RESPOND

D2.2 Policy recommendations on short-term impact of the COVID-19 pandemic

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LIST OF ABBREVIATIONS

Charité	Charité Universitätsmedizin Berlin
EU	European Union
LIR	Leibniz Institute for Resilience Research
FSJD	Sant Joan de Déu Research Foundation
HCWs	Healthcare Workers
ICCPR	International Covenant on Civil and Political Rights
INSERM	National Institute of Health and Medical Research
KI	Karolinska Institute
MHPSS	Mental Health & Psychosocial Support Network
OECD	Organisation for Economic Co-operation and Development
OCD	Obsessive Compulsive Disorder
PPE	Personal Protective Equipment
Report D2.1	RESPOND Deliverable 2.1: rapid report on vulnerable groups for COVID-19 related psychological distress
RL	Lombardy Region
SOC	Sense Of Coherence
UAM	Autonomous University of Madrid
UCLouvain	University of Louvain
UN	United Nations
UNIMIB	University of Milano-Bicocca
UNSW Sydney	University of New South Wales
VUA	Vrije Universiteit Amsterdam
VUMC	Vrije Universiteit Medical Center
WP2	Work Package 2
WHO	World Health Organisation

EXECUTIVE SUMMARY

The COVID-19 pandemic and its negative psychological effects have shown the need for new and improved public policies in favour of mental health in times of health crisis. An aspect of the RESPOND project is to answer public policy needs and in this sense to formulate policy recommendations. This report presents the policy recommendations from the different partners of the RESPOND project, especially recommendations in favour of vulnerable individuals regarding mental health. These recommendations are based on statistical analyses carried out by RESPOND partners based on their respective databases and cohorts.

First, this report suggests to public authorities the need to develop the population's awareness and preparedness against a potential future health crisis. The report also highlights the need for targeted mental health support, as the results of the studies included in RESPOND show specific vulnerabilities with regard to mental health that can be protected during a crisis. In this perspective, the development of social support, accessible online mental health services and individual resilience methods will be a vector for better mental health. Moreover, several vulnerable groups were identified in RESPOND partners' analyses, and specific public policy perspectives are proposed to address their needs. For healthcare workers, there is need for better prevention and management of stress as well as efforts to eradicate discrimination which they may face due to COVID-19. Young and elderly people need more mental support and easily-available tools, as the former have fewer resources in terms of mental resilience and the latter are more socially isolated. People with pre-existing mental health difficulties are also more vulnerable and their access to healthcare needs to be sustained and adapted to face the exceptional nature of the situation. Finally, persons who are homeless or refugees and (labour) migrants are particularly destitute in the context of the COVID-19-related crisis, because they simultaneously experience high levels of mental distress and poor access to healthcare, and need to be better supported during this period.

INTRODUCTION

1.1. CONTEXT

It has now been widely documented that the COVID-19 pandemic has negatively impacted the mental health of the population in Europe and beyond (Cénat et al., 2021; Sousa et al., 2021; Xiong et al., 2020). This impact is caused by the various effects of the crisis and the many nuances of health measures taken by governments (Hale et al., 2021). For instance, a rapid review reported that people were likely to suffer mentally from the forms of human rights violations that certain health measures could represent (Rahman et al., 2021). The causes of mental health difficulties were numerous. For instance, In the general population, these causes included mobility restrictions (sometimes without access to financial support), lack of adequate mental health support, misinformation and fear or stigma related to possible COVID-19 infection, gender-based violence and psychological symptoms caused by lockdown, inability to adhere to preventive methods due to crowding and work conditions (Rahman et al., 2021). For migrants, the worry of the length of lockdown and impacts on livelihood (Rahman et al., 2021) and the fact that they are totally helpless in the face of the health crisis (Scarlett, 2021) were highlighted. For Healthcare Workers (HCWs), financial troubles and worries due to inadequate and unclear support, strict lockdown, fear of contracting and spreading COVID and lack of Personal Protective Equipment (PPE) contributed to anxiety symptoms, isolation and frustration (Rahman et al., 2021). For instance, social restrictions and limitations on mobility worsen symptoms of anxiety disorders such as Obsessive Compulsive Disorder (OCD) and decrease access to medication (Rahman et al., 2021). Social isolation potentially worsens cognition and functioning due to limitations on exercise and social interactions particularly among the elderly and among young people (Rahman et al., 2021).

Within the RESPOND project, factors associated with poor mental health during the course of the COVID-19 epidemic are investigated. The rapid report published earlier this year (Report D2.1 (RESPOND, 2021)**)** demonstrated that vulnerable groups are more likely to experience an increase in poor mental health. Most studies show similarly elevated risks of mental distress among women, young people, persons who are lonely or in a poor financial and social situation. Also, a longer lockdown period (Belgium, UC Louvain), the experience of COVID-19 infection symptoms (France, INSERM (Andersen et al., 2021)), fear of COVID-19 contamination (Netherlands, VUA), and past pre-existing symptoms of depression and anxiety (France, INSERM (Mary-Krause et al., 2021); Germany, LIR), were found to be associated with a higher risk of psychological distress. More specifically, the Confins study based in France (University of Bordeaux), demonstrated that compared to non-students, students reported a higher level of symptoms of depression, anxiety and suicidal thoughts during periods of restrictive measures of lockdown and curfew. In addition, an online survey conducted by UCLouvain showed that the specific risk factors of mental distress in young people include increased use of social media, decreased eating and drinking and decreased homework. Health care workers are well identified as a group vulnerable to mental distress during the COVID-19 pandemic in studies conducted by LIR, and UAM which show increases in mental burden, emotional distress, depressive symptoms and death wishes - especially among those who felt discriminated against (Mediavilla et al., 2021a, Mediavilla et al., 2021b). Socioeconomically disadvantaged groups as well as migrants and refugees have also been identified as being vulnerable to depression and anxiety, especially in this particular period (Aragona et al., 2020, Aragona et al., 2021, Choudhari, 2020, Scarlett et al., 2021).

