

Supporting community recovery and resilience in response to the COVID-19 pandemic – a rapid review of evidence

Chris Harkins May 2020

Executive summary

Infectious disease remains one of the biggest threats to population health and wellbeing. The current Coronavirus worldwide pandemic (COVID-19) is a powerful reminder of how vulnerable we remain to infectious disease.

History tells us that pandemics do not affect all communities or social groups equally. Attention must be paid to the differential impact of COVID-19 on different groups and communities or approaches to prevent the spread of the disease will not only be hindered but will also exacerbate existing health inequalities, potentially creating additional burden for healthcare systems and other services as we move into societal recovery. Consideration of the differential impacts of COVID-19 is also essential in the design and delivery of disease mitigation approaches which can address some of the underlying vulnerabilities that create inequalities in risk and impact.

The narratives that initially surrounded the pandemic were largely driven by infectious disease epidemiologists and economists; and media and political representations thereof. It is crucial and timely to also emphasise the concepts of *'community recovery and resilience'* within the narratives surrounding the COVID-19 pandemic.

This paper presents an initial rapid review of available and related evidence which is designed to be a timely support to the developing understanding of community recovery and resilience in response to the COVID-19 pandemic. This evidence review is structured around three sections:

- Section 1: Identifying communities and population sub-groups with additional vulnerability to COVID-19, including the unintended impacts resulting from disease containment policy.
- Section 2: A focus on the mental health and psychological impacts of COVID-19 (and related coronaviruses) and how these can be mitigated as part of community recovery.
- Section 3: Exploring the broader potential characteristics of community recovery from the current pandemic and how future resilience can be fostered.

Section 1 explores what it means to be vulnerable or at risk to COVID-19. In clinical terms, increased risk to COVID-19 is defined from the perspective of the characteristics of infected individuals which increase mortality risk. Evidence tells us that the key characteristics associated with this increased clinical risk are having existing health conditions and being older.

It is however important to broaden the concept of vulnerability to the disease beyond that of clinical risk. We therefore define vulnerable communities as those that may experience disproportionate direct and indirect adverse impacts of COVID-19. Vulnerable communities include both infected and non-infected individuals.

The evidence reviewed in section 1 identifies those experiencing disproportionate vulnerability to COVID-19 and the 'lockdown' disease containment policy as: disadvantaged communities; people with disabilities; black and minority ethnic groups; people experiencing homelessness; those affected by violence; older people; children and young people; and frontline health and care staff.

The main drivers of vulnerability across these communities and sub-groups of the population include: loss of income and uncertainty regarding future earnings; loss of important practical and social support and connections; reduced access to essential information, goods and services — including through digital exclusion; diminished or interrupted care and support services; compromised ability to adhere to disease containment policy and to maintain social distancing; and fear, loneliness, anxiety, increased stress and other adverse psychological impacts.

Section 2 examines evidence relating to the psychological and mental health impacts of COVID-19. At the time of writing, evidence directly relating to COVID-19 is very limited, and so the mental health impacts of similar coronavirus outbreaks, namely SARS and MERS are also considered. The evidence reviewed suggests there are adverse impacts to mental health associated with Coronavirus diseases, including depression, anxiety, stress, post-traumatic stress and worry about discrimination.

Factors reported as mitigating adverse impacts to mental health of COVID-19, SARS and MERS include access to accurate and timely health information and access to disease containment measures. Factors associated with worsened impacts to mental health include: having the disease, in particular being admitted to hospital; having disease symptoms; loss of a family member to the disease; being of female gender; poor self-rated health; inadequate essential supplies, including food, clothes, accommodation; inadequate access to information and social contacts; and being a frontline healthcare worker, in particular female nursing staff.

Section 3 outlines the key elements of community recovery from COVID-19 identified through this rapid review of evidence. The key elements of community recovery are based on the evidence reviewed in sections 1 and 2 and informed by three areas of previous GCPH research – asset-based approaches and ways of working, participatory budgeting and community resilience. A key overarching message in section 3 is that for community recovery approaches to be effective and transformational, their design and delivery must clearly incorporate the views, insights and wisdom of community members and those identified as having additional vulnerability to COVID-19.

Other important elements of community recovery include working with communities to identify how best to develop an innovative and flexible range of initiatives to rebuild social cohesion and mitigate the impacts of social isolation during lockdown. Specific additional resource must be provided to enable community-based support and services to enhance mental health and wellbeing. This includes targeting engagement efforts and service delivery to the needs and aspirations of vulnerable groups and populations deemed at greater risk, including frontline healthcare workers, COVID-19 survivors and those who are grieving, having lost loved ones to the disease.

Tackling digital exclusion and building robust information sharing networks within communities is also important within community recovery; ensuring equitable access to important government and local information during the pandemic. Altering the delivery of local services and the development of community responses including volunteering to ensure access to essentials such as food and medicine, including among vulnerable groups is also vital to community recovery.

If the key elements of community recovery are successfully embedded and maintained, communities are more likely to be resilient to future crisis and emergencies. If nurtured, relationships forged during times of crisis can be resilient and have longevity. These relationships developed as part of community recovery can also underpin well-connected communities with effective information sharing, high levels of volunteerism, strong social cohesion, and the ability to mobilise effectively during future crisis or emergency.

The COVID-19 pandemic represents an unprecedented health, social and economic crisis that has been met with an equally unprecedented and proportionate response to contain the disease, provide effective healthcare and to protect lives and livelihoods. It demands an equally determined community recovery.

What is clear is that a commitment to effective and transformational community recovery from COVID-19 is a commitment to equality, inclusion and the development of a range of responses and modifications to existing services that is sensitive to the most vulnerable groups identified in section

1, and cognisant of the scale and range of mental health impacts outlined in section 2. This must form the basis of community recovery and future resilience covered in section 3.

We all must learn and adapt at an extraordinary rate. A range of new research priorities and agendas must emerge quickly that support and inform our collective health, social, economic, societal and community recovery from COVID-19. Although it is crucial to focus on the here and now to try to save and protect lives, we must simultaneously start to think about recovery. This report offers some rapidly generated learning on some key elements of community recovery in order to support a more equitable and resilient future.

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Introduction

Infectious disease remains one of the biggest threats to population health and wellbeing¹. Despite significant advances in medicine and technology, infectious disease remains a major cause of death and morbidity, with new and re-emerging infectious disease threatening developing and developed countries alike². The current Coronavirus worldwide pandemic (COVID-19) is a powerful reminder of how vulnerable we remain to infectious disease³.

History tells us that pandemics do not affect all communities or social groups equally³. Attention must be paid to the differential impact of COVID-19 on different groups and communities or approaches to prevent the spread of the disease will not only be hindered but will also exacerbate existing health inequalities; potentially creating additional burden for healthcare systems and other services as we move into societal recovery⁴.

The narratives that initially surrounded the pandemic were largely driven by infectious disease epidemiologists and economists; and media and political representations thereof. It is important and timely to also emphasise the concepts of *'community recovery and resilience'* within the narratives surrounding the COVID-19 pandemic. The clinical and economic focus within COVID-19 is justifiable and essential amid attempts to contain and slow the spread of the disease alongside the UK government's economic response which aims to buffer the adverse impacts of COVID-19 on household finances, businesses and the economy⁵ ⁶.

However, it is also vital to begin to consider our societal recovery from the pandemic and the development of policy, practice and community responses that will contribute effectively to this and build future resilience⁷. This will involve thorough consideration of a range of evidence sources, the development of new research priorities and careful reflection on the issues that COVID-19 forced us to respond to, including impacts on community life.

This paper presents an initial rapid review of available and related evidence which is designed to be a timely support to the developing understanding of community recovery and resilience in response to the COVID-19 pandemic. In doing so a range of evidence and expert insights in relation to the current COVID-19 pandemic have been considered, so too has evidence relating to how COVID-19 presents additional vulnerability to certain communities and population sub-groups. Evidence of how similar infectious diseases (and related disease containment policies) have impacted communities in other countries has also been included. Finally, consideration has been given to previous GCPH research including that relating to asset-based approaches, community engagement and participation and resilience and how these can inform community recovery from COVID-19.

COVID-19 overview

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)⁸. The disease was first recorded in December 2019 in Wuhan, the capital of China's Hubei province, and has subsequently spread globally, resulting in the ongoing pandemic⁹.

There are important clinical differences between COVID-19 and previous coronavirus strains such as the 2002 SARS (severe acute respiratory syndrome) and the 2012 MERS (Middle East respiratory syndrome) outbreaks¹⁰. The symptoms of both SARS and MERS can be more aggressive and distinct than that of COVID-19 making early disease containment approaches such as contact tracing more effective¹¹. COVID-19 may also be more contagious than SARS and MERS¹². Both SARS and MERS have a higher case fatality rate than COVID-19, however COVID-19 is responsible for more deaths given its significantly higher overall number of cases¹³.

COVID-19 can be asymptomatic. However, most cases present symptoms similar to that of the common cold and seasonal flu, including fever, cough, sore throat, muscle pain and shortness of breath¹⁴. The majority of cases result in mild symptoms and quick recovery, however as already mentioned COVID-19 can be deadly, some cases progressing to viral pneumonia and multi-organ failure¹⁵. Older people and those with pre-existing health conditions are at higher risk of death¹⁶.

