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Mental health impacts of the COVID-19 pandemic on adults

The COVID-19 pandemic is affecting the mental health and wellbeing of the population in different ways. This paper outlines the impacts on adults in the UK, highlights those groups most affected and their mental health outcomes, and the limitations of current knowledge. It also discusses policy approaches to protect mental health and how healthcare services can adapt to improve outcomes.

Overview

- The pandemic has affected people's mental health and wellbeing in different ways and at different time points, with some negative impacts likely to persist long-term.
- Impacts result from the wider effects on society, with research emerging about the direct effects of infection on the brain.
- Those most vulnerable include young adults, women, and those with pre-existing mental health conditions. Mental health inequalities have been exacerbated by the pandemic.
- The NHS reorganised mental health services and delivered significant amounts of care online, but the impact on care quality is unclear. More effective care requires a better understanding of who is affected and how, the long-term impacts, what interventions work, and a skilled workforce.
- Public health experts have indicated that mental health considerations need to be more comprehensively tackled in policy.

Background

The impacts of the COVID-19 pandemic on mental health and wellbeing are a significant public health concern;[1,2] while some are transient others are likely to be long-term.[3,4] In the initial stages of the pandemic, COVID-19 restrictions limited the provision of NHS mental health services.[5–7] Support from other sources was also under pressure, with charities reporting increased demand alongside loss of funding.[8] Data from several sources reports how the demand on services changed over the course of the pandemic (box 1). Initially fewer people accessed services, which quickly returned closer to normal while at the same time pressure on psychiatric beds increased. The most recent data (April 2021) shows that the number of people contacting the NHS seeking help for mental health problems is now at a record high.[9]

These needs arise in the context of underfunded mental health services facing a care backlog, waiting lists[10–13] and a stretched, exhausted and understaffed workforce[14–16], which will likely make services harder to access. The Government has created a recovery plan to guide service provision.[17] This briefing covers the indirect effects of the COVID-19 pandemic, such as the wider impacts on society, and the direct effects of COVID-19 infection on the mental health of those over 18 years old. It focuses on data relevant to the wider health services in the UK, with insights from international research.[18]

Tracking the impact on mental health

Early in the pandemic Public Health England (PHE) set up a monitoring tool[19] and surveillance reports[20] that compile information on mental health from multiple sources. These have been published regularly to inform Government about how things are changing over time. However, it has been challenging to define clearly the impact of COVID-19 on mental health given a number of shortcomings in the evidence. Firstly, mental illness can take longer to develop and diagnose than other medical aspects of COVID-19. Thus, most research studies published to date relate to the early stages of the

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Box 1: Demand for mental health services

- Between March-April 2020, while fewer people with psychiatric problems attended A&E, they were more likely to have severe symptoms, and be admitted to hospital involuntarily.[21]
- The number of people accessing mental health services or hospitalised decreased at the beginning of the pandemic.[9] This trend was slowly reversing and is now at a record high.[9,22,23] A similar pattern was observed for involuntary admissions.[9]
- The Royal College of Psychiatrists members' survey[24] in December 2020 shows that 187 of 313 (60%) members confirmed there was 'significantly more pressure' on local beds when compared to December 2019.

pandemic. Secondly, some studies include samples that are not representative of the population, or they lack comparable, pre-COVID-19 baseline data against which to measure change. For example, in the UK, surveys using self-report questionnaires were quickly set up when the pandemic began. However, such surveys are prone to bias and can lack representativeness.[25] Thirdly, research has been broad in scope and varied in methods. This makes it challenging for researchers and policy-makers to compare and summarise the research.[18,26]

Recent studies have used more robust approaches.[4,27] For instance, repeated cross-sectional studies have compared responses from several datasets on the same questions, whilst longitudinal studies compare responses from the same individuals over time.[28] Consistent patterns from different types of evidence have offered more robust conclusions.

As time has progressed, results from studies using electronic health records are now becoming available, which can give more information about diagnosed conditions, whilst surveys based on self-reported data convey information about distress at a given time.[29,30] In addition, existing longitudinal population studies adapted to capture impacts across all ages.[31] However, studies including more recent data have yet to be published or peer-reviewed, including a review of the literature.[18]

Direct impacts of a COVID-19 infection

How COVID-19 infection affects the brain and mental health is still being investigated. Diagnosed mental and neurological disorders were significantly more common in COVID-19 patients than in comparison groups of people who recovered from influenza or other respiratory infections over the same period.[32–36] The cross-sectional nature and the focus on acute presentations of most studies published to date limit the ability to draw conclusions about the long-term impact.[37]

- A review of 215 studies from 30 countries found high numbers of patients reporting symptoms of depression (23%) and anxiety (16%)[37], even with milder infection.[33]
- Elevated rates of post-traumatic stress disorder (PTSD) symptoms were identified in those requiring higher intensity medical treatment in the UK, such as hospital admission (with or without ventilation).[38]

However, two studies (one not yet peer reviewed) of non-hospitalised patients did not show psychiatric consequences compared to those who tested negative.[39,40]

Previous epidemics involving other coronaviruses (SARS, MERS) show high presence of psychiatric symptoms and PTSD post-infection.[41–43] Two new studies, PHOSP-COVID study[44] and COVID-CNS[45], were set-up after the first wave of COVID-19 infections, to monitor and improve these long-term impacts.

