

A modern management model for patients with acute and subacute psychiatric problems in the emergency department of Trento (Northern Italy)

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Abstract

In Italy, over 86% of patients with mental disorders have one emergency department visit per year, with 6–9% having two visits and approximately 2% having three visits. It is not significant to include those with four or more visits in this data set. In the context of the COVID-19 pandemic, there has been a notable increase in the utilisation of emergency services for psychiatric concerns. In our emergency department, we observed a 10% increase in admissions for psychiatric problems, psychomotor agitation, behavioural disorders, and drug intoxication between 2022 and 2023. We present an organisational management model that has been found to be effective for patients with minor psychiatric problems, those who repeatedly present to the emergency department, and/or those with discontinuous referrals to the relevant mental health centre or

acute episodes. One possible strategy could be to consider directing psychiatric emergencies that can be deferred to territorial crisis management from the Trento emergency department to the mental health centre.

Introduction

It is estimated that approximately 3.2% of all visits to emergency departments in Italy may be attributed to acute behavioural disturbances.¹

Managing ED waiting times involves differentiating patients according to a number of criteria, including triage coding, priority level, admission conditions, and evolutionary risk. In some cases, however, it may be possible to propose a clinical pathway that is more closely aligned with the specific clinical needs of the patient.^{2,3} The authors present an effective organisational management model for patients presenting with a minor psychiatric problem and sub-acute episodes. It is becoming increasingly common for ED providers to be responsible for the assessment and treatment of individuals experiencing a mental health crisis. In some cases, these individuals may need to remain under observation for extended periods, often in overcrowded and chaotic care environments. This is commonly referred to in the ED as ‘psychiatric boarding’. Overcrowding in the ED effectively transforms the ED into an ‘atypical’ inpatient unit that is distorted in its intended purpose and capacity to help.

This procedure makes it possible to promote specialised reception in a dedicated environment, to facilitate continuity of care in services for the prevention, treatment and rehabilitation of mental disorders, to reduce the stigma associated with mental illness, to avoid overcrowding in emergency departments and to prevent inappropriate access to emergency services.

In addition, through the use of specific scales to be used in emergency situations, this procedure identifies the cases most at risk of psychomotor agitation, providing immediate care in the ED and subsequent therapeutic management.⁴⁻⁶

Materials and Methods

In order to facilitate the interpretation of the results, it is first necessary to establish a premise. Transmural Departments of Mental Health (in Italy, they are referred to as a Centro Salute Mentale, or CSM) in Trentino are divided according to the patients’ place of residence. The study focused on the direct dispatch of patients from the Triage department to the CSM in Trento, exclusively for those residing in the city of Trento. This is due to the specific agreement with the “Trentino Emergenza” transport service in Trento, which determines the type of dispatch.

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Furthermore, the agreement allows for direct dispatch by phone agreements between the physician and nurse at the Trentino Emergency Centre and the CSM of Trento. This aspect of the procedure is still in the experimental phase, and therefore the data provided are limited to direct dispatch from Trento Santa Chiara Emergency Department. However, data collection was also carried out for patients belonging to other CSMs and the same CSM of Trento. For these patients, the conditions were not such as to require an immediate evaluation. Instead, an appointment was made, subject to agreement with the department's psychiatrist.

The management project begins with the triage stage, which typically involves patients who are already known to the Trento Mental Health Centre (CSM). The role of the triage nurse is to identify patients who can be appropriately treated with a method of medical record closure called "fast track mode" and to refer them to the CSM of Trento. With the fast-track method, the patient will be definitively released from the emergency department and sent to Trento's CSM. This requires the presence of the following common inclusion criteria:⁷ Age \geq 18; residence in Trento; absence of exclusion criteria; Broset Violence Checklist (BVC) \leq 2 (Table 1).^{8,9} The exclusion criteria are: acute intoxication with psychoactive substances; patients in unstable psychophysical conditions and/or with a framework of such severity that evaluation at the CSM is not appropriate (acute decompensation, psychomotor agitation, BVC $>$ 2); patients with a differential diagnosis of organic diseases (dementia, trauma, acute events and metabolic pathologies); CSM time opening (Monday to Friday: 8:30 a.m. to 7:00 p.m.; Saturday: 8:30 a.m. to 4:30 p.m.; Sunday: 8:30 a.m. to 12:30 p.m.). The study does not currently analyse data from public holidays. Patients were first assessed by the emergency physician following a triage report in cases of uncertainty. At a later stage, the doctor referred the patients to the mental health centre. Data were analysed between 1 January 2023 and 4 January 2024 using a computerised retrospective analysis system. Patients were between the ages of 18 and 80 years old. Symptoms were recorded as a single symptom or as more than just psychiatric symptoms and were coded as behavioural disorders and divided into different access diagnoses.¹⁰

