


# New ways of working: COVID-19 as a catalyst for change in acute mental health services

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Received 15 August 2020  
Accepted 24 May 2021

## ABSTRACT

**Background** A need arose to divert patients with psychiatric complaints from the emergency department to alternative settings for psychiatric consultations to reduce footfall during COVID-19. We assessed the effectiveness of alternative referral pathway in reducing COVID-19 infection in our service and its effect on service quality: response time and number of patients leaving before the review. We evaluated the satisfaction of patients, general practitioners (GPs) and mental health service staff with the pathway.

**Methods** All patients referred to the mental health service over a 2-month period following the introduction of the pathway were included. Findings were compared against the cohort referred for emergency assessment during the same period in 2019. Feedback surveys were distributed to patients, staff and GPs.  $\chi^2$  and independent sample t-test were used to compare the variables.

**Results** Over 2 months, 255 patients received an emergency assessment via the pathway, representing a 22.3% decrease in the volume of presentations from the same period in 2019. There were no COVID-19 cases among our patients or staff on the roster for assessing patients. In comparison to 2019, response times were improved ( $p < 0.001$ ), and the numbers of patients who left the hospital before the review were reduced by 3.2% during the study period ( $p < 0.001$ ). Patients and GPs were highly satisfied with the referral pathway and believed that the pathway should be retained post-COVID-19. Mental health service staff were divided in their opinions about its sustainability.

**Conclusion** The pathway was successful in reducing the spread of infection, improving response times and reducing the numbers of patients who left without an assessment. Given the improved outcomes and acceptability, this is a preferable pathway for emergency referrals into the future.

and suicidal behaviours among the infected population, survivors of the outbreaks, healthcare workers and the general population.<sup>1–6</sup> The United Nations warned of a mental health crisis if no actions are taken to limit the mental health consequences of the current pandemic.<sup>7</sup> Emerging studies show increased prevalence of mental health problems since the onset of COVID-19.<sup>1–8–12</sup>

Globally, governments implemented social (or physical) distancing and nationwide lockdown to minimise the transmission of SARS-CoV-2. While these measures may have contained the spread of the physical health consequences of the virus, they may have mental health implications.

Internationally, mental health practitioners and academics have called for the need to strengthen and expand current mental health systems to address the anticipated mental health crisis.<sup>7 13–15</sup> Mental health services need to be accessible in a convenient and timely manner while adhering to national policies about COVID-19 restrictions. There needs to be a balanced use of hospital and community care in the delivery of mental healthcare,<sup>16</sup> depending on clinical need.

## Problem description and rationale

To access the mental health service in our region, patients could attend their general practitioner (GPs) for a referral to their local community mental health teams (CMHTs) or for a referral to the emergency department (ED) to have rapid access to psychiatry through the liaison psychiatry team (09:00–17:00) or duty psychiatrist out of hours or self-present to the ED. The ED pathway is intended for urgent or emergency psychiatric complaints such as acute suicidality, acute psychosis and those with comorbid acute medical need. However, the ED pathway is also used by GPs or patients for minor psychiatric complaints or to hasten access to local CMHTs. An overcrowded ED presents environmental challenges to the safe assessment and treatment of patients with mental health difficulties, and patients have reported negative experiences of attending EDs.<sup>17</sup>

A long-standing issue is that GPs have variable access to local CMHTs, including for non-urgent clinical queries. One reason is the lack of physical infrastructure allowing CMHTs to be easily identified and accessible by referring GPs. In these circumstances, GPs may opt to refer patients to the ED to access psychiatric care, suitably accessed via community teams. This has led to inappropriate use of the ED and emergency psychiatric services, drawing the limited resources of the

## INTRODUCTION

### Background

The COVID-19 pandemic has caused unprecedented upheaval globally, creating economic and healthcare crises in countries around the world. Healthcare services, including mental health services, had to adapt and reconfigure their services to cope with the strain of the pandemic and to curtail the spread of SARS-CoV-2.

Historically, infectious outbreaks such as Middle East respiratory syndrome and severe acute respiratory syndrome were associated with increased prevalence of mental morbidities including delirium, post-traumatic stress symptoms, anxiety, depression



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**To cite:** Tong K, Crudden G, Tang WX, et al. *BMJ Leader* Published Online First: [please include Day Month Year]. doi:10.1136/leader-2020-000366

liaison psychiatry service away from their primary duties. Pre-COVID-19, despite being in mental distress, this patient cohort was required to wait for triage and assessment in an often overcrowded and chaotic ED waiting area. Some patients left the ED before assessment, directly impacting safety.

