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Requests, Issuing, and Hospital Admissions Regarding Mental Health Warrants Before and During the COVID-19 Pandemic in a Region in Portugal

Pedidos, Emissões e Hospitalizações Relacionados com Mandados de Condução para Avaliação Psiquiátrica Antes e Durante a Pandemia de COVID-19 numa Região de Portugal

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ABSTRACT

Introduction: Mental health warrants exist in most countries and are issued when patients have severe mental illness, refuse treatment, and present a serious risk to themselves or others. We describe the epidemiology of mental health warrant requests received, and warrants issued by a Public Health Unit in a Portuguese region, as well as subsequent hospital admissions before and during the COVID-19 pandemic.

Methods: We used routine administrative data of mental health warrant request entries from a Public Health Unit serving a population of 219 739 individuals and compared the average of monthly requests, issued warrants, and hospital admissions during two separate periods (January 2013 to January 2021 and February 2021 to October 2022) as well as the proportion of warrants issued, hospital admissions among requests, and other patient characteristics. We identified factors associated with hospital admissions among the requests using logistic regression.

Results: Monthly average warrant requests, issued warrants and hospital admissions increased after February 2021 ($\bar{x}$ 2.87 *vs* 7.09 $p < 0.001$; $\bar{x}$ 2.67 *vs* 6.42 $p < 0.001$; $\bar{x}$ 1.55 *vs* 3.58 $p < 0.001$). We found no differences by period in the proportion of requests with issued warrants (92.8% *vs* 90.6% $p = 0.42$) nor the proportion of requests with subsequent hospital admissions (54.0% *vs* 49.0% $p = 0.33$). In the second period, there were differences in the proportion of patients with a previously diagnosed mental health disorder (95.3% *vs* 90.4% $p = 0.049$). There were significant differences in the distribution of the origin of requests. Being unemployed (OR:2.5 CI:1.2 - 5.2), not having completed high school (OR:2.01 CI:1.12 - 3.77) and having university education (OR:3.67 CI:1.27 - 10.57) degree were associated with hospital admission.

Conclusion: Severe mental illness with criteria for mental health warrants may require more resources and different approaches due to a possible increase during and after the COVID-19 pandemic. Community based mental healthcare, incentivized follow-up by primary care and ambulatory treatment may be considered. Further research should evaluate both the national and international trends and associated factors.

Keywords: COVID-19; Hospitalization; Portugal; Psychiatric Department, Hospital

RESUMO

Introdução: Os mandados de condução para avaliação psiquiátrica existem na maioria dos países e são emitidos para doentes com doença mental grave que recusam tratamento e apresentam um risco grave para si mesmos ou para terceiros. Descrevemos a evolução dos pedidos de mandado recebidos e de mandados emitidos por uma Unidade de Saúde Pública de uma região portuguesa, bem como dos subsequentes internamentos hospitalares antes e durante a pandemia de COVID-19.

Métodos: Foram utilizados dados administrativos de rotina dos pedidos de mandado numa Unidade de Saúde Pública que atende uma população de 219 739 indivíduos. Comparámos a média de pedidos mensais, mandados emitidos e internamentos hospitalares em dois períodos (janeiro de 2013 a janeiro de 2021 e fevereiro de 2021 a outubro de 2022), bem como a proporção de mandados emitidos e internamentos hospitalares entre todos os pedidos e outras características dos pacientes em ambos os períodos. Foram identificados fatores associados ao internamento entre todos os pedidos através de regressão logística.