Long COVID

The term 'long COVID' is commonly used to describe symptoms that continue or develop after the acute infection.[46] It includes both ongoing symptomatic COVID-19 (from 4 to 12 weeks) and post-COVID-19 syndrome (12 weeks or more),[46] which can include mental health symptoms.[47,48] Recent evidence reviews (not yet peer reviewed)[49] found neuropsychiatric symptoms are common and persistent after recovery from COVID-19. The literature on longer-term consequences is still maturing[50], but indicates a particularly high frequency of insomnia, fatigue, cognitive impairment and anxiety disorders in the first six months after infection. There was little or no evidence of different symptoms based on hospitalisation status or severity.

Indirect impacts of the pandemic

More than one year on[18,51], it is clear that the pandemic has impacted different people, at different times and in different ways.[52] Looking at averages can mask significant variation in the groups most affected by the pandemic.[53] The pandemic has intensified pre-existing mental health inequalities.[54,55] A report by the Royal College of GPs highlighted emerging evidence for several health impacts, including mental health.[56]

Depression and anxiety

Depression and anxiety symptoms were more frequently self-reported in the early stages than at other points of the pandemic.[1818,57–61] However, there is currently limited evidence to show exactly what happened. While a study using GP-held electronic health records found that in April 2020 the incidence of depression had reduced by 43% compared with expected levels, anxiety disorders by 48%, and first antidepressant prescribing by 36% in England[30], it is thought this was likely caused by missed opportunities for care.[29] By September 2020, rates of depression and anxiety disorder were back to typical levels in England but in the other UK nations remained a third lower than expected.[30] There was no increase in the rate of antidepressant prescribing (over what is expected).[62]

Self-harm and suicide

Concerns that the pandemic could result in increased suicide[63] or self-harm[5] rates has not been borne out by data from services in the UK so far,[64,65] but data from Japan reported an increase.[66] There is a well-documented link between recession and suicide[67–71] but this can take place over years and thus requires a prolonged follow-up period.[72] Identifying trends in at risk groups requires detailed analysis.[73] A recent study (not yet peer reviewed) has shown that until February 2021 the largest contribution to self-harm thoughts and behaviour during the pandemic was physical or psychological abuse, including domestic violence.[74]

Wider population wellbeing

In May 2020, the Office for National Statistics (ONS) reported that wellbeing levels were at their worst since data collection began in 2011[75] with almost half of people reporting that the

pandemic was affecting their wellbeing. Other data report that measures of life satisfaction and loneliness have remained relatively stable.[18,57] Younger people and those with a history of mental illness expressed the highest levels of loneliness.[76] A recent study reported loneliness increased from 10% in March 2020 to 26% in February 2021.[52]

Groups most at risk

People with particular characteristics, which may overlap, are at higher risk of mental health impacts, highlighting the need for preventative measures addressing social determinants, additional support and targeted mental health services.[77] People with certain characteristics were already at higher risk of adverse mental health outcomes and the pandemic has exacerbated those inequalities. Reviews suggest that people with the following characteristics are most impacted:

- **Young adults** One of the most consistent findings across studies is the negative impact on young adults' mental health, who experienced higher depression and anxiety.[18,20,27,52,60,78–85] Those with pre-existing mental health conditions, such as disordered eating and self-harm, appear to be at greater risk of developing symptoms of depression, anxiety and poor mental wellbeing during the pandemic, compared with those without pre-existing conditions.[86]
- **Women** The pandemic has had a disproportionate impact on women[79,81] who experience socioeconomic and gender inequalities, and domestic violence.[18,27,58,60,83–85,87–91] Multinational and UK studies found high levels of depression and anxiety symptoms among pregnant and breastfeeding women during the outbreak.[92,93] Healthcare staff perceived this vulnerability to be mostly associated with the impact of social isolation and domestic violence and abuse.[94]
- **Minority ethnic communities** Those from minority ethnic backgrounds have had higher levels of self-reported depression, anxiety, abuse, self-harm and thoughts of suicide/self-harm across the pandemic compared to the general population.[27,87,88] It is unlikely ethnicity itself causes differences in mental health outcomes, but it may be correlated with other factors such as occupation, low income, higher likelihood of infection and death, or racism.[20,64,95–100]
- **People living alone or with children** Those living alone or with children under the age of 5 years were found to have more anxiety and psychological distress. [20,27,58,60,83–85,101,102] Families with younger children, adult caring responsibilities, children with disabilities or special educational needs also struggled and problems were further compounded by a reduction in professional support for their needs during lockdown.[101,103] In other studies some parents found being at home was positive for the whole family's mental health[104] and strengthened family bonds.[103]
- **People with pre-existing mental illness** Pre-existing health risks make people more likely to report worse mental health and wellbeing than those without, although there is no good evidence of that inequality widening.[4,4,18,27,60,79,80,87,105–109] A US study showed no worsening of mood or psychotic symptoms[110] in the first 2-4 months for people with bipolar disorder or schizophrenia. UK studies are underway and preliminary findings are similar.[111,112] However, a survey of people with bipolar disorder (not peer reviewed) found that they reported more depression, anxiety, difficulty in managing their mood and more suicidal thoughts.[113] People with eating disorders found the pandemic difficult and charities reported demand for their support services increased by 98% during March-August 2020, compared to the same period in 2019.[114] There have also been concerns about alcohol misuse[81,115,116] (with increased related deaths[117]) and addictive disorders.[118]
- **People experiencing socioeconomic adversity** People adversely economically[119] impacted by the pandemic have been highlighted as a vulnerable group.[87,100,120,121] In particular, people with the lowest incomes and the unemployed, have been disproportionally affected.[4,18,27,60,80,83–85,122,123] Experiencing both a COVID-19 infection and financial worries was associated with self-harm thoughts and behaviours (not yet peer reviewed)[74] and depression and anxiety symptoms[124] in a large UK survey. Those affected by socio-economic adversity before the pandemic, found coping during the pandemic more difficult.[123] In January 2021, 43% of unemployed people had poor mental health compared with 27% of those in employment and 34% on furlough[125]. This suggests that furloughing has had a protective effect on mental health, but it is unclear whether this will be a sustained effect when furlough support ends.[125] A report by the Health Foundation estimates there could be 800,000 unemployed people with poor mental health by the end of 2021.[125]
- **Health and care workers and unpaid carers** POSTnote 634 discusses the impact of COVID-19 on NHS staff.[14] In May 2021 a report[100] estimated that 50% of critical care workers will experience one or more mental health problems and up to 40% will develop PTSD in the next 3-5 years.[100,126,127] Carers for adults and children with learning disabilities are considered to be at risk;[128–130] the same report forecasts 21,225 people will need mental health support.[100]
- **Clinically vulnerable groups** People deemed to be at high risk of serious illness from COVID-19 were advised to shield. This included people with specific medical conditions, such as cancer and some respiratory diseases. Overall, they were more likely to report higher levels of depression, anxiety and loneliness compared with those of a similar age who were not advised to shield.[4,131–133] People with physical disabilities might be at particular risk for emotional distress, poor quality of life, and low wellbeing during the COVID-19 pandemic.