CMHTs are the cornerstone of service delivery in secondary mental healthcare and can provide urgent response to referrals from primary care. In Ireland, the National Emergency Medicine Programme details the need for robust liaison psychiatry services in the ED for people with acute mental and physical comorbidities (undifferentiated mental health needs), noting that the environment is suboptimal for patients with primary (differentiated) mental health needs.<sup>18</sup> Recognising this, our mental health service implemented an alternative referral pathway to optimise the referral process of patients with emergency psychiatric complaints during COVID-19, with view to extend the pathway beyond the crisis period if it was successful.

### Aims

The aims of this project were as follows:

1. To implement an alternative accessible referral pathway for GPs to refer patients who require unscheduled psychiatric care.
2. To implement an alternative referral pathway for acute medical services in the hospital for patients who require urgent/emergency psychiatric care, without concurrent medical or surgical care.
3. To reduce footfall in ED during COVID-19.

In this report, we aimed to assess the introduction of an alternative pathway against the following key outcomes:

1. Minimise the number of patients leaving before review.
2. Reduce waiting time.
3. Avoid infection in our patient cohort, especially patients admitted to the acute psychiatric unit, namely, the Adult Acute Mental Health Unit (AAMHU).
4. Avoid infection in our staff, indirectly minimising risk of transmission to patients.
5. Patient satisfaction.
6. GP satisfaction.
7. Mental health service staff satisfaction.

This report was generated based on the Standards for Quality Improvement Reporting Excellence (SQUIRE) guidelines.<sup>19</sup>

## METHODS

### Context

Amid COVID-19, the ED in our hospital, which is a large tertiary teaching hospital, segregated patients into two parallel pathways—a pathway for patients with suspected or confirmed COVID-19 and another stream for patients with no risk factors or symptoms of COVID-19. In the latter stream, following triage, patients were referred to different specialties based on their presenting complaints for further care. Prior to this, all patients received their initial assessments and treatments in the ED. The new pathway required the psychiatry services to identify an alternative location to the ED for the initial assessment and treatment of patients presenting for emergency psychiatric assessment. On site, there is a 50-bedded inpatient psychiatric unit, the AAMHU.

A multidisciplinary working group was formed to develop alternative referral pathway comprising representatives from psychiatry, nursing and the allied health professionals (AHP: occupational therapy, social work and psychology) and chair of the regional policy group.

## Interventions

### Alternative GP referral pathway

A dedicated single-point-of-access phone number was distributed to all GPs in the region. For patients who did not require medical interventions for acute medical problems, GPs could refer patients by contacting the central phone, which was held by an AHP during day time (from 08:00 to 20:00). For these direct referrals, patients must be reviewed by GP, including assessment for COVID-19 symptoms, prior to psychiatric referral. The professional holding the central phone was the first point of contact for GPs for emergency cases. In turn, this professional directed the referral to the appropriate CMHT using the newly implemented designated contact number for each team (answered by team members on a rota) (figure 1). The CMHT contacted the GP to discuss and agree an interim plan. Depending on the referral, interventions included a nominated CMHT member assessing the patient face to face or by telephone/video, medication review with a psychiatrist or a home visit within 24 hours. In some cases, including out of hours, the patient was directed to attend the ED.