Resultados: A média mensal de pedidos de mandado, mandados emitidos e internamentos hospitalares aumentou após fevereiro de 2021 ($\bar{x}$ 2,87 *vs* 7,09 $p < 0,001$; $\bar{x}$ 2,67 *vs* 6,42 $p < 0,001$; $\bar{x}$ 1,55 *vs* 3,58 $p < 0,001$). Não foi encontrada diferença entre períodos na proporção de pedidos com mandados emitidos (92,8% *vs* 90,6% $p = 0,42$) e na proporção de solicitações com internamentos subsequentes (54,0% *vs* 49,0% $p = 0,33$). No segundo período, houve diferenças na proporção de pacientes com doença mental previamente diagnosticada (95,3% *vs* 90,4% $p = 0,049$). Verificaram-se diferenças significativas na distribuição da origem dos pedidos. Estar desempregado (OR:2.5 CI:1.2 - 5.2), não ter concluído o ensino secundário (OR:2.01 CI:1.12 - 3.77) e ter concluído o ensino superior (OR:3.67 CI:1.27 - 10.57) foram fatores associados a internamento hospitalar entre os pedidos.

Conclusão: As doenças mentais graves com critérios para emissão de mandado podem exigir mais recursos devido a um possível aumento durante a pandemia. Equipas de proximidade de saúde mental, acompanhamento reforçado pelos cuidados de saúde primários e tratamento ambulatório podem ser considerados. São necessários esforços de investigação para avaliar as tendências nacionais e internacionais e fatores associados.

Palavras-chave: COVID-19; Hospitalização; Portugal; Serviço de Psiquiatria

INTRODUCTION

Mental health warrants exist in most countries and are issued when a patient has a severe mental illness diagnosed, refuses treatment, and presents a serious risk to him/herself or others.[1]

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Most countries have a mental health legal framework for involuntary psychiatric evaluation and admission. In Portugal, health authorities in Public Health Units issue most mental health warrants when legal criteria are met. After the warrant is issued, security forces take the patient to a psychiatric emergency department for evaluation. The decision of involuntary hospital admission must be made by psychiatrists and communicated to the judicial authority for final approval. There is scarce research on mental health warrants in Portugal[2] and internationally on the effect of the COVID-19 pandemic on mental health warrant requests, issuing, and subsequent hospital admissions.[3,4]

The COVID-19 pandemic impacted mental health in various ways.[5] It is not yet clear what factors have contributed to this change in different settings. Some hypotheses have been raised as inducers of this increase such as changes in socialization patterns, isolation, socio-economic transformations, modifications in access to healthcare and follow-up of specific psychiatric conditions, changes in drug use and others.

We describe the evolution and characteristics of mental health warrant requests received and warrants issued by a Public Health Unit in a Portuguese region, as well as subsequent hospital admissions before and after January 2021, to inform further research needs as well as mental health planning, practice, and policy.

METHODS

Data

We used routine administrative data of mental health warrant request entries from a Public Health Unit serving a population of 219 739 individuals (May 2021 population census). The observation unit of the database was each mental health warrant request received by the Public Health Unit. Data included the sex of the patient, age, education level, occupation, origin of the request, issuance of a warrant and hospital admission. The data was routinely filled by dedicated health authorities (or professionals under their delegation) working with warrant-issuing procedures from the Public Health Unit. Data for hospital admissions in October 2022 was incomplete because not all issued warrants had yet returned information from the security forces. Missing data was categorized as 'unknown' in order to allow an understanding of the limitations related to possible information bias.

This was a non-interventional study without contact with patients or use of identifiable data. The study was conducted under the Public Health Unit and Health Authority legal attributions following the ethical principles of the Declaration of Helsinki and as per local and European regulations, including privacy laws. Anonymized (non-personal) data, existing under the legal mandate of Health Authorities and the Portuguese Mental Health Law could be used for research purposes.

Statistical analysis

We conducted a descriptive analysis of mental health warrant requests in two periods and tested factors associated with the outcome of hospital admissions among all mental health warrant requests, including the defined periods.

We calculated and plotted the number of requests, issued warrants, and hospital admissions by month and compared the average of monthly requests, issued warrants, and hospital admissions in two periods (January 2013 to January 2021 and February 2021 to October 2022). We used a Poisson regression with an identity link function and robust estimation to calculate a p-value for the difference between the average monthly requests, issued warrants, and hospital admissions in both periods using monthly counts with 'month' as the observation unit.

