ORIGINAL ARTICLE

The psychiatric decision unit as an emerging model in mental health crisis care: a national survey in England

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ABSTRACT: *Psychiatric decision units have been developed in many countries internationally to address the pressure on inpatient services and dissatisfactory, long waits people in mental health crisis can experience in emergency departments. Research into these units lags behind their development, as they are implemented by healthcare providers to address these problems. This is the first-ever national survey to identify their prevalence, structure, activities, and contextual setting within health services, in order to provide a robust basis for future research. The response rate was high (94%), and six PDUs in England were identified. The results indicated that PDUs open 24/7, accept only voluntary patients, provide recliner chairs for sleeping rather than beds, and limit stays to 12–72 hours. PDUs are predominantly staffed by senior, qualified mental health nurses and healthcare assistants, with psychiatry input. Staff:patient ratios are high (1:2.1 during the day shift). Differences in PDU structure and activities (including referral pathway, length of stay, and staff:patient ratios) were identified, suggesting the optimal configuration for PDUs has not yet been established. Further research into the efficacy of this innovation is needed; PDUs potentially have a role in an integrated crisis care pathway which provides a variety of care options to service users.*

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INTRODUCTION

Mental health crisis care is under intense pressure internationally and in the UK (Royal College of Psychiatrists 2019). Internationally, visits to the emergency department (ED) for mental health issues are increasing while the number of available beds is decreasing, resulting in challenges for the ED system (Fleury *et al.* 2019) and lengthy waits (Nicks & Manthey 2012). Inpatient stays can be costly (McCrone *et al.* 2009), detrimental (Thibaut *et al.* 2019), and unnecessary for around 17% of referred individuals (Stulz *et al.* 2015). The effectiveness, cost-effectiveness, and outcomes of short stays on psychiatric wards followed by early discharge are unclear (Clibbens *et al.* 2018). Service users can feel powerless to influence their crisis care – advance care directives (written by service users with a carer or mental health professional in advance of a crisis) are only accessed in about 20% of crisis events (Srebnik & Russo 2008), although joint crisis plans, (developed in collaboration between service users and the mental health team, typically for people who frequently experience crisis) may be more commonly accessed by services. Feeling respected, basic comforts, and shared decision-making are priorities for service users (Thomas *et al.* 2018), and therefore should be reflected in the aims of crisis care services, and the design and development of new services. Within this context, Psychiatric Decision Units (PDUs) are emerging as an operational strategy to reduce the pressure on the ED and psychiatric inpatient wards. The units, also known as Psychiatric Emergency Services or Crisis Stabilization Units, have been introduced in the United States (Zeller *et al.* 2014), Luxembourg (Damsa *et al.* 2005), Australia (Braitberg *et al.* 2018), Singapore (San Thinn *et al.* 2015), and the United Kingdom (Goldsmith *et al.* 2020; Trethewey *et al.* 2019).

In the United Kingdom, wards are occupied at above recommended levels (Crisp *et al.* 2016). The lack of available beds contributes to long delays at the ED. Psychiatric presentations at ED are over 6 times more likely than physical presentations to breach the maximum four-hour waiting time target (NHS England 2014), leading to stressful experiences for patients. Policy development documents – from the state healthcare provider and a joint statement from stakeholders and service providers – call for evaluation of new models of crisis care (Department of Health & Concordat Signatories 2014; NHS England 2014). These units have been developed organically, from healthcare providers, not from research. Before the effect of PDUs can be established, there is a need for a clear description of the PDU model, including identification of key variables in unit configuration and function, and an understanding of how PDUs fit alongside other services in the crisis care pathway.

METHOD

Design

We conducted a national survey to identify the prevalence and operational structure of decision units in England, and how they integrate with the local state-provided (National Health Service; NHS) crisis care provision. A PDU was defined as a dedicated space in which assessment can be conducted and treatment plans were developed for patients in mental health crisis and accessing emergency services (e.g. ED). The dedicated space must be separate to the ED and psychiatric wards. To minimize non-responses, a formal freedom of information request was employed, as our questions are compatible with this type of request and under UK legislation, government organizations are legally required to respond.

Participants

Participants were NHS freedom of information officers or managers within NHS mental health services, and the position of the respondent was recorded.