### Alternative ED referral pathway

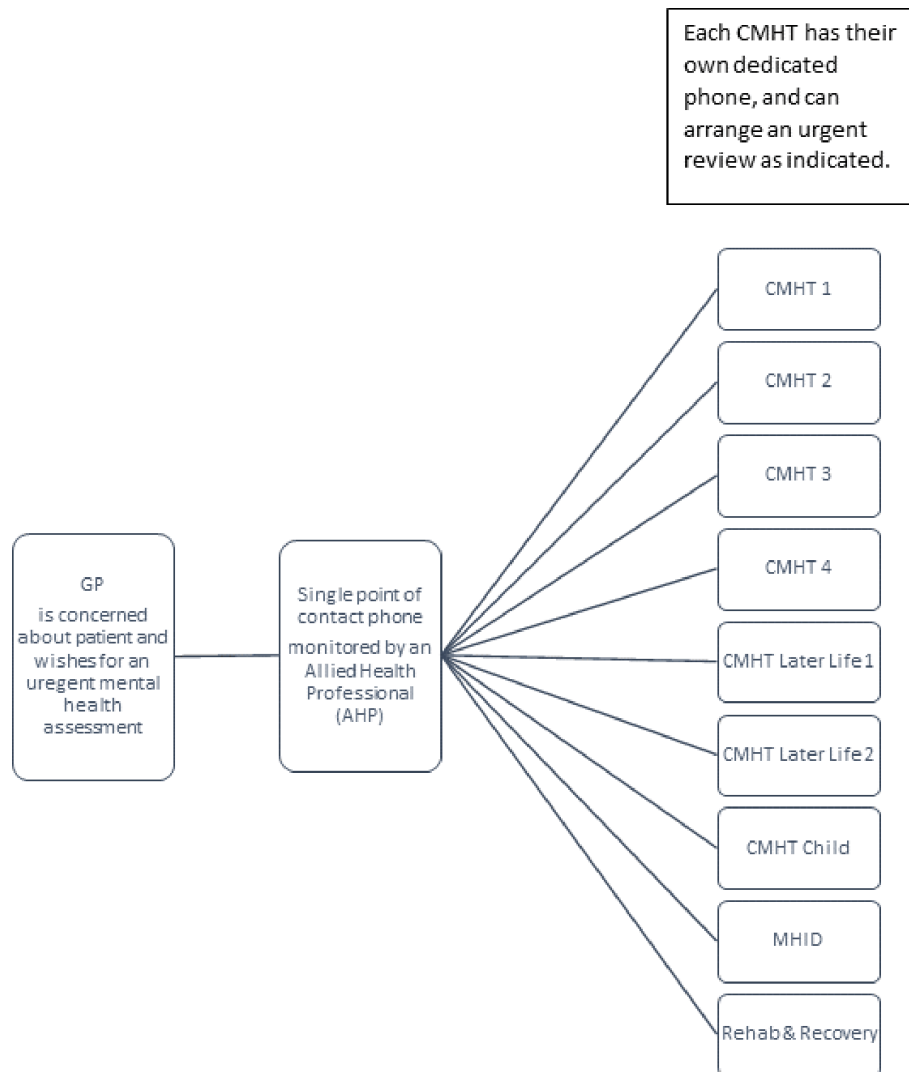
ED could directly refer patients with psychiatric complaints for an assessment at AAMHU following discussion with the liaison psychiatry team (09:00–17:00, Monday–Friday), duty doctor or duty nurse (out of hours) for psychiatric assessment and treatment. Patients with comorbid acute medical or surgical complaints were treated in ED (in COVID-19-related cases) or acute medical/surgical units prior to referral to psychiatry (including acutely intoxicated patients, who required initial treatment in the acute medical unit) (figure 2A,B). As part of the triage process in the ED, patients had their vitals checked and screened for COVID-19 symptoms. During the first wave of the pandemic, patients were not routinely swabbed for COVID-19 unless symptomatic. Suitable patients were escorted to AAMHU for their psychiatric assessment with an ED triage card.

The main responsibilities of the duty nurse included, completing joint assessments with the duty doctor; conducting individual assessments when there were multiple referrals and obtaining collateral history. This weekend (08:00–08:00 Saturday and Sunday) and weeknight rota (20:00–08:00) comprising community psychiatric nurses was also introduced to answer the dedicated single-point-of-access phone line.

### Location of psychiatric consultation

When a referral was deemed appropriate (ie, no acute medical concerns) for AAMHU, the patient would be transferred from ED to AAMHU by the ED security personnel by vehicle. The assessment was conducted in a room repurposed and with a bespoke perspex panel to optimise safety and communication while minimising the spread of infection. As there was no designated waiting area for patients in AAMHU, if multiple patients were referred simultaneously, patients were prioritised based on their clinical needs, and less urgent patients waited.

For patients referred to CMHTs during the day, assessments took place in the teams' bases (a mix of urban and rural settings) or the patients' homes. The time of assessments was scheduled by the CMHT.



**Figure 1** Day time phone in the community. CMHT, community mental health teams; GP, general practitioners; MHID, Mental Health of Intellectual Disability

### Admission process in the event of admission under the Mental Health Act (MHA) 2001

In the ED or other clinical settings in the hospital (excluding the approved centre), when a patient is detained under the MHA 2001, trained staff from AAMHU will escort the patient from the clinical setting to AAMHU. In the event of serious violence, the police may be called to assist the transfer.

