

An assessment of need for mental health rehabilitation amongst inpatients in a Welsh region

Ryan, Tony; Carden, John; Higgo, Robert; Poole, Robert; Robinson, Catherine

Social Psychiatry and Psychiatric Epidemiology

DOI:

10.1007/s00127-016-1213-8

Published: 01/09/2016

Peer reviewed version

Cyswllt i'r cyhoeddiad / Link to publication

Dyfyniad o'r fersiwn a gyhoeddwyd / Citation for published version (APA): Ryan, T., Carden, J., Higgo, R., Poole, R., & Robinson, C. (2016). An assessment of need for mental health rehabilitation amongst in-patients in a Welsh region. Social Psychiatry and Psychiatric Epidemiology, 51(9), 1285-1291. https://doi.org/10.1007/s00127-016-1213-8

Hawliau Cyffredinol / General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
 - You may not further distribute the material or use it for any profit-making activity or commercial gain
 You may freely distribute the URL identifying the publication in the public portal?

Take down policy

The final publication is available at Springer via http://link.springer.com/article/10.1007%2Fs00127-016-1213-8

Take down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Social Psychiatry and Psychiatric Epidemiology

An assessment of need for mental health rehabilitation amongst in-patients in a Welsh **region**--Manuscript Draft--

Manuscript Number:	SPPE-D-15-00395R1
Full Title:	An assessment of need for mental health rehabilitation amongst in-patients in a Welsh region
Article Type:	Original Paper
Keywords:	Rehabilitation; needs assessment; service redesign; commissioning; out of area treatments
Corresponding Author:	Dr Tony Ryan, PhD Tony Ryan Associates and Centre for Mental Health and Society, Bangor University Manchester, Greater Manchester UNITED KINGDOM
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	Tony Ryan Associates and Centre for Mental Health and Society, Bangor University
First Author:	Dr Tony Ryan, PhD
Order of Authors:	Dr Tony Ryan, PhD
	John Carden, MSc
	Robert Higgo, FRCPsych
	Rob Poole, FRCPsych
	Catherine Robinson, PhD
Funding Information:	
Abstract:	Title An assessment of need for mental health rehabilitation amongst in-patients in a Welsh region Background Rehabilitation services have received little attention compared with other types of
	mental health service provision over the past 15 years. However, they are an important component of whole-system functioning in mental health services. Lack of provision has a particular impact on acute in-patient services. Poor pathway management can result in delayed discharges, placement of service users far from home, and resultant loss of resource for the local mental health economy.
	Methods A cross-sectional study gathered demographic, clinical, service utilisation, and financial data on 100 participants from out of area, rehabilitation and acute units. Financial data was provided by the Health Board. Other data was gathered by two clinicians from case records and staff interviews.
	Findings 26·0% of people were inappropriately placed, with frequent overprovision of support. It was calculated that within an annual budget of £12·7M, £2·5M (19·7% of the total expenditure on this patient group) could be saved if all placements were appropriate.
	Interpretation There were differences between the three cohorts. Those placed out of area had the most complex needs, although those in rehabilitation placements were similar. Most participants had been in contact with services for more than five years. A system better matched to their needs would benefit these patients and would also generate financial savings for reinvestment in the mental health economy.

Funding
This work was funded by Public Health Wales, Bangor University and the Local Health Board.

Title

An assessment of need for mental health rehabilitation amongst in-patients in a Welsh region

Background

Rehabilitation services have received little attention in the literature compared with other types of mental health service provision over the past 15 years. However, they are an important component of whole-system functioning in mental health services. Lack of provision has a particular impact on acute in-patient services. Poor pathway management can result in delayed discharges, placement of service users far from home, and resultant loss of resource for the local mental health economy.

Methods

A cross-sectional study gathered demographic, clinical, service utilisation, and financial data on 100 participants from out of area, rehabilitation and acute mental health units. Financial data was provided by the Health Board. Other data was gathered by two clinicians from case records and staff interviews.

Findings

26.0% of people were inappropriately placed, with frequent overprovision of support. It was calculated that within an annual budget of £12.7M, £2.5M (19.7% of the total expenditure on this patient group) could be saved if all placements were appropriate.

Interpretation

There were differences between the three cohorts. Those placed out of area had the most complex needs, although those in rehabilitation placements were similar. Most participants had been in contact with services for more than five years. A system better matched to their needs would benefit these patients and would also generate financial savings for reinvestment in the mental health economy.

Funding

This work was funded by Public Health Wales and the Local Health Board.

Conflicts of Interest

There are no conflicts of interest.

