotti (1997), Rigotti (2006), Simon (1997), Simon (2003), Smith (2009), Smith PM (2011) – workbook, Stevens (1993), Stevens (2000), Taylor (1990) - manual
Viewing an informational video	Dornelas (2000), Feeney (2001), Froelicher (2004), Miller (1997), Rigotti (1994), Rigotti (2006), Simon (1997), Smith (2009), Smith PM (2011), Stevens (1993), Stevens (2000),
Provision of relaxation tapes	CASIS (1992), deBusk (1992) Feeney (2001), Froelicher (2004), Miller (1997), Pelletier (1998), Smith (2009), Smith PM (2011), Taylor (1990)
Diet and exercise discussion	Cossette (2011), Froelicher (2004) women only study, Miller (1997), Mohiuddin (2007), Pederson (2005), Reid (2007) – healthful alternatives,
Reports based on initial assessment provided to patients.	deBusk (1992), Haug (2011), Hennrikus (2005)
Provision of information on community smoking cessation programmes	CASIS (1992) Cossette (2011), deBusk (1992), Dornelas (2000), Froelicher (2004), Hennrikus (2005), Miller (1997), Steinberg (2011)
No smoking contract	Froelicher (2004), Hajek (2002) a commitment card, Miller (1997), Taylor (1990)
Withdrawal symptom control	Pederson (2005), Pederson (1991), Steinberg (2011)

Table ii(e) - Nicotine Replacement Therapy and other pharmacotherapy

Part of the study	Campbell (1991), Campbell (1996), Croghan (2005), Lewis (1998), Mohiuddin (2007), Nagal (2005), Planner (2011) – bupropion, Rigotti (2006)- bupropion. Simon (1997), Simon (2003), Simon (2009) – bupropion, Smith BJ (2011) & Steinberg (2011) Varenicline. Vial (2002).
Offered as required or information given	Berglykke (2008) Chouinard (2005), Froelicher (2004), Hennrikus (2005), Lacasse (2008), Miller (1997), Ortega (2011), Pederson (2005), Pelletier (1998), Quist-Paulson (2003), Reid (2003), Reid (2007), Smith (2009), Smith PM (2011), Taylor (1990)
Stated as Cost free	Campbell (1991), Campbell (1996), Berglykke (2008), Mohiuddin (2007), Pelletier (1998)- during hospital, Vial (2002) –stated half the cost.



Table ii(f) -Follow up

Face-to-face	Bolman (2002) - once in clinic. Campbell (1996), CASIS (1992), Cossette (2011), deBusk (1992)(a single session for patients who had relapsed) Feeney (2001) outpatients appointments offered, Mohiuddin (2007) (group sessions but individual could be provided). Ortega (2011) dependent on choice, Pederson (2005), Quist-Paulson (2003) – one group meeting, Reid (2003) – outpatient counselling only for those who had not quit. Steinberg (2011). Taylor (1990) for continuing smokers or those who had relapsed. Vial (2002).
Telephone contact	Caruthers (2006), CASIS (1992), Cossette (2011), de Azevedo (2010), deBusk (1992), Dornelas (2000), Feeney (2001), Floter (2009), Froelicher (2004), Hasuo (2004), Hennrikus (2005), Lacasse (2008), Lewis (1998), Metz (2007), Miller (1997), Ortega (2011) dependent on choice – could have face-to- face, Planner (2011), Quist-Paulson (2003), Reid (2003), Reid (2007) –automated phone system that could trigger counsellor contact. Rigotti (1994) – 1 phone call only, Rigotti (1997), Rigotti (2006), Simon (1997), Simon (2003), Simon (2009), Smith (2009), Smith BJ (2011), Smith PM (2011), Stevens (1993), Stevens (2000), Taylor (1990)

Table ii(g) Novel or unique features	
Web based	Haug (2011) Rachberatung.de an internet computer expert system, e mail & written contact, web based modules and online message board to contact other participants.
Nurse pocket reminders	Bolman (2002)
Automated phone counselling	Reid (2007) – an algorithm that could trigger phone contact by SC nurse
Smoking cessation clinical pathway document with protocol	Nagal (2005)
Provision of a support “buddy”	Hajek (2002)
24 hour telephone hotline	Planner (2011)
Fear arousal message, e.g. using graphs to illustrate risk of further heart attack or death .	Quist-Paulson (2003)
Family members encouraged to attend counselling	Rigotti (1994),
Tear off calendar for patients to tear off each day they had been a non-smoker and use of piggy bank to save money.	Hasuo (2004)
Relaxation techniques taught	Ortega (2011),
Distraction techniques	Pederson (2005)
Mild aversive techniques (saving smoked cigarettes in a water filled jar)	Taylor (1990)
A quit kit (supportive items including chewing gum and self-help material) and bi-monthly newsletter posted to participant’s homes.	Stevens (1993), Stevens (2000)

Table ii (h) - Staff Training	
In the program/Research and underpinning theory	Bolman (2002) in the programme devised for the study (C-MIS), Froelicher (2004), Meysman (2010), Miller (1997), Pelletier (1998), Smith PM (2011) – one week of education, Stevens (2000), Taylor (1990), Vial (2002)
Smoking cessation only	Hennrikus (2005), Nagal (2005) [for half of ward nurses by a nurse educator], Planner (2011) – practical training given [not described],
Training indicated but not specified	CASIS (1992)
Role play	de Azevedo (2010), Froelicher (2004), Hennrikus (2005), Miller (1997), Smith PM (2011), Stevens (2000), Taylor (1990)
Supervised practice	de Azevedo (2010) Miller (1997) Smith PM (2011), Stevens (2000), Taylor (1990)
Written material provided	Froelicher (2004) Hennrikus (2005), Miller (1997), Nagal (2005)
Staff gave SC as part of their usual role	Ortigosa (2000), Nagal (2005)in addition to SC counsellors, Bolam (2002), Floter (2009), Hajek (2002), Pelletier (1998), Planner (2011)

Appendix 3 - Data extraction form

Data extraction form for a paper being considered for review of Healthcare Professionals' role in brief smoking cessation implementation in acute hospital settings				
Author(s) and title of paper				Year of publication
Relevance: Do the authors refer to the healthcare professionals' role within the implementation brief smoking cessation in acute hospital settings?			Yes	No
Worth: Does the paper go beyond superficial description or commentary for any of the five theory areas: 1. Healthcare professionals' perception on their role; 2. Organisational visibility and prioritisation; 3. Organisational standardisation; 4. Healthcare professional skills, knowledge and credibility; 5. Healthcare professional / people interface.			Yes Areas: 1, 2, 3, 4, 5 Circle as appropriate	No
Accept 		Reject 		
Type of Paper				
Theory or conceptual framework <input type="checkbox"/>	Editorial review commentary or opinion <input type="checkbox"/>	Systematic review <input type="checkbox"/>	RCT <input type="checkbox"/>	
Non RCT, experimental or quasi-experimental study <input type="checkbox"/>	Questionnaire or survey <input type="checkbox"/>	Qualitative interview study (including focus group) <input type="checkbox"/>	Audit <input type="checkbox"/>	
Mixed methodology <input type="checkbox"/>	Tool/checklist <input type="checkbox"/>	Guideline/pathway <input type="checkbox"/>	Conference paper <input type="checkbox"/>	
Other (specify)				
Perspective – what is the papers main unit of analysis?				
Individual	Group or team	Department or clinical group	Organisation	Inter-organisational
				Regional /national
				Multi-Level
Notes				

Hypothesis 1: *For healthcare professionals to implement brief smoking cessation they must perceive it as part of their role, this is dependent on context.*

How do healthcare professionals perceive their role in brief smoking cessation in acute hospital settings?

How does the healthcare professionals' perception of their role in brief smoking cessation impact on their implementation of brief smoking cessation?

What are the contextual factors that impact on healthcare professionals' perception of their role in brief smoking cessation in acute hospital settings?

Hypothesis 2: <i>Healthcare professionals are more likely to engage with brief smoking cessation when it is a visible priority within the organisation.</i>
What are the characteristics of organisations that prioritise brief smoking cessation within acute hospital settings?
What are the contextual factors that influence organisational prioritisation and visibility of brief smoking cessation within acute hospital settings?
How do organisations make brief smoking cessation a priority within acute hospital settings?
How do organisations make brief smoking cessation visible within acute hospital settings?
What is the impact on healthcare professionals of how organisations visibly prioritise brief smoking cessation within acute hospital settings?

Hypothesis 3: *Healthcare professionals are likely to implement brief smoking cessation if it is standard practice within the organisation.*

What are the characteristics of organisations that standardise brief smoking cessation within acute hospital settings?

How do organisations standardise brief smoking cessation within acute hospital settings?

How does standardisation of brief smoking cessation in acute hospital settings impact on healthcare professionals?

What are the contextual factors that influence the impact of standardisation of brief smoking cessation within acute hospital settings on healthcare professionals?

Hypothesis 4: *Healthcare professionals are more likely to engage with brief smoking cessation when they feel they have the knowledge, skills and credibility to do so, otherwise they fear it will adversely affect their relationship with the patient.*

How do healthcare professionals' perception of their knowledge, skill and credibility impact on implementation of brief smoking cessation in acute hospital settings?

What are the characteristics of healthcare professionals who perceive they have the knowledge, skills and credibility to implement brief smoking cessation in acute hospital settings?

What are the contextual factors that influence healthcare professionals' perceptions that they lack knowledge, skill and credibility to perform brief smoking cessation in acute hospital settings?

What factors increase healthcare professionals' confidence in their knowledge, skill and credibility?

Why do some healthcare professionals' perceive that a lack of knowledge, skill and credibility in brief smoking cessation in acute hospital settings will adversely impact on their relationship with the patient? What are the contextual factors that influence this?

Hypothesis 5: *The way healthcare professionals interact with each other and their patients impacts on the implementation and outcome of brief smoking cessation; this is dependent on context, culture, roles and individuals' perceptions.*

What are the characteristics of effective interactions between healthcare professionals with regard to the implementation of brief smoking cessation?

How can healthcare professionals interact effectively with their patients during brief smoking cessation in acute hospital settings?

How does culture and beliefs impact on interactions between healthcare professionals for the implementation of brief smoking cessation?

How do healthcare professionals' roles influence their interactions with other healthcare professionals and patients when implementing brief smoking cessation?

What are the contextual factors that impact on healthcare professional interactions in relation to brief smoking cessation within acute hospital settings on healthcare professionals?

Is the evidence provided in the theory areas good and relevant enough to be included in the synthesis? Consideration should be given to sample size, data collection, data analysis and claims made. Give details where answer is YES
Healthcare professionals' perception on their role YES / NO
Organisational visibility and prioritisation YES / NO
Organisational standardisations YES / NO
Healthcare professional skills, knowledge and credibility YES / NO
Healthcare professional / people interface YES / NO

Form adapted from:

Curnock, E., Ferguson, J., McKay, J. & Bowie, P. (2012). *Healthcare Improvement and Rapid PDSA Cycles of Change: A Realist Synthesis of the Literature*. Patient Safety Multi-Professional Steering Group of NHS Education for Scotland. Retrieved from: http://www.nes.scot.nhs.uk/media/1389875/pdsa_realist_synthesis.pdf

Rycroft-Malone J, McCormack B., Hutchinson, A.M., Kara DeCorby K., Bucknall T.K., Kent B., Schultz A., Snelgrove-Clarke E, Stetler, C.B., Titler M, Wallin L & Wilson, V. (2012). Realist synthesis: illustrating the method implementation research. *Implementation Science*, 7. 33. Retrieved from: <http://www.implementationscience.com/content/pdf/1748-5908-7-33.pdf>

Appendix 4 - Emerging themes from initial 5 hypotheses

Hypothesis 1: <i>For healthcare professionals to implement brief smoking cessation they must perceive it as part of their role, this is dependent on context.</i>
How do healthcare professionals perceive their role in brief smoking cessation in acute hospital settings?
<p>Professionalism associated with doing smoking cessation (SC). Variable perception – generally healthcare professionals (HCPs) believe it is their role but are often reluctant to accept responsibility.</p> <p>Ethical obligation often felt. Smoking behaviour can be morally interpreted if felt to be a choice rather than an addiction.</p> <p>Not a front line issue, other more pressing obligations. HCPs more likely to challenge those that smoke in hospital but again many feel it is not their role to enforce or be authoritarian.</p>
How does the healthcare professionals' perception of their role in brief smoking cessation impact on their implementation of brief smoking cessation?
<p>Perceptions of responsibility and accountability impacts on making a choice to participate.</p> <p>Gap between positive attitude to SC and acceptance of the role.</p> <p>Personal relevance impacts on SC.</p> <p>Perceptions that hospitals are for acute treatment and not preventative medicine meant less likely to do SC.</p> <p>Perceptions of potential harm to HCP/Patient relationship negatively impacts on SC.</p> <p>Reluctance with the role means passing on the obligation to other HCPs, e.g. doctors or smoking cessation specialists.</p> <p>Perceptions of a lack of knowledge and/or confidence, means less likely to do SC.</p> <p>Those who felt smoking is a choice rather than an addiction were less likely to do SC.</p> <p>Those that felt more involved in the decision making process were more likely to do SC.</p> <p>HCPs who feel SC is good practice and important will perceive less barriers to doing SC.</p>
What are the contextual factors that impact on healthcare professionals' perception of their role in brief smoking cessation in acute hospital settings?
<p>Perceptions of lack of time means HCPs are content to “pass the buck”, so it is someone else’s responsibility. Nurses pass to doctors, all HCPs pass to smoking cessation counsellors.</p> <p>If social norm is to do SC more likely to do it.</p> <p>Smokers played down the harms of smoking and are less likely to think HCP should set an example or do SC.</p> <p>Where work conditions allow HCPs to engage in SC they do so.</p> <p>HCPs feel powerless when patients leave the ward to smoke, dislike the enforcement role. HCPs more likely to challenge than other employees, but few do. Ethical dilemmas around SC and tobacco control.</p>

Hypothesis 2: <i>Healthcare professionals are more likely to engage with brief smoking cessation when it is a visible priority within the organisation.</i>
What are the characteristics of organisations that prioritise brief smoking cessation within acute hospital settings?
These organisations see SC as important and commit to achieving it. Key strategic leaders support SC. Authority is important in initial stages. There is a cohesive and co-ordinated approach to embedding SC into practice. Decentralisation on decision making, partnership and team work are important.
What are the contextual factors that influence organisational prioritisation and visibility of brief smoking cessation within acute hospital settings?
Preparation (goal setting), investment, support (resources, such as administration and facilitation), effective leadership from senior management and other key people. Commitment to time for HCP education. Facilitation of systems between community and secondary care. Involvement of diverse interested parties. Good electronic systems for documentation and referral Too many organisational quality initiatives are correlated with low levels of SC, but SC may be re-packaged as part of other health promotion initiatives.
How do organisations make brief smoking cessation a priority within acute hospital settings?
Effective communication, time-frames set and audit and feedback to highlight the gaps in the service. Engagement of staff to embed SC into practice. Use of champions. Paradox of not enforcing the smoking ban.
How do organisations make brief smoking cessation visible within acute hospital settings?
Communication, documentation, audit and feedback. Congruence between environment and health promotion, enforcement of smoke-free setting. The hospital as an example, promoting SC as the norm. Smoke-free status management can be framed as an ethical issue – can hospitals condone a harmful activity over a beneficial one? Use of documentation, toolkit, prompts and posters to increase visibility to do SC and communicate ethos to patients and public
What is the impact on healthcare professionals of how organisations visibly prioritise brief smoking cessation within acute hospital settings?
All HCPs seen as health promoters. Conveys a requirement for HCPs to conform with goals and be role models for other HCPs, patients and public. Using front line staff embeds the role. Confers a professional obligation may be seen as unachievable by HCPs.

Hypothesis 3: *Healthcare professionals are likely to implement brief smoking cessation if it is standard practice within the organisation.*

What are the characteristics of organisations that standardise brief smoking cessation within acute hospital settings?

Consistency to produce a seamless service. Simplicity of protocols. Effective communication. Hierarchy culture is associated with adherence to SC. Reinforcement and embedding practice through the establishment of routines. Senior level buy-in.

How do organisations standardise brief smoking cessation within acute hospital settings?

Through policies, documentation (pathways, checklists, referral systems).
Effective communication.
Ensuring systems in place to facilitate data collection, e.g. transferable paperwork, robust electronic systems.

How does standardisation of brief smoking cessation in acute hospital settings impact on healthcare professionals?

Increases visibility and expectations on HCPs to do SC. SC reinforced as their role. Consistency may increase the norm of doing SC. SC embedded within routine. Increased scrutiny via publicly reported health measures.

What are the contextual factors that influence the impact of standardisation of brief smoking cessation within acute hospital settings on healthcare professionals?

Complex protocols deter users; where documentation is not standard or recorded in multiple documents smoking status is not effectively recorded. Champions and facilitators can have a positive effective. Some flexibility and adaptation may be important. Enforcement of smoke-free environment – inconsistency here means a lack of standardisation.

Hypothesis 4: <i>Healthcare professionals are more likely to engage with brief smoking cessation when they feel they have the knowledge, skills and credibility to do so, otherwise they fear it will adversely affect their relationship with the patient.</i>
How do healthcare professionals' perception of their knowledge, skill and credibility impact on implementation of brief smoking cessation in acute hospital settings?
Perceptions of a lack of knowledge and skill negatively impacts on SC while the opposite increases SC.
What are the characteristics of healthcare professionals who perceive they have the knowledge, skills and credibility to implement brief smoking cessation in acute hospital settings?
Confidence, self-efficacy. Knowledge of guidance not necessarily important. Effective communication skills, less use of closed questioning. Going beyond the call of duty. Willingness to learn. Better education, e.g. advanced nurse practitioners, indicates more likelihood of doing SC.
What are the contextual factors that influence healthcare professionals' perceptions that they lack knowledge, skill and credibility to perform brief smoking cessation in acute hospital settings?
HCPs who smoke feel they have less credibility, in some studies, also under- estimate risks with smoking. HCPs who smoke less likely to do SC.
What factors increase healthcare professionals' confidence in their knowledge, skill and credibility?
Training, feedback, role-modelling and coaching. Academic detailing. Confidence and enthusiasm increases with training and feedback. Training for completion of documentation – referral forms. Communities of practice may increase SC.
Why do some healthcare professionals' perceive that a lack of knowledge, skill and credibility in brief smoking cessation in acute hospital settings will adversely impact on their relationship with the patient? What are the contextual factors that influence this?
Belief that patients have a right to smoke or patients too distraught/ill/anxious to absorb details. SC not done when it is felt to be ineffective. A lack of knowledge on Nicotine Replacement therapy, strategies, guidance and on referral of patient for further support. HCPs feel inadequate to offer full range of support to patients and avoid doing so as a result. Perceptions of lack of time and that it is not a priority also impacts on this.

Hypothesis 5: *The way healthcare professionals interact with each other and their patients impacts on the implementation and outcome of brief smoking cessation; this is dependent on context, culture, roles and individuals' perceptions.*

What are the characteristics of effective interactions between healthcare professionals with regard to the implementation of brief smoking cessation?

Supportive, non-judgemental, empathic, able to provide information about where to get support and what is available in hospital, e.g. Nicotine replacement therapy (NRT). Recognition of the “teachable moment” and patient receptivity. Preparing the patient for the discussion and discussing when partners present. Good communication skills and knowledge increase effective interactions. Going beyond just recording smoking status. Timing – on admission or where condition is stabilised.

How can healthcare professionals interact effectively with their patients during brief smoking cessation in acute hospital settings?

Creation of the “teachable moment”. HCPs having the confidence in their knowledge and skill. Recognition of patient receptivity, perceptions of a lack of patient interest or motivation is a barrier. Monitoring of symptoms and evaluating NRT effectiveness. Offering positive feedback to patients who quit. More likely to target those with smoking related illness. Less likely to target older smokers. Patient's under report smoking if the approach lacks empathy. Less likely to challenge those who smoke on hospital property due to fear of abuse.

How does culture and beliefs impact on interactions between healthcare professionals for the implementation of brief smoking cessation?

Perception of nicotine addiction as a clinical need rather than a counselling requirement. Perception of addiction and not life-style choice or bad habit increases SC. Perceptions that SC will harm the patient through increasing stress, or guilt will hamper SC. Belief that smoking is a valuable coping mechanism will reduce SC. Some HCPs see hospital admission as creating the “fear factor” and therefore the teachable moment. If SC believed to be ineffective HCPs less likely to do. When smoking seen as an emotional or ethical issue, with patients having a right to smoke and the smoking ban violating freedom, HCPs less likely to do SC (this frees HCPs from action).

How do healthcare professionals' roles influence their interactions with other healthcare professionals and patients when implementing brief smoking cessation?

Consistent approach from all staff, multiple staff saying the same thing. Credible and enthusiastic champions can positively influence. Doctors as exemplars. Credible role models and facilitation increases SC. Perception that giving SC is a social norm among HCPs can increase SC. Feedback on intervention from other HCPs/facilitators can positively impact. Recognition of a continuum of care and partnership with community provision. Collaboration and co-operation between staff can increase SC.

What are the contextual factors that impact on healthcare professional interactions in relation to brief smoking cessation within acute hospital settings on healthcare professionals?

Recognition of culture can mean it can be utilised or adapted to. HCPs may pass the buck and feel that other HCPs should do SC. SC seen as another initiative when time and resources are lacking anyway. HCPs may avoid SC until it becomes a risk management issue, e.g. clinically deteriorating patient going off the ward to smoke, then HCPs are forced to confront it (tension created). Cigarettes can be seen as a means of control in some setting where they are confiscated causing tension due to asymmetry of power in patient /HCP relationship. HCPs can be resentful of how the enforcement/authoritarian role is given to them with regard to tobacco control and this impacts on SC role.

