The Strategy Unit.

COVID-19 and Coronavirus evidence alerting

Rapid scan 6: Implications of the broader impacts of Covid19 for healthcare

29 May 2020

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NHS
Midlands and Lancashire
Commissioning Support Unit

The Strategy Unit is working in collaboration with the Health Foundation, King's Fund, Nuffield Trust, and Imperial College Healthcare Partners to provide additional analytical support to the NHS nationally in its overall response to COVID-19. The organisations will use their expertise to focus on questions that the NHS may lack the immediate resources to look at, which may be more medium-term, cut across sectors, or benefit from independent analysis. They will be sharing their knowledge, information, multi-disciplinary analytical skills, and extensive links to support different parts of the health and care system, arms-length bodies and government departments working on the COVID-19 response. For more information please email mlcsu.covid.analytics@nhs.net.

This rapid summary is part of an evidence alert service which has developed from requests for evidence to support recovery planning. Our first priority is to highlight key papers to inform decisions, policy and planning and our approach is pragmatic rather than exhaustive. More information on our methodology is provided in the Appendix.

A short note about evidence analysis and COVID-19

The emerging evidence base on COVID-19 and Coronavirus is growing quickly. The research community has responded to the pandemic quickly and publishers are fast-tracking papers and providing open access. This inevitably leads to some trade-offs:

- Findings are shared quickly but there are implications for quality as the usual peer review is curtailed - so we need to be mindful of bias in research methods and quality of reporting.
- The pace of learning is such that, at the moment, it is not feasible to conduct a traditional review which summarises and synthesises what we know. The evidence base is growing so quickly that our understanding is continually shifting.

Our approach is to trawl the rapidly growing knowledge base, to filter findings which are relevant to planning and policy and to highlight new and emerging learning:

- This rapid scan provides a snapshot of emerging evidence.
- A weekly alert will highlight new papers.
- We will also maintain an evidence tracker, providing a single point of access to the papers highlighted in this scan and in weekly alerts.

There are, of course, initiatives around the UK and internationally to scan and track evidence and we'll endeavour to avoid duplication as far as possible.

Introduction

Emerging evidence suggests long-term effects for Covid-19 patients (see our earlier scan on Rehabilitation needs and post-ICU recovery for severe Covid19 patients). However, there are also impacts on health outcomes for the general population to consider. For example, negative impacts associated with continued stress and reduced physical activity but potentially also positive impacts from reported improvements in air quality

This rapid scan has been created to collate new and emerging evidence on broader health outcomes of the pandemic, providing a high level summary of some of the key insights.

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Summary

Mental health: the mental health of health and care workers is of particular interest, due to the ongoing impact on individuals and the implications for ongoing delivery. A number of studies report increased stress, disturbances to mood and sleep from exposure to psychological distress. Risk factors are explored with some suggestions for mitigations, including communication, provision of PPE, practical and psychological support. One study reports a reluctance to report or seek support for mental health issues due to stigma.

For existing users of mental health services, there are impacts from changes to how services are delivered. Face-to-face contact has been reduced with an increase reliance on virtual consultations. Whilst studies suggest that many users are maintaining contact, there are a significant number reporting difficulties accessing support. Service users are also reporting deterioration in mood and symptoms. There are concerns that the disproportionate impact of Covid-19 is widening inequalities.

For the wider general public, evidence suggests increased prevalence of mental health conditions, such as anxiety, arising from fear of infection and stress of lockdown and associated social and economic implications. The risk of misinformation and information overload may add to stress. Common risk factors include bereavement and living in a hotspot area. There is a suggestion that anxiety may subside as lockdown measures ease; however, lessons from SARS suggest a potential increase in death by suicide in older adult populations.

Summary

Public health: emerging evidence suggests adverse impacts on risk factors associated with lifestyle. For example, many report experiencing changes in eating habits, weight gain, reduced physical activity, as well as increased stress and anxiety- particularly for children and young people. There is a recognition that socioeconomic factors have an impact, with deprived areas being disproportionately affected. Social isolation, changes to sleep patterns and family relationships are also highlighted.

Conversely, improvements in air quality and reduced traffic accidents have been reported, due to restricted travel; however, it is not clear how long these improvements will be sustained. Researchers and analysts also reference concerns for particularly vulnerable groups including people with learning disabilities, children and young people and marginalised groups.

Long term conditions: the disruption to service continuity due to the pandemic response has an impact on those people managing long term conditions, due to interrupted treatment, restricted access to services, disrupted transport services and interrupted medication supply. Socioeconomic factors also play a part, with those people in deprived areas particularly affected. Studies also highlight the negative impact of the pandemic upon the mental health and wellbeing of those with long term conditions such as diabetes and HIV. The stress and anxiety of lockdown and isolation may also affect ability to self-manage.

Commentary from the Collaboration

30/04/20	nuffieldtrust evidence for better health care	Charlotte Paddison	**Reducing avoidable harms to children during Covid-19: what actions are needed?** 1
19/05/20	The Health Foundation	Martina Kane	**COVID-19 could have worrying ramifications for young people's longer-term health outcomes** 2
20/05/20	The Health Foundation	Tim Elwell-Sutton, Sarah Deeny, and Mai Stafford	**Emerging findings on the impact of COVID-19 on black and minority ethnic people – COVID-19 chart series** 3

Guidance

The Alliance for Child Protection in Humanitarian Action	**Technical note: Protection of children during the COVID-19 pandemic.** [4] Annexes include: **Protection of Children during the COVID-19 Pandemic: Children and Alternative Care** [5] **COVID 19: Protecting Children from Violence, Abuse and Neglect in the Home** [6]
WHO	**COVID-19 and violence against women What the health sector/system can do** [7]
Public Health England and Local Government Association	**COVID-19 Suggestions for mitigating the impact on health inequalities at a local level** [8]
WHO	**Mental health and COVID-19** [9]
NICE	**COVID-19 rapid guideline: critical care in adults** [10]

Guidance

Health & Care Professions Council	**Supporting staff wellbeing during COVID-19** [11]
Social Care Institute for Excellence (SCIE)	**Covid-19 guide for care staff supporting adults with learning disabilities or autistic adults** [12]

Mental health

Mental health - overviews

Healthcare workers

Occurrence, prevention, and management of the psychological effects of emerging virus outbreaks on healthcare workers: rapid review and meta-analysis [13]

Kisely S et al. (2020) BMJ. 369:m1642

This paper aims to examine the psychological effects on clinicians of working to manage novel viral outbreaks, and successful measures to manage stress and psychological distress which could have mental health effects on workforce.

- Compared with lower risk controls, staff in contact with affected patients had greater levels of both acute or posttraumatic stress (odds ratio 1.71, 95% confidence interval 1.28 to 2.29) and psychological distress (1.74, 1.50 to 2.03), with similar results for continuous outcomes.
- Risk factors for psychological distress included being younger, being more junior, being the parents of dependent children, or having an infected family member. Longer quarantine, lack of practical support, and stigma also contributed.
- Clear communication, access to adequate personal protection, adequate rest, and both practical and psychological support were associated with reduced morbidity.
- Effective interventions are available to help mitigate the psychological distress experienced by staff caring for patients in an emerging disease outbreak.
- These interventions were similar despite the wide range of settings and types of outbreaks covered in this review, and thus could be applicable to the current covid-19 outbreak

Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis [14]

Pappa S; Ntella; Giannakas T et al. (2020). Brain, behaviour, and immunity.

This systematic review and meta-analysis aimed to synthesise and analyse available evidence on prevalence levels of depression, anxiety and insomnia amongst healthcare workers (HCWs). Thirteen studies were included in the analysis (n= 33,062 participants combined)

- Anxiety was assessed in 12 out of 13 included studies, with a pooled prevalence rate of 23.2%
- Depression was assessed in 10 out of 13 studies, with a pooled prevalence rate of 22.8%
- Sub-group analyses showed that gender and job role influences rates of affective symptoms- with female HCWs and nurses experiencing higher rates compared to male ad medical staff.
- Insomnia was assessed in 4 out of 13 studies with a prevalence rate of 38.9%

The authors conclude that emerging and early evidence suggests many HCWs have experienced disturbances to mood and sleep during the outbreak- highlighting the need to establish ways of mitigating these risks, such as adjusting interventions under pandemic conditions.

