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Challenges facing mental health systems arising from the COVID-19 pandemic: Evidence from 14 European and North American countries☆

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We assessed challenges that the COVID-19 pandemic presented for mental health systems and the responses to these challenges in 14 countries in Europe and North America. Experts from each country filled out a structured questionnaire with closed- and open-ended questions between January and June 2021. We conducted thematic analysis to investigate the qualitative responses to open-ended questions, and we summarized the responses to closed-ended survey items on changes in telemental health policies and regulations. Findings revealed that many countries grappled with the rising demand for mental health services against a backdrop of mental health provider shortages and challenges responding to workforce stress and burnout. All countries in our sample implemented new policies or initiatives to strengthen mental health service delivery – with more than two-thirds investing to bolster their specialized mental health care sector. There was a universal shift to telehealth to deliver a larger portion of mental health services in all 14 countries, which was facilitated by changes in national regulations and policies; 11 of the 14 participating countries relaxed regulations and 10 of 14 countries made changes to reimbursement policies to facilitate telemental health care. These findings provide a first step to assess

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the long-term challenges and re-organizational effect of the COVID-19 pandemic on mental health systems in Europe and North America.

1. Introduction

Mental disorders are common worldwide, associated with numerous adverse short- and long-term health and social outcomes [1–5], and yet are considerably undertreated [6–11]. For example, the World Health Organization (WHO) ranks depression as the number one cause of disability worldwide and a major contributor to the overall global burden of disease [12–14]. Furthermore, a 2018 report by the Organization for Economic Co-operation and Development (OECD) estimated that the overall costs of mental disorders amounted to more than Euro 600 billion in the European Union, which includes direct medical costs as well as indirect costs due to factors such as lost productivity [15]. Although evidence-based treatments exist for mental disorders [16–18], there is a large chasm between the number of people who need mental health services and those who actually receive care that has been documented globally [19–24]. For example, the median rates of untreated cases of specific mental health disorder (i.e. treatment gaps) have been estimated to be 32% for schizophrenia and other non-affective psychoses, 56% for depression, 56% for bipolar disorder, and 58% for generalized anxiety disorder [19].

Since the onset of the COVID-19 pandemic, evidence from a number of countries shows significant increases in the prevalence of symptoms related to poor mental health and mental disorders [25]. This has been attributed to risk factors and stressors such as vulnerability to severe illness from COVID-19, social isolation and loneliness, unemployment, and other financial stressors [26–30]. A study from the United Kingdom reported that the proportion of people with psychological distress increased from 19.4% in 2017–2019 to 30.6% in April 2020 [31], and in Italy, the prevalence rate of symptoms of depression jumped from 5.8% pre-Covid-19 to 17.5% a year later in early 2020 [32]. Research from the United States has also reported worsening mental health during the onset of the pandemic; between August 2020 and February 2021, the share of adults with anxiety symptoms increased from 31.4% to 36.9% [27], and with depressive symptoms from 24.5% to 30.2% [27]. In response to this rising prevalence, the World Health Organization has taken a number of steps to highlight the importance of mental health [33,34]. As one example, the Member States of the WHO European Region have adopted the "WHO European Framework for Action on Mental Health 2021–2025″ in which they commit to strengthen public mental health services in the Region [21].

While the needs for mental health services have increased at the population-level since the onset of the pandemic, there have been concurrent shifts in the delivery of mental health services. Some shifts have occurred in response to increased demand-side changes in the number of individuals seeking services and/or the types of services they were seeking [29,35-37]. Other shifts occurred because of new constraints for mental health services delivery related to protecting service users from getting infected [29,38]. Moreover, changes may have occurred in response to systems-level constraints related to financing and resources available to deliver care – as some economies experienced downturns, with downstream implications for healthcare financing resources [39–43]. More positively, several countries enacted policies to support the mental health of health workers [44].

To date, however, most evidence on changes in the delivery of mental health services during the COVID-19 pandemic has come from single countries [38,40,45-47] and very few studies have collected data from multiple countries [43,44,48]. One qualitative study conducted during the first couple of the months of the pandemic with eight mental health clinicians from four countries (Canada, Russia, Australia, and Japan) provided insight into early changes they faced in their practices as well as the initial impact of the pandemic on patient care [49]. A second study conducted from late March to the second week of April 2020 collected survey data from experts in 23 countries to understand the initial impact of the pandemic on mental health, and challenges for mental health services provision [50]. Less is known, however about the common challenges mental health systems have faced following the pandemic's initial onset, as well as new policies and/or delivery system innovations that were implemented to support mental health systems during this time.

To address this gap in the literature, we surveyed experts from multiple countries about challenges that the mental health systems faced during the first year of the COVID-19 pandemic, as well as the strategies at the system level that were used to respond to these challenges. We collected data from 14 countries in Europe and North America to learn about the experiences of the mental health systems in adapting to the constraints and challenges after the onset of the pandemic.

2. Methods

2.1. Survey development

To gather data about the mental health systems, we developed a structured questionnaire to be completed by key informants from each participating country. The questionnaire included closed-ended items to obtain comparable information on constructs and questions of interest, as well as open-ended items to allow respondents the opportunity to describe major changes and initiatives in their respective countries without pre-determined response categories. The lead [JC] and senior author [EVG] drafted an initial survey instrument, with input from a survey methodologist. The initial draft was then shared with all participating experts to provide input on: the survey items' face validity, construct validity, clarity, and cultural relevance; relative emphasis and prioritization of constructs; survey organization and layout; missing survey items; and respondent burden. Based on feedback from the participants, we revised the instrument before distribution.