We calculated the proportion of warrants issued, hospital admissions, and percentual distribution of sex, age, education level, occupation, previous mental illness, and origin of requests in both periods and used the chi-square test to compare the distribution of different categories for each variable.

We conducted a (logistic regression using data from all requests (with mental health warrant requests as observation units) to identify factors associated with hospital admissions while adjusting for confounding, among all requests using patient and request characteristics and period as exposures.

The two periods were defined considering the first large increase (> 90%) in yearly warrant requests in a sequential year in this chronological series. The choice was further supported considering the time before and after the largest wave of COVID-19 laboratory-confirmed cases and the increased hospital burden that occurred in Portugal in January 2021.

Statistical analysis was conducted in Stata (version 14, StataCorp, College Station, Texas, US). All analyses used 95% CI and considered a p-value < 0.05 as statistically significant.

RESULTS

There were 427 mental health warrant requests in a period of 118 months. Among the requests, the public health unit issued 393 warrants (92%), of which there were 223 hospital admissions related with the warrant (52%) (Fig. 1).

There were 278 warrant requests in the first period and 149 in the second. The first period consisted of 97 months and the second period consisted of 21 months (Table 1).

The Monthly average number of warrant requests issued

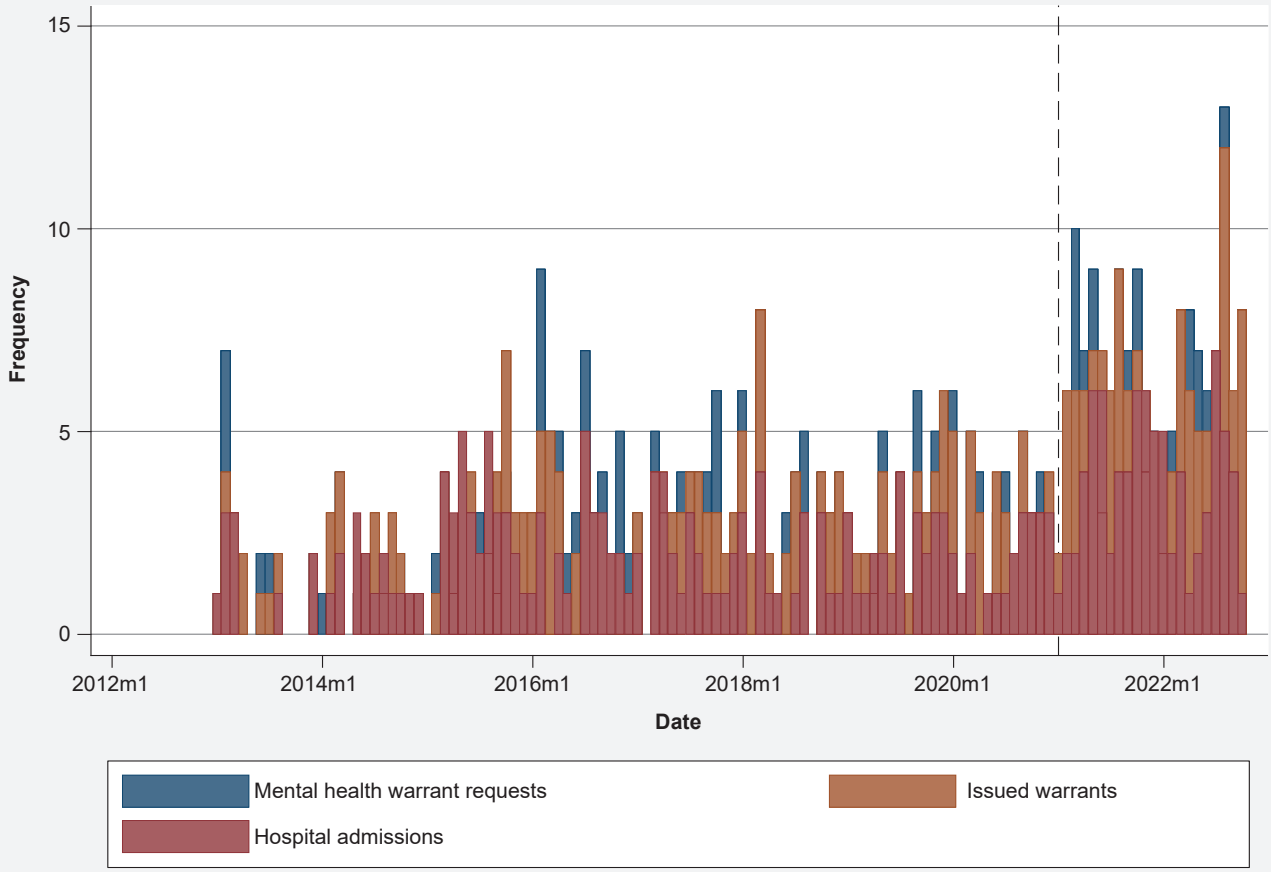

Figure 1 – Monthly frequency of mental health warrant requests, issued warrants, and subsequent hospital admissions (overlapping bars). The vertical dashed line represents the selected separation of periods of analysis. Moinhos Public Health Unit, Portugal, January 2013 - October 2022.

Table 1 – Comparison of monthly average counts of warrant requests, issued warrants and hospital admissions by period and *p*-value of the difference of means using Poisson identity link function, Moinhos Public Health Unit, Portugal January 2013 - October 2022

Monthly average counts	Jan 2013 – Jan 2021 (n = 97)	Feb 2021 – Oct 2022 (n = 21)	*p*-value
x̄ Monthly warrant requests	2.87	7.09	< 0.001
x̄ Monthly issued warrants	2.67	6.42	< 0.001
x̄ Monthly hospital admissions	1.55	3.58	< 0.001

