

Social Return on Investment Analysis: A Mixed Methods Approach to Assessing the Value of Adult Hospice Services

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Abstract

Objectives

Hospice services offer invaluable support to individuals facing life-limiting illnesses, however, quantifying their positive impact presents a challenge. As the demand for palliative care rises due to complex illnesses and an aging population, hospices face the need to prove their value. With funding primarily reliant on charitable donations and limited statutory support, they must demonstrate their effectiveness to secure additional resources in a competitive landscape.

Methods

This study employed the Social Return on Investment (SROI) framework to evaluate the social value generated by four hospice sites offering inpatient and day therapy services across North Wales. Through a mixed-methods approach, quantitative and qualitative data were collected to explore stakeholder experiences, values, and outcomes, facilitating a thorough examination of the broader social impact of hospice care.

Results

The average input and output values for the inpatient unit were £602,100 and £1,667,861 respectively, thus returning a base case ratio of £2.77: £1. The day therapy unit had average input and output costs of £155,928 and £1,847,347 respectively, hence a base case ratio of £11.85: £1. Sensitivity analysis yielded estimates of between £2.20: £1 and £6.83: £1 for the inpatient unit and between £2:44: £1 and £19:51: £1 for the day therapy unit.

CONCLUSION

As healthcare providers globally confront challenges with resource constraints, adopting value-driven methodologies becomes crucial. Embracing such methodologies fosters a more

comprehensive understanding of value, transcending traditional metrics to encompass social, environmental, and long-term sustainability considerations.

Key Words

Hospice Care, Palliative care, End-of-life care, Economic evaluation, Social Return on Investment

Highlights

Hospices rely on grants, community fundraising, and varying levels of statutory funding. Challenges in showcasing value amid financial constraints highlight the need for broader social impact evaluations like Social Return on Investment (SROI).

The paper adds new understanding to existing knowledge by pioneering the application of SROI methodology in evaluating hospice care in the UK.

SROI findings offer new insights that are crucial for healthcare decision-making by determining the broader social impact of hospice services.

Introduction

The growth of hospice and palliative care services in many countries, including the United Kingdom (UK), has relied extensively on support from not-for-profit organisations, primarily funded through charitable initiatives and fundraising efforts [1]. Despite the global shift towards sustainability as outlined in the 2030 Agenda for Sustainable Development [2], there persists notable variation in the extent of statutory funding among hospice inpatient units in the UK, with typical ranges spanning from 20% to 50% of total income [3]. In an increasingly competitive climate, hospices face the pressing need to demonstrate their value for money, especially amid a growing cost of living crisis [4]. This urgency is further compounded when seeking funding, as stakeholders seek assurances of efficient resource utilization. The ability to measure and attribute value to outcomes is particularly advantageous for not-for-profit organisations, enabling them to showcase their positive social

impact [5]. These challenges are exacerbated further by the UK's departure from prevailing international models, which typically rely on standardised governmental contributions [6]. This deviation is highlighted when compared to New Zealand's approach, characterised by a fixed statutory funding rate of 70% [6]. The Public Services (Social Value) Act 2012 [7] which extends to England and Wales underscores the importance of considering broader social impacts in decision-making processes, assigning greater importance to social value than previously. This legislative framework resonates with the National Health Service (NHS) Long Term Plan [8], which has identified sustainability as a key component of broader social goals, including the provision of end-of-life care. The NHS's commitment to sustainability extends to its support for hospice care, where it contributes a portion of funding in Wales [9], ensuring the continuity of essential services for those facing a terminal illness. Within the framework of the NHS triple aim, efficiency and sustainability in resource utilisation are emphasised for all relevant bodies [8]. This includes the integration of sustainability objectives into procurement guidance and regulations, which encompass a significant portion of NHS activities [8]. By intertwining social value considerations into procurement decision-making processes, the NHS not only upholds its sustainability objectives but also amplifies the societal impact of its activities.

