Irish Journal of Psychological Medicine (2019), **36**, 29–33.
doi:10.1017/ipm.2017.79

SHORT REPORT

Home-based crisis team in North Cork service description and patient-related outcomes

G. Lalevic[1,*], A. Suhail[2] and H. Doyle[3]

[1] *St. Michael's Psychiatric Unit (HSE), Mercy University Hospital, Cork, Ireland*
[2] *Acute Mental Health Unit, Cork University Hospital (HSE), Wilton, Cork, Ireland*
[3] *North Cork Catchment Area (HSE), St Stephens Psychiatric Hospital, Cork, Ireland*

Objective. Home-based crisis team (HBCT) in North Cork was established in 2013 to provide short term, intensive home treatment to people who are experiencing acute mental health problems, with the aim of averting hospital admission wherever possible or supporting patients discharged from hospital.

Methods. A retrospective descriptive study design was adopted to describe the activities of the North Cork HBCT over a 1 year period. Data were analysed using R version 3.4.0 for Windows.

Results. A total of 388 patients were referred to the HBCT in 2015, of which 328 required assessments. General practitioners (GPs) made 56% of all referrals. The most common referral reason was low mood (40%). Stepped-up care to the psychiatric inpatient unit was required for 12.4% of patients, 62% were discharged to the outpatient clinic for routine follow-up.

Conclusion. Many common psychiatric presentations can be managed at home with the support of the HBCT although hospital admission is required for significant numbers.

Received 10 February 2017; Revised 27 September 2017; Accepted 12 November 2017; First published online 14 December 2017

Key words: Home-based crisis team, inpatient admissions, outcomes.

Introduction

Home-based crisis teams (HBTs) aim to provide rapid assessment, treat service users at home where possible, and facilitate early discharge from hospital. Provision of this type of service became mandatory in England in 2000 under the National Health Service Plan, which was implemented over the next few years. A national survey of crisis teams (in 2005 and 2006) found that 40% of teams described themselves as fully established according to the Department of Health's guidance, with a third of teams not involved in gatekeeping, and just over a half of teams offering a 24-hour, seven-day-a-week home visiting service (Wheeler *et al*. 2015). Crisis team availability is no longer mandatory but is still strongly recommended.

For many people in Ireland who present in crisis out of normal office hours, the available help is limited to local accident and emergency services and psychiatric wards, often resulting in inpatient admission as there is no follow-up in the community available until the next day, or a couple of days in the case of weekends. The *Vision for Change* national policy document has proposed that 24-hour community-based crisis services are established to address the needs of clients, families and carers (HSE National Vision for Change Working Group, 2012). (Advanced Community Mental Health Services in Ireland – Guidance Papers, 2012). Community-based services for patients with acute mental illness are often more compatible with a recovery-orientated model than inpatient hospital provision, given that they occur in less restrictive settings and are more capable of focussing on strengthening support via the service user's existing social networks (Goldsack *et al*. 2005; Gibbons & Cocoman, 2006). Economic data indicate that home treatment can be less costly than hospitalisation (Wasylenki *et al*. 1997; Knapp *et al*. 1998).

Home-based treatment is distinguished from treatment offered through mainstream community mental health services. It is targeted at people who are acutely mentally unwell, and it should offer an alternative to admission, be available after hours, provide a rapid response, and facilitate earlier discharge from hospital. Preferably, medical staff should accompany the team at assessment and be available for regular consultation. Home treatment has been shown to be safe, effective and achievable in up to 80% of patients (Minghella *et al.* 1998). Ideally, they should aim to offer a 24-hour service with intensive support to the patients.

Several home-based treatment programmes have been established throughout the country over recent

* Address for correspondence: Dr G. Lalevic, St. Michael's Psychiatric Unit (HSE), Mercy University Hospital, Cork, Ireland T12 WE28.
(Email: grozdana.lalevic@hse.ie)

years, but with patchy distribution in terms of geographical location and model consistency. Irish literature on HBTs has remained limited. Nwachukwu *et al*. (2013) described the profile, activities and outcomes of HBTs in rural Cavan. They reported that the HBT approach was safe and effective in managing common psychiatric presentation and well suited to a rural setting. McCauley *et al*. (2003) studied the impact of HBTs in Monaghan in their first 2 years and found that 13% of patients required hospital admission while receiving HBT treatment, while Gibbons and Cocoman reported 11–16% of patients requiring stepped-up care. Following the introduction of HBT in Cavan, Iqbal *et al*. (2012) found a reduction in admissions to their inpatient unit of 50% at onset, with most of this reduction sustained at the 2-year follow-up.