Moreover, resilient groups were also studied and identified. RESPOND partners FSJD and UAM have shown that social support is an important protective factor during the COVID-19 crisis (Ayuso-Mateos et al., 2021a). The DynaCORE-C study showed that in addition to perceived social support, a positive appraisal style, optimism, perceived general self-efficacy, and self-perceived good stress recovery were related to resilience. On the contrary, neurotic individuals showed less resilience and these results were confirmed in follow-up work (unpublished).

1.2. MENTAL HELATH POLICIES ALREADY IMPLEMENTED DURING COVID-19

Population mental health has deteriorated despite governmental and international strategies set up to counter the effects of the COVID-19 pandemic on public health, and protect the economy and the labour market (Desvars-Larrive et

al., 2020). Still, it has been demonstrated that government responses moderate the mental health impact of COVID-19. For instance, notably stringent policies promptly implemented at the beginning of the pandemic, such as generalized lockdowns, had a more positive impact on mental health (Lee et al., 2021) suggesting the need for well-defined and targeted public policies. Moreover, policy responses to support good mental health during the COVID-19 pandemic are necessary and can take multiple forms.

International cooperation was not long in coming as the World Health Organisation (WHO), the United Nations (UN), and the Organisation for Economic Co-operation and Development (OECD) quickly published policy recommendations on mental health (McCartan et al., 2021). Also, more specific actions were taken such as, for instance, the creation of a joint WHO/Europe taskforce and the Central European Initiative to collect mental health impact data, and the publication of a mental health strategy by the European Union (EU) (McCartan et al., 2021).

Many public policies within countries have also been implemented, mainly in countries with lower levels of COVID-19 mortality because state services were less saturated (McCartan et al., 2021). More generally, the main responses have consisted of financial support to businesses and individuals (Goldman et al., 2020). One of the most successful public health policies during the COVID-19 pandemic is to be found in New Zealand, which has developed a mental health recovery plan whose themes address policy recommendations from the scientific literature (McCartan et al., 2021). Another example is the WHO Eastern Mediterranean Region, which implemented activities to address Mental Health & Psychosocial Support Network (MHPSS), including the expansion of dedicated phone and online help and support. Multiple other interventions are carried out locally, varying greatly in intensity and nature (Desvars-Larrive et al., 2020; Hale et al., 2021), online psychological services are provided free 24-hour care in China, self-help interventions and social media monitoring to stop suicide risks in China, online portal to promote mental health in the Netherlands and link people to care providers (McCartan et al., 2021) or also implementation of mental health plans, ranging from a health sector initiative to inter-agency and intersectoral efforts In Chile (Irarrazaval et al., 2021). Finally, the saturation of the hospital system has forced moving patients to less crowded hospitals (McCartan et al., 2021).

1.3. POLICY RECOMMENDATIONS ALREADY PUBLISHED REGARDING MENTAL HEALTH DURING COVID-19

A very large number of policy recommendations have already appeared in scientific articles, reports of regional, national and international organisations or in the news since the beginning of the COVID-19 pandemic (McCartan et al., 2021; Rahman et al. al., 2021). Global recommendations pertain mainly to prioritizing human lives and valuing the interests of marginalized and vulnerable populations, as well as helping people to anticipate and manage their health, and improving access to services and livelihood challenges (Rahman et al. al., 2021).

1.3.1. OVERCOME THE ADVERSE EFFECTS OF LOCKDOWN

Mass quarantine/lockdown is a major consequence of the pandemic. Being confined to one's home leads many to experience mental health difficulties. The most economically and socially vulnerable people may have been more affected by these measures and have had to rely on altruism in the absence of adequate governmental measures (Chu et al., 2020, Rahman et al., 2021) and have for instance built stronger communities (McCartan et al., 2021). Equity is thus designated as a rule to be followed when giving COVID-19 support (Rahman et al., 2021). It was advised to weigh the pros and cons when implementing lockdowns and to anticipate lockdowns' effects (Chu et al., 2020). In particular, access to medical care was limited and continuity of care was not always provided for people with pre-existing mental health problems; in such cases the extension of remote technology-based mental health interventions is recommended to ensure continuation of access to services (Chu et al., 2020; Marciniak et al., 2020; McCartan et al., 2021; Rahman et al., 2021; WHO Regional office for Europe, 2021). In particular, it is recommended that these interventions be implemented in the workplace (WHO Regional office for Europe, 2021).

1.3.2. ENSURE HIGH QUALITY INFORMATION TO ALL

In order to have strong evidence to build on in the future, it is recommended to further monitor mental health, as well as the consequences of the pandemic and the interventions implemented during this period (WHO Regional office for Europe, 2021). Then, recommendations regarding accessible, free and fact-checked information on the epidemic as well as its mental health consequences to prevent inequalities have been made (Rahman et al., 2021), including government funding supporting research or open access scientific journals (Chu et al., 2020). It is also important to inform the population of the consequences of the pandemic and of the preventive measures as it has been written in the International Covenant on Civil and Political Rights (ICCPR) guidelines (Rahman et al., 2021).