Mental health - Emerging evidence

Healthcare workers

The mental health of doctors during the Covid-19 pandemic [15]

Galbraith N; Boyda D; McFeeters D; and Hassan T. (2020) BJPsych Bulletin

This manuscript outlines potential risks to mental health and wellbeing of doctors and other healthcare workers during the COVID-19 pandemic. Key findings include:

- Reluctance to disclose mental health difficulties and seek help among doctors (often due to perceived stigma)
- The COVID-19 pandemic has placed additional pressure on healthcare workers and the system in general, which may be linked to greater risk of experiencing psychological distress
- For healthcare workers, having to balance personal safety with the needs of patients, families and employees in context to limited resources can lead to being compelled to make decisions which conflict with personal ethical or moral values- which may precipitate psychological distress.

Considerations for managing stress, and mitigating risk to personal safety, in healthcare workers at the organisational and the individual level are discussed by the authors: for example, while workers place a high value on training and equipment during pandemics, effective leadership and consistent managerial support for clinicians and other healthcare workers is highly protective against adverse psychological outcomes

Psychological stress of ICU nurses in the time of COVID-19 [16]

Shen X; Zou; Zhong X et al. (2020) Critical Care

This editorial based on a survey of 85 ICU nurses investigated symptoms of psychological stress in this population during COVID-19. Key findings relate to symptoms of stress reported by ICU nurses, including:

- 59% experienced decreased appetite;
- 55% experienced fatigue,
- 45% had trouble sleeping;
- 28% experienced nervousness;
- 26% experienced frequent crying;
- 2% reported experiencing suicidal thoughts

The authors' highlight that without effective support for these issues, quality and safety of care may be effected. Finally, the authors present 8 early measures for mitigating symptoms of psychological stress in this group.

Mental health - Emerging evidence

Healthcare workers

Psychological Status of Medical Workforce During the COVID-19 Pandemic: A Cross-Sectional Study [17]
Lu W; Wang H; Lin Y; and Li L (2020) Psychiatry research
This online-survey based study (n=2042 medical staff; n=257 administrative staff) looked at the psychological status of staff working in a medical setting during the COVID-19 outbreak. Occurrence of fear, anxiety and depression were measured.

Mental Health - Lessons from previous pandemics and major incidents

Healthcare workers

Mental Symptoms in Different Health Professionals During the SARS Attack: A Follow-up Study [18]

Lung FW; Lu YC; Change YY; and Shu BC (2009). Psychiatric quarterly

This cross-sectional follow-up study investigated the psychological impact of the SARS outbreak upon different kinds of healthcare professionals (n=127 healthcare workers).

- Shortly after the SARS epidemic was under control, 17.3% of healthcare workers reported mental symptoms; at one year follow-up, this had reduced to 15.4%
- Healthcare workers with symptoms of mental ill health at follow-up reported that these symptoms were associated with the daily stresses of life and not the SARS crisis.
- A higher percentage of physicians (35%) developed mental symptoms compared to nurses (25%)
- Physicians were found to have a higher rate of somatic symptoms than nursing staff.

Mental Health - Overviews

Pre-existing conditions

The potential impact of COVID-19 on psychosis: A rapid review of contemporary epidemic and pandemic research [19]
Brown E; Gray R; Lo Monaco S et al. (2020) Schizophrenia research
This rapid review examines the impact of epidemic and pandemics on psychosis, identifying 14 relevant papers for synthesis regarding 1) how viruses have impacted on the number of people experiencing psychosis; 2) what effect viruses have on those who have psychosis

- Incident cases of psychosis in infected persons= 0.9 to 4%
- Diagnoses of psychotic disorders were associated with viral exposure, treatments used to manage the infection, and psychosocial stress.

There was no evidence of changes in the form and content of psychotic symptoms, impact on the physical health of people with psychosis, suicide rates or attempts of suicide, incidence of homelessness, unemployment and domestic violence.

It is noted that "The medium- and long-term social effects of COVID-19 may disproportionately impact people with psychosis or at risk of psychotic disorder. For example, social isolation, unemployment, homelessness, relationship breakdown (divorce/separation), domestic violence, and worsening physical health, may all particularly effect people with psychosis given their vulnerability to social determinants of health (Anglin et al., 2020)"

Mental Health - Emerging Evidence

Pre-existing conditions

Coronavirus: Impact on young people with mental health needs [20]
YoungMinds, (2020)
This survey based research involved n=2,111 young people with a history of mental health needs, and was carried out between 20th March and 25th March (lockdown of schools; intensification of restrictions) to establish the impact of covid-19 on this group. Key findings were:
Impact on mental health

- 83% agreed it had made their mental health either a bit worse (51%) or much worse (32%)
- increased anxiety, problems with sleep, panic attacks or more frequent urges to self-harm among those who already self-harmed.
- The top three concerns around coping were around: isolation and loneliness; not having enough food/ supplies;

Concerns about family's health were also prominent: *"respondents frequently discussed their concerns about being responsible for cross-infection. Many respondents were deeply anxious about the health of their family, and about harming those around them by inadvertently spreading the virus. Some young people, including some with Obsessive Compulsive Disorder, talked about a fixation with hygiene and a need to remain clean"*
School and university closures created uncertainty for most students in terms of: educational and employment outcomes; potential loss of stable and safe environment for those living in difficult or dangerous situations; loss of social contact with friends and concerns about home learning.
Impact on access to mental health support- 74% said they were still able to access some form of MH support- however, 26% said they were no longer able to access support.

- **Key themes in relation to access to support included**: Cancellation of face-to-face support; the challenges posed by remote support; Lack of clarity around service access and information; Coping and self-management.

Mental Health - Overviews

General public

What is the impact of the COVID-19 pandemic on suicide rates? [21]

Lynch, D; Morgan, M and Leen, B (2020) Kilkenny: St Luke's General Hospital

This rapid review examines available evidence on the impact of COVID-19 (and measures to mitigate it) on incidence rates for suicide and self-harm (this also draws upon evidence from previous pandemics).

- Secondary consequences of social distancing measures may increase suicide risk in context to the adverse impact of loneliness and social isolation on mental health outcomes.
- Previous evidence from the SARS outbreak implicates an increase in the rate of suicide in older adults (Cheng, Chau & Yip, 2008)

The authors also highlight insights from several recent publications:

- *"Although loneliness is already highly prevalent in the general population, Courtet et al. fear that it may become more pronounced during the COVID-19 quarantine, leading to dramatic effects on the most vulnerable. Psychiatrists must be cautious about the negative short- and long-term psychological consequences of quarantine"*
- *"Gunnel postulates that suicide might become a more pressing concern as the pandemic spreads and has longer-term effects on the general population, the economy and vulnerable groups and that suicide prevention requires urgent consideration."*

Covid-19 and the nation's mental health. Forecasting needs and risks in the UK: May 2020 [22]

Durcan G; Shea N; and Allwood L (2020). *Centre for Mental Health.*

This briefing aims to use evidence from the available literature to anticipate the likely impact of the COVID-19 pandemic upon mental health outcomes of the UK population. Key findings include:

- The pandemic is likely to increase mental ill health in the UK- as a result of the virus itself and measures taken to mitigate its impact on the population (e.g. social distancing).
- Assuming a similar impact to the economic recession following 2008, the authors expect an additional 500,000 people experiencing mental health problems (most commonly, depression)- if the economic impact of this results in high levels of unemployment there Is a risk of an increase in suicide rates
- How this economic impact affects people is likely to vary in different parts of the country, thus it is likely that increased prevalence of mental ill health will be distributed unevenly
- It is likely that there will be an increase in the proportion of people experiencing more complicated responses to grief- given restrictions imposed by lockdown.