The WHO identifies four major functions of health systems: provision of services, financing, resource generation, and stewardship [51]. The survey's primary focus was on mental health services provision and resource generation (with a focus on the workforce) and, to a more limited extent, on financing. More specifically, the instrument collected information on: (1) types of mental health providers that constitute the mental health workforce, and whether each type can be reimbursed by the public sector (closed-ended); (2) challenges faced by the mental health workforce during the COVID-19 pandemic and initiatives to address these challenges (closed and open-ended); (3) challenges faced by the mental health system during the COVID-19 pandemic, and initiatives to address these challenges (closed and open-ended) – including policies related to regulations and financing to facilitate the provision of telemental health (closed-ended). When asking about challenges pertaining to the mental health workforce or systems, we asked open-ended questions. When asking about specific initiatives to address these challenges, we used a combination of closed and open-ended questions; the information obtained from the open-ended questions provided information on additional topics or issues beyond what was covered in the closed-ended questions. Experts were asked to provided references and sources for their responses.

The current analysis presents descriptive information about each country's mental health workforce and system. It also synthesizes the information collected on the challenges faced by the mental health workforce and systems during the early phase of the COVID-19 pandemic, as well as new initiatives to address these challenges.

2.2. Data collection

The questionnaire was filled out by key informants from 14 countries in Europe and North America. The countries were selected to reflect a diversity of health systems in terms of size, geography, and type of health system (e.g. Bismarckian, Beveridgean, and private insurance-based) and level of de-centralization (national, regional) [52]. The resulting sample included: Canada, Denmark, England, France, Germany, Hungary, Israel, Italy, Latvia, Lithuania, Netherlands, Portugal, Romania, and United States.

The survey instrument was completed by selected national experts (co-authors of the paper) who were identified from the European Observatory on Health Systems and Policies' network of experts, including its Health Systems and Policy Monitor (HSPM) network (www.hspm.org) and COVID-19 Health System Response Monitor (https://www.covid19healthsystem.org). Typically, one or two experts per country worked together to complete the questionnaire. The HSPM network includes experts on the healthcare policies and health system organization in their respective countries. Experts for this study were chosen not only for their insight into their country's policy process through involvement in research and policy development, but also for their track record in the field of mental health care and/or their country's COVID-19 health system response. Data collection took place between January and June 2021 and a comprehensive response was received from each country.

2.3. Analysis

We first present contextual information about each country's mental health care sector, using data from the WHO Mental Health Atlas. This atlas is a compilation of data on available mental health services, human resources, and policies provided by WHO member countries. Released every three years, the report supports development and planning of mental health services [53–55]. For each country, we used the most recent year of data available (usually 2020, but in a few instances the most recent data were from the 2017 or 2014 report). We also present information from our survey about the composition of the mental health workforce in each country as well as the reimbursement of providers by the public sector. Next, we conduced thematic analysis to investigate the qualitative responses to open-ended questions about the top challenges for the mental health workforce and mental health systems, as well as the open-ended questions asking for information about up to three national or regional policies or initiatives implemented to address challenges faced by the mental health system during the COVID-19 pandemic. Lastly, we summarized the responses to closed-ended survey items, including questions relating to changes in policies related to regulations and financing to facilitate the provision of telemental health.

3. Results

1. Mental Health Workforce and System: Descriptive Information

Table 1 presents descriptive information about the key aspects of the mental health care system and mental health need in participating countries before the pandemic. There is considerable variation in mental health spending per capita across these systems, as well as the available mental health workforce and mental hospital beds per capita. For example, the number of general hospital psychiatric beds per 100 000 population ranges from 4.2 in Israel (2017 data) to 78.9 in Germany. There is also considerable variation in the reported mental health burden, as shown by the suicide mortality rate. For example, the reported suicide mortality rate in Lithuania (20.2 per 100 000 population) is nearly 5 times the reported rate in Italy (4.3 per 100 000 population).

The variation in the size and composition of the mental health workforce is shown in Table 1. The total supply varies from 21.0 mental health workers per 100 000 population in Portugal to 283.6 mental health workers per 100 000 in Latvia. The variation in psychologist supply is largest across the included countries (ranging from 1.5 per 100 000 population in Romania to 90.8 in the Netherlands), followed by more than a 17-fold variation in other mental health professionals per 100 000 population (varying from 12.4 in Portugal to 239.1 in Latvia) and a 5-fold variation in psychiatrists per 100 000 population (ranging from 5.7 in Romania to 23.6 in France).

Table 2 provides additional descriptive information about the types

Table 1
Key characteristics of the mental health system and burden among participating countries, adapted from the WHO Mental Health Atlas data.

Country	Mental Health Spending per Capita[a]	Suicide Mortality Rate	Mental hospital beds per 100 K Population	General hospital psychiatric beds per 100 K Population	Psychiatrists per 100 K Population	Psychologists per 100 K Population	Other MH Providers per 100 K Population[b]	Total MH Providers per 100 K Population
Canada	EUR 55.5	10.3	11	14.9	14.4	50.2	218.5	283.1
Denmark	–	7.6	51.6[d]	52.4[c]	9.6[c]	12.8 [c]	167.9 [c]	190.2 [c]
United Kingdom	EUR 209.1 [c]	6.9	26.9	–	13.8	19.8	167.6	201.1
France	EUR 359.5	9.7	52.9	27.5	23.6	11.7	106.4	141.7
Germany	EUR 531.3	8.3	81.0	78.9	14.2	55.1	154.5	223.8
Hungary	EUR 17.3	11.8	3.2	29.2	12.1	15.9	13.6	41.5
Israel	EUR 114.0 [d]	5.4 [d]	35.2 [d]	4.2 [d]	9.9 [d]	88.1 [d]	79.3 [d]	177.2 [d]
Italy	EUR 65.3	4.3	–	8.1	6.4	3.9	33.0	43.3
Latvia	EUR 29.6	16.1	111.2	10.8 [c]	13.1	31.5	239.1	283.6
Lithuania	EUR 33.9	20.2	41.7	49.1	19.7	19.0	57.7	96.4
Netherlands	–	8.2[c]	–	10.5 [c]	20.1 [c]	90.8 [c]	–	–
Portugal	–	7.2	5.8	12.1	6.0	2.6	12.4	21.0
Romania	–	10.4[d]	82.5 [d]	55.0 [d]	5.7 [d]	1.5 [d]	19.8 [d]	26.9 [d]
United States	EUR 304.3 [d]	15.3 [d]	18.7 [d]	11.1 [d]	10.5 [d]	29.9 [d]	230.9 [d]	271.3 [d]

Note: Data came from the 2020 WHO Mental Health ATLAS Member State Profiles unless otherwise noted. Note that England was one of the participating countries; yet, data in this table are presented for the whole United Kingdom rather than England specifically due to availability of data within the ATLAS reports.