Mental health services in the pandemic

NHS England created a 24-hour crisis line in April 2020. Mental health services were restructured in some areas to divert people away from general hospitals and to deal with patients attending A&E with mental health problems; the quality and acceptability of this service is currently under evaluation.[134] Waiting list times are not available. A qualitative study on access to secondary care reported that changes to service provision were driven by organisational requirements, rather than patients' needs.[135] Staff felt that decisions about reorganising services were made at senior level and excluded frontline staff, since they had to focus on containing risk.[135] The impact of these changes has meant more people had limited access to care[136], with the risk that their condition could worsen.[114] Policies, however, did not cover all settings. For

instance, rehabilitation services' clinicians and academics reported they had to address that gap by working with local government and other local services in an unprecedented way to co-ordinate their responses and support communities.[137,138]

Lessons learnt and future service delivery

There is a broad consensus that the likely link between the COVID-19 pandemic and mental health outcomes[36] supports the importance of giving funding for mental health equal priority with physical health, as outlined in the NHS Long Term Plan.[139] The Government's Recovery Action Plan[17] commits to a "holistic approach" and continued monitoring of the mental health impacts to inform actions. The UN endorses a "whole of society approach" that calls for addressing the mental health and psychosocial needs of the entire population regardless of their direct or indirect contact with the virus.[140,141] While general distress at population level can be better addressed through population level prevention strategies, diagnosed illness at the individual level will need specialist services.

Improving research evidence

Earlier in the pandemic, recommendations for what to focus high quality research on were informed by public consultation, the views of those who have experienced mental illness and clinicians.[142–144] Many researchers reported that speed might have compromised quality of the research done so far.[145] New research initiatives are beginning to examine the impacts of COVID-19,[146–148] with stakeholders recommending several areas for future research:

- Improve real time monitoring of mental health, the burden of disease and who is affected.[142] For instance, in England, changes to collect suicide data more quickly from coroners are in progress, given the average time taken for a finding of suicide is 166 days from death to inquest.[149] More timely data can inform how services and policymakers can respond.
- Standardise measures used across studies in order to make it easier to collate data and make comparisons.
- Conduct research using both qualitative and quantitative methods, involving people who have experienced mental ill health.[145]
- Investigate what can be done to prevent, mitigate or treat problems.[142] Research following up people's outcomes and on effective interventions is currently lacking.
- Develop a searchable research register to prevent duplication[150] and to build knowledge for future pandemics.[2]

Delivering services

Remote care

Routine mental healthcare was curtailed or delivered remotely.[3] The impact on the quality of care is not yet clear. There are mixed views from staff and patients on the use of video consultations.[151–153] Whilst it might be beneficial to increase access for some with common mental disorders, it may be less appropriate for others, for instance those with severe mental illness or vulnerable families.[16,154] Staff report important technological, social and procedural barriers, and that its use should remain selective, complementing rather than replacing face-to-face contact.[151,155] From patients' perspectives, remote care risks widening inequalities.[155] Patients need a digital care plan which includes access to the hardware and software and training[156] to use the digital offer in an effective way, with safeguards in place for when things go wrong.[157]

Mental health care workforce/ability to meet demand

There has been a previous disinvestment[10] in mental and public health, which has been exacerbated by increased demand. The NHS is facing a large backlog of care and expecting a surge in demand for mental health services,[69] and some in the workforce report experiencing exhaustion.[14] Mental and public health professionals will be required to deal with the complexity of COVID-related problems and co-morbidities, and interaction with physical illness. The Government has financed 120 extra training posts for psychiatrists, but the Royal College of Psychiatrists advocates this should be a year-on-year offer. Staff retention in psychiatry, psychology, health visiting,[16] and nursing[158] is an ongoing issue.

Help-seeking and access to services

It is difficult to separate out the effects of the pandemic from the experience of COVID-19 infection. The Centre for Mental Health estimates that up to 8.5 million adults in England over the next three to five years will need either new or additional mental health support for depression, anxiety, PTSD and other mental health difficulties, such as complicated grief arising from bereavement and loss related to COVID-19,[100,159] around two-thirds of whom already have existing mental health needs, including severe mental illness.[159] While the NHS is investing in additional mental health services[17], the predicted levels of demand are two to three times that of current NHS capacity within a 3-5 year window. The RCGP states that there is also a need to invest in primary care to support the capacity of GP services, which already provide integrated psychological and mental health care, accessed by all patients.[56]

Prevention

Stakeholders agree that working on prevention requires working across sectors and taking a public mental health informed approach.[17,160] PHE's psychological first aid training[161] equipped front-line workers to help others; over 100,000 people participated. The Every Mind Matters campaign[162] was revised to provide support, including a 'Mind Plan'[163] and support around the challenges of returning back to 'normal'.