Mental health services are organised into community healthcare organisations, with each having a number of acute psychiatric units. When our unit reached capacity, neighbouring units would be contacted. In the event of all units reaching capacity, the patient received care in ED while waiting for a psychiatric bed. It is worth noting that this was not required during the study period.

### Data collection and analysis

#### Quantitative data

All patients referred to the mental health service from 27 March 2020 to 31 May 2020 were included in this study: the pathway was implemented on 27 March 2020, and 2 months of data were necessary for statistical analysis, corresponding to the first wave of COVID-19 pandemic.

Data were collected from a central register that recorded all urgent/emergency referrals to our mental health service. This list was cross-checked against another register, which recorded all GP referral had used the central phone. Finally, the list was compared against a database held by the liaison psychiatry team that recorded all hospital-based referrals made to the team. Data were anonymised and recorded on Microsoft Excel 2016 spreadsheet.

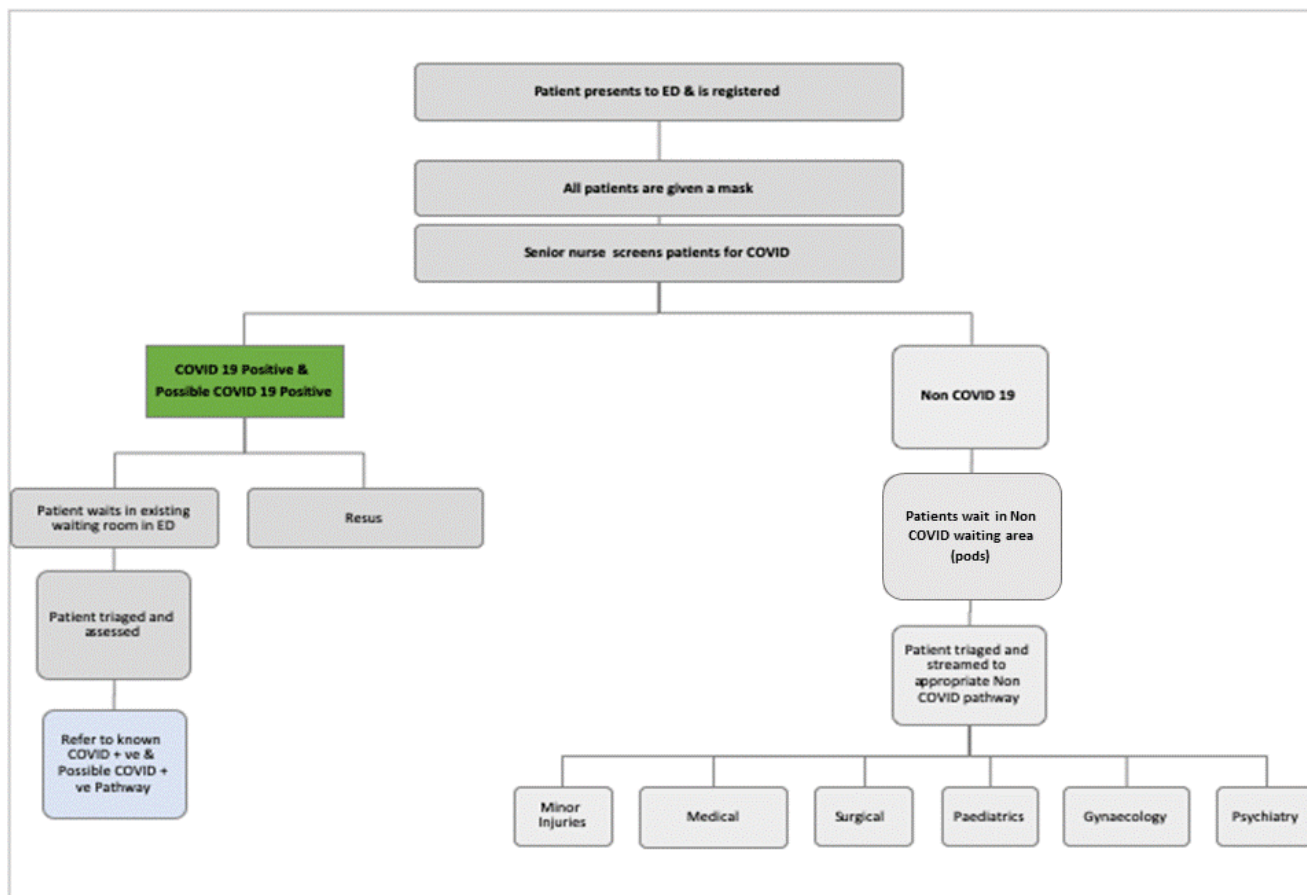
We collected demographic variables (gender, age and housing status) and clinical variables (presenting complaint, diagnosis, alcohol and substance use and active self-harm/suicidal ideation). Source of referral, response times and outcomes were recorded.