The UK Cabinet Office [10] has endorsed the application of Social Return on Investment (SROI) as a method to establish and capture the social value of not-for-profit organisations. This recognition underscores the growing importance of methodologies like SROI in assessing the societal impact of interventions and initiatives, aligning with broader efforts to prioritise social impact alongside traditional metrics. However, while demonstrating value is crucial, accurately measuring and attributing value to outcomes presents its own set of challenges. Despite the necessity for hospices to showcase their effectiveness, quantifying the true value of their services proves to be a complex task, as outcomes are often intangible and

multifaceted, leading to difficulties in identification and measurement [11]. This challenge is particularly pronounced in palliative care research, where inherent difficulties in patient recruitment and retention are encountered [12]. Patients receiving palliative care often experience rapid deterioration and symptom fluctuations which pose substantial obstacles to collecting robust data [13]. Moreover, the psychological burden of a palliative diagnosis may hinder the willingness of patients and their families to participate in research [14]. Ethical considerations regarding end-of-life involvement further complicate research efforts [15]. Additionally, obtaining informed consent, a critical aspect of research, is further complicated by cognitive impairments associated with palliative illnesses [16]. These challenges underscore the complexity of accurately assessing the value of hospice services. In this context, it becomes imperative to employ tools capable of measuring all dimensions of value, beyond immediate quantifiable metrics. While traditional approaches like cost-effectiveness analysis (CEA), cost-utility analysis (CUA), and cost-benefit analysis (CBA) have been commonly used, they may not capture the full spectrum of value in palliative care [17]. CEA, for instance, poses challenges in hospice settings due to difficulties in establishing control groups. Furthermore, these methods often overlook broader dimensions of value, such as patients satisfaction and emotional well-being, which are critical in palliative care [18]. This highlights the need for alternative frameworks that can capture the full spectrum of benefits and limitations associated with palliative care interventions [19] [20]. Methodologies such as SROI have emerged as a promising alternative [21]. The SROI framework fosters robust stakeholder engagement, ensuring a diverse range of perspectives are included in defining the value derived from specific interventions [22]. Unlike traditional methods, SROI employs a triple bottom line approach that seeks to account for social, environmental, and economic outcomes. The ability to determine 'subjective wellbeing' is what has positioned the methodology at the forefront of social impact assessment [22]. Despite its potential, the

utilisation of the SROI framework within academia remains limited, as evidenced by the scarcity of studies published in peer-reviewed journals [21]. Notably, no SROI has been conducted with a hospice setting in the UK to date, and minimal literature exists on its implementation within a palliative care context. Consequently, this SROI study introduces a novel approach that holds potential to shape future practices. This paper presents the findings of an SROI analysis, finalised in 2020 as a part of a broader mixed-methods study examining the value of hospice care in North Wales.

Study Sites

The North Wales Hospice consortium consists of four hospice sites, each providing inpatient and day therapy as core services with one hospice site in the consortium providing a Hospice at Home Service. This consortium, whose services cover an estimated population of 735,000 persons [23], pooled their varying levels of resources, expertise, and experiences with the aim of becoming more research active. Whilst all four hospice sites had many organisational similarities, Site A diverged from the traditional model of care to a nurse-led model of care [24], in an effort to ensure financial viability. Of note, Site A underwent intermittent closures during the course of this research study as part of its expansion and restructuring efforts.

Methods

Study Design

An evaluative SROI analysis, assessing the social value generated by an intervention post-implementation, was undertaken from a service provider's perspective, as opposed to a prospective SROI, which assesses potential social value before intervention. This analysis encompassed six stages: defining scope, identifying outcomes, gathering and valuing evidence, determining impact, and calculating the SROI ratio. The operationalisation of each stage is outlined below, with reporting guided by the SROI assurance standard checklist [25].

To further ensure the quality of this analysis, Krlev et al.'s [26] 12-point quality assessment framework was utilised, as it is the first and only publicly available tool specifically designed for evaluating the quality of SROI reports.

