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# Adverse sequelae of the COVID-19 pandemic on mental healthcare in six low- and middle-income countries (MASC): a mixed-methods study with lessons for the future

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## ABSTRACT

**Objectives** The *Mental health care: Adverse Sequelae of COVID-19* study aimed to (1) compare the consequences of the COVID-19 pandemic for mental health services and people with pre-existing mental health conditions (MHCs) in six low- and middle-income countries and (2) identify good practice to mitigate these impacts.

**Design** An observational study, using a mixed-methods convergent design triangulating data from (1) semistructured interviews or focus groups and/or a self-completed survey, (2) routine service utilisation data, (3) local grey literature and (4) expert consultation.

**Setting** The study was conducted in Chile, Ethiopia, Georgia, Nigeria, South Africa and Sri Lanka.

**Participants** 121 key informants.

**Results** We found clear evidence in all sites that the pandemic exacerbated pre-existing disadvantages experienced by people with MHCs and led to a deterioration in the availability and quality of care, especially psychosocial care. Alongside increased vulnerability to COVID-19, people with MHCs faced additional barriers to accessing prevention and treatment interventions compared with the general population. To varying extents, sites showed accelerated implementation of digital technologies, but with evidence of worsening inequities in access. In sites where primary care-based mental healthcare was more developed or prioritised, systems seemed more resilient and adaptive.

**Conclusion** Our findings have the following implications. First, these mental health service reductions are clear examples of 'structural stigma', namely policy level decisions in healthcare which place a low priority upon services for people with MHCs. Second, integration of mental healthcare into all general healthcare settings is key to ensuring accessibility and parity of physical and mental healthcare. Third, digital innovations should be designed to strengthen and not fragment health systems. We discuss these findings in terms of anticipating such challenges for future pandemics and preparing layers of resilience.

## STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The *Mental health care: Adverse Sequelae of COVID-19* (MASC) study used a mixed-methods convergent design, increasing the validity and reliability of the findings.
⇒ The study covered six diverse low- and middle-income countries across five continents, enabling cross-country comparisons and insights into varied socio-cultural and economic contexts.
⇒ The study faced limitations in obtaining comparable quantitative data across countries, with some concerns about the accuracy and reliability of routine data.
⇒ The study was limited by inconsistent level of service user involvement across sites.
⇒ Reliance on national experts may have introduced potential biases if experts were not fully representative of the wider mental health context.

## INTRODUCTION

Prior to the global COVID-19 pandemic, mental healthcare was delivered to a small minority of people in the world with mental health conditions (MHCs).[1] For people with severe depression, for example, only 22%, 11% and 4% of those in high-, middle- and low-income countries, respectively, received minimally effective treatment.[2] During the

early phases of the COVID-19 pandemic, data suggested that in many countries the incidence of some types of MHCs, especially anxiety and depression, increased at the population level.[3 4] At the same time, mortality rates from COVID-19 infection were found to be higher among people with MHCs than among the general population.[5] During this initial period, evidence emerged that the COVID-19 crisis response in many countries had the effect of weakening mental health services and systems.[6] It became clear that the mental health targets set by the United Nations Sustainable Development Goals aim to 'Leave No-one Behind' were at risk from a degradation of mental healthcare.[7]

The starting point for the *Mental health care: Adverse Sequelae of COVID-19* (MASC) project was the concept of the 'mental health treatment gap'. This refers to the proportion of people in any community who need evidence-based mental health treatment who receive it.[8] In low- and middle-income countries (LMICs; as defined by the World Bank) over 80% of people with severe MHCs receive no mental health services.[9] This contributes to persistence of symptoms, health deterioration, ostracism,[10] long-term disability, exclusion from the workforce, social isolation, poorer physical health and premature mortality.[11 12] In LMICs, MHCs account for 7.4% of the global burden of disease,[13] but only 0.5% of these countries' health budgets are spent on mental healthcare. Community mental healthcare is scarce, specialists are in short supply and services are mostly hospital based.[14] Response to the mental health treatment gap requires mental health systems strengthening,[15] with efforts targeted at the WHO health system building blocks of governance, human resources, information, equipment/medication, services and financing, alongside consideration of quality and safety of care.[16] Integral to this, mental health services must foreground the human rights of people with MHCs and recognise contributions of traditional and religious healing, family support and community mobilisation to support recovery from MHCs.[17] Pervasive external constraints on recovery include poverty and stigma,[10] which includes the important concept of structural stigma: 'societal-level conditions, cultural norms, and institutional policies that constrain the opportunities, resources, and wellbeing'.[18]

Numerous studies have examined COVID-19 in relation to the psychological well-being of the general population, or of the health workforce, with relatively less focus on people with pre-existing MHCs and mental health services.[19] Evidence from mostly high-income countries indicates that a combination of factors related to the pandemic itself, and to the prevention and mitigation strategies, was responsible for infringement of the right to mental health of people with MHCs, with increased inequities in comparison with the general population.[20] Evidence of negative impacts of lockdown on people with existing MHCs and the adequacy of mental health services were reported from Switzerland,[21] Italy[22] and Norway.[21] Reductions in the availability and quality of mental health services were reported from Spain[23] and significant unmet needs of service users, including inability to access welfare benefits, were reported in the USA.[24] General adverse impacts of the pandemic were also reported: in Sweden, 20% of people with pre-existing MHCs reported an increase in their psychiatric medication compared with pre-pandemic.[25] In a multicentre study from Austria, Denmark and Germany, people with bipolar disorder reported an increase in negative lifestyles, including greater use of alcohol and smoking, and an increase in boredom, depression, somatisation, anxiety, distress due to social distancing and poorer sleep quality.[26] Impacts of COVID-19 on the physical health of people with severe MHCs (such as psychotic disorders and bipolar disorder associated with long-term disability) were clear, including higher rates of COVID-19 infection, hospitalisation and mortality.[27 28] Nonetheless, lack of prioritisation or explicit exclusion of people with severe MHCs from COVID-19 vaccination programmes was observed in many settings.[29 30]

There have been notably fewer studies from settings in LMICs to examine impacts of COVID-19 on mental health services and people with MHCs; most have been conducted in a single setting in a single country. In Indonesia, for example, the number of people with MHCs who were shackled increased from 5200 in 2019 to 6200 in 2020.[31] In China, the prevalence of post-traumatic stress disorder was relatively high among people with MHCs.[32] Conversely, in India, most people with MHCs (72.6%) reported a positive impact of the pandemic due to the increased availability of family support.[33] However, some (22.6%) stopped medications, and many had difficulties accessing health services and experienced increased interpersonal conflict, sleep difficulties and a surge in screen time.