1.3.3. PREVENT INEQUALITIES

Some of the implemented aids have come up against the already existing barriers resulting from inequalities, and it has been advised that these social inequalities must be taken into account when addressing the consequences of the COVID-19 epidemic (Chu et al., 2020; Rahman et al., 2021; WHO, 2020; WHO Regional office for Europe, 2021). To help prevent mental health difficulties, it is recommended to provide free and well-adapted resources and education for persons with all levels of overall and health literacy (WHO Regional office for Europe, 2021). In particular, because of high levels of psychological difficulties among young people (WHO Regional office for Europe, 2021), parents and teachers need to be targeted to catch warning signs of psychological distress (Chu et al., 2020).

1.3.4. PROTECT FAMILIES

For families, it has been advised to put in place paid sick leave for parents (Chu et al., 2020). Also, the psychological impact of lockdown periods has hit the private sphere hard, with notable increases in gender-based violence (Chu et al., 2020; Rahman et al., 2021). Domestic violence and its prevention, as well as youth protection, were already identified as priority areas prior to COVID-19 they have become even more needed due to mobility restrictions and limited access to services. For example, it has been recommended to maintain child-related services like school (Rahman et al., 2021) and to provide shelters for women and children escaping domestic violence (C. Fong & Iarocci, 2020) regardless of the level of the epidemic.

1.3.5. SUPPORT ESSENTIAL WORKERS

For essential workers, a re-evaluation of salaries has been proposed (McCartan et al., 2021), as well as financial support providing medical and mental health care for parents who are also frontline workers and experience an elevated risk of contracting COVID-19 (C. Fong & Iarocci, 2020). For healthcare workers who have been particularly exposed to mental distress more support is also needed (Sharifi et al., 2020; Rahman et al., 2021; WHO Regional office for Europe, 2021). For instance, to prevent burnout, it has been recommended to pay attention to the mental health issues, reduce the workload of HCPs, reduce job-related stressors and create a healthy work environment (Sharifi et al., 2020). They also need action to help HCWs cope with possible stigma and discrimination that they experience in times of pandemics (Rahman et al., 2021). Overall, resilience should be enhanced by a proper provision of information, psychosocial support and treatment, monitoring the health status of professionals and using various forms and content of psychosocial support (Rieckert et al., 2021).

1.3.6. MAINTAIN ADHERENCE

Additionally, it seems important to value individuals' and community's rights to express their concerns and voices (Rahman et al., 2021). As recommended by ICCPR and other international rights guidance, the legality of state action and the role of state actors on lockdown needs to be tolerated by the population. Protracted restrictions run the risk of increasing levels of apathy and increasing violations by people in charge (Rahman et al., 2021).

1.4. METHOD

RESPOND focuses on fundamental questions regarding the short and long-term impacts of the pandemic on mental health and health inequalities. The first objective of RESPOND is to identify specific vulnerable groups at risk of the immediate and long-term negative impact of the COVID-19 pandemic on mental health, as well as relevant resilience factors. This report describes the first results of the analyses performed on the epidemiological data collected and analysed within the RESPOND consortium.

Work package 2 has made it possible to complete the identification of vulnerable and resilient groups regarding the short-term impact of the COVID-19 pandemic (Report D2.1 (Respond, 2021)) and several papers are planned throughout the project in the Data-Analysis Plan D2.3.

RESPOND WP2 partners examined whether between, before and during the COVID-19 pandemic's waves, there was a change in prevalence rates of mental health conditions (e.g. anxiety and depressive symptoms (i.e. psychological distress), suicidal ideation and behaviour) in the general adult population of the EU (e.g. Belgium, France and Spain). They also collected data on risk factors (e.g. sociodemographic/economic factors, severity of COVID-19 infection, (lack of) social activity and support, feelings of detachment, living situation, loss of income) associated with psychological distress as well as resilience and well-being (coping strategies and core value orientations) in the general population or specific vulnerable groups. Based on these results, we will now develop policy recommendations to prevent poor mental health during COVID-19.

1.5. OBJECTIVES

The need for targeted interventions and public policies aiming to improve mental health in the population at large and in vulnerable groups is urgent. RESPOND aims to address this need and this report gives recommendations based on results of studies within the RESPOND consortium and beyond. This report also provides an overview of the latest results based on the work of partners participating in WP2 of the RESPOND project.

POLICY RECOMMENDATIONS BASED ON IDENTIFIED RISK FACTORS OF PSYCHOLOGICAL DISTRESS IN THE GENERAL POPULATION AND VULNERABLE GROUPS

1. GENERAL POPULATION

1.1 AWARENESS AND PREPAREDNESS

A research project conducted by LIR studied the psychosocial and mental health effects of the pandemic in various population groups in the EU Member States[1]. In addition to 27 previous systematic reviews and meta-analyses, the literature search identified 90 observational studies on mental health, comprising evidence for various population groups in 14 EU Member States and the United Kingdom. These studies covered a period from January to December 2020, with most studies being carried out during the early pandemic phase (spring and summer 2020).