Background

Since the closure of large mental hospitals, in-patient rehabilitation services have received little attention from policy makers. Reliance upon the private sector to provide beds has resulted in unplanned growth in services without reference to local need.1 Current mental health strategies in England and Wales make no reference to rehabilitation services.2,3 Nonetheless, the Joint Commissioning Panel for Mental Health has given clear and helpful guidance to commissioners about the content of rehabilitation care pathways, the importance of whole system working, and the need for services to be close to service users' homes.4

Acute and secure in-patient services are only effective when there is an active care pathway for service users to leave them and where the pathway operates as a whole system.5 Sometimes this requires greater support than can be offered through standard community mental health team (CMHT) care coordination. Where local services lack clear pathways and adequate rehabilitation provision, service users are at risk of placement in out of area treatment settings (OATS), often at a distance from family and friends.6,7 Such placements are an unbudgeted expense which drains financial resource from the local mental health economy. This is a poor use of money, as there is evidence that service users experience equally good outcomes when rehabilitation services are located in their area of origin.8 OATS lead to inefficient use of staff time due to coordination of placements at a distance.9 People placed in local services move more effectively through rehabilitation care pathways than those placed out of area.10 Service users prefer to be supported close to families and friends as people placed out of area find it difficult to adjust to isolation in remote locations, and struggle to relocate back in their home area when care packages end.11

Many people in acute in-patient wards have long-term needs, often for rehabilitation. Delays whilst awaiting transfer to a rehabilitation service are common.12-15 Some rehabilitation services have difficulty in moving people to suitable services following rehabilitation intervention.16

People move more slowly through "step down" pathways than "step up" pathways, particularly when there is concern over risk. Lengthy stays in acute inpatient beds awaiting transfer to a rehabilitation setting are counter-therapeutic and lead to increased use of out of

area placements for acute care (OATS) due to pressure on beds within the local service system.17

Aim

To undertake a needs assessment for rehabilitation services of people currently using secondary care mental health services within a region of Wales, including those in OATS.

Methods

A cross sectional needs assessment was undertaken using a designed-for-purpose proforma to gather a range of clinical, demographic and service utilisation information (see Appendix). Financial data were obtained on a case-by-case basis from the Health Board's finance department.

The cohort participants in this work were in-patients on 1st August 2014 in one of the following settings in the National Health Service or outside this sector:

- NHS rehabilitation in-patient bed (a facility supporting people to overcome longer term disability related to mental illness, often for two years or more)
- NHS acute in-patient bed (for people experiencing an acute mental illness) with a length of stay of >50 days or
- Medium Secure Unit bed (for high risk people requiring security and treatment) and identified as delayed discharge awaiting rehabilitation or
- Out of area rehabilitation inpatient placement outside the NHS (for people placed away from local services)

All services within the care pathway and all patients who met the above criteria were included in the study.

The proforma was piloted. Minor modifications were made prior to data collection.

For service users in NHS settings, demographic, clinical and service utilisation data was gathered in situ by two experienced clinicians (a consultant psychiatrist and a clinical nurse specialist, each with over 20 year's clinical practice in a wide range of settings) who examined case notes and interviewed staff on duty at the time.

Patients in out of area placements were identified using financial payment records and cross referencing these with clinical records held by staff monitoring the placements, in order to ensure all cases were identified. Data for those in OATS placements were obtained by the clinical nurse specialist who interviewed the NHS case managers responsible for individual care coordination.

In respect of the suitability of the placement, the two clinicians made a consensus assessment based on a detailed review of the patient's clinical records, including care plan and risk assessment, and a discussion with a qualified member of the care team. A Global Assessment of Functioning (GAF) score was also agreed.18 Where the reviewers considered that patients were not appropriately placed, this judgement was discussed with the member of staff and agreement reached.

All data were gathered on paper proformas and then entered into Excel by an administrator. The Excel data entries were re-checked for accuracy by the clinical nurse specialist against the hard copy data. Financial data were added to the Excel file. The dataset was then analysed using Statistical Package for Social Sciences (SPSS) software.

Permission for the study was obtained from the Health Board Clinical Audit and Effectiveness Department who deemed it a service evaluation and that local Research Ethics Committee approval was unnecessary.

Findings

Demographic, clinical and service utilisation profiles

A total of 100 people met the study criteria: 30 within NHS rehabilitation wards; 24 in acute wards; and 46 in out of area treatment. No service user in the Medium Secure Unit met the study criteria. As n=100, total figures are both the number and the percentage in all tables unless otherwise stated.