Results

In the period under review, we observed that the overall number of admissions to the Trento Emergency Department (ED) for a range of psychiatric issues, including psychomotor agitation, behavioural disorders, and substance intoxication, reached 1841 patients (pts). We then analysed 1511 patients, of whom 712 were deemed to require a psychiatric evaluation in the ED. This number represents 70% of all patients who were seen in the CSM within the specified time frame.

We verified the access diagnoses entered by triage from dropdown menus outlining the appropriate coding.

Reasons for access include 443 mental disturbances, 336 neurotic and personality disturbances, 105 acute stress reactions, 99 schizophrenic psychosis, 79 behavioral disturbances, 77 personality disturbances, 36 neurotic disturbances, 15 adaptation reactions, 14 drug abuse without addiction, 7 alcohol addiction, 6 senility organic psychotic status episodes, and 3 drug addiction.

We then extrapolated only those discharged patients with only a psychiatric diagnosis to green code, white, and some blue codes with only a psychiatric diagnosis: 475 were discharged with these characteristics. All other data were calculated from this number. The group was 63% female and 37% male, with an average age of 25.3% aged 18-24, 27.1% aged 25-34, 15.6% aged 35-44, 13.3% aged 45-54, 9% aged 55-64, 6.8% aged 65-74, and 2.9% aged 75-80. 80% of these patients had Italian citizenship. Of these 475 patients, 256 (53.8%) were discharged with a deferred appointment to the territorially competent CSM after consulting with the hospital psychiatrist by phone; 30 patients (6.31%) were sent directly to the Trento CSM as they met the criteria for direct referral, 8 patients (1.47%) were kept under observation in the Trento Emergency Department; 4% were visited in the ED and discharged 10% were transferred to other sites (other CSMs, reception facilities, etc.); 3.32% were sent to other hospitals; 19% were admitted to the Trento Psychiatric Department; and 3.1% left voluntarily (Figure 1).

The percentage of patients discharged and sent from the emergency department for direct care to the CSM of Trento who returned for hospitalisation in psychiatry within a month of the first access in the observed period is 1 patient in 5 per month.

The introduction of this preferential lane has resulted in a 5%

Table 1. Broset Violence Checklist (BVC).

BROSET VIOLENCE CHECKLIST (BVC)	YES	NO
Confusion: the subject displays clear signs of confusion and disorientation. May be unaware of time, place or person	1	0
Irritable: easily annoyed or angered. Unable to tolerate the presence of others.	1	0
Boisterous: noisy behaviour. For example, the subject may be observed to slam doors or to shout when talking.	1	0
Physically threatening: where there is a definite intent to physically threaten another person. For example the taking of an aggressive stance; the grabbing of another person's clothing; the raising of an arm, leg, making of a fist or modelling of a head-butt directed at another.	1	0
Verbally threatening: a verbal outburst which is more than just a raised voice; and where there is a definite intent to intimidate or threaten another person.	1	0
Attacking objects: an act of aggression directed at an object rather than an individual. For example, this may manifest as the indiscriminate throwing of an object, the banging or smashing of windows, the kicking, banging or head-butting of an object, or the smashing of furniture.	1	0

Score=0, the risk of violence is small; score=1-2, the risk of violence is moderate and preventive measures should be taken; score $>$ 2, the risk of violence is very high and preventive measures should be taken. In addition, plans should be developed to manage the potential violence.

reduction in inappropriate access for psychiatric problems with lower levels of care, thereby preventing the revolving door phenomenon.