[a] Exchange rates used to calculate MH spending per capita from the ATLAS report into Euros. For each country that required conversion, we used the average exchange rate for the year of the relevant ATLAS report.

[b] Other MH providers per 100 K was calculated by subtracting psychiatrists per 100 K and psychologists per 100 K from "Total MH professionals per 100K" provided in the ATLAS report.

[c] Data come from the 2014 ATLAS.

[d] Data come from the 2017 ATLAS.

Table 2
Types of mental health providers and reimbursement by public system, by country. Footnotes ([a–u]) are cited in Table body part.

	Training track exists nationally or regionally?[a]													
	CA[b]	DK	EN	FR	DE	HU	IL	IT	LV	LT	NL	PT	RO	US
Psychiatrists	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Child and adolescent psychiatrists	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Geriatric psychiatrists (older adults)	✓	✓	✓	✓	[c]		[d]	✓	✓		✓		[e]	✓
Psychologists	✓	✓	✓	✓ [f]	✓	✓ [g]	✓	✓	✓	✓	✓	✓	✓	✓
Child and adolescent psychologists	✓ [h]	✓	✓		✓	✓	✓	✓	✓	[i]	✓	✓	✓ [j]	✓
Mental health counselor			✓		✓	✓					✓		✓ [j]	✓
Licensed clinical social worker	✓	✓			✓	✓	✓		✓		✓		✓	✓
Marriage and family therapists	✓	✓	✓		✓ [k]	✓	✓ [l]	✓			[m]	✓		✓
Mental health nurse	✓	✓	✓	[n]		✓	✓	✓	✓	✓	✓	✓	✓	[n]
Psychiatric nurse practitioner	✓	[o]	✓	✓	✓			✓ [p]			✓	✓		✓
Peer support specialists[q]		✓ [r]		✓	✓	✓ [s]		✓ [t]			✓			✓ [u]
Social workers / assistants (non-clinical)	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓

Notes:.

[a] A check mark indicates that a training track does exist regionally or nationally. Gray shaded boxes indicate that the provider type **can** be reimbursed by the public system nationally or regionally. This does not mean, however, that all of a given type of provider are reimbursed by the public system (as providers can often be privately paid in many systems). In addition, there may be cases when reimbursement for a given type of provider by the public sector varies across regions. White boxes indicate that the provider type is not reimbursed by the public system.

[b] In Canada, there are no providers funded nationally (except in federal prisons, or for the armed forces, and some Indigenous communities). A check mark is indicated when these providers are integrated into provincial/territorial health coverage programs. It is important to note, however, that the requirements for psychologists and other mental health workers may vary by province and territory, but training tracks do exist for provider types with a check mark even if they are different by region.

[c] In Germany, psychiatrists can obtain a certificate in geriatric psychiatry, but there is no separate training track for geriatric psychiatry.

[d] In Israel, there is no official specialization in psychogeriatrics and it has no legal status, but there are practitioners that have trained elsewhere and health plans will pay for services offered by these providers.

[e] In Romania, there are few psychiatrists with supplementary post specialization training in gerontopsychiatry (in continuing medical education programmes), but this is not a requirement to treat older adults as a psychiatrist. Psychiatrists take gerontopsychiatry courses during their specialization program. As in other cases, services are provided, publicly funded, but the specific training is not required.

[f] In France, psychologists working in the public sector were reimbursed by the public system. The majority of psychologists, however, were self-employed and not reimbursed by the public system.

[g] In Hungary, the only type of psychologists that are considered health professionals are clinical psychologists.

[h] In Canada, child psychology is not a professional that is regulated separately from adult psychology, but it is a sub-specialty that can be chosen by those who are getting accredited as a psychologist.

[i] In Lithuania, those who are currently employed in this profession received their training many years ago. In recent years, no one has chosen to be trained or employed in this field.

[j] In Romania, there are psychologists trained in different postgraduate courses as child and adolescent psychologists or mental health counselors working in private offices. In addition, public health insurance covers psychological counseling for certain patients (e.g., those receiving palliative care, those who received breast cancer surgery, and individuals with autism).

[k] In Germany, family and couples therapists usually follow a training in systemic therapy (Systemic therapists/family therapist). Since July 2020, systemic therapy for adults can be reimbursed if providers can prove their expertise in systemic therapy for adults with a certificate of continuing education and if they target the indications for the use of psychotherapy. However, psychotherapy is excluded as a benefit of the statutory health insurance if it is used solely for educational, marital, life, and sexual counseling as well as couples and family counseling.

[l] In Israel, family therapists are professionals who have received additional training beyond their training in psychotherapy; they are not recognized as a separate profession. With respect to public sector reimbursement, if there is a patient diagnosed and treated in the mental health system who also needs family/ couples therapy, then they are entitled to receive it free of charge from the health system.

[m] In the Netherlands, these providers can be reimbursed by the public system, but it depends if they are employed independently, if they are registered with the national accreditation service, or work as part of a specialized mental health service.

[n] In France and the United States, bachelor's-level nurses can work in mental health settings, and they can be reimbursed by the public system. However, there is no separate training track or credential needed to work in mental health settings.

[o] In Denmark, there are no psychiatric nurse practitioners. However, some psychiatrists may employ nurses. The clinic is paid for partly by the public sector (for referred patients) and partly by private/insurance (for private patients).