Overall, it is highlighted that *"The mental health impact of Covid-19 will not be experienced equally: people with existing mental health difficulties and risk factors for poor mental health are likely to be affected disproportionately…. The Government and the NHS can take steps now, to prevent mental health problems where possible and to provide access to effective support where it will be needed.*

Mental Health - Overviews

General public

The potential impact of COVID-19 on mental health outcomes and the implications for service solutions [23]
Nobles, J., Martin, F., Dawson, S., Moran, P. and Savovic, J. (2020) *NIHR*
This evidence review aimed to explore available literature on two questions 1) the impacts of outbreaks on the prevalence of mental Health conditions within the general population and across health workers. 2) The community and population-level approaches that have been taken to prevent and address the increased levels of mental health conditions following outbreaks. The main findings are listed below for both questions

1) impacts of outbreaks on the prevalence of mental Health conditions within the general population and across health workers

- The evidence suggests that an increase in the prevalence of mental health conditions is likely during, and immediately after, the COVID-19 outbreak. However, amongst the general population, this increase subsided after quarantine measures are lifted.
- Healthcare workers are at greater risk of adverse mental health outcomes, particularly those who are frontline staff, who in "high-risk" units, or have been re-deployed to "high-risk" units from other departments.
- Several risk factors were identified chronic physical and mental health conditions children and parents, lost a family member, lower levels of education, perception of risk, living in outbreak hot spots

2) community and population-level approaches that have been taken to prevent and address the increased levels of mental health conditions following outbreaks

- The general public may automatically adopt behaviours which are protective of their mental health. For example, seeking peer, family and community support.
- Efforts should be taken to avoid / reduce COVID-related stigma – for those who have contracted the virus and for healthcare workers.
- Screening should be used, initially targeted at groups thought to be at greater risk, to determine the tier of support required.
- Most recommendations point towards the use of online, or remote, services and resources (such as hotlines, apps, accurate and up-to-date information) to support at-risk groups and the general population.
- A specific set of recommendations are provided for the prevention and treatment of mental health conditions in healthcare workers.

Mental Health - Overviews

General public

The effect of funeral practices on bereaved friends and relatives' mental health and bereavement: implications for COVID-19 [24]
Selman L; and Burrell A. (2020). ***NIHR***
This rapid review explores associations between restrictions to funeral practices on friend's and relatives' mental health and bereavement. Identifying 11 relevant observational studies of low to moderate quality with mixed findings, the authors conclude that further research is needed to understand the experiences and consequences of bereavement during the pandemic. Main findings included that:

- 5 studies found significant differences to mental health outcomes (overall grief, social isolation; despair; grief adjustment) associated with the funeral, the remaining 6 did not.
- Overall, the impact of restrictions to funeral practices upon bereavement and mental health outcomes is unclear.

Mental Health - Emerging Evidence

General public

Impact of coronavirus outbreak on psychological health [25]
Khan S, Siddique R, Li H, et al. *J Glob Health*. 2020
This paper aims to identify the mental health abnormalities and the impact of Covid-19 on psychological health in China by focussing on the risks of psychiatric disorders associated with covid-19 and the effective communication to build psychological resilience among emergency health workers and the public.

- The most common impacts of such an outbreak or epidemic could be anxiety, panic behaviour, sleep disturbances, disrupted daily biological rhythms, anger, and disappointment
- People are likely to receive inaccurate information which could heighten psychological stress and anxiety
- There are possibilities that a large population develops severe psychiatric symptoms by disruption of molecular pathways and it must be addressed properly
- In addition to the general population exposed to the viral outbreak, health care workers need serious attention and psychological counselling.
- It is imperative to evaluate and develop strategies to address psychological health and psychiatric aberrations caused by direct or indirect exposure to the situation. Targeting the entire population or large communities is not beneficial, thus targeting individual-based therapies should be given priority.

A Nationwide Survey of Psychological Distress Among Italian People During the COVID-19 Pandemic: Immediate Psychological Responses and Associated Factors [26]
Mazza C; Ricci E; Biondi S et al. (2020)
This nationwide survey study (n= 2766) aimed to establish the prevalence of psychiatric symptoms, as well as risk and protective factors for psychological distress in the general population. Multivariate ordinal logistic regression models indicated:

- Female gender, negative affect and detachment were associated with higher levels of depression, anxiety and stress
- Knowing someone who had been infected was associated with increased levels of stress and depression;
- Those with family members who had been infected presented with higher levels of anxiety
- young people working outside their domicile presented with higher levels of stress

The authors highlight that *"results offer a general picture of the psychological impact of COVID-19 on the Italian population, providing a baseline for future research on the impact of COVID-19 throughout the rest of the pandemic."*

Mental Health - Emerging Evidence

General public

Coping with Mental Health Challenges During COVID-19 [27]
Kumar Kar S et al. Springer 2020
This paper focusses on various mental health challenges during covid-19 pandemic in various groups. Key findings include:

- **The general population-** can experience fear and anxiety of being sick or dying, helplessness, blame the people who are already affected and precipitate the mental breakdown. A wide range of psychiatric disorders can be found such as depressive disorders, anxiety disorders, panic disorder, somatic symptoms, self-blame, guilt, posttraumatic stress disorder (PTSD), delirium, psychosis and even suicide
- **Covid-19 cases-** quarantined people feel boredom, loneliness, anger, depression, anxiety, denial, despair, insomnia, harmful substance use, self-harm and suicidality. Poor or very poor self-rated health status was significantly associated with a greater psychological impact of the COVID-19
- **Family Members and Close Contacts-** The family members who lose their loved ones from the pandemic results in anger and resentment (Goyal et al. 2020). Furthermore, they also feel shame, guilt or stigma for those family members who are sick and/or quarantined, and some studies reported PTSD and depression among the family members and close contacts.
- **Healthcare Workers-** Increased workload, isolation and discrimination are common which result in physical exhaustion, fear, emotional disturbance and sleep disorders. A recent study involving 1563 health professionals reported that more than half (50.7%) of the participants reported depressive symptoms, 44.7% anxiety and 36.1% sleep disturbance. Moreover, there are not adequate services to provide counselling and psychiatric screening services for anxiety, depression and suicidality for physicians who have been dealing with infected persons
- **Special Population (Old Age and Co-morbidities)-** Patients with pre-existing severe mental illness (SMI) have been inevitably affected by the pandemic. In-patients, especially those requiring long-term hospitalization in closed wards, pose a high risk of cluster contagion.

Mental Health - Lessons from previous pandemics and major incidents

General public

Lessons from Hurricane Katrina for predicting the indirect health consequences of the COVID-19 pandemic [28]
Raker EJ; Zacher M; and Lowe SR (2020) *pnas*
This article uses data from a prospective study of young, low-income mothers who survived Hurricane Katrina to predict indirect health consequences that may be anticipated from COVID-19. This sought to address two questions:
1) Which stressors are associated with health shortly after a disaster, and which associations are independent of preexisting health and socioeconomic vulnerabilities?

- Stressors that were predictive of adverse health outcomes in the short-term after Hurricane Katrina are also prevalent in the current pandemic. Effects of these stressors were more robust across health outcomes and models than those related to home or property damage, or neighbourhood flooding.
- Specifically, those who were bereaved had significantly higher odds of experiencing adversity in all four health domains (Post-traumatic stress; psychological distress; poor versus fair health, and physical symptoms)
- Those who lacked knowledge of a loved one's safety had higher odds of post-traumatic stress, psychological distress and physical symptoms- this association remained when controlling for pre-existing risk (measured prospectively)

2) Do the effects of stressors on health persist over time?
Several stressors were significant at later time points (4 and 12 years).