warrants and hospital admissions increased during the second period, starting in February 2021 (x̄ 2.87 *vs* 7.09 $p < 0.001$; x̄ 2.67 *vs* 6.42 $p < 0.001$; x̄ 1.55 *vs* 3.58 $p < 0.001$) (Table 2).

We found no differences by period in the proportion of requests with issued warrants (92.8% *vs* 90.6% $p = 0.42$) and the proportion of requests with subsequent hospital admissions (54.0% *vs* 49.0% $p = 0.33$). In the second period, there was a reduction in the proportion of previously diagnosed mental health disorders in patients (95.3% *vs* 90.4% $p = 0.049$). There were significant differences in the distribution of the origin of the requests ($p = 0.001$ – Table 2).

We did not find other significant differences in the distribution of other characteristics of requests when comparing both periods (Table 3).

In multivariable analyses using logistic regression, we identified that being unemployed, not having completed high school, and having a higher education degree were associated with hospital admission.

Table 2 – Comparison of distribution of various warrant requests and patients' characteristics among all requests by period, Moinhos Public Health Unit, Portugal January 2013 - October 2022

	Frequency and proportion for warrant requests		*p*-value
	Jan 2013 – Jan 2021 (n = 278)	Feb 2021 – Oct 2022 (n = 149)	
Warrant emissions	258 (92.8%)	135 (90.6%)	0.42
Subsequent hospital admission	150 (54.0%)	73 (49.0%)	0.33
Sex			
Male	174 (62.6%)	91 (61.1%)	0.76
Age			0.90
0 - 19	7 (2.5%)	3 (2.1%)	
20 - 39	92 (33.1%)	44 (30.1%)	
40 - 59	115 (41.4%)	65 (44.5%)	
≥ 60	64 (23.0%)	34 (23.3%)	
Previous psychiatric diagnosis	265 (95.3%)	132 (90.4%)	< 0.05
Occupation			0.75
Unemployed	66 (23.7%)	36 (24.2%)	
Employed	60 (21.6%)	29 (19.5%)	
Student	15 (5.4%)	7 (4.7%)	
Retired	49 (17.6%)	34 (22.8%)	
Unknown	88 (31.7%)	43 (28.9%)	
Education level			0.18
Did not complete high school	86 (30.9%)	54 (36.2%)	
High school completed	41 (14.7%)	17 (11.4%)	
University education	16 (5.8%)	15 (10.1%)	
Unknown	135 (48.6%)	63 (42.3%)	
Portuguese nationality	257 (92.4%)	134 (89.9%)	0.35
Origin of requests			< 0.05
Relatives	79 (28.4%)	47 (31.5%)	
Relatives and health professionals	35 (12.6%)	11 (7.4%)	
Security forces	1 (0.4%)	4 (2.7%)	
Health professionals	71 (25.5%)	54 (36.2%)	
Social services professionals	5 (1.8%)	3 (2.0%)	
Other	10 (3.6%)	12 (8.1%)	
Unknown	77 (27.7%)	18 (12.1%)	