The majority were male and of white British ethnicity. Those in the rehabilitation cohort were the youngest group. The OATS group contained the greater number subject to Part III of the Mental Health Act (patients concerned with criminal proceedings or under sentence). Ninety percent of the total population were subject to Section 117 of the Mental Health Act (provision for legal entitlement to aftercare following detention in hospital) indicating previous compulsory in-patient use.

	Rehabilitation	Acute wards	OATS	Total
	wards	(n = 24)	(n = 46)	(n = 100)
	(n = 30)			
Sex (Male : Female)	23:7	13:11	34:12	70:30
Age range (mean)	18-67	21-87	19-72	18-87
	(35·47 years)	(51·54 years)	(43·48 years)	(43·01 years)
Ethnicity				
White British	29	22	42	93
Other	1	2	4	7
Mental Health Act				
Informal	10	9	5	24
S2	0	0	1	1
S3	15	14	19	48
Part III	5	0	17	21
Other sections	0	1	4	6
S117	29	17	44	90

Table 1: Demographic profiles

Table 2 sets out current clinical diagnosis which were obtained from case records and interviews with clinical staff. There were fewer people with psychosis in the acute group than the other two groups. The OATS group had more people with multiple diagnoses and personality disorder.

Rehabilitation	Acute wards	OATS	Total
wards	(n = 24)	(n = 46)	(n = 100)
(n = 30)			
22	10	20	52
2	1	5	8
1	2	1	4
4	2	11	17
0	2	1	3
1	7	7	15
0	0	1	1
14	7	27	48
	wards (n = 30) 22 2 1 4 0 1 0	wards (n = 24) (n = 30) 22	wards (n = 30) (n = 46) 22 10 20 2 1 5 1 2 1 4 2 11 0 2 1 1 7 7 0 0 1

Table 2: Diagnosis

A large proportion of all three groups had significant past and current risk in a range of areas (Table 3). The OATS group had a high proportion of people with risk of harm or threats to others. A history of arson was largely confined to this group.

	Rehabilitation wards		Acute wards		OATS	
	(n = 30)		(n = 24)		(n = 46)	
	Historic	Current	Historic	Current	Historic	Current
Self-harm	24	11	12	10	25	13
Self-neglect	22	14	20	10	34	23
Exploitation	14	18	12	5	26	18

Harm to others	24	10	12	5	39	25
Victim of any abuse	9	2	19	2	14	5
Threats to others	18	7	15	10	38	26
Arson	2	0	0	0	10	1
Sexually inappropriate						
behaviour	4	1	2	1	1	1

Table 3: Risk profiles (historic and current)

Staff identified higher levels of alcohol and substance misuse in the rehabilitation and OATS groups (Table 4).

	Rehabilitation wards	Acute wards (n = 24)	OATS (n = 46)	Totals (n = 100)
Needs	(n = 30)	, ,	, ,	, , ,
Cannabis	13 (43·3%)	2 (8·3%)	14 (30·4%)	19
Cocaine	6 (20.0%%)	0	5 (10.9%)	11
Amphetamines	7 (23·3%)	1 (4·2%)	9 (19.6%)	17
Alcohol	11 (36·7%)	6 (25.0%)	17 (36·2%)	34
Other substances	1 (3·3%)	0	3 (6.5%)	4

Table 4: Drug and alcohol use

In all three groups, the majority of people had been in contact with services for a long period of time. In the rehabilitation and OATS groups over three quarters had been known to services for more than five years (Table 5).

Rehabilitation	Acute wards	OATS	Totals
wards	(n = 24)	(n = 46)	(n = 100)
(n = 30)			

< 1 year	0	3 (12·5%)	0	3 (3.0%)
Between 1-5 years	7 (23·3%)	4 (16·7%)	7 (15·2%)	18 (18.0%)
> 5 years	23 (76·7%)	14 (58·3%)	36 (78·3%)	73 (73.0%)
Unknown	0	3 (12·5%)	3 (6.5%)	3 (3.0%)

Table 5: Length of time known to services

The two clinicians made a consensus assessment of the appropriateness of the current placement through review of case notes and interviews with staff on duty or care coordinators. They suggested the appropriate type of placement where the current placement was inappropriate (Table 6).

	Rehabilitation	Acute wards	OATS	Total
	wards	(n = 24)	(n = 46)	(n = 100)
	(n = 30)			
Current placement	25 (83·3%)	16 (66·7%)	33 (71·8%)	74 (74·0%)
Rehabilitation ward	0	2 (8·4%)	0	2 (2.0%)
Care or nursing home	2 (6.7%)	3 (12·5%)	7 (15·2%)	12 (12·0%)
Supported	3 (10.0%)	2 (8·3%)	5 (10.9%)	10 (10.0%)
accommodation /				
home support				
Non-mental health	0	1 (4·2%)	1 (2·2%)	2 (2.0%)
service				

Table 6: Required placement

GAF scores were formulated for 85% of the cohort by the two clinicians, who made an assessment based on the data they collected as described above. Whilst there were differences between the groups who were deemed 'appropriately placed' and those deemed 'not appropriately placed' this was not statistically significantly (Table 7).