- Bereavement, lack of knowledge of children's and other relative's safety, and having a relative who lacked medical care predicted post-traumatic, psychological distress and physical symptoms at 4 years (OR = 1.91, 95%CI = 1.09 to 3.37)
- Lack medication was associated with higher odds of post-traumatic stress (OR = 2.80, 95%CI = 1.75 to 4.48), psychological distress (OR = 1.91, 95%CI = 1.18 to 3.11) and poor/fair health at 4 years (OR = 1.80, 95%CI = 1.09 to 2.98)

Predictors of symptoms of posttraumatic stress in Chinese university students during the 2009 H1N1 influenza pandemic [29]
Xu J; Zheng Y; Wang M et al., (2011) *prehospital and disaster medicine*
This questionnaire study assessed associations between stress and symptoms of PTSD in a large sample of university students (n= ~1000) from four Chinese universities.

- Scores on the PTSD Checklist- Civilian Version (PCL-C) indicated that 2% of students enrolled in the study met symptomatic criteria for PTSD.

Regression analyses showed that the following variables were significant predictors of PTSD symptoms ($p<0.001$)

- Living in North China
- Female gender,
- Having H1N1 influenza or having a family member, friend or acquaintance with H1N1
- Fear of H1N1

Mental Health - Lessons from previous pandemics and major incidents

General public

Preparing for an Influenza Pandemic: Mental Health Considerations [30]
Perrin PC; Mccabe L; Everly GS; and Links JM (2009)
This comprehensive review looks at available evidence concerning considerations for mental health in relation to Influenza pandemic preparedness
General population –The authors discuss evidence to suggest that anxiety levels and coping strategies to manage them in response to a crisis vary in different parts of the population; this suggests three main psychological responses to crisis: hyper-vigilance (fear; anxiety; threat), some will be unaffected and immobilisation of 'freezing'.
Some who have been infected (as in SARS and Ebola) may also suffer stigmatisation from others.
Healthcare workers- the authors identify strategies from previous studies that help to reduce the risk of psychiatric morbidity (specifically, depression, PTSD and anxiety disorders) in healthcare workers in context to a pandemic, including: a) having clear directives; b) feeling well-equipped and protected; c) having the ability to give feedback and feeling supported by management; d) support from colleagues and friend; e) having someone to talk with; and, f) having religious convictions (Mauder et al., 2003; Chan & Huak, 2004).

The authors also outline several determinants of adverse psychological outcomes for both healthcare workers and the general population: including but not limited to:
- High perceived threat to life
- Low social and emotional support
- Being female or elderly
- Frequent modification of infection control procedures and public health recommendations.

A Revisit on Older Adults Suicides and Severe Acute Respiratory Syndrome (SARS) Epidemic in Hong Kong [31]
Cheung YT; Chau PH; Yip PSF
This study used Poisson regression models to examine the impact of the 2003 SARS epidemic upon suicide rates in older adults in Hong Kong. This was based on data from Coroners' Court covering the period 1993-2004.
Comparing the profile of older adults suicides in the pre-SARS, peri-SARS and post-SARS period, it was found that:
- Compared to previous years, there was an excess in rates of older adult suicides in April 2003
- Annually, older adult's suicide rates in 2003 and 2004 were significantly higher than pre-SARS, the author's suggest this indicates that the suicide rate did not return to pre-SARS levels.

The authors conclude that *"Loneliness and disconnectedness among the older adults in the community were likely to be associated with the excess older adults' suicides in 2003. Maintaining and enhancing mental well being of the public over the period of epidemic is as important as curbing the spread of the epidemic."*

Mental health - Commentaries

Date	Organisation	Authors	HyperLink title and reference
14/04/20	The journal of nutrition	Marla Berg-Weger & J. E. Morley	Loneliness and Social Isolation in Older Adults during the COVID-19 Pandemic: Implications for Gerontological Social Work [32]
23/03/20	JAMA Psychiatry	Druss BG	Addressing the COVID-19 Pandemic in Populations With Serious Mental Illness [33]
20/04/20	The journey of clinical psychiatry	Shinn, Ann K and Viron, Mark MD	Perspectives on the COVID-19 Pandemic and Individuals With Serious Mental Illness [34]
21/05/20	Public health England	Perkins C	No health without mental health: why this matters now more than ever [35]

Public health

Public health - Overviews

Girls and young women

Girlguiding research briefing: Early findings on the impact of Covid-19 on girls and young women [36]
Girlguiding (2020)
This research briefing reports on findings from Girlguiding 'Girls' Attitudes Survey', conducted in May 2020 (n= around 7,000 girls and young women aged 4 to 18), concerning the impact of COVID-19 on health and wellbeing. It was found that:
Findings were mixed- while many reported feeling happy at home and enjoying at least some of their time in lockdown, doing fun activities and continuing to learn- some of those aged 15 to 18 experienced high levels of distress.

- Overall, two in five of those aged 15 to 18 reported feeling stress and / or worried most of the time (45% and 42% respectively)
- Around 24% of girls aged 11 to 13, and around 50% of girls aged 15 to 18 reported a negative impact of COVID-19/ lockdown on their mental health.
- Young women aged 15 to 18 reported feeling worried, stressed and overwhelmed.
- Most common factors affecting them were: uncertainty about school and education (76%); loneliness and isolation (51%) and lack of freedom and independence (44%)

Public Health – Emerging Evidence

Lifestyle factors

Mitigating the wider health effects of covid-19 pandemic response [37]
Douglas M; Katikireddi VS; Taulbut M; McKee M; and McCartner G (2020). *BMJ*
This editorial outlines considerations for mitigating wider health impacts of strict controls and restrictions imposed to limit the spread of disease. This also outlines mechanisms by which such measures impact health and possible mitigations.
Economic effects – Loss of income from social distancing may occur in several ways. Especially vulnerable are those in precarious employment. School closure may affect low income and single parent families disproportionately as they struggle to meet unexpected childcare need and loss of free school meals
Social isolation – quarantine of people exposed to infectious diseases is associated with negative psychological effects which may be long lasting (McCartney et al., 2019). People who are socioeconomically disadvantaged or in poor mental or physical health are at higher risk.
Family relationships – Social distancing may cause or exacerbate family tensions. School closures may add to stress in families as parents try to home school children. This burden may fall disproportionately on women. Prolonged closures could adversely effect education and social outcomes for those with a lack of study space or home computing.
Key messages include that:

- Social distancing measures are likely to have large effects of health and health inequalities- particularly for those on low incomes
- These inequalities arise or are worsened through numerous mechanisms, including: economic, social, health-related behaviours and disruption to services and education
- This highlights the need for substantial mitigation measures.

Public Health – Emerging Evidence

Lifestyle factors

COVID-19 pandemic: the effects of quarantine on cardiovascular risk [38]
Mattioli, A.V., Ballerini Puviani, M., Nasi, M. *et al*. *Eur J Clin Nutr* (2020).
This article explores the cardiovascular risks of quarantine by examining the effects of quarantine on lifestyle factors Main findings include:

- Quarantine carries some long-term effects on cardiovascular disease, mainly related to unhealthy lifestyle and anxiety. Following quarantine a global action supporting healthy diet and physical activity is mandatory to encourage people to return to good lifestyle.
- The potential benefits of mandatory mass quarantine need to be weighed carefully against the possible long-term negative effects on cardiovascular risk burden
- Due to anxiety of future food shortage, it is plausible that people will purchase packaged and long-life food rather than fresh food. This leads to weight gain and to a reduced intake of antioxidants.
- Quarantine induces anxiety and stress and people cope with stress by eating and drinking in an attempt to feel better. This would affect cardiovascular risk mainly in high-risk patients
- The reduction of physical activity will contribute to weight gain during quarantine. Regular physical activity is mandatory to maintain health status, and is associated with reduction in cardiovascular risk

Self-quarantine and weight gain related risk factors during the COVID-19 pandemic [39]
Zachary Z; Forbes B; Lopez B et al. (2020). *Obesity research and clinical practice*
This cross-sectional Facebook based survey (correlational design) explored risk factors linked to self-quarantine and weight gain (n=1,200).
It was found that:

- 91% of the sample spend more time at home now than prior to COVID-19.
- 22% reported gaining 5-10 pounds; within this subsection, significantly more participants reported increased eating in response to sight and smells (p=0.048), stress eating (p=0.041) and snacking after dinner (p=0.016).
- Significant relationship between hours of sleep per night and physical activity time upon reported weight gain (r= -0,195, p=0.021; r=-0.155, p=0.034, respectively).

