

Remote matrix support in mental health during the COVID-19 pandemic: experience report

Telematriciamento em saúde mental na pandemia de COVID-19: relato de experiência

Remoto apoyo matricial en salud mental en la pandemia COVID-19: informe de experiencia

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Abstract

Problem: The demand for mental health in Primary Health Care (PHC) is high, and the training of healthcare teams to detect and treat these patients is essential. Matrix support, a collaborative healthcare model developed in the Brazilian context, is an important tool for the effectiveness of mental health care in PHC. In March 2020, with social distancing measures adopted due to the new coronavirus (COVID-19) pandemic, healthcare services needed to be reorganized. The objective of this article is to describe an experience of remote matrix support and its reorganization in mental health at a PHC unit in the city of Rio de Janeiro during the COVID-19 pandemic. **Methods:** The Heitor Beltrão Municipal Health Center is located in the North region of Rio de Janeiro. Before the pandemic, in the 2017-2019 period, matrix support took place through joint consultations, case discussions, and a group of psychotropic drugs. During the pandemic, the work was reorganized into two fronts: synchronous joint teleconsultations and the organization of a mental health users' list for telemonitoring. **Results:** A total of 50 joint teleconsultations were carried out over 12 weeks, with an average of 4.16 consultations/week. The most frequent diagnoses were depressive and anxiety disorders, followed by personality and substance use disorders. These new actions allowed the maintenance of mental health users' access to the service, inclusion of new cases, improvement of access for mental health users that are at risk for COVID-19 infection, and continuity of the training process in health with the acquisition of new skills and modernization of work. The main limitations were lack of available equipment and difficulty in access to the internet. **Conclusions:** This experience developed due to the COVID-19 pandemic describes the challenges and benefits of using remote matrix support and creating a list of mental health users. It may be able to help professionals and managers of other services to develop adaptations more suitable to local realities.

Keywords: Mental health; Primary health care; Remote consultation; Organization and administration.

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Funding:

No external funding.

Ethical approval:

not applicable.

Provenance:

Not commissioned.

Peer review:

external.

Received: 06/11/2021

Approved: 01/16/2022

Guest Editor:

Adelson Jantsch

How to cite: Miliauskas CR, Rocha C, Salomão F, Ferraz H, Fortes S. Remote matrix support in mental health during the COVID-19 pandemic: experience report. Rev Bras Med Fam Comunidade. 2022;17(44):3116. [https://doi.org/10.5712/rbmfc17\(44\)3116](https://doi.org/10.5712/rbmfc17(44)3116)



Resumo

Problema: A demanda em saúde mental na Atenção Primária à Saúde (APS) é alta, e a capacitação das equipes para a detecção e o tratamento desses pacientes é fundamental, sendo o matriciamento, modelo de cuidado colaborativo desenvolvido no contexto brasileiro, uma ferramenta importante para a efetividade do cuidado em saúde mental na APS. Em março de 2020, com o isolamento social consequente à pandemia pelo novo coronavírus, houve necessidade de reorganização dos serviços. O objetivo deste artigo é descrever a experiência de telematriciamento e reorganização do apoio matricial em saúde mental em unidade da APS do município do Rio de Janeiro, nos primeiros meses de pandemia. **Método:** O Centro Municipal de Saúde Heitor Beltrão localiza-se na Zona Norte do Rio de Janeiro. Nos anos de 2017 a 2019, o matriciamento ocorreu por meio de consultas conjuntas, discussão de casos e grupo de psicotrópicos. No início da pandemia, o trabalho foi reorganizado em duas frentes: teleconsultas conjuntas síncronas e organização da lista de usuários com transtornos mentais. **Resultados:** Foram realizadas 50 teleconsultas conjuntas no período de 12 semanas, com média de 4,16 consultas/semana, sendo os diagnósticos mais frequentes transtornos depressivos e ansiosos seguidos de transtornos de personalidade e por uso de substâncias. O novo formato permitiu a manutenção do acesso de usuários da saúde mental ao serviço, a absorção de novos casos, a melhoria de acesso a usuários do grupo de risco para infecção por coronavírus e a continuidade do processo formativo em saúde com aquisição de novas competências e modernização do trabalho. As principais limitações foram a falta de equipamentos disponíveis e a dificuldade de acesso à internet. **Conclusão:** Esta experiência, desenvolvida em razão da pandemia de COVID-19, descreve os desafios e benefícios da utilização do telematriciamento e da criação da lista de usuários da saúde mental. Poderá auxiliar profissionais e gestores de outros serviços a desenvolver adaptações mais adequadas às realidades locais.

