



Mental Health and Emotional Wellbeing Surge Cell (COVID-19)

The Mental Health Impact of the COVID-19 Pandemic in Northern Ireland

A Rapid Review

July 31st 2020

Purpose

To consolidate the research, knowledge and evidence on the impact of COVID-19 on key areas of mental health and emotional wellbeing and the likelihood of new inceptions of mental illness; the recommendations for ameliorating these i.e. prevention, early intervention and recovery and priorities for further research.

This paper is a rolling review and a guide to planning and decision making agreed by the Mental Health and Emotional Wellbeing Surge Cell which was convened by the Health and Social Care Board in order to provide evidence to the Department of Health Northern Ireland.

Table of Contents

Section One: Evidence from Previous Mass Casualty Events	6
1.1 Historical Precedents	6
1.2 The SARS, MERS and Ebola epidemics	7
1.3 Lessons from the “Troubles”	7
1.4 The Omagh Bomb	8
Section Two: The impact of trauma	9
2.1 New trauma related illness	9
2.2 Can infections cause psychotic disorders?	12
2.3 Medication used to treat Psychotic Disorders and potential disruption as a result of COVID-19 infection	13
2.4 Suicidal Behaviour and Suicide	16
Section Three: Evidence from COVID-19 Pandemic to date	17
3.1 China	17
3.2 Italy.....	17
3.3 United States.....	18
Section Four: Direct Impact of COVID-19 infection	18
4.1 Acute psychiatric syndromes	18
4.2 Post-viral Syndromes	19
4.3 Psychological Impact of ICU Admission	19
Section Five: Indirect Impact of COVID-19 Pandemic.....	20
5.1 Indirect Impact of COVID-19	21
5.2 Impact of COVID-19: estimated mental health risk in Northern Ireland.....	25
Section Six: Impact of COVID-19 pandemic on specific populations already in contact with services	28
6.1 Impact of COVID-19 on Children and Adolescents in NI.....	28
6.2 Impact of COVID-19 on the older persons in NI.....	32
6.2.1 Direct consequences of coronavirus infection in older persons.....	33
6.2.2 Indirect consequences of coronavirus infection in older persons.....	34
6.3 Children and Adults with Intellectual Disability.....	36
Section Seven: Impact of COVID-19 pandemic on women.....	39
7.1 Domestic Violence	40
7.2 Reproductive Healthcare	40
7.3 Poverty	40

7.4	Employment.....	40
Section Eight: Impact on services for Children and Adults with Intellectual Disability		41
8.1	Services for People with Intellectual Disability	41
8.2	Impact of COVID-19 and mental health and wellbeing on Primary Care services.....	42
Section Nine: Research Implications.....		46
9.1	Research Strategy	46
9.2	Recommendations	46
9.3	Potential Initial Research Priorities.....	47
9.4	Conclusions	48
References		50

Introduction



On 31st December 2019, a pneumonia of unknown cause was reported to the World Health Organisation (WHO), having been detected in Wuhan, central China. By the 30th January 2020, the emergence of the novel coronavirus (COVID-19) was declared a Public Health Emergency of International Concern and subsequently, a pandemic was declared by 11th March 2020 (WHO¹).

It is self-evident that psychological distress accompanies any emergency situation (WHO²). At the time of writing, with 2,774,135 confirmed cases, 190,871 deaths and 213 countries affected (WHO¹), the emergence and spread of COVID-19 can only be described as a global emergency (BBC).

Psychological distress manifesting itself in sadness, anxiety, hopelessness and anger accompany any emergency and are experienced by most people (WHO²). While this tends to improve over time for the majority, for some, the effects will be long term (WHO²). “The prevalence of common mental disorders such as depression and anxiety is expected to more than double in a humanitarian crisis” (WHO²). With numerous pre-pandemic reports of mental health services being “stretched to breaking point” (Independent), and the government coming under increasing scrutiny and criticism for its preparation and response to the pandemic (Chalkidou, 2020), the detrimental psychological effects of this outbreak must not only be considered, but actively prepared for.

The current pandemic is unprecedented in modern medicine in terms of its global impact. (Troyer et al, 2020). As evidenced above, it is likely to be associated with psychological distress and is a “potential source of direct and vicarious traumatisation for everyone” (Troyer et al, 2020).

The COVID-19 pandemic will leave many people vulnerable to mental health problems and suicidal behaviour. There will be mental health ramifications as a result of COVID-19 beyond that of the population with pre-existing mental health conditions (Holmes et al., 2020). Mental health consequences are likely to be present for longer and peak later than the actual pandemic (Gunnell et al., 2020).

During any outbreak of an infectious disease, the population’s psychological reactions play a critical role in shaping both spread of the disease and the occurrence of emotional distress and social disorder during and after the outbreak. Despite this fact, sufficient resources are typically not provided to manage or attenuate the pandemic’s effects on mental health and wellbeing (Brooks et al., 2020). Concerns about individual or loved ones’ health, bereavement, as well as uncertainty about the future economic impact may increase the risk of serious mental health conditions, including anxiety or trauma-related disorders and alcohol or substance misuse (Fiorillo and Gorwood, 2020, Girdhar et al., 2020).

People with pre-existing mental health conditions are at risk of an exacerbation of their condition, due to being more susceptible to the increased emotional stress in response to the current crisis. They are also arguably more susceptible to the physical effect of the pandemic as they are more likely than the general population to develop respiratory infections (Yao et al., 2020). The development of a COVID-19 related illness may increase the risk of relapse or deterioration in their mental health.

In the current context of the partial closure of community care facilities and outpatient clinics, a reduction in normal mechanisms for support and mental state monitoring, and a consequent risk of delays in presenting to services and/or reduced access to interventions, this is of concern (Holmes et al., 2020).

HSC staff are at specific risk of negative outcomes (Greenberg et al, 2020). Challenges that may arise include: moral dilemmas relating to inadequate resources, fears about lack of knowledge or experience that could place others at risk, an inability to balance the needs of one's patients against one's own physical and psychological health or those of our loved ones, and the traumatic experiences faced, in particular, dealing with widespread premature death (Greenberg et al, 2020). Whether someone develops a psychological injury or experiences psychological growth is likely to be influenced by the way that they are supported before, during, and after a challenging incident (Greenberg et al, 2020). Some staff will manage better than others, including those who may experience a degree of post-traumatic growth, a term used to describe a bolstering of psychological resilience, esteem, outlook, and values after exposure to highly challenging situations.



There are reasons to be concerned about the impact of the COVID-19 pandemic, not only in known vulnerable groups but the mental wellbeing of the entire Northern Irish population. Large scale studies suggest that particular attention should be paid to employing psychological support in order to reduce the enormity of distress and emotional impairment associated with COVID-19 (Wang et al., 2020; Rossi et al., 2020 and Ammerman et al., 2020).

It is estimated that mental health problems here are 20-25% higher than in the rest of the UK, making it the largest cause of disability in the region (Making Life Better: A whole system strategic framework for public health 2013-2023. Department of Health, Social Services and Public Safety: Belfast. <https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/making-life-better-strategicframework>).

We know that there are higher rates of common mental health conditions (anxiety and depression), substance misuse disorders, psychotic illnesses (schizophrenia, delusional disorder, bipolar affective disorder, psychotic depression and other conditions), and suicide in Northern Ireland than in England, Scotland, Wales and the Republic of Ireland. Northern Ireland has consistently demonstrated higher rates of Post-Traumatic Stress Disorder; mental health burden and suicide rates fell, in part, due to the legacy of "the Troubles" (O'Neill et al., 2015, Bunting et al., 2013, McLafferty et al., 2018).

It is important, however, that our response is based on evidence and not assertion, conjecture or speculation. The pandemic has resulted in a parallel epidemic of fear and anxiety, compounded by overwhelming media coverage with often weakly supported, exaggerated or sensationalised news reports (Shigemura et al., 2020).

This paper covers a number of relevant areas, including the importance of differentiating between emotional well-being and mental illness (which is diagnosable and treatable). It outlines the likely impact on existing mental health, as well as the likelihood of new inceptions of mental illness.

It is important to note that this paper does not cover all relevant areas. This was not necessary as similar reviews in the other administrations have covered these themes.

It also marshals the evidence for ameliorating the impact of the pandemic on mental health (prevention), treatment implications (early intervention) and recovery. Finally, it draws conclusions and makes recommendations regarding the research implications.

Section One: Evidence from Previous Mass Casualty Events

- **Historical Precedents**
- **The SARS, MERS and Ebola Epidemics**
- **The Omagh Bomb**

1.1 Historical Precedents

Emergency situations throughout history resulting in widespread human suffering have furthered our understanding of the psychiatric reactions of human beings to stress (Murthy, 2006). Either through direct or perceived threat of harm to the integrity of an individual, the current pandemic is likely to result in physical, psychological and emotional suffering. While not directly comparable, the psychiatric consequences of conflict, war, famine and natural disaster, along with the consequences of previous pandemics, allow for an understanding of the potential psychiatric threat of the current crisis.

Throughout the 20th century, the detrimental psychological effects of conflict and war have become increasingly apparent, but our understanding of trauma and its consequences only began to fully develop following the inclusion of post-traumatic stress disorder (PTSD) in DSM-III in 1980 (McFarlane, 2015).

Despite the horrors of combat during World War I and II, and the development of mental health services by psychiatrists born out of a need for the recovery and return of soldiers to the battlefield, “the diagnoses promulgated by the profession, such as compensation neurosis, *lack of moral fibre* and inadequate personality, reflected how the problem was seen to be caused by moral weakness and vulnerability” (McFarlane, 2015) with the stigmatisation of many soldiers judged unable to cope (McFarlane, 2015).

Following the Vietnam War and the efforts of veterans to “gain recognition for their psychological injuries” (McFarlane, 2015), The National Vietnam Veterans’ Readjustment Study was a turning point in terms of highlighting the psychological costs of war. With 18.7% having a lifetime history of PTSD and veterans having an increased risk for depression, personality disorders, suicide and alcohol abuse, an acceptance of the psychological repercussions of trauma was fostered (McFarlane, 2015).

In addition to the consequences of traumatic war stress for combatants, it is recognised that the incidence and prevalence of mental disorders in civilian populations affected by conflict is increased (Murthy, 2006). The WHO estimates that one in eleven people (9%), who live in an area that has been exposed to conflict over the preceding decade will have a diagnosis of a moderate or severe mental illness (WHO²). Often, those who may already be considered more vulnerable members of society such as children, the elderly and those who are disabled will be disproportionately adversely affected by conflict (Murthy, 2006). This includes the increased incidence of depression in women, increased rates of depression and anxiety in the older population, and those with severe mental disorders felt to be especially vulnerable during emergency situations (WHO²).