COVID-19 is primarily spread through person-to-person close contact and through respiratory droplets produced when people cough or sneeze. Respiratory droplets can also be produced during breathing but the virus is generally not airborne. COVID-19 can also be contracted when people touch a contaminated surface and then their face; the virus can survive on surfaces for 72 hours¹¹. The virus is most contagious when people are symptomatic, although spread may be possible before symptoms appear¹⁷.

A vaccine for COVID-19 is not expected to become available until 2021¹⁸, meaning a key part of managing the pandemic is to try to decrease the epidemic peak, widely known as "flattening the curve"⁵. This refers to a strategy of reducing the infection rate to prevent health services being overwhelmed, allowing for more effective treatment of current cases, and delaying additional cases until targeted therapeutics or a vaccine become available¹⁹.

The World Health Organization (WHO) declared the COVID-19 outbreak a Public Health Emergency of International Concern on the 30th January 2020, and a pandemic on the 11th March 2020⁶.

Approaches to decrease the infection rate in the UK and elsewhere began with advice on hand washing with soap and water often and for at least 20 seconds, practicing good respiratory hygiene and avoiding touching the eyes, nose, or mouth with unwashed hands. 'Social-isolation' was introduced for people displaying COVID-19 symptoms, followed by governmental banning of mass gatherings and the introduction of 'social distancing', which directed that a minimum of two metres distance between people be maintained in public places. Subsequently schools and universities were closed in mid-March 2020^{5,20}. On the 24th of March the UK Government introduced a 'lockdown' to further bolster existing approaches to combat the spread of COVID-19; directing people to stay at home and only go outside for essentials such as food and medication or for daily exercise with members of their own household²¹. All non-essential businesses were closed for the duration of lockdown and the government introduced a suite of financial support for workers, businesses and the economy to redress the loss of earnings as a result of COVID-19²².

On March 26th 2020, the European Regional Office for the WHO declared that it considered the wider consequences of COVID-19, including disease containment policies, on mental health and psychological wellbeing to be very important. The WHO European regional director described that the impacts of COVID-19 would include fear, anxiety, stress and loneliness²³.

Purpose and aims

The purpose of this report is to support community recovery from COVID-19 by broadening the understanding of the wider impacts of both the disease and the related disease containment policy. The report aims to demonstrate the types of policy and community responses that may support effective recovery that fosters community resilience. The report also serves to support and inform the developing GCPH response to COVID-19 moving forward.

In addition, we aim to inform the development of public health policy, research and interventions to ensure we collectively keep pace with the wider impacts of COVID-19 on communities and society as a whole, and recognise the support required for specific populations to promote community recovery and resilience.

This paper also aims to explore more comprehensive, collaborative, systemic approaches to supporting community recovery and resilience to COVID-19 and similar public health emergencies. To this end, we believe this paper will be of benefit to policymakers and practitioners from both national and local government, and statutory, service delivery, third sector and community organisations involved in implementing community-based recovery and support services.

Approach and methodology

This paper presents the findings from a rapid review of evidence in relation to supporting community recovery and resilience in response to the current COVID-19 pandemic. This is structured around three themes. These are:

- Identifying communities and population sub-groups with additional vulnerability to COVID-19, including the unintended impacts resulting from disease containment policy.
- A focus on the mental health and psychological impacts of COVID-19 (and related coronaviruses) and how these can be mitigated as part of community recovery.
- Exploring the broader potential characteristics of community recovery from the current pandemic and how future resilience can be fostered within communities.

The review began by considering the likely differential population impacts of COVID-19 and the 'lockdown' governmental disease containment policy. This involved identifying communities or population sub-groups that the available evidence described as being especially vulnerable. Importantly we sought to understand the drivers of this vulnerability, which helped to shape the narrative of the key issues involved in community recovery.

Next, international studies which examined community impacts and recovery in response to COVID-19 and other previous strains of coronavirus including SARS and MERS coronaviruses^{24 25} were considered. Within this, studies which examined the mental health impacts of quarantine and related disease containment policies were specifically sought out.

Although there are important clinical distinctions in the pathology of different strains of coronavirus, the comparisons were considered to be reasonable on the basis that all are potentially deadly, contagious, respiratory viruses, SARS and MERS coronaviruses have been epidemics in countries of a similar quality of living to the UK, and those countries have introduced somewhat similar measures to contain and slow the rate at which the disease spreads. Consideration of this evidence led to other avenues of literature searching and new search terms.

Initially studies from the past ten years were prioritised. However, relevant epidemics were documented in older studies and were deemed to still be relevant and of high academic quality and were therefore included.

Research papers reviewed included quantitative designs. However, qualitative studies, evaluations, grey literature and published expert commentary concerning COVID-19 and other relevant infectious diseases and community impacts and recovery have also shaped the narrative of this paper. Previous GCPH publications including those relating to community resilience were also reviewed and were influential within this review.

The literature reviewed was assessed in terms of methodological quality, peer review, credibility of source, currency and relevance to UK perspectives on COVID-19 and the resultant community recovery and resilience. In total, approximately 375 sources were reviewed in detail, with just over 100 sources being directly used and cited in this paper, full references are included at the end of the paper.

Limitations of this rapid review of available and related evidence

This rapid review of evidence seeks to raise important issues and considerations concerning community recovery and resilience to COVID-19. The review of evidence has been conducted at speed in order to be available in a timely and responsive manner to the current pandemic. To this end, the themes reported and prioritised are not exhaustive, nor are they presented in depth. Counterfactual arguments to the key themes presented are discussed very briefly. Although international evidence is considered, the themes are generally tailored towards community recovery and resilience in the UK.

Findings: key emergent themes

The evidence reviewed is presented under three key themes. In section 1, the concept of vulnerability to the direct and indirect impacts of COVID-19 is examined. The basis for this is that evidence tells us that infectious disease disproportionally affects some communities or populations more than others through a variety of mechanisms. In terms of community recovery and resilience in response to COVID-19, it is vital to gain an understanding of the potential disproportionate impacts of the disease on communities and population sub-groups. The evidence reviewed includes consideration of the indirect and unintended impacts of the UK's disease containment policy on population health and wellbeing. The evidence cited here is a mixture of well-established population health characteristics alongside emerging expert commentary relating to the impacts of COVID-19 on the lives of specific communities.

Section 2 specifically considers the direct and indirect impacts of COVID-19 on mental health and psychological wellbeing. This issue could have been considered as a vulnerable community or population sub-group, within Section 1 – i.e. "individuals with existing mental health issues". However, based on the evidence reviewed it was considered to be a societal impact, potentially affecting all communities in a variety of ways. Indeed, adverse impacts to mental health is likely to be the central unintended consequence of the UK 'lockdown' disease containment policy. This evidence is therefore presented in its own section. The evidence reviewed in section 2 begins by examining emerging COVID-19 specific papers from China, exploring the impacts of the disease on mental health. At the time of writing, COVID-19 specific evidence is limited. Therefore, potential learning from related evidence assessing the psychological impacts of other historical coronavirus outbreaks in other countries, such as SARS and MERS are also examined. This section concludes with a broad assessment of the associations between infectious disease and mental health.

Finally, in section 3 the learning and insights from the evidence reviewed in sections 1 and 2 is synthesised with a view to informing community recovery and future resilience in response to COVID-19. This section revisits and is informed by previous GCPH publications relating to community engagement and empowerment including asset-based approaches, participatory budgeting and resilience. A central theme which comes to the fore is that communities themselves should have a clear voice in defining their own recovery and in assessing their strengths, weaknesses and what is likely to inform future resilience.

Section 1: Defining community vulnerability to COVID-19 and its disease containment policy

What does it mean to be vulnerable or at risk to COVID-19? In clinical terms, increased risk to COVID-19 is defined in terms of the characteristics of infected individuals which increase mortality risk. Evidence tells us that the key characteristics associated with this increased clinical risk are having existing health conditions and being older.

It is however important to broaden the concept of vulnerability to the disease beyond that of clinical risk. Therefore, vulnerable communities are defined as those that may experience disproportionate direct and indirect adverse impacts of COVID-19. Vulnerable communities include both infected and non-infected individuals.

It is also possible that the makeup of vulnerable communities may change dynamically as we move forward. A community not thought to be vulnerable at the beginning of the pandemic can become vulnerable as new evidence and insights emerge and vulnerability can also be dependent on the policy responses to the pandemic. The COVID-19 containment policy or 'lockdown' is designed to reduce the rate of infection. However, it will have many indirect and unintended adverse impacts on population health and wellbeing, with some communities being disproportionally affected.

The 'lockdown' disease containment policy can mean a sudden loss of income and uncertainty regarding future earnings, the severing of important social support and connections, reduced access to essential information, goods and services, and fear, loneliness, anxiety, increased stress and other adverse psychological impacts. These appear to be the main drivers of vulnerability among some communities, although there may be more. The consequences of these drivers of vulnerability are difficult to estimate and it is challenging to identify all those who might become vulnerable.