DISCUSSION

After the second lockdown there was an increase in the monthly average number of warrant requests, issued warrants, and subsequent hospital admissions.

The observed increase in warrant requests, issued warrants, and hospital admissions, and the increased proportion of warrant requests for patients without a previous psychiatric diagnosis should raise awareness of the potential impact of COVID-19 infection and social-behavioral and healthcare changes that may have led to these increases as the final option to stabilize patients with severe psychiatric illness who refuse treatment and who put themselves and others in danger, according to the national legal framework. There were no relevant differences in the proportion of requests with warrants or hospital admissions between the two periods, nor in the demographic characteristics of patients. These findings could support the hypothesis that the increase was not due to changes in population baseline characteristics or changes in request, issuing, or admission practices but could reflect a real increase in psychiatric

Table 3 – Factors associated with hospital admission among mental health warrant requests using logistic regression

Hospital admissions	OR	[95% CI]	*p*-value
Sex			
Female	1		
Male	1.153	0.718 - 1.851	0.556
Age			
0 - 19	1	0.000 - 0.000	0.001
20 - 39	1.319	0.288 - 6.034	0.721
40 - 59	2.163	0.460 - 10.158	0.328
≥ 60	1.523	0.306 - 7.590	0.607
Previous Psychiatric Diagnosis			
No	1		
Yes	0.877	0.357 - 2.152	0.774
Occupation			
Unknown	0.563	0.281 - 1.129	0.106
Unemployed	2.516	1.210 - 5.231	0.013
Employed	1.677	0.815 - 3.452	0.160
Student	0.630	0.205 - 1.935	0.419
Retired	1	0.000 - 0.000	0.000
Education			
Did not complete High School	2.061	1.126 - 3.773	0.019
High School Completed	1.720	0.817 - 3.620	0.153
University education	3.664	1.27 - 10.571	0.016
Unknown	1	0.000 - 0.000	< 0.001
Nationality			
Foreign	1		
Portuguese	0.727	0.329 - 1.606	0.431
Origin of Request			
Relatives	1.234	0.234 - 6.510	0.804
Relatives and Health professionals	1.548	0.294 - 8.163	0.606
Security forces	2.826	0.497 - 16.061	0.241
Health Professionals	0.289	0.017 - 4.929	0.391
Social Services professionals	1.377	0.215 - 8.818	0.735
Other	1.772	0.342 - 9.186	0.496
Unknown	1		
Period			
Jan 2013 – Jan 2021	1		
Feb 2021 – Oct 2022	0.722	0.454 - 1.148	0.168
Constant	0.609	0.024 - 15.229	0.763

decompensation and inaugural episodes, as there has been a lower proportion of requests in patients with previously diagnosed mental health conditions during the second period.

Previous research has suggested that COVID-19 infection and the pandemic context may increase the risk of new onset psychotic disorder.[6,7] Moreover, it also suggested that there was a decrease in the number of psychiatric consultations during and after the first lockdown but an increase in consultations for manic episodes and suicidality after the

lockdown.[8] This may partly justify the observed increase after January 2021 which coincided with the largest wave of COVID-19 cases and hospital admissions and an increase in the stringency of control measures in Portugal after a reduction in follow-up consultations during 2020.