While the COVID-19 pandemic undoubtedly drove innovation in responding to population mental health needs globally,[34] there have been no cross-country studies examining the pattern of responses and impacts of mental health service changes during the pandemic on people with severe MHCs in LMICs.

In this context, the overall aim of the MASC study was to compare impacts of the COVID-19 pandemic and responses on mental health services and people with MHCs across six LMICs.

The research questions guiding the MASC study were as follows: (1) what were the similarities and differences in how the COVID-19 pandemic affected mental healthcare and people with pre-existing MHCs in six LMICs? and (2) how did country responses vary and what can we learn about how the effects of COVID-19 were mitigated across settings to inform future preparedness and system resilience?

Country-level findings from this dataset have been presented for Chile,[35] Ethiopia[36] and South Africa.[37]

## MATERIALS AND METHODS

The MASC project was conducted in six LMICs in five continents (Chile, Ethiopia, Georgia, Nigeria, South Africa and Sri Lanka). The countries were selected based on past collaborative links and existence of mental health research platforms for the study to be feasible, given that no funding was available and that the study was initiated at short notice. This was an observational study with a mixed-methods convergent design. Details of the study sites and the data collection and methods employed are shown in table 1. The conceptual model for data collection tools was based on the WHO health system building blocks,[16] human rights of people with lived experience of MHCs[17] and evidence for structural stigma.[18]

The quantitative component compared service utilisation data from public mental health facilities during 2019 and 2020 from the available health management and information system statistical registries of the local, regional or national health services in the available study sites and countries. Analyses of country-level service utilisation data have been reported previously[35–37] but our analysis focused on patterns across settings and incorporated additional data from Georgia, Nigeria and Sri Lanka. Our analyses were illustrative, constrained by the data available in each country which precluded direct comparison. Given this heterogeneity across sites in terms of the availability of in-patient/out-patient data and the service level within the health system, the findings were analysed descriptively, presented in graphical form and combined with key informant reports of the COVID-19 pandemic impacts on mental health services at all levels of the health system. No statistical analyses were attempted.

For the qualitative component, we conducted semistructured focus groups and/or interviews with purposively selected key informants, including mental health services providers, planners, decision makers and service users and members of relevant organisations in each country. Potential respondents were approached by phone or email and interviews were conducted virtually or in-person depending on the setting. Written, informed consent was obtained from participants in all countries. 109 people participated in the qualitative study, with 16 refusals in total across the sites. Five out of six countries interviewed mental health service users, ranging from one in Georgia to seven in Chile. Five countries included policy makers or planners, ranging from 1 in South Africa to 10 in Chile. The largest category of respondents was public sector professionals working in the health system (including nurses, psychiatrists, social workers, occupational therapists and psychologists), ranging from 8 in Ethiopia to 15 in South Africa. See table 1.

See online supplemental file 1 for the topic guide, which explored impacts of the pandemic on people with MHCs in the community; impacts on mental healthcare availability and quality at the primary, secondary and tertiary levels; access to physical healthcare; and policies, plans and organisational-level impacts on people with MHCs and services. See online supplemental file 5 for the Consolidated criteria for Reporting Qualitative research checklist for reporting qualitative studies. In each country, researchers who carried out data collection had experience and training in qualitative research. Researchers had pre-existing professional links to some respondents but not clinical relationships. They were known as researchers on mental health or mental health clinicians in their countries.

Interviews were conducted in local languages, transcribed and translated into English. Country-level analyses were first conducted by country teams using template analysis.[38] This approach centres on the setup of a finalised coding template that includes the themes identified by the researchers as relevant in the qualitative dataset and arranges these in a meaningful way.[39] The analytical process begins with the definition of a priori themes, subthemes and codes; and as the analysis proceeds, these may be revised or disregarded if they do not relate to the empirical data.

We also used a quantitative rating tool (see online supplemental file 2) to seek structured input from additional key stakeholders. The tool included reasons for change in service utilisation and mitigation strategies. Alongside this blueprint, country teams identified relevant published or grey literature from each country, including policies, plans and programmatic reports. Where possible, a specially convened national expert group oversaw the study, guided identification of key informants and relevant grey literature and reviewed the emerging findings. The results were integrated through triangulation[40] using a convergent coding matrix, to identify key results for each predefined theme. See online supplemental file 3 for the cross-country matrix. Data underlying quantitative health service utilisation data are included in online supplemental file 4. We followed an iterative process of 'merging' our triangulated country-level findings based on their mixed-methods datasets[41] for cross-country analysis and comparison, which helped to understand the contextual factors and differences. We applied the 'weaving' approach in the reporting of our joined findings by writing together on a theme-by-theme basis.[42] Summaries of the triangulated findings from country teams were integrated into long documents and shared with the investigators. During study team meetings and the write-up process, the authors had an opportunity to share their interpretations, and disagreements could be voiced. For ease of references, the countries are coded as follows: CH: Chile; ET: Ethiopia; GE: Georgia; NI: Nigeria; SA: South Africa; SL: Sri Lanka.