Palavras-chave: Saúde mental; Atenção primária em saúde; Consulta remota; Organização e administração.

Resumen

Problema: La demanda de salud mental en la Atención Primaria de Salud (APS) es alta y la formación de equipos para la detección y tratamiento de estos pacientes es fundamental. El soporte matricial, un modelo de atención colaborativa desarrollado en el contexto brasileño, es una herramienta importante para la atención eficaz en salud mental en APS. En marzo de 2020, con el aislamiento social derivado de la pandemia por el nuevo coronavirus, surgió la necesidad de reorganizar los servicios. El objetivo de este artículo es describir la experiencia de telematriculación y reorganización del soporte matricial en la salud mental en una unidad de APS de la ciudad de Rio de Janeiro durante la pandemia. **Método:** El Centro Municipal de Salud Heitor Beltrão está ubicado en la Zona Norte de Rio de Janeiro. En los años 2017 a 2019, el apoyo matricial se llevó a cabo a través de consultas conjuntas, discusiones de casos y un grupo de psicofármacos. En la pandemia se reorganizó el trabajo en dos frentes: teleconsultas sincrónicas conjuntas y organización de la lista de usuarios con trastornos mentales. **Resultados:** Se realizaron 50 teleconsultas conjuntas en un período de 12 semanas, con una media de 4,16 consultas/semana, siendo los diagnósticos más frecuentes los trastornos depresivos y de ansiedad, seguidos de los trastornos de la personalidad y los trastornos por consumo de sustancias. Este nuevo formato permitió el mantenimiento del acceso de los usuarios de salud mental al servicio, la absorción de nuevos casos, la mejora del acceso a los usuarios en el grupo de riesgo de infección por coronavirus, la continuidad del proceso de formación en salud con la adquisición de nuevas competencias y la modernización del trabajo. Las principales limitaciones fueron la falta de equipo disponible y la dificultad para acceder a Internet. **Conclusión:** Esta experiencia desarrollada con motivo de la pandemia COVID-19 describe los desafíos y beneficios de usar telematriculación y crear una lista de usuarios de salud mental. Podrá ayudar a los profesionales y gestores de otros servicios a desarrollar adaptaciones más adecuadas a las realidades locales.

Palabras clave: Salud mental; Atención primaria de salud; Consulta remota; Organización y administración.

INTRODUCTION

The demand for mental health in Primary Health Care (PHC) is high, especially concerning common mental disorders,¹ which range from non-specific emotional distress to severe depressive-anxious disorders. About 40% of patients seen in PHC units in Brazil have these disorders and are infrequently monitored properly, representing an important treatment gap.² The training and organization of PHC teams for the detection and adequate treatment of these patients is paramount, with matrix support, a collaborative healthcare model developed in the Brazilian context, as an important tool for the effectiveness of mental health care in PHC.³

In March 2020, the rapid spread of the new coronavirus, SARS-CoV-2, was declared a pandemic.⁴ On February 26, the first case was confirmed in Brazil, followed by an alarming rise in cases and deaths.⁵ The isolation of confirmed cases and social distancing have been considered effective measures to stop the transmission. Considering the evidence of the repercussions on mental health in pandemics⁶ and the

need for continuity of care for mental health users,⁷ the PHC and the Psychosocial Care Network (*Rede de Atenção Psicossocial* – RAPS) needed to be reorganized. Monitoring cases via telephone, remote consultations, and remote matrix support were some of the strategies adopted to face this new context.⁸⁻¹⁰

Remote mental health care, provided by initiatives, such as remote matrix support, continuous virtual support for family health teams, among other innovative initiatives, is a reality prior to the pandemic.¹¹ However, most of the reported experiences occur in places where there are no mental health teams or where they are insufficient, such as in small cities, where there are often no health centers specialized in mental health.^{12,13} With the declaration of the pandemic context, new experiences related to this technique emerged in different realities,¹⁴ and the description of such experiences can serve as a basis for other services that may benefit from this technology in the future.

This article aims to describe the reorganization of matrix support in mental health in a PHC unit in the city of Rio de Janeiro (state of Rio de Janeiro, Brazil) during the first months of the COVID-19 pandemic, seeking to share results, interpret the processes, and reflect on the experience.