Setting and service description

North Cork is the largest geographical catchment area in Cork County, with a mixed urban/rural profile and a population of ~94 000 (Central Statistics Office, 2016). North Cork Mental Health Service consists of three catchment areas (Fermoy/Mitchelstown, Mallow/Charleville and Kanturk) with outpatient clinics and day centres located in the community, outside hospital grounds. The acute inpatients ward consists of seventeen hospital beds (currently providing 0.19 beds per 1000). A unit providing a further nine beds on the same site closed in 2013.

The North Cork HBCT programme was announced in late 2012 but started fully operating in 2013 as an extension of multidisciplinary teams (MDTs). It operates from two community centres (Mallow and Fermoy). Both HBCT services have the following structure: one team Coordinator/Clinical Nurse Manager and three staff nurses. The HBCT works in collaboration with the existing community mental health teams. The service accepts referrals between 09:00 a.m. and 15:30 p.m., from Monday to Friday.

The team coordinator is in charge of referral triage and management in agreement with the relevant consultant psychiatrist, the team and referring agencies. In circumstances where a service user is triaged as not requiring treatment, the team coordinator can provide advice about the most appropriate service for their needs and can facilitate a referral to an alternative service. Joint initial assessments are performed by the HBCT either in the sector headquarters or, where appropriate, at the patient's home. Most referrals are seen within 24 hours. Cases are managed on a 'key worker' system.

In partnership with service users, individualised care plans are developed which outline clear goals and co-ordinated interventions to meet the full range of service user's and carers' needs.

Exclusion criteria for HBCT treatment are a primary diagnosis of alcohol or drug misuse, and an intellectual disability or acquired brain injury in the absence of an acute or severe and enduring mental health problem. The HBCT is skilled in providing a range of treatments and interventions to service users and their families on a daily basis. This includes various psychosocial interventions, such as medication management, anxiety and stress management, brief solution-focused therapy, prevention of relapse and motivational interviewing. All the services can be provided via daily home visits and phone contact or less intensive contact when the crisis is resolved. The team members are also trained in providing unique support to expectant and new parents (HSE, 2016) (North Cork Infant Mental Health Model, 2016).

Aims

Our aim was to describe the profiles, activities and patient-related outcomes of North Cork HBCT and to determine the effect of the HBCT on reduction in inpatient admission numbers as presented in other studies (Johnson *et al.* 2005; Iqbal *et al.* 2012; Nwachukwu *et al.* 2013).

Methods

We adopted a retrospective descriptive study design to review the activities of the North Cork HBCT over a 1-year period (January 2015 to January 2016). The register of HBCT service users during that period provided demographic data, referral and outcome pathways, and clinical presentations of the patients referred. The ICD-10 classification system was used to broadly describe patient diagnosis after assessment/treatment.

We conducted a retrospective data collection (January 2015 to January 2016) on admission times to the North Cork inpatient unit to determine whether patients were admitted during or outside HBCT working hours. We also conducted a retrospective data collection on total referral numbers to the service in the Fermoy/Mitchelstown catchment area over a 5-year period (2010–2015). No accurate data were available for the other catchment area.

Results

Referrals

A total of 388 patients were referred to the HBCT over the 1-year study period. Of these, 48% ($n = 187$) were male and 52% ($n = 201$) were female. The majority of referrals 56% ($n = 218$) were from GPs, while 10% ($n = 39$) came from various emergency departments. The MDT referred 16% ($n = 61$), while a further 10% ($n = 38$) were

https://doi.org/10.1017/ipm.2017.79 Published online by Cambridge University Press

referred by North Cork's inpatient unit duty doctor who completed the initial assessment. The acute inpatient unit referred 4% ($n = 16$) of patients for early discharge support, and the rest were self or family referrals.