### Patient and public involvement

People with lived experience of MHCs were included in the national expert groups, involved in review of triangulated data sources. In Ethiopia, a mental health service

**Table 1** Data gathering methods and samples across the 6 countries of the MASC study

| | Chile | Ethiopia | Georgia | Nigeria | South Africa | Sri Lanka |
|---|---|---|---|---|---|---|
| Time of data collection | 1 April 2021–30 April 2021 | 01 February 2021–28 February 2021 | 15 December 2020–31 January 2021 | 01 June 2021–30 June 2021 | 01 July 2021–30 September 2021 | 01 May 2021–30 June 2021 |
| Researchers conducting the qualitative study | 2 (OT-D, CS-A) Both female; 1 mental health professional, 1 mental health researcher Qualifications: PhD, MSc | 2 (MA, WF) Both male; 1 clinical psychologist, 1 mental health professional; Qualifications: MSc, MA | 2 (TM, LJ) Both female; Both mental health professionals; Qualifications: PhD student; MA student | 2 (OA, AAd) Both male; Both mental health professionals; Qualifications: psychiatrists | 2 (TD, KS) Both female: Registered counsellor, health psychologist Qualification: both PhD | 2 (AW, SW) 1 female, 1 male; Both psychiatrists Qualifications: MD, MSc |
| Location of interviews/ focus groups | Online | Clinical settings, home or office and online | Online and face-to-face interviews | Online meeting and telephone interviews | Online | Online meeting or clinical setting |
| Language (and translated into English) | Spanish | Amharic | Georgian | English | English | English or Sinhala |
| Recruitment sample type | Purposive | Purposive and snowballing | Purposive | Purposive | Purposive | Purposive |
| Average duration of focus groups or interviews | 1–1.5 hours | 40 min | 1–1.5 hours | 45 min–1.5 hours | 40 min | 45–60 min |
| Number of participants | | | | | | |
| Total number of participants | 28 (18 women, 10 men) | 18 (3 women, 15 men) | 17 (16 women, 1 man) | 15 (6 women, 9 men) | 17 (12 women, 5 men) | 26 (18 men, 8 women) |
| Number of participants in focus group discussions or semistructured interviews | 28 | 18 | 10 | 15 | 12 | 26 |
| Number of participants in narrative survey | 0 | 0 | 7 | 0 | 9 | 0 |
| Category of respondent | | | | | | |
| Experts by experience | 7 | 4 | 1 | 3 | 0 | 5 |
| Policy makers/ administrators | 10 | 2 | 0 | 2 | 1 | 4 |
| Health service professionals | 11 | 8 | 12 | 10 | 15 | 14 |
| Community leaders/ organisations | 0 | 4 | 4 | 0 | 1 | 3 |
| Expert group | No | 11 (3 women, 8 men) | 10 (9 women, 1 man) | 12 (5 women, 7 men) | 10 (7 women, 3 men) | No |
| Software used | No | Opencode | No | MAXQDA | Opencode | Opencode |
| Number of researchers involved in coding | 2 | 2 | 2 | 2 | 2 | 4 |
| Regions | North, Centre, South Centre, South and Austral Macrozones | Rural and urban settings in Ethiopia | Tbilisi, Batumi, Rustavi | 6 geopolitical zones of Nigeria | Western Cape Province | Sri Lanka (Western province, North Central province, other) |

MA, Master of Arts; MASC, *Mental health care: Adverse Sequelae of COVID-19*; MD, Doctor of Medicine; MSc, Master of Science.

user representative (coauthor EM) was involved in analysis, write-up and dissemination.

## RESULTS

Pervasive negative impacts of the COVID-19 pandemic on people with pre-existing MHCs were reported across all six countries, affecting life in the community and closely linked to difficulties with access to adequate health, psychological and social care. Mental health-related stigma amplified the adverse consequences of the pandemic.

### Life in the community

Respondents across all countries reported how pandemic control measures and economic disruption had adversely affected people with MHCs and their families, exacerbating pre-existing disadvantage.

#### Stigma and human rights violations

Stigma towards people with MHCs increased in some (CH, ET, NI, SL) but not all countries. Pre-existing perceptions of the unreliability and dangerousness of people with MHCs combined with fear of contagion of COVID-19 to magnify social exclusion (CH, ET, SL). Conflating COVID-19 infection with mental illness fuelled stigma (NI):

> … when the people see that the person has a relapse, they start to think the COVID has entered the person's brain… they call it madness, not mental disorder, which further worsen the stigma. The person has COVID which is an infectious disease… it's like having double burden which is a worse situation for somebody with a mental health condition.
>
> Psychiatrist, Nigeria

Public and family-level stigma was exacerbated by the deterioration in mental health of some people with MHCs (ET, NI, SA). Worsened mental health led to families resorting to use of physical restraints for unmanageable behavioural disturbance (ET, NI). Although increased public discussion about mental health in some countries (ET, NI, SA) raised awareness and reduced stigma, this was largely in relation to depression and anxiety.

#### Economic and social life

Aggravation of economic problems was reported to have differentially negatively affected people with MHCs (CH, ET, NI, SA), for example, being laid off first or at higher risk of unemployment because they were seen as less reliable workers (ET, NI).

> Some service users were laid [off] from their work due to COVID-19 and some of them still didn't get a job because once they became out of the system, it has been difficult to be re-employed since the macro-economy is weak to accommodate many people.
>
> Mental health service user, Ethiopia

Access to public funds for economic support and food supply for people with MHCs were either difficult to access (CH), limited (NI, SA, SL) or non-existent (ET, GE). Reduced social support and increased isolation of people with MHCs were reported across all study countries. The reasons included suspension or disruption of in-patient, social care and community services (CH, ET, GE, NI, SA), extensive quarantines, enforced home-based isolation and social distancing measures in all countries.

> People with mental illness already had difficulty communicating and integrating with society, and in this setting [the pandemic] their situation became even worse.
>
> Non-Governmental Organisation (NGO) representative, Georgia

#### Social care and residence

Increased vulnerability of people with severe MHCs to homelessness was reported in several countries (CH, ET, NI, SA) due to the worsening economic climate (NI), restricted movements (SA), community residential homes being unable to maintain services for the poorer community members (ET, SA), religious and traditional healing sites being unable to provide shelter (ET, NI, SL), families being overwhelmed because of the lack of access to care and other support (ET), and overcrowding at home (CH). However, in Chile, newly established hostels for homeless people which included support from mental health teams were reported. In Sri Lanka, care homes may have helped to mitigate the risk of homelessness. People with MHCs living in social/care homes were particularly vulnerable to COVID-19 outbreaks and experienced social isolation due to family visiting bans (SA, SL).