Public Health – Emerging Evidence

Lifestyle factors – childhood obesity

COVID-19–Related School Closings and Risk of Weight Gain Among Children [40]
Rundle GA; Park Y; Herbstman JB; Kinsey EW; and Wang YC (2020)
This perspective article outlines risks of COVID-19 to child health outcomes, in terms of increasing disparities in obesity risk.

- Specifically, the authors consider the potential impact of: Social distancing; school closures and other restrictive measures on levels of childhood obesity,
- Primarily it is thought that these restrictions mean that children are exercising less, eating more processed food (as households stock up on shelf-stable foods) and therefore are at an increased risk of developing obesity.

The authors highlight that *"in addition to increasing out-of-school time, the COVID-19 pandemic exacerbates all the risk factors for weight gain associated with summer recess (4). The closing of schools and the shelter-in-place orders create food environment and physical activity challenges for children. Annually, more than 30 million children receive free or subsidized school lunches, and among eligible households, food insecurity rates are higher in the summer months"*

Effects of COVID-19 Lockdown on Lifestyle Behaviours in Children with Obesity Living in Verona, Italy: A Longitudinal Study [41]
Pietrobelli A et al. (2020) *Obesity. 2020.*
This longitudinal observational study (n= 41 adolescents and children with obesity) tested the hypothesis that when removed from structured school activity and confined to their homes, these children will display negative trends in lifestyle behaviours. Data were collected at baseline and 3 weeks into lockdown.

- No changes in reported vegetable intake; increased fruit intake (p=0.055).
- Potato chip, red meat and intake of sugary drinks all increased significantly (p= 0.005 to <0.001).
- Time spent playing sport decreased by 2.30 +/-4.60 hours per week;
- Time spent sleeping increased by 0.65+/-1.29 hours per day.
- Screen time increased by 4.85+/-2.40 hours per day. (All were significant at $p<0.05$ level or below)

Public Health – Emerging Evidence

Environmental factors

Expected Health Effects of Reduced Air Pollution from COVID-19 Social Distancing [42]

Cicala S; Holland SP; Mansur ET; Muller NZ; & Yates AJ (2020)

This paper examines the impact of stay at home policies and social distancing behaviours on emissions and expected health effects through reduced personal vehicle travel and electricity consumption in the US. The main findings include:

- County vehicle travel dropped about 40% by mid-April across the nation. States that imposed stay-at-home policies before March 28 decreased travel slightly more than other states, but travel in all states decreased significantly.
- Using data on hourly electricity consumption by electricity region (e.g., balancing authority), data showed that electricity consumption fell about six percent on average by mid-April with substantial heterogeneity.
- Given these decreases in travel and electricity use, the county-level expected improvements in air quality, and therefore expected declines in mortality.
- For a month of social distancing, the expected premature deaths due to air pollution from personal vehicle travel and electricity consumption declined by approximately 360 deaths, or about 25% of the baseline 1500 deaths.
- In addition, CO2 emissions from these sources fell by 46 million metric tons (a reduction of approximately 19%) over the same time frame

On the Effects of COVID-19 Safer-at-Home Policies on Social Distancing, Car Crashes and Pollution [43]

Brodeur A; Cook N; Wright T (2020)

This article examines the impact of safer-at-home policies (or social distancing policies) upon levels of road traffic collisions and air pollution, based on US state and county policies. Key findings include:

On the date of policy implementation trips outside the home decreased sharply;

- 50% fewer vehicular / road traffic collisions;
- 25% reduction in particulate matter (PM2.5) concentrations
- Reduction in the incidence of days in the county, where air quality index was coded yellow (or above the acceptable threshold by two thirds)

Economic benefits/ savings from this could range from $7 billion to $24 billion for reductions in car collisions, with savings from reduced levels of particulate matter concentration ranging from $650 million to $13.8 billion.

Public Health – Emerging Evidence

Vulnerable or at-risk groups

COVID-19 and People with Intellectual Disability: impacts of a pandemic [44]

Courtenary K; Perera B (2020)

This manuscript reviews potential impacts of the COVID-19 pandemic upon people with intellectual disabilities.

- Restrictions on usual activities are likely to induce mental stress, especially among those with autism, leading to an escalation in challenging behaviours
- People with intellectual disability are vulnerable to exploitation by others where usual community supports are not in place due to the pandemic.
- They may also become over-focussed and overwhelmed by the amount of information related to COVID-19 in the media.
- Mental health of people with ID can be affected in similar ways to those without ID, possibly with greater impacts due to demands of quarantine triggering challenging behaviours
- The impact on families and carers in terms of stress is heightened, where usual supports (residential support, day services, respite care) have been withdrawn due to the pandemic.

Public Health – Emerging Evidence

Vulnerable or at-risk groups

COVID-19, school closures, and child poverty: a social crisis in the making [45]
Van Lacker W; Parolin Z (2020) *Lancet Public Health.*
This editorial outlines the potential impact of school closures on inequalities for children living in poverty, with discussion of two mechanisms through which closures will impact children in the USA and Europe.

- School closures will exacerbate food insecurity – (e.g. lack of free school meals) which is expected to impact educational outcomes through poorer nutrition.
- Non-school factors and inequalities in educational outcomes- it is likely closures will widen the learning gap between those from low income and higher income households, given digital inequalities. Beyond educational outcomes, low-income families face an additional threat in that the pandemic is expected to lead to severe economic recession.

Recommendations for mitigation include:

- *"the immediate nutrition and learning needs of poor students must continue to be addressed. The continuation of school-provided meals is essential in preventing widespread food insecurity" …*
- *"From a policy perspective, legislators should consider providing regular income support for households with children during the impending economic crisis to prevent a deepening and broadening of child poverty. Without such action, the current health crisis could become a social crisis that will have long-lasting consequences for children in low-income families."*

Public Health – Commentaries

Date	Organisation	Authors	HyperLink title and reference
23/04/20	Health Psychology	Dana Rose Garfin; Roxane Cohen Silver; and E. Alison Holman	The Novel Coronavirus (COVID-2019) Outbreak: Amplification of Public Health Consequences by Media Exposure [46]
20/05/20	International journal of Public Health	Watkins, J., Wulaningsih, W.	Three further ways that the COVID-19 pandemic will affect health outcomes [47]
07/05/20	British Medical Journal	Roesch E., Amin A., Gupta J., & Gar	Violence against women during covid-19 pandemic restrictions [48]
03/03/	The Lancet	Wang G; Zhang Y; Zhao J et al.,	Mitigate the effects of home confinement on children during the COVID-19 outbreak [49]

Long-term conditions (LTCs)

LTCs – Overviews

Supporting people with long-term conditions (LTCs) during national emergencies [50]
Hartmann-Boyce J; and Mahtani KR (2020) Oxford COVID-19 Evidence Service
This review examines available evidence on the impact of previous pandemics and disasters upon the care and outcomes of people with long term conditions. Key findings include:

- Beyond the impact of disruption to care and interruptions to medical supplies during national emergencies, LTCs may be further exacerbated by increased stress, and changes in diet and physical activity levels

Available data suggests that the impact of this across a range of LTCs is broad, such that data does not exclude any LTCs as 'not being at risk of neglect'.
Specific populations with LTCs that may be at increased risk include:

- Cardiovascular disease
- Diabetes
- Older adults
- People living in deprived areas

However, the authors highlight that much of the available evidence in context to COVID-19 relates to the impact of direct infection on those with LTCs; there is limited evidence on the indirect impacts of pandemics on LTCs
Suggestions and recommendations for mitigation of indirect risks to those with LTCs are discussed further.