Anonymised data were exported to an SPSS file. Data from the intervention group were compared with referrals to the service between 27 March 2019 and 31 May 2019.  $\chi^2$  for categorical variables and independent sample t-test for scale variables were used. We used logistic regression to control for age and gender.

#### Assessment of acceptability

We used electronic questionnaires (Google forms), distributed via email to GPs, CMHTs and nurses on the daytime and night-time rotas and non-consultant hospital doctors (NCHDs). As the response rate from GPs was unsatisfactory initially, we requested

## COVID 19 Initial Triage/Assessment Pathway



**Figure 2** A: Hospital pathways for triage during COVID-19; B: Hospital pathways for psychiatry referral during COVID-19

ED, emergency department; CNS, Clinical Nurse Specialist; AAMHU, Adult Acute Mental Health Unit; AMU, Acute Medical Unit

two GPs to notify their GP colleagues about the surveys through internal WhatsApp chat group, which significantly improved response rates.

Paper questionnaires were distributed to patients following their appointments for assessments, including those admitted to AAMHU. Participation in the feedback survey was voluntary. Thematic analysis was used to identify common themes from the feedback surveys. Responses were analysed according to the response groups, that is, GPs, CMHTs, NCHDs and patients.

### Ethical considerations

Ethical approval was granted by the hospital clinical research ethics committee.

### RESULTS

Over the course of this initiative, 255 patients received an emergency assessment via the pathway. This represented a decrease of 22.3% in the volume of presentations from the same time in the previous year (328 emergency presentations April–May 2019). One-fifth (n=53, 20.8%) were GP referrals and 170 (66.7%) self-referrals, and 15 (5.9%) patients were brought to the hospital by police. Of the 15 police referrals, seven patients were detained under the MHA 2001 and admitted directly to AAMHU, seven were admitted to AAMHU as a voluntary patient and one was assessed in ED and discharged home with

CMHT follow-up. Further detail of the characteristics of those referred may be seen in [table 1](#).

Of the 131 assessments at AAMHU, 48 were admitted, including eight under MHA 2001. Nine were discharged back to GP, while 71 were discharged to CMHT follow-up. Three were referred back to ED on arrival at AAMHU due to acute intoxication.

Regarding our key outcomes:

1. *Minimise the number of patients leaving before review.*  
This was reduced from n=13 (4%) in the same period in 2019 to n=2 (0.8%) during the duration of this pathway (p<0.001).
2. *Reduced waiting time for assessment.*  
The proportion of people seen within 2 hours rose from 38.4% in 2019 to 59.6% during this pathway. The proportion of people seen within 6 hours rose from 74.4% in 2019 to 87.4% during this pathway (p<0.001).
3. *Avoid infection in our patient cohort, especially inpatients in AAMHU.*  
There were no cases of COVID-19 among patients admitted to AAMHU nor to the best of our knowledge among outpatients of the service.
4. *Avoid infection in our staff, indirectly minimising risk of transmission to patients.*



**Table 1** Characteristics of patients presenting for emergency mental health assessment from 27 March to 31 May 2020 and for the same period in 2019