In the broader study leading to the SROI analysis, a primary qualitative study [27] was conducted in addition to a mixed-methods systematic review [11] to identify key stakeholders and map their outcomes. Additionally, quantitative data obtained via outcome measures was triangulated with these findings to assess the intervention's impact (Appendix 1). Moreover, a partial economic analysis was utilised to determine the financial cost of the service. The robustness of the analysis was further tested through a series of one-way sensitivity analyses.

Scope of the Study (Stage 1a: Establishing Scope)

An all-day research event was organised and attended by a variety of hospice personnel (including the Chief Executives) and upon completion of a number of activities, the scope of the study refined to encompass three core services: 1) inpatient, 2) day therapy and 3) at home service. However, due to limited research capacity and resources at Site D, the decision was later made to exclude the Hospice at Home service. [Appendix 2](#) demonstrates each study sites contribution to each data collection phase. At this stage of the process, patients and their family caregivers were not involved.

Participants (Stage 1b: Stakeholder Identification)

A provisional list of stakeholders which included all persons who may affect or be affected by the hospices was created and later refined to ensure that the focus of the study encompassed direct beneficiaries only (patients and their family-caregivers). Recognising the potential for both stakeholder groups to experience change, they were deemed significant for the SROI analysis. The choice of data collection methods for patients and family-caregivers was influenced by insights gained during the all-day research event. To supplement the accounts

of direct beneficiaries, the perspectives of paid and volunteer personnel were also incorporated as proxies on what patient and family-caregivers valued (Appendix 3). The rationale for the exclusion of wider stakeholders has been detailed in Appendix 4, however, stakeholders were often excluded due to the informed assumption that they would not experience a material impact or their involvement was beyond the scope of the evaluation.

Findings

Stage 2: Mapping Outcomes

Theory of change

An impact map (also referred to as a theory of change), informed through stakeholder engagement was developed to demonstrate the relationships between inputs, outputs, and outcomes. The impact map provides a visual representation to illustrate how hospice services use certain resources (*inputs*) to deliver their activities (*outputs*) to produce the outcomes experienced by stakeholders (Appendix 5 and 6).

Costing hospice services

A partial economic analysis was conducted from the service provider's perspective to determine the input cost for the inpatient and day therapy units. Financial data provided by the finance department at each hospice was grouped into the following categories: human resources, administration, housekeeping, transport, pharmacy and catering. Through a step-down costing methodology, the aggregated financial data was allocated to either the day therapy or inpatient unit based on cost drivers. For this analysis, volunteer time was assigned a financial value based on the cost to replace them with non-voluntary equivalents [10] [28]. This value was calculated using one-month rota schedules provided by each hospice, reflecting the hours worked during that period. A financial proxy, based on available online job advertisements, was used to estimate the value of volunteer time. Patient-related and

other societal costs were excluded since hospice services are provided to patients free of charge. Financial data was analysed alongside service utilisation data- specifically, the average number of inpatient bed days (n=2,798) and day care (n=904) visits- to calculate average costs. This analysis determined that the cost per inpatient bed day is £446, while the cost per day therapy visit is £292. These costs were multiplied by the number of participants in the study (90 for inpatient; 89 for day patients), and then multiplied by the average length of stay (15 days for inpatient; 6 visits for day therapy). This resulted in total cost of £602,100 for the inpatient unit and £155,928 for day therapy. For transparency, the detailed calculations are presented in Figure 1.

Outcome identification

Through a sequential two-stage process, and informed by the engagement of stakeholders (reported elsewhere) [27] a comprehensive list of outcomes for patients and family-caregivers was created (*Table 1*). In the initial stage, a systematic review [11] synthesising qualitative and quantitative studies was used to inform the development of topic guides. These guides were then utilised during the subsequent phase to explore the value of hospice care to patients and family-caregivers. The final sample, consisted of 45 patients, 18 family-caregivers (Appendix 7), and a purposive selection of paid (n=31) and volunteer personnel (n=10) (Appendix 3), offering an important proxy perspective [27].