Natural disasters are similarly associated with psychiatric morbidity, with survivors experiencing a “wide range of reactions, including symptoms of posttraumatic stress disorder (PTSD), as well as other, often co-morbid, conditions such as depression, anxiety, somatization, substance abuse, and physical illness” (Rhodes et al, 2010). Hurricane Katrina, a category 5 tropical cyclone occurring in August 2005, led to the loss of nearly 2,000 lives and the displacement of 1.5 million people in the Gulf Coast region of the United States (Rhodes et al, 2010). A study in 392 low income parents exposed to Hurricane Katrina, showed the prevalence of “probable serious mental illness doubled, and nearly half of the respondents exhibited probable PTSD” (Rhodes et al, 2010). Negative outcomes were more severe, with a higher degree of loss and exposure to stressors and effects lasted a year or more in this group (Rhodes et al, 2010). The risks of development of such negative effects of the disaster were particularly noted in the poor, single mothers and those of African American ethnicity (Rhodes et al, 2010).

While it is not possible to directly compare the effects of conflict or natural disaster to the current pandemic, it is evident that there are many potential similarities. Common threats may include a sense of widespread societal fear, uncertainty and anxiety. Society will have to deal with premature mortality, grief and bereavement and there is the potential for interruption to essential services such as healthcare, food supply and utilities. The sense of loss is likely to be multi-factorial and to result from financial hardship and adversity, loss of normal roles, isolation and loss of normal societal functioning.

1.2 The SARS, MERS and Ebola epidemics

While the current situation may feel unprecedented, historically, the threat from a pandemic and the concept of quarantine is not. Originating from the Italian word *quaranta*, (Barbisch, 2015) the term quarantine, meaning “the separation and restriction of movement of people who have potentially been exposed to a contagious disease” (Brooks et al, 2020) was used in 1127 in Venice, Italy in efforts to deal with leprosy and to describe a 40 day period of sequestration merchant ships had to endure during outbreaks of the plague in the 14th century (Barbisch et al, 2015). More recently, outbreaks of severe acute respiratory syndrome (SARS) in 2003, and Ebola in 2014 led to citywide quarantines in China and Canada, and West African villages respectively (Brooks et al, 2020).



Following the SARS outbreak in 2003, Liu and colleagues examined the mental health impact on 549 hospital employees and found that, with other relevant factors controlled for, being single, having been quarantined during the outbreak, having been exposed to other traumatic events before SARS, and perceived SARS-related risk level during the outbreak were found to increase the odds of having a high level of depressive symptoms up to 3 years later (Liu et al., 2012).

1.3 Lessons from the “Troubles”

War and conflicts differ in form and longevity, and conflict will differ across countries and communities. Therefore, trauma exposure will vary. In a prolonged civil inter-group conflict such as the recent Northern Ireland “Troubles” the likelihood of trauma exposure for a large section of the population increases.

In a landmark study, Bunting and colleagues (2011) estimated that around 118,000 adults in Northern Ireland met criteria for PTSD at some point in their lifetime. This amounts to 8.8% of the population. About 68,000 adults had met the criteria in the previous 12 months-5.1% of the

population. Conflict-related events were a factor in 27% of cases (this group estimated that approximately 60% of the NI population have been exposed to a traumatic event, with 39% experiencing a Troubles-related trauma, though this percentage did not include sudden death of a loved one (Ferry et al., 2014). Almost 1 in 5 had witnessed someone die or be seriously injured. The authors were able to state that: *“Northern Ireland has the highest level of 12-month and lifetime PTSD among all comparable studies undertaken across the world including other areas of conflict.”*

The experience of conflict did not just result in a greater likelihood of developing PTSD but also other mental health conditions, including mood and anxiety disorders, substance abuse, and impulse control disorders (Bunting et al, 2013).

1.4 The Omagh Bomb

On 15 August 1998 a car bomb exploded in Omagh killing 29 people and two unborn babies; 15 of the deceased were aged 17 years or under. 400 were injured, many seriously; 135 hospitalised; 7 hospitals were involved in treating victims. Many children and young people sustained physical injuries - loss of limbs, loss of soft tissue, scarring and disfigurement. It was the largest single incident associated with the NI Troubles and involved the largest airlift of civilian casualties in peace time.

The local Health and Social Care Trust established a “Trauma Team” to lead the response to the psychological needs of those affected by trauma. The team provided treatments and therapies, collecting and publishing clinical outcome data (Gillespie, et al., 2002; Duffy et al., 2007) and also undertook several large community and school studies to screen for PTSD and other mental illnesses and learn about factors associated with the maintenance of these disorders (McDermott, et al., 2013; Duffy, et al., 2013; Duffy, et. al., 2015).

The studies found that type of exposure was associated with higher risk of mental illness, particularly PTSD. This has relevance for the COVID-19 epidemic, for example, consideration should be given to the amount and type of exposure of health staff to COVID-19 patients. However, the relationship between exposure and PTSD was mediated by cognitive variables which accounted for greater variance in PTSD scores: rumination, thought-emotion suppression, “newness” of the memory, a muddled memory, negative beliefs about oneself and the symptoms of PTSD and beliefs about the world being an unsafe place. These factors can all be targeted effectively by trauma-focussed cognitive behavioural therapy (TF-CBT), as demonstrated in the two clinical trials in Omagh (Gillespie et al., 2002; Duffy et al., 2007).

Other key points from the Omagh Trust Trauma Team experience are:

1. Differentiate between early aftermath psycho-social support to assist guided self-help for mild sub-clinical conditions and psychological/pharmacological treatment for diagnosable clinical disorders.
2. Screening and accurate assessment for PTSD and related disorders is essential to detect chronic PTSD that may be undetected or masked by other conditions, such as co-morbid chronic depression.
3. Ensure that all treatments, including psychological responses, are evidence based (NICE, Cochrane). Non- evidence based interventions such as CISD may do harm and non-directive non trauma focused counselling may facilitate rumination.

4. Many groups offer support and psychological care. It is important that these groups provide evidence-based treatments delivered by competent therapists who are accredited by the relevant professional body (this cannot be assumed but must be checked).
5. Screening for staff should be offered at regular time points.
6. Try to offer TF-CBT / EMDR as early as possible; early treatments lead to better outcomes.

Section Two: The impact of trauma

- **New trauma related illness**
- **Exacerbation of existing illness**
- **Suicidal Behaviour and Suicide**

2.1 New trauma related illness

Breslau and Kessler (2001) estimate that almost 80% of patients seen in community mental health clinics have experienced at least one traumatic event during their lifetime. Mental health diagnoses that result from psychological trauma may include:

- *Depression*
- *Acute stress disorder*
- *Adjustment disorder*
- *Post-traumatic stress disorder (PTSD)*
- *Complex Post-traumatic stress disorder (cPTSD)*
- *Prolonged Grief Disorder (PGD)/Persistent complex bereavement disorder (PCBD)*
- *Psychotic illnesses*
- *Other anxiety disorders (Generalised Anxiety Disorder [GAD]; Obsessive Compulsive Disorder [OCD]; social phobia).*

These disorders may manifest separately or in combination (co-morbidity), including in combination with physical health problems. Each relevant diagnosis and the role of trauma in its aetiology is outlined in more detail below.

2.1.1 Depression

Stressful life events, such as losing a job or a relationship ending, may trigger an episode of depression. Particularly stressful life events include death of a spouse, divorce and marital separation, redundancy and retirement. An excess of life events has been shown to occur in the three months prior to an episode of depression – and it has also been found that the risk of depression can increase six-fold in the six months after experiencing markedly threatening life events (Paykel, 1978).

2.1.2 Acute stress disorder

Acute stress disorder is a DSM-5 diagnosis that applies in the first month after a traumatic event. It requires the presence of 9 or more symptoms from any of the categories of intrusion, negative mood, dissociation, avoidance and arousal.

2.1.3 Adjustment disorder

Adjustment disorders are states of subjective distress and emotional disturbance that arise in the period of adaptation to a significant life change or stressful life event. Stressors include those that affect the integrity of an individual's social network (e.g. bereavement, separation) or the wider system of social supports and values (e.g. health pandemic), or represent a major developmental transition or crisis (e.g. forced unemployment; forced early retirement). Symptoms include depressed mood, anxiety or excessive worry, feeling unable to cope or plan ahead or continue in the present stressful situation, as well as reduced ability to perform daily activities. Conduct problems may also develop in children.

2.1.4 PTSD

A traumatic event is one which is threatening and is likely to have a pervasive impact on the person experiencing it, given that the incident is extremely disturbing and at least temporarily overwhelms the individual's internal resources. A traumatic event is perceived as a threat to a person's physical or psychological integrity (Briere and Scott, 2012). The COVID-19 pandemic represents may represent such a threat to some.

Different types of traumatic events are associated with different PTSD rates. Events such as war combat, child abuse physical attack, kidnapping or being held hostage produce high rates of PTSD whereas accidents, being a witness to death or injury and natural disasters are associated with lower lifetime PTSD rates (Kessler et al., 1995). A pandemic might be expected to produce a rate similar to a natural disaster. It is unclear what rates of PTSD to expect after this pandemic. This epidemic sits within the category of natural disasters however there are so many features of this situation that are new to us that it is very difficult to accurately predict rates of mental health in general and PTSD specifically.

There are pointers which will help us to identify those most at risk. Specific groups such as emergency workers, A&E workers and the police are likely to be at increased risk of exposure to trauma, and thus are at higher risk of PTSD.

According to data from World Health Organisation surveys (Stein et al., 2010), which included surveys from twenty-one countries, the most commonly reported traumas are: sudden unexpected death of a loved one (30.5%), witnessing violence to others (21.8%), and experiencing interpersonal violence (18.8%). Clearly sudden and unexpected death of a loved one is an event occurring at an increased rate currently.

2.1.5 Complex post-traumatic stress disorder (cPTSD)

The ICD-11 (2018) criteria for trauma-related disorders define PTSD and complex posttraumatic stress disorder (cPTSD) as separate disorders. ICD-11 (2018) defines cPTSD as a disorder that may develop following exposure to an event or series of events of an extremely threatening or horrific nature, most commonly prolonged or repetitive events from which escape is difficult or impossible (e.g., torture, slavery, genocide campaigns, prolonged domestic violence, repeated childhood sexual or physical abuse).

The ICD-11 cPTSD diagnosis is comprised of six symptom clusters: three are shared with PTSD (re-experiencing, avoidance, and sense of threat) and three additional symptom clusters related to disturbances in self-organisation (DSO), specifically: affect dysregulation, negative self-concept and difficulties in relationships. Although results from some previous studies support the validity of this concept (Brewin et al., 2017) there is still a lack of consensus in the field about a distinction between severe PTSD and complex PTSD. CPTSD shares common characteristics with other conditions including borderline personality disorder (BPD), emotionally unstable personality disorder, dissociative disorders, and medically unexplained symptoms. The DSM5 expert advisory committee decided not to introduce a distinct category of cPTSD.

The prolonged and multi-faceted nature of the pandemic may produce symptom clusters which meet criteria for cPTSD.

2.1.6 Prolonged Grief Disorder (PGD)

Prolonged Grief Disorder (PGD) ICD-11 (2018) is defined as: “...a disturbance in which, following the death of a partner, parent, child, or other person close to the bereaved, there is persistent and pervasive grief response characterized by longing for the deceased or persistent preoccupation with the deceased accompanied by intense emotional pain (e.g. sadness, guilt, anger, denial, blame, difficulty accepting the death, feeling one has lost a part of one’s self, an inability to experience positive mood, emotional numbness, difficulty in engaging with social or other activities)”.