Measures

To determine how to define PDUs for the survey, an iterative cycle of questionnaire development and revision, including information gathering about PDUs was conducted. A 29-item questionnaire to establish

whether the trust (the NHS serving a local geographical area) has a PDU was developed. The questionnaire identified the operational structure of PDUs. Quantitative questions included capacity, length of stay, referral sources, and staffing. Further quantitative questions included the presence or absence of alternative assessment provision, for example a triage ward or non-hospital-based (community) assessment service (a mental health assessment service operating in the community). Brief open responses included questions about any other services co-located with the PDU and the aims of the PDU. The questionnaire is available as an online Data S1.

Procedures

We used a publicly available list of freedom of information (FOI) email addresses for NHS mental health trusts (Burgess 2019). The request was sent to trusts by email for completion using Limesurvey, a secure online survey system, and trusts were allowed to complete the survey in a paper format when requested. Where trusts failed to acknowledge the FOI request within 7 days or provide their survey response within 20 working days, they were recontacted by a member of the research team. For the purpose of accuracy, data were cross-checked against data from a large survey of crisis care services where data were available, checking for consistency in PDU location and name (University College London 2020). The process for addressing incomplete or conflicting responses was to additionally look at trust websites (which detail available services) and to request clarification from trusts. Data regarding planned or decommissioned PDUs were followed up with additional questions, for example to ascertain the reasons for the commissioning or decommissioning. The survey took place between September – December 2019. This study was undertaken as part of a wider research project, described in detail in the implications for research section of the discussion. Ethical approval for that study, provided by East Midlands Leicester South Research Ethics Committee (19/EM/0226), indicated that informed consent could be inferred from survey completion, and separate consent procedures were not required.

Analysis

Quantitative data were summarized using descriptive statistics. Qualitative data, for example 'planned PDUs', were simply summarized using narrative synthesis.

RESULTS

Survey responses were obtained from 50 of 53 trusts with a relevant remit (94% response rate). PDUs were present in a relatively small number of trusts, six (12% of trusts), with a further two planned but yet to open. The locations of the trusts which have a PDU are Sheffield, Lincolnshire, Birmingham, Coventry and Warwickshire, South West London, and Sussex. Of the PDUs planned, one is for Nottinghamshire, and one is for Rotherham, Doncaster, and South Humber. Four decommissioned PDUs were identified – one in Leeds and three in the Lancashire trust. The survey was completed by freedom of information officers, acute care pathway leads, service directors, and lead nurses.

The context of the PDUs within services, specifically, components of the crisis care pathway are shown in Table 1. Comparing the second and third columns in Table 1 reveals that trusts with a PDU were approximately twice as likely than trusts without PDU to have several crisis services, including crisis houses, crisis cafés or crisis drop-in services, and acute day units. About half of trusts have hospital-based assessment services without overnight stays, and this is the same whether a trust has a PDU or not. The percentage of trusts with short-stay assessment wards was similar across trusts which have and do not have a PDU. All six PDUs were located within psychiatric hospitals (defined as psychiatric services with wards, as opposed to community services) (Table 2) and all but one were co-located with a 'place of safety' (a short-stay facility used to transfer service users from police custody to health services). Regarding pathways into the unit, all PDUs accepted referrals from liaison psychiatry, with the majority accepting referrals from crisis resolution and home treatment teams and street triage (an outreach service run by the police and mental health services). However, substantial heterogeneity of pathways was also identified: referrals from third or voluntary sector services, police, G.P. approved mental health professional, or self-referral when included in crisis care plan, were each only available at one trust. The majority of units were designed to reduce pressure on ED, and half were designed to reduce inpatient admissions. Two PDUs had aims not shared by the other PDU – to reduce out of area placements; improve the patient experience. All PDUs facilitated overnight stays with partitioned areas for sleeping in recliners rather than beds, and a capacity of 4-8 service users. All units only accepted voluntary patients. The majority of PDUs aimed to deliver both assessment and therapeutic input