The communities or population sub-groups considered to be vulnerable during the COVID-19 pandemic are described below and includes those at higher clinical risk. The direct impacts of COVID-19 on specific communities and population sub-groups are considered alongside the indirect, unintended impacts of the 'lockdown' containment policy. Table 1 summarises those identified at highest risk and the key drivers of their vulnerability^A

https://www.bmj.com/content/bmj/suppl/2020/04/27/bmj.m1557.DC1/doum055986.ww1.pdf

A summary of the HIA, including the list of "Groups at particular risk from responses to covid-19" can be accessed here: https://www.bmj.com/content/bmj/369/bmj.m1557.full.pdf

A Since completing this rapid review of evidence, Douglas et al have published a Health Impact Assessment (HIA) of the COVID-19 containment policy response. This includes a similar assessment of vulnerable population sub-groups. The Douglas et al HIA can be accessed here:

Table 1: Communities and population sub-groups with additional vulnerability to COVID-19^B

Communities and population sub-	Key drivers of vulnerability across identified
groups identified as having additional	communities and population sub-groups
vulnerability to COVID-19	(including unintended impacts of
·	'lockdown' disease containment policy)
Disadvantaged communities	Loss of income and uncertainty regarding future earnings
People with disabilities	Loss of important practical and social support and connections
Black and minority ethnic groups	
	Reduced access to essential information, goods and
People experiencing homelessness	services; including through digital exclusion
Those affected by violence	Diminished or interrupted care and support services
·	
Older people	Compromised ability to adhere to disease containment
	policy and to maintain social distancing
Children and young people	
, , ,	Fear, loneliness, anxiety, increased stress and other
Frontline health and care staff	adverse psychological impacts.

Disadvantaged communities. Socioeconomically disadvantaged communities and households experiencing poverty have higher rates of chronic conditions, which creates higher clinical risk of COVID-19 associated mortality²⁶. Disadvantaged communities also have higher rates of common mental health disorders and addictions meaning greater vulnerability to the mental health impacts of COVID-19 and associated containment policies²⁷. Since the pandemic has perpetuated an economic crisis, unemployment rates will rise substantially with those in working poverty and in short-term, precarious employment most likely to be impacted first²⁸.

For those experiencing low-paid, poor quality and insecure work, fear of job loss and material hardship have been highlighted as a barrier to the adoption of self-isolation advice²⁹. Despite employment safeguards being introduced in the UK, those in insecure work may be distrusting of these assurances and have long-standing negative experiences of navigating complex benefits systems²⁶. Other workers such as the self-employed appear underserved by such economic contingency plans²⁶.

Disadvantaged communities and individuals that experience diminished access to health and other important services in normal circumstances are left especially vulnerable during times of crisis³⁰. A lack of communication and information disproportionally affects those experiencing poverty who have less access to information channels, including the internet³¹. They are therefore more likely to be unaware of government health warnings and changes to healthcare systems in response to the pandemic.

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^B Please note that Table 1 presents the findings of a rapid review of limited evidence; further communities or population sub-groups may be vulnerable to COVID-19 that have not been identified here.

People with disabilities (PWD). PWD are at increased clinical risk from COVID-19 as they have higher rates of co-morbidities compared to the general population³². Disabled populations also have increased rates of depression and other common mental disorders³³ making them potentially more vulnerable during the COVID-19 lockdown containment policy. PWD also face significant additional barriers to health care and other important services, and this will be more acutely felt during the current pandemic³⁴.

Containment approaches such as self-isolation or social distancing may prove difficult or impossible for some PWD who require close, in-person support from a professional carer or family member in order to meet their daily living, health care, and transport needs³⁴. On a similar note the implementation of such containment measures can disrupt vital service provision for PWD, who often rely on assistance for delivery of food, medication, and personal care³⁴.

PWD might experience inequities in access to important COVID-19 public health messaging³⁵. Communication should be disseminated in plain language and across accessible formats, through mass and digital media channels³⁶. COVID-19 mitigation strategies and community recovery approaches must be inclusive of PWD in their design and implementation to ensure respect for their human rights are maintained during times of crisis and to avoid worsening existing inequalities³⁷.

Black and minority ethnic (BME) groups. BME communities may be at increased clinical risk to COVID-19; evidence from England and Wales indicates that people from Black, Asian, Mixed and Other ethnic groups are disproportionately represented among critically ill COVID-19 patients, and those who die of the disease³⁸. Ethnic minority populations are susceptible to critical complications of COVID-19 due to underlying social determinants which increase the likelihood of pre-existing health conditions. For example, South Asian populations are disproportionately affected by diabetes, hypertension and cardio-vascular disease³⁹; all of which have been associated with disease severity and mortality in COVID-19⁴⁰. Ethnicity can intersect with a range of existing social determinants to increase risk including socioeconomic status, higher rates of poverty and increased concentration among employment sectors likely to be affected by disease mitigation measures⁴¹. Housing has been highlighted as a risk factor for COVID-19 which potentially impacts BME populations the most⁴². Overcrowding in Scotland, for example, disproportionately affects refugees, migrants in the 'White Other' group and Pakistani and Bangladeshi households⁴³.

Access to health services can be impeded for people whose first language is a minority language through poor language provision in healthcare settings and the communication of health imformation⁴⁴. There is evidence that stigma associated with COVID-19 may also disproportionately affect minority groups, for example those of Chinese origin or appearance (the country where COVID-19 was first detected) may experience blaming and related discrimination within their community⁴⁵.

At the time of writing there has been widespread reports of significantly higher rates of COVID-19 morbidity and mortality among BME populations in the United States⁴⁶ and England and Wales⁴⁷. Moving forward, improving the understanding of the importance of social determinants which intersect with racial and ethnic categories and COVID-19 is a clear research priority⁴⁸. This work should take account of structured vulnerabilities not just to COVID-19 but to mitigation measures and pre-existing barriers to accessing appropriate healthcare. This requires continued monitoring of representation of ethnic minorities among COVID-19 cases and deaths³⁸ alongside qualitative studies involving ethnic minority communities to understand healthcare dynamics and pathways by which increased risk and vulnerability is produced, including assessing responses to disease containment policy and related communication⁴⁹.

People experiencing homelessness. Evidence shows that people experiencing homelessness have higher rates of existing chronic physical and mental health conditions⁵⁰, including addictions⁵¹ and have reduced access to healthcare and to public health information and advice⁵². These factors present additional clinical risk to COVID-19 but are also likely to compromise the screening and treatment of people experiencing homelessness infected with the virus⁵³.

Furthermore, people experiencing homelessness live in conditions and environments that are conducive to an accelerated spread of COVID-19. This includes congregative settings where social distancing and self-isolation is almost impossible⁵⁴. This might be within institutions such as shelters, on the streets or in abandoned buildings. Access to basic hygiene facilities such as hand washing or showering may therefore be difficult, which is likely to enable virus transmission⁵⁵.

Homeless populations are generally more transient and geographically mobile compared to the general population, which makes it increasingly difficult to track and prevent virus spread and to treat those who need care⁵⁴. During disease containment policy it may be that those experiencing homelessness are thought to be breaking the 'lockdown' rules, which may further exacerbate stigma and discrimination already experienced⁵⁶.

Those affected by violence. Times of economic uncertainty and disaster are linked to a range of risk factors for increased violence against women and children⁵⁷. Public health emergencies and pandemics are no exception⁵⁸. Based on existing published and grey literature, a 2020 review of evidence relating to COVID-19 concluded that there were several pathways linking pandemics to increased violence against women and children⁵⁹.

Some of the key pathways include economic insecurity and poverty-related stress, the adverse impacts of quarantines and social isolation on mental health including anger, reduced access to violence support services, and the inability to temporarily escape abusive partners⁵⁹.

Older people. Older people are at greater clinical risk from COVID-19, including the speed of disease onset, severity of the symptoms and mortality⁶⁰. Older people are also more likely to have existing health conditions, to live alone and to be socially isolated⁶¹. The unintended adverse mental health impacts of the UK 'lockdown' policy are likely to be acutely felt among such older people, particularly those adhering to 'shielding' measures, where those over 70 years of age with existing conditions are encouraged to stay indoors⁶².

Older people may also experience reduced access to essentials such as food, medicine and disease containment information during 'lockdown'⁶³. Relatedly, many older people do not have digital skills or internet access, particularly those within disadvantaged communities⁶⁴. Indeed, digital skills may come even further to the fore with the imminent development of mobile applications designed to trace the spread of COVID-19 within communities⁶⁵.

Older people within care homes may find it almost impossible to adhere to social distancing and self-isolation measures as they rely on close personal support and daily care⁶⁶. The reported lack of adequate personal protective equipment (PPE) among care home staff may further increase risk of infection⁶⁷.

Children and young people. School closures form a central part of the UK disease containment policy and the disruption to educational attainment and exams is likely to be significant⁶⁸. For children within disadvantaged communities the impacts of school closures may not just be educational. Two mechanisms are identified through which school closures will disproportionately impact disadvantaged children.

First, school closures will increase food insecurity. For many pupils living in poverty, schools may be the central route to eating healthily⁶⁹. Research shows that free school lunch is associated with higher academic performance, whereas food insecurity (including irregular or unhealthy diets) adversely impacts educational attainment and represents significant risks to the physical health and mental wellbeing of children and young people⁷⁰.