People living in areas most affected by lockdown, struggling financially, with pre-existing conditions, or COVID-19 infection might benefit most from early intervention.[4] A significant proportion of people who are currently unemployed have mental health problems, such as depression and anxiety. Supporting these individuals into work is seen as critical to their health, and to economic prosperity.[125] Research evidence and international experience provide a strong basis for suicide prevention.[164–166] Worldwide data from previous recessions has shown the extent of increase in suicides was linked to how much financial security was provided by governments.[70,71]

Public health experts argue that a broader policy approach is needed to support mental health with consideration of the mental health impacts needed in policy covering economic equality, early years support, domestic violence and financial security.[167] Addressing the impacts of the pandemic on the health and care workforce is also seen as important.[167]

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Endnotes

1. McCartan, C. *et al.* (2021). A scoping review of international policy responses to mental health recovery during the COVID-19 pandemic. *Health Res. Policy Syst.*, Vol 19, 58.
2. Anna Charles *et al.* (2021). The road to renewal: five priorities for health and care. The King's Fund.
3. Hotopf, M. *et al.* (2020). The scope of mental health research during the COVID-19 pandemic and its aftermath. *Br. J. Psychiatry*, Vol 217, 540–542.
4. Pierce, M. *et al.* (2021). Mental health responses to the COVID-19 pandemic: a latent class trajectory analysis using longitudinal UK data. *Lancet Psychiatry*, Vol 8, 610–619.
5. Hawton, K. *et al.* (2021). Self-harm during the early period of the COVID-19 pandemic in England: Comparative trend analysis of hospital presentations. *J. Affect. Disord.*, Vol 282, 991–995.
6. Chen, S. *et al.* (2020). The early impact of COVID-19 on mental health and community physical health services and their patients' mortality in Cambridgeshire and Peterborough, UK. *J. Psychiatr. Res.*, Vol 131, 244–254.
7. Sheridan Rains, L. *et al.* (2020). Early impacts of the COVID-19 pandemic on mental health care and on people with mental health conditions: framework synthesis of international experiences and responses. *Soc. Psychiatry Psychiatr. Epidemiol.*, Vol 56, 13–24.
8. Pro Bono Economics (2020). The charity sector through Covid.
9. NHS Digital [online] Mental health services monthly statistics. Accessed 16/07/2021.
10. Gilburt, H. (2018). Funding and staffing of NHS mental health providers. The King's Fund.
11. Thorlby, R. *et al.* (2020). Spending Review 2020. The Health Foundation.
12. The Royal College of Psychiatrists (2020). Next steps for funding mental healthcare in England.
13. British Medical Association (2020). The impact of COVID-19 on mental health in England.
14. Wilson, C. & Bunn, S. (2020). Mental health impacts of COVID-19 on NHS staff. Parliamentary Office of Science and Technology.
15. House of Commons Health and Social Care Committee (2021). Workforce burnout and resilience in the NHS and social care.
16. Institute of Health Visiting (2020). State of Health Visiting survey.
17. HM Government (2021). COVID-19 mental health and wellbeing recovery action plan.
18. Aknin, L. *et al.* (2021). Mental Health During the First Year of the COVID-19 Pandemic: A Review and Recommendations for Moving Forward. *PsyArXiv*.
19. Public Health England [online]. Wider Impacts of COVID-19. Accessed 16/07/2021.
20. Public Health England [online]. COVID-19: mental health and wellbeing surveillance report. Accessed 16/07/2021.
21. Mukadam, N. *et al.* (2021). Acute mental health presentations before and during the COVID-19 pandemic. *BJPsych Open*. Vol 7, E134.
22. Royal College of Psychiatrists [online]. Mental Health Watch. Accessed 16/07/2021.
23. NHS Digital [online]. Mental Health Services Monthly Statistics Final March, Provisional April 2021. Accessed 16/07/2021.