Appendix 5 - Emerging themes following development of three theory areas

<u>Theory area 1: Organisation consistency</u>
<p>Consistent approaches within all areas. Seamless service</p> <p>Communication</p> <p>Simplicity of protocols</p> <p>Documentation</p> <p>Policies</p> <p>Protocols, standard documentation, pathways, checklists referral systems. Complexity of protocol deters users. Smoking status documented in different documents and some had multiple documentations.</p> <p>Systems in place to facilitate data collection, e.g. transferable paperwork.</p> <p>Senior level support. Smoking champions difficult to recruit but to disseminate service.</p> <p>Hierarchy culture is associated with organisational adherence to smoking cessation (SC).</p> <p>Standardisation and means of <i>enforcement</i> of smoke free environments. A smoke free environment may positively impact on SC.</p> <p>Inconsistency resulted in failure to stop patients smoking.</p> <p>Buy-in</p> <p>Prompted by increased scrutiny of publicly reported health measures.</p> <p>Flexibility</p> <p>Capturing</p> <p>Establishing a routine – embedding</p> <p>Reinforcement</p> <p>Smoking status on referral forms.</p>

Theory Area 2: Healthcare professionals

Communication skills are important

Knowledge deficits impact on SC – training improves this.

Nurses feel doctors more appropriate to do SC

Patients may have been too distraught or anxious to absorb the details. Brief advice is unlikely to reach highly dependent smokers.

Patient/Healthcare Professional (HCP) relationship and impact of beliefs on the right to smoke.

Nurses who smoked did not feel this affected their credibility or confidence to give SC advice. But smokers were less likely to indicate that nurses should set a good example for patients.

Confidence increased with training. Enthusiasm with feedback. Nurses willing to learn.

Doctors more likely to record smoking status.

Going beyond the call of duty

Role-modelling and coaching

Knowledge of guidance not necessarily important?

Lack of belief about the SC effectiveness will negatively impact on implementation.

Self-efficacy

Training also on documentation but vitally to inform on the value of the implementation. Care with mandatory training.

Inconsistencies of application for smoking ban

Communities of practice

Avoidance of over-use of closed questioning.

Ability to sign post patients to the most appropriate SC option.

Theory Area 3: The window of opportunity

Patients' needs central. A continuum of care.

Recognition of teachable moment or creating it

Recognition of the teachable moment and the patient's readiness to learn.

Timing – on admission or where condition is stabilised.

Collaboration may be positive or impede progress as trying to satisfy all parties is difficult.

Providing support for high risk situations

Physician support required for nurses.

Lack of patient interest/motivation was a barrier. Older smokers less likely to be targeted. Those with smoking related illness more likely to have SC.

Possibly utilising culture as a contextual feature may enable organizations to direct quality initiatives such as smoking cessation in alignment with culture.

HCPs are reluctant to challenge those who smoke on hospital property, fearing abuse. Impact of environment on patients.

The smoking ban violates individual freedoms and increases the stress of those nurses who do smoke. The ban negatively impacts on the mental health of patients.

Risk management issues. Tobacco use an issues when the patient wants to smoke in hospital/ clinical/risk issue – the difficult to manage patient. addicts v bad habits

Patients felt status was recorded but not offered more. Patients afraid of the risks of smoking off the ward.

HCPs belief in the "fear factor" due to life threatening event - this was more powerful than NRT (in study by May)

Poor correlation between patient counselling and physician documentation. Patients more likely to quit if they felt they had a smoking related illness.

Preparing patients to discuss smoking. SC advice delivered when partners present where possible.

Patients may under report feeling smoking status will confer disadvantage. A less empathic approach was associated with under reporting and feelings of patient guilt.

Nurses feel that a lack of knowledge and skill may increase patients stress, or guilt or not have an effect. Avoidance by HCP because of the tension created.

SC as clinical treatment rather than counselling. – nicotine withdrawal

Poor communication skills and knowledge hamper effective interactions.

All saying the same thing, BSC by multiple staff.

Cigarettes as a means of control – asymmetry of power in patient/HCP

Perceptions of clients choice and right to smoke – frees HCP from action.

Partnership between primary and secondary care.

Social support for intervention in the working environment.

Credibility and enthusiasm of champions. Good external facilitation Feedback from seeing patients.

Adaption

Strongly emotional response to ban from nursing staff in mental health – means inconsistencies.

Appendix 6- Final appraisal of studies

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
1. Johnson, J.L., Moffat, B.M. & Malchy, L.A. (2010). In the shadow of a new smoke free policy: A discourse analysis of health care providers' engagement in tobacco control in community mental health. <i>International Journal of Mental Health Systems</i> , 4,23. doi:10.1186/175-4458-4-23.	Discourse analysis looking at healthcare professionals and non-healthcare professionals views of tobacco control smoking cessation (SC) for community based mental health provision following new tobacco control policy. Five themes emerged: managing a smoke free environment, tobacco use as a individual choice, someone else's role, tobacco control as health promotion.	91 interviews. Rich data on healthcare professional's attitudes and perceptions on roles. Contextual factors and different roles explored. Highlighted knowledge deficits and resource constraints. Looks at policy and management change and historical perspectives.	Not acute hospital settings. Non healthcare professionals also reviewed, although comparisons are evident. Key focus was on the introduction of a smoke-free environment.	Acceptance of role Personal characteristics Contextual factors Perceptions of patient's reactions	Accept: contributes to hypothesis 1, 2 & 3.
2. Slater, P., McElwee, G., Fleming, P. & McKenna, H. (2006). Nurses' smoking behaviour related to cessation practice. <i>Nursing Times</i> , 102 (19), 32-37.	Survey of Northern Irish nurses, n= 1074. Looked at knowledge and attitudes, and compared smokers, ex- smokers and non - smokers. Most nurses agreed that they had a role as an educator and as a good example. Evidence of willingness to engage but felt ill prepared and wanted training. Smokers generally less positive on all these aspects.	Large survey reviewing knowledge and attitudes with comparison to nurse smoking characteristics. Different statements used to assess key concepts, such as role.	73.7% nurses from acute hospital settings others from community and other setting. Self-reported and 54% response rate. Does offer P values for a range of variables which are Scheffe post hoc values but no consideration of their small effect. Data alluded to but full tables not provided, e.g. on pathology related to smoking and nurses' perceptions.	Acceptance of role Personal characteristics Contextual factors Social support and modelling Perceptions of patient's reactions	Accept: contributes to hypothesis 2 & 3

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
3. Thy et al. 2007. Thy, T., Boker, T., Gallefoss, F. & Bakke, S. (2007). Hospital doctors' attitudes toward giving their patients smoking cessation help. <i>The Clinical Respiratory Journal</i> , 1, 30-36.	Norwegian study surveyed hospital doctors (n= 784) on their attitude to SC. 35% felt they lacked time, 25% lacked knowledge. 28% did not feel it was their role. 32% felt it was not worth the effort. Less experienced doctors less likely to do SC.	Reasonably large survey. Transparent methodology. Provides survey questions for some areas. Stipulates P values and gives odds ratios at 95% CI and offers good detail on statistical analysis. Compared attitudes to self -reports of SC. Indicates non responders reviewed with no overt differences found.	Collected information on smoking status but did not comment on the effects of this although appeared to have significance on perceptions of effectiveness. Internists (medical physicians) compared to other specialities, only weak rationale given. SC implementation self-reports may be exaggerated, does comment that results not validated.	Acceptance of role Personal characteristics Contextual factors	Accept: contributes to hypothesis 2 & 3.
4. Radsma, J. & Bortof, J.L. (2009). Counteracting Ambivalence: Nurses Who Smoke and Their Health Promotion Role With Patients Who Smoke. <i>Research in Nursing and Health</i> , 32, 443-452.	Canadian study using grounded theory on a sample of 23 nurses who smoke to describe how they managed tobacco-dependent patients. Ambivalence to tobacco control was counteracted via: indifference, evasiveness, engaged and forced compliance.	Recruitment strategy using snow-balling technique; looked at ex-smokers for comparison as well. Rich data obtained. Transparent methodology and verification procedure described. Justifies findings in relation to patient perceived need.	Perceptions on patient need are subjectively assessed by the nurse and then researcher. Workplace reported in a table only – appears to be in acute settings mainly but does indicate rural settings	Assessment of patient's requirements and motivation Perceptions of patient's reactions Strategies towards the teachable moment. Strategies to patients' attitudes.	Accept: contributes to hypothesis 2.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
5. Schultz, A.S., Hossain, S & Johnson, J.L. (2009). Modeling Influences on Acute Care Nurses' Engagement in Tobacco Use and Reduction. <i>Research in Nursing and Health</i> , 32, 621-633.	Canadian study using an organisational perspective to conceptualise hypothesised relationships among influencing factors (individual characteristics, role attitudes, perceived barriers and workplace climate) to determine variation.	Two acute hospitals. Use of statistical modelling process was transparent with clear rationale for hypothesis (in relation to the literature) and choices given. Good diagrammatical presentation and logical approach to statistical analysis. Uses measures from previous studies.	A complicated study with pre-defined criteria related to organisation and inferences on relationships. Multiple concepts are measured but validity of measurement not always considered. The method was not evident in the results section, statistical measurement here was difficult to follow within tables.	Acceptance of role, Personal characteristics, Contextual factors, Social support and modelling	Accept: contributes to hypothesis 2
6. McCarty, M.C., Hennrikus, D.J., Lando, H.A. & Vessey, J.T.(2001). Nurses' Attitudes Concerning the Delivery of Brief Cessation Advice to Hospitalized Smokers. <i>Preventative Medicine</i> , 33, 674-681.	A cross-sectional survey of nurses at 4 hospitals, using constructs from the theory of planned behaviour (n=397). Nurses has a relative positive attitude towards SC, felt it was their role and that it would not affect their relationship with their patient. Looked at clinical areas. Cardiac nurses more likely to advise. No difference with different smoking status.	Used existing questionnaire. Transparent methodology and statistical analysis. Many interesting findings, correlated attitude with reported frequency of counselling. Notes non-significant differences between responders and non-responders.	Reported on actual SC practice – so may have been biased (large number of missing responses). Survey limited rich data and questions limit direction of responses. Mentions a focus group but does not report on findings in depth.	Acceptance of role, Personal characteristics, Contextual factors, Social support and modelling Perceptions of patient's reactions	Accept contributes to hypothesis 2 and 3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
7. Ratschen, E., Britton, J., Doody, G.A., Leonardi-Bee, J. & McNeil, A. (2009). Tobacco dependence, treatment and smoke-free policies: a survey of mental health professionals' knowledge and attitudes. <i>General Hospital Psychiatry</i> , 31, 576-582.	Staff survey (n=459) to determine attitudes and knowledge related to smoking in relation to mental illness. Poor knowledge found overall. Knowledge improved the "higher" the professional status – doctors had most knowledge.	Transparent and straight forward statistical analysis, medical and non-medical staff. Odds ratio and confidence intervals reported	Mental Health ward settings, with non - healthcare professionals also surveyed. Key issue was new smoke-free policy and knowledge.	Acceptance of role, Personal characteristics, Contextual factors, Social support and modelling	Accept: contributes to hypothesis 2.
8. Bakker, M.J., de Vries, H., Dolan Mullen, P. & Kok, G. (2005). Predictors of perceiving smoking cessation counselling as a midwife's role: a survey of Dutch midwives. <i>European Journal of Public Health</i> , 15 (1), 39-42.	Dutch midwives surveyed (n=237) found midwives with a more positive role towards SC (Role definition) were more likely to do SC and perceived that their colleagues were doing the same. Used attitude –social influences-efficacy model (ASE). Some indication of self-efficacy associated with positive role.	Transparent methodology detailing questions for concepts and comparison methods. Brief smoking cessation (average 3.5. minutes. Compared those with a positive attitude to those without.	All settings. Self-reported data. Presents literature for ASE but does not critique its validity.	Acceptance of role, Personal characteristics, Contextual factors, Social support and modelling	Accept: contributes to hypothesis 2.
9. Schultz, A.S.H., Bottorff, J.L. & Johnson, J.L. (2006). An ethnographic study of tobacco control in hospital settings. <i>Tobacco Control</i> , 15, 317-322. Doi: 10.1136/tc.2005.015388.	Ethnographic study on tobacco control. Field work – observation, unstructured conversations and review of documentation. Found tobacco control re-protection strategies were integrated within the organisation but SC was not.	Two hospital sites (part of study 2009?). Rich data provided on role and perceptions. Some contextual information relating to acute hospital settings.	Indication of a “ first nurse” but not of review process. Indicates interviews could have lacked depth.	Acceptance of role, Personal characteristics, Contextual factors, Social support and modelling Assessment of patient's requirements and motivation Visibility	Accept: contributes to hypotheses 1, 2 &3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
10. Duffy, S. A., Karvonen-Gutierrez, C.A., Ewing, L.A., Smith, P.M., & Veterans Integrated Service Network Tobacco Tactics Team. (2009). Implementation of the Tobacco Tactics Program in the Department of Veterans Affairs. <i>Journal of General Internal Medicine</i> , 25 (S1), 3-10.	Non-randomised pre and post- test evaluation of Tobacco tactics smoking cessation training (nursing survey reviewed confidence, perceived level of importance, satisfaction with training, knowledge of smoking cessation, barriers and enablers). This was a tool kit approach to a SC implementation that is generalised. Patients surveyed on whether SC implemented and satisfaction with the service. Aimed for staff to capitalise on the teachable moment. Lack of staff /time to free for training and to do SC. Also lack of support from physicians (17.9%). Patients not interested. Lack of resource (28.2%).	3 hospitals with multiple settings. Focus on formative (process) evaluation. Qualitative and quantitative data for nurses, patients and some consideration of physicians' role. Utilises opinion leaders as change agents.	Role modelling was from a research nurse, not staff. Volunteer follow-up call. Does not report pre-test results on confidence and perceptions of importance. Focus on how smoking cessation had increased. Set issues for barriers and enablers (although free text provided). 10 -20 minute counselling could be split up (not brief).	Acceptance of role Personal characteristics Contextual factors Social support and modelling Assessment of patient's requirements and motivation	Accept: contributes to hypothesis 2 &3
11. Passera (2010) Passera, A. (2010). Cardiac Nurses Give Smokefree story to patients. <i>Kai Tiaki Nursing</i> , 16 (6), 33.	Description of SC intervention in a cardiac care unit in New Zealand. Detailed consideration of context specific strategies to encourage staff to do SC.	Personal view of successful intervention, written by freelancer contracted by Ministry of Health.	Potential for bias	Acceptance of role, Personal characteristics, Contextual factors, Social support and modelling	Accept: contributes to hypotheses 1,2 &3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
12. Segaar, D., Willemsen, M.C., Bolman, C. & De Vries, H. (2007a). Nurse Adherence to a Minimal-Contact Smoking Cessation Intervention on Cardiac Wards. <i>Research in Nursing & Health</i> , 30, 429-444.	Examination of uptake of SC protocol by Dutch midwives (n=251). A survey related uptake to intention to use, predisposing factors: awareness factors and motivation factors including perceived social influences and self-efficacy. Among many findings intenders to use the protocol had more knowledge and perceived more positive "norm" from their social environment and self-efficacy than midwives not intending to use the protocol. Only weak association with self-efficacy.	Many constructs were factored into the study and related to intention to use the protocol for a minimal contact strategy.	No details given on place of work but appears to relate to practice setting (outpatients or community?) Complicated statistical analysis with statistical model comparing users, intenders and non-intenders on a range of factors, including organisational factors.	Acceptance of role, Personal characteristics, Contextual factors, Social support and modelling	Accept: contributes to hypothesis 2.
13. Ward, M., Vaughn, T.E., Uden-Holman, T., Doebbling, B., Clarke, W. & Woolsen, R. (2002), Physician knowledge, attitudes and practices regarding a widely implemented guideline <i>Journal of Evaluation of Clinical practice</i> , 8 (2), 155-162.	USA Physician survey (n= 879) to assess knowledge, attitudes and practice regarding an implemented guidelines. Smoking cessation intervention appeared to be independent of knowledge of guidelines (62% had not had training or information). Only 40% indicated compliance with the guidance yet 86% of Physician's reported offering SC. Postulates that the feedback system ensured adherence.	Discussion on feedback and absence of barriers offers logical rationale for potential disconnection in the "knowledge-attitudes-behaviour" sequence.	GP practice Highlights that GPs may have indicated SC practices when more than actually practiced – self-reports of adherence behaviours.	Personal characteristics, Contextual factors,	Rejection: lacks sufficient depth despite chain of inference.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
14. Willaing, I. & Ladelund, S.L. (2004). Smoking behaviour among hospital staff still influences attitudes and counselling on smoking. <i>Nicotine & Tobacco Research</i> , 6 (2), 369-375.	Danish study comparing smoking among Healthcare professionals (HCPs) to knowledge, attitudes and SC. Found smokers underestimated the risk of smoking and less likely to give advice (twice less likely). Lack of self-related qualification to give SC was related to HCPs less likely to do SC. Ex- smokers perceived themselves more qualified than other groups. Only 34 had SC training – significantly associated with SC more than other groups. The most educated staff – Doctors more likely to do SC. Medical staff more likely than surgical.	On hospital staff, a large study (n=2,561). Mostly HCPs (n= 1, 429) but some non- trained staff (med, surgical and psychiatric settings).	Self-reported on SC. All hospital staff not just HCPs.	Acceptance of role, Personal characteristics, Contextual factors.	Accept: contributes to hypothesis 2.
15. Cooke, M., Mattick, R.P. & Barclay(1996). Predictors of brief smoking intervention in a midwifery setting. <i>Addiction</i> ,91 (11), 1715-1725.	Australian survey of midwives (n=425) looked at individual and organisational factors. Most midwives assessed smoking status and gave brief advice without referral (some advised to cut down).Mean scores were moderate for confidence, commitment accountability, responsibility and motivation but low for experience, skills and knowledge. Concluded midwives were more willing than able to do SC. Training and social support was associated with increased SC, but >4 hours training was needed to improve confidence. Barriers were time, lack of staff, smoking policy and lack of ability.	A reasonable size survey comparing practitioner characteristics to organisational factors in relation to SC. A seminal study that linked organisation to SC implementation. 89% were hospital based. Used established scales of measurement (but did not discuss validity).	Dated study prior to tobacco control policy for most clinical areas examined. Focus on more intensive intervention as superior to brief intervention. Little information given on social cohesion. Looks at client motivation contrary to today's evidence.	Acceptance of role, Personal characteristics, Contextual factors, Social support and modelling	Acceptance: contributes to hypothesis 2.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
16. Cooke,M., Mattick, R.P. & Campbell , E.(1998). The influence of individual and organizational factors on the reported smoking intervention practices of staff in 20 antenatal clinics. Drug and Alcohol Review, 17 (2), 175 -185.	Australian survey for doctors and midwives to determine knowledge on brief smoking cessation (n=204 - 84 doctors/ 120 midwives). Two surveys : one on organisational factors and one on type of SC intervention, knowledge on smoking risks and barriers to SC. Found difference in form of SC intervention by profession. HCPs felt more willing than able, but doctors felt more able than midwives. Smokers less willing and able to do SC but no differences in self-reported SC between smokers and non-smokers. Midwives perceived more barriers to SC. Training did not impact on SC . Practitioner, structural and climate variables acted synergistically.	Looks at antenatal clinics within 23 hospitals. Used established scales brief comments on validity. Assessed multiple components. Explanations offered on statistical analysis. Structure and policy more important than practitioner variables. Some effective analysis on why training did not impact on SC.	Comments that assumption on practitioner independence may not be the case due to hospital influence. Far more doctors failed to return the survey than midwives. Refers to self-efficacy but has not “tested” for this specifically. Lacks depth on chain of inference.	Personal characteristics, Contextual factors	Reject: did not contribute to hypotheses.
17. Cooke, M. (2000). The dissemination of a smoking cessation program: predictors of program awareness, adoption and maintenance. <i>Health Promotion International</i> , 15 (2),113-123.	Australian, self-reported survey to assess the impact of a SC training programme in antenatal clinics(n= 187). Retrospective cross-sectional design. Found participation in decision making, professional status, working in the clinic at time of training and dissemination methods were predictors of training dissemination. Structure also impacted on this: policy, formalisation of rule, organisational complexity. As did practitioner self-efficacy (perceived ability to provide SC). Climate did not predict SC.	21 Acute hospitals. Comments on scales reliability (Cronbach’s alpha >0.7), refers to Cooke 1998 (baseline survey). Multiple measures. Reviewed those hospitals that declined to take part. Looks at hospital size.	Smaller survey – may have impacted on predictive power. Complicated comparisons through statistical modelling. Does reflect that this may increase the odds of error.		Reject: did not contribute to hypotheses