	GAF domain	N	Min	Max	Median	Std.
						Deviation
Appropriately placed	Disability	63	11	90	45.00	14.003
	Symptomatology	63	10	85	31.00	18.874
Not appropriately	Disability	22	11	85	51.00	20.428
placed	Symptomatology	22	5	88	45.00	26.730

Table 7: Global Assessment of Functioning (GAF) scores by appropriateness of placement

Much of the social circumstance data was unavailable in case records and therefore is not reported here.

Financial analysis

The weekly direct cost to the NHS was determined for all cases where current placement was considered appropriate to the person's needs. Where the placement was regarded as inappropriate, the cost of an ideal placement was calculated. Costs for services were based on Personal Social Services Research Unit cost findings for 2012 with an increase of 1.5% for inflation using the Bank of England General Inflation Rate Calculator Tool (Table 8). 19, 20

Type of facility	Weekly	Comment
	cost (£s)	
Independent hospital	2900.00	Based on median cost to the Health Board for this type
		of facility in August 2014
Care home with	647.59	Based on costs from PRSSU study in 2012 plus
nursing		inflation rate of 1.5%
Care home	647.59	Based on costs from PRSSU study in 2012 plus

		inflation rate of 1.5%
On site supported	248.00	Based on £12·30 per hour for three people an hour
accommodation		with 40 hours support to the group and 7 nights sleep
		in at £36 per night
Floating support	123.00	Based on £12·30 per hour and 10 hours a week
package		

Table 8: Financial costs by facility type and rationale for establishing weekly costs

The weekly NHS expenditure for the whole sample was calculated as £245,417, which equates to an annual cost of £12·76M (Table 9). These weekly costs could be reduced by £49,018 if all placements were matched to service users assessed needs, reducing the annual spend to £10·22M. Based on these figures there is a possible annual saving to local NHS services of over £2·55M; 19·97% of the total projected annual spend based on actual placements. The potential savings include single case contracted placements (often referred to as "spot contracts") to the value of £1,703,402. This would release funds for reinvestment whilst improving the quality of service to patients.

	Weekly cost (£s)		Projected annual cost (£s)	
	Actual	If all were	Actual	If all were
		ideally placed		ideally placed
Rehabilitation	50,380	44,135	2,619,760	2,295,020
Acute	58,866	48,849	3,061,032	2,540,148
OATS	136,171	103,415	7,080,892	5,377,580
Totals	245,417	196,399	12,761,684	10,212,748
Weekly differential (saving)	49,018			
Annual differential (saving)	_		2,5	48,936

Table 9: Actual costs and costs if all were ideally placed in August 2014 (n = 100)

Interpretation

The people in the rehabilitation group were young, yet had been in contact with services for a long time, and almost all had been treated under the Mental Health Act (29 of 30). The majority of the whole cohort had a primary diagnosis of psychosis. It is known that around 10% of people with a new diagnosis of psychosis will develop complex difficulties that lead to the use of rehabilitation services.21

Many participants had secondary diagnoses, with high rates of historical and current risk, and some drug and alcohol use, all of which reflect complex needs. The five participants in the rehabilitation group (16.7%) in need of alternative placement were overprovided for in their current service.

They had a wide range of diagnoses, but fewer secondary diagnoses. Historical and current risk profiles were lower than the other two groups, while a high proportion had been detained and were subject to legal aftercare provisions (S117; 17 of 24). Overall this group had shorter contact with mental health services than the other two groups. Only 16 of the 24 people (67%) were placed appropriately. Almost a third required some form of step-down service (i.e. a lower level of care). The finding of a lower rate of substance misuse in this group is surprising. It may be due to lower rates of ascertainment or recording, or chance variation.

The OATS group contained the greatest proportion of Mental Health Act Part III detained patients, people with a primary diagnosis of personality disorder, people with multiple diagnoses, and people with historical and current risk of harms and threats to others. They had been known to services for a long time.

The services provided across the three cohorts are expensive. The resource was used inefficiently, with 26% of people inappropriately placed at the time of the needs assessment. There were potential financial savings of approximately 20%, based on people being supported in the most appropriate service for their needs.