### Health systems, governance and legislation

#### Legislation or policies affecting people with mental health conditions

While there were no reports of discriminatory policies or laws introduced because of the pandemic, there was evidence of a lack of policies designed to uphold the rights of people with MHCs within COVID-19 responses (ET, GE, SA). In some places, this absence rendered people with MHCs vulnerable to coercive practices (ET, NI) or exclusion from care (SA):

> Nobody had given any thought to what would happen in the psychiatric hospitals. We were just tasked to find a way… Unlike everywhere else in the health system where special provision had been made for people coming in and needing medical attention, nothing was done for people with mental illnesses.
>
> Psychiatrist, South Africa

Sri Lanka had strong policy commitment to maintain mental healthcare, evident in written documentation (three special circulars issued through the health ministry) and in its implementation. In other countries (ET, NI), national-level commitments were not replicated

at subnational levels or ignored the needs of local services (CH) or were not associated with concrete action to implement mental health recommendations as part of the pandemic response (ET, GE, NI, SA).

### Coordination of COVID-19 response in mental health services

Overall, there was a lack of preparedness for an adequate pandemic response in mental health services in all sites, particularly for remote delivery of care. In some countries, COVID-19 protocols for mental health services were delayed (ET), variably implemented (ET, NI), left to facilities and service providers to develop (GE, SA) or could not be implemented without additional resources (ET). Responses were notably better in Sri Lanka

### Resourcing and programming of mental healthcare

Although mental health services were classified as essential services in most countries (CH, ET, SA, SL), in practice this did not materialise except for Sri Lanka. COVID-19 exposed and exacerbated the pre-existing poor resourcing of the mental health sector.

> I think that historically mental health has always been under-catered for. I think that right now, all the disciplines are taking a cut. And that cut is happening at best proportionately. But we have always been underserviced and now they are taking the same amount away from everyone which means that we are going to feel it even more than everyone else.
>
> Psychiatrist, South Africa

When the pandemic arrived, some government mental healthcare budgets were diverted to pandemic response (ET, SA) or maintained but found to be inadequate in the face of increasing demand (CH), but other countries protected (SL) or even increased (GE: 5% increase in 2021) their budgets or benefited from external funding (NI, SL). In SL, World Bank funding supported services for mental health rehabilitation, people with developmental disabilities and development of COVID-19 wards at the National Institute of Mental Health, for mental health nurse training, and a mental health helpline.

> The allocation of mental health resources to COVID-19 implies that people with mental health conditions were not getting the required services. There are other hospitals and treatment centres for different specializations such as orthopaedic, internal medicine or general health facilities, but their resources were not taken. … Why mental health care?
>
> Psychiatrist, Ethiopia

Plans to expand access to mental healthcare through training of primary healthcare workers were put on hold in some countries (ET) but accelerated in others (GE). Structures for supervising task-shared mental healthcare were disrupted (ET, NI, SA). Across countries, a paucity of routine data on mental health system functioning and population mental health need was reported and undermined both preparedness and response.

## Impacts and adaptations from mental health services

### Access and availability of mental health services

In four of the six countries (ET, GE, NI, SA), there was limited pre-existing integration of mental healthcare within primary care, which constrained options for making mental healthcare locally available when the pandemic began. When present, mental healthcare in primary care was not always prioritised as an essential service (ET, SA). Sri Lanka was an exception, due to extensive pre-existing integration of mental health in PHC that was a legacy of a previous humanitarian crisis—the 2004 tsunami. Even so, periodic disruptions occurred due to infection waves and lockdowns. In Georgia, rapid expansion of capacity strengthening for delivery of mental healthcare in primary care was rolled out as a priority response. In South Africa, community health workers linked to primary care made efforts to deliver medication to the homes of people known to have a severe MHC.

Mental healthcare in general hospital settings was either very limited pre-pandemic (GE, ET) or became less available (CH, NI, SA), further increasing reliance on centralised specialist services.

Mental health services and availability of specialists at all levels in the health system were disrupted by movement restrictions affecting staff (NI), lack of personal protective equipment (NI), redeployment of staff to COVID-19 clinical duties (CH, ET, SA, SL) and COVID-19-related illness or quarantine of staff (CH, SL).

> There was no reduction or redeployment of healthcare staff, but there was an increase in staff taking paid sick leave, and this has impacted the patients who were no longer receiving adequate services and care [due to staff shortages], for example, a psychologist who would have otherwise continued with psychotherapy, or any needed interventions.
>
> Health Service Professional, Chile

Tertiary mental health services were not spared disruption. Reassignment of specialist mental health facilities and in-patient wards to COVID-19 activities occurred in some (ET, GE, NI, SA) countries. In Sri Lanka, this was small scale and only during the peak of the pandemic. Attendance for out-patient mental healthcare was discouraged (SA), triage systems were introduced to prioritise emergency presentations (NI, SA) and the interval between appointments was lengthened (ET, NI, SA).

> The Mobile Team service was suspended for some time because home visits were dangerous for both patient and their family and mobile teams as well.
>
> Community mobile team service provider, Georgia

The number of in-patient beds for mental healthcare was reduced in some countries (ET, SA, SL), new admissions were suspended in others (CH, SA) or higher thresholds for admission were applied (CH, NI, SL, SA).