The findings indicate a consistent increase of stress-related mental symptoms (anxiety, depression, psychological distress) in the general population during the pandemic compared to before, which is in line with previous findings from the systematic reviews identified in this report. The available data for other population groups were either limited, differed from previous research, or were not consistent for the comparison of mental health during the pandemic with pre-pandemic mental health data. Over the further course of the pandemic (especially during and shortly after the "first wave"), the level of mental symptoms then remained stable at the higher level in contrast to before the pandemic or re-improved compared to the previously higher values from the pandemic in most population groups. The studies used various statistical methods to examine changes in mental health. Therefore, the exact extent of mental health changes is mostly unclear. Based on the identified evidence, no reliable conclusions regarding the mental health impact of the COVID-19 policy responses were possible.

Still, four policy recommendations emerge based on these study findings[1]. First, there is need for EU-wide monitoring on the mental health of the general population in Member States, over a long period of time during the pandemic and in its aftermath, measuring the prevalence of mental symptoms as well as of clinically relevant diagnoses of mental disorders.

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Second, the knowledge of the European public and policymakers regarding the mental health consequences of the pandemic, protective factors, and the efficacy of psychosocial and mental health interventions should be increased. A way to improve understanding of these topics could be implemented by funding programmes to promote research activities, for example, longitudinal studies on specific population groups (e.g., non-healthcare employees, COVID-19 patients) and in those Member States, that have to date been neglected.

Third, an EU-wide research study on mental health services could use the infrastructure of the European Health Data Space for health data sharing between the EU countries. This would allow policymakers to make more reliable conclusions about how the national mental healthcare systems have responded to the pandemic. These conclusions could help develop a European emergency preparedness plan to counteract negative mental health consequences of the COVID-19 pandemic.

This introduces a fourth policy option, the need for an emergency preparedness and response strategy which – as part of the European Health Union – should include response mechanisms for negative mental health impacts of cross-border health crises, for example, by providing psychosocial support resources (e.g., helplines, digital resources) for the general population and vulnerable groups. This preparedness plan could also define criteria to ensure a sufficient supply of the EU population with (critical) mental health services during and after health emergencies. In addition to the European Parliament (e.g., by promoting the establishment of necessary funding programmes), different European and national actors could contribute to implementing these policy options, including the European Commission, the Member States, mental health organisations, as well as research groups and experts in the field of mental health. These conclusions are linked to FSJD and UAM's (Ayuso-Mateos et al., 2021a) results suggesting that an ambitious international but also national level research agenda is needed, one that can provide our national and regional level healthcare authorities and health managers with transferable evidence-based practices, methodologies and guidance for scaling up mental health and broader social and economic support measures.

1.2 TARGETED MENTAL HEALTH SUPPORT

A first point is to prioritise action in favour of populations whose characteristics are associated with poor mental health during COVID-19. These factors are numerous, demonstrating the multiple mental health intervention needs of the population in face of the COVID-19 pandemic.
INSERM investigated whether work-related and financial difficulties during the COVID-19 pandemic were associated with symptoms of depression or anxiety, and using data from the TEMPO cohort[2] demonstrated[3] that adults with unstable employment or who experienced financial difficulties are more likely to experience high levels of depression or anxiety symptoms in the context of the COVID-19 pandemic. It is important to note that this increased risk of poor mental health is not explained by pre-existing socioeconomic or mental health difficulties. People experiencing

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[2] The TEMPO COVID-19 project, which is nested within the TEMPO (Trajectoires ÉpidéMiologiques en POpulation) cohort, collected nine waves of data starting on the 24th of March 2020, one week after France declared COVID-19 related lockdown. The TEMPO cohort has been described elsewhere (Melchior et al., 2014; Redonnet et al., 2012), but briefly it was set up in 2009 to follow-up young adults (22-35 years) who had taken part in a study of children's psychological problems and access to mental health care in 1991. TEMPO participants aged 4 to 16 years were recruited in 1991 by drawing lots among the offspring of participants of another epidemiological cohort (GAZEL) (Goldberg, Leclerc, and Zins, 2015). They were then followed via self-completed questionnaires in 1999, 2009, 2011, 2015 and 2018 (Aljandaleh et al., 2020). From March 24, 2020 invitations and reminders to participate were sent to a total of 1224 participants with valid email addresses. Questionnaires were sent weekly for the first five waves of data collection, biweekly for data collections six, seven and eight, and in the Fall of 2020 for wave nine, to better understand French adults' mental health situation during the pandemic. This study is based on 729 individuals who participated in at least one of the first seven waves of data collection.

[3] **Title:** Impact of work arrangement during the COVID-19 pandemic on mental health of the general population in France (paper in preparation)

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professional and financial difficulties as a result of the health crisis should be targeted with interventions to prevent mental health problems. In France, these groups of individuals have received significant financial support, but beyond that, it seems that psychological support is additionally needed. These work-related and financial vulnerabilities were also analysed by FSJD and UAM (Ayuso-Mateos et al., 2021a), in the Edad con Salud[4] study. The adverse economic and social consequences of the pandemic might have a greater impact on some specific groups (e.g., unemployment, changes in daily routines and social dynamics).

FSJD and UAM (Ayuso-Mateos et al., 2021b) have provided information on vulnerabilities in the general population. As the pandemic persists, its consequences are predicted to gradually appear, including rising unemployment, financial loss, reduced participation or inadequate supplies derived from significant cuts in spending on social and health care. The effects on mental conditions are expected to stay and peak later, with variations across populations and nations (John et al., 2020; Brooks et al., 2020). A position paper detailed several mental health research priorities in response to the demands of COVID-19 (Holmes et al., 2020). These include the collection of high-quality data on the mental health effects of the pandemic across the whole population and vulnerable groups, together with the development, assessment, and refinement of driven strategies to address its psychological, social, and neuroscientific aspects. Continuous reinforcement of preventive and intervening mental health measures during and in the aftermath of the crisis is thus of global importance.