Of all the referrals 53% ($n = 207$) were first presentation to the HBCT, while 47% ($n = 181$) had been seen by the HBCT before. The most common referral reason for HBCT assessment was low mood (40%, $n = 154$), followed by suicidal ideation (14%, $n = 55$), anxiety (9%, $n = 34$), psychosocial stressor (7%, $n = 26$), symptoms of psychosis (6%, $n = 22$) and symptoms of mania or hypomania (4%, $n = 15$). Substance misuse was stated as the reason for referral in 5% ($n = 19$) of cases, and 5% ($n = 19$) of patients were referred after deliberate self-harm. A significant percentage of referrals (10%, $n = 43$) had no clear reason for referral. The majority of referred patients 46% ($n = 176$) were from the 35 to 54 age group.

Outcomes after HBCT assessment and treatment

Of all the patients referred, 84% ($n = 328$) were assessed and 16% ($n = 60$) were not accepted or declined to attend for the initial assessment. Of the assessed cohort 64% ($n = 210$) were accepted for the HBCT treatment and the mean duration of treatment was 17 days (S.D. = 11 days). After completing the HBCT treatment, 62% ($n = 130$) were discharged to the outpatient clinic/MDT for routine follow-up. A further 12.4% ($n = 26$) of assessed and treated patients required hospital admission, a quarter of them for suicidal ideation. GPs followed up 18% ($n = 37$) who needed no further psychiatric input.

The most common discharge diagnosis in the assessed patient group ($n = 328$) was mood and affective disorders (43%, $n = 141$) (see Table 1).

Review of inpatient admission numbers

In general, the North Cork catchment area had low average admission rates of 251.3 per 100 000 population compared with the national average of 303.3 per 100 000 (National Psychiatric In-Patient Reporting System, Health Research Board, 2010). It was noted that total inpatient admission numbers had been fluctuating since 2010. The mean for the 3 years before the introduction of HBCT was 258 (S.D. = 47.51), and for the 3 years after it was 234 (S.D. = 26.27). Overall, despite a small reduction in the inpatient admission numbers, the difference is not statistically significant ($t = 0.75506$, $p = 0.4922$) (Table 2).

Table 1. *Breakdown of the discharge diagnosis*

ICD-10 diagnosis	*n*	%
Organic, including symptomatic, mental disorders	0	0
Mental and behavioural disorders due to psychoactive substance use	26	8
Schizophrenia, schizotypal and delusional disorders	23	7
Mood (affective) disorders	141	43
Neurotic, stress-related and somatoform disorders	33	10
Behavioural syndromes associated with physiological disturbances and physical factors	7	2
Disorders of adult personality and behaviour	16	5
No ICD-10 diagnosis	82	25
Total	328	100

The admission log book review (January 2015 to January 2016) in the inpatient unit showed that 67% of all admissions occurred after 17.00 p.m. or on weekends (outside of the HBCT working hours).

Referral numbers to the service

Data were only available for the Fermoy/Mitchelstown catchment area at the time of writing this study; however, we believe this can be applied to other catchment areas in North Cork. The data include combined HBCT, general outpatient clinic referrals and acute hospital assessments.

After reviewing patient referral numbers in the Fermoy/Mitchelstown sector from 2010 to 2015, we noticed an increase in referral since the introduction of the HBCT (Fig. 1). The mean referral was 178 (S.D. = 39.37) for the 3 years before the HBCT introduction and 285 (S.D. = 49.97) for the 3 years after. Overall, there was a significant difference in referrals in the years before and after the introduction of the HBCT ($t = 2.913$, $p = 0.04355$).

Discussion

This study has provided details on the profile, activities and outcomes of this newly established team over a 1-year period. It suggests that many common psychiatric presentations can be treated at home. It has shown a significant increase in total service referral numbers (in Fermoy/Mitchelstown) since the introduction of the HBCT. A quarter of people assessed by the HBCT had no ICD-10 diagnosis, but they struggled to cope with various psychosocial stressors, including significant relationship difficulties, financial stressors and homelessness. We have no clear data on how many people in this cohort had been admitted to the hospital. This increase in referrals occurred around the time of the recession and consequently the highest unemployment rate in Ireland in recent times. We can potentially associate the increase in referrals with unmet need for the home-based type of support in the community at this time. This is an important consideration in planning such services as it can lead to new demands on resources.