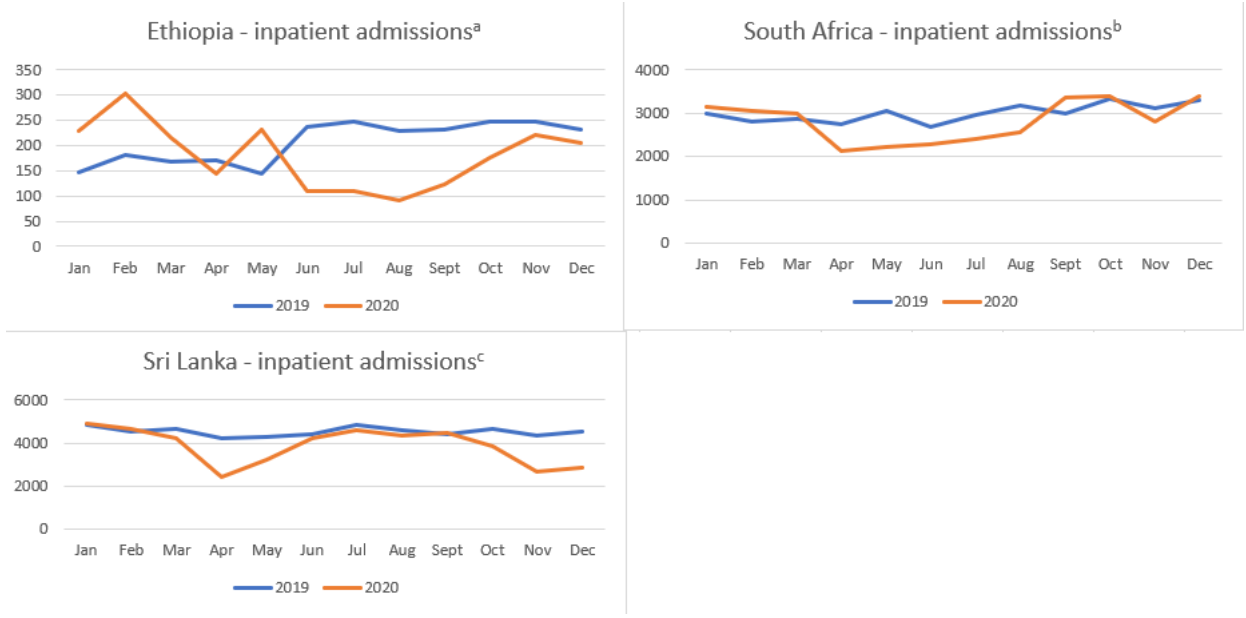


**Figure 1** In-patient psychiatric care utilisation in 2019 and 2020. [a]Data from the national referral hospital in Addis Ababa, Ethiopia (first COVID-19 case 13 March 2020; state of emergency 8 April 2020–1 August 2020, wave peaked on 13 June 2020). [b]National data, Sri Lanka (first COVID-19 case 27 January 2026; low numbers of cases until December 2020). [c]Data for the Western Cape, South Africa (first COVID-19 case 5 March 2020; waves from March to June 2020 and from December 2020; strict lockdown from 26 March 2020 to 1 June 2020).

In addition, admissions were suspended or reduced whenever there were outbreaks of COVID-19 on the wards (ET, GE, SL).

### Utilisation of mental health services

There was markedly less use of public sector out-patient mental health services in five of the six countries (CH, ET, NI, SL, SA), although increased attendance occurred at private sector care in some settings (NI) and increased demand for emergency admission in others (CH, SA).

Compared with 2019 (pre-pandemic), in 2020 (first year of pandemic), there were clear reductions during all or part of 2020 for in-patient service use in ET, SA and SL (figure 1).

Regarding out-patient service utilisation there was a more mixed picture (figure 2). There were persistent reductions throughout 2020 in out-patient use in some (CH, SA, SL) but not all (ET, GE) countries. In Ethiopia, maintained levels of out-patient contacts at the national referral hospital reflected the closure of other specialist out-patient clinics and, therefore, masked a de facto fall in per capita utilisation.

Difficulty with transport to access centralised, specialist mental healthcare was problematic in all countries, exacerbated by movement restrictions. Attendance for mental healthcare was also reduced due to fear of infection (ET, NI, SA, GE, SL).

> …Access to care generally was reduced drastically for some of the reasons I have mentioned earlier that the lockdown affected free movement of people across … and mental health services are not readily available within primary care, so many individuals needed to travel for sometimes 50 kilometres, 100 kilometres to be able to access mental healthcare services…
>
> Psychiatrist, Nigeria

### Quality and adequacy of mental healthcare

Mental healthcare at all levels in the health system became more narrowly biomedical in all countries and was difficult to maintain, with increased costs and interruptions to supply of essential psychotropic medication in some countries (ET, NI, SA) and periodic stockouts in others (CH, GE). Most countries sought to find ways to allow continuity of medication supply for people with MHCs, including through home delivery (CH, SA, SL), sending prescriptions to more locally accessible pharmacies (ET) and writing prescriptions of longer duration (ET, SA).

Participation of service users in ensuring quality of primary and community mental healthcare ceased in Chile. Community-based psychosocial interventions, counselling, group workshops and community activities barely existed pre-pandemic in Ethiopia and Nigeria. In other countries, these were substantially reduced (CH, SL, GE) or stopped altogether (SA). In Georgia, pressure for mental health services in primary care increased, but health workers were ill-equipped to deliver mental healthcare, leading to concerns about quality of care. Supervision of primary care staff delivering mental healthcare was reduced in Chile, Nigeria and Sri Lanka.

> Mental health services are maintained; however, psychosocial interventions and community activities have been suspended. The pharmacological treatment was