Since March 2020, clinical practice in primary care and psychiatry outpatient consultations and follow-up has changed. There was a reduction in patient consultations during the pandemic[9] in different moments and contexts, which could have contributed to an increased decompensation of baseline mental illness. The reduction in the proportion of requests for patients with previously diagnosed mental illness may suggest that delayed access to healthcare could have led to more frequent and severe decompensation of baseline disease that could not be controlled without an issued mental health warrant. This could also imply that some decompensations happening in late 2020 may have been pushed to 2021. However, while patients with previous mental illness could have also suffered increased decompensations during these periods, they may have suffered a smaller delay, which could contribute to the reduction in the proportion of patients with previous psychiatric disease in the second period. A previous study reported a sustained increase in mental health calls for police service after August 2020[10] and another study suggested that there may be an artefactual reduction in admissions during and in the months immediately after lockdown periods.[11]

We also found a change in the distribution of the origin of requests in the second period, with more expression in warrants requested by healthcare workers. This may imply that, during the second period, patients and their families were seeking primary care physicians more often when facing acute mental illness, which can be positive as a thorough evaluation of the patients' circumstances and history is often facilitated by the family doctor, who has insight about the family and the patients' history and communicates the evaluation to the health authority.

After adjustment for confounding in the logistic regression, for the outcome "admission to hospital", we found that being unemployed, not having completed high school, and having a higher education degree were associated with hospital admissions. This could be related to the different baseline severity of patients when a mental health warrant is requested and/or issued or due to other unobserved confounding factors. This could happen due to stigma, social, cultural, and familial context, timing of requests, variations in thresholds for requests or admission, and variations in clinical practice. For example, individuals with a university degree may only have a warrant request when all other options have been exhausted, and when a mental health warrant request is made they are found more often in more severe clinical presentation where hospital admission is necessary. Possibly the threshold for requesting a mental health warrant by family members or others is higher for patients with higher education. Interestingly, a previous study found that during the pandemic there was a higher increase in psychotic risk for those of lower socio-economic status.[7]

After adjusting for confounding, we found no differences in the probability of hospital admission during the second period. This reinforces that practice of requests, issuing, and admission may not have changed in a relevant way, but they reflect a real increase in the number of patients with legal criteria for a mental health warrant and involuntary admission. However, residual confounding may exist in different circumstances; for example, if higher ward occupancy occurs, there may be an increase in the admission severity threshold, and a lower proportion of admitted patients could be observed.[12]

The study has some limitations. As detailed in the results section, a variable proportion of requests have no information regarding variables of interest in the analyzed periods. This may introduce information bias. However, this would be more relevant if there was a large, systematic difference in information completeness in specific groups and in different periods for the purpose of comparing patients' characteristics during both periods. Admission data from October was not available which makes comparison of average monthly counts of hospital admissions during the two periods conservative, since more patients are expected to have been admitted among requested warrants during the second period. It is possible that some selection bias exists, as some contacts with the Public Health Units that could imply a quicker triage of situations may not have been included formerly as mental health warrant requests. There may have been situations that were less severe or more obviously discarded as not meeting the criteria for a mental health warrant being issued. Also, it is possible that other situations with possible mental health warrant criteria have been communicated to the Public Health Unit and have been triaged by the health authorities but did not formally consist of a mental health warrant request. This could have contributed to the high proportion of requests that had a warrant issued in our analysis. There is no evidence pointing towards any large population influx in the second period that could justify the increase in request, warrants and admissions. Even facing a population increase, it would not be in an amount that would be responsible for the observed increase in 2021 of more than 90%. There was an increase in population registered in local primary healthcare centers of approximately 5%, but this was mainly due to registries of temporary workers and residents from other areas during the pandemic for administrative purposes related with the COVID-19 vaccination campaigns.