24. Royal College of Psychiatrists (2021). Analysis of RCPsych member survey – beds and out of area placements.
25. Pierce, M. *et al.* (2020). Says who? The significance of sampling in mental health surveys during COVID-19. *Lancet Psychiatry*, Vol 7, 567–568.
26. Sachs, J. D. *et al.* (2020). Lancet COVID-19 Commission Statement on the occasion of the 75th session of the UN General Assembly. *The Lancet*, Vol 396, 1102–1124.
27. Pierce, M. *et al.* (2020). Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population. *Lancet Psychiatry*,
28. Bermingham, R. (2020). Study designs: primary research.
29. Mansfield, K. E. *et al.* (2021). Indirect acute effects of the COVID-19 pandemic on physical and mental health in the UK: a population-based study. *Lancet Digit. Health*, Vol 3, e217–e230.
30. Carr, M. J. (2021). Effects of the COVID-19 pandemic on primary care-recorded mental illness and self-harm episodes in the UK: a population-based cohort study. *Lancet Public Health*, Vol 6, e124–e135.
31. CLOSER [online]. COVID-19 Longitudinal Research Hub. Accessed 16/07/2021.
32. Taquet, M. *et al.* (2021). 6-month neurological and psychiatric outcomes in 236 379 survivors of COVID-19: a retrospective cohort study using electronic health records. *Lancet Psychiatry*, Vol 8, 416–427.
33. Taquet, M. *et al.* (2021). Bidirectional associations between COVID-19 and psychiatric disorder: retrospective cohort studies of 62 354 COVID-19 cases in the USA. *Lancet Psychiatry*, Vol 8, 130–140.
34. Varatharaj, A. *et al.* (2020). Neurological and neuropsychiatric complications of COVID-19 in 153 patients: a UK-wide surveillance study. *Lancet Psychiatry*, Vol 7, 875–882.
35. Li, L. Z. *et al.* (2020). Prevalence and predictors of general psychiatric disorders and loneliness during COVID-19 in the United Kingdom. *Psychiatry Res.*, Vol 291, 113267.
36. Rogers, J. P. *et al.* (2020). Psychiatric and neuropsychiatric presentations associated with severe coronavirus infections: a systematic review and meta-analysis with comparison to the COVID-19 pandemic. *Lancet Psychiatry*, Vol 7, 611–627.
37. Rogers, J. P. *et al.* (2021). Neurology and neuropsychiatry of COVID-19: a systematic review and meta-analysis of the early literature reveals frequent CNS manifestations and key emerging narratives. *J. Neurol. Neurosurg. Psychiatry*,
38. Chamberlain, S. R. *et al.* (2021). Post-traumatic stress disorder symptoms in COVID-19 survivors: online population survey. *BJPsych Open*, Vol 7, e47.
39. Lund, L. C. *et al.* (2021). Post-acute effects of SARS-CoV-2 infection in individuals not requiring hospital admission: a Danish population-based cohort study. *Lancet Infect. Dis.*,
40. Abel, K. M. *et al.* (2021). COVID-19 infection and subsequent psychiatric morbidity, sleep problems and fatigue: analysis of an English primary care cohort of 226,521 positive patients. *medRxiv*
41. Chau, S. W. H. *et al.* (2021). History for some or lesson for all? A systematic review and meta-analysis on the immediate and long-term mental health impact of the 2002–2003 Severe Acute Respiratory Syndrome (SARS) outbreak. *BMC Public Health*, Vol 21, 670.
42. Boden, M. *et al.* (2021). Mental disorder prevalence among populations impacted by coronavirus pandemics: A multilevel meta-analytic study of COVID-19, MERS & SARS. *Gen. Hosp. Psychiatry*, Vol 70, 124–133.
43. Luo, Y. *et al.* (2020). A Systematic Review of the Impact of Viral Respiratory Epidemics on Mental Health: An Implication on the Coronavirus Disease 2019 Pandemic. *Front. Psychiatry*, Vol 11, 565098.
44. PHOSP-COVID [online]. The Post-hospitalisation COVID-19 study (PHOSP-COVID). Accessed 16/07/2021.
45. COVID-CNS Study [online]. COVID-19 Clinical Neuroscience Study. Accessed 16/07/2021.
46. NICE (2020). COVID-19 rapid guideline: managing the long-term effects of COVID-19.
47. Ladds, E. *et al.* (2020). Persistent symptoms after Covid-19: qualitative study of 114 "long Covid" patients and