A large UAM study (García-Esquinas et al., 2021) suggests that if another lockdown is imposed in this or future pandemics, public health programs should especially address the needs of older individuals of male sex, who experience social isolation, sub-optimal housing conditions, and chronic morbidities because of their greater vulnerability to the enacted movement restrictions.

Additionally, INSERM investigated factors associated with poor mental health among homeless persons and refugees, who experience high levels of socioeconomic difficulties and a surge of mental health difficulties during the COVID-19 pandemic (Scarlett et al., 2021). Very high shares of mental health problems (prevalence of depression approximately 30%) were found in this population with women, young people, those without stable partners and chronically unwell or food insecure persons being more at risk of these symptoms. It is therefore necessary to recognise the social inequalities at work, but also that it is important to give more importance to those who are more at risk and help them. Better mental health will also be the vector of a better economic and social situation (Scarlett et al., 2021).

1.3 ONLINE MENTAL HEALTH SERVICES

Using data from the COVID and I study[5], UCLouvain researchers found significant difficulties in access to mental healthcare services. In particular, research focused on levels and changes in patterns of online mental health support,

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[4] Non-institutionalized adults (i.e., 18+ years old) from the regions of Madrid and Barcelona participated in this study. They were recruited following a multistage stratified design consisting of: (i) a random sample of municipalities (sampling probability proportional to population size); (ii) a random sample of census units from each municipality; (iii) a random sample of households within each census tract, and assigned to one of two age groups: 18-49, or 50+ (the second one oversampled). For each household, individuals in the assigned age group were invited to participate. Participants were interviewed at their homes between June 17, 2019 and March 14, 2020 (Pre-COVID measure). They were reached out again between May 21, 2020 and June 30, 2020 to respond to a telephone interview (Post measure).

[5] The Covid-and-I survey was launched in March 2020 in Belgium, just two days after the first lockdown, to assess and track the population's mental health over time. Respondents who agreed to leave their email addresses were contacted again in April, June, and November 2020. April 2020 corresponded to the first month of the first lockdown period, June 2020 was the period during which most of the lockdown and restrictions measures were relaxed, including reopening of schools, restaurants, and other sport and cultural

its heterogeneity according to the characteristics of the population and its importance in times of health crisis[6]. The Covid-19 pandemic and subsequent restriction measures increased the psychological distress of the population at large while on-site mental health care use in inpatient and outpatient care decreased. Therefore, the provision of online mental health care was encouraged and scaled up in many countries. However, the extent to which online care services can deliver services to all (horizontal equity) and according to needs (vertical equity) is unknown. This study assessed whether online advice-seeking was related to mental health needs and whether different population subgroups equally sought advice when needed. Provision of online mental health achieved vertical equity but more attention must be paid to the older, less educated men, who are more likely to be missed out. In the longer term, the effective responsiveness of online services needs to be assessed.

From this study, several highly relevant public policy recommendations emerge. First, providing online mental health services is a feasible strategy to reach out to those in need of mental health care during a pandemic, when individuals are instructed to stay at home or when services are available online only. This strategy is likely to be equitable as those with more severe needs are more likely to connect to the available services. Yet, some groups are less likely to seek help and thus more efforts are needed to reach out. The most hard-to-reach audience is exemplified by older men with lower education, and possibly with little digital literacy. We recommend including in the national register, or in the national health service register, information with e-address or phone contact to connect with all citizens. Finally, all mental health services should adopt, test and exercise procedures to provide regular online services to their patients. This endeavour should possibly be framed and supported by national strategies.

Digital health information and access to digital intervention resources are scattered, with high-quality information and help hard to find and identify. We recommend setting up a digital infrastructure that provides evidence-based mental health information and guidelines for the general public as well as vulnerable groups (via a multi-language website), guides individuals to existing validated digital preventive interventions (including prescreening procedures for personalisation), and is also suitable for harbouring/offering interventions from different developers and providers, in a way that personal health data are safe and protected according to GDPR and at the same time available for mental health research. The infrastructure should in addition be available as a quality-controlled and well-managed platform for observational and interventional mental health research, making standardised digital research tools easily available to the research community. Such an ecosystem for health information, health care, and health research could become a unique mental health resource for responses to crises.

1.4 RESILIENCE

Not all people are equally affected by the COVID-19 pandemic and its consequences, making it relevant to identify resilience factors modulating the pandemic's impact on mental health. LIR confirmed its initial findings from the early pandemic about an important role for social support and positive appraisal, optimism, self-efficacy, and perceived good stress recovery (Ahrens et al., 2021 and unpublished data). An additional factor identified is the sense of coherence (SOC), the key component of the salutogenesis framework. The study conducted by Schäfer et al. (2021) aimed at investigating the long-term relationship between SOC and psychopathological symptoms, and the impact

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venues. November 2020 corresponded to the heart of the second wave of the outbreak and restriction measures were restored. From April 2020 onwards, respondents were offered the possibility to access information for online help. We analysed the online help-seeking behaviour of respondents at the second (April 2020), third (June 2020), and fourth survey wave (November 2020). A total of 21,734 participants were recruited in March 2020 and those who left their email address (n=14,094) were contacted again in the three next waves. We analysed the responses from the last three waves: 13,150 different individuals took part in one wave (n=3,081), two waves (n=3,755) and three waves (n=6,314), leading to 29,533 observations.