METHODS

This is an experience report of the organization of matrix support, before the pandemic and during its first months, in a municipal health center in the city of Rio de Janeiro, Brazil.

Organization of work before the pandemic

The Heitor Beltrão Municipal Health Center is located in the North region of Rio de Janeiro. It is a PHC unit that, through the Family Health Strategy (FHS), is responsible for providing care to its registered population, with a total of 33,200 patients. It receives matrix support from two fronts — the Expanded Family Health Center and Primary Care (*Núcleo Ampliado de Saúde da Família e Atenção Básica* – NASF-AB) and a university outpatient clinic located in the territory called the Mental Health Center of the Piquet Carneiro Polyclinic (*Núcleo de Saúde Mental da Policlínica Piquet Carneiro*) — and it is also an internship institution for interns and residents in the fields of Family Health and Mental Health.

In the years 2017 and 2018, before the pandemic, matrix support in mental health took place by joint consultations and case discussions as well as intersectoral actions. In 2019, as a way of optimizing the work process, two new strategies were implemented:

1. A digital agenda shared between the family health team and the matrix support team to schedule joint consultations; and
2. A welcoming group for users of psychotropic drugs in the territory, named “group of psychotropic drugs.”

Considering the great demand for mental health in the territory, which has many users, the organization of the matrix support took place in these two formats — joint consultation and the group of psychotropic drugs — with two main objectives:

1. To identify users of psychotropic drugs and refer them for consultation with a FHS physician to optimize their treatment; and
2. To enable the family health team to identify cases in which there was greater difficulty in management, offering the space for technical training in mental health of the joint consultation.

Referral criteria for joint consultations were not established; the orientation was that professionals should schedule the cases that presented greater difficulty in management, whether related to the clinical, medication, or social aspects.

Reorganization of work in the pandemic

With the beginning of social distancing, the groups that operated at the Heitor Beltrão Municipal Health Center had to be suspended. Matrix support was reorganized into two main fronts: implementation of synchronous joint teleconsultations and organization of the list of users with mental disorders.

The first aimed at maintaining the joint consultation, a key tool in the matrix support, as it is an in-service learning technique that organizes resolute responses to healthcare demands.¹⁵ To hold the teleconsultations, adaptations were necessary:

1. Increase in the interval between consultations (from 30 to 60 min);
2. Organization of rooms with good connectivity and confidential space for case discussion;
3. Division of the matrix support team, with up to two professionals per consultation; and
4. Organization of matrix support records in digital format shared between the teams.

The joint teleconsultation took place synchronously, with the following possible formats:

1. The patient was seen at the health center by the FHS physician, with video contact with the matrix support team;
2. The FHS physician was at the health center, with video contact with the patient at home, and the matrix support team also via video in another unit; and
3. Visit by the FHS physician to the patient's home, with video contact with the matrix support team.

The second front was the compilation of a list of mental health users, whose initial objective was telephone monitoring during the pandemic period. The following sources were used:

1. Users of the group of psychotropic drugs;
2. People scheduled for matrix support in the period before the pandemic;
3. Individuals registered in the Psychosocial Care Centers of the territory; and
4. Users diagnosed with mental disorders registered in electronic medical records.

RESULTS

Before the pandemic

The change from the paper agenda to a shared virtual agenda in a common repository for the teams (FHS and matrix support) allowed innovations in the work process. For instance, the matrix support team was able to access the information of scheduled users before joint consultations, eventually making necessary interventions.

The group of psychotropic drugs was created due to the identification of high demand for the renewal of prescriptions for these medications, without regular medical follow-up. This group aimed to identify users of psychotropic drugs in the territory and refer them to more appropriate treatment. It was organized in an open, weekly model and welcomed users who arrived at the health center with a

request to renew a psychotropic prescription. Through the collection of sociodemographic and clinical data, it was possible to describe the profile of these users, with the majority being women (65%), aged between 40 and 69 years, and self-diagnosed as having mood and anxiety disorders (52%). Of these individuals, 73.8% reported undergoing treatment only at the FHS unit, without further follow-up at a specialized mental health unit, and 36.4% reported not having had a medical appointment in the last three months.

The group worked as an instrument to identify the demand for mental health and to facilitate access. Over the time of its operation, there was a decrease in the number of participants, reflecting the better organization of the mental health treatment in the unit (Figure 1).