[p] In the Italian system, there is no distinction between a "mental health nurse" and a "psychiatric nurse practitioner.".

[q] A peer provider is someone who uses their experience with recovery from mental illness to support others with mental illness in their recovery process and help build resilience.

[r] In Denmark, it varies across regions as to whether peer providers are employed or are volunteers.

[s] In Hungary, peer support specialists are not considered a profession, but accredited trainings are organized by foundations regionally.

[t] In Italy, peer providers offer services in certain regions.

[u] Requirements for training vary across states.

of mental health providers in each participating country as reported by national experts. All 14 countries have training tracks for psychiatrists, child and adolescent psychiatrists, and psychologists. Moreover, in all 14 countries, psychiatrists, child and adolescent psychiatrists, and psychologists can be reimbursed by the public system (with the exception of psychologists in Canada and Portugal). There is, however, more variation in the availability of training tracks for other mental health professionals that can offer psychotherapy and psychosocial services such as mental health counselors (six out of 14 countries), licensed clinical social workers (nine countries), and marriage and family therapists (nine countries). There is also variation in whether these types of providers are reimbursed in each respective public system. For example, marriage and family therapists are reimbursed in only five countries by the public system (either regionally or nationally).

2. *Mental Health Workforce: Challenges, Policies, and Initiatives*

When experts were asked to list up to three major challenges for the mental health workforce during the pandemic, four common themes emerged (Table 3). First, the increased demand for mental health services and a shortage of mental health providers led to increases in workload, and in some cases, reduced access to services for those in need of care. Second, the impact of the pandemic, the increased workload, and an increase in other personal stressors took a high toll on mental health providers and led to increases in burnout. A third challenge was related to physical health concerns for mental health providers, including the risk of infection. In several countries (e.g., Denmark, Italy, and France), experts described how the shortage of PPE early in the pandemic led to concerns about safety for all healthcare providers (including mental health providers). The fourth theme that emerged concerned challenges for some mental health providers due to the immediate transition to telemental health and the loss of face-to-face contact. In Germany, for example, questions concerning remote consultation for psychotherapy arose including how specific methods of a therapy procedure could be adapted to the video setting (e.g., in child and adolescent psychotherapy, group therapies, or behavioural therapy).

To understand how countries were responding to workforce issues during the pandemic, the survey instrument included three closed-ended questions about policies or initiatives that addressed these challenges

Table 3
Major challenges for the mental health workforce and initiatives to address these challenges during the first wave of the COVID-19 pandemic[a].

Workforce Challenges & Initiatives	Countries	Examples
Challenges		
High demand for services coupled with mental health provider shortages led to increased workload, and in some cases, reduced access to services for those in need.	CA, DK, FR, HU, IT, LV, PT, US	In Portugal, the shortage of psychologists in primary care practices precluded the delivery of psychological therapies for patients in need of services for common mental health disorders such as anxiety and depression [97].
The impact of the pandemic, workload, and personal stressors took a toll on provider mental health and burnout.	CA, DE, HU, IL, LT, LV, DK, NL, US	In Canada, burnout affecting mental health care workers as well as other front-line workers increased as the demands for services increased during the unprecedented times of stress and anxiety for Canadians [98]. The increased volume of demand for services like crisis help lines leads to greater stress for workers [99,100].
Mental health providers faced physical health concerns, including the risk of infection.	DK, HU, IL, IT, FR, NL, RO	In Italy, staff members in more than 80% of the general psychiatric hospital wards reported concerns about personal safety due to: (1) an inadequate supply of PPE for both staff and patients (this concern is larger in the South); (2) slight increase in aggressiveness/violence among community patients; and (3)) reduced availability of hospital mandatory mental health treatments due to the risk of infection due to risk of infection [45]
Immediate transition to telemental health and loss of face-to-fact contact created challenges for some mental health providers.	DE, EN, NL, RO, US	In Germany, treatment-related issues related to remote consultation in psychotherapy arose throughout the pandemic. For example, how can the respective methods of a therapy procedure be adapted to the video setting (in child and adolescent psychotherapy, in group therapies, or behavioural therapy)? How can video-based sessions be complemented by structured online modules, such as minddistrict.com? [101,102]
Initiatives		
Address MH workforce burnout	DK, DE, FR, HU, IL, IT, LT, PT, RO, US	In Hungary, universities and non-governmental organizations (NGOs) set up several hotline services and consultations for health professionals (not specially for mental health workforce, rather for professionals working in COVID services) [103–107]. In Israel, frequent changes in regulations and the associated uncertainty at the beginning of the pandemic was becoming a contributing factor to burnout. As one strategy to address this, the Mental Health section in the Ministry of Health opened WhatsApp groups for health system [106] administrators to directly share reliable information on procedures and changing guidelines that could be transmitted to frontline mental health workers in clinics and hospitals.
Increase training for psychiatrists on telemedicine	HU, IT, LT, NL, RO, US	In Italy, there were several national initiatives to address this, including the release of national guidelines by the Italian Society of Psychiatry detailing procedures for telephone consultations and reference to the use of videocalls [108].
Increase training for therapists on telehealth	DK, IT, LT, NL, RO, US	The Danish Psychological Association created a guide on their webpage on how to use video consultations. [109]

Note:.
[a] Experts were asked to respond to an open-ended question where they could list up to three major challenges for the mental health workforce during COVID-19. Experts were asked about the initiatives in a series of closed-ended questions.

(Table 3). More than half of participating countries reported national policies or initiatives to address burnout in the mental health workforce. In several countries (e.g., Hungary, and the United States), these initiatives were organized by non-governmental organizations, universities, or government-funded centers. Additionally, in several countries (e.g., Denmark, France, Italy, and Hungary), these initiatives addressed burnout in the broader health care workforce rather than focusing on mental health providers specifically. In France, for example, telephone hotlines that focused on burnout related to the pandemic were set up by the Ministry of Health for all healthcare professionals [56].