Second, evidence is clear that there may be a range of non-school factors that drive inequalities in educational outcomes which may come to the fore during COVID-19 school closures. The gap in numeracy and literacy skills between pupils from lower and higher socioeconomic backgrounds often widens during school holiday periods⁷¹. Summer holidays are also associated with a setback in mental health and wellbeing for children and adolescents⁷². Clearly the current school closures differ from summer holidays in that learning is expected to continue digitally, however the closures are likely to widen the learning gap between children from lower-income and higher-income families.

Children from disadvantaged communities may live in circumstances that make home schooling extremely challenging⁷³. Online learning requires computers and a reliable internet connection. A substantial number of children live in homes in which they have no suitable place to do homework or have no access to the internet⁷⁴. Furthermore, disadvantaged children may live in homes that cannot be heated adequately and have no access to outdoor leisure facilities or safe green space⁷⁴. Some particularly vulnerable children or young people may not live in a stable residence⁷⁵. These factors mean that disadvantaged children may struggle to complete homework and online courses. Furthermore, the economic impacts of COVID-19 are likely to trigger an economic recession which has been consistently shown to increase child poverty and deplete children's health, wellbeing, and learning outcomes⁷⁵.

Frontline health and care staff. The pressure on health care systems that COVID-19 presents is widely acknowledged⁷⁶. Less scrutiny has been placed on how the pandemic is affecting the lives of frontline health and care staff. Several ways in which the disease outbreak makes frontline workers more vulnerable to the direct and indirect effects of COVID-19 are identified.

First, the care of COVID-19 patients is pressured and stressful with resources, including staff being stretched⁷⁶. This has seen retired clinicians returning and junior doctors qualifying earlier than is normal practice, in order to bolster the workforce which presents a range of challenges for management and planning the delivery of care⁷⁶. Second, in order to effectively care for COVID-19 patients there has been significant change and uncertainty within clinical settings, with changing duties, shift patterns and overall significant impacts to the working lives of healthcare workers⁷⁷. Third, as essential workers, frontline health and care staff have significantly less capacity and flexibility to home school their children and to support family members, for example parents, or to care for family members who have COVID-19 symptoms, this creates a further mental health burden⁷⁸.

Finally, frontline health and care staff are much more likely to be exposed to COVID-19 with implications for symptomatic or asymptomatic infection⁷⁹ with significant resultant psychological strain. There have been many calls for health and care services to deliver psychological support for frontline workers⁷⁸.

Section 2: Societal mental health impacts of COVID-19

In this section evidence relating to the psychological and mental health impacts of COVID-19 is examined. At the time of writing, evidence directly relating to COVID-19 is very limited, therefore the mental health impacts of similar coronavirus outbreaks, namely SARS and MERS, are also considered.

Table 2 summarises the evidence relating to the impacts to mental health resulting from COVID-19, SARS and MERS and factors identified as mitigating these impacts and worsening them^c:

Table 2: Mental health impacts of Coronavirus diseases (COVID-19, SARS, MERS)

Coronavirus disease	Evidenced impacts to mental health across Coronavirus diseases	Factors reported as mitigating impacts to mental health	Factors associated with worsened impacts to mental health
COVID-19 SARS	Depression Anxiety	Access to accurate and timely health information	Having the disease, in particular being admitted to hospital
MERS	Stress Post-traumatic stress Worry about discrimination	Access to disease containment measures	Loss of a family member to the disease Female gender Poor self-rated health Inadequate essential supplies — including food, clothes, accommodation Inadequate access to information and social contacts Being a frontline healthcare worker, in particular female nursing staff

A March 2020 study which surveyed the general public in China to better understand their levels of psychological impact, anxiety, depression, and stress during the initial stage of the COVID-19 outbreak is first considerd⁸⁰. In this study, psychological impact and mental health status were assessed using validated measures in 1,210 respondents. Over half (53.8%) of respondents rated the psychological impact of the outbreak as moderate or severe; 16.5% reported moderate to severe

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^c Please note that section 2 presents a rapid review of a limited, yet complex and evolving evidence base. We note important clinical distinctions between the strains of coronavirus cited which may influence the extent of mental health impacts. The studies described use varied assessments of mental health and psychological impacts among diverse populations in different countries, amid varied containment policies and at different stages in disease outbreak and treatment.

depressive symptoms; 28.8% reported moderate to severe anxiety symptoms; and 8.1% reported moderate to severe stress levels.

The study also found that during China's COVID-19 containment phase most survey respondents (84.7%) spent 20 to 24 hours per day at home, 75.2% were worried about their family members contracting COVID-19, and 75.1% were satisfied with the amount of health information available. Female gender, student status, specific COVID-19 related symptoms (e.g. cough, muscle pain and weakness, dizziness), and poor self-rated health status were significantly associated with a greater psychological impact of the outbreak and higher levels of stress, anxiety, and depression.

Factors that were found to have a protective influence on mental health included having access to specific up-to-date and accurate health information (e.g., treatment, local outbreak situation) and access to disease containment measures (e.g., hand hygiene, wearing a mask). Both of these factors were associated with a lower psychological impact of the outbreak and lower levels of stress, anxiety, and depression. These results are cautioned however by the fact that the sampling strategy adopted in the survey was biased and the findings therefore may not be generalisable to the wider population. In particular, individuals of lower educational status were under-represented in the survey sample.

Another Chinese study published in March 2020 examined the prevalence of post-traumatic stress (PTS) symptoms in COVID-19 patients⁸¹. A total of 714 patients met the inclusion criteria, with a mean-age of the participants 50.2 years, men accounted for 49.1% of the sample. The prevalence of significant PTS symptoms within the sample was 96.2%. The authors concluded that these symptoms may lead to future negative outcomes once fully recovered from COVID-19, such as lower quality of life and impaired working performance. The rate of PTS symptoms amongst COVID-19 patients is significantly higher than that observed in similar previous studies among SARS coronavirus patients⁸². However, these differences may be attributed to different clinical diagnosis and illness phases between the studies; i.e. clinically stable COVID-19 inpatients vs. discharged SARS survivors.

It is worth noting that only half of the COVID-19 patients in this study held positive attitudes towards online mental health services which China deployed at the time. Many COVID-19 patients were older adults with limited time, capability and restricted access to internet and smartphones due to poor health status during hospitalisation⁸¹.

An April 2020 study, again from China, specifically investigated the mental health of front-line medical staff during the care of COVID-19 patients⁸⁴. A total of 230 medical staff completed self-rated anxiety and PTS questionnaires. The incidence of anxiety in medical staff was 23.04% and the incidence of stress disorder in medical staff was 27.39%. Female medical staff had significantly higher rates of anxiety and stress than their male colleagues, furthermore nursing staff had higher rates of anxiety and stress than doctors. The authors concluded that health services must support the mental health and resilience of staff during the pandemic and also noted that female nursing staff were at highest risk of developing adverse mental health impacts during the care of COVID-19 patients⁸⁴. It is important to recognise that the reliability of self-reporting mental health disorders can be variable⁸⁵.

Given the lack of studies published to-date concerning the mental health impacts of COVID-19, evidence relating to previous outbreaks of coronavirus were considered next. In particular, the specifics of how coronavirus impacts on mental health was explored in greater depth with a view to informing community recovery and resilience. A 2004 study of the SARS coronavirus outbreak in

Hong Kong which examined the level and extent of psychological distress of SARS survivors following one-month recovery was initially explored⁸⁶.

This study explored patients' negative appraisals (a range of measures aimed at quantifying the adverse impacts of the infection on patients' lives) of the impact of SARS and evaluated the associations between psychological distress and negative appraisals. The study used several questionnaires: The Beck Anxiety Inventory, the Beck Depression Inventory, and a newly developed measure at the time, the SARS Impact Scale (SIS). In total 180 patients completed the questionnaire (average age of 37 years) which represented 13.6% of all adult survivors in Hong Kong.

Approximately 35% of respondents reported 'moderate to severe' or 'severe' ranges of anxiety and/or depressive symptoms. Those working as healthcare workers or having family members who died as a result of SARS infection were more likely to develop subsequent high levels of distress. Statistical analyses arrived at three meaningful factors which influenced psychological distress, namely 'survival threat' – the immediate risk of death from SARS infection, 'physical impact' – the adverse impacts of SARS symptoms, and 'social impact' – reduced social contact resulting from isolation and quarantine measures and potential stigma at having been infected with SARS.

In the acute phase, the most prominent worry alongside dying from the disease was "passing the SARS virus on to the family", whereas after one-month recovery "drug side-effects" and "permanent damage to health" were the two top equally weighted worries. After recovery, the worry of "being killed by SARS" was less prominent, but that of "being discriminated against" was ranked higher as was "I will have a mental problem". The authors concluded that short-term psychological distress among SARS survivors at one-month recovery was real and significant, meriting specific therapeutic attention early in the recovery phase⁸⁶.