Stage 3: Evidencing outcomes and assigning a value

Evidencing Outcomes

During this stage, data were collected through the Integrated Palliative Care Outcome Scale (IPOS) [29], a tool that assesses patients' needs in palliative care across five areas: physical symptoms, emotional concerns, social needs, communication, and spiritual well-being. This scale was embedded into routine clinical practice across a 10-month period. To determine

whether a material change had occurred, the outcome measure was intended to be administered at regular intervals- every 3 days for inpatients and every 7 days for day care patients. However, due to the unpredictable nature of hospice patients' health and staffing challenges, the questionnaires were ultimately collected at irregular intervals. Due to the common progression of decline often associated with a palliative care diagnosis, it was determined that no change indicated effective symptom management and was therefore deemed material [30]. Whilst IPOS [29] is validated for patient use, one question does pertain to the psychological experiences of family-caregivers. Patient data was also supplemented by the inclusion of data collected from staff and family caregivers who completed the IPOS [29] as proxies. As a validated measure, the outcomes measured were pre-determined and consequently did not always align directly with the outcomes most valued by patients and their family-caregivers. To ensure that these gaps were addressed, data obtained through qualitative interviews were used as an indicator of change (*Table 1*). Whilst this approach is not considered best practice, the use of qualitative methods to supplement quantitative data and determine change has been used elsewhere [31].

Outcomes valuation

To apply a monetary value to non-marketable assets (e.g., improved relationships), the wellbeing valuation methodology was employed [32]. This method uses existing data sets pertaining to well-being and was used in lieu of the 'value game', commonly used in SROI analyses. The value game is a card based economic technique that directly engages stakeholders in the valuation process by asking them to assign a value to their outcomes [33]. The decision not to use the value game to monetise outcomes was influenced by the potential risk of causing psychological distress among this palliative population. Subsequently, the Housing Associated Charitable Trust (HACT) database (Version 4) was used to assign a monetary value (per annum) [34]. This approach, commonly used among published SROI

analyses, utilises well-being valuation from national surveys to isolate the effect of a factor, minimising subjectivity in the monetization process and creating a degree of standardization [35]. HACT provides a framework for valuing social impact in housing and community services, allowing us to quantify impact [35]. The per annum proxy value associated with each stakeholder outcome is listed in *Appendix 8*.

Customarily, the duration of outcomes within an SROI analyses will surpass a 1-year period; however, for hospice patients, outcomes were considered lost after 1-year due to the typical trajectory of a palliative care diagnosis [36]. To minimise the risk of overclaiming, the financial proxies for patient outcomes were adjusted to reflect the average life expectancy of patients who had accessed hospice care in 2016 (*Table 2*). Nonetheless, attrition remains relevant for family caregivers, whose outcomes may extend beyond this period.

Establishing impact

To further minimise the risk of over-claiming, the influence of deadweight, displacement, attribution, and caregiver-specific attrition needed to be accounted for (*Table 3*). Deadweight refers to the proportion of change that would have occurred irrespective of hospice intervention. Displacement refers to the portion of an outcome that reduces or replaces another outcome, often due to the reallocation of resources or activities. For instance, in a hospice setting, if certain activities are cancelled or rescheduled to prioritise other needs, the displacement effect would capture how this change affects the overall social value generated by the hospice. For example, if family counselling services were outsourced to an external agency rather than being provided in-house it could displace the supportive relationships and continuity of care that patients and families might have formed with the hospice team. This shift may benefit the hospice by managing resources and costs, but it could also impact the experience of families. Attribution refers to the process of determining whether the changes

observed can be directly attributed to the intervention without influence from external services such as those provided by the NHS or Macmillan (a not-for-profit organisation), which often supplement the support provided to patients in this study. Finally, attrition refers to the proportion of the outcome that depreciates after the first year. The percentages for deadweight, displacement, and attribution were established based on insights gathered from qualitative stakeholder interviews, rather than assigned arbitrarily. These interviews included targeted questions to assess how much of each outcome could be directly attributed to the intervention (Appendix 9).