Whilst there is increasing evidence that prolonged grief has distinct characteristics (Bryant, 2012), there are clinical features that overlap with PTSD, such as intrusive memories, emotional numbing, and avoidance of trauma or loss reminders (Killikelly et al., 2019; Duffy and Wild, 2017).

Evidence shows that between 10% (Kersting et al., 2011) and 20% (Shear et al., 2011) will experience bereavement difficulties that persist rather than diminish over time, with many failing to seek clinical help (Lichtenthal et al., 2011) despite significant social impairment and increased risk of suicidality (Latham and Prigerson, 2004).

However the extraordinary number of fatalities linked to COVID-19 pandemic are likely to produce higher rates of PGD among those bereaved. As an example, one year after the Sichuan earthquake, almost a quarter of bereaved survivors experienced high levels of PTSD and PG symptoms (Eisma et al., 2019). COVID-19 presents many other challenges to grieving, for example, many family members have been unable to say goodbye to their loved ones in person and instead have had to say goodbye virtually or if in person, wearing a Hazmat suit. Funerals and rituals have been significantly modified to reduce the risk of spreading the virus, leading to fewer loved ones being present to support grieving family members and friends. Evidence shows that between 10% (Kersting et al., 2011) and 20% (Shear et al., 2011) will experience bereavement difficulties that persist rather than diminish over time, with many failing to seek clinical help (Lichtenthal et al., 2011) despite significant social impairment and increased risk of suicidality (Latham and Prigerson, 2004).

2.1.7 Psychotic illnesses

2.1.7.1 Prevalence of Psychotic disorders

The lifetime prevalence of psychotic disorders are estimated to be up to 3% of the general population (Kuoppasalmi et al., 2007). Psychotic disorders describe a range of serious mental illnesses including Schizophrenia (up to 1% of the population), Schizoaffective disorder,

Schizophreniform disorder, delusional disorder, bipolar disorder, major depression with psychotic features or drug induced psychosis (Johns and Van Os, 2001, Perälä et al., 2007).

Psychotic disorders can have a significant impact not only for the individual's health and well-being but an increased economic burden and reliance on long term input from services (Chan, 2010). People with mental health disorders experience disproportionately higher rates of disability and mortality, compounded at times by the inequality in global services with up to 85% of patients with severe mental health disorders in low to middle income countries not receiving treatment (WHO, 2013). Taken together, mental, neurological and substance use disorders account for 13% of the total global burden of disease (WHO, 2013) and can result in increased care utilisation, decreased quality of life and even premature death (Harris and Barraclough, 1998).

People with pre-existing mental health conditions such as psychotic disorders are more likely than the general population to develop respiratory infections and have co-existing cardiac or endocrine disorders (Momen et al., 2020). This may worsen the physical health outcomes and increase the mortality associated with SARS-CoV-2 infection (Guan et al., 2020a). They also may be more susceptible to increased transmission of the infection for a variety of reasons including lower awareness of risk, cognitive impairment or challenges to achieving adequate infection control in multi-occupancy accommodation (Yao et al., 2020). Particular vulnerable groups in the current COVID-19 pandemic include those in residential facilities or supported accommodation, in prison or those that are homeless and individuals in these groups have higher reported rates of psychotic disorders which presents a particular public health challenge (Kinner et al., 2020, Tsai and Wilson, 2020).

Included in a case series by Cheng et al., following the 2003 SARS outbreak were two patients who had no prior psychiatric history before the infection (Cheng et al., 2004) that were found to meet the World Health's Organisation ICD-10 criteria for organic hallucinosis. They reported symptoms of auditory and visual hallucinations and paranoid delusions however, the use of steroids in the treatment of their SARS infection were felt to be a significant contributing factor and their symptoms quickly reduced with the introduction of low dose antipsychotic medication. There is relative heterogeneity in the literature but up to 18% of patients that receive steroid therapy (particularly higher doses) will develop acute psychotic symptoms that either require the steroids to be reduced/ stopped or treatment with antipsychotic medication (Dubovsky et al., 2012). Steroid use has been reported to result in delayed coronavirus clearance and increased mortality when given intravenously and are not routinely recommended in the treatment of SARS-CoV-2 in the UK (NICE, 2020, Kalil, 2020) so we anticipate the rates of steroid induced psychosis not to be affected.

2.2 Can infections cause psychotic disorders?

Psychotic disorders such as schizophrenia are associated with a variety of genetic and environmental factors including those associated with inflammation and immunity (Khandaker et al., 2012). There has been debate amongst researchers for nearly 100 years on the temporal relationship between viral infection and psychotic disorders (Graves, 1928) but a significant amount of epidemiological evidence now exists to suggest that maternal, paternal, childhood and adult infections may increase the risk of developing schizophrenia (Kępińska et al., 2020, Khandaker et al., 2012, De Picker et al., 2017, Benros et al., 2012) [see Figure 1].

Long acting injectable antipsychotics (LAIs) are amongst the most effective treatments for psychotic disorders, reducing the need for hospitalisation and can be used based on patient preference, or if there are concerns about compliance to oral medication (Taylor et al., 2018, Correll et al., 2016). LAIs in the community are administered by nurses or healthcare staff either in the outpatient clinic or in the patient's own home. There has been a need to ensure that not only the medication is available, with increase pressures on community pharmacies potentially delaying dispensing but that the patient and staff member are safe, with appropriate access to personal protective equipment (PPE).

2.3.2 Smoking and Plasma Levels

It has been reported that up to 60% of patients with schizophrenia are tobacco smokers (De Leon and Diaz, 2005). Patients who are unwell with the symptoms of SARS-CoV-2 infection may reduce smoking frequency and/ or intensity and this could affect the plasma levels of some psychotropic medication. Tobacco smoke contain polycyclic aromatic hydrocarbons (PAHs) which induces or increases the action of enzymes in the liver called hepatic aryl hydrocarbon hydroxylases (particularly the CYP1A2 enzyme), thereby increasing the metabolic clearance of drugs that are broken down by these enzymes (Desai et al., 2001). If a patient taking medication for their psychotic disorder for example were to suddenly reduce their amount or stop smoking all together the activity levels of these enzymes normalise resulting in less of the drug being broken down and can result in drug plasma levels to rise. The plasma levels of antipsychotic medications such as Clozapine (more information below) and Haloperidol can rise up to 50% which would increase the risk of drug toxicity and so increased monitoring and potentially a dose reduction would be required (Desai et al., 2001, RCPsych, 2020).

Conversely, if the patient felt well again and were to restart smoking it will increase the activity levels of the enzymes again resulting in lower levels of the drug in the circulating plasma. If the medication is not at the correct dose it could increase the risk of relapse of the patients' psychotic illness. It should be noted that nicotine replacement therapy, including e-cigarettes, have no effect on the action of the liver enzymes. In terms of assessing the impact on drug plasma levels, switching from tobacco smoking to other forms of nicotine is considered to have the same effect as stopping smoking.

2.3.3 Clozapine

Clozapine is an effective second-generation antipsychotic medication used particularly to target the positive symptoms associated with treatment resistant schizophrenia (Siskind et al., 2016). However, careful consideration and dose titration alongside regular monitoring of bloods and physical health are required when on Clozapine due to concerns about side effects, including rare but potentially life-threatening conditions such as myocarditis (inflammation of the muscle of the heart) or neutropenia (very low numbers of a type of white cell called neutrophils), which occurs in nearly 4% of those on Clozapine (Myles et al., 2018). When an individual has very low white cell numbers it can result in increased susceptibility to infection and if the counts fall to extreme low levels (an absolute neutrophil level or ANC less than $0.5 \times 10^9/L$), the person has developed the condition agranulocytosis which has a case fatality rate of between 2 and 4% (Myles et al., 2018).



Within the UK, a monitoring programme of the absolute neutrophil count (ANC) is coordinated with mental health teams, health trusts and ZTAS (the Clozapine monitoring service for Zaponex). For patients established on Clozapine, they have blood tests completed monthly, but those initiating treatment on Clozapine or restarting treatment after a treatment break of greater than 28 days these checks have to occur weekly for the first 18 weeks and then fortnightly for up to a year. This is because the most serious side effects associated with using Clozapine tend to occur during treatment initiation. ZTAS operates a red-amber-green system for reporting results based on the ANC level and the next supply of Clozapine medication is released on receipt of a green result. With an amber result, increased monitoring is required and if a person receives a red result (white cell count $<3.0 \times 10^9/L$ and/or $ANC < 1.5 \times 10^9/L$), Clozapine has to be stopped immediately.

Symptoms of SARS-CoV-2 infection most commonly include fever, cough, myalgia, fatigue and shortness of breath (Guan et al., 2020b) but these can also be the presenting symptoms of myocarditis or neutropenia associated with Clozapine use. As a result of the COVID-19 pandemic, all patients on Clozapine had to receive further education and policies drafted to ensure any patient exhibiting any of these symptoms received an urgent blood test to check their neutrophil level, a clozapine level, a medical review if required and if symptoms were severe enough, their Clozapine would be held until further investigations were completed (RCPsych, 2020).

If a patient taking Clozapine has lower neutrophil counts, it may affect the body's ability to fight off infection (immunosuppression) and these individuals may be at higher risk of becoming very unwell if they were to become infected with SARS-CoV-2 virus. There is limited data to date during this current pandemic on the susceptibility of Clozapine patients but in a retrospective study by Dignani et al., during the 2009 influenza A virus pandemic (H1N1), cancer patients, who too may be immunosuppressed either as a result of their disease or its treatment, had a higher incidence of pneumonia (66%) and a 30-day mortality (18.5%) compared to the general population (Dignani et al., 2014, Al-Shamsi et al., 2020).

This has presented a challenge to community mental health care teams during the current COVID-19 pandemic – how to continue to complete the vital health monitoring and blood tests required continuing on this medication but maintaining the safety of both patients and staff. A number of recommendations have been made, summarised in a document released by the Royal College of Psychiatrists, including extending the supply of clozapine following a green result by 7 days and where possible, completing the blood tests in the patient's own home with staff wearing appropriate personal protection equipment (PPE) (RCPsych, 2020).

Fever and a rise of C-Reactive Protein (CRP) are features of not only SARS-CoV-2 infection but general systemic inflammation seen in many adverse health conditions. Research is currently ongoing to assess the direct interaction of the SARS-CoV-2 virus but having a fever and a high CRP has been found to be associated with a reduction in the metabolism of the CYP1A2 liver enzyme which could result in higher plasma levels of clozapine (Haack et al., 2003, Matthews and Hall, 2014). The Royal College of Psychiatrists therefore circulated advice that all patients on clozapine that develop severe respiratory infection should have their clozapine held until symptoms resolve and those that develop mild respiratory symptoms can continue on clozapine but should have an assay level taken (RCPsych, 2020).