https://doi.org/10.1017/ipm.2017.79 Published online by Cambridge University Press

Table 2. *North Cork mental health services inpatient admission numbers 2010–2015*

Year	Total admission numbers
2010	266
2011	301
2012	207
2013	225
2014	214
2015	264

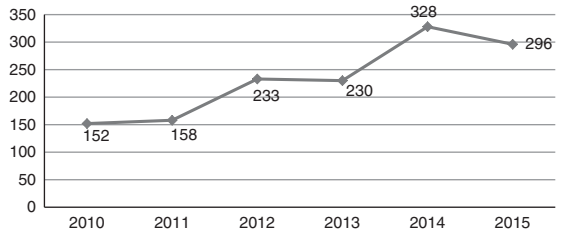

Fig. 1. Total number of referrals number to the service 2010–2015 (Fermoy/Mitchelstown catchment area).

The majority of the HBCT referrals came from primary care, and the most common referral reason and discharge diagnosis was low mood, which is similar to the findings of other Irish studies. Almost a fifth of the patients referred to the HBCT were initially referred to emergency departments and acute psychiatric hospitals for assessment.

One interesting observation was that the HBCT service received fewer referrals for psychosis and elation (10%) in comparison with the Cavan study, where 34% of referrals were for psychosis and elation (Nwachukwu *et al.* 2013). An Irish-based survey by McCauley *et al.* (2005) reported reservation by local GPs to refer psychotic patients to their local HBT and worry about time-limited nature of HBT, which might be one of the reasons for our own low referral rates for psychosis. The number of re-referrals to the HBCT was 47%, slightly higher than in the other studies. Cavan HBT reports re-referral rates of 39.6% (Nwachukwu *et al.* 2013) and Clondalkin HBT reports 41% (Conboy-Browne *et al.* 2010). Cavan HBT also reports longer duration of admission under HBT (mean = 29 days), while the mean in our study is 17 days.

Our findings showed no completed suicide during HBCT treatment. However, a quarter of patients requiring stepped-up care had suicidal thoughts compared with 5.4% in Cavan (Nwachukwu *et al.* 2013). The HBCT database had no accurate records on deliberate self-harm during treatment.

Limitations

The data we collected might not be uniform because of the retrospective nature of our study. We had no accurate data available for total referral numbers to the service for the Mallow/Kanturk catchment area of the North Cork Mental Health Services and thus we could not include them in the study. The HBCT database improved over time in terms of quality and quantity of data, but we could not avoid missing data or inaccurate recording. A significant cohort of patients who were not accepted or declined assessment and treatment (46%) and those who disengaged during treatment were not described in our study. There was no complete data availability of gender/diagnosis breakdown during treatment and whether patients admitted to the hospital had an Axis 1 diagnosis. This might limit our findings in terms of the study sample and the team activities. The staff burnout data were not available for this study.

Conclusion

Many common psychiatric presentations can be treated outside the hospital. A quarter of the assessed study cohort had no ICD-10 diagnosis and required more practical, problem-solving help with housing, finances and relationships.

Staff burnout is an issue that should be taken into consideration in frontline teams like these. Although the HBCT has enjoyed a very good working relationship with the primary care, a survey on service satisfaction and referral suitability might be beneficial for future clients. Additional resources like occupational therapy, psychology and family intervention for psychosis (An Early Intervention Clinical Programme for First Episode Psychosis, 2011) can improve long-term outcomes in patients with first episode of psychosis and encourage further referrals to the service. We believe the extension of the HBCT working hours together with the appropriate resources can have a significant impact and the *Vision for Change* proposal for a 24-hour community-based crisis service needs to be addressed to meet the needs of clients, families and carers. Further evaluation of the cost effectiveness of HBCT staffing, training, deployment, size of caseload, case supervision and team accountability is required, as the increased HBCT caseload has an effect on other team members and their own caseloads.

Acknowledgments

The authors would like to thank the North Cork HBCT coordinators Lisa Mooney and Eilish Neally for their work in collecting the service data on which this

https://doi.org/10.1017/ipm.2017.79 Published online by Cambridge University Press

description is based. They would also like to thank the entire HBCT team for their hard work and support.