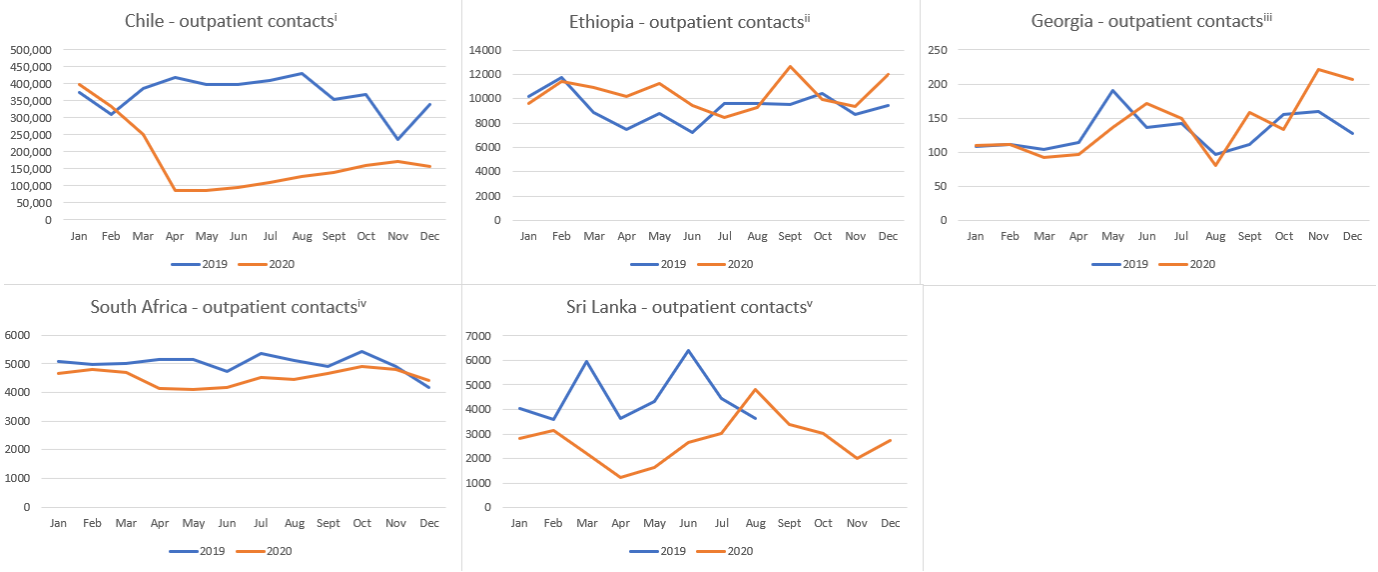


**Figure 2** Out-patient psychiatric care utilisation in 2019 and 2020. [i]National data, Chile (first COVID-19 case 3 March 2020; COVID-19 wave May–July 2020; state of emergency from March to December 2020). [ii]Data from the national referral hospital in Addis Ababa, Ethiopia (first COVID-19 case 13 March 2020; state of emergency 8 April 2020–1 August 2020, first wave peaked on 13 June 2020). [iii]Data from cities of Tbilisi, Batumi, Rustavi, Georgia (first COVID-19 case 26 February 2020; first wave from March to June 2020, second wave from December 2020 onwards; 21 March 2020–23 May 2020 state of emergency). [iv]Data for the Western Cape, South Africa (first COVID-19 case 5 March 2020; waves from March to June 2020 and from December 2020; strict lockdown from 26 March 2020 to 1 June 2020). [v]Data from Anuradhapura Teaching Hospital, Sri Lanka (first COVID-19 case 27 January 2026; low numbers of cases until December 2020).

followed up, and any additional psychosocial support service users needed were abandoned.

Health Service Professional, Chile

In secondary and tertiary level mental healthcare, most countries saw increases in waiting times and in all sites there were significant reductions in consultation duration and frequency. Although new patients were assessed face-to-face in most cases, follow-up appointments were replaced by issuing repeat prescriptions unless there was a clear clinical need for in-person review (ET, SL). The use of facemasks limited patient-doctor non-verbal communication and rapport (CH, ET, NI, SL, SA) and disease control measures reduced involvement of families in consultations (SL). This was later mitigated through use of transparent screens (SL, tertiary setting in ET).

In countries where psychological therapies in secondary and tertiary care were more widespread, there was a substantial reduction in availability (CH, ET, NI, SA, SL). This was due to lower prioritisation of this aspect of care (not considered essential) and the restrictions on face-to-face interactions (ET, NI, SL, SA). A further contributing factor was the redeployment of psychologists to support frontline health workers (CH, ET, GE). Availability of psychological interventions in Ethiopia, South Africa and Sri Lanka did not return to pre-pandemic levels even when disease control restrictions were eased. Group therapies, for example, for people with substance use disorders, stopped entirely in some countries (ET, SA, SL). In three countries (CH, GE, SA), efforts were made to transition psychological interventions to online platforms, but the inadequacy of this approach compared with face-to-face meetings was reported.

The Psychosocial Rehabilitation Centre for persons with severe mental illness closed at the end of March 2020, opened temporarily in September, but closed again in November due to the threat of the virus. This service was important for the patients, they visited it [the venue] for socialization and to communicate with each other, therapies were conducted, the environment was warm-hearted and comfortable.

Psychosocial service provider, Georgia

In-patient services were often suspended, or minimised, and patients were discharged earlier than usual (CH, ET, NI, SA, SL), with concern that the discharge was premature (ET, SA), but in other settings in-patient stays were prolonged due to staff shortages (GE). In-patients were negatively affected due to the restriction of family visits (CH, SA, SL).

### Transition to remote care

Many countries introduced remote care by phone or online in public sector services (CH, GE, SA, SL), but this was largely restricted to the private sector or non-governmental organisations in ET and NI. Phone-based activities included clinical assessments and follow-up appointments (CH, NI, SA), responding to queries from people with MHCs and their caregivers (GE, SL), and delivery of psychological therapies (CH, GE, SA).

The digital divide prevented widespread use of digital platforms for psychological interventions in CH, ET, SA and NI.

> …. we have come across [low awareness of remote psychological services] in some important way, not only with the digital illiteracy of our [service] users but also with our own digital illiteracy, using our own equipment and that this [situation] has meant a significant gap and access to technologies … It [the situation] has to do with the geography, with the countryside [and] with the connectivity of some areas…
>
> Health Service Professional, Chile

No resources were allocated to the transition to phone/internet-based care, with costs falling to providers and adverse consequences for quality (CH). Poor training and familiarity with this mode of consultation by health workers were an additional barrier (NI). Barriers to access were seen for elderly, rural communities and very poor families, fuelling concerns that those most in need were least likely to be able to access digital mental healthcare (CH, GE, SA). This led to early resumption of face-to-face consultations for high-risk cases (CH). Privacy and confidentiality in remote care were concerns (CH, SA), especially for children and adolescents.