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
18. Good, Frazier, Wetta-Hall, Ablah, Molgaard (2004). Kansas Office -based nurses' evaluation of patient tobacco cessation activities. <i>Journal of Community Health Nursing</i> , 21 (2), 78 -75.	USA survey of practice nurses (n=415). Findings indicated most nurses wanted education on SC. Only 35% provided SC advice. Advanced Clinical practitioners reported giving more SC,	Offers basic information on barriers and facilitators plus examines how education (Advanced practitioner status) impacts on SC. Concluded that barriers to SC related to self-efficacy	Does not indicate intensity of smoking cessation offered – relates to counselling which appears intensive. Practice nurses so not an acute hospital setting Basic descriptive statistical analysis no correlation, little detail offered on statistics. Many results non – significant. Self-efficacy related to lack of time and knowledge and skill. Lacks depth on chain of inference.	Personal characteristics, Contextual factors,	Reject: did not contribute to hypotheses
19.Anderson, C, Sengupta, S. & Coleman, T. (1999) Implementing smoking policies within Trusts: nurses' perception and views of effectiveness and implications. <i>Journal of Nursing Management</i> , 349-354.	Semi-structured interviews in England to determine nurses' views of hospital Trusts smoking policy. Seven surgical nurses interviewed. Whilst approving of the policy nurses felt powerless and vulnerable with little support. Nurses as enforcers – an unfair role giving a negative effect on the nurse patient relationship. At odds with patient advocate. Lacked training in SC	In acute hospital setting. Did offer some insight into nurses role.	Small study. Older Related to hospital policy rather than SC.		Reject: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
20. Borrelli, B., Lee, C. & Novak, S. (2008). Is provider training effective? Changes in attitudes towards smoking cessation counseling and counseling behaviours of health healthcare nurses. <i>Preventative Medicine</i> , 46, 358-363.	USA study looking at home healthcare nurses. 98 trained in SC, compared pre and post training attitudes. Brief advice versus motivational enhancement interventions. Training increased confidence and self-efficacy, with no changes at 6 months on self-efficacy. Related to 5As.	Some explanation of statistical methodology, did use discrete levels in recognition of differences in counselling opportunities.	Small study and of home nurses not acute hospital settings. Randomised sample (no details on this given). Basic scales used to assess self-efficacy and confidence. No examination of validity of these scales but had been used in prior studies. Related to 5As when 3As part of brief SC. Lacks depth.	Personal characteristics, Contextual factors,	Reject: did not contribute to hypotheses.
21. Matten, P., Morrison, V., Rutledge, D., Chen, T. & Wong, S-F. (2011). Evaluation of Tobacco Cessation Classes Aimed at Hospital Staff Nurses. <i>Oncology Nursing Forum</i> , 38 (1) 67-73.	USA study of 107 nurses. Reviewed knowledge, SC behaviour and confidence pre and post training. Looks at 5As Found training enhanced SC at one year. Generally nurses had only been asking smoking status but following training were more likely to advise, assess and provide counselling.	Developed own scale on skill and confidence in SC. Longitudinal survey. Assessed confidence in knowledge, skills and ability in many areas.	One group not pre-tested but did pre-education survey? Not sure of why this was done. Random allocation of groups but no details on this process. Therefore data relates to half the sample? Attrition: only 17 nurses completed all 5 surveys: pre, post, 3 6 and 12 months. Acknowledges that counselling was self-reported.	Personal characteristics, Contextual factors,	Acceptance: contributes to hypothesis 2.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
22. Scanlon, A., Clark, E. & McGuiness, W. (2008). Acute (adult clinical inpatient) care nurses' attitudes towards and knowledge of nationally endorsed 5 As smoking cessation guidelines. <i>Contemporary Nurse</i> , 29 (1), 80-91.	Australian study (n=162) adult acute care wards. Looks at 5As and stages of change model. Reviewed assessment of responsibility, assessment of willingness and knowledge. Found nurses most likely to counsel those with smoking related disorders: cardiac, cerebrovascular, cancer. However respiratory nurses least likely to counsel and cardiac most likely. Those who felt they did not have responsibility said this was due to lack of training(32), too short admission (12) or being too busy (5 nurses). Experience related to willingness to counsel. More knowledge related to registration within the last 5 years. Found low levels of knowledge	Acute care Used tool based on validated stages of change model (Prochaska and DiClemente). Willingness to counsel was correlated with knowledge. Responsibility was acknowledged but people were still not doing SC.	Value of stages of change model to nurses' practice is linked to recommendations but not sure of the effectiveness of this. Does not relate to whether intervention is brief.	Acceptance of role, Personal characteristics, Contextual factors,	Acceptance: contributes to hypothesis 2.
23. Tremblay, M.Cournoyer, D. & O'Loughlin, J. (2009). Do the correlates of smoking cessation counselling differ across health professional groups? <i>Nicotine & Tobacco Research</i> , 11 (11), 1330 -1338.	6 HCPs were surveyed (Canada). 5As assessed. Used scores to determine if HCPs had assessed readiness to quit for patients who were and patients who were not. Self-efficacy was associated with ready to quit counselling for 5 HCPs. GPs counselled more than other group. Nurses lacked self-efficacy to counsel patient's not ready to quit. 20% did not feel it was part of their role.	Detailed statistical analysis. Extensive measurement on components, e.g. five items to measure self-efficacy. Looked at perceptions of barriers: patient, resource, time and knowledge related barriers. Average time counselled - 3 minutes (brief). Time not a barrier – the authors linked this to HCPs belief that they should do SC.	Belief on knowledge only measured in one item. Not hospital based. Selection bias and self-reported. Small samples of some HCP. Not all figures broken down into professional groups, e.g. 20% of HCPs did not see SC as their role but professions not given.	Acceptance of role, Personal characteristics, Contextual factors,	Acceptance: contributes to hypothesis 2 & 3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
24. Sarna, L. Bialous, S.A., Wells, M., Kotlerman, J., Wewers, M.E. & Froelicher, E. S. (2009). Frequency of nurses' smoking cessation interventions: report from a national survey. <i>Journal of Clinical Nursing</i> , 18, 2066-2077.	Large survey of nurses in 35 acute hospitals in the USA (n=3482) to determine frequency of SC delivery of 5 As. Looked at Tobacco Free Nurse initiative (TFNI). Web based. Whilst most asked smoking status (73%) and assisted with SC (73%) less referred to support or for NRT. Those familiar with TFNI more likely to do smoking cessation. Current smokers were less likely to arrange follow-up. Advanced clinical practitioners more likely to do SC. Areas worked indicated less likely to intervene. Smoking status negatively impacts. ANPs more likely to engage (Master's degree)	Previously validated questionnaire (via studies of the same author). Transparent statistical process described. Detail provided on demographic data.	Looked at 5 As, so most nurses asked about smoking and advised to quit but did not refer.	Personal characteristics, Contextual factors,	Acceptance: contributes to hypothesis 2.
25. Katz, D.A., Holman, J., Johson, S., Hillis, S.L. Ono, S., Stewart, K., Paez, M., Fu, S., Grant, K., Buchanan, L., Prochazka, A., Battaglia, C., Titler, M. & Vander Weg, M.W. (2013). Implementing Smoking Cessation Guidelines for Hospitalized Veterans: Effects on Nurse Attitudes and Performance. <i>Journal of General Internal Medicine</i> , 28 (11), 1420-9.	Looked at 5A delivery to hospitalised patients in relation to nurses' attitudes (n=29). Looked at self-efficacy and decisional balance. Interviewed 193 smokers on discharge. Surveyed nurses and interviewed 8 nurses to determine barriers and facilitators for SC. Found nurses attitudes improved post academic detailing and modification of the admission form and referral of patients to receive phone counselling. Peer leaders and nurse managers used for academic detailing. Low levels of referral.	Compared training to patient perceptions on SC, not just self-reported. Academic detailing – personalised on site instruction for one or two nurses at a time. Peer leaders designated by the ward manager. The peer leader linked with the research team and facilitated schedule for training and feedback sessions. Peer leaders were >3 years experience, had additional training. Transparent statistical and qualitative methodology provided.	Self-efficacy and decisional balance more positive after intervention. Lack of depth here in concepts that could be useful. Cites potential Hawthorn effect but 8 months for data collection post implementation. Perceptions on academic detailing not explored, nor the influence of social pressure.	Acceptance of role, Personal characteristics, Contextual factors, Social support and modelling	Acceptance: contributes to hypothesis 2 & 3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
26. Geller, A.C., Brooks, D.R., Woodring, B., Oppenheimer, S., McCabe, M., Rogers, J., Timm, A., Resnick, E.A., & Winickoff, J.P. (2011). Smoking Cessation Counseling for Parents During Child Hospitalization: A National Survey of Pediatric Nurses. <i>Public Health Nursing</i> , 28 (6), 475-484.	American survey of paediatric nurses SC for parents during child's hospitalization. Compared personal characteristics, work environment and hospital policy characteristics. Found nurses lacked confidence – only 25% very confident, 55% somewhat confident. Confidence was strongly linked to doing SC. Barriers were parents resistance (89%). Lack of training associated with lack of SC. Current smokers and younger practitioners less likely to do SC.	Large survey n= 888 Provided extensive statistical information of each variable – uses odds ratios. Several aspects assessed but rationale and logical discussion on study and findings.	Barriers were pre-determined so may have skewed results and omitted other forms of barriers. Only 40% response rate	Acceptance of role, Personal characteristics, Contextual factors, Social support and modelling Perceptions of patient's requirements Perceptions of patient's reactions.	Accept: contributes to hypothesis 2 & 3.
27. McBride, C.M. & Ostroff, J.S. (2003). Teachable moments for promoting smoking cessation the context of cancer care and survivorship. <i>Cancer Control</i> 10. 325 -33.	A review to look at the challenges of smoking cessation programmes in cancer care, using the 5A approach. Looked at barriers and opportunities, found that teachable moments are not being fully utilised. Looks at tailoring advice and patient motivation.	Offers examples of how and when to offer smoking cessation based on McBride et al.'s (2003) previous work that the teachable moment: increased perception of personal risk, emotional response, redefines self-concept.	Not research based but on clinical experience.	Assessment of patient's requirements Perceptions of patient's reactions Strategies to patient's attitudes. Strategies to the teachable moment.	Accept: contributes to hypothesis 3

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
28. Vaughn, T.E., Ward, M.M., Doebbeling, B.N., Uden-Holman, T., Clarke, W.T., Woolson, R.F. (2002). Organizational and Provider Characteristics Fostering Smoking Cessation Practice Guideline Adherence: An Empirical Look. <i>Journal of Ambulatory Care Management</i> , 25 (2), 17 -31.	Survey to examine physician adherence to smoking cessation guidelines and organisational structures, policies and leadership support. Looked at physician knowledge and attitude Randomised sample of physicians from 138 ambulatory care clinics with comparison to national database on organisational factors, e.g. size and staffing (USA). Many factors examined in relation to guideline adherence and links found between micro organisational factors and adherence	Large randomised survey (884). Macro and micro organisational variables reviewed. Physician's perceptions on leadership and organisational support reviewed. Looked at attitudes to clinical guidelines in general and related these to attitudes to the SC guideline	Hospital but clinic environment. Feedback assessed but this was external feedback not specific in relation to smoking cessation. Only limited information on physician attitudes to patient receptivity.	Visibility Prioritisation Standardisation Contextual factors	Accept: Hypothesis 1
29. Gritz, E. R., Cororve, M., Vidrine, D.J., Lazev, A.B., Mehta, N.V., Reece, G.P. (2005). Success and Failures of the Teachable Moment. Smoking cessation in cancer patients. <i>American Cancer Society</i> 106 (1), 17- 27.	Uses case histories to illustrate smoking cessation challenges this is in the context of long term cancer care and follow-up.	Looks at tailoring and strategies for the teachable moment; e.g. examining social support. Offers negative and positive examples.	Looks more at history of cancer progression in patients who did not quit and strategies such as nicotine replacement. No depth of focus on the teachable moment for brief smoking cessation, mentions this as a starting point briefly.	Perceptions of patient's reactions	Reject: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
30. Pilnick, A. & Coleman, T. (2003). I'll give up smoking when you get me better": patients' resistance to attempts to problematize smoking in general practice (GP) consultations. <i>Social Science and Medicine</i> 57, 135 -145.	A conversation analysis looking at patient resistance to doctors' problematisation of smoking. Proposes that advice is most effective when personalised but linked to patient's medical problems causes resistance. This was linked to moral implications. 47 cases reviewed. 17 practitioners.	Rich data on opportunistic interventions. Lengthy tracts of dialogue reproduced.	GP's surgeries not acute hospital settings.	Assessment of patient's requirements Perceptions of patient's reactions Strategies to patient's attitudes. Strategies to the teachable moment.	Accept: contributes to hypothesis 3.
31. Flocke, S.A., Antognoli, E., Step, M.M., Marsh, S., Parran, T. & Mason, M.J. (2012). A teachable moment communication process of smoking cessation talk: description of group randomized clinician-focused intervention. <i>BMC Health Services Research</i> 12: 109.	Trial of an intervention based on a teachable moment tool to enhance clinician communication skills. 31 GPs and 840 consultations. Found that the training to use the Teachable Moment communication process was effective.	Randomised practitioners. Large numbers. Compared patient characteristics to those who declined to participate. Looked at practitioner characteristics. Did exit surveys of patients.	Did not look at patient outcomes. Describes the tool in depth but lacks rich data on its application.	Assessment of patient's requirements Perceptions of patient's reactions Strategies to patient's attitudes. Strategies to the teachable moment.	Accept: contributes to hypothesis 3.
32. Cohen, D.J., Clark, E.C., Lawson, P.J., Casucci, B.A. & Flocke, S.A. (2011). Identifying teachable moments for health behavior counseling in primary care. <i>Patient Education and Counseling</i> 85, e8 –e15.	Cross-sectional design of 28 GPs in 811 consultations looking at the teachable moments in primary care. Found success stemmed from the GPs ability to explore the salience of patient concerns and recognise opportunities to link them with unhealthy behaviours.	A depth of information offered on patient and physician interaction.	Not in acute hospital settings, not specifically related to smoking cessation.	Assessment of patient's requirements Perceptions of patient's reactions Strategies to patient's attitudes. Strategies to the teachable moment.	Accept: contributes to hypothesis 3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
33. McBride, C.M., Emmons, K.M. & Lipkus, I.M. (2003). Understanding the potential of teachable moments: the case of smoking cessation. <i>Health Education Research</i> 18 (2), 156 – 170.	Reviews the evidence for teachable moments from clinical consultations, considers hospitalisation. Deconstructs the elements within the teachable moment in relation to the health belief model: cueing event, increased emotion, self-concept and perceived risk.	A seminal study that explored the components of the teachable moment. Related to smoking cessation. Transparency of literature review. Proposes a conceptual theory.	Not all acute hospital settings. Not primary evidence.	Strategies to patient's attitudes. Strategies to the teachable moment.	Accept: contribution to Hypothesis 3.
34. Bell, K. (2012). Remaking the Self: Trauma, Teachable Moments, and the Biopolitics of Cancer Survivorship. <i>Culture Medicine and Psychiatry</i> 36, 584-600.	Literature review on patient perspectives of responses to the teachable moment in cancer survivors.	Looks at the expectation that patients should develop and change and how patient's react to these expectations in relation to the teachable moment.	Looks at cancer survivors, does not relate to smokers. Literature review not primary research. Also looks at other aspects such as trauma and growth.	Perceptions of patient's reactions	Accept: contributes to Hypothesis 3
35. Lawson, P.J. & Flocke, S.A. (2009). Teachable moments for health behaviour change: A concept analysis. <i>Patient Education and Counseling</i> 76, 25 -30.	Systematic review of Teachable moments for health behavior change: A concept analysis. Suggests that the teachable moment can be created through clinician-patient interaction.	Systematic approach. Found that McBride et al.'s (2009) findings were unique and further developed theoretical perspective based on the health belief model used by McBride et al. (2003).	Reviews literature not necessarily related to smoking cessation or acute hospital settings.	Strategies to patient's attitudes. Strategies to the teachable moment.	Accept: contributes to Hypothesis 3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
36. Butler, C.C., Pill, R. & Stott, N.C.H. (1998). Qualitative study of patients' perceptions of doctors' advice to quit smoking: implications for opportunistic health promotion. <i>BMJ</i> 316, 1878 -81.	Welsh study interviewed 42 participants from 21 GP practices, who had recently quit smoking. Found patients anticipated that they would get smoking cessation advice but some had negative perceptions: for example, irritation or guilt. Gave some indication of patient's perceptions of the doctor's influence on motivation to stop smoking. Patients categorised into : contrary, self-blaming and matter of fact.	Purposeful sampling to ensure broad socio-demographic data. Offers rich data on patient's perceptions of opportunistic smoking advice.	Older study and not in acute hospital setting. Typography may not be relevant to hospital patients.	Assessment of patient's requirements Perceptions of patient's reactions	Accept: contributes to hypothesis 3
37. Pilnick, A. & Coleman, T. (2006). Death, depression and 'defensive expansion': Closing down smoking as an issue for discussion in GP consultations. <i>Social Science & Medicine</i> 62, 2500-2512.	Examines opportunistic smoking cessation advice in GP consultations, used conversation analytical approach. Found patient behaviours are associated with GPs abandoning further discussion. These were: trouble telling and defensive expansion.	Rich data looking at patient strategies to deflect advice.	GP surgery and not acute hospital setting where smoking cessation is mandatory.	Assessment of patient's requirements Perceptions of patient's reactions Strategies to patient's attitudes. Strategies to the teachable moment.	Accept: contributes to hypothesis 3.
38. Glasgow, R.E., Vinson, C., Chambers, D., Khoury, M.J., Kaplan, R.M. & Hunter, C. (2012) National Institutes of Health Approaches to Dissemination and Implementation Science: Current and Future Directions. <i>American Journal of Public Health</i> 102 (7) 1274- 1281.	US study looked at 526 smokers in hospital. Looked at whether smokers smoked whilst inpatients, their smoking levels and their quit attempts. Logistical regression analysis. Offered that quit attempts during hospitalisation and the heaviest smokers were likely to stop. Found quit attempts depended on patient characteristic.	Seminal research, mentions the window of opportunity and the teachable moment. Suggests brief hospital smoking can be successful. Heavier smokers with certain conditions: circulatory/ respiratory, more likely to stop.	Older evidence – lacks depth on the process. Looks at stages of change. No smoking ban at this time. Possibly heavier smokers too poorly to smoke? Patients self-reported smoking levels.		Rejection: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
39. Dohnke, B., Will, K.E., Weiss-Gerlach, E. & Spies, C.D. (2012). Do hospital treatments represent a 'teachable moment' for quitting smoking? A study from a stage theoretical perspective. <i>Psychology and Health</i> 27, 1291 - 1307.	Links the teachable moment to staged – theoretical perspectives and sought to examine different settings: Emergency Department (185), in-patients (193) and smokers in a controlled setting, citizen's advice office(290). Found people in the hospital settings were more likely to be in higher stages of cognition with regard to quitting with in- patients reporting more concrete plans. However in-patients considered smoking less risky than control groups. The risk element did not tie in with McBride et al.'s (2003) conceptual model of the teachable moment. Concludes that stage-matched interventions should be provided.	Appears robust. comparison with some consideration of confounders. Found patient group did have less education. Does indicate that hospitalisation galvanises people to think about quitting. Offers critique on McBride et al's model which may be of interest for the synthesis.	The value of the stages approach is contentious within smoking cessation.	Assessment of patient's requirements Perceptions of patient's reactions	Accept: contributes to hypothesis 3.
40. Bremberg, S. & Nilstun, T. (2005). Justification of physicians' choice of action. Attitudes among the general public, GPs, and oncologists in Sweden. <i>Scandinavian Journal of Primary Health Care</i> 23, 102 -108.	This Swedish study compared view points between the general public (620), oncologists (142) and GPs(132) on how doctors should act with reference to four vignettes. One of these was on responses to a healthy patient who was reluctant to quit smoking and another was for a cancer patient who was also reluctant to quit. Most felt that the doctor should address smoking but every second oncologist and every 3 rd GP would not address it with the cancer patient, this differed from the views of the general public where only 10% felt that smoking should not be addressed with the cancer patient.	An interesting comparison of public versus doctor expectations – which may have value for patient clinician interface in brief smoking cessation. Suggests that a fear of infringing a patient's right to self-determination and harming the clinician patient relationship was exaggerated by doctors.	Looks at the general public's view and not patients. Not in the acute setting. Statistical analysis of likert scale of responses not all participants responded to each question (but transparent), rationale for answers not obtained.	Perceptions of patient's requirements and motivation. Perceptions of patient's reactions.	Accept: contributes to hypothesis 3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
41. Patwardhan, P.D. & Chewning, B.A. (2009) Ask, advise and refer: hypothesis generation to promote a brief tobacco –cessation intervention in community pharmacies. <i>International Journal Pharmacy Practice</i> 17 (4), 221 -229.	Qualitative review of pharmacists' responses to brief smoking cessation in community. Fear of harming the relationship with the patient was the major barrier. Pharmacists also needed to feel there was a rationale for discussion. The environment was also a barrier. Perception of patient's willingness and the nature of the relationship also impacted, among other factors, seven pharmacists indicated that they would initiate discussions where health was worsening	Examines the clinician patient interface with brief smoking cessation and considers barriers. Highlighted the clinician's fear of a negative reaction.	Looks at community pharmacists and not in acute hospital setting. 10 pharmacists only.	Assessment of patient's requirements Perceptions of patient's reactions Strategies to patient's attitudes. Strategies to the teachable moment.	Accept: contributes to hypothesis 3.
42. Pipe, A., Sorensen, M. & Reid, R. (2009). Physician smoking status, attitudes toward smoking, and cessation advice to patients: An international survey. <i>Patient Education and Counseling</i> , 74, 118-123.	An international survey on physician smoking status and attitudes toward smoking and cessation advice, found smoking physicians less likely to initiate advice (n: 2836 from 16 countries). Also looked at barriers and obtained unprompted perceptions of patient's characteristics, such as addiction, lack of interest and will power (non-smokers more likely to identify the latter). Smoking physician's estimated that they spent longer discussing smoking than non - smoking physicians.	Large survey. Unprompted responses to perceived barriers – did not lead the participants.	Community physicians, not acute hospital settings.	Personal characteristics. Perceptions of patient's reactions.	Accept: contributes to hypothesis 2 & 3