A similar study was conducted in 2007 to assess the psychological impacts of SARS infection on survivors during the outbreak and one-year after infection⁸⁷. SARS survivors had significantly higher stress levels during the outbreak, compared with control subjects, and this persisted one-year later, without signs of decrease. SARS survivors also showed worrying levels of depression, anxiety, and post-traumatic symptoms. An alarming proportion (64%) scored above the General Health Questionnaire (GHQ-12) cut-off that suggests psychiatric morbidity, with the worst psychological profile being amongst healthcare worker SARS survivors. The authors concluded that the long-term psychological implications of infectious diseases should not be ignored. Mental health services could play an important role in rehabilitation⁸⁷.

A 2016 study in Korea examined the psychological impacts of a two-week enforced isolation on the general population who had contact with someone infected with MERS coronavirus⁸⁸. The isolation studied here is similar to the current UK COVID-19 self-isolation guidelines. Among 1,656 study participants, 7.6% demonstrated anxiety symptoms and feelings of anger were present in 16.6%, during the isolation period. At four to six months after release from isolation, anxiety symptoms were observed in 3.0%, and anger was present in 6.4%. Risk factors for experiencing anxiety symptoms and anger at four to six months after release included having symptoms related to MERS during isolation, inadequate supplies (food, clothes, accommodation), inadequate information, limited access to social networking activities (email, text, Internet), a history of psychiatric illnesses, and financial loss incurred from isolation⁸⁸. It is important to note the limited assessment of psychological impacts of isolation in this study and potential bias amongst the respondents.

Caution must be applied in making direct comparisons between the current COVID-19 pandemic and the cited studies of SARS and MERS coronavirus. There are important clinical distinctions between

these strains of coronavirus which directly shape the nature of containment policies and may influence the extent of adverse impacts to wellbeing. The studies described used varied assessments of mental health and psychological impacts among diverse populations in different countries, amid varied containment policies and at different stages in disease outbreak.

However, what we can say from reading across a range of high-quality studies of different infectious disease, is that there is a long-established link between infectious disease and adverse impacts to mental health⁸⁹. Approaches to promote community recovery and resilience in response to COVID-19 must incorporate specific mental health improvement strategies⁹⁰. These should be specifically tailored to the vulnerable communities and groups outlined in section 1 but also accessible to wider community members.

The mechanisms at play linking infectious disease to adverse mental health can be varied and are complex⁹¹. Based on the evidence reviewed it appears that the mental health of those infected by the disease and their immediate family may be impacted the most. Similarly, the psychological wellbeing of frontline healthcare or related services in the care of infectious disease patients can also be severely impacted.

It appears that quarantine or self-isolation can be damaging to wellbeing for some of the population. The evidence reviewed shows that access to accurate and timely information concerning the disease outbreak, alongside access to disease protective measures and essentials such as food and clothing are mitigating factors for mental health and wellbeing in these circumstances.

At the time of writing, it was not possible to identify a quality study of a similar disease containment policy to that of UK 'lockdown'. Given the scale of the UK 'lockdown', its impacts to mental health must be considered at a societal level. UK 'lockdown' impacts all UK citizens and therefore the whole population must be considered at potential risk to unintended adverse mental health impacts at some stage^{28 31}.

Section 3: Supporting community recovery and future resilience in response to COVID-19

COVID-19 has impacted the health, social and economic components of our society and all aspects of community, family and working life. The actions taken as part of the UK 'lockdown' measures aim to flatten the disease curve but are having many unintended impacts on community life particularly among those identified as having additional vulnerability to the impacts of COVID-19 in section 1. The link between infectious disease and adverse impacts to mental health is long established and has been confirmed in similar coronavirus outbreaks and among the very limited recent COVID-19 studies reviewed in section 2. Accordingly approaches to promote recovery from COVID-19 must incorporate enhancing community mental health and wellbeing as an overarching priority.

In order for community recovery approaches to be effective and transformational, their design and delivery must incorporate the views, insights and wisdom of those identified as having additional vulnerability to COVID-19. Recovery approaches must be acutely tailored to the needs and aspirations of these vulnerable groups. This in turn will support successful engagement within these communities who may face multiple barriers to engagement. It will also ensure the delivery of recovery services and support which are valued by these groups.

Failure to deliver COVID-19 recovery efforts in this way could potentially worsen health and other inequalities and may represent additional burden to already stretched health and care systems. Importantly, if services designed to promote community recovery are implemented successfully and maintained, then their impacts may not be restricted to that of COVID-19 – they can potentially support and enable future community resilience.

The damage that COVID-19 and the related disease control policies is doing to the social fabric of communities is widely recognised. The design and delivery of COVID-19 recovery services should recognise and include existing aspects of community mobilisation, including the creation of a range of volunteering opportunities, working collaboratively with anchor organisations, and public and third sector organisations to develop recovery and support services and to tailor existing services in response to COVID-19^D. The Scottish Government, public services and organisations such as the Scottish Council for Voluntary Organisations are facilitating vital connections, providing information and supporting communities and community services across a range of themes in response to COVID-19⁹².

It is important to recognise the existing expertise and wisdom across communities and within a range of services to implement effective COVID-19 recovery approaches and to nurture future resilience. To support this moving forward, in both policy and practice terms, three areas of previous GCPH work and publications which the current pandemic has brought back into acute focus have been revisited. These are: asset-based approaches and ways of working; participatory budgeting, and; the concept of resilience. A brief overview of these three areas is provided below, before considering the specific themes of community recovery and future resilience in response to COVID-19.

Keep Govan Moving: https://trello.com/b/F9TCwPcb/keeping-govan-moving supported by the National Society for the Prevention of Cruelty to Children

North Glasgow Homes: $\frac{http://mediacentre.nghomes.net/pressreleases/north-glasgow-community-supported-by-incredible-angels-of-the-north-2996720$

Scotland Cares National Volunteering Plan in response to COVID-19: https://www.gov.scot/news/national-volunteering-plan-for-coronavirus/

^D Examples of communities effectively mobilising in response to COVID-19 include:

Asset-based approaches and ways of working. The concept of asset-based thinking, approaches and ways of working has emerged over the past decade ^{93 94}. At the core of asset-based approaches is a call for a fundamental shift in how professionals and services approach and work within communities. For too long, it can be argued, professionals concentrated on the problems, needs and deficiencies within communities. This in turn shapes how professionals conceptualise and understand health and wellbeing and determines the way services are delivered. Typically, a community is seen from the perspective of its largest deficit. Assessing and building the strengths of individuals and the assets of a community opens the door to new ways of thinking about improving health ⁹⁵.

Although many public health programmes have achieved considerable success in reducing mortality and morbidity, they often fail to capitalise on interventions that address the social context and conditions in which people grow, live, work and age, all of which have a powerful influence on health have a seem required for creating the conditions for health lie within communities and the social context of people's lives and therefore have the potential to contribute to reducing inequalities if they are effectively mobilised and utilised have been considerable success in reducing mortality and mortalit

In short, asset-based approaches and ways of working must be incorporated within the design and delivery of community recovery support and services and in fostering future resilience in response to COVID-19, this has been recognised in other countries⁹⁷. Top-down driven recovery approaches alone are likely to have limited impact in many areas. Instead, communities should have a clear voice in defining what is important to their recovery and how recovery efforts should be implemented; this should of course be informed by up-to-date governmental guidance relating to COVID-19. Asset-based approaches value and are grounded on the insights, experience and wisdom of community members and are tailored to, and build upon, community strengths, capabilities and identities⁹³.

Participatory budgeting. Over the past decade the profile and implementation of participatory budgeting (PB) has increased rapidly in Scotland⁹⁸. PB is becoming one of the main methods used in community engagement, empowerment and participation. Originating from Brazil in the late 1980s, the roots of PB lie in addressing inequality and promoting social justice. PB is a democratic process of directly involving community members in deciding how to spend public money⁹⁹.

In essence, PB means that the control and accountability for a defined proportion of public funds is given over to communities directly. Effective PB is tailored to specific community contexts but should always begin with inclusive community engagement. PB should then involve significant 'deliberation' among community members, community organisations and public services, where everyone involved has the time, space and opportunity to discuss their local priorities, ideas and concerns and to learn from each other's perspectives as compromise and consensus are worked towards¹⁰⁰. PB generally, but not exclusively, concludes with a method of democratic community voting on priority issues or projects to be funded¹⁰¹.

Glasgow City Council (GCC) implemented a PB model across four pilot council wards over 2018/19¹⁰². These were delivered within disadvantaged geographical communities or targeted to often-excluded communities of interest and identity who face significant and multiple barriers to participation. The model developed by GCC is therefore particularly well suited to the effective engagement and involvement of vulnerable populations within community decision making, as is required in developing COVID-19 community recovery responses.

GCC worked with communities, anchor organisations and, importantly, with specialist partner equalities organisations, to enable all citizens to exercise their right to participate in local decision-

making. For example, the skills and experience of Glasgow Disability Alliance proved invaluable in effectively engaging and building PB capacity and empowerment among disabled community members, ensuring participation on an equal basis within their ward's PB process.

Another effective example of PB in Glasgow, led by New Gorbals Housing Association, serves as a timely reminder that fundamentally community engagement, empowerment, co-production and the co-design of services with communities are about people and relationships¹⁰³. Moving forward with community recovery from COVID-19, value must therefore be attached to the human characteristics among engagement staff such as empathy, patience, humility and kindness, alongside professional and technical skills¹⁰³.