2.4 Suicidal Behaviour and Suicide

There is limited data upon which to analyse the impact of the COVID-19 pandemic on suicides and rates of suicidal behaviour in NI. Death by suicide is suggested to have increased in the USA during the 1918 Spanish flu pandemic (Wasserman *et al*, 1992) and among older people in Hong Kong during the 2003 SARS epidemic (Cheung, Chau & Yip, 2008). However these pandemics were of a very different nature and many of the features of both the illness, treatments and measures to curb the spread of the virus are different. In particular, the availability of technology means that the isolation of quarantine is experienced very differently in this region and this may go some way to ameliorate the impact of the pandemic.

Furthermore, suicide is a multifaceted phenomenon subject to considerable geographical (WHO, 2002) and temporal (Lester, 1979) variation, and such data should be generalised to a Northern Irish population with caution. This is particularly the case when we consider that suicide rates among the NI population were already higher than in the rest of the UK and the Republic of Ireland, have increased in recent years (O'Neill & O'Connor, 2020); not surprisingly, the legacy of the Troubles, existing social inequalities and childhood adversities, have been hypothesised to have contributed towards these trends.

The suicide rates during the Troubles were substantially lower than after the peace process and it is suggested that this was in part related to the protective effect of the collective struggle. It is possible that this pandemic may also result in an initial decline in suicide deaths for many of the same reasons, however as the longer term impact of the pandemic becomes evident the psychological factors that promote suicidal behaviour in the longer term may become more prominent, and this, accompanied by a greater availability of means and exposure to suicide may have a detrimental impact. There is initial evidence that the pandemic resulted in a reduction of suicides in Japan (guardian article), however this was accompanied by an increase in the use of helplines suggesting that people in crisis were seeking help. A live literature review, to examine research on the impact of the pandemic on suicidal behaviour over the different phases of the pandemic, is ongoing (John et al., 2020). This should serve as a basis for our understanding of the impact and shape the response.

Such is the breadth and extent of the social, psychological and economic consequences of COVID-19, and the complex way in which these factors may interact with each other, it may never be possible to accurately determine the direct effects of the virus on suicide risk. However, many of the indirect effects of COVID-19, discussed in detail in Section Five of this document, have demonstrated strong and consistent associations with suicidal behaviour. The COVID-19 Suicide Prevention Research Collaboration (Gunnell et al, 2020) have cited several such risk factors and argued that *“the response (to a rise in suicide due to COVID-19) must capitalise on, but extend beyond, general mental health policies and practices”*. The group propose interventions targeting particular risk factors within the entire UK population;

- financial stressors;
- domestic violence;
- alcohol consumption;
- isolation, entrapment, loneliness and bereavement;
- access to means; and
- irresponsible media reporting.

Several of these risk factors have already been recognised as affecting the Northern Irish population more acutely than the rest of the UK; alcohol misuse is identified in a higher proportion of deaths by suicide than any other region in the UK (NCISH, 2019) and loneliness has been identified as a major public health concern in NI (Cruise and Kee, 2017). The factors cited by the group are noteworthy not only for their association with suicide, but with an evidence base indicating that they are modifiable; Stuckler *et al* (2009) powerfully cited a 0.79% increase in suicides in working age adults with every 1% increase in unemployment, but also found that every \$10 invested in active labour market programmes reduced the effect of unemployment on suicides by 0.038%. Any austerity measures taken to address the effects of an economic recession or depression resulting from the pandemic may lead to an increase in suicidal behaviour in NI. Corcoran *et al.* (2015) found that the 2008 recession in Ireland resulted in a 57% increase in the male suicide rate and a 31% increase in the rate of self-harm for both males and females. The authors are keen to underline that a comprehensive strategy for diminishing suicide risk requires investment for all stakeholders; communities, retailers, and media as well as mental health services.

An escalation in suicidal ideation and behaviour would be expected to produce a significantly higher burden on Health & Social Care Services, and Gunnell *et al.* strongly advocate for investment in mental health services in an effort to redress this. It is noteworthy that an individual who has attempted suicide is subject to a higher risk of doing so again, and that this increased risk persists throughout that individual's life (Runeson *et al.*, 2010). Interventions aimed at diminishing suicide risk due to COVID-19 might therefore be required to be sustained over decades, rather than for shorter periods.

In conclusion, although great caution should be exercised in drawing comparisons in suicide statistic between NI and other countries, and between COVID-19 and other pandemics and world events, several indirect effects of COVID-19 are consistently associated with an elevated suicide risk. There is evidence that several of these risk factors are modifiable with investment but NI may already be at a pre-existing disadvantage in tackling these.

Section Three: Evidence from COVID-19 Pandemic to date

3.1 China

One study 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 (Wang *et al.*, 2020). Of 1210 respondents from 194 cities in China in January and February 2020 found that 54% of respondents rated the psychological impact of the COVID-19 out-break as moderate or severe; 29% reported moderate to severe anxiety symptoms; and 17% reported moderate to severe depressive symptoms (Wang *et al.*, 2020). There has been a considerable increase in anxiety and depressive symptoms among people who do not have pre-existing mental health conditions, with the potential for some to experience PTSD (Cullen, Gulati., & Kelly, 2020). There is already evidence that this possibility has been under-recognized in China during the current pandemic. (Duan & Zhu, 2020).

3.2 Italy

One web-based study of 18147 respondents assessed rates of mental health outcomes in the Italian general population between March 27th and April 6th 2020 (three to four weeks into lockdown measures) and explored the impact of COVID-19 related potential risk factors (Rossi *et al.*, 2020).

Respondents endorsing post-traumatic stress symptoms (PTSS), depression, anxiety, insomnia, high perceived stress and adjustment disorder were 6604 (37%), 3084 (17.3%), 3700 (20.8%), 1301 (7.3%), 3895 (21.8%) and 4092 (22.9%), respectively. Being woman and younger age were associated with all of the selected outcomes. Quarantine was associated with PTSS, anxiety and acute stress disorder (ADS). Any recent COVID-19-related stressful life event was associated with all the selected outcomes. Discontinued working activity due to the COVID-19 was associated with all the selected outcomes, except for ADS; working more than usual was associated with PTSS, Perceived stress and ADS. Having a loved one deceased by COVID-19 was associated with PTSS, depression, perceived stress and insomnia. Overall, Rossi et al., (2020) found high rates of negative mental health outcomes in the Italian general population three weeks into the COVID-19 lockdown measures and different COVID-19 related risk factors.

3.3 United States

Utilizing an online survey (n=907) Ammerman and colleagues (2020) study aimed to better understand the presence, and extent, of the association between COVID-19-related experiences and past-month suicidal thoughts and behaviors among adults in the United States. Results support an association between several COVID-19-related experiences (i.e., general distress, fear of physical harm, effects of social distancing policies) and past-month suicidal ideation and attempts. Of the overall sample, 159 participants (17.5%) reported active suicidal ideation in the past month and 44 (4.9%) reported having attempted suicide in the past month. Further, Ammerman et al. (2020) found that a significant proportion of those with recent suicidal ideation explicitly link their suicidal thoughts to COVID-19. Exploratory analyses highlight a potential additional link between COVID-19 and suicidal behavior, suggesting that a portion of individuals may be intentionally exposing themselves to the virus with intent to kill themselves. Ammerman et al. (2020) suggests that these findings underscore the need for increased suicide risk screening and access to mental health services.

Section Four: Direct Impact of COVID-19 infection

4.1 Acute psychiatric syndromes

There may also be neuropsychiatric consequences as a direct result of effects of the virus (SARS-CoV-2) or an individual's immune response. (Troyer et al, 2020). Past respiratory viral pandemics have been associated with neuropsychiatric complications and there is emerging evidence of such acute complications in COVID-19 patients. (Troyer et al, 2020).

SARS-Co-V-2 has been detected in the brain and cerebrospinal fluid of patients with COVID-19. A case series of 214 patients, showed that 36% of patients developed neurological symptoms. Complications included "acute cerebrovascular disease, impairment of consciousness, ataxia, seizures, neuralgia, skeletal muscle injury, corticospinal tract signs, meningitis, encephalitis, and encephalopathy" (BMJ Best Practice, 2020) and there have been reports of an acute Guillain-Barre syndrome. (BMJ Best Practice, 2020) A retrospective study from Wuhan described encephalopathy in around a fifth of cases and reports of anosmia and ageusia associated with COVID-19 infection are emerging. (Troyer et al, 2020).

Oxley et al (2020) reported large vessel stroke in 5 COVID-19 cases under the age of 49 in New York City (https://www.nejm.org/doi/full/10.1056/NEJMc2009787?query=featured_home).

Mao et al (2020) reported ischaemic stroke in 5.7% of a comparatively young cohort of medical inpatients admitted with COVID-19. The prevalence of cardiovascular disease in Northern Ireland is among the highest globally (Bhatnagar et al 2016 <https://heart.bmj.com/content/102/24/1945>) and the emergence of stroke as a possible sequelae of COVID-19 could present the population, particularly older adults, at even greater risk of dementia (Livingston 2017 <https://www.thelancet.com/commissions/dementia2017>) and depressive illness (Dhar & Barton 2016 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4800172/>).

4.2 Post-viral Syndromes

Historically, the “Spanish flu” or 1918 influenza, was the “most severe pandemic in recent history” (CDC) with a third of the global population infected and an estimated 50 million global deaths. (CDC) The pandemic was the result of an H1N1 virus of avian origin. (CDC) The incidence of an inflammatory disorder named *encephalitis lethargica* increased at this time, and was characterised by catatonia, hypersomnolence, Parkinsonism and psychosis. (Troyer et al, 2020)

More recently, a study in Hong Kong (Lam et al, 2009) assessed psychiatric morbidity in 181 patients following the outbreak of SARS- CoV-1 with follow up between 31 and 51 months post outbreak. The study reported 77 individuals (42.5%) had experienced at least one psychiatric illness at follow up, compared to 6 individuals (3.3%) having a prior history of psychiatric disorder. Of the 77 individuals who had subsequently experienced a psychiatric illness, 54.5% experienced PTSD, 39% depression, 36.4% somatoform pain disorder, 32.5% panic disorder and 15.6% obsessive compulsive disorder.

There are two further points of particular interest noted by the authors in this study. “Those with psychiatric morbidities perceived more social stigmatization” (Lam et al, 2009) and “the strong association with occupation as a health care worker at the time of infection was replicated in our study. We also found that those hospital workers having psychiatric morbidities were more likely to give up their employment as medical care workers after infection with SARS.” (Lam et al, 2009) Given widespread media coverage over the stress experienced by healthcare workers along with rates of infection during the current COVID-19 pandemic, these findings may be particularly pertinent when considering the psychological effects of the current pandemic.