Despite there being no difference in 'disability' score between those 'appropriately' and 'not appropriately' placed score there was a higher mean 'symptomatology' score in those 'not

appropriately placed'. This suggests noticeable features of illness may be a factor preventing people moving on and worthy of further exploration.

It is interesting to compare our study with the national rehabilitation services study in England.22 Both studies identified mainly male cohorts who were around 40 years of age. The majority were long term users of secondary care mental health services with previous hospital admissions. Historical self harm rates were similar between the two studies. There are some differences. The English study found almost 90% had a primary diagnosis of schizophrenia, schizo-affective disorder or affective psychosis, whereas the Welsh study identified two thirds with diagnoses of psychosis and a significant proportion of people with a primary diagnosis of personality disorder. Self neglect and harm to others were found in three quarters of the Welsh cohort, whereas these historical risks were observed in around half of the English cohort. GAF social function score had a mean of 45, which is nine points less than in the English study. Lengths of stay were shorter in the Welsh study. An explanation for the differences may be found in inclusion of all patients in need of rehabilitation in the Welsh study, whereas the English study included only people resident in NHS rehabilitation facilities only.

Finally, there are some limitations associated with this work that should be noted. In particular, the clinical reviewers were unable to interview patients in the study. The GAF was the only standardised tool that was utilised although the data collection proforma had been used in a number of other similar settings. Staff interviews may have introduced a bias and data from casenotes may have contained some inaccuracies or missing information as they were paper based. There was a considerable amount of missing data on the social circumstances.

Conclusions

In England and Wales, the closure of mental hospitals has left a small but significant group of people with inadequate local services. They are people with complex mental health needs, and they are amongst the most vulnerable in the mental health system. Relying heavily upon the private sector to provide specialist care does not appear to be cost efficient, and there is evidence of unnecessary expenditure on inappropriate placements.

People with long term mental health needs are not adequately served by service systems that are primarily focused upon risk, crisis, and acute care. Failure to address their needs has an impact on the availability of acute care facilities. 23 Effective acute care services require a whole system approach, including well-managed local rehabilitation pathways. Those who commission or manage services must recognise the importance of rehabilitation provision if they are to avoid wasteful and inappropriate expenditure. Inappropriate care provision is detrimental to patients. It also leads to loss of financial resource to the local mental health economy.

Remote location of facilities was one of the key problems with the asylum system. It is replicated in the modern virtual asylum. The problem persists fourteen years after the term was coined.1 Residential placements far from family and friendship networks, away from local services that should support them as they move into recovery are inappropriate and inhumane. There are major difficulties in monitoring remote placements. Overprovision of care is damaging. Patients can become demoralised and demotivated and can be regarded as incarcerated and stuck. The lack of alternative service provision, such as Early Intervention, for younger people with psychosis within the acute care pathway, prior to contact with rehabilitation services within this region, may contribute to the profile of the cohort. The present study was conducted in Wales. England has a reliance on OATS, despite persistent efforts to change this. Both countries would benefit from national studies that examine all rehabilitation services, including those outside the NHS as they are a significant part of the service system, and the need for rehabilitation where people may be stuck in other parts of the pathway, such as acute in-patient or secure services.

References

- 1. Poole R, Ryan T, Pearsall A. The NHS, the private sector, and the virtual asylum. *British Medical Journal*. 2002; **325**, 349-50. doi: http://dx.doi.org/10.1136/bmj.325.7375.1300/b
- Her Majesty's Government and Department of Health. No health without mental health: A cross-government mental health outcomes strategy for people of all ages.
 HM Government / Department of Health. 2011. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213761
 /dh 124058.pdf Accessed 11th February 2016.
- 3. Welsh Government. *Together for Mental Health: A Strategy for Mental Health and Wellbeing in Wales*. Welsh Government: Cardiff. 2012. Available at: http://gov.wales/docs/dhss/publications/121031tmhfinalen.pdf Accessed 11th February 2016.
- Joint Commissioning Panel for Mental Health. Guidance for commissioners of rehabilitation services for people with complex mental health needs. London: JCPMH. 2013. Available at: http://www.rcpsych.ac.uk/pdf/rehab%20guide.pdf Accessed 11th February 2016.
- 5. The Commission to review the provision of acute inpatient psychiatric care for adults (2015) *Improving acute in-patient psychiatric care for adults in England: Interim Report*. London: Royal College of Psychiatrists. Available at: http://media.wix.com/ugd/0e662e_a93c62b2ba4449f48695ed36b3cb24ab.pdf Accessed 11th February 2016.
- 6. Killaspy H. The ongoing need for local services for people with complex mental health problems. *Psychiatric Bulletin*. 2014; **38**, 257-259, doi: 10.1192/pb.bp.114.04847