[6] **Title:** Psychological distress and online advice-seeking in times of Covid: vertical and horizontal equity of an e-mental health strategy (paper in preparation)
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of COVID-19-related rumination as a moderator. The findings suggest that a sense of coherence as a resilience factor predicts changes in psychopathological symptoms over time. Thereby, the findings provide evidence that resilience fostering interventions should include SOC fostering elements and that these interventions should be offered to those who show high levels of stressor-related rumination, more severe psychopathological symptoms, and weaker SOC. As SOC shows a robust relationship with mental health also in earlier life phases (Braun-Lewensohn et al., 2016; Schäfer et al., 2021), SOC fostering interventions might also be useful in younger populations. Given its buffering effect, that is, higher levels of SOC were associated with smaller changes in psychopathological symptoms in the course of the pandemic, pre-stressor interventions might be promising to improve coping behaviour with subsequent stressors. However, as this study used a non-representative sample, results need to be interpreted with caution. Moreover, it cannot be excluded that changes in mental health found in the present study were not related to the COVID-19 pandemic, but reflected spontaneous fluctuations over time or (less well-evidenced) over seasons (Øverland et al., 2020), as there was no long-term pre-pandemic assessment of the sample.

Further research is needed to provide more evidence on the relationship between SOC and mental health in the face of more diverse stressors including daily hassles. These studies should use state-of-the-art approaches (e.g., ecological momentary assessment) to assess stressor's impact on participants' daily lives. Moreover, to date, single studies in specific populations provide evidence for the effectiveness of SOC fostering interventions in adolescents and adults (e.g., Davidson et al., 2012; Namani et al., 2016), but a comprehensive systematic review is still missing. However, such a review would be urgently needed to expand the evidence base for SOC fostering interventions and identify which trainings are particularly effective for specific target groups.

In conclusion, better understanding resilience mechanisms and equipping populations with the ability to reduce, and cope with, stress through various psychological and behavioural routes, and to maintain social support networks should be policy priorities, especially for those who have elevated mental health symptoms (Ahrens et al., 2021). Dedicated crisis response measures would also benefit from a standing surveillance mechanism of resilience resources available to European populations.

FSJD and UAM (Ayuso-Mateos et al., 2021a) provided results that point to the role of social factors strongly associated with mental health conditions, including loneliness and social support. They suggest that promoting a sense of connectedness, experiences of companionship, and meaningful relationships show promise in mental health prevention, especially in times of physical distancing and lockdowns. Additionally, LIR noted social support was shown to be important for good mental health outcomes, which should be a policy priority. In conclusion, equipping populations with the ability to cope with stress, maintain social support networks and reduce stress should be policy priorities, especially for those who have elevated mental health symptoms (Ahrens et al., 2021). A study from

INSERM[7] focused on social support and used data from the COMET study[8] to explore social support trajectories. It reveals that there is an association between high levels of loneliness and increased symptoms of depression and anxiety during the COVID-19 pandemic. More prevention against loneliness was therefore suggested, and particularly during the pandemic.

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[7] **Title:** Impact of longitudinal Social Support and Loneliness trajectories on Mental Health during the COVID-19 Pandemic in France
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[8] The COVID-19 Mental Health Survey (COMET) study is an international, online longitudinal survey aimed at evaluating the course of mental health symptoms during the COVID-19 pandemic and the identification of the individuals who are at risk or resilient to these symptoms. The COMET consortium includes participants from 14 countries (The Netherlands, Italy, Switzerland, Turkey, Spain, Germany, France, United Kingdom, Sweden, South Africa, Indonesia, China, Australia and the United States).

2. CONTEXT SPECIFIC SUPPORT FOR VULNERABLE GROUPS

In times of epidemic outbreaks, control measures need to take into account intra-individual and inter-individual vulnerabilities, and not only the intrinsic dynamic of the pandemic (such as the number of cases per inhabitant or occupation rates of beds in ICU and hospitals). In particular, a significant part of the change in psychological distress is related to inter-individual vulnerabilities. UCLouvain, using data from the Covid and I survey, demonstrated that individuals present different vulnerabilities at different times during the pandemic, but a significant part of the changes in psychological distress is linked to specific groups of the population[9].

Therefore, policy measures need to be tailored to these specific vulnerabilities: (1) "targeted" measures, which help the most vulnerable groups throughout the period, and (2) "à la carte" measures, which allow differentiated support for certain individuals at certain times. As far as "targeted" measures are concerned, social life must be supported.

2.1 HEALTHCARE WORKERS (HCWS)

UAM focused its work on the follow-up of HCWs, to verify whether the exceptional context of the COVID-19 pandemic on their profession had a negative impact on their mental health using data from the HEROES cohort[10].
HCWs from early COVID-19 pandemic hotspots reported poor mental health outcomes. Longitudinal studies with long follow-up periods are scarce, despite important implications for decision-making. Between baseline and follow-up assessments, the proportion of full respondents screening positive for psychological distress and probable depression decreased, respectively, from 74% to 56% and from 28% to 21%. Two-thirds remained asymptomatic/stable in terms of depression symptoms and 56% remained symptomatic or worsened over time in terms of psychological distress.
The public health implications of these findings seem straightforward (Mediavilla et al., 2021a). Access to protective equipment and minimized changes in job functions if HCW redeployment are required and publicly available criteria for patient triage and on-call bioethics committees are needed.
These results should generate attention and debate, as they highlight the importance of adopting and expanding recommendations to reduce discrimination and stigmatization against HCWs due to COVID-19 (Mediavilla et al., 2021b) and then to follow CRC's Health Care in Danger strategy (ICRD, 2020). It mentions the generalisation of transparent protocols to guide clinical decision-making in contexts of limited access to resources, avoiding HCW's over-working and protecting legally HCWs against verbal and physical violence.