Some studies have also demonstrated an association between in utero influenza exposure and long-term risk of psychosis. (Troyer et al, 2020) While there is no evidence to date of the longer-term neuropsychiatric consequences of SARS-CoV-2, it is likely that research over the coming months and years will be needed to fully understand such potential complications. Even if some possible neuropsychiatric consequences are rare, the global burden of infection may make this much more significant. (Troyer et al, 2020)

4.3 Psychological Impact of ICU Admission

The clinical presentation of COVID-19 is similar to that of a viral pneumonia. Severity of infection ranges from those who are asymptomatic to those with severe illness. In China, the majority of people, around 80%, were found to have mild illness, 14% presented with a severe illness and around 5% required critical care. In New York, this was higher with 12% of those admitted to hospital requiring mechanical ventilation. (BMJ Best Practice, 2020) The most common reason for ICU admission was hypoxaemic respiratory failure. Increasing severity of illness has been associated with increasing age and the presence of comorbid health conditions. (BMJ Best Practice, 2020).

Given the global burden of infection, large numbers of patients are expected to require intensive care and mechanical ventilation. Decisions regarding escalation to critical care will take factors such as patient preference, advance decisions, underlying comorbidities and an assessment of frailty into

consideration. The risks, benefits and potential outcomes of treatment should be considered on an individualised basis. (BMJ, Best Practice, 2020).

One such potential adverse outcome following intensive care is that of post intensive care syndrome (PICS). A proportion of those surviving the admission will develop cognitive, psychiatric or physical disability which comprises this syndrome and has the potential to result in suffering and an impaired quality of life. (Rawal et al. 2017).

The exact prevalence of PICS is unknown but on average, it is estimated that around 25% of ICU survivors will have subsequent cognitive impairment, with some studies suggesting this figure to be much higher at 75%. The exact risk of psychiatric disability following ICU discharge is also unknown with studies suggesting the risk of anxiety, depression and PTSD can range from 1 to 62%. (Rawal et al. 2017).

Risk factors for cognitive impairment post ICU discharge include prolonged mechanical ventilation, duration of delirium, hypoxia, acute brain dysfunction, hypotension, severe sepsis, use of renal replacement therapy, glucose dysregulation, previous cognitive impairment and acute respiratory distress syndrome. (Rawal et al. 2017) These risk factors, in addition to being female, having a lower educational attainment, a pre-existing disability and sedation and analgesia use increase the risk of psychiatric disability following ICU survival. (Rawal et al. 2017).

In addition to psychological morbidity in those surviving critical illness, families of victims can also be adversely affected with estimates that up to 30% may experience stress, anxiety, depression or complicated grief. (Rawal et al. 2017) Risk factors for family members to develop such outcomes include poor communication, having a decision-making role, lower educational attainment and the severity of the relative's condition such as being close to death or dying. (Rawal et al. 2017) "The most common problems experienced by family members include sleep deprivation, anxiety, depression, complicated grief, and PTSD." (Rawal et al. 2017).

The symptoms of PICS have been noted to last from months to years in some cases. (Rawal et al. 2017) Given the likely incidence of ICU admissions and mechanical ventilation as a result of COVID-19, there is the potential for substantial morbidity as a result of psychiatric and cognitive disability, in addition to physical disability, in those surviving the acute illness. As illustrated above, these adverse psychological outcomes can also occur in relatives of those admitted to ICU. It is unclear at this stage whether or not an inability for relatives to be present during care due to isolation requirements could have a possible compounding impact on these outcomes.

Section Five: Indirect Impact of COVID-19 Pandemic

In order to respond to the demand on the health service, plan for expected surge in COVID-19 cases and accommodate staff shortages, there required a significant change in healthcare provision in a very short timeframe. Evidence based treatment for schizophrenia includes assertive community treatment to encourage behavioural activation and intensive case management to monitor for any signs of relapse (Kozloff et al., 2020). The current COVID-19 pandemic has disrupted this with community facilities, day centres and groups temporarily suspended which may result in increased isolation and higher rates of relapse (Fonseca et al., 2020).

5.1 Indirect Impact of COVID-19

Indirect impacts of the pandemic, mediated by loneliness, isolation, lack of stimulation and exercise, a poor diet, alcohol and drug misuse, increased levels of domestic violence, unemployment and poverty will have a significant impact on the mental health of the population.

With more than a third of the world's population under some form of restriction of liberty (Business Insider), quarantine, has once again become a familiar concept. Despite the seeming necessity given the rate of viral transmission, quarantine feels unnatural, unpleasant and may be far from benign. A review in the Lancet (Brooks et al, 2020) identified a number of negative psychological effects associated with mandated mass quarantine including "post-traumatic stress symptoms, confusion and anger." (Brooks et al, 2020)



Factors contributing to increased psychological distress include; a longer duration of quarantine, fears of infection either through infecting loved ones or fear that physical symptoms may be perceived as signs of the disease, confinement, isolation, inadequate supplies or inadequate information including a lack of clarity from public health authorities or the government. Financial loss may lead to longer term anger or anxiety with those on a lower income more likely to be adversely affected. Stigma, due to a perception of risk of infection, may be a relevant factor particularly for healthcare workers perpetuating the trauma and distress already experienced (Brooks et al, 2020), (WHO3).

In order to mitigate some of the psychological effects of mass mandated quarantine, emphasising the altruism and sacrifice of others in order to keep vulnerable members of society safe is important. It is often easier to bear suffering if we feel our effort is benefiting someone else. (Brooks et al, 2020) Clear information about procedures, duration of isolation and how to access help if one becomes unwell, along with adequate supplies and financial assistance are crucial. Providing people with practical advice on coping with stress and uncertainty, including encouraging the use of technology to improve social networking and support groups are simple interventions which can be of benefit. Support from colleagues also quarantined and managerial assistance are essential in order to reduce stigma and feelings of guilt among healthcare workers. (Brooks et al, 2020)



Across society, a sense of loss can stem from losing direct social contacts, and also range from loss of loved ones, to loss of employment, educational opportunities, recreation, freedoms, and supports. Existing evidence suggests some measures taken to control the pandemic might have a disproportionate effect on those most vulnerable (Holmes et al., 2020).

We do not yet know the acute or long-term consequences of the COVID-19 lockdown and social isolation on mental health. However, longitudinal and cross-sectional studies have found that quarantine measures that were put into place during past outbreaks, including SARS, Ebola, novel influenza A, Middle East Respiratory Syndrome, and equine influenza, have resulted in deleterious mental health outcomes, including higher levels of depression, anxiety, post-traumatic stress symptoms, anger, and fear (Brooks et al., 2020).

These findings documented below indicate that secondary effects on mortality due to COVID-19 may be caused by increases in social isolation and loneliness. Due to the potential for increased psychological distress during the COVID-19 pandemic due to 1) increased mental health symptoms, 2) financial stress, and 3) objective threats to health, alongside the importance of adherence to collective global public health behaviours of quarantine to slow the spread of COVID-19, there is a pressing need to characterize the current impact the COVID-19 pandemic is having on the general public's mental health, financial concern, and to identify whether mental health symptoms, concern related to COVID-19, and objective epidemiological markers of risk are associated with successful adherence to self-quarantine recommendations.

5.1.1 The psychological impact of COVID-19

Understanding the psychological impact of the COVID-19 outbreak among the population in NI is crucial in guiding policies and interventions to maintain psychological well-being. Social factors which are particularly important to consider are isolation and loneliness, alcohol misuse, domestic violence, the economic recession and corresponding risk of unemployment. There is consistent evidence as outlined in Table 5.1 which demonstrates that these factors are associated which are associated with the impact of the COVID-19 pandemic and have the potential to increase vulnerability to mental health problems. Table 5.1 outlines the evidence to date on the Potential Psychological Impact of COVID-19.

Table 5.1

POTENTIAL PSYCHOLOGICAL IMPACT OF COVID-19	
ISOLATION AND LONELINESS	There is consistent evidence linking social isolation and loneliness to worse mental health outcomes. Social isolation, entrapment, and loneliness contribute to suicide risk (O'Connor & Kirtley, 2018) and are likely to increase during the pandemic, particularly for bereaved individuals. Other concerns in these settings include social effects of banning religious gatherings and funerals (Gunnell et al., 2020). For the older population, promoting good mental health is important during self-isolation, which can be compounded by lifestyle restrictions, exacerbated loneliness, comorbidities (such as dementia), and feelings of worry and guilt for using resources (Armitage & Nellums, 2020). During the 2003 SARS epidemic in Hong Kong there was an increase in psychological burden, distress, depressive symptoms, fear, and restless sleep (Yu et al., 2005) as well as a rise in suicide among the elderly, which may have been mediated by increased disconnection and loneliness (Cheung et al., 2008). In addition to quarantine, research into social isolation and loneliness indicate that these experiences are not only deleterious for mental health (Wang et al., 2017).
ALCOHOL MISUSE	In an attempt to control the 2019 coronavirus disease (COVID-19) pandemic, governments across the world have implemented distancing measures during the search for medical countermeasures, resulting in millions of people being isolated for long periods. Alcohol misuse is one of the leading causes of preventable mortality, contributing annually to about 3 million deaths worldwide. (WHO, 2018). In some individuals, long term, excessive alcohol misuse might escalate into an alcohol use disorder. The potential public health effects of long-term isolation on alcohol use and misuse are unknown (Clay & Parker, 2020). A risk factor for the onset and maintenance of alcohol misuse and alcohol use disorder is trait impulsivity (i.e., the tendency to take risks or act without adequate forethought or reflection). Impulsivity can moderate stress-induced consumption of alcohol (Clay & Parker, 2018) and is also associated with relapse in addicted individuals (Kreek et al., 2005). Thus, this period of isolation might lead to a spike in alcohol misuse, relapse, and potentially, development of alcohol use disorder in at-risk individuals, therefore placing further strain on addiction and drug and alcohol services, and the health service in general, during and after the pandemic (Clay & Parker, 2020).

DOMESTIC VIOLENCE	Crises and times of unrest have been linked to increased interpersonal violence, including incidence of violence against women and children (VAW/C) (Fraser, 2020; Palermo and Peterman, 2011). In turn, poor mental health, mental disorders and related factors, including alcohol abuse, have been shown to increase risk of VAW/C, with hypothesized effects both during and after times of quarantine (Devries et al., 2013b; Oram et al., 2014; Capaldi et al., 2012; Okeke-Ihejirika et al., 2018). Ascertaining and mitigating the effects of school closures for youth seeking care is also urgent and essential, given that school is often the first place children and adolescents seek help (Collishaw, 2015; Fazel et al., 2014).
ECONOMIC RECESSION	Due to behavioural restrictions on movement around the world to curb the spread of COVID-19, many nations have completely shut down “non-essential” business sectors including restaurants, hotels, tourism, and some aspects of manufacturing creating ripple effects throughout global economies (World Trade Organization, 2020). Current estimates for the impact of COVID-19 on the global economic outlook indicate massive economic disruption. The studies included in this Frasilho et al’s., (2016) review confirm that recession periods are feasibly associated with the increased prevalence of psychological distress and common mental disorders, substance disorders, and ultimately suicidal behaviour. Research on the association between economic recessions and mental health have reliably demonstrated transdiagnostic (anxiety and depression) degradation in mental health and increases in negative coping behaviours (e.g., alcohol and drug use; Forbes & Krueger, 2019).
UNEMPLOYMENT	Changes in employment status have both direct and indirect effects, through changes in financial circumstances, on subsequent psychological distress. The results support the view that the direction of causation runs from employment transitions to financial difficulties and psychological distress (Thomas, Benzeval & Stansfeld, 2007). Loss of employment and financial stressors are well-recognised risk factors for suicide. Research has shown associations between country level unemployment, poverty, and foreclosure and suicide rates during the 2008 global economic recession (Kerr et al., 2017) leading to increased suicide rates in American (6.4%) and European (4.2%) countries (Chang et al., 2013). Two large cohort studies showed that unemployment was associated with depressive symptoms (Riumallo-Herl et al., 2014; Jefferis et al., 2011). The risk of common mental disorders such as depression and anxiety was also found to be significantly greater in unemployed individuals (Ford et al., 2010)

5.1.2 Mental health risk: The evidence

Understanding the increased mental health risk associated with isolation and loneliness, alcohol misuse, domestic violence, the economic recession and corresponding risk of unemployment is essential in ascertaining how these factors could potentially affect the population in NI. Although the circumstances of the pandemic are unprecedented, there is consistent evidence from robust studies (as outlined in Table 5.2) which demonstrates that these factors associated with the COVID-19 pandemic have the potential to increase the risk of mental health problems. Table 5.2 outlines the evidence of the mental health risks associated with the various factors as previously outlined.