We also asked experts about national initiatives or policies to increase telehealth training for psychiatrists and/or therapists (Table 3). As with the initiatives related to burnout, experts from several countries reported that these initiatives were often broadly focused on telehealth training and implementation among the healthcare workforce broadly (rather than having specific training for psychiatrists or for therapists). For example, in the Netherlands, the government created extra financing subsidies to support the transition from face-to-face care to digital care (which included training), particularly for outpatient and home-based care [57,58]. There were, however, a few examples that focused specifically on the mental health workforce. In Italy, for example, the National Health Institute released national guidelines on telephone-delivered psychological support in the healthcare system [59]. In the United States, *SMI Advisor* – a federally-funded technical assistance center that offers trainings for mental health providers serving those with serious mental illness – provided webinars and updated information on telehealth regulations, reimbursement strategies, and guidance for clinicians to support the mental health workforce [60].

3. *Mental Health System: Challenges, Policies, and Initiatives*

Using an open-ended question, we asked participants to describe *up to three* major challenges that the mental health system had faced during the early part of the COVID-19 pandemic (Table 4). One challenge that was described during the first year of the pandemic was the *sizeable reduction in service provision* within facilities, including hospitals, due to issues related to infection control and/or the need to reduce capacity for mental health services because of the greater resources required to care for COVID-19 patients. In Italy, results from a survey of mental health departments conducted in April 2020 reported that there were significant decreases (~25%) in psychiatric consultations in general hospitals and approximately 13% of psychiatric hospital wards were reconverted into COVID-19 wards [45]. Experts from several countries also reported a reduction in the provision of outpatient services due to issues related to infection control. In the United States, for example, findings from a survey of CEOs of public and private mental health care organizations indicated that 54% of organizations had to close programs and 65% had to cancel, reschedule, or turn away patients [61]. A second challenge reported earlier in the pandemic was a *short-term decline in patients seeking mental health services* due, in part, to fear of infection. Related to this, experts described concerns about how breaks in service continuity

Table 4
Major challenges for mental health systems during the first wave of the COVID-19 pandemic[a].

Challenge	Theme	Countries	Examples
Facilities: Reduced Service Provision & Financial Impact	At times during the pandemic, there has been a decrease in the provision of mental health services in hospitals due to infection control and/or reduced capacity because of the resources needed to care for COVID-19 patients.	CA, DE, IT, RO, LV, US	In Italy, results from a survey of mental health departments conducted in April 2020 reported that: (1) there were significant decreases (~25%) in psychiatric consultations in general hospitals and approximately 13% of psychiatric hospital wards were reconverted into COVID-19 wards [45]. In turn, some nursing homes were used to hospitalize psychiatric patients.
	At times during the pandemic, there has also been a decrease-in the provision of mental health services in outpatient settings.	CA, DE, IT, NL, RO, US	In the United States, the National Council (an organization that represents safety net mental health providers) surveyed a sample of behavioral health CEOs between August and September 2020; findings indicated that 54% of organizations had to close programs while 65% had to cancel, reschedule, or turn away patients [61].
Patient Demand: Short-term Reduction	Early in the pandemic, there was a decline in services sought by those with MH needs.	CA, DE, DK, EN, FR, IT, LT	In France, patients stopped seeking mental health services during the first lock-down (March to May 2020) due to fear of infection or because they thought they were closed (which most often was not the case, except for health and social care services directed towards patients with autism or addictive disorders). [110]
	Experts described particular concerns about how these reductions in services affected continuity and/or quality of care for those with SMI.	DK, IT, NL, PT,	In the Netherlands, outpatient and community care for those with severe mental health disorders is available, but there are concerns that the pandemic may have affected the continuity of care for this population, particularly participation in activities offered by mental health services such as supported employment or recovery colleges [111].
Patient Demand: Long-term Increase	Although there was initially a decline in service use, there is and/or will be an increased demand for mental health care due to COVID-related stressors, economic downturns, social determinants of health, and a pent-up demand for services.	CA, DE, EN, FR, HU, IT, LT, NL, RO, US	In Italy, an increased strain on Mental Health Departments is forecasted due to the increase in mental health disorders; contributing factors include isolation/confinement, the economic crisis, and worsening social determinants of health (e.g., lack of physical activity) [30].
Patient Inequities in Access to Telehealth	Limited connectivity and/or access to technology in some communities poses challenges to the delivery of telemental health services.	CA, FR, IL, LT, US	In Israel, there were challenges providing telemental health services to populations and communities that are not connected to the internet or that have limited experience with technology (e.g., the elderly, some Orthodox populations, and/or Bedouin populations) [63,112].

Note:.
[a] Experts were asked to list up to three major challenges for the mental health system during COVID-19 in an open-ended question.

affected the quality of care, particularly for those with serious mental illness.

Although there was an initial decline in mental health service use, a third major challenge reported by experts from participating countries was the *longer-term increased demand for mental health services* due to COVID-related stressors (e.g., lockdown, isolation, fear, and uncertainty), economic downturns, and a pent-up demand for services (Table 4). In the Netherlands, a report published in May 2020 described an influx of patients with increased mental health complaints [62]. As another example, in Canada, there was a general increase in symptoms of moderate to severe anxiety, loneliness, and depression due to the pandemic [47], leading to rising suicide-related calls and an increase in the demand for services.

Experts from several countries also reported a key challenge pertaining to the implementation of telehealth: *inequities in internet connectivity or access to the technology* needed to use these services among certain patient populations or communities (Table 4). In Israel, for example, there were challenges providing telemental health services to populations and communities that are not connected to the internet or that have limited experience with technology (e.g., the elderly, some Ultra-Orthodox populations, and/or Bedouin populations) [63]. In France, poor internet connectivity in some rural areas also diminished accessibility of telehealth services via video in these communities [64]. This issue was acknowledged by decision-makers in France, and the possibility to conduct such consultations by phone was therefore temporarily opened in these areas [65].