- 7. Ryan T, Pearsall A, Hatfield B. Long term care for serious mental illness outside the NHS: a study of out of area placements. *Journal of Mental Health*. 2004; **13**, 425-9. doi:10.1080/09638230410001729861
- 8. Ryan, T, Hatfield B, Sharma I, Simpson V, McIntyre A. A census study of independent mental health sector usage across seven Strategic Health Authorities. *Journal of Mental Health*. 2007; **16**, 243-253. doi:10.1080/09638230701279824
- 9. Killaspy H, Rambarran D, Harden C, Fearon D, McClinton K. A comparison of service users placed out of their local area and local rehabilitation services. *Journal of Mental Health*. 2009; **18**, 111-120. doi:10.1080/09638230701879235
- Hatfield B, Ryan T, Simpson V, Sharma I. (2007) Independent sector mental health care: a study of private and voluntary sector placements in seven Strategic Health Authority areas. *Health and Social Care in the Community*. 2007; 15: 5, 407-416. doi:10.1080/09638230701279824
- 11. Rambarran D. Relocating from out-of-area treatments: service users' perspective. *Journal of Psychiatric and Mental Health Nursing*. 2013; **20**, 696-704. DOI: 10.1111/jpm.12003
- 12. Commander M, Rooprai D. (2008) Survey of long-stay patients on acute psychiatric wards. *Psychiatric Bulletin* 2008; **32**, 380-3. doi: 10.1192/pb.bp.107.018507
- 13. Holloway F, Wykes T, Petch E, Lewis-Cole K. The new long stay in an inner city service: a tale of two cohorts. *International Journal of Social Psychiatry*. 1999; **45**, 93-103. doi: 10.1177/002076409904500202
- 14. Cowan C, Walker P. New long-stay patients in a psychiatric admission ward setting. *Psychiatric Bulletin*. 2005; **29**, 452-4. doi: 10.1192/pb.29.12.452
- 15. Poole R, Pearsall A, Ryan T. Delayed discharges in an urban in-patient mental health service in England. *Psychiatric Bulletin*. 2014; **38**, 66-70. doi: 10.1192/pb.bp.113.043083

- Cowan C, Meaden A, Commander M, Edwards T. In-patient psychiatric rehabilitation services: survey of service users in three metropolitan boroughs. *The Psychiatrist*. 2012; 36, 85-89. doi: 10.1192/pb.bp.110.033365
- 17. National Mental Health Development Unit. *In sight and in mind: a toolkit to reduce the use of out of area mental health services*. London: Royal College of Psychiatrists. 2011. Available at: http://www.rcpsych.ac.uk/pdf/insightandinmind.pdf Accessed 11th February 2016.
- 18. Jones S, Thornicroft G, Coffey M, Dunn G. A brief mental health outcome scale: reliability and validity of the global assessment of functioning (GAF). *British Journal of Psychiatry*. 1995; **166**, 654-9. doi: 10.1192/bjp.166.5.654
- Personal Social Services Research Uni. Unit Costs of Health & Social Care.
 University of Kent: PSSRU. 2012. Available at: https://kar.kent.ac.uk/32408/1/full-with-covers.pdf Accessed 11th February 2016.
- 20. Bank of England Inflation Calculator Tool. Available at: http://www.bankofengland.co.uk/education/Pages/resources/inflationtools/calculator/fl ash/default.aspx Accessed 11th February 2016.
- 21. Craig T, Power P, Rahaman N, Colbert S, Fornells-Ambrojo M, Dunn G. (2004). The Lambeth Early Onset (LEO) Team: Randomised controlled trial of the effectiveness of specialised care for early psychosis. *British Medical Journal*. 2004; **329**, 1067-1071. doi: 10.1136/bmj.38246.594873.7C
- 22. Killaspy H, Marston L, Omar R, Green N, Harrison N, Lean M, Holloway F, Craig T, Leavey G, King M. (2013) Service quality and clinical outcomes: An example from mental health rehabilitation services in England. *British Journal of Psychiatry*. 2013; **202**, 28-34. doi:10.1192/bjp.bp.112.114421
- 23. Crisp N (2016) *Old Problem, New Solutions: Improving Acute Psychiatric Care for Adults in England.* London: Royal College of Psychiatrists. Available at:

http://media.wix.com/ugd/0e662e_6f7ebeffbf5e45dbbefacd0f0dcffb71.pdf Accessed 11th February 2016.