Table 5.2

MENTAL HEALTH RISK: THE EVIDENCE	
ISOLATION AND LONELINESS	Perceived Social Isolation (PSI) has also been associated with suicidal ideation in adults, where those who frequently experienced loneliness were at 21% increased risk of having suicidal thoughts (as against 2.5% of those who were not as frequently lonely) and had a 8.4% chance of attempting suicide as against 0.7% for those who were less frequently lonely (Hirsch, Chang, & Jeglic, 2012).
	The National Comorbidity Study (NCS) examined the extent of comorbidity between substance use and non-substance use disorders in the U.S. population (Kessler et al., 1994, Kessler et al., 1997). The NCS was conducted on approximately 8000 respondents aged between 15 and 54 years. With

ALCOHOL MISUSE	respect to 12-month comorbidity among respondents with a diagnosis of alcohol dependence, 29% of respondents had at least one affective disorder and the most common was major depression (28%). More than one-third of respondents (37%) had at least one anxiety disorder and the most common of these was social phobia (18%). In the more recent Australian study (Burns & Teesson, 2002). Overall, 37% of respondents with an alcohol use disorder had at least one other mental health disorder and 19% of respondents with a mental health disorder had an alcohol use disorder. Of those individuals with an alcohol use disorder, 18% had an affective disorder, 15% had an anxiety disorder and 17% had another drug use disorder. The most prevalent affective disorder was depression (17%), the most prevalent anxiety disorder generalised anxiety disorder (7%) and the most prevalent drug use disorder cannabis (14%).
DOMESTIC VIOLENCE	Domestic violence and abuse (DVA) are associated with increased risk of mental illness, but little is known about the mental health of female DVA survivors seeking support from domestic violence services. Ferrari et al., (2016) characterised the demography and mental health of women who access specialist DVA services in the United Kingdom and to investigate associations between severity of abuse and measures of mental health and health state utility, accounting for important confounders and moderators. Baseline data on 260 women enrolled in a randomized controlled trial of a psychological intervention for DVA survivors were analysed. Exposure to DVA was high, with a mean CAS score of 56 (SD 34). The mean CORE-OM score was 18 (SD 8) with 76% above the clinical threshold (95% confidence interval: 70–81%). Depression and anxiety levels were high, with means close to clinical thresholds, and more than three-quarters of respondents recorded PTSD scores above the clinical threshold. Symptoms of mental illness increased stepwise with increasing severity of DVA (Ferrari et al., 2016)
ECONOMIC RECESSION	In ‘The public health effect of economic crises and alternative policy responses in Europe: an empirical analysis’ Stuckler et al., (2009) note that every 1% increase in unemployment was associated with a 0.79% rise in suicides at ages younger than 65 years (95% CI 0.16-1.42; 60-550 potential excess deaths [mean 310] EU-wide), although the effect size was non-significant at all ages (0.49%, -0.04 to 1.02), and with a 0.79% rise in homicides (95% CI 0.06-1.52; 3-80 potential excess deaths [mean 40] EU-wide).
UNEMPLOYMENT	Long-term unemployed have at least twofold risk of mental illness, particularly depression and anxiety disorders, compared to employed persons. Their mortality is 1.6-fold higher. Unemployment seems to be not only an effect of illness, but also its cause Herbig, Dragano & Angerer, 2013). Longitudinal analysis of the British Household Panel Survey from 1991 to 2000. There were 89 264 person-years of observation from 14 686 individuals aged ≥16 years. Main outcome measure was psychological distress measured by the 12-item General Health Questionnaire. Transitions to unemployment are associated with increased risk of psychological distress for men (adjusted odds ratio (OR) 3.15 (95% confidence interval (CI) 2.50 to 3.98)) and for women (OR 2.60 (95% CI 1.97 to 3.43)). Financial difficulty partially mediated these relationships: men who became unemployed and were worse off financially were more likely to experience psychological distress (OR 4.19 (95% CI 3.20 to 5.50)) than men who were not (OR 1.48 (95% CI 0.95 to 2.33)).

5.1.3 Reported mental health in UK since COVID-19 ‘lockdown’

In order to more comprehensively understand the potential mental health risk for NI the statistics reported to date in the UK associated with isolation and loneliness, alcohol misuse, domestic violence, the economic recession and corresponding risk of unemployment are helpful. Table 5.3 reports the known statistics to date associated with the potential mental health impact of the COVID-19 pandemic.

Table 5.3

REPORTED MENTAL HEALTH IN UK SINCE COVID-19 'LOCKDOWN'	
ISOLATION AND LONELINESS	More than a third of disabled adults say they spent too much time alone since the coronavirus (COVID-19) lockdown, compared with a fifth of non-disabled adults. Analysis conducted after lockdown was introduced on 23 March has revealed the social impact of the pandemic. Disabled adults were significantly more likely than non-disabled adults to report spending too much time alone; around a third (35.0%) of disabled adults reported this compared to a fifth (19.9%) of non-disabled adults. ¹ Finding a way to stay in touch with friends and family remotely is the most popular action that is helping people cope while staying at home; however, spending time with members of their household was a less frequent form of coping for disabled (41.9%) than non-disabled adults (63.5%). ²
ALCOHOL MISUSE	31.4% increase in Alcohol sales. Supermarket stores saw a strong increase in volume sales at 10.3%, while alcohol store sales soared at 31.4% in volume terms. However, alcohol sales can be more volatile for month-on-month growth rates. ³
DOMESTIC VIOLENCE	Office of National Statistics (ONS) estimate about 4.2% of men and 7.9% of women suffered domestic abuse in England and Wales during 2018. There were 31,705 domestic abuse incidents recorded by the police in Northern Ireland in 2019, an increase of 399 (1.3 per cent) on the previous 12 months and one of the highest 12-month periods recorded since the start of the data series in 2004/05. ⁴ The BBC have reported a "surge" in violence in the weeks since the lockdown was introduced, a report by MPs said, with a rise in killings and the number of calls to the National Domestic Abuse helpline run by Refuge up 49% after three weeks. ⁵
ECONOMIC RECESSION	Many non-essential stores ceased trading from 23 March 2020 as a direct impact from the coronavirus pandemic (approximately 25% of the retailers sampled and returned in ONS's Business Impact of Coronavirus (COVID-19) Survey (BICS) reported that they had temporarily ceased trading). ⁶
UNEMPLOYMENT	In the reference period 23 March to 5 April 2020, 27% of the workforce had been furloughed across 6,150 businesses that responded to the Business Impact of Coronavirus (COVID-19) Survey (BICS) and were still trading or had temporarily paused trading. However, less than 1% of the workforce had been made redundant across responding businesses that were still trading or had temporarily paused trading during the period 23 March to 5 April 2020. This provides an indication that, at least at this early stage, long-term negative consequences for employment levels across businesses expecting to re-open remain contained. ⁷

5.2 Impact of COVID-19: estimated mental health risk in Northern Ireland

Understanding the increased mental health risk associated with isolation and loneliness, alcohol misuse, domestic violence, the economic recession and corresponding risk of unemployment for the

¹The Opinions and Lifestyle Survey covering the period 27 March 2020 to 13 April 2020

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/disability/articles/coronavirusandthesocialimpactsondisabledpeopleingreatbritain/2020-04-24>

²The Opinions and Lifestyle Survey covering the period 27 March 2020 to 13 April 2020

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/disability/articles/coronavirusandthesocialimpactsondisabledpeopleingreatbritain/2020-04-24>

³ <https://www.ons.gov.uk/>

⁴ <https://www.ons.gov.uk/>

⁵ BBC News (April 28th 2020) <https://www.bbc.co.uk/news/uk-52453372>

⁶ <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronavirusCOVID-19roundup/2020-03-26>

⁷ <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronavirusCOVID-19roundup/2020-03-26>

population in NI is essential in helping the statutory and non-statutory sectors prepare for the potential increased demand on mental health related services (see Section Seven). During these unprecedented times the potential increase in mental health problems for the adult population in NI (n=921,000) is difficult to estimate considering that the factors associated with the COVID-19 pandemic have distinct commonalities and are often associated with corresponding increase in risk (e.g. increased alcohol misuse is often associated with increased domestic violence which in turn is associated with increased suicide). However, although it is difficult to approximate we have made estimates based on the knowledge we have to date. Given that knowledge on the impact of the pandemic is rapid increasing and these estimates may be subject to change. Table 5.4 outlines the estimated psychological impact of COVID-19 for NI.