Discussion

Patients are admitted to the Trento Emergency Department (ED) either independently or with emergency medical services, depending on their circumstances. Until the end of 2021, the standard procedure for the emergency system involved the transportation of the patient to the emergency department, which we recognise may not have been the most optimal approach. Subsequently, the patient was assessed in the ED, and only then was the possibility of transferring him to the CSM considered, either by ambulance or on his own. This operational approach has resulted in the management of sub-acute psychiatric disorders within hospital settings, which may not always be as responsive to the patient's health requirements as an alternative environment might be. It is possible that this approach may have resulted in some patients having to wait longer than they would have liked, as well as presenting some challenges in terms of healthcare management and ensuring that patients were received by the most appropriate healthcare facility. This may also have resulted in delays in the activation of continuous specialist care pathways in the region and an increase in the workload of the transport emergency system and the ED. The new procedure, agreed between the Santa Chiara ED of Trento, Trentino Emergency Service and 118, and the CSM of Trento, will optimise the process of patient care and management. This is in accordance with the recommendations set out in the World Health Organization's Comprehensive Mental Health Action Plan (2013-2030).¹¹

As previously stated, the results concern only those patients who were referred by Triage to the CSM of Trento. It is important to note that a direct agreement method exists between the local emergency service doctor/nurse and the CSM of Trento. The above considerations make it clear that only 6% of patients discharged

with only a psychiatric diagnosis are sent directly to the CSM each year. Given the context of the emergency room and the potential for delays in patient management due to high workloads, the direct referral method to the CSM is the most effective approach for ensuring the appropriate care of patients with psychiatric issues who require continuous monitoring to prevent episodes of agitation caused by a lack of timely intervention and the potential for stigma. This result is not correlated with the quantitative data. It is, however, correlated with the perception of the quality of the service provided. Furthermore, this method has been linked to a reduction in violent incidents in the emergency room. This is because it correlates with the absence of an immediate need for therapeutic intervention and suspicions of related organic pathologies.

The low number of referrals to the CSM is also linked to the general condition of the patient, the registration of patients, and the triage system, which identifies many psychiatric problems in differential diagnosis with organic problems using orange coding. The high number of orange codes means that patients with suspected organic problems are taken care of immediately in the emergency room by doctors with greater experience in differential diagnosis and at least three years of experience in the emergency room. It is important to note that triage nurses are expert nurses with specific training.

Furthermore, we would like to state that doctors and nurses from the emergency system of the territorial network and of the emergency in Trentino were invited and underwent specific training in the procedure at a webinar held at the Trento training service on 15 June 2022 entitled "The multidisciplinary management of psychiatric emergencies in Trento". The "integrated territorial hospital path" is currently being followed by more than 60% of the medical and nursing staff working at the S. Chiara PS in Trento. In addition, specific moments are set aside for feedback on management.

The BVC is an effective risk stratification tool for psychomotor agitation from the emergency triage stage. In their study, Linaker and Busch-Iversen identified 56 distinct behavioural pat-