LTCs – Emerging Evidence

Asthma

Managing Asthma during COVID-19: An Example for Other Chronic Conditions in Children and Adolescents [51]
Abrams EM; and Szefler SJ (2020) *J Paeditr. 2020*
This comment outlines considerations and relevant guidelines for managing cases of Asthma during covid-19 in the USA. Including the impact of several ongoing challenges:
Medication shortages
This describes shortages of medications such as albuterol, with these medications being increasingly used to manage COVID-19 respiratory issues this may impact their availability to manage asthma.
Impact of COVID restrictions
The impact of restrictions on children with asthma is as yet unclear- parents often stop medications during summer months due to improved functioning out of school. And school attendance may also add structure and a level of routine administration of asthma medication. In the absence of this, the authors recommend that clinicians and parents should watch for possible breakdowns in adherence. The authors also highlight links between childhood obesity and asthma severity, in context to school closures.
Impact of social determinants of health on Asthma and COVID-19
The authors note that likely interplay between social determinants of health such as (which impact paediatric asthma morbidity) and COVID-19 may mean that children with asthma in low-income families may be at increased risk.

Asthma and COVID-19: risks and management considerations [52]
Hartmann-Boyce J et al.., (2020). CEBM
This review outlines available evidence on the risks to patients with Asthma in context to COVID-19 and considerations for managing this condition. Focussing on well-being, it was found that:

- Previous systematic reviews have found that mood disorders and anxiety are barriers to effective asthma control (Miles et al. 2017) ; and that people with asthma have a higher prevalence of anxiety and depression than those in the general population (Kew et al., 2016)
- It is reported that the current pandemic has the potential to worsen existing mental health issues in this population, and potentially leading to incidence of new mental health issues

In managing the risk of worsening or new mental health issues, the authors point to recommendations from Asthma UK, where people with this condition are advised to stay active, look after their physical health, stay social and request support when needed.

LTCs – Emerging Evidence

Diabetes

Diabetes and COVID-19: psychosocial consequences of the COVID-19 pandemic in people with diabetes in Denmark—what characterizes people with high levels of COVID-19-related worries? [53]

Joensen LE; Madsen KP; and Williang I et al. (2020) *diabetic medicine*

This cross-sectional survey (n=2430) aimed to map COVID-19 specific worries and psychosocial health among people with diabetes in the initial phase of the pandemic in Denmark. This demonstrated that people with diabetes have COVID-19 specific worries related to their diabetes, which may impact wellbeing and health behaviours:

- More than half of the sample were worried about being overly affected due to diabetes if infected
- 24% were worried about 'possible lack of diabetes medications'
- 14–17% were worried about 'possible lack of diabetes equipment', 'diminished quality of professional health care during the COVID-19 crisis' and 'insufficient access to health care professionals if needed'

Logistic regressions demonstrated that certain variables were associated with an increased level of worry about COVID-19 and diabetes, including:

- female gender,
- type 1 diabetes,
- having experienced diabetes complications and distress, and
- Feelings of loneliness and isolation.

Psychosocial health status

Participants who felt left out (OR= 1.5 to 1.9, 95%CI= 1.2 to 2.5) isolated (OR=1.7 to 2.2, 95%CI= 1.7 to 2.9), or starved from company (OR 1.6 to 2.0, 95% CI 1.2 to 2.5) were more likely to experience worries compared to people who did not experience these elements of loneliness.

Changes in diabetes management due to COVID-19

Those who were more likely to have diabetes related worries in relation to COVID-19 checked blood glucose levels more often (OR 1.6 to 1.7, 95% CI 1.0 to 2.6); and exercised more than usual (OR 1.3 to 1.7, 95% CI 1.0 to 2.2)

LTCs – Emerging Evidence

HIV/AIDS

The Burden of COVID-19 in People Living with HIV: A Syndemic Perspective [54]
Shiau S; Krause KD; Valera P; Swaminathan S; and Halkitis PN (2020) *AIDS and Behaviour*
This article discusses the potential impact of COVID-19 upon people living with HIV. Key points regarding consequences of the COVID-19 outbreak, and their impact upon health outcomes include:

- Physical distancing or social isolation may add additional burden to people with HIV, however, little is known about how physical and social distancing during pandemics such as COVID-19,affect people living with HIV.
- Available evidence suggest that older persons living with HIV are at higher risk of loneliness and social isolation (Halkitis et al. 2016), which may further compromise social and emotional well-being in light of social distancing.
- The authors comment that evidence (Lancet HIV, 2020) shows that food insecurity is linked to poor health outcomes related to HIV (high transmission risk, poor clinic attendance, poorer adherence and efficacy of Anti-Retroviral Treatment)- given that COVID-19 has heightened food insecurity for all populations, it is likely that these burdens will be further exacerbated for persons living with HIV.

LTCs – Emerging Evidence

Medically unexplained symptoms

Medically unexplained symptoms in the times of COVID-19 pandemic: A case-report [55]
Colizzi M; Bortoletto R; Silvestri M et al, (2020)
This case report outlines the potential impact of COVID-19 upon health outcomes for individuals living with medically unexplained symptoms. This reports on a case of symptom exacerbation of Severe and Persistent Somatic Symptom Disorder (SSD) in a 16 year old adolescent. Key highlights include:

- COVID-19 may have a substantial impact on levels of psychological distress and well-being, independent of being infected or testing positive for the virus.
- Fear of contracting COVID-19 may worsen or exacerbate pre-existing mental health conditions
- Extreme levels of anxiety in context to COVID-19 may result in unexplained medical symptoms in those with predispositions.

LTCs – Commentaries

Date	Organisation	Authors	HyperLink title and reference
20/05/20	Emergency Medicine News	Hawkins, Seth C MD; McClure, Sarah Frances DO; Jones, Wooten MD, MPH	**Special COVID-19 Coverage Death Is an Expected COVID-19 Effect; Covidlateral Damage Is Not** [56]

Ongoing studies - Mental Health

Study title	Study type	Country	Link
Implementing a Protocol to Assess Real-Time Mental Health Challenges of COVID-19 in Individuals with Serious Mental Illnesses	Before and after study	USA	https://s3.ca-central-1.amazonaws.com/assets.jmir.org/assets/preprints/preprint-19203-accepted.pdf [57]
Coronavirus and social relationships and support for vulnerable groups: 2017 to 2018 and 2018 to 2019	Survey	Great Britain	https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/coronavirusandsocialrelationshipsandsupportforvulnerablegroups/2020-04-02?utm_source=The%20King%27s%20Fund%20newsletters%20%28main%20account%29&utm_medium=email&utm_campaign=11460730_NEWSL_HMP%202020-04-14&dm_i=21A8,6TN5M,1IB7V,RCE9S,1 [58]
Coronavirus and the social impacts on Great Britain: 30 April 2020	Survey	Great Britain	https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandthesocialimpactsongreatbritain/30april2020 [59]

Ongoing studies - Mental Health

Study title	Study type	Country	Link
CCopeY: A mixed methods study examining mental health status and coping strategies among young people in the UK during and after the COVID-19 lockdown	Longitudinal mixed-methods	UK	https://www.covidminds.org/longitudinalstudies [60]
Tracking the impact of the COVID-19 pandemic on mental health and wellbeing (COVID-MH)	Longitudinal survey design (nationally representative)	UK	http://www.suicideresearch.info/tracking-the-impact-of-the-covid-19-pandemic-on-mental-wellbeing-study-covid-mh [61]
The health and work impacts of work loss arising from the COVID-19 pandemic: A prospective cohort study.	Prospective cohort study	Australia	https://www.covidstudy.net/ [62]
Covid-19, social media and mental health	Longitudinal survey design	UK	https://twitter.com/CovidProject [63]