draft quality principles for services. *BMC Health Serv. Res.*, Vol 20, 1144.
48. Ziauddeen, N. *et al.* (2021). Characteristics of Long Covid: findings from a social media survey. *medRxiv*,
49. Badenoch, J. B. *et al.* (2021). Persistent neuropsychiatric symptoms after COVID-19: a systematic review and meta-analysis. *medRxiv*
50. NIHR [online]. News: £18.5 million awarded to new research projects to understand and treat long COVID. Accessed 16/07/2021.
51. Wright, L. *et al.* (2021). Public Opinion about the UK Government during COVID-19 and Implications for Public Health: A Topic Modelling Analysis of Open-Ended Survey Response Data. *medRxiv*
52. Mental Health Foundation (2021). Pandemic one year on: landmark mental health study reveals mixed picture. *Mental Health Foundation*.
53. Shevlin, M. *et al.* Refuting the myth of a 'tsunami' of mental ill-health in populations affected by COVID-19: evidence that response to the pandemic is heterogeneous, not homogeneous. *Psychol. Med.*, 1–9.
54. GOV.UK [online]. COVID-19 mental health and wellbeing surveillance: Spotlights. Accessed 16/07/2021.
55. Gessa, G. D. *et al.* (2021). Mental health inequalities in healthcare, economic, and housing disruption during COVID-19: an investigation in 12 longitudinal studies. *medRxiv*,
56. Royal College of General Practitioners (2020). General practice in the post Covid world.
57. Lally, C. (2020). Mental health and well-being during the COVID-19 outbreak. Parliamentary Office of Science and Technology.
58. Fancourt, D. *et al.* (2021). Trajectories of anxiety and depressive symptoms during enforced isolation due to COVID-19 in England: a longitudinal observational study. *Lancet Psychiatry*, Vol 8, 141–149.
59. Zhao, Y.-J. *et al.* (2021). The prevalence of psychiatric comorbidities during the SARS and COVID-19 epidemics: a systematic review and meta-analysis of observational studies. *J. Affect. Disord.*, Vol 287, 145–157.
60. Shevlin, M. *et al.* (2020). Anxiety, depression, traumatic stress and COVID-19-related anxiety in the UK general population during the COVID-19 pandemic. *BJPsych Open*, Vol 6, e125.
61. Salari, N. *et al.* (2020). Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. *Glob. Health*, Vol 16, 57.
62. EBM DataLab - University of Oxford (2021). BNF 4.3: Antidepressant drugs | OpenPrescribing.
63. Appleby, L, et al (2020). Suicide in England since the COVID-19 pandemic - early figures from real-time surveillance. National Confidential Inquiry into Suicide and Safety in Mental Health.
64. John, A. *et al.* (2020). The impact of the COVID-19 pandemic on self-harm and suicidal behaviour: a living systematic review. *F1000Research*, Vol 9, 1097.
65. Appleby, L. *et al.* (2021). Suicide in England in the COVID-19 pandemic: Early observational data from real time surveillance. *Lancet Reg. Health – Eur.*, Vol 4, 100110.
66. Sakamoto, H. *et al.* (2021). Assessment of Suicide in Japan During the COVID-19 Pandemic vs Previous Years. *JAMA Netw. Open*, Vol 4, e2037378.
67. Harari, D. *et al.* (2021). Coronavirus: Economic impact. House of Commons Library.
68. Banks, J. *et al.* (2020). Recessions and health: the long-term health consequences of responses to the coronavirus. Institute for Fiscal Studies.
69. Durcan, D. G. *et al.* (2020). Covid-19 and the nation's mental health. Centre for Mental Health.
70. Haw, C. *et al.* (2015). Economic recession and suicidal behaviour: Possible mechanisms and ameliorating factors. *Int. J. Soc. Psychiatry*, Vol 61, 73–81.
71. Wasserman, D. *et al.* (2020). Adaptation of evidence-based suicide prevention strategies during and after the COVID-19 pandemic. *World Psychiatry*, Vol 19, 294–306.
72. Iglesias-García, C. *et al.* (2017). Suicide, unemployment, and economic recession in Spain. *Rev. Psiquiatr. Salud Ment. Engl. Ed.*, Vol 10, 70–77.
73. Pirkis, J. *et al.* (2021). Suicide trends in the early months of the COVID-19 pandemic: an interrupted time-series analysis of preliminary data from 21 countries. *Lancet Psychiatry*, Vol 8, 579–588.
74. Paul, E. *et al.* (2021). Factors influencing self-harm thoughts and self-harm behaviours over the first 45 weeks of the COVID-19 pandemic in the UK: a longitudinal analysis of 48,446 adults. *medRxiv*
75. Office for National Statistics (2020). Personal and economic well-being in Great Britain.
76. Varga, T. V. *et al.* (2021). Loneliness, worries, anxiety, and precautionary behaviours in response to the COVID-19 pandemic: A longitudinal analysis of 200,000 Western and Northern Europeans. *Lancet Reg. Health - Eur.*, Vol 2, 100020.
77. Steptoe, A. *et al.* (2021). Mental health and social interactions of older people with physical disabilities in England during the COVID-19 pandemic: a longitudinal cohort study. *Lancet Public Health*, Vol 6, E365–E373.
78. Varma, P. *et al.* (2021). Younger people are more vulnerable to stress, anxiety and depression during COVID-19 pandemic: A global cross-sectional survey. *Prog. Neuropsychopharmacol. Biol. Psychiatry*, Vol 109, 110236.
79. Jia, R. *et al.* (2020). Mental health in the UK during the COVID-19 pandemic: cross-sectional analyses from a community cohort study. *BMJ Open*, Vol 10, e040620.
80. Saunders, R. *et al.* Understanding different trajectories of mental health across the general population during the COVID-19 pandemic. *Psychol. Med.*, 1–9.
81. Niedzwiedz, C. L. *et al.* (2021). Mental health and health behaviours before and during the initial phase of the COVID-19 lockdown: longitudinal analyses of the UK Household Longitudinal Study. *J Epidemiol Community Health*, Vol 75, 224–231.
82. Henderson, M. *et al.* (2020). Mental health during lockdown: evidence from four generations. UCL Centre for Longitudinal Studies.
83. Pieh, C. *et al.* (2021). Mental Health During COVID-19 Lockdown in the United Kingdom. *Psychosom. Med.*, Vol 83, 328–337.
84. YouGov [online]. Britain's mood, measured weekly. Accessed 16/07/2021.
85. Mental Health Foundation [online]. About the Coronavirus: Mental Health in the Pandemic study. Accessed 16/07/2021.
86. Warne, N. *et al.* (2021). Disordered eating and self-harm as risk factors for poorer mental health during the COVID-19 pandemic: A population-based cohort study. *medRxiv*,
87. Iob, E. *et al.* (2020). Abuse, self-harm and suicidal ideation in the UK during the COVID-19 pandemic. *Br. J. Psychiatry*, Vol 217, 543–546.
88. Proto, E. *et al.* (2021). COVID-19 and mental health deterioration by ethnicity and gender in the UK. *PLOS ONE*, Vol 16, e0244419.
89. Xu, X. *et al.* (2020). The mental health effects of the first two months of lockdown and social distancing during the Covid-19 pandemic in the UK. The Institute for Fiscal Studies.
90. Tani, M. *et al.* (2020). COVID-19 and the Labor Market. IZA Institute of Labor Economics.
91. Banks, J. *et al.* (2021). Mental Health and the COVID-19 Pandemic. World Happiness Report.