TABLE 1 *Characteristics of mental health crisis care pathways in England*

Components of crisis care pathway	Trusts nationally *n/N* (%)	Trusts with PDU *n/N* (%)
Psychiatric Decision Unit	6/50 (12)	–
Community-based assessment service[†]	50/50 (100)	6/6 (100)
Hospital-based assessment service without overnight stays[‡]	23/50 (46)	3/6 (50)
Street triage service[§]	29/50 (58)	5/6 (83)
Sanctuary/crisis café[¶]/crisis drop-in service	18/50 (36)	4/6 (66)
Crisis House(s)[¶]	17/50 (34)	4/6 (66)
Acute Day Unit	7/50 (14)	2/6 (33)
Crisis Family Placements	1/50 (2)	0/6 (0)
Short-stay assessment wards		
Triage or short-stay assessment ward	13/50 (26)	1/6 (17)
Maximum length of stay on triage or short-stay assessment ward:		
1–7 days	4/13 (31)	–
More than 7 days	9/13 (69)	–
Number of triage/short-stay assessment wards at trust:		
One ward	7/13 (54)	–
Two wards	5/13 (38)	–
Three wards	1/13 (8)	–
Number of triage/short-stay assessment beds at trust:		
Less than 10 beds	3/13 (23)	–
10 to 19 beds	5/13 (38)	–
20 beds +	5/13 (38)	–

[†]Community-based assessment: a mental health assessment service operating in the community.

[‡]hospital-based assessment without overnight stay: e.g. psychiatric liaison, assessment lounge operating as an extension of the ED, mental health ED.

[§]Street triage: an emergency response service with mental health professionals providing telephone support or accompanying police and paramedics.

[¶]Crisis café: a safe, drop-in environment staffed by mental health workers.

[††]Crisis house: an acute residential service in the community with 24-hours staffing, intended to provide an alternative for some people who would otherwise be admitted to hospital. – data either not available or applicable.

(4/6). PDUs have a high staff:patient ratio. In the day, the mean staff:patient ratio for nurses and healthcare assistants combined was 1:2.1; SD = 1.2, rising at night to a mean of 1:2.3 (SD = 1.2). Staffing includes some allocated staff time from psychiatry (Table 3). Although all units have a high staff:patient ratio, a sizeable difference was observed; units ranged from 1:1 staffing to 1:4 staffing.

Several decommissioned PDUs were identified – one in Leeds and three in the Lancashire trust in an

TABLE 2 *Characteristics of PDUs*

Theme	PDU characteristic	*n/N* (%)
PDU Setting	Psychiatric hospital	6/6 (100)
	Acute hospital	1/6 (17)*
	Co-located with place of safety (section 136 suite)[†]	5/6 (83)
Trust-wide aim of service	Reduce presentations at ED	4/6 (67)
	Reduce ED breaches	3/6 (50)
	Reduce inpatient admissions	3/6 (50)
	Reduce out of area beds	1/6 (17)
	Improve patient experience	1/6 (17)
	Two or more aims	5/6 (83)
PDU Environment	Overnight stays	6/6 (100)
	Recliners rather than beds	6/6 (100)
	Partitioned areas	6/6 (100)
Maximum hours of stay	12 hours	2/6 (33)
	23 hours	1/6 (17)
	2 days	2/6 (33)
	3 days	1/6 (17)
Referral/entry to unit	Voluntary admissions only	6/6 (100)
	Liaison psychiatry	6/6 (100)
	Crisis resolution and home treatment team	5/6 (83)
	Street triage	5/6 (83)
	Community mental health team	2/6 (33)
	G.P.	1/6 (17)
	Third or voluntary sector services	1/6 (17)
	Police	1/6 (17)
	Self-referral	0/6 (0)
	Self-referral if included in crisis care plan (also known as joint crisis plan), a plan developed between service users and their clinical teams, typically for service users who experience crisis frequently	1/6 (17)
	Approved Mental Health Professional	1/6 (17)
Activity on unit	Primarily assessment	1/6 (17)
	Primarily therapeutic input	1/6 (17)
	Both assessment and therapeutic input	4/6 (67)
Capacity and duration of stay		Mean (SD), range (N)
	Capacity	5.6 (1.4), 4–8 (6)
	Average length of stay on unit (hours)	25.3 (18.4), 8–48 (6)

*This PDU is co-located with both a psychiatric and acute hospital.

[†]Place of safety (section 136 suite): service users considered a danger to themselves or others by the police are detained here for assessment.