	Needs Assessment 2014 – data collect	tion proforma
Client ID	Secondary diagnoses (current)	CTTP 1 1 4 4 4 4
(project code)	Please indicate any secondary diagnoses	CTP level at current time 1 = On CTP
Client's postcode		2 = Not on CTP
(first part only)		3 = Under assessment / awaiting allocation
	Living group	
Date of admission	01 = alone	Does the person have the following which makes placement difficult?
Date declared	02 = with spouse/partner 03 = spouse/partner and child(ren) under 18	1 = yes, 2 = no, 3 = not known
delayed	03 – spouse/partier and child(ren) under 18 04 = child(ren) under 18 only	1 = Learning disability
discharge (DD/MM/YY)	05 = child(ren) over 18	·
15	06 = own parents	2 = Personality disorder
Mental health Act status 1 = Not subject to Act	07 = other family	3 = A "perceived" challenging
2 = Section 3	08 = adults (non-family)	behaviour
3 = Section 2	09 = other service users (non-family)	4 = Other issues (specify)
4 = Other Civil MHA Section (specify)	10 = staffed accommodation (full-time) 11 = staffed accommodation (part-time)	4 Other issues (specify)
5 = Part III section	12 = other (specify)	
Type of ward	13 = not known	Does the person have a co-existing substance
1 = Acute adult admission		misuse problem with:
2 = PICU	Housing 1 = council/housing association	1 = yes, 2 = no, 3 = not known
3 = Older person's admission ward	2 = owner-occupied	1 = Cannabis
4 = Rehabilitation ward	3 = rented privately	2 = Cocaine
$5 = Other (specify) \dots$	4 = lodgings	2 Cocame
Name of service	5 = homeless/NFA	3 = Amphetamines
	6 = NHS/SSD/voluntary/Indep provider	4 = Alcohol
Name of consultant	7 = Other (<i>specify</i>) 8 = not known	
(state "No" if no consultant allocated)		5 = Other substances (specify)
Date of (last) previous admission	Informal carer	
_	1 = Lives with service user 2 = Lives separately	Are any specialist tools used to assess and / or
Admitted	3 = No informal carer	manage? $(1 = Yes 2 = No 3 = Don't know)$
Discharged	4 = Not known	,
	Visitors whilst in hospital	Learning disability
Client's sex	1 = Daily; 2 = Weekly; 3 = Monthly; 4 = Less	Personality disorder
1 = male 2 = female	frequently; 5 = Never; 6 = Don't know	· H
2 – Iciliaie		Alcohol misuse
Client's age	Partner / wife / husband	Substance misuse
Date of birth (dd/mm/yy)	Children	
	Parent	Is the person subject to S.117:
		1 = Yes, 2 = No, 3 = Don't know
Ethnic group	Other family	Is the person subject to a Community
01 = white British	Friends	Treatment Order?
02 = white other		$1 = \text{Yes}, \ 2 = \text{No}, \ 3 = \text{Don't know}$
03 = black Caribbean	Describe any carer involvement in the MDT	T 4b - 64 b 4 4-1 b - 14b
04 = black African		Length of time known to mental health services
05 = black other		1 = Less than 4 weeks
06 = Indian 07 = Pakistani		2 = 1 - 3 months
08 = Bangladeshi	Income	3 = 4 - 6 months
09 = Chinese	1 = State benefits only	4 = 7 - 12 months
10 = other Asian	2 = State benefits & income from other	5 = between 1 and 5 years
11 = other (specify)	sources	6 = more than 5 years
12 = not known	3 = no benefits received, all income from other sources	7 = not known
Primary diagnosis (current)	4 = other (<i>specify</i>)	Frequency of contact with the Care
01 = schizophrenia	5 = not known	Coordinator during admission
02 = schizo-affective disorder	Employment status	(indicate nearest average)
03 = affective psychosis	01 = working full-time	1 = more than once per day 2 = daily
04 = other psychosis 05 = depression (not psychotic)	02 = working part-time	3 = less than daily, at least 3 times per week
06 = anxiety	03 = sheltered work	4 = once per week
07 = personality disorder	04 = unemployed	5 = once per fortnight
08 = dementia	05 = long-term sick	6 = once per month
09 = eating disorder	06 = caring for home/family	7 = less than once per month
10 = alcohol abuse disorder	07 = student 08 = retired09 = working permitted hours	8 = less than once per 3 month
11 = other substance abuse disorder	$10 = \text{other } (specify) \dots$	9 = no contact
12 = learning disability 13 = other (energify)	11 = not known	
13 = other (specify)		