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
43. Nagle, A., Schofield, M. & Redman, S. (1999). Australian nurses' smoking behaviour, knowledge and attitude towards providing smoking cessation care to their patients. <i>Health Promotion International</i> , 14 (2), 133-144.	Australian survey and interviews of nurses from 6 hospital sites (n= 388). Found knowledge on effects of smoking high but a lack of knowledge on effective cessation strategies. 60% wanted to help people quit but most restricted this to patients who wanted to quit. 72% felt hospital was a useful place for quitting. Nurses with no post basic training were more confident to ask smoking status from patient. Only 13% of smoking nurses felt their status was a problem for smoking cessation. Ex- smokers and smokers found their status helpful. Felt confrontational aspects of smoking cessation would be resented by patients. Felt time, training and specialist support important.	Looked at knowledge, skills, confidence and attitudes. Set in hospital settings.	Does not look at reported SC delivery in relation to actual, just perceptions on SC. Barriers to smoking cessation were selected from a list.	Acceptance of role, Personal characteristics, Perceptions of patient's reactions.	Acceptance: contributes to hypothesis 2 & 3.
44. Aveyard, P., Begh, R., Parsons, A. & West, R. (2012). Brief opportunistic smoking cessation interventions: a systematic review and meta- analysis to compare advice to quit and offer of assistance. <i>Addiction</i> doi:10.1111/j.1360-0443.2011.03770.x.	A systematic review and meta-analysis of 13 studies to compare physician advice to quit and offer of assistance. Findings suggested that all patients should be offered assistance to quit and not just those that expressed an interest. Offering assistance to quit generated more quit attempts than giving advice on medical grounds. Looked at physician behaviour and unmotivated quit attempts. Importantly concludes that assessment of willingness to quit is not important – offering support is more important without considering if patient is ready to quit.	A robust study followed Cochrane guidance. Clear processes and explanations of outcomes and measurements. An exciting piece of research emphasising the importance of offering smoking cessation assistance to all. Strongly refutes stage of change approach.	Limitations are considered, such as quit rate assessment through objective means. Agrees that details of the nature of advice are lacking in many trials.	Assessment of patient's requirements	Acceptance: contribution to hypothesis 3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
45. Schultz, S.H., Finegan, B., Nykiforuk, C.I.J. & Kvern, M.A. (2011). A qualitative investigation of smoke-free policies on hospital property. <i>Canadian Medical Association Journal</i> , 183 (18).	A qualitative investigation of smoke-free policies in 2 Canadian hospitals. 186 participants (4 wards in each setting, observations, review of documentation, interviews and focus groups – patients and staff involvement). Found minimal evidence of smoking cessation advice and support. Minimal enforcement of no smoking policy observed by staff and patients outside the hospital. Found perspectives differed between addiction and bad habit, with the later not requiring treatment and a personal right. Sometimes requests to leave the ward were hostile or presented staff with problems in managing clinical risk. Healthcare professionals felt powerless to stop people smoking and some felt they lacked the knowledge. Patients worried about leaving the ward to smoke.	Large study with a depth of information. Looks at the contextual issues in depth, includes smoking cessation and enforcement from multiple perspectives.	Focus on tobacco free environment not smoking cessation but does examine the latter anyway.	Visibility Personal characteristics, Contextual factors, Assessment of patient's requirements	Acceptance: contributes to hypothesis 1,2 & 3.
46. May, F. ,Stocks, N. & Barton,C. (2008). Identification of barriers that impede the implementation of nicotine replacement therapy in the acute cardiac care setting. <i>European Journal of Cardiovascular Prevention and Rehabilitation</i> , 15 (6) 646 – 650.	Australian study to review the identification of barriers to nicotine replacement therapy in acute cardiac care. Participants suggested that the fear of death impacts on the patient's ability to stop smoking.	Some on perceptions of the effect of an acute cardiac episode and its effects on smoking cessation. Some data on how the healthcare professionals did not feel it was their role (doctors cited here felt it was GP role).	Focus on knowledge on nicotine replacement therapy lacks rich data on perceptions with regard to patient expectations.	Minimal contribution Acceptance of role, Perceptions of patient's characteristic	Reject: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
47. Sarna, L., Wewers, M.E., Brown, J.K. Lillington, L., & Brecht, M-L. (2001). Barriers to Tobacco Cessation in Clinical Practice: Report from a National Survey of Oncology Nurses. <i>Nursing Outlook</i> , 49 (4), 166-172.	Survey of oncology nurses (619) to compare the characteristics of those who reported the greatest number of barriers to those who compared the lowest. High barrier group contained more never and current smokers than ex-smokers. Found a patient's lack of motivation was a key barrier, but nurses who felt there were many barriers did not perceive a lack of knowledge or skill as much of an issue as those nurses who felt there were less barriers. Low barrier groups were better educated, nurse practitioners had lower barriers. Those who had the least contact with patients perceived less barriers.	Random sample offers multiple sources of information.	Not necessarily practitioners from acute hospital setting. Multiple categories of characteristics, rather confusing with education levels but these categories were collapsed for multivariate analysis. Barriers were pre-determined (16 item scale)	Personal characteristics Perceptions of patient's reactions.	Accept: contributes to hypothesis 2 and 3.
48. Vokes, N.I. Bailey, J.M. & Rhodes, K.V. (2006). Should I give you my smoking lecture now or later? Characterising Emergency Physician Smoking Discussions and cessation Counseling. <i>American College of Emergency Physicians</i> , 48, 406-414	Secondary analysis of 871 audiotapes of physician patient interactions on smoking cessation (primary trial was on communication skills). 484/871 were screened for tobacco. 56% of smokers advised to quit, this tended to be when smokers presented with a smoking related condition. Information gathered on status but opportunistic advice not generally given. Offers some numerical data that judgmental approach on the physician's part heralded more guilt from the patient.	Does consider some aspects of clinician response and patient reaction.	Looked at stage approach, i.e. whether patient was at the stage of change to quit. Focus more on whether advice was given, minimal information on how. Focus more on whether advice was given, only minimal information on how.		Reject: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
49. Whyte, R.E. Watson, H.E & McIntosh, J (2006). Nurses' opportunistic interventions with patients in relation to smoking. <i>Journal of Advanced Nursing</i> , 55 (5), 568-577.	Qualitative case study on 12 nurses in 3 acute general hospitals. Audio-tape recordings of interactions. Looks at the teachable moment, readiness to learn, the provision of health information and oral communication. Found variable nursing interactions and many missed opportunities and lack of responsiveness to the teachable moment – categorised as the patient or the nurse bringing up smoking.	Observational study based on actual interactions. Produces dialogue in depth. Gave opportunities for nurses to reflect on the practice.	Identifies teachable moments created by patients and nurses but does not review them in depth. Indicates the teachable moment is complex but does not go beyond that. Communication was separate category – yet surely intrinsic to all. Lacks extensive discussion.		Reject: did not contribute to hypotheses.
50. Abrahamsson, A., Springnett, J., Karlsson, L., Hakansson, A. & Ottosson, T. (2005). Some lessons from Swedish midwives' experiences of approaching women smokers in antenatal care. <i>Midwifery</i> , 21, 335 – 345.	Phenomenological study describing how 24 midwives make sense of how to approach smokers. Identified: informing, avoiding, friend-making and co-operating. Looked at difficulties with smoking cessation from perspective of midwives and indicated that smoking cessation should be based on the perspective of the woman (motivational interviewing technique).	Considered attitudes from non- participants as well. Found dealing with pregnant women's feelings of guilt was a feature and how midwives took on different roles. Looks at different strategies in a prolonged clinical relationship.	More intensive interviewing considered – motivational interviewing. Not in acute hospital settings. This is not opportunistic as the clinical relationship is prolonged.	Assessment of patient's requirements and motivation Perceptions of patient's reactions Strategies towards the teachable moment. Strategies to patients' attitudes.	Acceptance: contributes to hypothesis 3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
51. Lawn, S. (2011) Habit or addiction: the critical tension in deciding who should enforce hospital smoke-free policies. <i>CMAJ</i> , 183 (18), 2085-2086	Commentary on Schultz et al. (2011) habit or addiction and how these separate views of smoking impact on enforcing hospital smoke-free policies.	Brings the habit or addiction issue into focus. Indicates that were smoking is seen as a morally interpreted behaviour – a life-style choice clinical support is not required.	Does not add to data from Schultz.		Rejection: did not contribute to hypotheses.
52. Jones, S. & Hamilton, S. (2013) Introducing a new stop smoking service in an acute UK hospital: A qualitative study to evaluate service user experience. <i>European Journal of Oncology Nursing</i> , 17, 563-569	A qualitative study examining the introduction of a stop smoking service in an acute UK hospital. Looked at 44 patient's perspective. Found the hospital was a prime environment for quitting. Patients comment on how their admission had made them motivated to change. Only 6 of the patients spoke of hospital staff raising smoking cessation.	A depth of information on patient perceptions on stopping smoking in hospital, some information on attitudes to staff.	Brief smoking cessation essential for referral but focus on patient's perspectives on quitting and not on the patient clinician interaction or clinician strategies.		Rejection: did not contribute to hypotheses.
53. Valanis, B., Labuhn, K.T., Stevens, N.H., Lichtenstein, E. & Brody, K.K. (2003). Integrating Prenatal-Postnatal Smoking Interventions in Usual Care in a Health Maintenance Organization. <i>Health Promotion Practice</i> , 4 (3), 326-248.	Assessment of an American smoking cessation intervention into pre and post- natal care. Looked at staff self-efficacy and attitudes. Found barriers in the intervention design, clinicians and the organisation. Key to success was availability of resources, considering stakeholder needs and a simplified intervention.	Transparent review of process of implementing a smoking cessation intervention. Looks at organisational and individual factors. Consulted patients.	Used stage-specific messages and also applied this to staff with regard to intervention adoption. Barriers were obtained from surveys – but lacks depth on the survey.	Visibility Prioritisation Standardisation Contextual factors Personal characteristics, Contextual factors, Social support and modelling	Accept: contributed to hypothesis 1.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
54. Champassak, S.L., Goggin, K., Finocchiaro-Kessler, S., Farris, M., Ehtesham, M., Schoor, R., & Catley, D. (2014). A qualitative assessment of provider perspectives on smoking cessation counselling. <i>Journal of Evaluation in Clinical Practice</i> , 20, 281-287.	Explores 14 doctors' perceptions of useful strategies to motivate patients to quit via semi-structured interviews. Doctors educated and used scare tactics – generally enhanced patients risk perceptions. Doctors felt patients were receptive but lacked feedback to know. Cited the potential to damage rapport, had competing priorities and doubts about the certainty of the intervention.	Hospital setting using physicians, offers participant commentary on their perceptions of the interaction and how they pursued smoking cessation or not.	Only 14 doctors reviewed, lacked detail on context.	Assessment of patient's requirements and motivation Perceptions of patient's reactions Strategies towards the teachable moment.	Accept contributes to hypothesis 3.
55. Buchbinder, M., Wilbur, R., Zuskov, D., McLean, S. & Sleath, B. (2014). Teachable moments and missed opportunities for smoking cessation counselling in a Hospital Emergency Department: a mixed-methods study of patient-provider communication. <i>BMC Health Services Research</i> , 14, 651.doi:10.1186/s12913-014-0651-9.	Primary study looking at clinician patient communication in the Emergency Department with primary complaint of back pain. 52 consultations involved discussing smoking, 2/3 of patients indicated that they were smokers. 70% of these encounters were missed opportunities for smoking cessation. Four strategies were identified for creating the teachable moment: positive reinforcement, encouragement, assessing readiness and offering concrete motivating reasons.	Rich data with large transcripts of data; looks at strategies and how opportunities were missed. Participants were not aware that smoking was to be a part of the study. Coding emerged iteratively and some encounters incorporated multiple categories.	Does not examine whether strategies are effective or acceptable to the patient, just describes them.	Assessment of patient's requirements Strategies to the teachable moment.	Accept: contributes to hypothesis 3.
56. Hughes, L. (2013). How to advise and refer inpatients who smoke. <i>Nursing Times</i> , 109 (1/2).	Describes the results of a 3 month pilot survey into incorporating brief advice into acute hospital settings, which increased referrals to the SC team by 600%.	Offers some depth on supportive structures and staff perceptions. Looks at systems to capture smoking information and ease referral. Brief SC.	Minimal depth on staff perceptions, only a pilot study.	Visibility Prioritisation Standardisation Patient assessment	Accept: contributes to hypothesis 1 & 3.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
57. Coleman, T. (2004) Cessation interventions in routine health care. <i>BMJ</i> , 32, 631-633.	39 interviews observed. 12 had no discussion on smoking. 27 contributed. GPs then watched the interviews and explained how they had made the decision to raise the topic.	Observed practice commentary after the event from practitioners. In depth consideration of interaction.	GP practice, GPs aware that they were being filmed	Assessment of patient's requirements Perceptions of patient's reactions Strategies to patient's attitudes. Strategies to the teachable moment.	Accept: contributes to hypothesis 3
58. Fitzpatrick, P. Gilroy, I, Doherty, K, Corradino, D., Daly, L. Clarke, A & Keleeher, C (2009). Implementation of a campus wide Irish Hospital smoking ban in 2009: prevalence and attitudinal trends among staff and patients in lead up. <i>Health Promotion International</i> , 24 (3), 211-221.	Examined the lead up to the smoking ban on an Irish hospital using 3 sources of data: surveillance data collected in 8 patient and staff surveys between 1997 - 2006, plus 1 week observational study and interviews with patients and staff in 2005. This was to determine smoking prevalence and attitudes.	Staff (52.4%) and patients (58.6%) were mostly positive to the forthcoming ban, staff were concerned with patient safety issues	Some data provided from staff interviews but little on visibility issues except for patient safety. More about patient attitudes to the ban		Reject: did not contribute to hypotheses.
59. Bloor, R.N. Meeson, L. & Crome, I.B. (2006). The effects of a non-smoking policy on nursing staff smoking behaviour and attitudes in a psychiatric hospital. <i>Journal of psychiatric and mental health nursing</i> , 13 (2), 188 - 196.	A survey on 92 nursing staff in a psychiatric hospital to assess attitudes and compliance towards the smoking ban, particularly in those that smoked. Generally the ban was accepted but staff did not feel they were motivated to quit	Of the 32 smokers, 30 continued to smoke at work. The majority felt that the ban increased the stress of workers who smoked and restricted their freedom.	Focus on staff smokers and their attitudes and reactions to the ban.		Reject: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
60. Lui, S.K., Prior, E., Warren, C., Brown, T., Snide, J. & Butterly, J.R. (2010). Improving the Quality of Care for the Hospitalized Tobacco User- One Institution's Transformational Journey, <i>Journal of Cancer Education</i> . 25, 297-301.	Evaluates the work of an improvement team to standardise the smoking cessation care for hospitalised patients. Looked at documentation, communication and referral. Increased smoking status documentation 80-90% and certain conditions had SC increase 82-96%.	Reviews the processes to standardise care and evaluates strategies. Detailed consideration of group strategies, such as education, facilitation.	Main focus on in service training, used stage of change approach, does not appear to be brief smoking cessation – focused on heart attack, pneumonia and Heart failure patients.	Visibility Standardisation Contextual factors	Accept: contributes to hypothesis 1.
61. Bickerstaff, G. (2008). <i>Hospital Smoking Cessation pathways – Level I & level II</i> . NICE Shared learning database.	Commentary on service development of SC pathways.	Identifies that there is no standard approach. Indicates process of training and referral. Some effective commentary on how training not mandatory, and some areas more effective than others.	Looks at level 1 (BSC) and 2 (motivational support)	Visibility Standardisation Contextual factors	Accept: contributes to hypothesis 1.
62. Campbell et al. (2011) Campbell, S., Pieters, K., Mullen, K-A., Reece, R. & Reid, R.D. (2011). Examining sustainability in a hospital setting: Case of smoking cessation. <i>Implementation Science</i> 6 (108).	Exploratory study on long-term sustainability of the Ottawa model in 6 hospitals, using feedback from 2 key informants. Found sustainability was associated with higher performance activities than baseline expectations.	Offers some rich data on contextual issues and “interactional themes”, e.g. engaging champions. Looks at quality	Only 2 key informants- potential for bias – hospital decision maker and smoking cessation co-ordinator.	Visibility Prioritisation Standardisation Contextual factors	Accept: contributes to hypothesis 1.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
63. Adisit, R., Fraser, D., Redmond, L., Smith, S. Fiore, M. (2005) Changing Clinical Practice, Helping People Quit: The Wisconsin Cessation Outreach Model. <i>Wisconsin Medical Journal</i> , 104 (4) 32-36	Reviewed role of outreach specialists based across 5 American regions for SC	Looks at academic detailing, champions and systems change strategies within the role remit.	Provides figures on outcomes in education and training mainly. Does not consider the processes of these in depth.		Reject: did not contribute to hypotheses.
64. Peterken, C. (2013). Hospital nurses' role in smoking cessation. <i>Nursing Times</i> , 109 (46), 16-19.	Commentary on smoking cessation provision in Lewisham	Looks at strategies and considers barriers in detail.	Commentary from an expert practitioner but does not refer to supportive evidence. Focus on Chronic obstructive pulmonary disease	Visibility Prioritisation Standardisation	Accept: contributes to hypothesis 1.
65. Kimmel, S., Smith, S.L. Sabino, J.N., Gertner, E., Dostal, J. & Greenberg, M.R. (2009). Tobacco Screening Multicomponent Quality Improvement Network Program: Beyond Education. <i>Academic Emergency Medicine</i> , 16 (11) 1186-1192.	The implementation of a multicomponent intervention to screen for tobacco use in 3 Emergency Department and 4 community (& dental) clinics. Before and after comparison on SC advice given with increases found in this and documentation. A quality improvement initiative.	Looked at change strategies including education, documentation, champions and evaluation. Discusses buy-in	Only 50 random patient records and 10 charts accessed to give results. Dental clinic data as well.	Visibility Prioritisation Standardisation Contextual factors	Accept: contributes to hypothesis 1.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
66. Freund, M. Campbell, E., Paul, C., Sakrouge, R. McElduff, P., Walsh, R.A. Wiggers, J, Knight, J. & Girgis, A. (2009a) Increasing smoking cessation care provision in hospitals: a meta-analysis intervention effect. <i>Nicotine and Tobacco research</i> , 11 (6), 650-662.	Meta-analysis of multi-strategic efficacy with regard to smoking cessation interventions. Found organisational change strategies and educational meeting were reported most frequently. Did not assess methodological as quality strong or moderate categorisations for any study. Found the strategy of assisting and counselling to quit the most important. Provision of NRT was not significant.	Assisting is brief smoking cessation. Found the majority of studies used reminders	Heterogeneity of settings. Was not able to measure individual components effectively due to this and the small number of studies. Meta-analysis technique not appropriate for subject matter.		Rejection: did not contribute to hypotheses.
67. Gilbert, L. & McIlvar, M. (2014). Hospital's duty of care in smoking cessation. <i>Nursing Times</i> , 110 (4), 22-24.	Looks at NICE guidance but reviews the national referral system and its impact on one English NHS trust in London	Looks at brief smoking cessation, some consideration of strategies one-to-one contact, communication and feedback.	Does not indicate who provides the data for the discussion, only brief commentary.	Visibility Prioritisation Standardisation Contextual factors	Acceptance: contributes to hypothesis 1.
68. National Centre for Smoking Cessation Training (NCSCT) (2011). <i>Survey of activity and stop smoking support available in Acute Trusts</i> . NCSCT.	Survey of 70 stop smoking advisors in England looks at their demographic information, perceptions and whether utilising electronic referral systems. Also looked at a wish list.	Found those who had Commissioning for Quality and Innovation (CQUIN) contract with greater activity related to BSC training and engagement between primary and acute care.	Only a brief report. Lacked depth in some areas	Visibility Prioritisation Standardisation Contextual factors	Acceptance: contributes to hypothesis 1.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
69. Freund, M., Campbell, E., Paul, C., Sakrouge, R., Lecathelinais, C., Knight, J., Wiggers, J., Walsh, R.A., Jones, T., Girgis, A. & Nagle, A. (2009b). Increasing hospital-wide delivery of smoking cessation care for nicotine-dependent in-patients: a multi-strategic intervention trail. <i>Addiction</i> , 104, 839-849.	Australian multi-strategic intervention trial. Quasi experimental matched pair trial (2 interventions and 2 control hospitals). Patients and Healthcare professional surveys, medical note audit pre and post intervention. Found increases in interventions, NRT	Provides information on efficacy of multi-strategic intervention. Looks at prompts and reminders, monitoring and feedback. Considers existing hospital processes.	Lacks depth of information on strategies, focus more on effectiveness and patient and healthcare characteristics.	Visibility Prioritisation Standardisation Contextual factors	Accept: contributes to hypothesis 1
70. Hung,D., Leidig, R. & Shelley, D.R. (2014) What's in a setting? Influence of organizational culture on provider adherence to clinical guidelines for treating tobacco use. <i>Healthcare Management review</i> , 39 (2), 154-163.	Looked at organisational culture in smoking cessation in primary care clinics: group/clan and rational and development and developmental culture. Found organizational culture can influence provider adherence – specifically those that emphasize human resources and performance standards. Used organisational surveys at 60 sites and individual at 54. Found hierarchy was positively correlated. An increase in quality interventions reduced implementation of SC.	Assessed using an adaptation of competing values framework to look at culture and compared with organisational context and provider perceptions on knowledge and ability. Found knowledge and skill increased. Links hierarchy to standardisation	Applied to 5 A approach – not brief smoking, not acute hospital settings. The value of the culture categorisation is not evident as all except developmental are associated with the intervention.		Reject: did not contribute to hypotheses.
71. Jones, S & Hamilton, S. (2011). Smoking cessation: implementing hospital-based services. <i>British Journal of Nursing</i> , 20 (18) 1210-1215.	Qualitative evidence for smoking cessation in hospital to consider preparation, collaboration, resources, training and evaluation then relates this to a hospital service. 7 interviews at two points. Various areas considered.	Provides commentary on justified key areas to actual clinical practice. Offers insight into some barriers and facilitators.	Lacks interview transcripts of findings. Unclear whether participants interviewed as two smoking cessation team members were also ward champions.	Visibility Prioritisation Standardisation Contextual factors	Accept: contributes to hypothesis 1.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
72. Arack, R., Blake, H., Lee, S. & Coulson, N. (2009). An evaluation of the Effects of the Smoking Ban at an acute NHS Trust. <i>International Journal of Health Promotion and Education</i> , 47 (4), 112-118.	Evaluation of effects of the smoking ban at an acute NHS trust. Staff surveys (n=160). Most staff favoured the ban	Transcripts were offered on staff opinion on public view of smoking and how little is done to change this. Enforcement was an issue.	Main focus on staff smoking and how the ban is ignored does not consider SC, explores whether ban encouraged HCPs to quit.	Visibility	Accept: contributes to hypothesis 1.
73. Ratschen, E, Britton,J., Doody, G. Phil,M., McNeil, A. (2009) Smoke-free policy in acute mental health wards: avoiding the pitfalls. <i>General Hospital Psychiatry</i> , 31, 131-136.	Interviews on 16 medical and non- medical staff in an acute mental health trust. Found the smoking ban was viewed ambivalently and Smoking status and SC not systematically addressed.	Discussed staff feelings towards enforcing the policy and how they did not always do so. Reactive prescription of NRT	The focus is on the ban and managing mental health patients who are detained.		Reject: does not contribute to the hypotheses
74. Vega, S. & Stolarek, I. (2010). Smoking cessation education increases interventions in a New Zealand hospital: World No Tobacco Day revisited. <i>NZNJ</i> , 123 (1317) 34-39.	NRT and educational programme assessed. Describes the process of implementation of smoke-free policy. Demonstrated increase in NRT prescriptions	Describes strategies and Quit cards for prescribers, education was another key issues. Does mentioned electronic referral.	Clear focus on increasing SC and NRT provision – looks at prescription increase but lacks details on the process.		Reject: does not contribute to the hypotheses
75. Williams, S.C, Morton, D.J., Jay, R.N., Koss, R.D. Shroeder, S.A. & Loeb, J.M.. (2005). Smoking cessation counseling in US hospitals: a comparison of high and low performers. <i>Journal of Clinical Outcome Management</i> , 12 (7), 354-352.	Smoking Cessation comparison of 113 US hospitals low and high performers using a survey focus on AML, pneumonia and heart failure (2002 - 2004). Hospital chief execs filled in one survey and latter part of survey completed by hospital staff	Based on existing audit data – which ranked hospitals on their performance in the selected patients (76 high :37 low). Looked at demographic data	Only looks at key conditions. 5 A approach Potential bias from participants	Prioritisation Standardisation Contextual factors	Acceptance: contributes to hypothesis 1