Table 5.4

IMPACT OF COVID-19: ESTIMATED MENTAL HEALTH RISK IN NI	
ISOLATION AND LONELINESS	Using data from The Opinions and Lifestyle Survey, a fifth of the adult population (n=921,000) report to perceiving themselves as spending too much time alone during the pandemic since the COVID-19 outbreak research suggests Perceived Social Isolation increases increased risk of having suicidal thoughts by 21% and increases the risk of attempting suicide 8.4%. ⁸ (Note: we cannot at this stage accurately assess whether perceiving themselves as 'spending too much time alone' or 'feeling lonely' is categorically Perceived Social Isolation). When applied to the (*disabled and non-disabled) population in NI, approximately 3868 are more at risk of having suicidal thoughts and 1547 are more at risk of attempting suicide. Research would suggest those who are disabled are most at risk. 21.7% of respondents aged 16-64 in Northern Ireland (Apr-Jun 2017) reported a long-term illness and a disability (n=199,857) ⁹ , n=69,950 are reported to perceive themselves as spending too much time alone during the pandemic, so this further increases the risk of suicidal thoughts for n=14,689 and n=5872 at risk of attempting suicide.
ALCOHOL MISUSE	In Northern Ireland Over three-quarters (79%) of adults aged 18 and over drink alcohol (DOH, 2019) ¹⁰ Alcohol sales have increased by 31.4% this potentially increases risk of at least 289,194 adults in NI to be at risk of alcohol and/or drug misuse. (*Note: this is likely to lack accuracy due to the closure of bars and restaurants where alcohol was sold prior to COVID-19, however the risk of developing an alcohol use disorder are increased through the risk factor associated with isolation/drinking alone/worries associated with unemployment). Alcohol misuse in turn also raises the risk of developing co-morbid mental health disorder by 37% which could mean a further n=107,002 adults are at risk in Northern Ireland. *Men are more at risk than women given that The Health Survey in NI (2019) ¹¹ reported over four-fifths of males (83%) were drinkers, with a tenth of males (9%) reporting that they thought they drank quite a lot or heavily and three-quarters of females (76%) were drinkers, with 2% reporting that they thought they drank quite a lot or heavily.
DOMESTIC VIOLENCE	In 12 months from 1 st January 2019 to 31 st December 2019 there were 31,705 domestic abuse incidents recorded by the police in Northern Ireland. BBC have reported four domestic killings in Northern Ireland (https://www.bbc.co.uk/news/uk-northern-ireland-52440662). From 1 to 21 April, there were 1,919 domestic abuse calls to police in NI, new figures show - a 10% increase on about 570 usually received each week (*figure does not include calls to charities supporting victims of domestic abuse). The BBC (28.04.20) have reported a "surge" in violence in the weeks since the lockdown was introduced in the UK, a report by MPs said, with a rise in killings and the number of calls to the National Domestic Abuse helpline run by Refuge up 49% after three weeks. If domestic abuse incidents per month in NI were approximately 2642, when this is increased by the 49% increase in volume of calls to Domestic Abuse helplines, incidents in NI could rise by approximately n=1295 per month. 75% of these individuals requiring support are likely to present with PTSD which increases the Mental Health risk for an additional n=971 since COVID-19 lockdown. These individuals are also likely to be highly at risk of meeting the clinical threshold for depression and anxiety. Women in particular are reported to be more at risk of Domestic Abuse.

⁸ (Hirsch, Chang, & Jeglic, 2012).

⁹ <https://www.nisra.gov.uk/statistics/uk-national-wellbeing-measures-northern-ireland-data/health>

¹⁰ <https://www.health-ni.gov.uk/topics/doh-statistics-and-research/health-survey-northern-ireland>

¹¹ <https://www.health-ni.gov.uk/topics/doh-statistics-and-research/health-survey-northern-ireland>

ECONOMIC RECESSION	Research suggests a 0.79% rise in suicides due to unemployment through economic downturn. NISRA recorded 335 suicides in 2018 NI. ¹² 3 more suicides due to unemployment through the economic recession (*this figure may lack accuracy as it is not considering contributing factors such as the Mental Health risk factors associated with social isolation/increased domestic abuse/increased alcohol misuse).
UNEMPLOYMENT	Prior to the COVID-19 outbreak NI is reported to have higher levels of mental ill health than any other region in the UK (1 in 5 adults have a mental health problem at any one time) which is approx. n=184,200. Based on 1% more unemployment in the population in NI (n= 899,000 are economically active in NI ¹³) If the average person is twice as likely to develop mental health disorder if unemployed. This doubles the risk of becoming psychological unwell for approximately an additional n=8990 in NI. *men who become unemployed and experience financial instability are more at risk and likely to experience psychological distress.

5.2.1 Subthreshold psychotic symptoms

COVID-19 has resulted in a parallel epidemic of fear and anxiety, further compounded by overwhelming media coverage and unsupported conspiracy theories with often over exaggerated or sensationalised news reports (Shigemura et al., 2020). It has become increasingly recognised that psychotic experiences occur commonly in the general population, often to a subclinical or attenuated degree. Van Os et al., reported an annual incidence of psychotic experiences in the general population of 2.5%, and prevalence of 8% (van Os and Linscott, 2012). In the majority of cases these experiences do not reach clinical thresholds, in terms of severity or frequency, for psychosis. However, the same authors found that 7.4% of those reporting psychotic experiences at baseline developed a diagnosable psychotic disorder on follow-up, suggesting that some people who report such experiences are at increased risk of psychosis.

5.2.1.1 Recommendations

In a review by Kozloff et al., a number of considerations that will affect the impact of the COVID-19 pandemic on patients with schizophrenia were presented (Kozloff et al., 2020);

- “1. Addressing the social determinants of health, including ensuring safe and comfortable housing and implementing strategies to reduce health disparities, should be a foremost priority.
2. Guidelines for resource allocation in the context of the outbreak may help protect vulnerable populations by ensuring fair and consistent decision-making, acknowledging this may be challenging in the short-term, but remains a long-term goal.
3. Families, neighbours, and community-based programs that may comprise the social network for people with schizophrenia should find ways to maintain social connection that adhere to physical distancing, including through the use of video conferencing.
4. Programs and government agencies that provide essential services that address people’s basic needs (e.g. income support, food banks) should find ways to continue to safely deliver them.
5. Inpatient mental health settings should develop capacity to rapidly isolate people with suspected and confirmed COVID-19 from each other and nonaffected patients; limit and screen people coming into the facilities; perform infection control training and audits, including proper use of personal protective equipment; and make contingency plans to introduce alternate trained personnel in case frontline staff become ill.

¹² <https://www.nisra.gov.uk/publications/suicide-statistics>

¹³ <https://www.nisra.gov.uk/publications/labour-force-survey-annual-report-2019>

6. Outpatient mental health settings and their funders should embrace the use of telepsychiatry and other digital health interventions to support continuity of care. Prescribers, patients, and caregivers should weigh the risks and benefits of treatments that must be delivered or monitored in person. Long-acting injectable antipsychotics may be safer to continue than to stop, so long as appropriate infection control procedures are followed. Clozapine bloodwork may be completed less frequently to reduce the risk of COVID-19 transmission according with current FDA standards and with ample education provided to the treatment decision-maker.

7. Researchers and institutional review boards should work together to substitute remote assessments and delivery methods to allow studies to safely continue when possible.”

Section Six: Impact of COVID-19 pandemic on specific populations already in contact with services

- **Children and Adolescents**
- **Adults**
- **Older Adults**
- **Children and Adults with Intellectual Disability**

6.1 Impact of COVID-19 on Children and Adolescents in NI

Prior to the COVID-19 pandemic, research suggests that approximately 35% of those aged 11-16 in Northern Ireland have experienced some concern or worry about their mental health. Of this cohort, 39% of those sought help, with the most common sources of support being family and friends. 24% of those who sought help attended their GP, whilst 13% required support from Child and Adolescent Mental Health Services (NISRA, 2016). There is growing evidence to suggest that adolescence is a peak period for first onset of mental illness, with three quarters of adults who have a diagnosable mental health problem experiencing first symptoms under the age of 24. Inadequate treatment of mental health concerns at an early age could project difficulties into adulthood (Khan, 2016). Early intervention and treatment of mental health difficulties in this age group is therefore of the utmost importance in ensuring adequate mental health and wellbeing into adult life.

The COVID-19 pandemic presents a new challenge facing children and young people, enforcing removal of contact with the education system and other social supports. This raises concerns, not only regarding the mental health and wellbeing of children and young people, but also in regards to reduced contact with multi-disciplinary agencies involved in maintaining safeguarding of children and young people.

6.1.1 Direct Impact of COVID-19 in Children and Adolescents

Direct infection from COVID-19 has had limited impact for children and adolescents in Northern Ireland. As of 21st May 2020, only 105 individuals aged 0-19 tested positive for COVID-19, with no recorded deaths in this age group (DOH, 2020a). The majority of children and young people appear to develop asymptomatic or mild infection. Initial data from China and the USA suggests that rates of hospitalisation in symptomatic infected children is between 10 and 20 times lower than that for the

middle aged, and between 25 and 100 times lower than for the elderly population (Verity et al, 2020).

Children and young people are more likely to suffer the tragic loss of a parent, family member or caregiver during the acute phase of the pandemic. The psychological impact of such loss is an important factor in considering the long-term mental health implications on the younger generation.

6.1.2 Indirect Consequences of COVID-19 in Children and Adolescents

6.1.2.1 Impact on Mental Health

Review of mental health services in Northern Ireland has indicated that rates of mental ill health are approximately 25% higher than in other parts of the UK (DHSSPS, 2014). Although this data is not specific to the younger population, we do know that mental health difficulties in adulthood are highly likely to originate in childhood. It has been estimated that more than 20% of young people in Northern Ireland are suffering significant mental health problems by the time they reach 18 (DHSSPS, 2010). A combination of lack of daily structure through school closures, reduced socialisation and limited access to health services is likely to have a further negative impact on the mental health and wellbeing of children and adolescents.

The Young Minds charity conducted a UK-wide based survey of 1,854 parents and caregivers during the lockdown period. Results revealed that 67% of respondents had concerns about the long-term impact of COVID-19 on their child's mental health. Parents and caregivers described a variety of symptoms experienced by the children and young people in their care, including increased anxiety and depression, sleep disruption and increased emotional lability. Among the responses of parents and caregivers of children who had received mental health support in the previous three months,



83% felt that their condition had deteriorated due to the pandemic, and 25% said that their dependent required support, but was no longer able to access it (Young Minds, 2020).

Preliminary studies have been conducted in Wuhan, China, examining the impact on Child and Adolescent Mental Health Services. Researchers conducted a national survey of 33 centres providing mental health care for children and adolescents in

China. This research reflects that the total number of outpatient visits had dropped to 53% of that of the pre-COVID-19 outbreak. Inpatient referrals declined by 50% and nearly 25% of hospitals closed inpatient wards. (Cui et al., 2020). A survey examining the impact on mental state revealed a higher prevalence of symptoms of anxiety and depression in children, compared with previous population data (Xie et al., 2020).