	2019 (n=328)	2020 (n=255)	P value
Age, mean (SD)	39.3 (17.4)	37.8 (16.1)	0.289*
Gender			
Male, n (%)	181 (55.2)	111 (43.5)	0.005†
Female, n (%)	147 (44.8)	144 (56.5)	
Referral			
GP, n (%)	59 (18)	53 (20.8)	<0.001†
Self, n (%)	257 (78.4)	170 (66.7)	
Medical, n (%)	3 (0.9)	16 (6.3)	
Police, n (%)	9 (2.7)	15 (5.9)	
Other, n (%)	0 (0)	1 (0.4)	
Homeless, n (%)	27 (8.2)	29 (11.4)	0.202†
Self-harm or suicidal ideation, n (%)	160 (48.8)	126 (49.4)	0.880†
Month			
March (27–31), n (%)	24 (7.3)	30 (11.8)	0.052†
April, n (%)	151 (46)	96 (37.6)	
May, n (%)	153 (46.7)	129 (50.6)	
Waiting time			
<2 hours, n (%)	126 (38.4)	152 (59.6)	<0.001†
2–6 hours, n (%)	118 (36.0)	71 (27.8)	
>6 hours, n (%)	71 (21.6)	30 (11.8)	
Left before seen, n (%)	13 (4.0)	2 (0.8)	
Outcome			
Admission	56 (17.1)	66 (25.9)	0.078†
CMHT follow-up	224 (68.3)	155 (60.8)	
Medical	17 (5.2)	13 (5.1)	
GP	31 (9.5)	21 (8.2)	

\* = Independent sample t-test

† =  $\chi^2$ ; significance level is set at 0.05

CMHT, community mental health team; GP, general practitioner

There was only one case in all staff following mass screening. There were no cases of COVID-19 among staff who were on the roster for assessing patients.

##### 5. Patient satisfaction.

We obtained feedback from a small sample of patients (n=6) who had experience of using the service pre-COVID-19. The mean age was 46 (SD 11.9) years, and five (83%) were women. All were satisfied with the location of the assessment and that it provided direct and easy access, with improved privacy, and that it should be retained after COVID-19. None reported any negative aspects of the new pathway. A majority (83.3%) felt the review was available within a reasonable timeframe, and the same percentage was overall satisfied with their care.

##### 6. GP satisfaction.

We obtained feedback from local GPs (n=28). A majority agreed that the pathway reduced unnecessary ED presentations (n=23; 82.1%), provided a prompt response (n=22; 78.6%) and provided direct and easy access to care (n=24; 85.7%) and should be retained post-COVID-19 (n=27; 96.4%).

##### 7. Mental health service staff satisfaction.

Mental health service staff were less enthusiastic about the pathway. A majority of NCHDs felt it provided better continuity of care (58%) and allowed them to be better supported (58%), and half felt it was more efficient and allowed more timely assessments. A majority (58%) felt at least part of the

pathway should be retained post-COVID. Specific difficulties pertained to people presenting for assessment who needed medical intervention or who were intoxicated.

Other mental health service staff were less positive: only a minority of the 21 staff members (11 nurses, two social workers, six occupational therapists and two psychologists) felt it provided better continuity of care (29%) or reduced unnecessary ED presentations (33%); half felt that avoiding the ED was positive. Only 38% felt at least part of the pathway should be retained post-COVID-19. These members of staff felt the pathway was underused and were concerned for staffing and taking leave. In the initial weeks of this initiative, the interview room was on the upper floor, away from the on-site security. Following an incident involving an agitated patient, requiring security intervention, the interview room was relocated to a repurposed room next to the security office, in response to feedback from medical and nursing colleagues. Each staff member was required to carry a personal alarm at all times.

## DISCUSSION

This pathway was successful in reducing the waiting time for assessment and the numbers of patients leaving before review. It also successfully avoided the spread of COVID-19 among patients and staff of the mental health service. It was highly popular with patients and with referring GPs. Staff members were less satisfied with complex medical cases and cited rostering issues as their primary concerns.

There was an overall reduction in the numbers of people presenting for assessment compared with the same period in the previous year. This was expected, as the public generally avoided attending the hospital during the height of COVID-19. In the absence of a suitable comparison group, we cannot prove that the new pathway was responsible for the absence of cases of COVID-19 among patients and staff, but given high rates of in-hospital transmission throughout this pandemic, it is likely that diverting patients away from the acute hospital and the ED contributed to this.<sup>20–24</sup>

The declaration of COVID-19 as a pandemic and the subsequent lockdown in many countries presented specific challenges for mental health services. Many group activities (such as day centres, day hospital and group therapies) were suspended, and community-based services were required to reduce their face-to-face meeting with patients, using digital technologies and telephone solutions in lieu.<sup>25–27</sup> Our findings were consistent with the internationally reported reductions in emergency psychiatric presentations compared with the previous years: one German hospital reported reductions of 27.7%.<sup>28</sup> In Paris, presentations were reduced by 45%–60%.<sup>29–30</sup> A US healthcare system covering 20 EDs reported a reduction in mental health presentations of 28%.<sup>31</sup> Our service's reduction of 22.3% is smaller than other international centres, and there were differences in the patterns of presentations with self-harm to the services more broadly.<sup>32</sup>

Patients are the key individuals in any healthcare system and are the reason that the system exists. Our data suggest that the patient experience of this pathway was largely positive. All patients who participated in the survey were admitted to AAMHU. In addition to avoiding infection with COVID-19, they reported that they were pleased with the location and privacy afforded by the new pathway. GPs were pleased with the clarity that this pathway brought. Verbal discussions with staff at local CMHT bases suggested high satisfaction among patients

who were assessed directly in the community; however, these appraisals were not captured formally: a limitation of this study.