92. Ceulemans, M. *et al.* Mental health status of pregnant and breastfeeding women during the COVID-19 pandemic—A multinational cross-sectional study. *Acta Obstet. Gynecol. Scand.*,
93. Papworth, R. *et al.* (2021). Maternal mental health during a pandemic. Centre for Mental Health.
94. Wilson, C. A. *et al.* (2021). Challenges and opportunities of the COVID-19 pandemic for perinatal mental health care: a mixed-methods study of mental health care staff. *Arch. Womens Ment. Health*.
95. Public Health England (2020). Disparities in the risk and outcomes of COVID-19.
96. Public Health England (2020). Beyond the Data: Understanding the Impact of COVID-19 on BAME Communities.
97. Public Health England [online]. CHIME - COVID-19 Health Inequalities. Accessed 16/07/2021.
98. Nazroo, J. Y. *et al.* (2020). Where next for understanding race/ethnic inequalities in severe mental illness? Structural, interpersonal and institutional racism. *Sociol. Health Illn.*, Vol 42, 262–276.
99. Razai, M. S. *et al.* (2021). Mitigating ethnic disparities in covid-19 and beyond. *BMJ*, Vol 372, m4921.
100. O'Shea, N. (2021). Covid-19 and the nation's mental health. Centre for Mental Health.
101. Shum, A. *et al.* (2021). Report 09: Update on children's & parents/carers' mental health; Changes in parents/carers' ability to balance childcare and work: March 2020 to February 2021. Co-SPACE study.
102. Cheng, Z. *et al.* (2021). Working parents, financial insecurity, and childcare: mental health in the time of COVID-19 in the UK. *Rev. Econ. Househ.*, Vol 19, 123–144.
103. Clayton, C. *et al* (2020). British families in lockdown. Leeds Trinity University.
104. Petri-Romao, P. et al (2020). Safe Model for School Return during the COVID-19 Pandemic. University of Glasgow.
105. Alonzi, S. *et al.* (2020). The psychological impact of preexisting mental and physical health conditions during the COVID-19 pandemic. *Psychol. Trauma Theory Res. Pract. Policy*, Vol 12, S236–S238.
106. O'Connor, R. C. *et al.* (2021). Mental health and well-being during the COVID-19 pandemic: longitudinal analyses of adults in the UK COVID-19 Mental Health & Wellbeing study. *Br. J. Psychiatry*, Vol 218, 326–333.
107. Kwong, A. S. F. *et al.* (undefined/ed). Mental health before and during the COVID-19 pandemic in two longitudinal UK population cohorts. *Br. J. Psychiatry*, Vol 218, 1–10.
108. NIHR Applied Research Collaboration Yorkshire and Humber (2020). Optimising Wellbeing During Social Isolation.
109. Young, K. S. *et al.* (2021). Depression, anxiety and PTSD symptoms before and during the COVID-19 pandemic in the UK. PsyArXiv.
110. Pinkham, A. E. *et al.* (2020). A Longitudinal Investigation of the Effects of the COVID-19 Pandemic on the Mental Health of Individuals with Pre-existing Severe Mental Illnesses. *Psychiatry Res.*, Vol 294, 113493.
111. Burton, A. *et al.* (2021). Impact of the Covid-19 pandemic on the mental health and wellbeing of adults with mental health conditions in the UK: A qualitative interview study. *medRxiv*, 2020.12.01.20241067.
112. Bipolar Disorder Research Network [online]. Launch of BDRN COVID-19 survey. Accessed 16/07/2021.
113. Bipolar UK (2020). The impact of Covid-19 on the bipolar community.
114. APPG on Coronavirus (2020). Interim Report December 2020.
115. Clay, J. M. *et al.* (2020). Alcohol use and misuse during the COVID-19 pandemic: a potential public health crisis? *Lancet Public Health*, Vol 5, e259.
116. Daly, M. *et al.* (2021). High-Risk Drinking in Midlife Before Versus During the COVID-19 Crisis: Longitudinal Evidence From the United Kingdom. *Am. J. Prev. Med.*, Vol 60, 294–297.
117. Office for National Statistics (2021). Quarterly alcohol-specific deaths in England and Wales.
118. Marsden, J. *et al.* (2020). Mitigating and learning from the impact of COVID-19 infection on addictive disorders. *Addiction*, Vol 115, 1007–1010.
119. Hobbs, A. (2021). Economic inequality and recovery. Parliamentary Office of Science and Technology.
120. Smith, NR, Taylor, I (2021). Finances and mental health during the COVID-19 pandemic. NatCen Social Research.
121. Shen, J. *et al.* (2021). Fare differently, feel differently: mental well-being of UK-born and foreign-born working men during the COVID-19 pandemic. *Eur. Soc.*, Vol 23, S370–S383.
122. Wright, L. *et al.* (2020). Are we all in this together? Longitudinal assessment of cumulative adversities by socioeconomic position in the first 3 weeks of lockdown in the UK. *J Epidemiol Community Health*, Vol 74, 683–688.
123. Florisson, R. (2020). Downturn in workers' mental and financial wellbeing during COVID-19: Hardest hit are those that can least afford it. Work Foundation.
124. Wright, L. *et al.* (2021). Does thinking make it so? Differential associations between adversity worries and experiences and mental health during the COVID-19 pandemic. *J. Epidemiol. Community Health*,
125. Wilson, H. *et al.* (2021). Unemployment and mental health. Health Foundation.
126. Greene, T. *et al.* (2021). Predictors and rates of PTSD, depression and anxiety in UK frontline health and social care workers during COVID-19. *Eur. J. Psychotraumatology*, Vol 12, 1882781.
127. Greenberg, N. *et al.* (2021). Mental health of staff working in intensive care during Covid-19. *Occup. Med.*, Vol 71, 62–67.
128. Willner, P. *et al.* (2020). Effect of the COVID-19 pandemic on the mental health of carers of people with intellectual disabilities. *J. Appl. Res. Intellect. Disabil.*, Vol 33, 1523–1533.
129. Gallagher, S. *et al.* (2020). Risk of depression in family caregivers: unintended consequence of COVID-19. *BJPsych Open*, Vol 6,
130. Whitley, E. *et al.* (2021). Tracking the mental health of home-carers during the first COVID-19 national lockdown: evidence from a nationally representative UK survey. *Psychol. Med.*, 1–10.
131. Steptoe, A. *et al.* (2020). The experience of older people instructed to shield or self-isolate during the COVID-19 pandemic. ELSA.
132. Di Gessa, G. *et al.* (2021). Changes in health and social well-being in the COVID-19 clinically vulnerable older English population during the pandemic. *J. Epidemiol. Community Health*,
133. Gallagher, S. *et al.* (2020). Loneliness and depression in patients with cancer during COVID-19. *J. Psychosoc. Oncol.*, Vol 0, 1–7.
134. Sampson, E. L. *et al.* (2021). Psychiatric liaison service referral patterns during the UK COVID-19 pandemic: An observational study. *Eur. J. Psychiatry*,
135. Liberati, E. *et al.* (2021). A qualitative study of experiences of NHS mental healthcare workers during the Covid-19 pandemic. *BMC Psychiatry*, Vol 21, 250.
136. HAFAL [online]. Survey raises concerns about the provision of mental health services in Wales during the Covid-19 outbreak. Accessed 16/07/2021.
137. Killaspy, H [online]. The impact of COVID-19 on people with severe and complex mental health problems. Concerted action needed urgently | UCL Institute of Mental Health. Accessed 16/07/2021.
138. Killaspy, H. (2021). Personal Communication.
139. NHS England (2019). The NHS Long term plan.