Next, we asked about changes in policies governing telemental health – including telepsychiatry and telemental health delivered by therapists – during the pandemic (Table 5). Experts from all 14 participating countries reported that telemedicine had increased among psychiatrists and other mental health professionals during the pandemic. At the time of data collection, 11 of 14 countries had relaxed government regulations concerning telepsychiatry, and these changes in regulations were made indefinite among seven of the 14 countries. Similarly, ten countries changed reimbursement regulations for telepsychiatry and these changes were made indefinite in six. For example, the Italian Society of Psychiatry asked the government to provide EUR 40 million to hire 800 psychiatrists and enhance telemedicine services; between March and May 2020, 75% of psychiatry visits were conducted remotely [66]. Beyond relaxing the regulations, telepsychiatry was officially adopted as a mode of service delivery within the Italian National Health System [67].

There were also considerable changes in the use of telemental health among therapists (e.g., psychologists, mental health counselors, marriage and family therapists, etc.) (Table 5). Experts from all 14 countries indicated that telemental health delivered by therapists had increased during the pandemic. Although fewer countries made changes in regulations and reimbursement concerning telemental health among therapists relative to changes governing the use of telepsychiatry, experts from eight participating countries reported relaxed regulations governing telemental health among these professionals during the pandemic; these changes were made indefinite in five of the countries. Moreover, changes to reimbursement policies for telemental health for therapists were reported in six countries, and these changes were made indefinite in four countries. In Lithuania, for instance, revisions to legislation and new funding allocations to facilitate telehealth services were applicable to primary care and public health medical psychologists (MOH Order V-861, 10–11–2020) [68]. It is worth noting that, in some cases, the relaxed regulations or changed reimbursement policies were implemented for a subset of therapists. In Hungary, changes to regulations and reimbursement policies governing telemental health only applied to services categorized as "health care services" that are deemed medically appropriate [69]; thus, the changes in regulations only applied to clinical psychologists (which are categorized as part of health care services), and did not apply to non-clinical psychologists [70,71].

Table 6 summarizes results from the thematic analysis of the open-ended question that asked experts to provide information on up to three major national (or regional) health policies/initiatives implemented to address the challenges of the mental health system during the coronavirus pandemic. This question was not meant to assess and compare whether a specific type of policy had been implemented in each of the countries; rather, it was meant to allow experts to report on one to three important policies and initiatives of interest to assess the breadth of reforms as well as common themes. At a **broad conceptual-level**, two countries (Italy, and the Netherlands) reported creating new national guidance and/or frameworks for their mental health systems [72,73]. Next, experts from several countries (Denmark, Hungary, Lithuania, Portugal, and the United States) described new initiatives at the **population-level** to improve mental health literacy in their country. In Hungary, for example, the National Public Health Center created a webpage and informational leaflets for health professionals and the general public in 2020, which addressed several mental health topics such as adaptation to lockdown, stress management, protection of mental health, and the availability of crisis hotline services [74]. Another type of initiative was the provision of low-cost or free mental health services that were accessible to the entire population, such as through the provision of telephone lines for any mental health concerns (Canada, Israel, Lithuania, Portugal, and the Netherlands).

To address **higher levels of mental health needs**, experts from most participating countries (Canada, Denmark, Hungary, England, France, Latvia, Lithuania, Portugal, and the United States) reported at least one policy or initiative to allocate additional resources for specialty

Table 5
Changes in telemental health policies during the first wave of the COVID-19 pandemic, by country.

	Country													
	CA	DK	EN	FR	DE	HU	IL	IT	LV	LT	NL	PT	RO	US
Psychiatry & Telemedicine														
1. Psychiatrists are delivering more telemedicine services	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2(a). Government has relaxed regulations to facilitate telemedicine	✓		*	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
2(b). If yes, changes in regulations are indefinite	✓				*[a]	✓		✓	✓	✓		✓	✓[b]	
3(a). Reimbursement policies have changed to facilitate telemedicine	✓	✓		✓	✓	✓		✓	✓	✓			✓	✓
3(b). If yes, changes in reimbursement policies are indefinite	✓	✓	*			✓		✓	✓				✓[b]	
Therapists & Telehealth														
4. Therapists are delivering more telehealth services	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5(a). Government has relaxed regulations to facilitate telehealth			*		✓	✓	✓	✓		✓		✓	✓	✓
5(b). If yes, changes in regulations are indefinite						✓		✓		✓		✓	✓[b]	
6(a). Reimbursement policies have changed to facilitate telehealth		✓			✓	✓		*		✓			✓	✓
6(b). If yes, changes in reimbursement policies are indefinite		✓				✓		*		✓			✓[b]	

Notes: Data collection took place between January and June 2021. * Response indicated "Uncertain".

[a] The regulations are specified for a limited period of time. However, it is uncertain whether these regulations will be extended beyond the COVID-19 pandemic. https://www.covid19healthsystem.org/countries/germany/livinghit.aspx?Section=3.3%20Maintaining%20essential%20services&Type=Section.

[b] The regulations were extended, but they were restricted to a more limited number of services after the pandemic's "alert state" ended.

mental health services such as increased funding for mental health facilities or providers (Table 6). In Latvia, the COVID-19 pandemic led to the advancement of longstanding discussions about healthcare financing, resulting in significant increases in salaries for health care professionals – including mental health providers – starting in 2021. These salaries will remain in effect beyond the pandemic [75]. The pandemic also accelerated the development of mental health care reform in France by increasing investment into specialty mental health services. As part of this reform, consultations with self-employed psychologists will be reimbursed by the statutory health insurance and more psychologists will be recruited into the public sector in the coming years (notably in ambulatory care centers managed by hospitals), which will include up to 160 full-time equivalents for a total of EUR 9.6 million [76].