Results

SROI ratio calculation

By applying the principles of SROI, this analysis generated a base-case ratio for the inpatient and day therapy unit. For the day therapy unit, the average input and output values were £155,928 and £1,847,347, resulting in a base case ratio of £11.85 for every £1 invested (Appendix 6). Similarly, the inpatient unit had average input and output values of £602,100 and £1,667,861 respectively, yielding a base case ratio of £2.77 for every £1 invested (Appendix 7). The formula for calculating the ratio is as follow:

$$\text{SROI Ratio} = \frac{\text{Total impact value (minus deadweight, displacement, attribution, drop off)}}{\text{Total investment}}$$

Sensitivity analysis

To assess the reliability of the core assumptions underlying the base case scenario, a series of one-way sensitivity analyses were conducted (*Appendix 10*). At the outset of this SROI, assumptions were made regarding the allocation of costs between the inpatient and day therapy units. Assuming an equal distribution of input costs across both units, the day therapy

unit yielded its lowest ratio of £2.44 for every £1 invested- a reduction of 79.4% from the base case. Moreover, when it was assumed that the outcomes experienced by patients and family-caregivers would persist for up to 1-year, the inpatient unit achieved its highest ratio of £6.83 for every £1 invested- an increase of 146.6% from the base case. Similarly, applying this sensitivity analysis to the day therapy unit results in the highest ratio (£19.51 for every £1 invested), reflecting a 64.6% increase from the base case.

Discussion

To the best of our knowledge, this is the first study to apply the SROI framework to a palliative day therapy and inpatient hospice services globally. Our findings revealed a base case ratio of £11.85 for the day therapy unit and £2.77 for the inpatient unit. Whilst it was initially expected that patients would experience the most social value, our analysis revealed that family-caregivers receiving support from inpatient services accrued the highest proportion of social value, amounting to 77% of total social value. This highlights the significant impact of inpatient services on family-caregivers' well-being and underscores the holistic nature of hospice care. The advantage of SROI methodology in hospice care lies in its ability to comprehensively assess and communicate the broader social impact generated by hospice services. Specifically, SROI emphasises the non-health related outcomes which are important to stakeholders but may not be captured by other evaluative frameworks. By considering a wide range of social, environmental, and economic factors, SROI provides a more nuanced understanding of the value hospice services bring to individuals, families, and communities. However, it is important to acknowledge potential influencing factors, including challenges in patient recruitment and the potential for overestimating material change stemming from the utilisation of wellbeing valuation as a technique. The pre-determined financial proxies obtained from the HACT database [34] enhanced standardisation and minimised subjectivity in the valuation process but its use in a palliative

care setting is limited by generalisation, applicability to palliative care, regional variations and lack of transparency. For example, certain outcomes such as improved mobility lacked a relevant proxy and instead was assigned to the HACT financial proxy for walking, potentially overlooking the significance patients attributed to enhanced mobility. Considering the life expectancy of patients who accessed hospice care in North Wales in 2016 was less than a year, we adjusted the financial proxies for patient outcomes to align with this timeframe, mitigating the risk of over-claiming. To our knowledge, this approach is novel. Notably, the sensitivity analysis scenario which did not pro-rate the financial proxies and assumed that all stakeholder outcomes would last one year, yielded the highest SROI ratios for both the day therapy (£6.83: £1) and inpatient unit (£19.51: £1). Comparatively, the lowest SROI ratios were obtained from both units when total hospice expenditure was evenly distributed across the two services.