Ongoing studies
Wider health impacts

Study title	Study type	Country	Link
Disabled people and COVID-19 in the UK	Qualitative	UK	Contact https://www.lshtm.ac.uk/aboutus/people/shakespeare.tom#research [64]
Wider health impacts of the COVID pandemic response		UK	Contact https://www.gla.ac.uk/researchinstitutes/healthwellbeing/staff/vittalkatikireddi/# [65]
Has social distancing made us healthier? Adoption, maintenance and sharing of positive changes	Qualitative	UK	https://www.strath.ac.uk/whystrathclyde/news/studytoexaminepositiveeffectsofpandemiclockdown/ [66]
Looking after the elderly during the COVID-19 pandemic: a focus on addressing physical activity, loneliness, and help-seeking behaviour		UK	https://www.abdn.ac.uk/news/14057/ [67]

Ongoing studies – Mental health: general public

Study title	Study type	Country	Link
Covid-19 Psychiatry and Neurological Genetics study in the NIHR BioResource, GLAD, EDGI and other recontactable cohorts *(compare the impact of the pandemic on people with and without mental and physical health conditions)*	Mixed methods	UK	https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282754/ [68]
The Covid-19 & Stress Study	Mixed methods	UK	https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282935/ [69]
General Risk Attitudes and COVID-19	Observational	Sweden	https://osf.io/kht6f [70]
COVID-19 Social Study	Qualitative	UK	https://www.marchnetwork.org/research [71]
Co-Space Study: Supporting Parents, Adolescents and Children during Epidemics	Qualitative	UK/International	https://www.psy.ox.ac.uk/research/topic-research-group/supporting-parents-adolescents-and-children-during-epidemics [72]
A longitudinal mixed-methods population study of the UK during the COVID-19 pandemic: Psychological and social adjustment to global threat	Longitudinal	UK	Contact via https://www.sheffield.ac.uk/psychology/staff/academic/richard_bentall [73]
The COVID-Minds site maintains a directory of longitudinal studies on the impact of the pandemic on mental health	Various	Various	https://www.covidminds.org/longitudinalstudies [74]

Ongoing studies
Mental Health: health and care workers

Study title	Study type	Country	Link
Measuring changes in Need for Recovery of frontline clinical staff deployed to work at NHS Nightingale Hospital (North West) during the COVID-19 pandemic	Mixed methods	UK	https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/283022/ [75]
NHS CHECK: Health & Experiences of staff working at NHS Trusts and Nightingale Hospitals	Mixed methods	UK	https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282686/ [76]
COST NHS: COvid burden for STaff working in the NHS. A study to assess the mental health burden of the COVID-19 pandemic on NHS healthcare staff	Mixed methods	UK	https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282467/ [77]
Caring in a Crisis: Understanding the stressors and uplifts for NHS frontline staff and those supporting them during Covid-19 crisis	Qualitative	UK	https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282770/ [78]

Ongoing studies
Mental Health: health and care workers

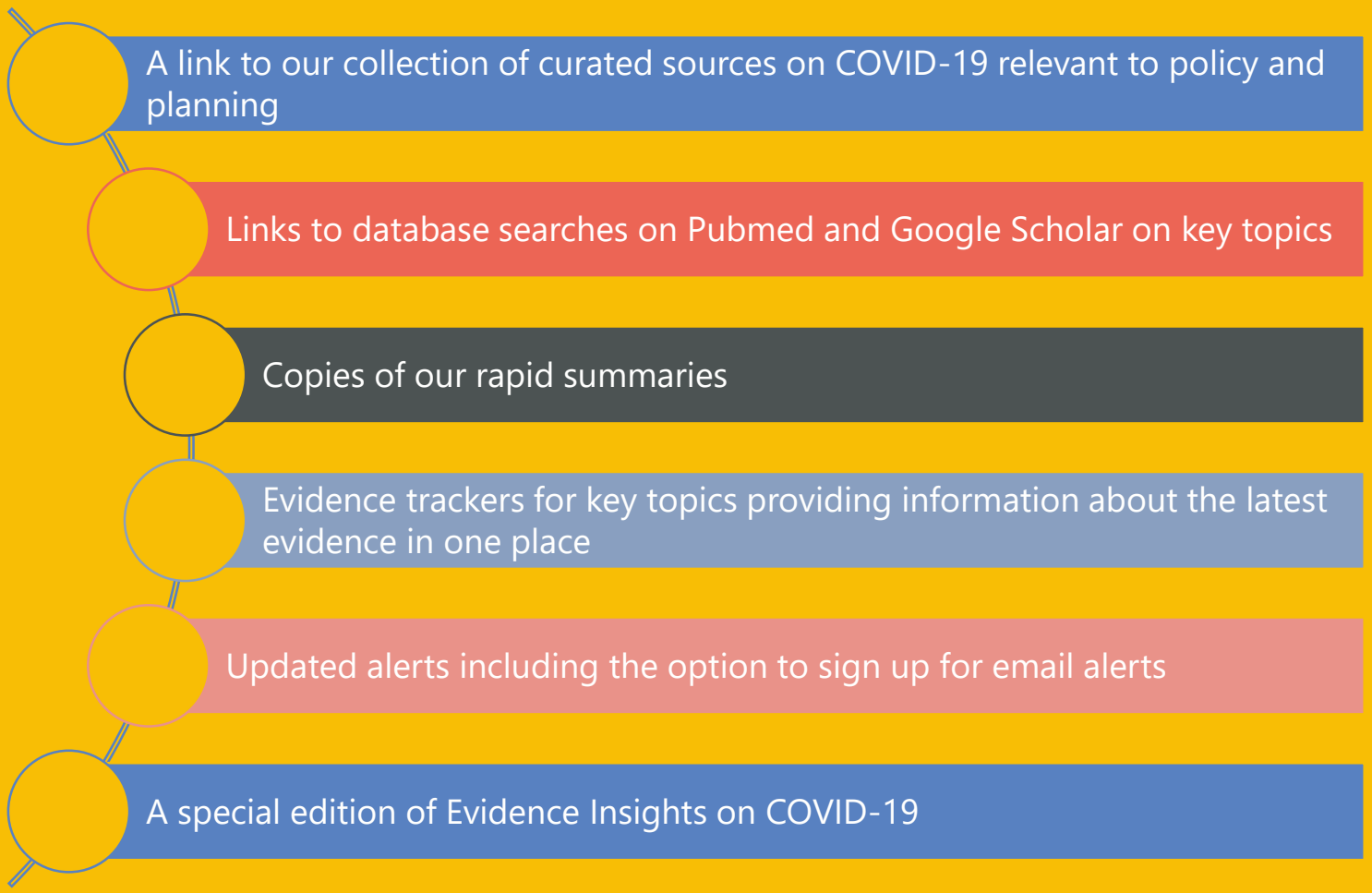
Study title	Study type	Country	Link
The Psychosocial, Relational and Emotional Consequences of Occupational Trauma Exposure During and Following A Pandemic: Insights from NHS Emergency Ambulance Personnel in England	Qualitative	UK	https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282650/ [79]
London Ambulance Service Experience of COVID-19	Mixed methods	UK	https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282296/ [80]
COVID-19 Emergency Response Assessment (CERA)	Mixed methods	UK	https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/281944/ [81]
Evidence-based interventions to support doctors' well-being and promote resilience during COVID-19 related transitions (and beyond)	-	UK	Contact via https://www.abdn.ac.uk/people/kim.walker [82]

Other useful resources

Title	Country	Link
Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety	USA	https://www.tandfonline.com/doi/full/10.1080/07481187.2020.1748481 [83]

Keep up to date

Keep up with new and emerging evidence via our web page, where you will find:
https://www.strategyunitwm.nhs.uk/COVID-19-and-coronavirus