Lastly, more than half of the countries (Canada, France, Hungary, Israel, Italy, Lithuania, Portugal, and the United States) implemented new initiatives or policies to further bolster **suicide prevention and crisis services** (Table 6). In Israel, the national program for suicide prevention made many adjustments and moved a lot of activity to online projects [77]. These included trainings for suicide prevention gatekeepers in organizations dealing with citizens in financial crisis because of the pandemic, such as The Bank of Israel, Taxes Authority, and Social Security. Moreover, additional funds were allocated to expand the activity of the suicide prevention hotline, and a new website set up for the National Suicide Prevention Program dedicated a specific section to COVID-19 and its effects on suicide [77]. As another example, a comprehensive set of mental health initiatives in Portugal included the implementation of crisis offices in Regional Health Authorities to coordinate and integrate crisis care with primary health care and mental health hospital services [78].

4. Discussion

Since the onset of the COVID-19 pandemic, emerging evidence has indicated that the delivery of mental health services has changed in many countries [29,31,35-41,48-50,79]. However, to our knowledge, this is the first known research study to collect data from multiple countries to identify commonalities in the challenges mental health

Table 6
National mental health initiatives and policies to address mental health systems' challenges during COVID-19[a].

Policy/Initiative	Countries	Examples
Create new national guidance/frameworks for MH	IT, NL	In Italy, the Protection program by the National Health Institute provides an operational framework for the management of COVID-19's impact on the mental health of the population [59], based on scientific evidence and principals outlined by the WHO.
Implement initiatives to improve mental health literacy	DE, HU, LT, PT, US	In Portugal, efforts to increase the population's literacy about the impact of the pandemic on mental health included: (1) participation of all members of the Mental Health Program Taskforce in media initiatives to provide mental health-related information (interviews with newspapers, radio, television programs, DGS bulletin); and (2) the creation of a new website dedicated to the association between COVID-19 and mental health [113].
Offer low-cost / free MH services provided for the population (e.g., telephone lines)	CA, IL, IT, LT, PT, NL, RO	In Israel, the Ministry of Health initiated a program in collaboration with the Health Plans to address the increase in mental distress during the pandemic. In this program, anyone can receive up to three (45 min) free telephone sessions with a mental health therapist. These sessions do not require a psychiatric diagnosis and they are available in several languages. If someone needs more than three phone sessions, they must access services through the mental health system (which requires a diagnosis and has long waiting times) [112,114-115].
Allocate additional resources for specialty MH services, including increased funding for the MH facilities and MH providers.	CA, DK, HU, EN, FR, LT, LV, PT, US	In Hungary, an outpatient center specialized in psychiatric and psychotherapeutic treatment of post-COVID patients was opened in the National Institute of Clinical Neurosciences. This clinic provides services for patients who mourning, have lost their jobs, or suffer from the physical or mental consequences of COVID-19. http://www.nygy-opai.hu/ In Denmark, the Ministry of Health allocated DKK 13 million (EUR 1.7 million) to strengthen counseling services provided by patients' and relatives' associations' due to the increased demand for mental health care [116]. In Latvia, the COVID-19 pandemic led to the advancement of longstanding discussions about healthcare financing and significant increases in salaries for health care professionals (including mental health providers) starting in 2021. These salary will remain in effect beyond the pandemic [117].
Invest in crisis services[b]	CA, FR, HU, IL, IT, LT, PT, US	In Canada, increased funding was announced for federal and provincial-level initiatives targeting suicide prevention [118–120]. In addition, the Mental Health Commission of Canada provided crisis training for essential workers during COVID-19 pandemic, designed to help workers deal with mental health crises [121]. The Commission has a unique mandate from the Federal government and is offering the course at no-cost to essential workers as defined by the federal government In France, the COVID-19 pandemic accelerated mental health care reform. As one example, emergency psychiatric services in charge of dealing with catastrophes such as pandemics, terrorist attacks, etc. ("cellules d'urgence medico-psychologiques", CUMP) have received funding for 2 additional full-time equivalents (one of nurse and one of psychologist) in each region (total budget of €4.3 million), and their scope of action has been extended to nursing homes [122].

Note:.

[a] Experts were asked to list up to three major national health policies or initiatives that had been implemented to address the challenges the mental health system has faced during the coronavirus pandemic. They were also told they could identify regional policies/initiatives if they had been implemented at this level instead of the national level.

[b] This topic included responses from a closed-ended item about suicide prevention, as well as additional initiatives that emerged from an open-ended question. The two examples from Canada present information from both of these items.

systems faced beyond the pandemic's initial phase in early 2020 [49, 50], as well as the new policies and delivery system innovations that were implemented to support mental health systems during the pandemic's first year. Although the participating countries had tremendous variation in both the size and workforce composition of their respective mental health care systems, there were several common challenges that many of these countries' systems faced and all 14 countries have implemented new policies and initiatives to address one or more of these challenges.

The most reported challenge for the mental health workforce was the impact of the pandemic on providers' mental health and burnout due to the increased workload and personal stressors. This finding is in line with earlier reports indicating that when mental health services are placed at their maximum capacity due to unprecedented demands, there is an increase in overall compassion fatigue, negative transference, and vicarious traumatization among mental health workers [80–82]. Our study also adds to a growing body of literature on the impact of the pandemic on the stress levels and mental health challenges among health care workers more broadly, which has led to burnout, leaves of absences, and resignations [41,83-85]. Healthcare workers across Europe have been shown to have high levels of anxiety, depression, and acute stress disorder, which may adversely impact their own well-being and patient safety [81,86-88].

To address the growing impact of the pandemic on the broader health care workforce, a number of countries in our study implemented national initiatives such as hotlines, support groups, and consultation services for providers. It is also important to note that in many cases, these initiatives were implemented by non-governmental organizations, universities, or professional associations. This is consistent with findings of a study carried out in 45 European countries that found that virtually all of them took steps to support the mental health of health workers and to offer financial and practical assistance during the pandemic [44]. The fact that many countries are struggling with pent-up demand and backlogs of care for health services means that workloads will remain high, and that the pressure on the workforce is not likely to abate in the near future [89].