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[9] **Title:** Psychological distress of the general population during the Covid-19 sanitary crisis: individual and group vulnerabilities, a longitudinal study in Belgium (paper in preparation)
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[10] We conducted an 8-month follow-up cohort study. Eligible participants were healthcare workers working in Spain, a major initial COVID-19 hotspot. Baseline data were collected during the initial pandemic outbreak and follow-up assessments were performed one year after the pandemic started. We recruited 1,807 participants, of whom 1,058 (59%) were partial respondents (i.e., assessed only at follow-up) and 749 were full respondents (41%) (i.e., assessed at both baseline and follow-up).

2.2 YOUNG PEOPLE

Mental health vulnerability among young people has been particularly demonstrated through the Confins study[11] conducted by the University of Bordeaux (Macalli et al., 2021). The objective was to compare the frequency of depressive symptoms, anxiety, and suicidal thoughts in students and non-students enrolled in the same study, in key periods of the COVID-19 epidemic from March 2020 to January 2021 in France.

These results suggest that the restrictive measures of lockdown and curfew have an alarmingly stronger negative impact on students than on people who are employed, underlying the frailty of students' mental health, and showing that greater attention should be given to this population. Future studies should implement appropriate interventions to reduce this impact and promote the mental health of students, for example by improving posttraumatic growth or stress management. Given that the COVID-19 epidemic and some restrictions are set to continue for some time and that long-term consequences to mental health are likely to occur, it is crucial that universities and public health systems consider long-term strategies in terms of screening and help to mitigate mental health disorders in students during the pandemic.

2.3 OLDER ADULTS

A large UAM study (García-Esquinas et al., 2021) using data from four cohorts of older adults showed that during lockdown, the major impact in lifestyle risk factors was the increase in sedentary lifestyle and decrease in physical activity. But also, within this older adults group, some characteristics were linked to other poor healthy lifestyles. These results led them to suggest that if another lockdown is imposed in this or future pandemics, public health programs should especially address the needs of older individuals of male sex, with greater social isolation, sub-optimal housing conditions, and chronic morbidities because of their greater vulnerability to the enacted movement restrictions.

2.4 PERSONS WITH PRE-EXISTING MENTAL ILLNESS

KI studied preexisting mental health disorders and their association with poor mental health during COVID-19[12] using data from the COMET study. They investigated changes in anxiety and depression symptoms during the first year of

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[11] Our study sample comprised participants in the ongoing web-based CONFINS cohort (www.confins.org), a prospective population-based study launched in March 2020 to address the psychological impact of COVID-19. Participants were recruited via an advertisement in traditional and social media. To be eligible, subjects had to be aged 18 or older (without any upper age bar) and to have been confined in France. All participants provided an on-line informed consent. Using a repeated cross-sectional design, data collection occurred during three recruitment periods corresponding to key periods of the COVID-19 epidemic in France: (1) period 1: the first national lockdown (17th March–11th May, 2020); (2) period 2: no lockdown restrictions (12th May–27th October, 2020); and (3) period 3: the second national lockdown and curfew (28th October, 2020–25th January, 2021).

[12] **Title:** Symptoms of anxiety and depression during the COVID-19 pandemic in six European countries and Australia – differences by prior mental disorders and migration status (paper submitted)
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the pandemic in six European countries and Australia by prior mental disorders and migration status. At baseline, the prevalence estimates for depressive symptoms ranged between 19% and 45% in the different countries and for anxiety symptoms between 13% and 35%. There was a linear trend in Australia and Spain with slightly decreasing prevalence estimates for symptoms of depression and anxiety over time. There also was a difference in prevalence estimates between individuals with prior mental disorders and those without for both outcome measures. Only in two countries (Spain and Germany) we observed different patterns in the temporal changes of the prevalence estimates of having symptoms of depression and anxiety among individuals with and without prior mental disorder during the observed periods.

However, continuous monitoring of mental health and particularly in vulnerable groups is recommended even in the months to come as deterioration in mental health symptoms might emerge once the full consequences of socioeconomic adversities unfold. In a similar way, INSERM explored the link between past anxiety/depression symptoms and those occurring during the COVID-19 pandemic (Andersen et al., 2021). Also, a study from LIR (Ahrens et al., 2021) presenting the results of the LORA COVID study shows that a large percentage of participants was able to cope well with the initial lockdown in Germany. However, those that had elevated mental health problems were at higher risk to develop more symptoms during the pandemic. These findings emphasize that symptoms of anxiety and depression, as other mental health difficulties, were present in the population a long time after the outbreak and the quarantine period, where the same trend could be expected in the context of the COVID-19 pandemic, and the time horizon should be considered when implementing health promotion interventions focusing on population mental health after the pandemic. Experiencing higher stress, both subjective and objective, resulted in more mental health problems. Support should be increased for at-risk groups to deal with increased stress. As greater self-reported cognitive and emotion regulation abilities were associated with lesser mental health problems, interventions could be aimed at increasing the coping skills of persons experiencing stress. Positive appraisal stood out as a particularly promising strategy. Furthermore, reducing stress could be an avenue for improving outcomes.