Local authority responsible for client (specify)	approximately how long	person on from the service
Type of contact by Care Coordinator		
Type of contact by Care Coordinator		
1 = Solely or mainly face to face	Other professionals involved during the	
2 = Solely or mainly phone	admission (list and describe involvement)	
3 = Roughly equal		
4 = N/A		
How many consultant changes during the		
admission		
		•••••
	D 6 11 11 1	D 41 ' '11 '
How many CTP care coordinator changes	Reason for delayed discharge	Does the person experience rapid relapse in
during the admission	1 = No suitable placement identified	mental health?
	2 = Placement identified but no bed available	1 = Yes
How many ward changes during the admission	3 = Care package not in place (e.g. if in own	2 = No
	accommodation	3 = Don't know
	4 = Other (specify)	
Risk behaviours	5 = Not in delayed discharge	Describe any intractable symptoms
	group	V V 1
1 = yes, 2 = no, 3 = not known	8- v - F	
Past Current		
Self-harm	Tf14	•••••
	Type of placement required upon discharge	•••••
Self-neglect	(as identified by reviewers)	
Exploitation		
Harm to others		
Traini to others	Has the type of placement been agreed by	Other factors inhibiting discharge / transfer
	the MDT?	gupanang
Victim of any abuse	1 = Yes	
	1 - 1 cs $2 = No$	
Threats to others		•••••
.	3 = Don't know (Give reason)	•••••
Arson		
Other risk (specify)		
	Details of placement identified by MDT	
Is it appropriate for the person to be on the		
ward at time of review?		
1 = Yes		Is the care being delivered compliant with the
$2 = N_0$	Current medication $(1 = yes, 2 = No)$	Mental Health Measure?
3 = Don't know (Give reason)	Current medication (1 - yes, 2 - 140)	1 = Yes
70// M 1 1 11/1 1	CI :	2 = No
If "no", where should they be supported?	Clozapine	3 = Partly (specify)
1 = Ward in the community	Other oral anti-psychotics	
2 = Care home with nursing	Other oral anti-psychotics	
3 = Care Home	Depot anti-psychotics	
4 = On site supported accommodation	· · · · ·	
5 = Floating support	Lithium carbonate	
6 = At own tenancy / home with domiciliary care		
7 = At own tenancy / home with routine CMHT /	Other mood stabilisers	What is the person's understanding of the
AOT or EIT support	Anti denressents	situation? (Do they know the staff believe
	Anti-depressants	
8 = PICU	Anxiolytics	they should not be on the Ward / Unit?)
9 = Acute inpatient adult ward	Allxiorytics	
10 = Older adult in-patient wards	Anti-cholinesterase inhibitors	
11 = Low secure unit	Anti-chomicsterase minorors	
12 = Medium secure unit	Other psychotropic medicines	
13 = In a non-mental health bed (specify)		
***************************************	Other psychiatric medications	
14 = Other	(specify)	
	Non-psychiatric medications	
Is there a clear date where the person was no	11011 poyentative medications	
longer suitably placed on the ward:		Any other comments / observations?
longer suitably placed on the ward? 1 = Yes		Any other comments / observations?
	Evidence of a strategic treatment plan	Any other comments / observations?
1 = Yes $2 = No$	1 = Yes	
1 = Yes	1 = Yes 2 = No	
1 = Yes 2 = No 3 = Don't know	1 = Yes	
1 = Yes $2 = No$	1 = Yes 2 = No	
1 = Yes 2 = No 3 = Don't know	1 = Yes 2 = No	
1 = Yes 2 = No 3 = Don't know	1 = Yes 2 = No 3 = Don't know	

3 = Don't know



Title page

Title

An assessment of need for mental health rehabilitation amongst in-patients in a Welsh region

Word length

4,162 words including references and abstract (excludes Appendix)

Authors

Author 1: Tony Ryan, PhD (Director, Tony Ryan Associates and Honorary Research Fellow, Centre for Mental Health and Society, Bangor University) (corresponding author)

Author 2: John Carden, MSc (Clinical Nurse Specialist, Betsi Cadwaladr University Health Board and Centre for Mental Health and Society, Bangor University)

Author 3: Robert Higgo FRCPsych (Senior Lecturer, Centre for Mental Health and Society, Bangor University and Honorary Consultant Psychiatrist, Betsi Cadwaladr University Health Board)

Author 4: Rob Poole FRCPsych (Professor of Social Psychiatry, Centre for Mental Health and Society, Bangor University and Honorary Consultant Psychiatrist, Betsi Cadwaladr University Health Board)

Author 5: Catherine A. Robinson PhD (Professor of Social Policy Research, Centre for Mental Health and Society, Bangor University)

Contact details for corresponding author

Email: info@tonyryan.org

Mobile: 07968 031 087

Skype: tonyryan58

Address: 26 Sergeants Lane, Whitefield, Manchester, M45 7TS