140. United Nations (2020). COVID-19 and the need for action on mental health.
141. IASC Reference group on mental health and psychosocial support in emergency settings (2020). Adressing mental health and psychosocial aspects of Covid-19 outbreak
142. Holmes, E. A. *et al.* (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry*, Vol 7, 547–560.
143. Wykes, T. *et al.* (2021). Shared goals for mental health research: what, why and when for the 2020s. *J Ment Health*, Vol 0, 1–9.
144. O'Connor, D. B. *et al.* (2020). Research priorities for the COVID-19 pandemic and beyond: A call to action for psychological science. *Br. J. Psychol.*, Vol 111, 603–629.
145. Demkowicz, O. *et al.* (2021). Looking Back to Move Forward: Reflections on the Strengths and Challenges of the COVID-19 UK Mental Health Research Response. *Front. Psychiatry*, Vol 12,
146. UK Collaborative on Research and Development [online]. COVID-19 Research Project Tracker by UKCDR & GloPID-R. Accessed 16/07/2021.
147. Catalogue of Mental Health Measures [online]. Catalogue of Mental Health Measures. Accessed 16/07/2021.
148. MQ Mental Health Research [online]. DATAMIND | MQ Mental Health Research. Accessed 16/07/2021.
149. Appleby, L. (2021). What has been the effect of covid-19 on suicide rates? *Br. Med. J.*, Vol 372, n834.
150. NIHR [online]. COVID-19 and Mental Health Studies Register. Accessed 16/07/2021.
151. Liberati, E. *et al.* (2021). Remote care for mental health: qualitative study with service users, carers and staff during the COVID-19 pandemic. *BMJ Open*, Vol 11, e049210.
152. Foye, U. *et al.* (2021). How has COVID-19 affected mental health nurses and the delivery of mental health nursing care in the UK? Results of a mixed-methods study. *J. Psychiatr. Ment. Health Nurs.*, Vol 28, 126–137.
153. Mind (2021). Trying to connect - The importance of choice in remote mental health services.
154. NIHR Policy Research Unit Children and Families (2020). The impact of the Covid-19 pandemic on services from pregnancy through age 5 years for families who are high risk of poor outcomes or who have complex social needs.
155. Johnson, S. *et al.* (2020). Impact on mental health care and on mental health service users of the COVID-19 pandemic: a mixed methods survey of UK mental health care staff. *Soc. Psychiatry Psychiatr. Epidemiol.*, Vol 56, 25–37.
156. Spanakis, P. *et al.* (2021). The digital divide: amplifying health inequalities for people with severe mental illness in the time of COVID-19. *Br. J. Psychiatry*, 1–3.
157. Wisniewski, H. *et al.* (2020). Digital navigators to implement smartphone and digital tools in care. *Acta Psychiatr. Scand.*, Vol 141, 350–355.
158. Royal College of Nursing (2021). Labour Market Review 2020.
159. O'Shea, N. (2020). Covid-19 and the nation's mental health. Centre for Mental Health.
160. Public Health England (2020). Prevention Concordat for Better Mental Health.
161. FutureLearn [online] COVID-19: Psychological First Aid Training Course. Accessed 16/07/2021.
162. Public Health England [online]. New Every Mind Matters campaign. Accessed 16/07/2021.
163. NHS [online]. Get Your Mind Plan - Every Mind Matters. Accessed 16/07/2021.
164. Gunnell, D. *et al.* (2020). Suicide risk and prevention during the COVID-19 pandemic. *Lancet Psychiatry*, Vol 7, 468–471.
165. John, A. *et al.* (2020). Trends in suicide during the covid-19 pandemic. *BMJ*, Vol 371, m4352.
166. International Association for Suicide Prevention [online]. IASP. Accessed 16/07/2021.
167. Marmot, M. *et al.* (2020). Build Back Fairer: The COVID-19 Marmot Review. The Pandemic, Socioeconomic and Health Inequalities in England. Institute of Health Equity.