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
76. Zhang, H., Alexander, J.A., Luttrell, J., O'Connor, G., Daley, J. & Paris, M. (2005). Data feedback and clinical process improvement in acute myocardial infarction, <i>American Heart Journal</i> , 149, 856-6.	A study to improve discharge in AMI looked at data from 11, 394 patients with AMI between 2001 and 2002 and looked at the intervention of a computerized concurrent data feedback system implemented in 38 Tenet hospitals plus performance improvement teams – one of the indicators SC increased from 35 – 80%.	Focus on feedback – immediate computerised feedback on performance figures. These appeared to be transparent with networking between hospitals promoted.	Looks at a range of issues not just smoking cessation. Lacks detail on performance improvement team role, only lists members and says monthly meetings occurred with action planning	Visibility	Accept: Contributes to hypothesis 1.
77. Battle, E., Boixet, M., Agudo, A., Almirall, J. & Salvador, T. (1991). Tobacco prevention in hospitals: long –term follow-up of a smoking control programme. <i>British Journal of Addiction</i> 86, 709 - 717.	Survey to assess the effectiveness of a smoking cessation programme in hospital in Spain – looks at staff habits and attitudes. Pre and post programme surveys. Demonstrated a reduction in staff smokers.	Describes some processes with regard to training and advertisement “raising awareness campaign”.	Older study so some staff still smoking in clinical consultations.	Visibility	Accept: Contributes to hypothesis 1.
78.) Al-alawy, K., Roche, T. & Alwali, W. (2011). Implementing public health in secondary care: A Rotherham perspective on strategy development and implementation. <i>Perspectives in Public Health</i> 131 (137)	A review of the process of implementing a public health strategy using brief SC in secondary care. Recommends use of Commissioning for Quality and Innovation. Reviewed patients’ notes as part of audit process.	Looks at strategy development smoking was a priority work stream. Offers details on group membership action plans and audits. Mentions in-house campaigns and smoke-free issues. Comments on difficulties and strategies to overcome them. Very thorough.	Indicates that referral source could not always be identified or linked to the strategy or care pathway.	Visibility Prioritisation Standardisation Contextual factors	Accept: Contributes to hypothesis 1.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
79.Koplan, K.E. Regan,S, Goldszer, R., Schneider,L. & Rigotti, N. (2008) A computerized aid to support smoking cessation treatment for hospital patients. <i>J Gen Intern Med</i> , 23 (8), 1214-1217	Assessment of the effectiveness of a computerised order-entry referral for SC in hospital , pre and post- test :increased from , 0.8 – 2.1%,NRT from 1.6- 2.5% (p<0.001).	Looks at computerised system prompts on admission.	Did occur simultaneously with an education campaign for nurses. On one simple intervention does not consider complexity issues.		Reject: did not contribute to hypotheses..
80.Wheeler,J.G., Pulley, L., Felix, H.C., Bursac, Z.,Stewart,N.K.& Mays, G.P. (2007) Impact of Smoke-free Hospital campus Policy on employee and consumer behaviour. <i>Public Health Reports</i> , 124 (6), 744 -752.	Survey of staff attitudes before (842)and after (912) a smoke free policy in 2 hospitals – one a children's hospital. Also reviewed focus groups with supervisors (7)and security (4)and key informant interviews with administrators (8). Found no detrimental effects from the policy, staff support was high before and increased afterwards (89.8%)	Describes the support for staff smokers and publicity. Results indicate positive effects although initial administrators were worried. All groups appeared positive. Talks about the positive message to the public	Does not look at brief SC, some issues with regard to visibility. In the context of private healthcare so administrators were concerned that they would lose patients		Reject: did not contribute to hypotheses.
81. Wolfenden, L.,Wiggers,J., Campbell,E., Knight,J., Kerridge,R.& Spigelman, A. (2009). Providing comprehensive smoking cessation care to surgical patients: The case for computers. <i>Drug and Alcohol Review</i> , 28 (1), 60 -65.	Reviewed how a computer based smoking cessation intervention was effective for pre-op surgical patients. Found computerised system identified patients and took little staff time.20 minute session from computer- incorporated behavioural change strategies	Looks at enhancing organisation support, training and publicity and feedback .	Not brief smoking cessation. Lacked detail on accompanying strategies. Focus on intensive SC.		Reject: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
82. Reid, R.D., Mullen, K-A., Slovinec, M.E., Aitken, D.A., Papdakis, S. Hayley, P.M., McLaughline, C.A. & Pipe, A.L. (2010). Smoking cessation for hospitalized smokers: An evaluation of the "Ottawa Model". <i>Nicotine and Tobacco Research</i> , 12 (1), 11.18.	Evaluation of the "Ottawa Model" (Reach, efficacy, adoption, implementation and maintenance RE-AIM) before and after study. Looked at patient outcomes and administrative data. Found cessation at 6 months higher 29.4 % v 18.3%; odds ratio = 1.71, 95% CI =1.11 -2.64; z =2.43; p = . 02. Identified challenges to the programme	Looks at role of facilitators and strategies. Looks at challenges in staff attitudes. Looks at characteristics of hospitals.	Could be more detailed on intervention challenges, has more of a focus on efficacy.	Visibility Prioritisation Standardisation Contextual factors	Accept: contributes to hypothesis 1
83. Manfredi, C., Cho, Y.I., Warnecke, R., Suaders, S. & Sullivan, M. (2011). Dissemination strategies to improve the implementation of PHS smoking cessation guideline in MCH public health clinics: experimental evaluation results and contextual factors. <i>Health Education Research</i> , 26 (2), 348-60.	Experimental study to test the effectiveness of dissemination interventions for SC guidance in clinics. Outreach was part of the intervention. Looks at interventions to patients, e.g. advice, booklets etc. Types of clinics were associated with increases in effectiveness. Increase in disruptive events (e.g. re-structuring) or if clinical personnel changed meant less efficacy in the intervention	Offers some insight into contextual issues for adoption of interventions.	Clinic setting for maternal and child health, based on 5 As, not brief smoking cessation. Different SC interventions reviewed, e.g. educational materials given out. Looks at dissemination but more in the context of clinic characteristics than strategies. Lacks depth here.		Reject: did not contribute to hypotheses.
84. Shopik, N.A. Schultz, A.S.H., Nykiforuk, C. I.J., Finegan, B.A., Kvern, M.A. (2012). Impact of smoke-free hospital grounds policies: patient experiences and perceptions. <i>Health Policy</i> , 108, 93 -99.	Examines patient perspectives of smoke-free hospital grounds (n=82) Found general support but patients found policies were disregarded.	Data on patient perspectives on contradiction to health. Looked a message it conveys. Looked at enforcement and compliance.	Focus on smoke free policy and not brief smoking cessation, focus on patient not staff views		Reject: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
85. Sheffer, C., Stitzer, M & Wheeler, J. G (2009) Smoke-free Medical Facility Campus legislation: support resistance, difficulties and cost. <i>International Journal Environmental Res. Public Health</i> , 6, 256 -258.	Hospital administrators surveyed pre and post smoking ban in Arkansas (n=50), interviews also used. Used hospital tool kit. No differences between hospital characteristics. Found more support than anticipated from staff and patients. Enforcement was the greatest challenge along with communication/education. The toolkit was found to be helpful.	Looked at characteristics between hospitals, e.g. non-profit compared to profit	The same information as Wheeler's article – did not provide new information		Reject: did not contribute to hypotheses.
86. Jones, T.E. & Williams, J. (2010). Smoking prevalence and perspectives on smoking on campus by employees in Australian teaching hospitals. <i>International Medicine Journal</i> , 42 (3), 311-316.	Aimed to review the smoking prevalence of 4 Australian hospital employees and determine their perspectives on the smoking restrictions. Questionnaire format was used. Found non-smokers were more likely to support the ban. Most hospital employees found the visibility of smoking is problematic. Concludes discrete smoking areas would be more viable in reducing visibility.	Large survey of staff. Compares the hospital settings	A complete ban was not in place. Looked at all workers not just healthcare professionals. Does not consider visibility of patients who smoke. Focus on healthcare professionals who smoke on campus.		Reject: did not contribute to hypotheses.
87. World Health Organisation (2005). <i>The Role of the Health Professional in tobacco control</i> WHO.	Comments on the duty of healthcare professionals to set a good example – role model. Need to address smoking cessation as part of their standard care.	Offers support and guidance on the role of healthcare professionals in smoking cessation. Refers to the importance of brief SC and the 5 A approach with an individual perspective.	Offers information on a standard individualised approach but lacks depth.		Reject: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
88. Seymour, L. (2000). <i>Tobacco Control Policies within the NHS. Case Studies of effective practice</i> . Health at work in the NHS	Tobacco control policies within the NHS, offers case studies of effective practice	Offers detail on why chosen areas succeeded with tobacco control policies: leadership, publicity, training, targeting.	Looks at tobacco control and not SC	Visibility Prioritisation Standardisation Contextual factors	Accept: Contributes to hypothesis 1.
89. Martinez, C., Garcia, M., Mendez, E., Peris, M. & Ferbandez, E.(2008) Barriers and Challenges for Tobacco Control in a Smoke-free Hospital. <i>Cancer Nursing</i> , 31 (2),88-94	An employee survey on tobacco control measures within a hospital. Found staff supported restrictions and felt HCPs should offer a positive role model	Looks at staff perceptions of the smoke free environment	Focus on staff perceptions and staff smoking cessation. Only brief information on the importance of teaching staff SC		Reject: did not contribute to hypotheses.
90. Martinez, C. (2009) Barriers and Challenges of Implementing Tobacco Control Policies in Hospitals: Applying the Institutional Analysis and Development Framework to the Catalan Network of Smoke-Free Hospitals. <i>Policy, Politics and Nursing Practice</i> , 10, 224.	Barriers and challenges of implementing tobacco control policies in hospital. Used institutional analysis and development framework	Offers a depth of information and contextual and historical perspectives. Considers policy and funding and the issue of evaluation. Considers commitment.	Spanish so funding issues not necessarily transferable. Commentary rather than evidence based on feedback from participants. Tobacco control mainly.	Visibility Prioritisation Standardisation Contextual factors	Accept: Contributes to hypothesis 1.
91. Campion, J., Lawn, S., Brownlie, Hunter,E., Gynther, B. & Pols, R. (2008). Implementing Smoke-free Policies in Mental Health Inpatient Units: Learning from Unsuccessful Experience. <i>Australasian Psychiatry</i> , 16(2) 92-97.	Description of an unsuccessful attempt to introduce a smoke-free policy into a mental health unit. Key informant interviews (n=6) found that preparation of staff, a standardised approach were important.	Offers a depth of analysis on the conflict between public health and individual well-being.	Tobacco control in the context of specific mental health issues, focused on incident reporting. Small study		Reject: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
92. Mental Health Centre (2004). Going 100% Smoke-free in a secure stting: One hospital's successful Experience by the members of the Mental Health Centre Penetanguishene's Smoke-free Task Force. <i>Health Care Quarterly</i> , 7 (2), 4248.	Commentary on the smoking ban for a mental health institution in the USA	Focus on the barriers to implementation – a description of events. Some detail on patient compliance.	Purely on the smoking ban and the issues related to this and nicotine withdrawal in mental health patients		Reject: did not contribute to hypotheses.
93. McNeil, A., Bauld, L. & Ferguson, J. (2007). <i>Moving towards smoke-free in mental health services in Scotland</i> . Scotland: NHS Scotland.	Moving towards smoke-free mental health services in Scotland. Report from members of a mental health group on their views. Most interviewed felt that the smoking ban should be in conjunction with staff trained in smoking cessation.	Considers some hospital settings; some consideration of SC. Offers contextual information. Looks at enforcement.	Focus on the ban more than smoking cessation, only sparse information on this		Reject: did not contribute to hypotheses.
94. Eadie, D., Bauld, L. & MacAskill, S. (2008) <i>Smoking cessation support in secondary care in Scotland</i> . Scotland: NHS Health Scotland.	A description of the provision for smoking cessation , looks at some case studies and makes recommendations. Found four key issues that facilitate or pose barriers: service capacity, management support, links with community and pharmacotherapies. Looks at monitoring	Looks at case examples to offer best practice. Some examination of inpatient referrals.	Looks at the smoking cessation service more than brief smoking cessation.		Reject: did not contribute to hypotheses.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
95. Kells, M., Rogers, J., Oppenheimer, S.C., Blaine, K., McCabe, M., McGrath, E., Woodring, B. & Geller, A.C. (2013). The teachable moment captured: A framework for Nurse-led Smoking Cessation Interventions for Parents of Hospitalised Children. <i>Public Health Nursing</i> 30 (5) 468-473.	Survey on nurses attitudes and practice of initiating smoking cessation advice to parents of children admitted to hospital	Offers depth of nurses views and problems related to prioritisation, time and initiation of smoking cessation advice	For parents and not in-patients but core themes are transferable	Assessment of patient's requirements and motivation Perceptions of patient's reactions Strategies to patients' attitudes.	Accept: contributes to hypotheses 3
96. Eadie, D. MacDonald, L., Angus, K., Murray, R., O'Mara-Eves, A., Stansfield, C. & Leondardi-Bee, J. (2012). <i>Review 7. A review of the barriers and facilitators to implementing smokefree strategies and interventions in secondary care settings, Component 3 "Smokefree Secondary Care Settings". To inform the NICE guidance on 'Smoking cessation in secondary care: acute and maternity services'</i> . NICE.	Barriers and facilitators to smoke free secondary care setting. Looks at acceptance of smoke free policies and perceptions of rights versus addiction. Comments on the importance of smoke free norms.	Systematic review using some of the data already reviewed to draw conclusion; comments on important issues, such as management, consistency, enforcement.	Most of the literature has been accessed and reviewed but worth considering the conclusions drawn	Visibility Prioritisation Standardisation	Acceptance: Contributes to hypotheses 1 & 2.
97. Myers, K., McRobbie, H., West, O. & Hajek, P. (2012). <i>Smoking cessation interventions in acute and maternity services: Review of Barriers and Facilitators. Smoking cessation in Secondary Care. Review 3 (Component 1). Report to National Institute for Health and Clinical Excellence. NICE.</i>	Barriers and facilitators to smoking cessation in acute and maternity services	Systematic review, using data already reviewed.	Does not refer to brief smoking cessation. Less detail on findings than Eadie et al. and some similarities. Also looks at maternity services which may be in the community.	Visibility Prioritisation Standardisation	Acceptance: Contributes to hypotheses 1 & 2.

Evidence	Format and Findings	Strengths	Limitations	Chain of inference	Reasons for inclusion or rejection
98. Segaar, D. Bolman, C., Willemsen, M.C. & De Vries, H. (2007b). Identifying determinants of protocol adoption by midwives: a comprehensive approach. <i>Health Education Research</i> , 22(1), 14-26.	Looked at the factors behind introduction of a SC protocol for nurses on cardiac wards (n=206), applied this to an integrated change model to determine variances to adherence	Extensive review of different factors, including pre and post motivational factors with some insights into self-efficacy and social modelling and how these impacted on adoption.	Multiple review of factors and statistical analysis rather complicated with a lack of depth on areas of interest.	Acceptance of role Personal Characteristics Contextual factors Social support and modelling	Accept. Contributes to hypothesis 2.
99. Pawson, R. (2013). <i>The Science of Evaluation. A Realist Manifesto</i> . Chapter 7, 138-195. Great Britain: Sage.	Within this seminal text the teachable moment is analysed within a realist perspective of the placebo effect as a means of explanation of “invisible mechanisms”. Pawson sees diagnosis as a turning point to the teachable moment.	A realist approach, Pawson (2013) expands on Brody and Waters’ (1980) work; they saw diagnosis as a therapeutic treatment, as the physician’s assignment of meaning to symptoms offers the patient reassurance. Links the significance of diagnosis as an opportunity to influence future treatment to the concept of the teachable moment. Refers to McBride et al.’s (2003) model as programme theory.	Brief analysis of the meaning of the teachable moment.	Assessment of patient’s requirements and motivation Strategies towards the teachable moment.	Accept. Contributes to hypothesis 3.

Appendix 7- Evidence contributing to the synthesis

Table vii (a) – Evidence contributing to the synthesis –Organisational Consistency

Evidence contributing to Theory area 1 - 26 articles
<p>Al-alawy, K., Roche, T. & Alwali, W. (2011). Implementing public health in secondary care: A Rotherham perspective on strategy development and implementation. <i>Perspectives in Public Health</i> 131 (137) doi: 10.1177/17579139114001411.</p> <p>Arack, R., Blake, H., Lee, S. & Coulson, N. (2009). An evaluation of the Effects of the Smoking Ban at an acute NHS Trust. <i>International Journal of Health Promotion and Education</i>, 47 (4), 112-118.</p> <p>Battle, E., Boixet, M., Agudo, A., Almirall, J. & Salvador, T. (1991). Tobacco prevention in hospitals: long –term follow-up of a smoking control programme. <i>British Journal of Addiction</i> 86, 709 -717.</p> <p>Bickerstaff, G. (2008). <i>Hospital Smoking Cessation pathways – Level I & level II</i>. NICE Shared learning database. Retrieved from: http://www.nice.nhs.uk/usingguidance/sharedlearningimplementingniceguidance/examplesofimplementation/eximpresults.jsp?0=144</p> <p>Campbell, S., Pieters, K., Mullen, K-A., Reece, R. & Reid, R.D. (2011). Examining sustainability in a hospital setting: Case of smoking cessation. <i>Implementation Science</i> 6 (108). Retrieved from: http://www.implementationscience.com/content/6/1/108.</p> <p>Eadie, D. MacDonald, L., Angus, K., Murray, R., O'Mara-Eves, A., Stansfield, C. & Leondardi-Bee, J. (2012). <i>Review 7. A review of the barriers and facilitators to implementing smokefree strategies and interventions in secondary care settings, Component 3 "Smokefree Secondary Care Settings". To inform the NICE guidance on 'Smoking cessation in secondary care: acute and maternity services'</i>. NICE.</p> <p>Freund, M., Campbell, E., Paul, C., Sakrouge, R., Lecathelinais, C., Knight, J., Wiggers, J., Walsh, R.A., Jones, T., Girgis, A. & Nagle, A. (2009). Increasing hospital-wide delivery of smoking cessation care for nicotine-dependent in-patients: a multi-strategic intervention trial. <i>Addiction</i>, 104, 839-849.</p> <p>Gilbert, L. & McIlvar, M. (2014). Hospital's duty of care in smoking cessation. <i>Nursing Times</i>, 110 (4), 22 -24.</p> <p>Johnson, J.L., Moffat, B.M. & Malchy, L.A. (2010). In the shadow of a new smoke free policy: A discourse analysis of health care providers' engagement in tobacco control in community mental health. <i>International Journal of Mental Health Systems</i>, 4,23.doi:10.1186/175-4458-4-23.</p> <p>Hughes, L. (2013). How to advise and refer inpatients who smoke. <i>Nursing Times</i>, 109 (1/2). Retrieved from: http://www.ncsct.co.uk/usr/pub/NT_referral_article.pdf</p> <p>Jones, S & Hamilton, S. (2011). Smoking cessation: implementing hospital-based services. <i>British Journal of Nursing</i>, 20 (18) 1210-1215.</p> <p>Kimmel, S., Smith, S.L. Sabino, J.N., Gertner, E., Dostal, J. & Greenberg, M.R. (2009). Tobacco Screening Multicomponent Quality Improvement Network Program: Beyond Education.</p> <p>Lui, S.K., Prior, E., Warren, C., Brown, T., Snide, J. & Butterly, J.R. (2010). Improving the Quality of Care for the Hospitalized Tobacco User- One Institution's Transformational Journey, <i>Journal of Cancer Education</i>. 25, 297-301.</p> <p>Martinez, C. (2009) Barriers and Challenges of Implementing Tobacco Control Policies in Hospitals: Applying the Institutional Analysis and Development Framework to the Catalan Network of Smoke-Free Hospitals. <i>Policy, Politics and Nursing Practice</i>, 10, 224. doi:10.1177/1527154409346736</p> <p>Myers, K., McRobbie, H., West, O. & Hajek, P. (2012). <i>Smoking cessation interventions in acute and maternity services: Review of Barriers and Facilitators. Smoking cessation in Secondary Care. Review 3 (Component 1)</i>. Report to National Institute for Health and Clinical Excellence. NICE.</p> <p>National Centre for Smoking Cessation Training (NCSCT) (2011). <i>Survey of activity and stop smoking support available in Acute Trusts</i>. NCSCT.</p>

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- Schultz, A.S.H., Bottorff, J.L. & Johnson, J.L. (2006). An ethnographic study of tobacco control in hospital settings. *Tobacco Control*, 15, 317-322. Doi: 10.1136/tc.2005.015388.
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- Williams, S.C., Morton, D.J., Jay, K.N., Koss, R.G., Schroeder, S.A. & Loeb, J.M.(2005). Smoking Cessation Counseling in U.S. Hospitals: A Comparison of High and Low Performers. *JCOM*, 12 (7), 345 -352.
- Zhang, H., Alexander, J.A., Luttrell, J., O'Connor, G., Daley, J. & Paris, M. (2005). Data feedback and clinical process improvement in acute myocardial infarction, *American Heart Journal*, 149, 856-6.