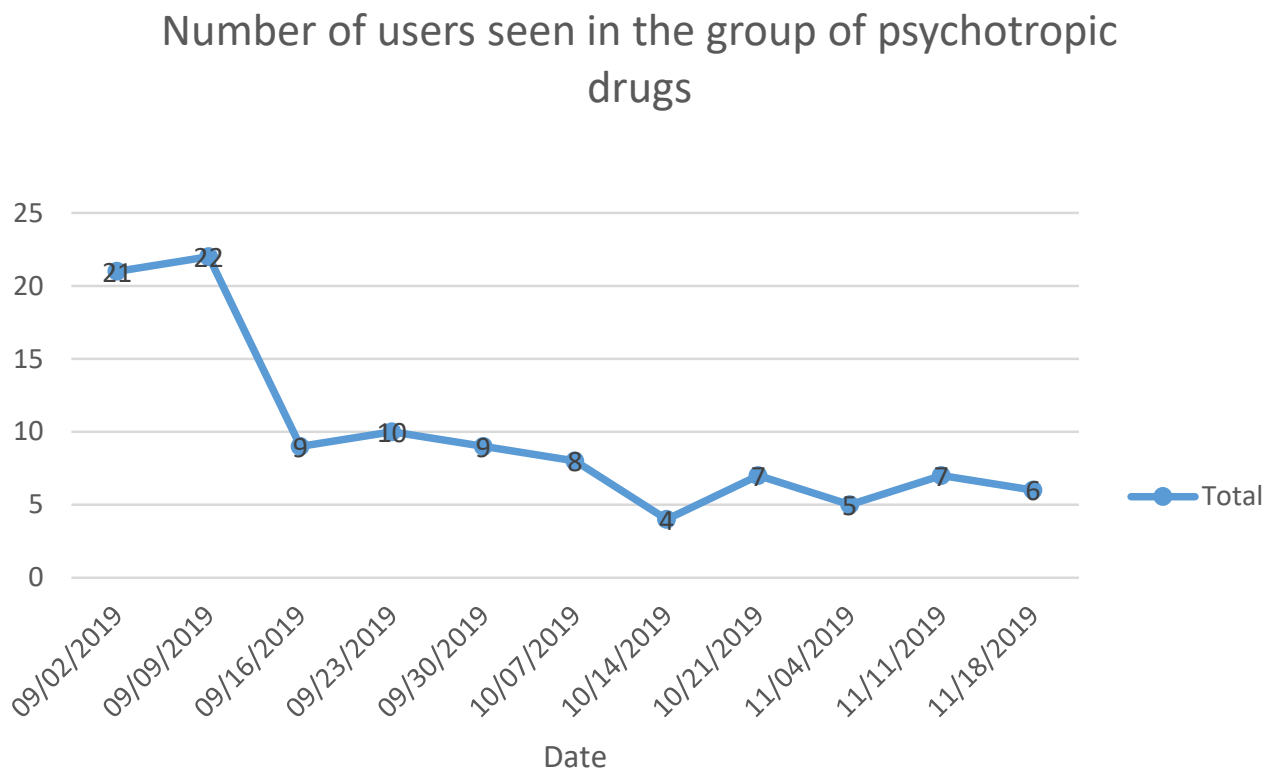


Figure 1. Number of users seen in the group of psychotropic drugs from September to November 2019.

In the first months of the pandemic

Table 1 presents the number of joint consultations scheduled for matrix support, the average of joint consultations for matrix support per week, and the number of users seen in the group of psychotropic drugs, for periods of 12 weeks before and during the pandemic.

It is noteworthy that, before the pandemic, the number of users seen in the matrix support was higher when compared with the pandemic period. This can be explained both by the operation of the group of psychotropic drugs, which served a large number of users, and the need for both teams (FHS and matrix support) to adapt to this new work technology, namely the remote joint consultations.

Table 1. Number of joint consultations scheduled, average of joint consultations per week of matrix support, and number of users seen in the group of psychotropic drugs in the pre-pandemic periods and during the pandemic.

Period (12 weeks)	Total number of joint consultations scheduled	Average of joint consultations/ week of matrix support	Number of users seen in the group of psychotropic drugs
09/02/19 to 11/18/2019	61	5.08	107
05/20/20 to 08/05/20	50	4.16	0*

*group suspended during the pandemic.

As for the situations that motivated the scheduling of matrix support during the pandemic, the greatest demand was the clarification of diagnostic hypotheses and the medication review. Table 2 presents the profile regarding the psychiatric diagnosis.