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CONCLUSION

The studies handled by the different partners of the RESPOND consortium allow a broad view of mental health difficulties experienced by the general population and vulnerable groups during the COVID-19 pandemic. Results show specific risk factors, which point towards policy recommendations presented in this report. Furthermore, having identified vulnerable groups, partners were able to determine targeted policy recommendations adapted to specific groups' social and professional contexts.

Several findings encourage increased awareness and preparedness for the consequences that crises such as the COVID-19 pandemic may have on mental health. Results from LIR, tend to propose an EU-wide surveillance study on mental health and risk and resilience factors in the general population of the Member States and funding programmes to promote research activities on specific population groups, in particular in longitudinal studies. This will allow a better understanding of mental health problems for the general public and policymakers. In particular, the use of the European Health Data Space could be relevant in order to share these data between EU member states. With these findings in mind, an emergency preparedness plan should be developed to counteract the negative mental health consequences of the pandemic. It includes response mechanisms for negative mental health impacts of cross-border health crises, for example, by providing psychosocial support resources (e.g., helplines, digital resources) for the general population and vulnerable groups. This preparedness plan could also define criteria to ensure a sufficient supply of the EU population with (critical) mental health services during and after health emergencies. In a similar way, conclusions from FSJD and UAM suggest an ambitious international but also national level research agenda providing transferable evidence-based practices, methodologies and guidance for scaling up mental health and broader social and economic support measures for healthcare authorities and health managers. A digital infrastructure is needed for trustworthy mental health information, accessible and valid mental health interventions, and efficient mental health research.

In the general population, a wide range of risk factors has been identified. Having had difficulties at work and financially during the pandemic is one of them (INSERM), thus we suggest targeting these people more with mental health interventions. In particular, the demonstrated vulnerability of refugee populations during the health crisis (INSERM) leads us to recommend a better consideration of these isolated and destitute populations in the framework of mental health interventions.

As it has been demonstrated, many risk factors are associated with poor mental health. For this reason, FSJD and UAM support the mental health research priorities given by Holmes et al. (2020), mainly the collection of high-quality data on the mental health effects of the pandemic across the whole population and vulnerable groups, together with the development, assessment, and refinement of driven strategies to address its psychological, social, and neuroscientific aspects. Among these risk factors, UAM promotes public health programmes towards older individuals of male sex, with greater social isolation, sub-optimal housing conditions, or chronic morbidities because of their greater vulnerability to the enacted movement restrictions.

Given the context of the COVID-19 pandemic, many of the policy recommendations concern the development of remote e-mental health services. UCLouvain demonstrated a significant increase in the need for online support during the COVID-19 pandemic. The development of these remote solutions is therefore recommended, with attention to equity of access to these services, particularly for the elderly or less educated / digitally literate who may miss these services. It is also recommended here to include information with e-address or phone contact in the national register or in the national health service register to connect with all citizens.

The development of social support is supported by research conducted by FSJD, UAM and LIR through interventions to counter the effect of social loneliness on poor mental health, especially during lockdown periods. Resilience in relation to mental health has been studied by LIR, which has raised the need for interventions fostering psychological and behavioural coping resources and techniques and identifying which training is particularly effective for target groups.

The aim of the RESPOND partners' analyses is to identify groups vulnerable in terms of mental health during the COVID-19 pandemic. When it comes to making public policy recommendations, here too the results obtained by the researchers support recommendations aimed at reducing mental health inequalities between the general population and vulnerable

groups. UCLouvain explained that these measures should include "targeted" measures, which help the most vulnerable groups throughout the period, and "à la carte" measures, which allow differentiated support for certain individuals at certain times. As far as "targeted" measures are concerned, social life must be supported.

HCWs, studied by UAM, have an exacerbated vulnerability during the health crisis. To help them, they highlight the need to access medical equipment, minimise organisational disruption at work, favour the implementation of publicly available criteria for patient triage and on-call bioethics committees and target them with easy access stepped-care and evidence-based mental health treatment to HCWs. There is also a need to prevent stigmatisation and discrimination against HCWs in times of health crisis, and to end this it is suggested to generalise transparent protocols to guide clinical decision-making in contexts of limited access to resources.

Young people have also been particularly vulnerable in terms of mental health. Within this group, the University of Bordeaux studied the vulnerability of students and their results suggest restrictive measures had an especially negative effect. In times of health crisis, we suggest that special attention and tools, such as developing posttraumatic growth or stress management tools, should be implemented for this group and youth in general.

Older adults have also been identified as vulnerable by UAM, and that in times of pandemic it would be good practice to prevent their social isolation and possibly provide solutions to their possible sub-optimal housing conditions and prevent the aggravation of their possible chronic diseases.

In relation to people who have experienced mental health problems in the past, KI suggests continuing monitoring of mental health and particularly in vulnerable groups. INSERM data concurs, stating these findings emphasize that symptoms of anxiety and depression, as other mental health difficulties, were present in the population a long time after the outbreak and the quarantine period, where the same trend could be expected in the context of the COVID-19 pandemic, and the time horizon should be considered when implementing health promotion interventions focusing on population mental health after the pandemic.

In the future, as they continue to analyse the data from their cohorts, RESPOND partners will produce results on the long term impacts of the COVID-19 pandemic and associated policy recommendations. If feasible, future analyses will be carried out jointly between several cohorts to increase the statistical power and informative potential of the results. The results of this report demonstrate the need for mental health intervention, which is increased during the COVID-19 pandemic. RESPOND aims to help meet this need through the development of a remote-delivered stepped-care intervention.

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