> It's just that people don't always have phones, you can't always get hold of them. And also, people don't always have access to private spaces to speak to the mental health nurses in their homes. So, it just became difficult; the technology did not help hugely.
>
> Psychiatrist, South Africa

### Physical and mental health

COVID-19 exposed systemic difficulties in the provision of healthcare for people with MHCs across six countries, apart from SA, in the various healthcare sectors (primary, secondary, social care or NGOs). During the pandemic, there was limited, inconsistent or worsened access and delivery of physical healthcare, with inadequate preparation for the COVID-19 pandemic in already under-resourced services. People with MHCs or developmental disabilities overall seemed to experience direct or indirect discrimination from healthcare workers, for example, stigmatising attitudes, fear of unpredictable or aggressive behaviour from healthcare workers in most countries (CH, ET, GE, NI, SL).

#### Information on COVID-19 and access to protective interventions

Although all countries provided information to the public about COVID-19, the information was either not easily accessible for many people with MHCs (ET) or was not tailored to their specific needs and concerns (CH, ET, GE, SA, SL). In some instances, information appeared to exacerbate mental ill-health and reduce uptake of protective measures because of frightening messaging (ET) or because of inaccurate and inconsistent information accessed via social media (CH, GE). In response to the need for clear information for people with MHCs and their caregivers, SL launched a country-wide telephone line to address queries. Telephone services were provided from the out-patient clinic and mobile team members in GE who provided educational instructions to the patients.

In most countries, people with MHCs from more vulnerable populations (homeless, international migrants) had limited or no access to personal protection from COVID-19. Some countries reported that people with MHCs were less able to afford protective interventions (eg, masks, sanitiser or gloves) due to economic disadvantages (ET, GE, NI).

> Patients did not have soap and no disinfectant solution was available as it contains alcohol and the administration did not allow these liquids in the wards for fear that patients would drink it. No alternatives were used, such as alcohol wipes or soap. Patients did not wear a mask, even if the rules prohibited staying indoors without a mask.
>
> Service user, Georgia

In Nigeria, COVID-19 testing was by demand and, therefore, less testing was conducted among those with severe MHCs.

There was some evidence of a mismatch between national policies prioritising people with MHCs for vaccination (ET, GE) and its implementation in communities. In some countries, this was partly due to low levels of awareness among people with MHCs (CH).

#### COVID-19 care for people with mental health conditions

Several countries reported that people with MHCs faced discrimination in accessing COVID-19 care and/or that the care they received was inferior to those without MHCs. Examples were provided of individuals with symptomatic MHCs being excluded from ambulance services or COVID-19 facilities (SL). People with symptomatic MHCs who had COVID-19 were admitted to mental health institutions for COVID-19 care in GE, SA and SL regardless of whether the person's mental state warranted in-patient psychiatric care. In Chile, people with MHCs were excluded from hotels for quarantining people with COVID-19. People with MHCs in COVID-19 facilities reportedly received less attention, lower standard of care and were stigmatised by healthcare workers (ET) due to fear and lack of knowledge about mental illnesses.

> If a psychiatric patient reacts negatively due to lack of oxygen in the emergency setting, health care providers thought the patient is psychotic. They associated all maladaptive behaviours of patients in the COVID-19 treatment with mental illness. These could be due to a lack of mental health knowledge and thus, stigmatizing attitudes. Thus, we have been doing some activities to increase the mental health knowledge of the healthcare workers.
>
> Director of a hospital, Ethiopia

Intensive care unit beds were reportedly accessible to people with MHCs if needed in Chile and South Africa, but with concerns about unequal access in Georgia and Sri Lanka. In Ethiopia, access to intensive care facilities was extremely constrained for the whole population, with no reports of differential access. People with MHCs in Chile who lived in supported housing had less access to COVID-19 vaccines, despite officially being prioritised.

### Access to physical healthcare

Longstanding pre-pandemic discrimination impeded receipt of care for non-COVID-19 physical health conditions in people with MHCs in Ethiopia and Nigeria, and to a lesser extent Sri Lanka. In all countries, the pandemic further disrupted access to physical healthcare, with no specific support extended to people with MHCs, and barriers encountered in some countries, for example, unaffordability of transport and care (ET, NI), exclusion from in-patient physical healthcare if mental health symptoms were apparent (GE), and fewer and shorter contacts with mental health professionals (ET, NI, SA) reducing opportunities to detect comorbid illness.

> We had a team of both physical and mental health care workers in the psychiatric ward before COVID-19. But during the pandemic, all medical professionals went for COVID-19 response. They were getting additional incentives, risk payment when they work at the COVID-19 response. No one was delivering the care for the comorbid physical conditions of our psychiatric patients. Only one medical professional remained to deliver the physical health care.
>
> Psychiatrist, Ethiopia

People who were homeless, or who had alcohol or substance use disorders, were excluded from physical healthcare in Chile.

### COVID-19 protection and care within mental health and social services

Protections for people with MHCs and staff on in-patient wards were reportedly inadequate, due to lack of access to disinfectant (GE), protective personal equipment (ET, NI), or with respect to mask wearing (GE, SA). In some countries (ET, GE, SA, SL), in-patient facilities reported challenges with safely separating patients who were COVID-19 positive from other in-patients. Human rights violations were reported, with patients who tested positive apparently isolated with minimal social contact in ET and admission of COVID-positive patients to psychiatric wards (SA). It was difficult for families to obtain information about in-patients (CH). COVID-19 care for in-patients who tested positive was said to be poor in some countries (CH, ET), others opened dedicated wards (SL) and introduced rigorous quarantine procedures for newly admitted patients (SL). In residential social care settings in Ethiopia and Georgia, lack of COVID-19 testing or procedures to isolate those with suspected COVID-19 were apparent.

**Strengthening community supports**

- Digital approaches to social contact and support for people with mental health conditions and caregivers

**Maintaining access to mental health care**

- Political commitment to prioritising mental health as an essential service
- Prioritisation and expansion of mental health care in primary and general care settings
- Local availability, flexible dispensing and home delivery of medication
- Teleconsultations in better resourced settings
- Telephone contact to support engagement in care
- Community outreach/mobile mental health teams

**Quality of mental health care**

- Telephone lines to provide information tailored to people with mental health conditions
- Phone-based responses to queries of people with mental health conditions
- Psychological therapies delivered using online platforms
- Linking together practitioners for online training and clinical mentorship

**Co-ordination of care**

- Strengthening linkages between central and local services, facilitating back-referral, consultation and support
- Closer integration of mental health and physical health care
- Intersectoral co-ordination of care and delivery of care in non-clinical settings

**Figure 3** Innovations and measures to strengthen system resilience in response to the pandemic

### Innovations and strengthening system resilience

Examples of innovation and measures that strengthened health system resilience in response to the pandemic were evident in all countries. Key measures are summarised in figure 3 in relation to strengthening community supports, maintaining access to mental healthcare, quality of mental healthcare and coordination of care.