In October 2022, the Portuguese government submitted

a new mental health law proposal that was approved by the Parliament for more detailed discussion.[13] This proposal maintains most elements of the previous procedures, as well as the roles and criteria for issuing mental health warrants, but it puts more emphasis on solutions that do not rely on involuntary hospitalization.

The findings of this study, which are in line with previous research, raise the hypothesis that we may be facing an increase in the need of mental health warrant issuing and hospital admissions across the country or in specific regions. To guarantee solutions and resources that will prevent exacerbation, stabilize patients, and reduce the danger posed by their condition without increasing hospital admission, we should ensure availability of adequate specialized mental health professionals working in local settings, who are ready to approach these patients in their communities eventually with the support of security forces in specific circumstances. These community based multidisciplinary mental health teams, which must include psychiatrists, should have the conditions to do a psychiatric evaluation and provide ethical involuntary ambulatory treatment,[14] if necessary, to effectively reduce the need for hospital admission.

A community model requires stronger proximity between family physicians and the mental health workforce, which could then prevent aggravation of mental illness through closer between patients' families and communities. Resources should be allocated to address these needs. However, for acute decompensation, both family and professional acceptance of home treatment and its safety and practicality must be considered. This community based mental health workforce including psychiatrists would need a different approach to mental health warrants that could facilitate ambulatory treatments, if possible, or the referral to a hospital for evaluation.

Challenges to this approach must be considered. This includes the fact that patients may be hard to evaluate and treat outside a controlled environment, that this approach can have risks for patients, families, and healthcare workers, and that security forces should be present. The system of issuing mental health warrants by health authorities would still work as a triage system for the activation of mental health community teams, but in specific circumstances these teams should be able to start an intervention autonomously if a psychiatrist has enough information to decide on need of hospital admission or ambulatory compulsory treatment when patients are issued a mental health warrant.

Preventing new-onset mental illnesses is more complicated. However, by addressing the social determinants of health, we could reduce the incidence of new mental disorders.[15] Family physicians and nurses could also be incentivized to pursue a closer follow-up of these patients. Health educational tools for schools and other settings that address modern risks, including social media behavior, that can be easily used, should be considered and implemented to promote mental health resilience as well as strategies to reduce substance addiction and drug use.

A possible increase in workload due to this and various other legal responsibilities of Health Authorities[16] should be reflected in human resource planning in this area. A reduction in the number of health authorities could happen in the next few years due to the balance of retiring and incoming health authorities in Portugal. Furthermore, despite the important preventive effect of mental health warrants in harm reduction for patients, their families, and communities, it is important to note that the main occupation of public health medical doctors as health authorities should be population-level health interventions. Time for implementing these interventions must be guaranteed through adequate human resources for both health authorities legal attributions and other, population level, health protection, health promotion and disease prevention programs, surveillance, research and other WHO Essential Public Health Operations.

We highlight the importance of improved surveillance and timely research on mental health conditions, including mental health warrants, and involuntary evaluations and admissions, by improving information systems where needed and by using and linking existing data, including from routine health registries. This data can be critical to identify trends over time, understanding risk factors, targeting interventions, and improving procedures and resource allocation.

CONCLUSION

Prevention and response to decompensation of severe psychiatric illness may require more resources than those that currently exist, including admission facilities and community- based solutions. Further research should evaluate both the national and international trends in mental health, specifically in mental health warrant issuing and subsequent hospital admissions, assess if the increase in warrants and hospital admissions is happening nationwide and in other countries, understand what is triggering this increase, and research and implement effective prevention and response strategies. In Portugal, this can be relevant for the recent debate around the new mental health law application and organization of mental health services and resource allocation considering a possible increase in the need for mental health warrants and compulsory treatment/hospitalization.

AUTHOR CONTRIBUTIONS

VRP: Study design, data analysis, drafting of the manuscript.

MO: Study design, data analysis.

BPR, FC, RC, NR, DMC: Critical review and discussion.