Table vii (b) – Evidence contributing to the synthesis –Healthcare professionals

Evidence contributing to Theory Area 2 – 27 Articles
<p>Bakker, M.J., de Vries, H., Dolan Mullen, P. & Kok, G. (2005). Predictors of perceiving smoking cessation counselling as a midwife's role: a survey of Dutch midwives. <i>European Journal of Public Health</i>, 15 (1), 39-42.</p> <p>Cooke, M., Mattick, R.P. & Barclay, L. (1996). Predictors of brief smoking intervention in a midwifery setting. <i>Addiction</i>, 91 (11) 1715-1725.</p> <p>Duffy, S. A., Karvonen-Gutierrez, C.A., Ewing, L.A., Smith, P.M., & Veterans Integrated Service Network Tobacco Tactics Team. (2009). Implementation of the Tobacco Tactics Program in the Department of Veterans Affairs. <i>Journal of General Internal Medicine</i>, 25 (S1), 3-10.</p> <p>Eadie, D. MacDonald, L., Angus, K., Murray, R., O'Mara-Eves, A., Stansfield, C. & Leondardi-Bee, J. (2012). <i>Review 7. A review of the barriers and facilitators to implementing smokefree strategies and interventions in secondary care settings, Component 3 "Smokefree Secondary Care Settings". To inform the NICE guidance on 'Smoking cessation in secondary care: acute and maternity services'</i>. NICE.</p> <p>Geller, A.C., Brooks, D.R., Woodring, B., Oppenheimer, S., McCabe, M., Rogers, J., Timm, A., Resnick, E.A., & Winickoff, J.P. (2011). Smoking Cessation Counseling for Parents During Child Hospitalization: A National Survey of Pediatric Nurses. <i>Public Health Nursing</i>, 28 (6), 475-484. Doi:10.1111/j.1525-1446.2011.00954.x</p> <p>Johnson, J.L., Moffat, B.M. & Malchy, L.A. (2010). In the shadow of a new smoke free policy: A discourse analysis of health care providers' engagement in tobacco control in community mental health. <i>International Journal of Mental Health Systems</i>, 4,23. doi:10.1186/175-4458-4-23.</p> <p>Katz, D.A., Holman, J., Johnson, S., Hillis, S.L. Ono, S., Stewart, K., Paez, M.,Fu, S., Grant, K., Buchanan, L., Prochazka, A., Battaglia, C., Titler, M. & Vander Weg, M.W. (2013). Implementing Smoking Cessation Guidelines for Hospitalized Veterans: Effects on Nurse Attitudes and Performance. <i>Journal of General Internal Medicine</i>, 28 (11), 1420-9. Doi: 10.1007/s11606-013-2464-7.</p> <p>Matten, P., Morrison, V., Rutledge, D., Chen, T. & Wong, S-F. (2011). Evaluation of Tobacco Cessation Classes Aimed at Hospital Staff Nurses. <i>Oncology Nursing Forum</i>, 38 (1) 67-73.</p> <p>McCarty, M.C., Hennrikus, D.J., Lando, H.A. & Vessey, J.T.(2001). Nurses' Attitudes Concerning the Delivery of Brief Cessation Advice to Hospitalized Smokers. <i>Preventative Medicine</i>, 33, 674-681.</p> <p>Myers, K., McRobbie, H., West, O. & Hajek, P. (2012). <i>Smoking cessation interventions in acute and maternity services: Review of Barriers and Facilitators. Smoking cessation in Secondary Care. Review 3 (Component 1)</i>. Report to National Institute for Health and Clinical Excellence. NICE.</p> <p>Nagle, A., Schofield, M. & Redman, S. (1999). Australian nurses' smoking behaviour, knowledge and attitude towards providing smoking cessation care to their patients. <i>Health Promotion International</i>, 14 (2), 133-144.</p> <p>Passera, A. (2010). Cardiac Nurses Give Smokefree story to patients. <i>Kai Tiaki Nursing</i>, 16 (6), 33.</p> <p>Pipe, A., Sorensen, M. & Reid, R. (2009). Physician smoking status, attitudes toward smoking, and cessation advice to patients: An international survey. <i>Patient Education and Counseling</i>, 74, 118-123.</p> <p>Radsma, J. & Bortorf, J.L.(2009). Counteracting Ambivalence: Nurses Who Smoke and Their Health Promotion Role With Patients Who Smoke. <i>Research in Nursing and Health</i>, 32, 443-452.</p> <p>Ratschen, E., Britton, J., Doody, G.A., Leonardi-Bee, J. & McNeil, A. (2009). Tobacco dependence, treatment and smoke-free policies: a survey of mental health professionals' knowledge and attitudes. <i>General Hospital Psychiatry</i>, 31, 576-582.</p> <p>Sarna, L. Bialous, S.A., Wells, M., Kotlerman, J., Wewers, M.E. & Froelicher, E. S. (2009). Frequency of nurses' smoking cessation interventions: report from a national survey. <i>Journal of Clinical Nursing</i>, 18, 2066-2077. Doi:10.1111/j.1365-2702.2009.02796.x</p>

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Table vii (c) – Evidence contributing to the synthesis –The window of opportunity

Evidence contributing to Theory Area 3 – 34 articles
<p>Abrahamsson, A., Springnett, J., Karlsson, L., Hakansson, A. & Ottosson, T. (2005). Some lessons from Swedish midwives' experiences of approaching women smokers in antenatal care. <i>Midwifery</i>, 21, 335 – 345.</p> <p>Aveyard, P., Begh, R., Parsons, A. & West, R. (2012). Brief opportunistic smoking cessation interventions: a systematic review and meta- analysis to compare advice to quit and offer of assistance. <i>Addiction</i> doi:10.1111/j.1360-0443.2011.03770.x.</p> <p>Bell, K. (2012). Remaking the Self: Trauma, Teachable Moments, and the Biopolitics of Cancer Survivorship. <i>Culture Medicine and Psychiatry</i> 36, 584-600.</p> <p>Bremberg, S. & Nilstun, T. (2005). Justification of physicians' choice of action. Attitudes among the general public, GPs, and oncologists in Sweden. <i>Scandinavian Journal of Primary Health Care</i> 23, 102 -108.</p> <p>Buchbinder, M., Wilbur, R., Zuskov, D., McLean, S. & Sleath, B. (2014). Teachable moments and missed opportunities for smoking cessation counselling in a Hospital Emergency Department: a mixed-methods study of patient-provider communication. <i>BMC Health Services Research</i>, 14, 651.doi:10.1186/s12913-014-0651-9.</p> <p>Butler, C.C., Pill, R. & Stott, N.C.H. (1998). Qualitative study of patients' perceptions of doctors' advice to quit smoking: implications for opportunistic health promotion. <i>BMJ</i> 316, 1878 -81.</p> <p>Champassak, S.L., Goggin, K., Finocchiaro-Kessler, S., Farris, M., Ehteshami, M., Schoor, R., & Catley, D. (2014). A qualitative assessment of provider perspectives on smoking cessation counselling. <i>Journal of Evaluation in Clinical Practice</i>, 20, 281 -287.</p> <p>Cohen, D.J., Clark, E.C., Lawson, P.J., Casucci, B.A. & Flocke, S.A. (2011). Identifying teachable moments for health behavior counseling in primary care. <i>Patient Education and Counseling</i> 85, e8 – e15.</p> <p>Coleman, T., Cheater, F. & Murphy, E. (2004). Qualitative study investigating the process of giving anti-smoking advice in general practice. <i>Practice Education and Counseling</i> 52, 159 – 163.</p> <p>Dohnke, B., Will, K.E., Weiss-Gerlach, E. & Spies, C.D. (2008). Do hospital treatments represent a 'teachable moment' for quitting smoking? A study from a stage theoretical perspective. <i>Psychology and Health</i> 27, 1291 -1307.</p> <p>Duffy, S. A., Karvonen-Gutierrez, C.A., Ewing, L.A., Smith, P.M., & Veterans Integrated Service Network Tobacco Tactics Team. (2009). Implementation of the Tobacco Tactics Program in the Department of Veterans Affairs. <i>Journal of General Internal Medicine</i>, 25 (S1), 3-10.</p> <p>Flocke, S.A., Antognoli, E., Step, M.M., Marsh, S., Parran, T. & Mason, M.J. (2012). A teachable moment communication process of smoking cessation talk: description of group randomized clinician-focused intervention. <i>BMC Health Services Research</i> 12: 109.</p> <p>Geller, A.C., Brooks, D.R., Woodring, B., Oppenheimer, S., McCabe, M., Rogers, J., Timm, A., Resnick, E.A., & Winickoff, J.P. (2011). Smoking Cessation Counseling for Parents During Child Hospitalization: A National Survey of Pediatric Nurses. <i>Public Health Nursing</i>, 28 (6), 475-484. Doi:10.1111/j.1525-1446.2011.00954.x</p> <p>Hughes, L. (2013). How to advise and refer inpatients who smoke. <i>Nursing Times</i>, 109 (1/2). Retrieved from: http://www.ncsct.co.uk/usr/pub/NT_referral_article.pdf</p> <p>Johnson, J.L., Moffat, B.M. & Malchy, L.A. (2010). In the shadow of a new smoke free policy: A discourse analysis of health care providers' engagement in tobacco control in community mental health. <i>International Journal of Mental Health Systems</i>, 4,23. doi:10.1186/175-4458-4-23.</p> <p>Katz, D.A., Holman, J., Johnson, S., Hillis, S.L. Ono, S., Stewart, K., Paez, M., Fu, S., Grant, K., Buchanan, L., Prochazka, A., Battaglia, C., Titler, M. & Vander Weg, M.W. (2013). Implementing Smoking Cessation Guidelines for Hospitalized Veterans: Effects on Nurse Attitudes and Performance. <i>Journal of General Internal Medicine</i>, 28 (11), 1420-9. Doi: 10.1007/s11606-013-2464-7.</p>

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Appendix 8 - Interview schedule

Brief Smoking Cessation in Acute Hospital Settings Version 2 January 7th, 2015

Introduction

- Overview of the study and ethical issues
- Confirmation of consent

Participant biography

- Profession
- Position within the organisation
- Smoking status
- Brief smoking cessation training

The implementation

- Can you tell me what you know about the organisation's strategy for brief smoking cessation?
- In what ways do you think that implementing brief smoking cessation advice is part of normal clinical practice for all healthcare professionals?
- In what ways does the clinical and hospital environment impact on prioritising the implementation of brief smoking cessation?
- What do you feel about the expectation to deliver brief smoking cessation in addition to other duties? Does this fit around your clinical practice and if so how?
- If you are going to offer brief smoking cessation how may you go about this?
- Do you think the organisation facilitates the adaption of brief smoking cessation to individual patient requirements?
- Do you think there are effective links to Stop Smoking Wales within the Local Health Board? What helps the referral process?
- Can you tell me about the support within the organisation for developing your skills and knowledge with regard to brief smoking cessation?
- What do you think are the incentives to getting healthcare professionals to engage in brief smoking cessation?
- What do you think are the barriers to getting healthcare professionals to engage in brief smoking cessation?

Interview Closure

- Opportunities for additional questions from the participant.
- Thanks and termination of the interview.

Appendix 9 – The survey

Version 2, January 7th, 2015



Brief Smoking Cessation in Acute Hospital Settings

Healthcare Professional Survey

Thank you for taking the time to read this questionnaire. It seeks the views of those healthcare professionals who work at , or

Bangor University School of Healthcare Sciences in collaboration with Public Health aims to determine what supports the implementation of brief smoking cessation advice in acute hospital settings. At every opportunity this involves assessing whether the patient smokes, advising smokers to quit and acting to provide nicotine replacement therapy and referral to Stop Smoking Wales. This can be challenging for many reasons.

This questionnaire asks for your views about this particular issue. The answers you provide will contribute to understanding about local provision on brief smoking cessation in acute hospitals within Health Board.

The questionnaire asks for a little information about you. However, the information you provide will be kept strictly confidential. The data collected will be used for an implementation project as part of the Professional Doctorate in Healthcare programme but no-one will be able to identify your involvement. It will be assumed that if you complete the questionnaire, then you consent to the use of any data you provided.

This questionnaire is available on line but if you have a hard copy please use the stamped addressed envelope provided to return this to Bangor University.

Section One

Place of work	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Professional Group		
Year qualified		
Smoking status (Please tick as appropriate)	Never smoked Ex-smoker Current smoker	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Attended Brief smoking cessation training within <input type="text"/> HB, provided by Stop Smoking Wales.	Yes No	<input type="checkbox"/> <input type="checkbox"/>
Attended intensive smoking cessation training within <input type="text"/> HB, provided by Stop Smoking Wales.	Yes No	<input type="checkbox"/> <input type="checkbox"/>
Attended smoking cessation training within a different organisation (please specify).	Yes No	<input type="checkbox"/> organisation name: <input type="checkbox"/>

Section Two

Please rate your agreement with the statements below by crossing the number which most closely fits with your view.

For Example:

I am happy to complete this survey

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	--------------	---	---	----------------

Question One

Asking patients whether they smoke, and facilitating nicotine replacement therapy and referral to Stop Smoking Wales.

...is something I expect to do:

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

... is something I want to do:

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

...is something I intend to do:

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
-------------------	---	---	---	---	---	---	---	----------------

Question Two

Asking patients whether they smoke, and facilitating nicotine replacement therapy and referral to Stop Smoking Wales is:

Harmful	1	2	3	4	5	6	7	Beneficial
----------------	----------	----------	----------	----------	----------	----------	----------	-------------------

Pleasant (for me)	1	2	3	4	5	6	7	Unpleasant (for me)
--------------------------	----------	----------	----------	----------	----------	----------	----------	----------------------------

Foolish	1	2	3	4	5	6	7	Sensible
----------------	----------	----------	----------	----------	----------	----------	----------	-----------------

Pointless	1	2	3	4	5	6	7	Useful
------------------	----------	----------	----------	----------	----------	----------	----------	---------------

Question Three

3a) Most people, within the clinical environment, who are important to me think that...

I should	1	2	3	4	5	6	7	Should not
-----------------	----------	----------	----------	----------	----------	----------	----------	-------------------

... ask patients whether they smoke, and facilitate nicotine replacement therapy and referral to Stop Smoking Wales.

3b) Asking patients whether they smoke, and facilitating nicotine replacement therapy and referral to Stop Smoking Wales is expected of me.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

3c) I feel under pressure to ask patients whether they smoke, and facilitate nicotine replacement therapy and referral to Stop Smoking Wales.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

3d) People who are important to me in the clinical area want me to ask patients whether they smoke, and facilitate nicotine replacement therapy and referral to Stop Smoking Wales.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

3e) I feel under pressure to ask patients whether they smoke, and facilitate nicotine replacement therapy and referral to Stop Smoking Wales from:

Patients:

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

Professional peers:

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

Other healthcare professional colleagues:

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

From healthcare policy:

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

From the Smoke free environment:

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

Question Four

4a) I am confident that I could ask patients whether they smoke, and facilitate nicotine replacement therapy and referral to Stop Smoking Wales.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

4b) For me to ask patients whether they smoke, and facilitate nicotine replacement therapy and referral to Stop Smoking Wales would be:

Easy	1	2	3	4	5	6	7	Difficult
-------------	----------	----------	----------	----------	----------	----------	----------	------------------

4c) It is up to me whether I ask patients whether they smoke, and facilitate nicotine replacement therapy and referral to Stop Smoking Wales.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

4d) I feel I have control over this aspect of my clinical practice.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

4e) I would like to ask patients whether they smoke, and facilitate nicotine replacement therapy and referral to Stop Smoking Wales but I don't feel I have the skills and knowledge required.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
--------------------------	----------	----------	----------	----------	----------	----------	----------	-----------------------

If you have any other comments on brief smoking cessation in acute hospital settings please add these here.

Section Three

You do not have to give your name and contact details if you do not wish to, but it is essential to give these if you want to be considered for the prize draw.

Name	
Contact phone number	
Contact e mail	
Please indicate if you are happy to be contacted for further information.	Yes <input type="checkbox"/> No <input type="checkbox"/>

This completes the questionnaire.

Many thanks for your time to complete this questionnaire. It is much appreciated.

Please place the completed questionnaire in the envelope provided and return by post free of charge

Appendix 10 – Ethical approval

COLEG IECHYD A GWYDDORAU YMDDYGIADOL
COLLEGE OF HEALTH AND BEHAVIOURAL SCIENCES

YSGOL GWYDDORAU GOFAL IECHYD
SCHOOL OF HEALTHCARE SCIENCES

Healthcare and Medical Sciences Academic Ethics Committee



Our ref: SW/SM

6 February 2015

Sian Davies
c/o School of Healthcare Science
Fron Heulog
Ffriddoedd Road
Bangor

Dear Sian

Re: Proposal 2014-11-01 Brief Smoking Cessation In Acute Hospital Settings

Thank you for your application to the AEC which was subject to an expedited review as requested. All of the necessary documentation was provided and appropriately completed.

I am therefore able to give approval for your study on behalf of the AEC, and this letter constitutes evidence of that approval should it be necessary for any applications to other RECs.

Please note that approval from this AEC does not convey automatic authority to proceed with your study. You are formally advised that it is essential to confirm with the relevant authorities whether you are required to submit your proposal to any other Ethics Committee(s), such as Local NHS Research Ethics Committee, and NHS Research Governance Departments, prior to commencing your study.

Should you need to make any substantial amendments to your study protocol during the lifetime of the research, you are required to submit notice of these to the AEC for further approval, including major amendments requested by an external REC or R&D Commit

If you have any queries, please do not hesitate to contact me for clarification.

Yours sincerely

A handwritten signature in black ink, appearing to read 'S. Williams'.

Dr Sion Williams
Chair, HCMS AEC

c.c Dr Chris Burton, Supervisor

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Registered charity number: 1141565 -

HCMS AEC approval letter V2 July 2013

**Panel Arolygu Mewnol Y&D
R&D Internal Review Panel**

Mrs Siân Davies
School of Healthcare Science, Fronheulog,
Ffriddoedd Rd., Bangor,
Gwynedd
LL57 2EF hssc0a@bangor.ac.uk

25th March 2015

Dear Mrs Siân Davies

Re: Confirmation that R&D governance checks are complete / R&D approval granted

Study Title	Brief Smoking Cessation in Acute Hospital Settings
RAS reference	172959

Thank you for submitting your R&D application and supporting documents. The above study was eligible for Proportionate Review and was reviewed by the R&D Manager and Chairman of the Internal Review Panel.

The Panel is satisfied with the scientific validity of the project, the risk assessment, the review of the NHS cost and resource implications and all other research management issues pertaining to the revised application.

The Proportionate Review Panel is pleased to confirm that all governance checks are now complete and to grant approval to proceed at [] Health Board sites as described in the application.

The documents reviewed and approved are listed below:

Documents:	Version:	Date:
R&D form	V3.5	18/02/2015
SSI form	V3.5	18/02/2015
Protocol	V1	No date
Participant Information Sheet	V2	07/01/2015
Consent form	V1	01/11/2014
Poster	V1	No date
Questionnaire	V2	07/01/2015
Summary CV: Williams		No date
Summary CV: Burton		18/02/2015
Summary CV: Tinkler		02/03/2015
Summary CV: Davies		18/02/2015
Evidence of Insurance		Expires 31/07/2015
Risk assessment		19/02/2015
Evidence of University Ethics		06/02/2015
Letter of Access (BCUHB)		23/02/2015
Evidence of funding (Bangor University for Incentive)		19/02/2015

All research conducted at the [] University Health Board sites must comply with the Research Governance Framework for Health and Social Care in Wales (2009). An electronic link to this document is provided on the [] R&D WebPages. Alternatively, you may obtain a paper copy of this document via the R&D Office.

Attached you will find a set of approval conditions outlining your responsibilities during the course of this research. Failure to comply with the approval conditions will result in the withdrawal of the approval to conduct this research in the [] Health Board.

If your study is adopted onto the NISCHR Clinical Research Portfolio (CRP), it will be a condition of this NHS research permission, that the Chief Investigator will be required to regularly upload recruitment data onto the portfolio database. To apply for adoption onto the NISCHR CRP, please go to: <http://www.wales.nhs.uk/sites3/page.cfm?orgid=580&pid=31979>.

Once adopted, NISCHR CRP studies may be eligible for additional support through the NISCHR Clinical Research Centre. Further information can be found at: <http://www.wales.nhs.uk/sites3/page.cfm?orgid=580&pid=28571> and/or from your NHS R&D office colleagues.

To upload recruitment data, please follow this link:

http://www.crnc.nihr.ac.uk/about_us/processes/portfolio/p_recruitment.

Uploading recruitment data will enable NISCHR to monitor research activity within NHS organizations, leading to NHS R&D allocations which are activity driven. Uploading of recruitment data will be monitored by your colleagues in the R&D office. If you need any support in uploading this data, please contact debra.slater@wales.nhs.uk or sion.lewis@wales.nhs.uk

If you would like further information on any other points covered by this letter please do not hesitate to contact me.

On behalf of the Panel, may I take this opportunity to wish you every success with your research.

Yours sincerely,



Dr Nefyn Williams PhD, FRCGP
Director of R&D

Copy to:

Sponsor:

Professor Jo Rycroft-Malone
School of Healthcare Science, Fronheulog,
Ffriddoedd Rd., Bangor,
Gwynedd
LL57 2EF j.rycroft-malone@bangor.ac.uk

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Dr Lynne Williams
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Appendix 11 – Good clinical practice certificate



NIHR CRN Workforce Development
Enabling learning and development in the Clinical Research Network



**National Institute for
Health Research**



Today's **Research**; Tomorrow's **Care**
Ymchwil Heddiw; Gofal Yfory



Ariennir gan
Lywodraeth Cymru
Funded by
Welsh Government

Certificate of Attendance

Sian Davies

attended

Introduction to Good Clinical Practice (GCP):

A practical guide to ethical and scientific quality standards in
clinical research

on 10th March 2015

Sessions include:

1. The Value of Clinical Research and the role of NIHR CRN & NISCHR CRC
2. GCP: the standards and why we have them
3. Study set up: responsibilities, approvals and essential documents
4. The process of informed consent
5. Case report form, source data and data entry completion
6. Safety reporting in clinical trials

Including EU Directives, Medicines for Human Use (Clinical Trials) Regulations and the Department of Health Research Governance Framework for Health and Social Care, as applied to the conduct of Clinical Trials and other studies conducted in the NHS

This course is accredited by the Royal College of Physicians (6 CPD points) and the Royal College of Nursing Accreditation Unit (7 study hours)
CPD Code: 89041



RCN ACCREDITED
This programme has been accredited by the RCN Centre for Professional Accreditation until 11 February 2016. Accreditation applies only to the educational content of the programme and does not apply to any product

Zoe Whale
Training & Development Manager
NISCHR CRC

Emma Lowe
NIHR CRN Learning & Development
Lead

Mae NISCHR CRC yn rhan o'r isadeiledd ymchwil i Gymru sy'n cael ei ariannu gan NISCHR, Llywodraeth Cymru www.wales.gov.uk/nischr
NISCHR CRC is part of the research infrastructure for Wales funded by NISCHR, Welsh Government www.wales.gov.uk/nischr

Appendix 12 – Participant information leaflet

Version 2 January 7th, 2015



Project Title: Brief Smoking Cessation in Acute Hospital Settings

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

What is the purpose of the study?