## DISCUSSION

In the MASC study, using comparable methods across six countries, we were able to triangulate data from multiple sources and, in several countries, combine with national expert consensus to obtain the most complete picture of impacts of the COVID-19 pandemic on mental health services and service users in LMICs to date. There are several key implications of our findings for increasing

preparedness and health system resilience for future disasters.

First, the pernicious effect of mental illness-related stigma was identified in all the study sites and contributed towards the especially low status given by policy makers and health service leaders towards mental healthcare during the first phase of the pandemic. This is consistent with the findings of the early WHO rapid appraisal of the impact of COVID-19 on mental healthcare[6] and is also fully in line with the main findings of the Lancet Commission on Ending Stigma and Discrimination in Mental Health.[10] This tendency to provide low rates of funding for mental healthcare in routine practice, and lower rates still during times of crisis is identified in the Lancet Commission report as 'structural stigma'. The consequences of interruptions to mental health services and the stripping away of vital psychosocial support were felt acutely by people with MHCs and their families. Despite WHO calls for mental healthcare to be designated an essential service to be maintained during the pandemic, this was manifestly not the case on the ground in many countries, particularly for the low-income countries represented in MASC.

Addressing structural stigma requires coordinated advocacy from coalitions of stakeholders, but most critically must involve people with lived experience of MHCs and their families and informal caregivers.[43] However, mental health service users are often marginalised and disempowered and may not have strong collective voices where the need is greatest.[44] Research-based efforts have shown that it is possible to equip and empower people with lived experience of MHCs to mobilise, advocate and participate in evidence-based social contact interventions aimed at reducing stigma and increasing commitment of planners and providers to mental healthcare.[45] However, accountability of governments, resources for nascent service user associations and political investments are needed to make involvement meaningful and sustained.[46]

Second, despite pre-existing vulnerabilities of people with MHCs to poorer physical health and excess mortality compared with the general population,[11] and increased risk of contracting COVID-19, and experiencing greater severity of infection and increased COVID-related mortality,[47] people with MHCs faced more barriers to accessing COVID-19 prevention and treatment programmes than the general population. The physical segregation of mental healthcare from general healthcare services, reported in most of the countries participating in MASC, contributed to this injustice, but again stigma and the low priority given to the specific needs of people with MHCs exacerbated exclusion. Our findings accord with reports from diverse global settings that people with severe MHCs were not being given sufficient priority for vaccination against COVID-19.[30]

In MASC, the notable exception was Sri Lanka which had succeeded in 'building back better' following the 2005 Tsunami and prioritised the integration of mental healthcare into primary healthcare services. This integrative approach, advocated by the WHO in the mental health Gap Action Programme,[48] has many immediate benefits for health systems and populations, including direct strengthening of the health system through horizontal rather than vertical programming, increasing access to mental healthcare through local availability, reducing exposure to institution-based human rights abuses and improving physical healthcare of people with severe MHCs[49] and can contribute to making universal health coverage a reality for one of the most underserved groups.[50] However, beyond immediate effects, integration also increases health system resilience in the face of humanitarian disasters. Many countries did not have the capacity to adapt once the pandemic hit. Indeed, in Ethiopia, funds were diverted away from efforts to scale-up mental health within primary healthcare settings.[36] This underlines the importance of system preparedness and the need for renewed commitment to decentralised, integrated, community-based mental health services globally.[51]

Third, to varying extents, all sites showed accelerated implementation of digital and remote consulting (see figure 1), but this also brought the risks of exacerbating inequities—the so-called 'digital divide' for access to mental healthcare.[52] In preparing for future disasters, account needs to be taken of the fact that older people, those with lower levels of education, people with low socioeconomic status, rural residents and those with severe MHCs are least likely to be able to benefit from digital 'solutions' to accessing mental healthcare. Providers also need to be equipped with the necessary skills and resources. Nonetheless, digital technologies may have a role to play in improving disaster response and likely prevented full collapse of mental health services in some of the countries in MASC. Most digital innovations were not maintained post-COVID, indicating a need to actively invest in the technology infrastructure and human resource skills development needed to support ongoing use. A conspicuous lack of good quality data on service utilisation was evidenced in all MASC data. Information systems for mental healthcare are not fit for purpose but present an enormous opportunity to improve system responsivity. With robust safeguards to protect confidentiality, joined up electronic medical record systems and electronic databases of caseloads could be employed to identify people with MHCs who need to be prioritised for pro-active outreach care, home-based delivery of medicines, welfare support and tailored prevention messages. At present, research into digital technologies to improve mental health service planning and improvement in LMICs has been sorely neglected.[53] Coproduction of more accessible,

sustainable and contextually appropriate digital solutions should be prioritised as part of strengthening system resilience against future pandemics.

Limitations of our study include the lack of comparable quantitative utilisation data across countries, concerns about the accuracy of routine data and reliance on national level experts who may not have represented the situation fully. A further limitation is the variable extent of inclusion of mental health service users and caregivers across the countries which may have led to underestimation of impacts on daily lives. However, through our snowballing approach to consult more widely and integration of research and grey literature reports we sought to obtain a comprehensive perspective on COVID-19 impacts. The countries included in MASC are not representative of all LMICs.

## CONCLUSIONS

All the countries included in this study showed low levels of preparedness for the impacts a pandemic would have on mental health services. Indeed, in most countries, existing systems of mental healthcare do not allow for adequate mental healthcare at any time, but especially exposed during a pandemic. Immediate and sustained investment is needed to expand access to mental healthcare through integration into primary care and community platforms, while also addressing structural stigma and technology gaps that could improve mental healthcare quality and system resilience.

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