Links

1. https://www.nuffieldtrust.org.uk/news-item/reducing-avoidable-harms-to-children-during-covid-19-what-actions-are-needed
2. https://www.health.org.uk/news-and-comment/news/covid-19-could-have-worrying-ramifications-for-young-people
3. https://www.health.org.uk/news-and-comment/charts-and-infographics/emerging-findings-on-the-impact-of-covid-19-on-black-and-min
4. http://alliancecpha.org/en/system/tdf/library/attachments/the_alliance_covid_19_brief_version_1.pdf?file=1&type=node&id=37184
5. https://alliancecpha.org/en/child-protection-online-library/protection-children-during-covid-19-pandemic-children-and
6. https://www.alliancecpha.org/en/child-protection-online-library/covid-19-protecting-children-violence-abuse-and-neglect-home-v-1
7. https://apps.who.int/iris/bitstream/handle/10665/331699/WHO-SRH-20.04-eng.pdf?sequence=1&isAllowed=y
8. https://www.local.gov.uk/sites/default/files/documents/COVID-19%20place%20based%20approach%20to%20reducing%20health%20inequalities%20overview_0.pdf
9. http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov-technical-guidance-OLD/coronavirus-disease-covid-19-outbreak-technical-guidance-europe-OLD/mental-health-and-covid-19
10. https://www.nice.org.uk/guidance/ng159/resources/covid19-rapid-guideline-critical-care-in-adults-pdf-66141848681413
11. https://www.hcpc-uk.org/covid-19/advice/advice-for-employers/supporting-staff-wellbeing-during-covid-19/
12. https://www.scie.org.uk/care-providers/coronavirus-covid-19/learning-disabilities-autism/care-staff
13. https://www.bmj.com/content/bmj/369/bmj.m1642.full.pdf
14. https://www.sciencedirect.com/science/article/pii/S088915912030845X
15. https://www.cambridge.org/core/services/aop-cambridge-core/content/view/3259D0FF579B301246410C8627E447FD/S2056469420000443a.pdf/mental_health_of_doctors_during_the_covid19_pandemic.pdf
16. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7202793/
17. https://pubmed.ncbi.nlm.nih.gov/32276196/
18. https://link.springer.com/article/10.1007/s11126-009-9095-5
19. https://www.sciencedirect.com/science/article/pii/S0920996420302577
20. https://www.local.gov.uk/sites/default/files/documents/COVID-19%20Suggestions%20for%20mitigating%20the%20impact%20on%20health%20inequalities%20at%20a%20local%20level%20%282%29.pdf

Links

21. https://hselibrary.ie/what-is-the-impact-of-the-covid-19-pandemic-on-suicide-rates/
22. https://www.centreformentalhealth.org.uk/sites/default/files/2020-05/CentreforMentalHealth_COVID_MH_Forecasting_May20.pdf
23. https://arc-w.nihr.ac.uk/research-and-implementation/covid-19-response/reports/potential-impact-of-covid-19-on-mental-health-outcomes-and-the-implications-for-service-solutions/
24. https://arc-w.nihr.ac.uk/research-and-implementation/covid-19-response/reports/the-effect-of-funeral-practices-on-bereaved-friends-and-relatives-mental-health-and-bereavement-implications-for-covid-19/
25. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7180007/
26. https://pubmed.ncbi.nlm.nih.gov/32370116/
27. https://link.springer.com/chapter/10.1007/978-981-15-4814-7_16
28. https://www.pnas.org/content/pnas/early/2020/05/14/2006706117.full.pdf
29. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3539574/
30. https://www.researchgate.net/publication/26682110_Preparing_for_an_influenza_pandemic_Mental_health_considerations
31. https://pubmed.ncbi.nlm.nih.gov/18500689/
32. https://link.springer.com/article/10.1007/s12603-020-1366-8
33. https://jamanetwork.com/journals/jamapsychiatry/article-abstract/2764227
34. https://jamanetwork.com/journals/jamapsychiatry/article-abstract/2764227
35. https://publichealthmatters.blog.gov.uk/2020/05/21/no-health-without-mental-health-why-this-matters-now-more-than-ever/
36. https://www.girlguiding.org.uk/globalassets/docs-and-resources/research-and-campaigns/girlguiding-covid19-research-briefing.pdf
37. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7184317/
38. https://www.nature.com/articles/s41430-020-0646-z
39. https://www.sciencedirect.com/science/article/pii/S1871403X20303781
40. https://onlinelibrary.wiley.com/doi/full/10.1002/oby.22813

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41. https://onlinelibrary.wiley.com/doi/abs/10.1002/oby.22861
42. http://home.uchicago.edu/~scicala/papers/CHMMY/CHMMY.pdf
43. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3602431
44. https://www.cambridge.org/core/journals/irish-journal-of-psychological-medicine/article/covid19-and-people-with-intellectual-disability-impacts-of-a-pandemic/EE2156045429D885B49CBBBEBA5A96C5
45. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7141480/
46. https://pubmed.ncbi.nlm.nih.gov/32202824/
47. https://link.springer.com/article/10.1007/s00038-020-01383-6#citeas
48. https://link.springer.com/article/10.1007/s00038-020-01383-6#citeas
49. https://www.thelancet.com/action/showPdf?pii=S0140-6736%2820%2930547-X
50. https://www.cebm.net/covid-19/supporting-people-with-long-term-conditions-ltcs-during-national-emergencies/
51. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7172836/
52. https://www.cebm.net/covid-19/asthma-and-covid-19-risks-and-management-considerations/
53. https://onlinelibrary.wiley.com/doi/epdf/10.1111/dme.14319
54. https://link.springer.com/content/pdf/10.1007/s10461-020-02871-9.pdf
55. https://www.sciencedirect.com/science/article/pii/S2666354620300387
56. https://journals.lww.com/em-news/Fulltext/2020/05131/Special_COVID_19_Coverage__Death_Is_an_Expected.1.aspx?context=LatestArticles
57. https://s3.ca-central-1.amazonaws.com/assets.jmir.org/assets/preprints/preprint-19203-accepted.pdf
58. https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/coronavirusandsocialrelationshipsandsupportforvulnerablegroups/2020-04-02?utm_source=The%20King%27s%20Fund%20newsletters%20%28main%20account%29&utm_medium=email&utm_campaign=11460730_NEWSL_HMP%202020-04-14&dm_i=21A8,6TN5M,1IB7V,RCE9S,1
59. https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandthesocialimpactsongreatbritain/30april2020
60. https://www.covidminds.org/longitudinalstudies

Links

61. http://www.suicideresearch.info/tracking-the-impact-of-the-covid-19-pandemic-on-mental-wellbeing-study-covid-mh
62. https://www.covidstudy.net/
63. https://twitter.com/CovidProject
64. https://www.lshtm.ac.uk/aboutus/people/shakespeare.tom#research
65. https://www.gla.ac.uk/researchinstitutes/healthwellbeing/staff/vittalkatikireddi/#
66. https://www.strath.ac.uk/whystrathclyde/news/studytoexaminepositiveeffectsofpandemiclockdown/
67. https://www.abdn.ac.uk/news/14057/
68. https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282754/
69. https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282935/
70. https://osf.io/kht6f
71. https://www.marchnetwork.org/research
72. https://www.psy.ox.ac.uk/research/topic-research-group/supporting-parents-adolescents-and-children-during-epidemics
73. https://www.sheffield.ac.uk/psychology/staff/academic/richard_bentall
74. https://www.covidminds.org/longitudinalstudies
75. https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/283022/
76. https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282686/
77. https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282467/
78. https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282770/
79. https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282650/
80. https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/282296/
81. https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/281944/
82. https://www.abdn.ac.uk/people/kim.walker
83. https://www.tandfonline.com/doi/full/10.1080/07481187.2020.1748481

Appendix - Methodology

Scoping the review

Geography	International
Settings	All care settings – secondary, primary, community, independent – unless specified
Language/s	No language restrictions but please note there is no budget for translation. Therefore, we will prioritise translated materials where available and will source translations within existing resource.
Dates	We may limit evidence relating to earlier pandemics/major incidents to the last 10 years, should the volume of results be high, to focus on contemporary literature.

Search sources and locations

Bibliographic databases:

- Pubmed
- Google Scholar
- Cochrane Library
- CINAHL
- Global Health
- Disaster Lit

Aggregators and search engines:

- NHS Evidence
- TRIP (using Covid filters)

Grey literature:

via our curated collection of resources on COVID-19 and Coronavirus [28]