The economic principles underpinning the SROI methodology, coupled with the diverse processes involved, preclude direct comparability of SROI ratios across organisations. Whilst direct comparisons are not feasible, analysing ratios generated by similar services offers context for our results. Unfortunately, the scarcity of published SROI reports in both peer-reviewed literature and grey literature within this field makes it difficult to benchmark our findings. Nottinghamshire Hospice announced the initiation of an SROI analysis, but efforts to contact the research team proved unsuccessful [37]. Additionally, an SROI ratio of an integrated care team in Essex, which included a palliative service, yielded an SROI ratio of £9.97 [38]. However, the palliative services could not be unpicked thus marring direct comparison. Finally, an SROI of hospice care in Canada revealed a social value range of \$3.46-\$11.68 [39]. This study identified several key stakeholder outcomes, including reduced social isolation, improved pain and symptom management, increased sense of dignity, and decreased caregiver burnout, which is consistent with the findings of our research.

Strengths and Weaknesses

This study employed the step-down costing methodology to determine the operational costs of three hospice sites. This approach was necessary due to the limitations posed by heavily aggregated financial data, which required a deviation from the original protocol and substantially influenced the method used to calculate unit costs. Although micro-costing is considered the gold standard, the level of detail it requires was unavailable from the study sites. Consequently, step-down costing [40], despite relying on informed assumptions for cost allocation, was deemed the most suitable alternative based on its successful application in other health-related settings. However, this allocation method can lead to both over- and underestimation, potentially misrepresenting resource use per unit.

The absence of data on capital costs and fixed assets posed another limitation, necessitating the exclusion of Site D from the overall mean. To address variations in resource intensity, a weighting system was introduced. Unlike previous studies with arbitrary weighting, this study developed a weighting system to account for the longer operating hours of the inpatient unit, representing an innovative approach within hospice costing.

The assumptions inherent in the step-down costing called for a more comprehensive sensitivity analysis to address the uncertainties in cost allocation. The initial analysis primarily examined variations in cost drivers for resource allocation, but additional scenarios such as alternative weighting schemes for operating hours, differing assumptions for overhead costs, and staff cost variability could provide greater insight. Whilst data limitations, particularly on capital costs and fixed assets, constrained the scope of the analysis, future research could enhance these findings with more granular data.

The findings' reliability is supported by their alignment with existing data, as the final cost per bed day (£400-£542) closely aligns with previous estimates of £450 based on secondary

data [41]. Additionally, a recent study which applied a pragmatic before-and-after descriptive cohort approach, estimated the average day therapy cost as £233 [42].

Despite the growing interest in SROI, the limited rigorous testing in academic research raises concerns about its validity [5]. While SROI can offer valuable insights into the social value of interventions, further refinement and standardisation are necessary. Typically, deriving financial proxies requires participatory methods like the ‘value game’, where stakeholders rank outcomes and assign monetary values. However, given the sensitive context of end-of-life care, asking patients and families to quantify their experiences in financial terms would be ethically inappropriate. This aligns with broader critiques of SROI, such as Fujiwara’s [43] concern that it may privilege wealthier perspectives, leading to skewed valuations.

These limitations underscore the need for more refined and ethically sensitive approaches to deriving financial proxies, particularly in palliative care. Thus, rigorous testing, peer-reviewed studies, and methodological development are crucial to strengthen the evidence base and enhance the credibility of SROI evaluations. However, whilst there are limitations, the use of SROI can be a strength as the perspectives of stakeholders who experience spillover effects are not always captured in more traditional economic evaluation methods [44], and SROI lends itself well to eliciting the value of interventions to multiple stakeholders [45].

Conclusion

This first and rigorously conducted large-scale multi-site SROI analysis of hospice care provides new and novel insights into its positive social value, and underscores the need for sustained, long-term funding to support these vital services. Despite challenges in measuring value, methodologies like SROI offer a comprehensive approach to assess the broader societal impact of interventions, reported in a common metric (£s). Nevertheless, it is

essential to acknowledge the limitations inherent in this methodology. Further research and implementation of SROI in palliative care settings is warranted to enhance our understanding of the value inherent in hospice care. Despite encountering difficulties in maintaining outcomes due to the reduced life expectancy of the palliative care population, the experience gained from employing the SROI approach in this setting proves invaluable, paving the way for continued improvement and refinement of the methodology.

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