Financial Support

This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Conflicts of Interest

None.

Ethical Standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as revised in 2008. The authors assert that ethical approval for publication of this service description was not required by their local Regional Ethics Committee.

References

An Early Intervention Clinical Programme for First Episode Psychosis (2011). Health Service Executive. (http://health.gov.ie/wp-content/uploads/2014/04/National_Mental_Health_Programme_Plan_Nov2011_draft.pdf). Accessed 20 September 2017].

Conboy-Browne M, McCann E, Steevens F (2010). Evaluation of home care services for patients with acute mental illness in Dublin South East mental health service. (http://www.nursing-midwifery.tcd.ie/assests/research/pdf/hometreatment). Accessed 17 November 2016.

Cso.ie. (2016). Home – CSO – Central Statistics Office. [online]. (http://www.cso.ie). Accessed 10 August 2016.

Gibbons P, Cocoman A (2006). Building blocks: evaluation of a home based service for patients with acute mental illness in North Kildare. [online] HSE. (http://www.hse.ie/eng/services/publications/Mentalhealth/buildingblocks.pdf). Accessed 15 September 2016.

Goldsack S, Reet M, Lapsley H, Gingell M (2005). Experiencing a recovery-oriented acute mental health service: home based treatment from the perspectives of service users, their families and mental health professionals. Mental Health Commission: [online] Wellington. (http://www.intensivehometreatment.com). Accessed 28 March 2016.

Hrb.ie. (2010). Health Research Board: News. [online] (http://www.hrb.ie). Accessed 10 August 2016.

Hse.ie (2016). Minister launches North Cork Infant Mental Health Network Model – HSE.ie. [online] (http://www.hse.ie/). Accessed 5 September 2016.

HSE National Vision for Change Working Group (2012). Advanced community mental health services in Ireland. Guidance paper, Health Service Executive.

Iqbal N, Nkire N, Nwachukwu I, Young C, Russell V (2012). Home-based treatment and psychiatric admission rates: experience of an adult community mental health service in Ireland. *International Journal of Psychiatry in Clinical Practice* **16**, 300–306.

Johnson S, Nolan F, Hoult J (2005). Outcomes of crises before and after introduction of a crisis resolution team. *The British Journal of Psychiatry* **187**, 68–75.

Johnson S, Nolan F, Pilling S, Sandor A, Hoult J, McKenzie N, Bebbington P (2005). Randomised controlled trial of acute mental health care by a crisis resolution Team: the North Islington crisis study. *British Medical Journal* **331**, 599–602.

Knapp M, Marks I, Wolstenholme J, Beecham J, Astin J, Audini B, Connolly J, Watts V (1998). Home-based versus hospital-based care for serious mental illness. Controlled cost-effectiveness study over four years. *The British Journal of Psychiatry* **172**, 506–512.

McCauley M, Bergin A, Bannon H, McDonald B, Bedford D, Russell V (2005). How do GPs experience home-based treatment for acute psychiatric disorders? *Primary Care and Community Psychiatry* **10**, 159–163.

McCauley M, Rooney S, Clarke C, Carey T, Owens J (2003). Home-based treatment in Monaghan: the first two years. *Irish Journal of Psychological Medicine* **20**, 11–14.

Minghella E, Ford R, Freeman T, Hoult J, McGlynn P, O'Halloran P (1998). *Open All Hours. 24-Hour Response for People with Mental Health Emergencies*. Sainsbury Centre for Mental Health: London.

Nwachukwu I, Nkire N, Russell V (2013). Profile and activities of a rural home-based psychiatric treatment service in Ireland. *International Journal of Psychiatry in Clinical Practice* **18**, 125–130.

Wasylenki D, Gehrs M, Goering P (1997). A home-based programme for the treatment of acute psychosis. *Community Mental Health Journal* **33**, 151–162.

Wheeler C, Lloyd-Evans B, Churchard A, Fitzgerald C, Fullarton K, Mosse L, Paterson B, Zugaro C, Johnson S (2015). Implementation of the crisis resolution team model in adult mental health settings: a systematic review. *BMC Psychiatry* **15**, 74–88.

https://doi.org/10.1017/ipm.2017.79 Published online by Cambridge University Press