Table 2. Frequency of diagnoses identified by the matrix support team in synchronous joint teleconsultations.

Diagnosis	Number of occurrences
Depressive disorders	14
Personality disorders	11
Psychotic disorders	9
Mental disorders due to substance use	9
Other anxiety disorders	6
Childhood disorders	5
Bipolar affective disorder	4
Mixed anxiety-depression disorder	3
Dementia	2
Fibromyalgia	1
Mental disorders due to brain dysfunction or physical illness	1
Total occurrences	65

The creation of the list of mental health users, according to the matrix support tool during the pandemic, identified 2,428 patients.

DISCUSSION

This article describes an experience of maintaining matrix support in mental health during the pandemic period, when this technical-pedagogical support becomes even more necessary for the FHS, considering the increase in the incidence of depression, anxiety, stress, abusive use of psychotropic substances, and domestic violence.^{6,16,17} It is extremely important to maintain users' access to health services in times of crisis, in such a way to guarantee health care. In the case of an environment also focused on the teaching process, the adaptation to remote work enabled to continue the training process in health, with the acquisition of new skills.¹⁸

Changes in the matrix support process before the pandemic — organization of the digital agenda and creation of the group of psychotropic drugs — provided an information base that strengthened the organization of work in the first months of the pandemic. For example, the digital agenda and the list of

users participating in the group of psychotropic drugs served as data sources for the list of users of mental health in the pandemic period.

It is worth reflecting on the inverse effect, when compared with other experiences described in the literature,¹¹ on the number of consultations once remote matrix support has started concerning joint in-person consultations. The authors understand that this was a very particular reality of our experience, considering that the implementation of remote matrix support was unexpected, due to the emergency health situation, and not a programmed and planned process, which would have a more adequate prior preparation of both physical and human resources. Thus, in the first months, it was chosen to increase the duration of the joint consultation and, consequently, to reduce its total number, understanding that it would be a moment of testing this technology in that reality, working as a pilot experience. After the first three months, the operation of such process would be evaluated and it could be remodeled, making it more suitable to the local reality. During this experience period, the authors observed a decrease in appointments with remote matrix support by comparing the third month with the first month of the pandemic. Two meetings were held with the team to understand why this happened, and some notes emerged:

1. Burden of the FHS team with the increase in regular provision of care for people with other diseases, which had been suspended in the initial months of the pandemic, and the maintenance of health care for cases of respiratory syndromes, leading professionals not to schedule mental health matrix support due to the longer time spent in this type of consultation;
2. Difficulties performing the teleconsultation due to technological limitations; and
3. Resistance on the part of some users to attend consultations in the virtual format.

The encountered obstacles may have contributed, at least partly, to the emptying of the agenda in remote matrix support. It is noteworthy that facing a pandemic and all the effects it had on the team was something new and with many stressors for workers in health centers. In these first months, there were high rates of COVID-19 infection among professionals, lack of adequate personal protective equipment, leave of professionals who were at risk for COVID-19 infection, and physical and mental work overload among those who were working.¹⁹⁻²¹ Without disregarding this context, in relation to remote matrix support, the lack of available equipment – such as computers, speakers, microphones, and quality internet access – can be considered an important obstacle in its local implementation. Teleconsultations are usually held with specific information and communication technologies (ICT), including software, applications, or online platforms.²² At the Heitor Beltrão Municipal Health Center, synchronous joint teleconsultations depended on the use of professionals' smartphones and were held on only two rooms, which had a good mobile data network signal. The remote matrix support initiative was individual, of this matrix support team specifically, not being part of an institutional program of the government or the university — a factor that also contributed to the difficulty of financial and operational resources of the process. In addition to this difficulty, the authors observed resistance on the part of some users, especially people with psychotic disorders and children, who did not feel comfortable with the teleconsultation, even in the presence of their regular physician and, sometimes, their family members.

Considering all these factors and the fact that, in September 2021, the health situation in the city of Rio de Janeiro was already better regarding the risk of spreading the COVID-19 virus,²³ the matrix support team opted for the in-person return of matrix support, in a hybrid scheme, i.e., maintaining the possibility of teleconsultations for cases in which this resource was deemed important – such as, for example, users

from groups at risk for infection by COVID-19, users with difficulties of locomotion that required home visits by the FHS team, among other situations.