Smoking is the leading cause of preventable death and reducing smoking prevalence is a key target within healthcare. Healthcare professionals are expected to offer brief smoking cessation advice to patients admitted to hospital and support quit attempts. Little is known about the provision of brief smoking cessation in acute hospital settings within North Wales. Research will be conducted with healthcare professionals across the three acute hospitals in North Wales to compare how contextual issues and individual attitudes impact on the implementation of brief smoking cessation. This will involve collecting data from healthcare professionals, who are required to offer brief smoking cessation or are responsible for its implementation; data collection will be via interviews, a survey and focus groups. The purpose of this study is to develop insights into what facilitates and impedes the implementation of brief smoking cessation in acute hospital settings.

Why have I been chosen?

You are being asked to participate as you are someone who is involved in brief smoking cessation.

Do I have to take part?

No. Participation is entirely voluntary and it is up to you to decide whether or not you would like to take part in either the interview, focus group or both. If you do decide to take part, you will be given this information sheet to keep and you will be asked to sign a consent form. If you do decide to take part, you are still free to withdraw at any time, without giving a reason. A decision not to take part; or to withdraw at any time will not affect your professional standing or employment or any other rights.

What will happen to me if I take part?

You will be asked to participate in an audio recorded interview with Siân Davies from Bangor University. This may be either face-to-face or undertaken by telephone at a time convenient for you. The interview will be about aspects of engaging in, and the implementation of brief smoking cessation advice.

What do I have to do?

You can agree to participate in this study via completing the expression of interest form and returning it to Siân Davies using the stamped addressed envelope provided or contacting her via e

mail. If you have agreed to participate in this study, Siân Davies from Bangor University will contact you to ask if you are willing to take part. If, after having the chance to ask any questions, you agree to an interview or participate in a focus group or both, Siân Davies will arrange a place and time for the interview and/ or focus group. You will be asked to sign a consent form to show that you agree and the interview/focus group will take place at a time and venue convenient for you. Interviews and focus groups will be available in English only.

What are the possible risks and disadvantages of taking part?

Siân Davies will be taking up some of your work time for the interview, which will last about 30 minutes. We do not, however, envisage any particular risks to taking part. Given the topics for the interview, we do not expect it to cover any sensitive issues. Siân Davies will ensure use of any direct quotations from interviews will be non-attributable to you or your place of work, by removing any identifiable information. You are able to withdraw from the study at any time, with no further data collected, following data collection you are free to withdraw anything that you have said or change your mind about being involved altogether during or after the interview. If you wish to withdraw data collected prior to your withdrawal you are able to do so by requesting this in writing to Siân Davies.

What are the possible benefits from taking part?

There are unlikely to be any direct personal benefits for you, but the results of the evaluation will be reported back to Public Health Wales and University Health Board on an on-going basis to inform further development and enable them to make changes where appropriate. The final results will contribute to better understanding of 'what works' to promote healthcare professionals offering brief smoking cessation in acute hospital settings.

What if there is a problem?

If you are concerned about any aspect of this study, you should speak to the researcher, Siân Davies, in the first instance. Her contact details are provided at the end of this document. If after this, there are issues which remain unresolved or you wish to complain, you should contact the study sponsor. The relevant individual is Dr Jo Rycroft-Malone, Head of School – contact details at the end of this sheet.

Will my part in the study be kept confidential?

Yes. All information collected about you and from you during the course of this study will be kept strictly confidential. Any information such as interview transcripts that relate to you will have your name or any other identifying information removed so that you cannot be recognised from it. In any reports, documents or publications arising from the study we will make every effort to ensure that anything you say is used in a non-attributable way, so that your identity remains anonymous. Similarly, anything you say in an interview will not be divulged to anyone not involved in the study, nor others who you work alongside, who may also have taken part in interviews.

What will happen to the results of this study?

This project constitutes part of a Professional Doctorate in Health Service, culminating in the production of a thesis for academic review. The overall findings of this study will be fed back to the Local Health Board and Public Health Wales. Individuals will not be identified in this. They will also be shared more widely through conferences and publications in academic and professional journals.

Who is organising and funding this evaluation study?

The research is sponsored by Bangor University, Wales and will be carried out by a member of staff from Bangor University's School of Healthcare Sciences. Contact details are provided at the end of this sheet.

Who has reviewed this study?

Approval to undertake the study has also been granted by Bangor University Research Ethics Committee and Research and Development Committee.

What do I do now?

Once you have read the information sheet, and if you would like to take part in the study, you will be asked by the researcher to sign a consent form. You will be given a copy to keep along with this information sheet and the researcher will also retain a copy.

Thank you for taking time to read this information sheet.

RESEARCHER	STUDY SPONSOR
<p>Siân Davies Lecturer of Nursing School of Healthcare Sciences Bangor University Fron Heulog Ffriddoedd Road Bangor Gwynedd Wales, UK LL57 2EF</p> <p>Tel: 01248 383288 Email: sian.davies@bangor.ac.uk</p>	<p>Professor Jo Rycroft-Malone Head of School School of Healthcare Sciences Bangor University Fron Heulog Ffriddeodd Road Bangor Gwynedd Wales,UK LL57 2EF</p> <p>Tel: 01248 382556 Email: j.rycroft-malone@bangor.ac.uk</p>

Appendix 13 – Participant consent form

Version 1, November 1st, 2014.

Contact details of researcher: Siân Davies, School of Healthcare Sciences, Bangor University.

Email s.davies@bangor.ac.uk Phone: 01248 383288



Brief Smoking Cessation in Acute Hospital Settings

Please read the following and **initial** the appropriate box.

1. I confirm that I have read and understand the participant information sheet dated January 7th, 2015 for the above study. I have had an opportunity to consider this information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and with no detrimental effect. ☐
3. Interview: I agree to take part in a face to face or telephone interview and I agree to the interview being recorded and transcribed for the purposes of analysis. ☐
4. Focus Group: I agree to take part in a focus group about brief smoking cessation and I agree to the focus group being recorded and transcribed for the purpose of analysis. ☐
5. I agree to the use of **anonymous** quotes in the thesis, in written reports, conference presentations and/or publications in professional or academic journals. ☐
6. I understand and agree that data will be anonymised and stored on a secure computer and that anonymised data may be used again in the future. ☐
7. I understand that relevant sections of data collected during the study may be looked at by individuals from Bangor University; or from NHS organisations where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records. ☐

.....
Name of participant	Date	Signature
.....
Name of researcher	Date	Signature

1 copy to be retained by participant; 1 copy to be retained by researcher; 1 copy for Governance Bangor University

Appendix 14 –Missing values

Table xiv: Missing Values from Survey

	N	Mean	Std. Deviation	Missing	
				Count	Percent
Q1a	273	5.34	1.843	6	2.2
Q1b	263	5.38	1.750	16	5.7
Q1c	257	5.30	1.827	22	7.9
Q2a	279	6.44	.994	0	.0
Q2b	279	3.76	1.506	0	.0
Q2c	277	6.38	1.212	2	.7
Q2d	279	5.96	1.538	0	.0
Q3a	278	3.90	2.168	1	.4
Q3b	278	5.18	1.943	1	.4
Q3c	279	2.72	1.815	0	.0
Q3d	279	4.44	2.033	0	.0
Q3e1	279	2.29	1.658	0	.0
Q3e2	279	3.14	2.049	0	.0
Q3e3	279	3.10	1.969	0	.0
Q3e4	279	3.84	2.206	0	.0
Q3e5	278	3.84	2.202	1	.4
Q4a	278	5.73	1.585	1	.4
Q4b	278	2.70	1.736	1	.4
Q4c	279	4.58	2.055	0	.0
Q4d	278	5.32	1.825	1	.4
Q4e	278	3.18	2.127	1	.4

Appendix 15 – Question one in electronic format for monkey survey

File Edit View History Bookmarks Tools Help

Brief Smoking Cessation in... x Grade Centre – NAS-2204... x Grade Centre – Combi_NA... x Grade Centre – NHS-3175... x +

SurveyMonkey Inc. (US) https://www.surveymonkey.com/r/C8P2T98 Search

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Brief Smoking Cessation in Acute Hospital Settings - Healthcare Professional Survey

SECTION TWO

Please rate your agreement with the statements below by selecting the number which most closely fits with your view.

9. Asking patients whether they smoke, and facilitating nicotine replacement therapy and referral to Stop Smoking Wales ...

...

	1 Strongly Disagree	2	3	4	5	6	7 Strongly agree
... is something I expect to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... is something I want to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... is something I intend to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Asking patients whether they smoke, and facilitating nicotine replacement therapy and referral to Stop Smoking Wales is ...

1 Harmful	2	3	4	5	6	7 Beneficial
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Asking patients whether they smoke, and facilitating nicotine replacement therapy and referral to Stop Smoking

15:17 04/12/2015

Appendix 16- Consolidated Framework for Implementation Research Matrix for site comparison

Site	Hospital A	Hospital B	Hospital C
I. Innovation Characteristics			
A. Innovation Source	<p>Overall: -1</p> <p>Rationale: This was a national intervention however many healthcare professionals (HCPs) were not aware that there was a policy and drive for brief smoking cessation (BSC), except where areas had been targeted from strategic levels, e.g. pre-operative and outpatients' clinics. Here there had been effective communication with Public Health. Respiratory practitioners had a good understanding of the strategy. There was some suggestion that the intervention should come under the remit of primary and not secondary care from HCPs on this site</p>	<p>Overall: -1</p> <p>Rationale: Many HCPs were also not aware that there was a policy for BSC. Where areas had been targeted from strategic levels, pre-operative and outpatients clinics, there had been effective communication with public health and within the local teams. These areas also had a sense of ownership. HCPs in respiratory, cardiac and stroke services had a good understanding of the strategy.</p>	<p>Overall: -1</p> <p>Rationale: Similar to the other sites many HCPs were not aware that there was a policy for BSC. Again where areas had been targeted from strategic levels (pre-operative and outpatients clinics), there had been effective communication with public health and within the local teams, resulting in a sense of ownership. There was some suggestion that the intervention should come under the remit of primary and not secondary care from HCPs, also that Public Health Wales should be more involved.</p>
B. Evidence Strength & Quality	<p>Overall: +1</p> <p>Rationale: The strong evidence for the harms of smoking was acknowledged. Generally HCPs did not question whether BSC was evidence based practice; as all took it for granted that smoking cessation is best for the patient. Few queried the evidence for brief smoking cessation in hospital, none referred to the guidance recommending referral for immediate extensive advice by a specialist practitioner (NICE, 2013). Doctors were most likely to comment on the evidence.</p>	<p>Overall: +1</p> <p>Rationale: The strong evidence for the harms of smoking was acknowledged. Again most HCPs took it for granted that BSC is evidence based and best for the patient. None referred to the guidance recommending referral for immediate extensive advice by a specialist practitioner (NICE, 2013). Doctors and specialist nurses were most likely to comment on the evidence. One doctor commented that there was no evidence to support BSC amongst other lifestyle advice.</p>	<p>Overall: +1</p> <p>Rationale: The strong evidence for the harms of smoking was acknowledged. Again HCPs did not comment on whether BSC was evidence based practice. Few queried the evidence for BSC in hospital and none referred to the guidance recommending referral for immediate extensive advice by a specialist practitioner (NICE, 2013). Doctors were most likely to comment on the evidence.</p>

C. Relative Advantage	<p>Overall: 0</p> <p>Rationale: It was difficult to determine if HCPs felt it was advantageous as many HCPs were not referring or arranging Nicotine Replacement Therapy (NRT), or knew about the policy. Where it had been strongly adopted into pre-operative assessment, specialist areas and outpatients it appeared that practitioners felt it worked well in certain contexts, this depended on the patient's needs. Many suggested using a specialist practitioner. Better computer coding was recommended to identify patients. A key theme in all sites was to provide shelters so smokers were away from hospital entrances.</p>	<p>Overall: 0</p> <p>Rationale: It also was difficult to determine if HCPs felt it was advantageous as many HCPs were not implementing BSC or aware of the policy. Where it had been strongly adopted into pre-operative assessment, specialist areas and outpatients it appeared that practitioners felt it worked well in certain contexts. Suggestions for improvement included a specialist practitioner or having SSW, in clinics. It was suggested that non-trained people could be used to signpost smokers and give information. Better systems for referral were suggested. More publicity was suggested. Smoking shelters also proposed.</p>	<p>Overall: 0</p> <p>Rationale: Again similarly to sites A & B most HCPs were not aware of the intervention but it seemed to work in targeted and specialist areas, where it was linked to good patient outcomes. At all sites specialist practitioners were recommended. It was also suggested that non-trained people could be used to identify and signpost smokers and give information. Better computer coding was recommended to identify patients and smoking shelters proposed.</p>
D. Adaptability	<p>Overall: +1</p> <p>Rationale: Local adaption had occurred in pre-op, respiratory and particularly outpatients. Outpatients have demonstrated the most adaption to successfully fit in with workflow, although certain clinics are targeted. Outpatient's adoption of smoking cessation (SC) as part of fundamentals of care this has ensured that the intervention is firmly emphasised and audited. Some adaption with mental health patients.</p>	<p>Overall: +1</p> <p>Rationale: Local adaption was demonstrated. This was evident in respiratory. Children's ward focused on particularly on NRT prescription as part of risk management to avoid children leaving the ward to smoke. Outpatients have demonstrated the most adaption to successfully fit in with workflow, although certain clinics are targeted. Outpatient's adoption of SC as part of Fundamentals of Care has ensured that the intervention is firmly emphasised and audited.</p>	<p>Overall: 0</p> <p>Rationale: Respiratory and some areas of pre-op are known to have adapted the intervention to successfully fit in with workflow, although certain clinics are targeted. Some outpatient's have adopted SC as part of Fundamentals of Care which has ensured that the intervention is firmly emphasised and audited.</p>

E. Trialability	<p>Overall: -1</p> <p>Rationale: As there was a general lack of awareness and fidelity to the Ask, Advise, Act components of BSC , particularly with regard to Act; it was perhaps therefore not surprising that there was little evidence of piloting except in outpatients and some in pre-operative assessment. Mainly this related to adaptation of stickers to a stamp or from paper to electronic referral. There was some evidence that outpatients targeted certain clinics but not that they have expanded from this</p>	<p>Overall: -1</p> <p>Rationale: Again there was a general lack of awareness and fidelity to the Ask, Advise, Act components of BSC , particularly with regard to Act; so there was little evidence of piloting except in outpatients and some in pre-operative assessment. Mainly this related to adaptation of stickers to a stamp or from paper to electronic referral.</p>	<p>Overall: -2</p> <p>Rationale: There was no commentary related to trialability on this site. As for the other sites there was a general lack of awareness and fidelity to the Ask, Advise, Act components of BSC .There was little evidence of piloting.</p>
F. Complexity	<p>Overall: 0</p> <p>Rationale: Although at first sight the intervention is simple, and many HCPs comment on this. The fact that the Assess, Advise and Act component are not always adhered to indicates how, on closer sight, this is a complex intervention. This is because it involves a judgement process from many HCPs based on the patient's condition or attitude. In addition it should be initiated by all HCPs to all patients over multiple and diverse contexts and pressures. Those that do BSC are confident to do so but the 'Act' component is not being done effectively across all sites, leaving it to the patient to self-refer. It was difficult to gauge if NRT was prescribed effectively.</p>	<p>Overall: 0</p> <p>Rationale: There was no difference to site A. The intervention could be seen as complex in certain contexts.</p>	<p>Overall: 0</p> <p>Rationale: There was no difference to site A. The intervention could be seen as complex in certain contexts.</p>

G. Design Quality & Packaging	<p>Overall: 0</p> <p>Rationale: There is evidence that BSC has been integrated into admission documentation and bundles within the Health Board (HB), for example the Respiratory bundle and new nursing documentation. Where this has been done for a speciality, e.g. Chronic Obstructive Pulmonary Disease or locality, e.g. Pre-op. This works well. However medical and nursing general documentation is comprehensive and it tends to get lost with sometimes even smoking status not recorded according to HB audit. There is no universal referral form (pre-op has adapted one) and many wards and HCP were not aware of its existence. HCPs can fax, e mail or refer by web but many just advise patients to self-refer. Few HCPs knew of the NRT guidance.</p>	<p>Overall: 0</p> <p>Rationale: There was no difference to site A.</p>	<p>Overall: 0</p> <p>Rationale: There was no difference to site A.</p>
H. Cost	<p>Overall: Not assessed</p> <p>Rationale: Difficult to assess as the intervention costs nothing but the structure and education surrounding it incurs costs. These include staff time for training, printing documentation, signage and other aspects of the infrastructure, e.g. availability of computers for referral. HB documents indicate limited funds were available. Some evidence that drug companies had funded training.</p>	<p>Overall: Not assessed</p> <p>Rationale: As per site A</p>	<p>Overall: Not assessed</p> <p>Rationale: As per site A.</p>

II. Outer Setting			
A. Needs & Resources of Those Served by the Organization	Overall: +1 Rationale: HCPs indicated a strong patient-centred approach. Some awareness of public health role. However there is a lack of consistency about referral, NRT availability and follow-up. Concerns about smokers outside hospital.	Overall: +1 Rationale: As per sits A but whilst there was an awareness of the public health role a lack of time was an issue. Concerns about smokers outside hospital.	Overall: +1 Rationale: As per site B
B. Cosmopolitanism	Overall: +1 Rationale: There was evidence of good and weak links to SSW but most HCPs were aware of it. SSW was a source of support, resources and for feedback. Good links to Stop Smoking Wales (SSW) in pre-op, outpatients and specialist practitioners. Where there was electronic referral the relationship described as distant, links had become weaker in pharmacy. Contention noted over SSW reported referrals and actual referrals in pre-op. Some evidence that SSW service has improved in relation to hospital referral. Outpatients and pre-op had links to public health as interface between hospital and SSW. Some HCPs only knew about cards and nothing about referral. Some evidence of pharmaceutical links for education.	Overall: +1 Rationale: There was also evidence of good and weak links to SSW but all HCPs were aware of it. SSW was again a source of support, resources and for feedback, with good links in pre-op and specialist practitioners. Some negativity about the resources and services which SSW provides. Some evidence that SSW service has improved in relation to hospital referral in speed and flexibility. Pre-op, children's ward staff and specialist nurses had links to public health. Some practitioners did not know about referral. Some evidence of pharmaceutical links for education and some good links to external forums that increased knowledge on intervention. Better links to Public Health on this site.	Overall: +1 Rationale: Again there was evidence of good and weak links to SSW but all HCPs were aware of it. SSW was a source of support, resources and for feedback in certain areas, such as pre-op. Good links and knowledge of SSW in pre-op and specialist practitioners. Contention over SSW reported referrals and actual referrals in pre-op. Some practitioners knew only about cards and nothing about referral or what would be offered. Some practitioners had made the effort to forge relationships with SSW; there had been no impetus from the organisation. Some evidence of pharmaceutical links for education and links to external groups that increase knowledge on intervention, e.g. ASH.
C. Peer Pressure	Overall: 0 Rationale: The positive effects of peer pressure were evident in pre-op and outpatients; where a competitive element to comparison between sites had galvanised staff to offer BSC. HCPs were generally unaware of other's practice or the requirements placed on them for BSC. Some awareness of successful strategies in other organisations.	Overall: 0 Rationale: Positive peer pressure also evident in outpatients, where comparison between sites had also galvanised staff to offer BSC. Some awareness of high level of referral compared to other Health Board's in Wales. Again HCPs generally unaware of others' practice. Some acknowledgement of the importance of role modelling for BSC.	Overall: 0 Rationale: Positive peer pressure also evident in pre-op; again encouraged by site comparison. Some awareness of comparison to other Health Board's. Again HCPs were generally unaware of others' practice or the requirements placed on them for BSC. Some awareness of successful strategies in other organisations.