The most commonly reported challenge for the mental health system pertained to concerns about how the system(s) would be able to meet the increasing need and demand for mental health services later in the pandemic and in the coming years. This aligns with emerging research that has documented significant increases in the prevalence of mental health disorders in Europe and North America since the onset of the pandemic [26–30], and it is notable that this challenge was commonly reported in a sample of countries with tremendous variation in the size of the mental health work force and overall spending on the mental health system. More research is needed to assess how mental health systems adapt to increases in the underlying prevalence of mental health distress and disorders – especially if the consequences of provider burnout (e.g., leaves of absence or leaving the profession) have the potential to exacerbate mental health provider shortages. These findings also reflect the continued need for greater investment in upstream mental health interventions to help prevent and address growing mental health needs that have arisen from the pandemic [23].

During the study period, experts from all participating countries reported that there were significant new initiatives or policies to improve one or more aspects of the mental health care system. Notably, respondents from several countries (e.g., France, Latvia, and Portugal) described how the COVID-19 pandemic was a catalyst for mental health systems reform that had been under discussion prior to the pandemic's onset. The new policies and initiatives in each country bolstered one or more dimensions of the optimal mix of mental health services identified by the WHO, which include self-care, informal care, and formal mental health services (including primary and specialty care) [90]. More specifically, experts from five countries reported initiatives to improve mental health literacy, which can improve self-care at the population level. Several countries invested in low-cost or free mental health services provided for the entire population (e.g., telephone lines), which strengthened resources for informal community care. Lastly, experts from 10 countries reported that new resources were allocated for formal mental health services to either support mental health facilities or hire more providers and/or further invest in crisis services.

In addition to these new initiatives and policies, there was one significant change to the mental health system that was universal in our sample – the shift to telehealth services to deliver mental health care. In every participating country, experts reported that psychiatrists and therapists began delivering more services via telehealth since the onset of the pandemic. While our findings add to the growing body of research about the new shifts to telehealth for mental health care [91,92], we also found that more than two-thirds of these countries changed their policies to facilitate telehealth services. More specifically, 11 of the 14 participating countries relaxed regulations and 10 of 14 countries made changes to reimbursement policies to facilitate telehealth for mental health care. Furthermore, experts in more than half of participating countries reported that the changes in regulations and reimbursement policies to facilitate telemental health were made indefinite. It is also worth noting that although the shift to telehealth may represent a fundamental change in mental health care delivery, experts from several countries also described challenges related to inequitable access to telehealth services in some underserved populations and communities. Indeed, researchers have cautioned that while digital health has the potential to improve access for many patients (such as rural patients), a careful evaluation will be needed to understand the full implications for equity and to ensure that it does not exacerbate health inequities [93].

This study is not without limitations. First, these data were collected between January and June 2021, which reflect mental health care system challenges and initiatives implemented during the first year of the pandemic. The policy environment is fluid, and has continued to evolve since our data collection period ended. In France, for example, there have been several significant new policies and initiatives that were passed since the study period ended. After engaging multiple stakeholders in a two-day public debate in June 2021 about the future of the French mental health system ("*Assises de la santé mentale et de la psychiatrie*"), several major new policies were announced in November 2021 to expand access to services. As one example, new public insurance coverage became available for services delivered by psychologists in the private sector under specific conditions, beginning in April 2022 [94]. Although the policy environment has continued to evolve in each country, our findings provide an important foundation of knowledge about the challenges mental health systems faced and new initiatives and policies that were implemented during the first year of the pandemic in Europe and North America. Future research can build on this foundation to examine more recent policies and initiatives that have been implemented, as well as the sustainability of these changes to each mental health care system.

Our research has additional potential limitations. There is a lack of accurate, recent, and comparable mental health system indicators for certain countries. In addition, since national contexts differ substantially (e.g., political and social context, and mental health system infrastructure and governance), direct comparisons of mental health system reforms and their effectiveness remain challenging. However, our research aimed to capture approaches in a wide and heterogeneous sample of countries, without making any comparisons of their effectiveness. Another limitation is that a study informed by country experts also faces several potential methodological biases. The experts participating in this study reviewed a wide range of documents and attempted to provide an accurate and comprehensive description of the situation in their country. However, some questions were open-ended or asked authors to select up to three main challenges, leaving room for personal interpretation or labeling bias. Third, the focus of our study was on national initiatives, and less information was collected on regional/subnational initiatives; nevertheless, several of the questions asked experts to describe a regional policy or initiative if they were unaware of policies

or initiatives at the national level, which enabled us to capture some of this information. Lastly, our survey instrument asked about specific types of mental health specialist providers, as well as challenges and initiatives in the mental health system – which elicited responses that primarily focused on the specialty mental health care sector. Yet, the primary care system also plays a key role in the delivery of mental health services [24,95,96], and future research is needed to understand trends in and reforms to mental health care provided in primary care settings during the post-COVID era.

5. Conclusion

Our study provides valuable insights about common challenges that were experienced in mental health systems during the early part of the pandemic, as well as commonalities in the initiatives and innovations that occurred during this time. Many countries grappled with the rising demand for mental health services against a backdrop of mental health workforce shortages and challenges responding to workforce stress and burnout. At the same time, every country in our sample implemented new policies or initiatives to strengthen one or more dimension of the optimal mix of mental health services identified by the WHO, with more than two-thirds making an investment to bolster their specialty mental health care sector. Furthermore, the universal shift to telehealth to deliver a larger portion of mental health services was accompanied by changes in national regulations and policies to facilitate this transition. Moving forward, research will be needed to identify effective strategies for nations to meet the rising demand for mental health services given the workforce and budgetary constraints of each system. Lastly, the rapid shift to telehealth will necessitate strategies to ensure that this new mode of care delivery can be accessed equitably as well as additional research to understand how this shift impacts care quality across age groups, diagnoses, and types of services.

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