Community resilience. Resilience refers to the ability of individuals, places and populations to withstand stress and challenge¹⁰⁴. The concept has become subject to renewed interest and attention in recent times and has been brought into sharp focus during the current pandemic. Often the focus has been around preparedness – mitigating apparent vulnerability to events such as pandemics, extreme weather or terrorism. In public health terms, the GCPH has argued that resilience thinking needs to go beyond preparing for isolated events to question the role that institutions, leaders and organisations play in creating vulnerabilities, such as poverty and the many societal barriers faced by disadvantaged groups^{104 105}. The GCPH arrived at a definition of resilience for public health as the capacity for populations to endure, adapt and generate new ways of thinking and functioning in the context of change, uncertainty or adversity¹⁰⁴.

Beyond the individual, resilience can be approached at the level of communities, cities, regions or nations. Resilience at this scale concerns not only the population affected, but also the environment in which their resilience is tested; collectively referred to as 'place resilience'¹⁰⁶. The significance of this concept is that people are not the primary focus for resilient outcomes but are instead part of a wider system of interdependent factors. Community cohesion, neighbourhood social capital and integration have been highlighted as key features of resilient places¹⁰⁷. All of these features of place resilience or community resilience have been compromised by COVID-19 and the unintended consequences of the UK 'lockdown' containment policy¹⁰⁸.

If the key elements of community recovery described above are successfully embedded and maintained then communities are likely to be more resilient to future crisis and emergencies. Relationships forged during times of crisis can also be resilient and have longevity if nurtured¹⁰⁹. These relationships developed as part of community recovery can underpin well-connected communities with high social cohesion which can mobilise effectively during future crisis or emergency.

Table 3 (overleaf) summarises the key elements of community recovery from COVID-19 identified through this rapid review of evidence. This is based on the evidence reviewed in sections 1 and 2 and on the principles of asset-based working and participatory budgeting detailed earlier in this section. The table also shows how these elements of community recovery can become factors in future community resilience.

Table 3: Supporting community recovery and resilience in response to COVID-19

Actions or key elements of community recovery in response to COVID-19	Anticipated outcomes (characteristics of community resilience to future crisis and emergencies)
A range of new community engagement and participation, underpinned by asset-based working and participatory budgeting principles to support communities in shaping their own recovery priorities in response to COVID-19.	A well-connected community with strong, supportive relationships based on a foundation of trust and reciprocity established during the crisis. Effective relationships between community members, anchor organisations and public services, enabling ease of communication and timely mobilisation in the face of future adverse events or emergencies.
Working with communities to identify how best to develop an innovative and flexible range of initiatives or events to rebuild social cohesion and mitigate the impacts of social isolation during 'lockdown' whilst adhering to disease containment policies and social distancing measures while still applicable.	Capacity, experience and expertise developed and distributed across the community. A skilled community which has demonstrated innovation and is able to plan and implement approaches to support community cohesion during unpredictable times and adverse circumstances.
Recognising the specific circumstances and needs of vulnerable populations and groups outlined in section 1, ensuring their input in the delivery of effective community engagement and participation opportunities and in the design and implementation of community recovery initiatives.	Significant community knowledge, capacity and skills to engage with, support and work collaboratively with vulnerable and high-risk groups in developing or adapting services during crisis or emergencies.
Specific additional resource to enable community-based support and services to enhance mental health and wellbeing. This will include targeting engagement efforts, and service delivery to the needs and aspirations of vulnerable groups and populations deemed at greater risk, including frontline healthcare workers, COVID-19 survivors and those who are grieving, having lost loved ones to the disease. Explore the possibility of community opportunities for collective grieving and commemorating in support and recognition of those who have lost loved ones.	Greater community awareness of mental health issues, self-care and knowledge of where and when to access support within communities. Specific insights into the mental health issues affecting vulnerable or marginalised groups within the community and effective engagement with these groups.
Tackling digital exclusion and building online skills and confidence as part of the development of robust information sharing networks within communities which ensure equitable access to important government and local information during the pandemic.	Strong digital skills across communities, supported by volunteer 'digital champions' within communities to build digital capacity, social capital and reduce social isolation, cutting across generational divides. Communities have the confidence and ability to access governmental advice and updates, and

	effective information sharing, utilising a range of digital platforms and a variety of modalities as is appropriate to the needs of community members including those that are vulnerable and higher risk.
Altering the delivery of local services and the development of community responses including volunteering to ensure access to essentials such as food and medicine, including among vulnerable groups, are maintained during lockdown.	Communities with a strong group of volunteers and the ability to identify and act upon service delivery gaps and breaks in infrastructure during future crisis or emergency situations.

It is important to emphasise that the above table is based upon a rapid review of available and related evidence. As the impacts of COVID-19 on communities become clearer in the coming weeks and months, the key elements of community recovery may be refined and added to; this will therefore impact on the characteristics of future resilience. The points noted above are also quite general, it is entirely appropriate that communities themselves, in collaboration with anchor organisations and public services develop their own specific and tailored recovery principles and activities.

Discussion

The COVID-19 pandemic represents an unprecedented health, social and economic crisis that has been met with an equally unprecedented and proportionate response to contain the disease, provide effective healthcare and protect lives and livelihoods¹¹⁰. It demands an equally determined community recovery.

The process of community recovery must be phased and carefully managed, requiring patience and strong leadership to ensure the avoidance of a second wave of disease spread¹¹¹. It must involve a flexible, innovative and adaptive approach to support and service delivery, alongside strong community mobilisation, engagement and participation. This will require multi-dimensional community priorities and local coordination developed with community members, supported by a range of public services and anchor organisations and informed by emerging government advice, policy and evidence.

What is also clear is that a commitment to effective and transformational community recovery from COVID-19 is a commitment to equality, inclusion and the development of a range of responses and modifications to existing services. This must be sensitive to the most vulnerable groups identified in section 1 and cognisant of the scale and range of mental health impacts outlined in section 2. This, in turn must form the basis of community recovery and future resilience covered in section 3. The key themes presented in this report are not exhaustive and should be built upon and developed further, through a clear inequalities focus.

Relatedly, we all must learn and adapt at an extraordinary rate. It is important to ensure that a range of new research priorities and agendas emerge moving forward that support and inform our collective health, social, economic, societal and community recovery from COVID-19. This evidence review represents an early output within COVID-19 research which aims to support communities to recover, reconnect, heal and build back stronger in response to these challenging times and in preparedness for the future.

Conclusion

Communities are the lifeblood of our society. Neighbours, friends, family, volunteers, local services, connections, support and relationships are essential to health and wellbeing. COVID-19 and the unintended consequences of disease containment policy has adversely impacted on all of these facets of our lives. Recovery will be sustained and challenging but can be transformational.

Although it is crucial to focus on the here and now to try to save and protect lives, we must simultaneously start to think about recovery. As we move through this acute crisis and the tragic loss of so many lives, we must collectively reflect on our shared values to guide what comes next. We must connect and collectively rebuild based on what we know from the past, what we are experiencing now and what we will need in the future. This report offers some rapidly generated learning on some key elements of community recovery in order to support a more equitable and resilient future.

Next steps

This report serves as an important foundation from which the GCPH can consider and develop further COVID-19 focussed research and collaboration with our partners. This report also demonstrates the importance of an inequalities focus and the continued relevance of many established GCPH work themes to the evolving COVID-19 landscape and the need to make these connections clear.

Moving forward it is important to establish the extent to which the vulnerabilities identified in this report have impacted on the communities involved. Similarly developing further understanding of the differential mental health impacts of COVID-19 across society is vital. So too is the development of applicable principles of community recovery and resilience in response to COVID-19. In all instances this will require innovative methodologies, new partnerships and the development of empirical evidence alongside community insights, perspectives and experiences.