The literature reports telepsychiatry experiences in primary health care with different age groups, from children to older adults.^{22,24,25} Most of the experiences take place in rural communities, with little or no access to mental health teams.²⁵⁻²⁷ They can be classified into two main modalities: synchronous consultations (in real time) and asynchronous consultations (stored and sent). A review on the topic found positive results in terms of efficacy in treatment adherence, patient satisfaction, improvement in depressive symptoms, and diagnostic accuracy. In rural areas of difficult access, this type of consultation also has a lower cost when compared with in-person assistance. The main limitations are the difficulty in accreditation, payment, and access to broadband connectivity.¹¹ This modality can be an important form of application of matrix support in Brazil, including territories that are difficult to access and that do not have mental health professionals in emergency situations with physical isolation such as epidemics caused by infectious diseases and natural disasters. Nonetheless, the knowledge of the territory, users, healthcare teams, vulnerabilities, and local potentialities, which is the focus of the work of the matrix support teams, is somehow impaired in the exclusively remote work.

A positive consequence of remote matrix support was the modernization and digitalization of information. Joint consultations used to be recorded in an individual notebook belonging to each matrix support worker; with the modification of the work process for remote consultations, they started being digitally recorded. A spreadsheet of the cases followed up by the matrix support workers was created, shared among the team itself, thus providing greater transparency and agility of the work and also serving as a source for initiatives in management and research in health.²⁸

Another positive consequence was the improvement in access to specialized consultation for users with difficulties attending the unit for numerous reasons, including the fact that they are a risk group for coronavirus infection. Access to family members was also optimized by offering the possibility of in-person or virtual contact. It is worth mentioning the case of a patient who, after three absences in in-person appointments, participated in two joint virtual consultations without leaving her own home, including a family member in one of them, a very important factor in her therapeutic project.

Finally, the compilation of the list of mental health users enabled identifying 2,428 patients for a territorial population of 33,200 people, of which 21,912 adults are estimated. Therefore, it can be assumed that 11.08% of the registered adult population were identified as having a mental disorder, a positive result for the expectation that at least 29% of the population has some mental disorder.²⁹

Although it was not possible in the initial three months of social distancing to monitor these users via telephone, considering the difficulty of operationalization by the medical team – largely due to the aforementioned factors –, the authors understand that this work instrument can be quite effective. The list of mental health users can, for instance, serve as a basis for monitoring and actively searching for patients with certain profiles such as severe mental illnesses (defined as patients with psychotic disorders and bipolar disorders). In 2021, the authors started an active search process for patients with severe mental illnesses based on this list compiled in 2020. In this process, the matrix support team was responsible for discussing five cases per week with the primary care team, in such a way to assess the current situation of each patient, the need for them to be seen in matrix support, for an active search to be carried out, among other possible strategies. It is noteworthy that this is a different initiative from the one applied in other collaborative healthcare models, such as the one applied in the city of Florianópolis (state of Santa Catarina, Brazil) in 2019, based on the English model.^{30,31} In this city, the list of patients would work as an

alternative to the territorial model; in the present case, the list of mental health users is still based on the concept of territory.

In light of the presented experience and its relation to the literature, the authors emphasize that remote matrix support can be considered a powerful tool for integrating the work of mental health teams in PHC, enabling the optimization of health care to users with psychological distress as well as the capacity of teams to identify and manage these conditions. In order for this to be better experienced, technological and organizational resources are needed, as well as management support for the organization of the physical space, acquisition of materials, and the prioritization of this workflow.

Mental health care in primary health care, with matrix support, can be provided in multiple ways. The experience reported here, developed in the first few months of the COVID-19 pandemic, describes the challenges and benefits of using two matrix support tools employed in this context — remote matrix support and the creation of a mental health users' list. The description of its use in the study context may help professionals and managers of other services to use these and other strategies as complementary to those that have already been adopted as well as to develop adaptations that are more appropriate to local realities.

CONFLICT OF INTERESTS

Nothing to declare.

AUTHORS' CONTRIBUTIONS

CRM: Project administration, Formal analysis, Conceptualization, Data curation, Writing – original draft, Writing – review & editing, Methodology, Software, Supervision, Validation, Visualization. CR: Project management, Formal analysis, Data curation, Writing – original draft, Methodology, Software, Validation, Visualization. FS: Data Curation, Writing – original draft, Investigation, Validation, Visualization. HF: Data Curation, Writing – original draft, Investigation, Software, Validation, Visualization. SF: Formal analysis, Data curation, Writing – original draft, Writing – review & editing, Supervision, Validation, Visualization.

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