PA: Study design, data analysis, critical review, and discussion.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in 2013.

DATA CONFIDENTIALITY

The study was approved by the Ethics Committee of the Lisbon and Tagus Valley Health Region Administration (PROC.105/CES/INV/2023).

COMPETING INTERESTS

The authors have declared that no competing interests exist.

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REFERENCES

1. Saya A, Brugnoli C, Piazzi G, Liberato D, Di Ciaccia G, Niolu C, et al. Criteria, procedures, and future prospects of involuntary treatment in psychiatry around the world: a narrative review. Front Psychiatry. 2019;10:271.
2. da Silva DG. Mandados de condução à urgência de psiquiatria em imigrantes.2017. [cited 2023 Jan 24]. Available from: https://run.unl.pt/handle/10362/31124.
3. Davies M, Hogarth L. The effect of COVID-19 lockdown on psychiatric admissions: role of gender. BJPsych Open. 2021;7:e112.
4. Boldrini T, Girardi P, Clerici M, Conca A, Creati C, Di Cicilia G, et al. Consequences of the COVID-19 pandemic on admissions to general hospital psychiatric wards in Italy: reduced psychiatric hospitalizations and increased suicidality. Prog Neuropsychopharmacol Biol Psychiatry. 2021;110:110304.
5. Penninx BW, Benros ME, Klein RS, Vinkers CH. How COVID-19 shaped mental health: from infection to pandemic effects. Nat Med. 2022;28:2027-37.
6. Harrison PJ, Taquet M, Harrison P. Neuropsychiatric disorders following SARS-CoV-2 infection. Brain. 2023;146:2241-7.
7. Loch AA, Mota NB, Rössler W, Gattaz WF. Exacerbation of psychosis risk during the COVID-19 pandemic: the disproportionate impact on the lower income population. Psychiatry Res. 2022;307:114319.
8. Balestrieri M, Rucci P, Amendola D, Bonizzoni M, Cerveri G, Colli C, et al. Emergency psychiatric consultations during and after the COVID-19 lockdown in Italy. A multicentre study. Front Psychiatry. 2021;12:697058.
9. Bodini L, Bonetto C, Maccagnani A, Bonora A, Polati E, Ricci G, et al. Changes in emergency psychiatric consultations in time of COVID-19: a retrospective observational study in the Verona Academic Hospital over the two pandemic years 2020–2021. BMC Emerg Med. 2023;23:1-9.
10. Koziarski J. The effect of the COVID-19 pandemic on mental health calls for police service. Crime Sci. 2021;10:1-7.
11. Dionisie V, Ciobanu AM, Moisa E, Manea MC, Puiu MG. The impact of the COVID-19 pandemic on inpatient admissions for psychotic and affective disorders: the experience of a large psychiatric teaching hospital in Romania. Healthcare. 2022;10:1570.
12. af Ugglas B, Djärv T, Ljungman PL, Holzmann MJ. Association between hospital bed occupancy and outcomes in emergency care: a cohort study in Stockholm Region, Sweden, 2012 to 2016. Ann Emerg Med. 2020;76:179-90.
13. Assembleia da República Portuguesa. Proposta de Lei 24/XV/1 Aprova a Lei de Saúde Mental e altera legislação conexa. [cited 2023 Jan 24]. Available from: https://www.parlamento.pt/ActividadeParlamentar/Paginas/DetalheIniciativa.aspx?BID=141788.
14. Martinho SM, Santa-Rosa B, Silvestre M. Where the public health principles meet the individual: a framework for the ethics of compulsory outpatient treatment in psychiatry. BMC Med Ethics. 2022;23:1-9.
15. Kobau R, Seligman ME, Peterson C, Diener E, Zack MM, Chapman D, et al. Mental health promotion in public health: perspectives and strategies from positive psychology. Am J Public Health. 2011;101:e1.
16. Portugal. Decree-Law nr. 82/2019. Official Gazette, I Series, nr. 65 (2009/04/02). p.2062-5.