References

- 1. Quinn, S.C. and Kumar, S., 2014. Health inequalities and infectious disease epidemics: a challenge for global health security. Biosecurity and bioterrorism: biodefense strategy, practice, and science, 12(5), pp.263-273.
- 2. Giesecke J. Modern infectious disease epidemiology. London: CRC Press; 2017.
- 3. Legido-Quigley H, Asgari N, Teo YY, et al. Are high-performing health systems resilient against the COVID-19 epidemic? *The Lancet* 2020;395(10227):848-50.
- 4. O'Sullivan T, Bourgoin M. Vulnerability in an influenza pandemic: Looking beyond medical risk. *behaviour* 2010;11:16.
- 5. Anderson RM, Heesterbeek H, Klinkenberg D, et al. How will country-based mitigation measures influence the course of the COVID-19 epidemic? *The Lancet* 2020;395(10228):931-34.
- 6. Sohrabi C, Alsafi Z, O'Neill N, et al. World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). *International Journal of Surgery* 2020.
- 7. Watkins J. Preventing a covid-19 pandemic. British Medical Journal Publishing Group 2020.
- 8. Ksiazek TG, Erdman D, Goldsmith CS, et al. A novel coronavirus associated with severe acute respiratory syndrome. *New England journal of medicine* 2003;348(20):1953-66.
- 9. Lu H, Stratton CW, Tang YW. Outbreak of Pneumonia of Unknown Etiology in Wuhan China: the Mystery and the Miracle. *Journal of Medical Virology* 2020.
- 10. Peeri NC, Shrestha N, Rahman MS, et al. The SARS, MERS and novel coronavirus (COVID-19) epidemics, the newest and biggest global health threats: what lessons have we learned? *International journal of epidemiology* 2020.
- 11. Wang Y, Wang Y, Chen Y, et al. Unique epidemiological and clinical features of the emerging 2019 novel coronavirus pneumonia (COVID 19) implicate special control measures. *Journal of medical virology* 2020.
- 12. Liu Y, Gayle AA, Wilder-Smith A, et al. The reproductive number of COVID-19 is higher compared to SARS coronavirus. *Journal of travel medicine* 2020.
- 13. Mahase E. Coronavirus: covid-19 has killed more people than SARS and MERS combined, despite lower case fatality rate. *British Medical Journal Publishing Group* 2020.
- 14. Chen N, Zhou M, Dong X, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. *The Lancet* 2020;395(10223):507-13.
- 15. Wang D, Hu B, Hu C, et al. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus—infected pneumonia in Wuhan, China. *Jama* 2020;323(11):1061-69.
- 16. Lloyd-Sherlock P, Ebrahim S, Geffen L, et al. Bearing the brunt of covid-19: older people in low and middle income countries. *British Medical Journal Publishing Group* 2020.

- 17. Bai Y, Yao L, Wei T, et al. Presumed asymptomatic carrier transmission of COVID-19. Jama 2020
- 18. Prompetchara E, Ketloy C, Palaga T. Immune responses in COVID-19 and potential vaccines: Lessons learned from SARS and MERS epidemic. *Asian Pac J Allergy Immunol* 2020;38(1):1-9.
- 19. Mahase E. Covid-19: 90% of cases will hit NHS over nine week period, chief medical officer warns. *British Medical Journal Publishing Group* 2020.
- 20. World Health Organization. Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19): interim guidance, 19 March 2020. *World Health Organization* 2020.
- 21. Jarvis CI, Van Zandvoort K, Gimma A, Prem K, Klepac P, Rubin GJ, Edmunds WJ. Quantifying the impact of physical distance measures on the transmission of COVID-19 in the UK. *BMC medicine* 2020;18(1):1-10.
- 22. UK Government. Financial support for businesses during coronavirus (COVID-19). Available at: https://www.gov.uk/government/collections/financial-support-for-businesses-during-coronavirus-covid-19 (accessed May 2020).
- 23. WHO European Regional Director, COVID-19 update. Available at: https://www.youtube.com/watch?v=PsFtH1h-MCQ (accessed May 2020).
- 24. Hilgenfeld R, Peiris M. From SARS to MERS: 10 years of research on highly pathogenic human coronaviruses. *Antiviral research* 2013;100(1):286-295.
- 25. de Wit E, van Doremalen N, Falzarano D, et al. SARS and MERS: recent insights into emerging coronaviruses. *Nature Reviews Microbiology* 2016;14(8):523.
- 26. Ahmed F, Ahmed Ne, Pissarides C, et al. Why inequality could spread COVID-19. *The Lancet Public Health* 2020
- 27. Duan L, Zhu G. Psychological interventions for people affected by the COVID-19 epidemic. *The Lancet Psychiatry* 2020;7(4):300-02.
- 28. Douglas M, Katikireddi SV, Taulbut M, et al. Mitigating the wider health effects of covid-19 pandemic response. *Bmj* 2020;369
- 29. del Rio-Chanona RM, Mealy P, Pichler A, et al. Supply and demand shocks in the COVID-19 pandemic: An industry and occupation perspective. *Cornell University preprint* 2020.
- 30. Richards J, Sang K. The intersection of disability and in-work poverty in an advanced industrial nation: The lived experience of multiple disadvantage in a post-financial crisis UK. *Economic and Industrial Democracy* 2019;40(3):636-59.
- 31. Holmes EA, O'Connor RC, Perry VH, et al. Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The Lancet Psychiatry* 2020
- 32. Kraus de Camargo O. Systems of care: transition from the bio psycho social perspective of the International Classification of Functioning, Disability and Health. *Child: care, health and development* 2011;37(6):792-99.

- 33. Von Korff M, Ormel J, Katon W, et al. Disability and depression among high utilizers of health care: a longitudinal analysis. *Archives of general psychiatry* 1992;49(2):91-100.
- 34. Armitage R, Nellums LB. The COVID-19 response must be disability inclusive. *The Lancet Public Health* 2020
- 35. Ji Y, Ma Z, Peppelenbosch MP, et al. Potential association between COVID-19 mortality and health-care resource availability. *The Lancet Global Health* 2020;8(4):e480.
- 36. Ziviani J, Lennox N, Allison H, Lyons M, Del Mar C. Meeting in the middle: improving communication in primary health care consultations with people with an intellectual disability. *Journal of Intellectual and Developmental Disability* 2004;29(3):211-25.
- 37. Albert B. Briefing Note: The social model of disability, human rights and development. *Disability KaR Research Project* 2004:1-8.
- 38. Qureshi K, Meer N, Kasstan B, Hill S, Hill E. Submission of Evidence on the Disproportionate Impact of COVID-19 on Ethnic Minorities in Scotland. *Edinburgh: University of Edinburgh;* 2020
- 39. Tillin T, Hughes AD, Mayet J, et al. The relationship between metabolic risk factors and incident cardiovascular disease in Europeans, South Asians, and African Caribbeans: SABRE (Southall and Brent Revisited)—a prospective population-based study. *Journal of the American College of Cardiology* 2013;61(17):1777-86.
- 40. Wu Z, McGoogan JM. Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention. *JAMA* 2020;323(13):1239-42.
- 41. Platt L, Warwick R. Are some ethnic groups more vulnerable to COVID-19 than others? London: Institute for Fiscal Studies; 2020.
- 42. Pareek M, Bangash MN, Pareek N, et al. Ethnicity and COVID-19: an urgent public health research priority. *The Lancet* 2020.
- 43. Netto G, Sosenko F, Bramley G. Poverty and ethnicity in Scotland. York: Joseph Rowntree Foundation; 2011.
- 44. Yancy CW. COVID-19 and African Americans. Jama 2020.
- 45. Chouinard S, Normand M. Talk COVID to Me: Language Rights and Canadian Government Responses to the Pandemic. *Canadian Journal of Political Science/Revue canadienne de science politique* 2020:1-10.
- 46. Devakumar D, Shannon G, Bhopal SS, et al. Racism and discrimination in COVID-19 responses. *The Lancet* 2020;395(10231):1194.
- 47. Office for National Statistics. Coronavirus (COVID-19) related deaths by ethnic group, England and Wales. 2 March to 10 April 2020. Available at:

https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/coronavirusrelateddeathsbyethnicgroupenglandandwales/2march2020to10april2020 (Accessed May 2020)

- 48. Khunti K, Singh AK, Pareek M, et al. Is ethnicity linked to incidence or outcomes of covid-19? *British Medical Journal Publishing Group* 2020.
- 49. Lee C. "Race" and "ethnicity" in biomedical research: how do scientists construct and explain differences in health? *Social science & medicine* 2009;68(6):1183-90.
- 50. Tsai J, Gelberg L, Rosenheck RA. Changes in physical health after supported housing: Results from the Collaborative Initiative to End Chronic Homelessness. *Journal of general internal medicine* 2019;34(9):1703-08.
- 51. Maremmani AG, Bacciardi S, Gehring ND, et al. Substance use among homeless individuals with schizophrenia and bipolar disorder. *The Journal of nervous and mental disease* 2017;205(3):173-77.
- 52. Gill P, MacLeod U, Lester H, et al. Improving access to health care for Gypsies and Travellers, homeless people and sex workers. *An evidence-based commissioning guide for Clinical Commissioning Groups and Health & Wellbeing Boards*. London: Royal College of General Practitioners; 2013.
- 53. Kirby T. Efforts escalate to protect homeless people from COVID-19 in UK. *The Lancet Respiratory Medicine* 2020
- 54. Tsai J, Wilson M. COVID-19: a potential public health problem for homeless populations. *The Lancet Public Health* 2020;5(4):186-187.
- 55. Berger ZD, Evans NG, Phelan AL, et al. Covid-19: control measures must be equitable and inclusive. *British Medical Journal Publishing Group* 2020.
- 56. Logie CH, Turan JM. How Do We Balance Tensions Between COVID-19 Public Health Responses and Stigma Mitigation? Learning from HIV Research. *AIDS and Behavior* 2020:1-4.
- 57. Bradbury Jones C, Isham L. The pandemic paradox: the consequences of COVID 19 on domestic violence. *Journal of clinical nursing* 2020
- 58. Mukherjee JS. Structural violence, poverty and the AIDS pandemic. *Development* 2007;50(2):115-21.
- 59. Peterman A, Potts A, O'Donnell M, et al. Pandemics and violence against women and children. *Center for Global Development Working Paper.* 2020:1;528
- 60. Rothan HA, Byrareddy SN. The epidemiology and pathogenesis of coronavirus disease (COVID-19) outbreak. *Journal of autoimmunity* 2020:102433.
- 61. Ilgaz A, Gözüm S. Health promotion interventions for older people living alone: a systematic review. *Perspectives in public health* 2019;139(5):255-63.
- 62. World Health Organization. Coronavirus disease 2019 (COVID-19): situation report, 72. World Health Organisation; 2020