TABLE 3 *Staffing of PDUs*

Mental health nurses n/N (%)	Junior nurses (band* 5) n/N (%)	Senior nurses (band* 6) n/N (%)	Number of staff on a day shift Mean (SD) range	Number of staff on a night shift Mean (SD) range
6/6 (100)	1/6 (17)	6/6 (100)	1.7 (0.81), 1–3	1.7 (0.81), 1–3
Healthcare assistants n/N (%)	Band 2 n/N (%)	Band 3 n/N (%)		
5/6 (83)	1/5 (20)	4/5 (80)	1.6 (0.55), 1–2	1.4 (0.55), 1–2
Staff:patient ratio for nurses and HCA combined	–	–	Combined staff:patient ratio for nurses and HCA (day) ratio (SD), range 1:2.1 (1.2), 1:1 to 1:4	Combined staff:patient ratio for nurses and HCA (night) ratio (SD), range 1:2.3 (1.2), 1:1 to 1:4
Psychiatrist (part time) n/N (%)				
6/6 (100)	–	–	–	–
Administrative support n/N (%)	Band 3 n/N (%)	Band 4 n/N (%)		
4/6 (66)	1/4 (25)	3/4 (75)	–	–

*Bands refer to progression up the career ladder, ranging from band 5 (newly qualified nurse) to band 9 (consultant nurse). – data either not available or applicable.

apparent change of service-wide policy. The unit in Leeds had operated with ward status which had left staff unable to refer patients for inpatient care, when needed, as they were considered to already have a bed space. This meant a protracted length of stay for some patients in what was designed to be a short-stay unit with communal sleeping areas. A Lancashire unit received an unfavourable quality report due to, again, lengthy patient stays, as well as dissatisfaction with the unit layout and sleeping arrangement (Care Quality Commission 2019). The Lancashire trust has now opened three new crisis assessment spaces for mental health, in an apparent repurposing of the PDUs.

DISCUSSION

PDUs are not especially widespread but are still being commissioned and decommissioned. It is currently unclear whether this is an innovation in crisis care which is likely to be sustained. This reflects the lack of research evidence about their effectiveness, supporting our rationale for undertaking the current study in order to provide a basis for the robust evaluation of PDUs. This approach follows the precedent set by Lloyd-Evans *et al.* (2017), and Lamb *et al.* (2019) to robustly evaluate crisis resolution teams. The study confirms that while there are common features between PDUs, there are differences including, for example length of stay, staff:patient ratio, and referral routes, including whether service users are able to agree a plan in advance that their crisis care should be conducted at a PDU, and referral from voluntary/third sector organizations. This variation indicates that the optimal configuration for PDUs has not yet been established. Therefore, research into PDUs will need to consider organizational-level variables and how the PDU configuration affects the impact of the unit. Local variation in the types of crisis care services and routes through crisis services were found, indicating that PDUs do not operate within standardized contexts. This lack of standardization will affect the impact of PDUs on wider outcomes (e.g. inpatient admissions). There is no evidence to suggest that trusts open either a PDU or short-stay assessment ward, given the percentage of trusts with at least one of these wards is similar in trusts with and without a PDU. Furthermore, the results suggest that PDUs tend to operate in areas with a large range of crisis services. Approximately, twice as many trusts with a PDU also have a crisis café/drop-in service, a crisis house, and an acute day unit compared to trusts without a PDU. Whilst it is important not to over-interpret data from six trusts, it may indicate that trusts which invest in multi-component, complex crisis care systems tend to set up a PDU alongside other innovative crisis care services. This may indicate that trusts with PDUs may be prioritizing crisis care, and that research into the impact of PDUs should take into account contextual variation in crisis care pathways. The need for research to determine whether multi-component crisis care systems, which may offer more options for care but risk discontinuity, are more or less effective than simple systems is also indicated.

It is noteworthy that several PDUs had been decommissioned, with unfavourable quality reports a contributing factor. It is currently unclear whether these reports are highlighting service inadequacies or underlying differences in the conception of how a short-stay crisis unit should operate (e.g. whether recliners rather than beds are appropriate). There is also the possibility that quality assessment idiosyncrasies, such as how a bed space is defined, might be relevant. The three closed Lancashire PDUs are now operating as acute mental health assessment spaces which function as an extension of the ED. It might be the case that this format more effectively addresses breaches of the 4-hour target that is such a key outcome in UK emergency departments (Bobrovitz *et al*. 2017), in possibly another example of technicalities of assessment determining service provision.