Mental health staff were less positive towards the pathway, with non-doctors much more negative than NCHDs. Any change in ways of working is frequently met with resistance: while the additional rostering was not a major problem in the initial phase of COVID-19, it presented difficulties as routine activity started to rise. Staff unavailability to their team post-overnight call had an impact on routine community work. This referral pathway was implemented by the rostering of existing CMHT members, without additional staff. Community psychiatric nurses on the night rota were paid a night allowance, while those rostered on weekends (from Saturday 0000 to Sunday 0000) were paid double time. The additional direct staff cost was averaged at €1410.36/week. The roster was in adherence to European Working Time Directive of 39 hours/week. While the cost suggested good value, it is arguably unsustainable without additional community psychiatric nurses to support the loss of daytime work.

To allow this innovative pathway to continue, the local management team has considered how to incorporate the feedback. At present, there is a temporary plan to continue to provide the service at the AAMHU, with nursing staff or student nurses rostered from AAMHU rather than the community, out of hours.

Our findings are consistent with the overall plan for emergency health services that the needs of people with differentiated emergency psychiatric presentations (without comorbid physical health need) are better met in community settings away from the ED.<sup>18 33</sup> The Department of Health recently released a national framework for mental health care<sup>34</sup>—*Sharing The Vision: A Mental Health Policy for Everyone*, which highlighted the need for a continuum of access to mental health services, from primary care at one end and ED at the other.

The limitations of this report include that it is a service evaluation of a non-randomised change in service delivery, and full costing of this specific intervention is not available. We were only able to provide direct staff cost. The strengths include the real-world nature of the intervention, occurring at a time of rapid change in the delivery of healthcare internationally, and the large sample size available.

This initiative highlights the importance of adaptive mental health service leadership. It was necessary to adapt from the first wave of the pandemic to minimise transmission of the infection and to prevent the risk of overwhelming the capacity of mental health services in the event of a mental health crisis as projected by the WHO.<sup>35</sup> There was collective understanding between different medical specialties of the need to divert patients from busy emergency services to other clinical settings to mitigate the risk of spreading the virus, as there has been significant evidence of in-hospital transmission internationally.<sup>20–24</sup> In collaboration with our ED, medical and surgical colleagues, the alternative ED referral pathway was developed, while the alternative GP referral pathway was developed following consultation with all consultant psychiatrists and CMHTs. Representatives from different levels and disciplines, consultants, NCHD representative, nurse managers and heads of AHP and security, collectively decided on the implementation of the pathways. Throughout the initiative, active feedback was sought from mental health staff and other clinical colleagues. Stakeholder engagement was key in sustaining this initiative. The feedback process included GP and patients: the other key stakeholders in this initiative. Through active engagement with different stakeholders, the strengths and weaknesses of the initiative were identified, providing opportunities for further improvement.

## CONCLUSIONS

Our local COVID-19 pathway was successful in improving response times, reducing the numbers of patients who left without receiving a mental health assessment and minimising the risk of spreading the infection. Measures were initiated to allow for the sustainability of the pathway, with changes in response to staff feedback. There is a need for further evaluation of the pathway over the period of lifting of lockdown restrictions for robustness of findings. Additional resources may help sustain this referral pathway post-COVID-19.

**Acknowledgements** The authors wish to acknowledge the staff who contributed to the implementation of the alternative referral pathway in the hospital and in the community.

**Contributors** KT and AMD designed the study and wrote and revised drafts of the manuscript, which were also edited by GC, DMCG and MO'G. KT, GC and WXT collected quantitative and qualitative data. AMD conducted the statistical analysis. All authors read and approved the final manuscript.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent for publication** Not required.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data availability statement** All data relevant to the study are included in the article. Please forward all correspondence to the corresponding author at kezannetkz@gmail.com

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