- 63. World Health Organization. Mental health and psychosocial considerations during the COVID-19 outbreak, 18 March 2020: World Health Organization; 2020.
- 64. Torous J, Myrick KJ, Rauseo-Ricupero N, et al. Digital Mental Health and COVID-19: Using Technology Today to Accelerate the Curve on Access and Quality Tomorrow. *JMIR mental health* 2020;7(3):18848.
- 65. Ienca M. and Vayena E. On the responsible use of digital data to tackle the COVID-19 pandemic. *Nature medicine* 2020;26(4):463-464.
- 66. Bedford J, Enria D, Giesecke J, et al. COVID-19: towards controlling of a pandemic. *The Lancet* 2020;39:1015-18.
- 67. Iacobucci G. Covid-19: Lack of PPE in care homes is risking spread of virus, leaders warn. *BMJ* 2020;368:1280.
- 68. Viner RM, Russell SJ, Croker H, et al. School closure and management practices during coronavirus outbreaks including COVID-19: a rapid systematic review. *The Lancet Child & Adolescent Health* 2020
- 69. Schwartz AE, Rothbart MW. Let them eat lunch: The impact of universal free meals on student performance. *Journal of Policy Analysis and Management* 2020;39(2):376-410.
- 70. Bitler MP, Seifoddini A. Health impacts of food assistance: evidence from the United States. *Annual Review of Resource Economics* 2019;11:261-87.
- 71. Alexander KL, Entwisle DR, Olson LS. Lasting consequences of the summer learning gap. *American sociological review* 2007;72(2):167-80.
- 72. Morgan K, Melendez-Torres G, Bond A, et al. Socio-economic inequalities in adolescent summer holiday experiences, and mental wellbeing on return to school: analysis of the school health research network/health behaviour in school-aged children survey in Wales. *International journal of environmental research and public health* 2019;16(7):1107.
- 73. Van Lancker W, Parolin Z. COVID-19, school closures, and child poverty: a social crisis in the making. *The Lancet Public Health* 2020
- 74. Guio A-C, Gordon D, Marlier E, et al. Towards an EU measure of child deprivation. *Child indicators research* 2018;11(3):835-60.
- 75. Cantillon B, Chzhen Y, Handa S, et al. Children of austerity: impact of the great recession on child poverty in rich countries: Oxford University Press 2017.
- 76. Willan J, King AJ, Jeffery K, et al. Challenges for NHS hospitals during covid-19 epidemic. *BMJ* 2020;368:1117.
- 77. Iacobucci G. Covid-19: all non-urgent elective surgery is suspended for at least three months in England. *BMJ* 2020;368:1106.

- 78. Greenberg N, Docherty M, Gnanapragasam S, et al. Managing mental health challenges faced by healthcare workers during covid-19 pandemic. *BMJ* 2020;368:1211.
- 79. Gan WH, Lim JW, David KO. Preventing intra-hospital infection and transmission of COVID-19 in healthcare workers. *Safety and Health at Work* 2020.
- 80. Wang C, Pan R, Wan X, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in china. *International Journal of Environmental Research and Public Health* 2020;17(5):1729.
- 81. Bo H-X, Li W, Yang Y, et al. Posttraumatic stress symptoms and attitude toward crisis mental health services among clinically stable patients with COVID-19 in China. *Psychological Medicine* 2020:1-7.
- 82. Fang Y, Zhe D, Shuran L. Survey on Mental Status of Subjects Recovered from SARS. *Chinese Mental Health Journal* 2004.
- 83. Mak IWC, Chu CM, Pan PC, et al. Long-term psychiatric morbidities among SARS survivors. *General hospital psychiatry* 2009;31(4):318-26.
- 84. Huang J, Han M, Luo T, et al. Mental health survey of 230 medical staff in a tertiary infectious disease hospital for COVID-19. Zhonghua lao dong wei sheng zhi ye bing za zhi= Zhonghua laodong weisheng zhiyebing zazhi= Chinese journal of industrial hygiene and occupational diseases 2020;38.
- 85. Santos KOB, Carvalho FM, Araújo TMd. Internal consistency of the self-reporting questionnaire-20 in occupational groups. *Revista de saude publica* 2016;50:6.
- 86. Cheng SK, Wong C, Tsang J, et al. Psychological distress and negative appraisals in survivors of severe acute respiratory syndrome (SARS). *Psychological Medicine* 2004;34(7):1187-95.
- 87. Lee AM, Wong JG, McAlonan GM, et al. Stress and psychological distress among SARS survivors 1 year after the outbreak. *The Canadian Journal of Psychiatry* 2007;52(4):233-40.
- 88. Jeong H, Yim HW, Song Y-J, et al. Mental health status of people isolated due to Middle East Respiratory Syndrome. *Epidemiology and health* 2016;38.
- 89. Chew QH, Wei KC, Vasoo S, et al. Narrative synthesis of psychological and coping responses towards emerging infectious disease outbreaks in the general population: practical considerations for the COVID-19 pandemic. *Singapore medical journal* 2020.
- 90. Horesh D, Brown AD. Traumatic stress in the age of COVID-19: A call to close critical gaps and adapt to new realities. *Psychological Trauma: Theory, Research, Practice, and Policy* 2020;12(4):331.
- 91. Shah K, Kamrai D, Mekala H, Mann B, Desai K, Patel RS. Focus on mental health during the coronavirus (COVID-19) pandemic: applying learnings from the past outbreaks. *Cureus* 2020;12(3).
- 92. Scottish Council for Voluntary Organisations. Coronavirus Community Assistance Directory. Available at: https://covid-19.scvo.org.uk/ (accessed May 2020).
- 93. McLean J, McNeice V, Mitchell C. Asset-based approaches in service settings: striking a balance. *Glasgow: Glasgow Centre for Population Health;* 2017.

- 94. Evans M, Winson A. Asset-based approaches to Public Health. *A conceptual framework for measuring community assets Birmingham: Birmingham City Council and University of Birmingham* 2014
- 95. Garven F, Pattoni L, McLean J. Asset-Based Approaches: their rise, role and reality. London: Dunedin Academic Press Ltd; 2016.
- 96. McLean J. Asset based approaches for health improvement: redressing the balance. *Glasgow: Glasgow Centre for Population Health;* 2011.
- 97. Torres I, Sacoto F. Localising an asset-based COVID-19 response in Ecuador. The Lancet 2020
- 98. Harkins C, Egan J. The role of participatory budgeting in promoting localism and mobilising community assets. *Glasgow: Glasgow Centre for Population Health;* 2012
- 99. Harkins C, Moore K, Escobar O. Review of 1st generation participatory budgeting in Scotland. *Edinburgh: What Works Scotland* 2016
- 100. Public deliberation at the local level: participatory budgeting in Brazil. Paper delivered at the Experiments for Deliberative Democracy Conference Wisconsin; 2000.
- 101. Harkins C, Escobar O. Participatory Budgeting in Scotland: An overview of strategic design choices and principles for effective delivery. *Glasgow: GCPH, WWS;* 2015.
- 102. Harkins C. An evaluation of Glasgow City participatory budgeting pilot wards 2018/19. Glasgow: *Glasgow Centre for Population Health;* 2019.
- 103. Harkins C, Tabbner C. Aspiring Communities Fund: an evaluation of community engagement and participatory budgeting within Gorbals. Glasgow: *Glasgow Centre for Population Health*; 2019.
- 104. Seaman P, McNeice V, Yates G, et al. Resilience for public health. Glasgow: *Glasgow Centre for Population Health*; 2014.
- 105. Plough A, Fielding JE, Chandra A, et al. Building community disaster resilience: perspectives from a large urban county department of public health. *American journal of public health* 2013;103(7):1190-97.
- 106. Cutter SL, Barnes L, Berry M, et al. A place-based model for understanding community resilience to natural disasters. *Global environmental change* 2008;18(4):598-606.
- 107. Ostadtaghizadeh A, Ardalan A, Paton D, et al. Community disaster resilience: A systematic review on assessment models and tools. *PLoS currents* 2015;7.
- 108. Sominsky L, Walker DW, Spencer SJ. One size does not fit all—Patterns of vulnerability and resilience in the COVID-19 pandemic and why heterogeneity of disease matters. *Brain, behavior, and immunity* 2020.
- 109. Hobfoll SE, Nadler A, Leiberman J. Satisfaction with social support during crisis: Intimacy and self-esteem as critical determinants. *Journal of personality and social psychology* 1986;51(2):296.

- 110. lacobucci G. Covid-19: UK lockdown is "crucial" to saving lives, say doctors and scientists. *BMJ* 2020;368:1204.
- 111. Leung, K., Wu, J.T., Liu, D. and Leung, G.M., 2020. First-wave COVID-19 transmissibility and severity in China outside Hubei after control measures, and second-wave scenario planning: a modelling impact assessment. *The Lancet* 2020.