Whilst there is some commonality in the aim of PDUs, the variation in aims might reflect a lack of consensus about what PDUs are for. In terms of treatment quality, the PDU is designed to provide care in a therapeutic space, with specialist mental health staff and a high staff–patient ratio of around 1:2. Across all mental health wards, this is 1:4 (Ball & Pike 2009). This very substantial difference in the staff–patient ratio suggests the need for a health economics evaluation and the possibility of improved patient experience and care in PDUs, yet this was the stated aim in only one trust. Another reason that patient experience might be anticipated to be an aim of PDUs is that these units might help ameliorate the difficulties mental health patients experience with the ED environment, one-third of whom reported unsatisfactory experiences of care there (NHS England 2014), by providing more sympathetic, specialist care in a calmer environment.

Internationally, there is a similar heterogeneity to the aim and function of the overseas counterparts to the PDU, although the psychiatric emergency service 'PES' in the United States is very popular among US healthcare providers. PES is an umbrella term, covering many different models of crisis care (Zeller 2019). These units can be in hospital or community settings, accepting both involuntary and voluntary patients, some providing both a therapeutic environment and detox services. Some units in the PES model, often known as 'designated PES', are similar to PDUs in their focus on reducing time spent in and presentations to the ED, rapidly stabilizing service users in 24–48 hours to the point of discharge and reducing inpatient admissions (Zeller & Cerny 2008). To date, there have been no national mapping surveys of PES units in the United States, although it has been estimated that several hundred of these units exist across the country (Zeller S. personal communication, 2020). A survey sent to known PES units across the United States found that almost half (25/51) of these facilities were a designated PES (Currier & Allen 2003). Designated PES units have been found to reduce boarding times for mental health patients in the ED and improve patient experience (Ledet & Chatmon 2019; Zeller 2013), though research on outcomes for PES units is still in its early stages.

Strengths and limitations

This is the first survey internationally to identify, within a country, the prevalence and scope of PDUs, the structure and activities, provision of care offered, variation in unit configuration, and differences between the crisis care pathway provision between healthcare providers with and without a PDU. The survey had a very high response rate, indicating that the results are representative of NHS trusts in England. The data provides a cross-sectional summary of PDUs and the crisis care pathway at the time of completion of the survey and provides little information about changes over time. Psychiatric Decision Units are relatively new elements of the crisis care pathway in England, and it is possible that questions were interpreted in different ways by different respondents. However, the positions of the respondents suggest the respondents were well-placed to complete the survey accurately. This was additionally addressed through cross-checking results.

Implications for research

There are five priorities for future research: (i) examine the effects of PDUs on service parameters, patient flows, and trust-wide targets, (ii) identify changes in service use following a service user's first stay on a decision unit, (iii) explore service users' experiences of PDUs and other forms of crisis care from a qualitative perspective, (iv) understand the comparative costs of alternative models of crisis care, and (v) understand the optimal configuration of a PDU. A national funded study is currently underway which includes a synthetic control study and interrupted time series study (Goldsmith *et al*. 2020) to address priority (i), a cohort study to address priority (ii), qualitative interviews with both staff and service users to address priority (iii), an economic evaluation to address point (iv), and a synthesis of data across these investigations to address the final

priority (v). Further research priorities include exploring the experiences of carers of service users admitted to PDUs and further national mapping studies of short-stay crisis units, particularly in the United States where PES units are more well-established, to understand more about these units and their variation. It is important to explore the care pathways taken following discharge from PDUs, as use of other services is likely to be relevant for further crisis prevention (Paton *et al*. 2016).

Implications for practice

PDUs are nurse-led, and thus, it is important to understand, with respect to nursing leadership and practice, the remit of a PDU, staffing considerations, from where to accept referrals, and how the planned PDU will intersect with other elements of the crisis care pathway. PDUs are present in multi-component, integrated crisis care pathways, offering a range of crisis care services. Understanding the wider context of care delivery in PDUs and the emerging nature of the evidence behind development of the service perhaps provides reassurance and direction for developing clinical practice, improving quality, and providing leadership in the development of PDUs as part of wider crisis care pathway.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The research reported here uses freedom of information requests and has no participants. As such, ethical approval is not required. The broader project was given favourable opinion from the East Midlands Leicester South Research Ethics Committee (19/EM/0226) on 12th August 2019 and was run in accordance with Good Clinical Practice guidelines.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

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SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Data S1. FOI Request.