D. External Policy & Incentives	<p>Overall: -2 Rationale:</p> <p>Very little awareness of external policy and incentives. No comments retrieved.</p>	<p>Overall: -1 Rationale:</p> <p>Little awareness of external policies and incentives, minimal commentary. Some awareness in those involved in particular patient groups or with BSC strategy from the outset.</p>	<p>Overall: -0 Rationale:</p> <p>Little awareness of external policies and incentives, minimal commentary. Some awareness in those involved in particular patient groups.</p>
III. Inner Setting			
A. Structural Characteristics	<p>Overall: 0 Rationale: Difficult to assess as no commentary retrieved. The organisation as a whole is currently in special measures. The 3 sites merged in 2008 and there have been high profile failures, since this. The organisation will have 3 separate sites again. Re-organisation is constant. Little evidence of cohesion between sites except in outpatients and pre-op but cohesion in hospital departments and wards evident.</p>	<p>Overall: 0 Rationale: Minimal commentary. As per site A. Some cohesion in hospital departments and wards also evident. This hospital was the site of high profile care delivery failures.</p>	<p>Overall: 0 Rationale: Difficult to assess as no commentary retrieved. As per site A.</p>
B. Networks & Communications	<p>Overall: 0 Rationale: This was examined in relation to BSC. Generally only certain (mainly senior groups) have access to e mails, and often they are bombarded with information. Most felt there was little information on BSC. Respiratory, outpatients and pre-op do communicate effectively.</p>	<p>Overall: 1 Rationale: As per site A but more communication via the site specific tobacco group.</p>	<p>Overall: 0 Rationale: As per site A.</p>
C. Culture	<p>Overall: NA Rationale: The culture as a whole was not formally assessed. Values and beliefs were only indicated on a personal level towards BSC. There were examples of effective organisational climate where units or teams worked effectively together in a culture that promoted BSC. Some negative comments on organisation culture from this site.</p>	<p>Overall: NA Rationale: As per site A, but this hospital had the only tobacco group, which may indicate that HCPs value BSC on this site.</p>	<p>Overall: NA Rationale: As per site A.</p>

IV. Implementation Climate	<p>Overall: 0</p> <p>Rationale: Some strong evidence of receptivity in local climate. Individuals on the whole support BSC, particularly where linked to disease process and in some instances the organisation has driven the expectation to deliver BSC, e.g. outpatients. So there is evidence to suggest that there are pockets where BSC is considered important but many HCPs felt it is not driven by the organisation. This site failed to form a tobacco group. Some comments indicating the organisation is poor to respond to the change required.</p>	<p>Overall: +1</p> <p>Rationale: Some evidence of receptivity in local climate. Individuals on the whole support BSC, again where linked to disease process. Also in some instances the organisation has driven the expectation to deliver BSC, e.g. outpatients and children's ward. Some positive comments about the organisation. There is evidence to suggest that there are pockets where BSC is considered important but many HCPs also felt it is not driven by the organisation. However this site has formed a tobacco group to drive the intervention.</p>	<p>Overall: 0</p> <p>Rationale: Some strong evidence of receptivity in local climate. Individuals on the whole support BSC, again where linked to disease process. In some instances the organisation has driven the expectation to deliver BSC, again in outpatients. So again there were pockets where individuals are driving and sustaining the intervention but many HCPs feel it is not driven by the organisation. Some positive comments about local climate but this site has also failed to form a tobacco group.</p>
1. Tension for Change	<p>Overall: +1</p> <p>Rationale: Most tension for change related to the smoke free site and not BSC, but some HCPs felt the two were inextricably linked. There was some indication that BSC was not considered everyone's role and this was linked to lack of training. Site observation: people smoking outside all hospital entrances often standing by signs and cigarette stubs+++</p>	<p>Overall: +1</p> <p>Rationale: Most tension for change related to the smoke free site and not BSC, but some HCPs felt the two were inextricably linked. Management of the smoke free site was felt to be the organisations remit and not up to the individual HCP. Site observation: people smoking outside all hospital entrances often standing by signs and cigarette stubs+++</p>	<p>Overall: +1</p> <p>Rationale: Again most tension for change related to the smoke free site and not BSC, with some HCPs felt the two were inextricably linked. Some comments indicated that lack of a smoke free site negatively impacted on BSC. Most felt this was the organisations remit. Site observation: people smoking outside all hospital entrances often standing by signs and cigarette stubs+++</p>
2. Compatibility	<p>Overall: 0</p> <p>Rationale: BSC fits into workflows in targeted areas, e.g. outpatients, and where linked to disease processes, e.g. cardiology. Many areas do not prioritise BSC due to practicalities and patient condition, particularly on admission, only smoking status assessed. There are no systems for flagging up BSC following admission. Some staff felt they have other priorities and it is not part of their role. Some indication that pre-op assessment is too late for BSC and it should be started in primary care. Some indication that electronic systems are not fit for purpose to identify smokers.</p>	<p>Overall: 0</p> <p>Rationale: As per site A. Some staff felt they have enough to do and BSC cannot be facilitated as they and their patients have other priorities; this was linked to being overwhelmed with the expectation to deliver healthcare advice. Some good examples in outpatients of using Fundamentals of Care to prompt and highlight BSC. In some areas specialist practitioners are relied on to do BSC, such as cardiac rehabilitation.</p>	<p>Overall: 0</p> <p>Rationale: As per site A. Some indication that pre-op assessment is too late for BSC and it should be started earlier. Some indication that prompts just mean the practitioner gains information on smoking but does not follow up with BSC. Some indication by nurses that it would be too much to audit BSC as well as the range of other requirements for Fundamentals of Care.</p>

3. Relative Priority	<p>Overall: -1</p> <p>Rationale: BSC was only prioritised in outpatients and pre-op and in those areas other priorities competed on time and resources. Generally it was not seen to be an organisational priority, other issues such as patient throughput, Fundamentals of Care and managing with limited resources took precedence.</p>	<p>Overall: -1</p> <p>Rationale: This was important in key areas: cardiology, stroke and outpatients but this was led by patient need in cardiology and stroke rather than organisational priority. There was little evidence that in other areas the BSC was an organisational priority.</p>	<p>Overall: -1</p> <p>Rationale: In some key areas BSC was treated as a priority, such as respiratory & outpatients, but this was generally felt to have little to do with the way it was prioritised by the organisation and more to do with HCP assessment of patient need. Other issue took priority particularly with regard to mandatory training.</p>
4. Organizational Incentives & Rewards	<p>Overall: -2</p> <p>Rationale: There seems to be no incentives with regard to status, promotions or increased stature for BSC.</p>	<p>Overall: -2</p> <p>Rationale: There also seems to be no incentives with regard to status, promotions or increased stature for BSC. In fact there was evidence of a lack of acknowledgement of good practice.</p>	<p>Overall: -2</p> <p>Rationale: Again there seems to be no incentives with regard to status, promotions or increased stature for BSC.</p>
5. Goals & Feedback	<p>Overall: 0</p> <p>Rationale: HCPs in outpatients and pre-operative assessment felt the organisation had communicated the requirement to do BSC; they were aware of broad goals but not targets. The majority of HCPs had no awareness of the organisation's goals; they felt BSC was more emphasised within their professional group; some had awareness of the strategy.</p>	<p>Overall: +1</p> <p>Rationale: HCPs were more likely to be aware of the strategy although not necessarily the goals and targets. Many healthcare professionals did BSC according to patient need, rather than due to organisational requirements.</p>	<p>Overall: +1</p> <p>Rationale: People were aware of the strategy with some having knowledge of goals; pre-op was a key area for communication but there was some indication that this had tailed off. Others felt that BSC came from their professional care delivery and had nothing to do with the organisation.</p>
6. Learning Climate	<p>Overall: 0</p> <p>Rationale: This was difficult to assess. There were some examples of a positive learning climate, with regard to respiratory, pre-op and outpatients. Generally the fast pace indicated that HCPs lacked the time to develop a positive learning climate, particularly on the wards; generally staff felt valued but not always.</p>	<p>Overall: +1</p> <p>Rationale: There was some evidence of a positive learning climate in outpatients, children, cardiology and stroke services. The demands of the role did impact on the ability to reflect in several areas. There was no indication that staff did not feel valued.</p>	<p>Overall: +1</p> <p>Rationale: There were indications of positive learning climates in some areas, such as: pre-operative assessment, respiratory and rheumatology. Ward based staff were hampered by lack of time for interventions. There was no indication that staff did not feel valued.</p>

V. Readiness for Implementation	Overall : 0 Rationale: There were some indicators of tangible indicators that the organisation is committed to BSC but often staff felt it was not well publicised with BSC lacking visibility. As people smoke outside the main entrances this was felt to convey a contrary message.	Overall : 0 Rationale: Generally the same as site A. Some senior staff felt there was a lack of organisational commitment.	Overall : 0 Rationale: The same as site A
1. Leadership Engagement	Overall: +1 Rationale: Some examples of good leadership in key areas, such as pre-op and outpatients, but leadership in wards is generally lacking due to other commitments. Specialist practitioners were leading on BSC.	Overall: +2 Rationale: Leadership evident in outpatients, children's, respiratory, cardiac and stroke. Some indications that no leadership in other areas due to other priorities. Leadership evident through the tobacco group.	Overall: +1 Rationale: leadership evident in respiratory and outpatients but on the wards this was lacking due to other commitments. Many specialist practitioners were leading on it due to their patients' needs.
2. Available Resources	Overall: -1 Rationale: The overwhelming issue was a perception of a lack of time, due to other priorities and staffing issues. HCPs felt that this brief intervention could become intensive with regard to referral to SSW and for nicotine replacement. However many HCPs felt that BSC should be offered despite time pressures. Other resource issues were a lack of access to leaflets and cards. The organisations infra structure is not developed for referral, although specialist practitioners and those in key areas had more time and access to referral processes. The champion felt it needed to be invested in.	Overall: -1 Rationale: As per site A. Many HCPs felt that BSC should be offered despite time pressures. Other resource issues were also a lack of access to leaflets and cards. The organisations infra structure also is not developed for referral; access to referral forms was a problem; even for specialist practitioners. However there is a good referral procedure in outpatients. Access to rooms for training was also an issue. Evidence of QRisk use in cardiology, which helped BSC.	Overall:-1 Rationale: As per site A. Again many HCPs felt that BSC should be offered despite time pressures but this could be ad hoc. Other resource issues were again a lack of access to leaflets and cards. The organisations infra structure is again not developed for referral although referral is facilitated in key areas, such as pre-op, and with specialist nurses. Some acknowledgement that staff need education in some ward areas.

3. Access to Knowledge & Information	<p>Overall: +1</p> <p>Rationale: Some staff in key areas, such as outpatients, pre-operative assessment and respiratory had been trained but generally practitioners had not, particularly ward staff (4/10). In the survey 22/87 (25%) had done the training. Some indicated that they had the knowledge and did not require specific training. Staff release seemed to be a problem. Training had been publicised some years ago but was no longer visible. There were some examples of expert practitioners but these were called upon to deliver the intervention rather than teach, other than pharmacy practitioners, most did not act as a resource.</p>	<p>Overall: +1</p> <p>Rationale: More staff had received training on this site (5/8), in the survey 26/105 24% had done the training, but the drive for training had not been a recent issue; and there was evidence that ward staff and other HCPs were not trained. Staff release was a problem for accessing the training due to a lack of staff or other work commitments. Staff had benefited from the training with some examples that they were acting as a resources. One practitioner had not been trained but through tobacco group membership had become a source of knowledge. In many areas it appeared as though the experts did the intervention rather than provide knowledge.</p>	<p>Overall: 0</p> <p>Rationale: Less staff had received training on this site 6/9 , in the survey 12/87 14% had done the training, but the drive for training had not been a recent issue; and there was evidence that ward and other HCPs were not trained. Staff release was a problem for accessing the training due to a lack of staff or other work commitments. Staff had benefited from the training with some examples that they were acting as a resources. In many areas it appeared as though the experts did the intervention rather than provide knowledge; the exception was pharmacy. One HCP had accessed BSC training on line.</p>
IV. Characteristics of Individuals			
A. Knowledge & Beliefs about the Innovation	<p>Overall: +1</p> <p>Rationale: Generally HCPs felt smoking cessation was important and valued it, there were some comments in the survey that indicated it was not important in hospital. Some practitioners saw SC as more important than other treatments. Most people were aware of what the intervention entailed but there was some lack of knowledge on NRT.</p>	<p>Overall: +1</p> <p>Rationale: Generally HCPs felt smoking cessation was important and valued it, there were also some comments that indicated it was not important in hospital or that lifestyle change could be overwhelming for patients. Most people were aware of what the intervention entailed with some understanding on nicotine replacement. Where knowledge of NRT was weak there was evidence of pharmacists acting as resources on NRT.</p>	<p>Overall: +1</p> <p>Rationale: Again HCPs generally felt smoking cessation was important and valued it. Again there were some comments in the survey that indicated it was not important in hospital. Most people were aware of what the intervention entailed but there was some lack of knowledge on nicotine replacement. There was evidence of pharmacists acting as resources on NRT.</p>

B. Self-Efficacy	Overall: +1 Rationale: On all sites this depended on the skill, experience and knowledge of the practitioner. Most practitioners interviewed were confident in their ability to do the intervention but this was based on a judgement of the right time. Most practitioners were not confident about NRT. Status or profession may have been an issue as more senior practitioners, or doctors appeared more confident. On all sites practitioners were not confident to tell people to stop smoking in the hospital grounds. The survey did indicate a correlation between confidence and general intention but not between time qualified and confidence to do BSC.	Overall: +1 Rationale: As per site A	Overall: +1 Rationale: As per site A
C. Individual Stage of Change	Not assessed	Not assessed	Not assessed
D. Individual Identification with Organization	Overall: 0 Rationale: Although there were a few participants who strongly felt they practised in isolation to the organisation, according to their professional obligations, the majority of participants did not comment on their attitude towards the organisation.	Overall: 0 Rationale: The majority of participants did not comment on their attitude towards the organisation.	Overall: 0 Rationale: Although there were a few participants who strongly felt they practised in isolation to the organisation, according to their professional obligations, the majority of participants did not comment on their attitude towards the organisation.
E. Other Personal Attributes	Overall: +1 Rationale: Generally participants felt they should deliver BSC from both personal and professional perspectives. This was sometimes positively influenced by experiences of smoking, whether as a smoker or when a relative had been a smoker. HCPs felt they had professional duty to advise. Survey comments were less positive.	Overall: +1 Rationale: As per site A but survey comments were more positive.	Overall: +1 Rationale: As per site A.

V. Process			
A. Planning	<p>Overall: 0</p> <p>Rationale: There was evidence of planning in target areas such as outpatients and respiratory. Here the requirements of BSC were communicated down to staff via managers. Plans involved getting staff on board via education and normalisation and adapting the intervention to local area. Other than sending key staff to learn about BSC there was little evidence of planning in other areas. Some managers and specialist nurses do have plans to improve BSC but are hampered by time and resources.</p>	<p>Overall: 0</p> <p>Rationale: As per site A.</p>	<p>Overall: 0</p> <p>Rationale: As per site A, but respiratory practitioners had more understanding of planning.</p>
B. Engaging	<p>Overall: 0</p> <p>Rationale: This had chiefly occurred in key areas through use of leadership, role modelling and education. It had been successful. Otherwise education had been focused to areas where smoking was relevant for the pathophysiology, chiefly this occurred in the more senior nurses. There was little cascading down on the intervention with just these specialist expected to have the time to do it. Role modelling was not always prevalent for example with Consultant ward rounds, due to other priorities.</p>	<p>Overall: +1</p> <p>Rationale: As per site A although this site was the only site where practitioners came together to form a site specific tobacco group and their engagement of staff was evident.</p>	<p>Overall: 0</p> <p>Rationale: As per site A</p>
1. Opinion Leaders	<p>Overall: +1</p> <p>Rationale: Many participants felt BSC was important so may well have been opinion leaders, particularly those in senior or specialist roles. Their acceptance that BSC was part of care may engage others. Most people felt those who did not see BSC as part of their role as not the norm; however on all sites HCPs reported BSC was not something they did. Opinion leaders in Site A were generally in specialist roles.</p>	<p>Overall: +1</p> <p>Rationale: As per site A. Some nice examples of opinion leaders on the children's ward and with the respiratory team.</p>	<p>Overall: +1</p> <p>Rationale: As per site A. Examples of opinion leaders in pharmacy and the respiratory team.</p>

2. Formally Appointed Internal Implementation Leaders	<p>Overall: +1</p> <p>Rationale: The formally appointed smoking champion was chosen because of an existing interest in smoking cessation. He acted as a champion and opinion leader and ensured training for juniors but felt frustrated that the organization was not doing more to push BSC.</p>	<p>Overall: +1</p> <p>Rationale: The formally appointed smoking cessation champions were chosen because of their roles. One was able to instigate various implementation strategies which had led to success in BSC in several areas across the Health Board but acknowledged more could be done. One champion felt frustrated that the organisation was not doing more to push BSC</p>	<p>Overall: +1</p> <p>Rationale: No smoking cessation champion participated on this site but a pharmacist with responsibilities in a local area was interviewed and felt the implementation of BSC was successful but also acknowledged more could be done.</p>
3. Champions	<p>Overall: 0</p> <p>Rationale: There were a few examples of champions in targeted clinical areas, often these had been allocated a role and championed BSC because of their perceptions on professional duty of care. Most were limited to small spheres (localities) of practice, where they had achieved success in driving the implementation of BSC. However there was little cross pollination of creative solutions to other areas. In most areas although there were individuals who were passionate about BSC in their own practice but they were not acting as champions or driving the intervention forward. One clinical champion here felt the organisation had not taken up suggestions for improvement. Some evidence that championing had previously occurred but BSC no longer a priority.</p>	<p>Overall: +1</p> <p>Rationale: As site A. One formally appointed clinical champion had driven the intervention in her team effectively. Some evidence that championing was occurring through the tobacco group.</p>	<p>Overall: 0</p> <p>Rationale: As site A.</p>

4. External Change Agents	<p>Overall: +1</p> <p>Rationale:</p> <p>The grading relates to public health involvement in targeted areas (pre-operative assessment and outpatients), from initial contact to introduce the intervention, support, education and feedback. There was no evidence of involvement in non-targeted areas. So the majority of areas had no facilitation.</p>	<p>Overall: +1</p> <p>Rationale:</p> <p>As per site A. There was also evidence of involvement in a non-targeted area, (children's wards) – due to risk issues surrounding children smoking. Here the ward had escalated concerns and public health were brought in and facilitated BSC</p>	<p>Overall: +1</p> <p>Rationale:</p> <p>As per site A.</p>
C. Executing	<p>Overall: 0</p> <p>Rationale:</p> <p>The plan is taken to be the policy of BSC and referral to SSW and/or for NRT. Generally this plan is not adhered to in that formal referrals are not taking place, unless done in pre-operative assessment, outpatients or with some specialist nurses. Generally HCPs advise patients to contact SSW and sometimes provide the number. NRT is not always offered, the key impetus is to discourage patients from leaving the ward; not generally as part of quitting but managing symptoms.</p>	<p>Overall: 0</p> <p>Rationale:</p> <p>As per site A. BSC is not always implemented according to plan, except by a few individuals.</p>	<p>Overall: 0</p> <p>Rationale:</p> <p>As per site A. Again BSC is not always implemented according to plan, except by a few individuals.</p>
D. Reflecting & Evaluating	<p>Overall: 0</p> <p>Rationale: Feedback of SSW referrals was only in pre-op and outpatients and involved comparison between the three sites. Poor figures were challenged and HCPs worked together to improve referrals, particularly site A. Outpatients on all 3 sites, led by a smoking cessation champion, incorporated SC into Fundamentals of Care so referrals were audited. Some SC information was captured in audits of specific services. Occasionally HCPs had patient feedback which was satisfying. Most areas had no feedback at all.</p>	<p>Overall: 0</p> <p>Rationale: As per site A but also formal feedback of referral figures from SSW to respiratory.</p>	<p>Overall: 0</p> <p>Rationale: As per site A but also formal feedback of referral figures from SSW to respiratory.</p>

Appendix 17: Health Board notice for Brief Smoking Cessation

PATIENT SAFETY ISSUE FOR February 2014:

Recording of Smoking Status in Admission Notes, Provision of Smoking Cessation Brief Advice and Prescription of NRT

Background:

Smoking is the biggest cause of preventable ill-health and death in Wales. To support achievement of the smoking prevalence target of 16% by 2020, the NHS Wales Delivery Framework 2013-14 included a smoking cessation Tier 1 target for Health Boards. A recent audit found that there is currently poor recording of smoking status and provision of smoking cessation advice in the Health Board, in spite of implementation of a patient safety issue in July 2012.

Assessment:

The day-case and inpatient environment, in addition to primary care, pre-op assessment and maternity clinics, provides an excellent opportunity to give brief smoking cessation advice: this time is often a "teachable moment" where patients are more receptive and are more motivated to quit; the hospital smoke-free environment supports abstinence; patients are ideally placed to be given information about treatment options, support through withdrawal and signposted to specialist services; abstaining from smoking at this time can lead to significant health benefits. The Cochrane Tobacco Addiction Group defines brief advice as "verbal instructions to stop smoking with or without added information about the harmful effects of smoking." The success rate of brief advice is modest, achieving cessation in 1 in 40 smokers, but it is one of the most cost effective interventions in medicine.

Recommendations:

- All patients should have their smoking status recorded on day-case and inpatient admission (smoker, ex-smoker, non-smoker). If smoker, record years smoked, and number of cigarettes smoked per day or week. The following should be documented in notes (including on clerking proformas) if relevant: "patient asked and confirmed that they smoke"
- All smokers should be advised to quit in a way which is clear, personalised and non-confrontational e.g. "While I respect that it is your decision, I strongly encourage you to stop smoking." This advice should include the benefits of quitting and information on ☐ HB's Smoke Free policy. The opportunity should also be taken to signpost patients to more intensive support available from Stop Smoking Wales via self-referral on 0800 085 2219 or a direct referral can be made to this service on behalf of the patient (referral forms should be available on wards). This should be documented in notes (including on clerking proformas) as: "dependent smoker, cessation advice given."
- If appropriate, Nicotine Replacement Therapy (NRT) should be prescribed and supplied promptly as per NRT algorithm appendix 1 in ☐ Clinical Guideline on Nicotine Replacement Therapy for Inpatients at <http://howis.wales.nhs.uk/sitesplus/861/document/263856>
- Patients committing to complete abstinence should have their treatment chart endorsed for further supply on discharge.
- Inpatients who are initiated on NRT and wish to continue with their quit attempt should be supplied with 2 weeks maximum on a "To Take Out" (TTO) prescription. This will allow patients time to contact Stop Smoking Wales and/or visit their GP or Community Pharmacy (who also provide smoking cessation services).
- The discharge summary should include the following information if relevant: "patient asked and confirmed that they smoke", "dependent smoker, cessation advice given" to facilitate appropriate follow-up in primary care.

Appendix 18: Health Board nursing documentation

Cognitive Assessment							
Does the patient have a diagnosis of dementia? Yes <input type="checkbox"/> See opposite No <input type="checkbox"/>	Support required: Commence dementia pathway Ask patient/ family to complete 'this is me' document Seek permission to use butterfly scheme						
Does the patient have delirium/ confusion? Yes <input type="checkbox"/> See opposite No <input type="checkbox"/>	Support required: Investigate cause of confusion Seek permission to use butterfly scheme						
Does the patient have memory impairment? Yes <input type="checkbox"/> See opposite No <input type="checkbox"/>	Support required: Refer to memory clinic						
Does the patient have a learning disability? Yes <input type="checkbox"/> See opposite No <input type="checkbox"/>	Support required: If admitted to a general ward: within 4 hours of admission 1. Notification to advocate/Care co-ordinator/Acute Liaison Nurse/Specialist Learning Disability Service 2. Notification to next of kin and/or primary carer of admission 3. Refer to Acute Hospital Liaison Nurse (LD) 4. Request made for individual hospital passport / traffic light assessment 5. Assess and confirm need for additional support if required 6. Confirm level of support that can be offered by carers and document on care plan	Achieved? <table border="1"> <thead> <tr> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>		Yes	No		
Yes	No						
Communication Needs							
Any specific communication needs? Yes <input type="checkbox"/> Give details: No <input type="checkbox"/>	Support required:						
Spectacles YES <input type="checkbox"/> NO <input type="checkbox"/>	Hearing aid YES <input type="checkbox"/> NO <input type="checkbox"/>						
Smoking, Alcohol and Drug Use							
How many units of alcohol per day?	1 unit = half pint of normal strength beer/ lager/ cider; 1 small glass of wine; 1 single measure of spirit						
History of Smoking?	How many cigarettes per day?						
Is nicotine replacement required during admission?	Does patient require smoking cessation advice?						
Current illicit drug use?	Drug rehabilitation referral required?						
Information taken by (print name & signature)		Date and time					

This is one page of an extensive booklet