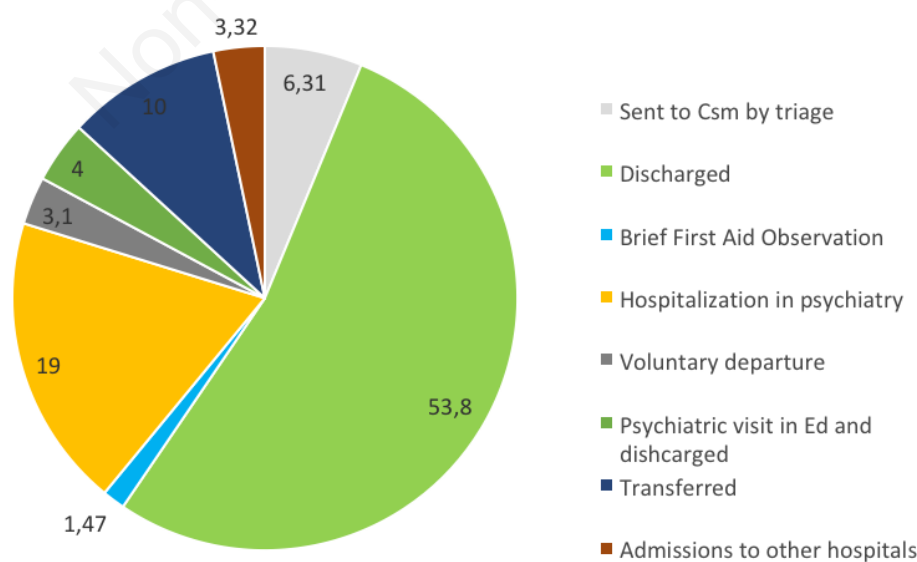


Figure 1. Results of patient admissions with only psychiatric problems.

terms over a 24-hour period preceding an episode of violence and/or agitation. The six most common behaviours were identified as confusion, irritability, clamour, physical and verbal aggression, and pantoclastic crisis. The six behaviours were subsequently organised into the BVC, which is designed to measure them. Each item is assigned a score of 1 if present and 0 if absent. For patients with a known history of behavioural issues, an increase in behaviour is scored 1, while normal behaviour in the absence of violent facets is scored 0. The scoring is interpreted as follows: a score of 0 identifies a low risk, while a score between 1 and 2 indicates a moderate risk of violence and necessitates the implementation of preventive measures. A score of 3 or above signifies a high risk of violence and requires the immediate implementation of precautionary measures.^{12,13}

In cases where the risk of violence is uncertain, an accurate assessment for differential diagnosis is essential.¹⁴

Triage represents the initial clinical contact with a patient to ascertain the urgency of their care. It encompasses the initial risk assessment and determination of the appropriate level of observation. It is imperative that mental health triage is undertaken for all service users upon their arrival at the ED in conjunction with physical health triage. The recourse to emergency services for psychiatric complaints is on the rise, and ED providers are frequently the first point of contact for patients seeking psychiatric care.¹⁵

The psychiatric emergency service contact is a vital link in the chain of care, facilitating the resolution of the presenting problem and ensuring continuity of care. The management of psychiatric disorders is an ongoing challenge in Italy, as it is in other countries. A growing body of research indicates that ED teams would benefit from specific training to ensure appropriate handling in acute settings. It is essential that psychiatrists and ED physicians play a pivotal role in spearheading targeted and collaborative training for emergency services to effectively manage crises in line with evidence-based medicine. To enhance the expertise of emergency physicians and nurses, as well as socio-healthcare professionals, the APSS Trento training service for emergency medicine has devised a range of training programs. These are designed to equip participants with the knowledge and skills to de-escalate psychomotor agitation while providing a relational module for newly hired doctors and nurses in emergency services.

By the end of 2024, the first pilot module of the training of the newly recruited doctors and nurses in emergency medicine will be in place. This will cover not only the learning of theoretical and practical non-technical skills through role-playing techniques but also differential diagnostics in triage and in the outpatient clinic and drug therapy in emergencies to implement specific treatment guidelines.

Conclusions

It is thought that the potential for transmitting and overseeing patients with minor codes in the regional CSM could result in a notable reduction in the time required for management in emergency rooms.^{16,17} It would be beneficial for future research to investigate the potential effects of the proposed model on the quality of care, user satisfaction, and the cost-effectiveness of emergency services, with a view to ensuring the efficient allocation of resources.

In order to enhance the quality of service that patients perceive, the authors evaluated the use of Patient-Reported Outcome Measures (PROMs) and Patient-Reported Experience Measures (PREMs), respectively, with the aim of ascertaining patients' views

on their health status and their experience during care.

PROMs are outcome measures that are reported directly by the patient. They are used to investigate the perception of health status. Such assessments may include an evaluation of symptoms and pain, anxiety, depression, and fatigue.

PREMs assess patients' perceptions of their experiences during the care process. They encompass aspects such as communication quality, support for managing long-term conditions, waiting times, and ease of access to care.¹⁸ However, their current use is open to question due to the time required for data collection and the qualitative methodology, which limits the precise estimation of treatment value. It is also important to improve the training of emergency professionals, as mentioned above.

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