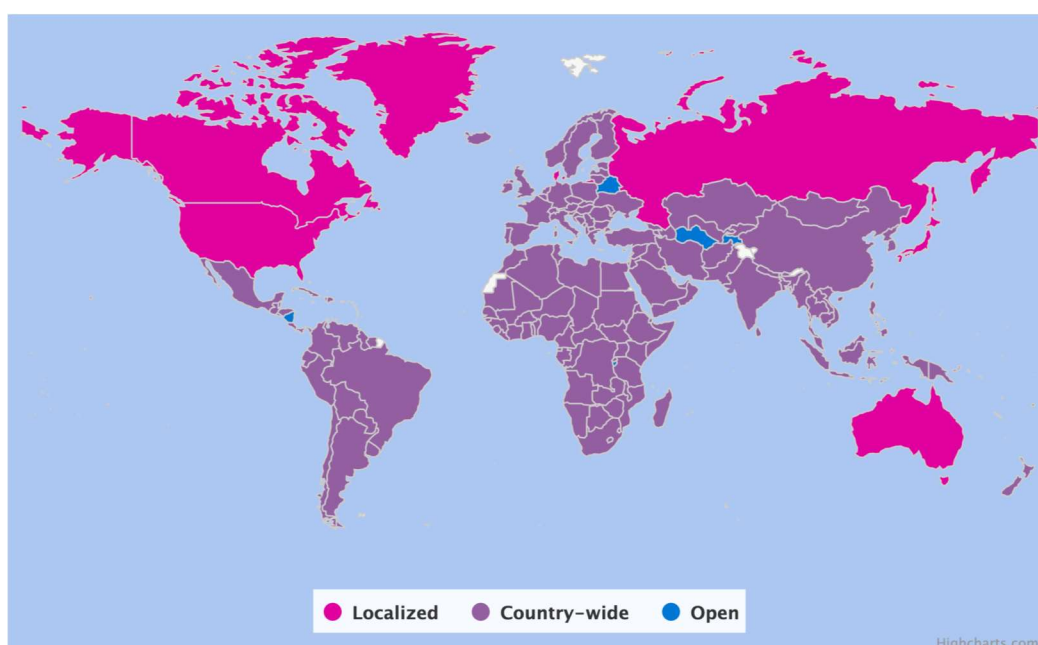
Another important sub-group to consider are children and young people with a diagnosis of a neurodevelopmental disorder. The prevalence of Autistic Spectrum disorder in Northern Ireland has risen in the last decade, estimated at 4.2%, the highest in the UK (DOH, 2020b). For those with a diagnosis of autistic spectrum disorder, a disruption of normal daily routine can cause significant emotional and behavioural disturbances. In addition to this, families caring for a young person with ASD can often require intensive support from multi-disciplinary specialist teams. Reduced access to appropriate support can have an added negative effect on mental health and family dynamics.

Attention-deficit Hyperactivity Disorder (ADHD) affects 2-5% of school aged children in the UK (NICE, 2013). Studies conducted in Wuhan, China, concluded that children's ADHD behaviours significantly worsened during the period of lockdown, compared to their normal state (Zhang et al., 2020). This had a further negative impact on family life, increasing stress experienced by parents and caregivers.

6.1.2.2 Impact of School Closures

Figures from UNESCO suggest that over 90% of learners worldwide (1.5 million young people) were left without education following the implementation of lockdown measures (UNESCO, 2020). The Northern Ireland Assembly announced that all schools in Northern Ireland would close from Monday 23rd March 2020. These closures included pre-schools, special education schools, further educational colleges and universities. From this date, access to school buildings was limited to children of key-workers or vulnerable children. All education was to be delivered via online forums. All GCSE and A-level examinations due to take place over the summer of 2020 were cancelled (NI Direct, 2020). The department of Education announced alternative plans to award grades to students due to sit GCSE and A levels examinations. This includes a combination of teacher professional judgement, statistical modelling, and consideration of prior academic performance. (NI Direct, 2020). The uncertainty of predicted grades alongside a shift in the delivery of the educational system is likely to cause significant distress for children and young people in Northern Ireland. For many children and young people, the loss of daily structure that school attendance normally provides, alongside reduced contact with social contacts and supports in school, could be a precipitant for deterioration in mental health.

Research was conducted by a student counselling group in Hong Kong, after the country announced cancellation of the Diploma of Secondary Education Examinations. These examinations allow progression from secondary education into university. In March, 2020, over 20% of the 757 candidates surveyed said their stress levels were at a maximum 10 out of 10, even before the postponement was announced (Lee, 2020).



Global Monitoring of School Closures Caused by COVID-19

Accessed online via UNESCO <https://en.unesco.org/COVID-19/educationresponse>

6.1.2.3 Socio-economic Impact



The significant reduction in economic activity has caused rising levels of unemployment and loss of income worldwide. Prior to the COVID-19 pandemic, it was estimated that 26% of children in Northern Ireland were living in poverty (JRF Analysis unit, 2018). Since implementation of the lockdown measures, unemployment benefit claims have increased by 89% during April 2020, whilst redundancies for this month was the fifth highest figure recorded in the last five years (NISRA, 2020) As a result, the number of families living in poverty in Northern Ireland will inevitably rise. Given the well-established links between lower socio-economic status and development of mental disorders (WHO, 2014), the effects of this economic recession will be evident in mental health services for many years after the acute phase of the pandemic.

6.1.2.4 Risks for Child Safety

Recent figures released by PSNI reveal a 27% increase in the amount of calls for incidents of domestic violence during the initial weeks following implementation of lockdown measures (PSNI, 2020). This equates to an increase in children and young people witnessing or falling victim to domestic violence in the home environment. Children who contacted Childline has increased significantly, with a 26% increase in visits to their website when lockdown measures were first announced (Weale, 2020). With reduced exposure to social services, medical care and the educational system, opportunities to identify and report safeguarding issues in vulnerable children and young people may be missed. We already know that exposure to domestic violence in the home environment can have significant impact on children's mental health, including lower educational and attainment and higher incidence of mental health problems (Gilbert et al., 2009).

6.1.2.5 Poverty

From 2017 figures, there were 1.7 million children aged 10-17 living in households with problem debt, and the financial insecurity many families are experiencing due to the COVID-19 pandemic will undoubtedly have an impact on the most vulnerable families – those from single-parent households, those without current employment or those in insecure zero-hours contract jobs. Mechanisms for free school meals are being put in place, but with restrictions on children receiving free school meals, families who do not qualify for the voucher scheme will have extra burdens put on them for food costs. The five-week wait for Universal Credit will be putting many families at risk, however the two thirds of families on Tax Credits are not receiving the same increase in financial supports and income is not being changed to reflect the lesser income many families are on due to furlough. (The Children's Society, 2020 p. 2-4).

6.1.2.6 Domestic Abuse

Calls to the crisis hotline Childline have been increased and between January and March 913 counselling sessions were delivered over the phone, 65% of which were in one week in March. (NSPCC, 2020) In April, the National Crime Agency's intelligence revealed there may be as many as 300,000 people posing a risk to young people in person or online. (Grierson, 2020) For many children and young people experiencing abuse and neglect, school closures will have put them in a worse position, being unable to leave an abusive household. Tensions or abuse within families may lead more teenagers to attempt to leave their households and become homeless, which may then lead them to be more at risk of being exploited and abused. More children who are not yet known to

social care services may also be at risk, due to lack out contact with outside sources (e.g. teachers). (The Children’s Society, 2020 p. 11-14).

6.1.2.7 Mental Health

One in eight young people aged 5-19 in the UK have a diagnosable mental health condition. A survey by mental health charity Young Minds of over 2000 participants with mental illness found that 83% of young people reported exacerbations of conditions due to the pandemic. Lack of access to mental health support is a problem for young people with mental health conditions, with face to face sessions being cancelled. Lack of routine is an exacerbating factor for many with mental health conditions, with school, college and university closures taking away an important part of socialising and purpose. There is also uncertainty and anxiety for many young people leaving education around joining the workforce, or for those progressing onto higher education, anxiety over exams or marks. (Lee, 2020) (The Children’s Society, 2020 p. 15-19)

6.1.2.8 Vulnerable Groups

Children of undocumented migrants will have no access to public supports due to their parents’ migration status, as well as young people who are refugees and asylum seekers already having limited access to government support. More ‘looked after children’ (children with foster families or in children’s homes) are living independently in supported or semi-supported accommodation, which is unregulated and potentially unsafe. Young carers, the numbers of whom are not fully known, have not been allowed to attend school, which would provide them a vital break from caring responsibilities for their mental well-being and also provide them with a safe space for education. (The Children’s Society, 2020 p. 5-7 p. 9-12) Young people living in detention centres may be in living conditions putting them at greater of contracting COVID-19, similar to young people who are homeless. (UNFPA, 2020) For young LGBT+ people, being in lockdown in unsupportive households could have an extremely detrimental effect on their mental wellbeing.

6.1.2.9 Adults

Experience so far is that we have seen an increase in presentations of first episode psychosis with symptoms having specific themes around CV19 (in comparison to the same month last year but the overall numbers are very small so significance uncertain).

We also have anecdotally an increase in relapse rates for patients with schizophrenia – often those with long periods of stability and no other obvious trigger. We expected, and prepared for, increased presentations of acute mania but so far they haven’t really materialised.

We have noticed, again anecdotally that patients with moderate difficulties associated with EUPD have been coping well with far fewer crisis presentations but that those with very severe multiple problems have not and indeed have required a great deal of input.

Overall we have seen a reduction in self harm and suicide attempts which we did expect and which is important to highlight.

6.2 Impact of COVID-19 on the older persons in NI

Northern Ireland has an estimated population of 1,901,900, 98% of which are Caucasian and 15% currently aged 65 and over ((NISRA), 2020a). In line with global ageing population projections, in just 8 years’ time we estimate there to be more people aged over 65 living in Northern Ireland than children. Around 80,000 older people aged 65 and over currently live on their own and for the period December 2019 – February 2020 10% of the population currently in employment were 65 and

over ((NISRA), 2020b). Over a quarter of a million hours of domiciliary care is provided each year, 68% of which is provided by the independent and voluntary sector and over 80% of care packages in residential or nursing homes are provided to people aged 65 and over ((COPNI), 2015, DOH, 2019).

The health and wellbeing of older persons in Northern Ireland must remain a priority for commissioners and even prior to the Coronavirus pandemic and future economic uncertainty planning for healthcare provisions and promoting healthy ageing presented a significant global challenge.

Age has been clearly identified as a risk factor for severe disease COVID-19 infection and death. Guan et al's report from the initial outbreak in Wuhan (Guan et al., 2020) indicated that patients over the age of 65 represented 15% of those admitted to hospital with COVID-19, but comprised 49% of those who died, or required intensive care admission or mechanical ventilation. As well as demonstrating the vulnerability of an older population, in underrepresenting over 65s, who in



Ireland comprise 53% of all COVID-19 hospital admissions (HPSC, 2020), this also highlights the limited generalisability of the clinical information provided by the first tranche of (mostly Chinese) studies to our older population.

This limited generalisability may be further demonstrated by the emergence of case reports (Tay and Harwood, 2020), and clinical guidelines released by the British Geriatric Society (BGS, 2020a) encouraging vigilance in older patients presenting with non-specific features. A recent cross-sectional survey reported that 8% of COVID-19 positive patients in a nursing home demonstrated atypical symptoms alone (Kimball, 2020). The disease may therefore have a different symptom profile in older adults, and the prevalence of the disease in such populations may be grossly underestimated.

6.2.1 Direct consequences of coronavirus infection in older persons

6.2.2.1 Neurological symptoms & delirium

Although fever and respiratory symptoms appear to be most prevalent manifestations (Guan et al., 2020), neurological symptoms and illnesses have been reported in 36% of patients hospitalised with COVID-19 (Mao et al., 2020). These include dizziness, stroke and delirium (an acute confusional state). Figures from a French cohort report indicate that agitation (69%) and cognitive symptoms (36%) are observed in individuals with COVID-19 (Helms et al., 2020). These figures are again likely to be an underestimate of the real prevalence given both the low average age of the study cohorts, and the recognition that presentations such as delirium go undetected in around two thirds of cases (Collins et al., 2010).

Delirium in particular is important because it is strongly associated with falls, depression (O'Sullivan et al., 2014), medical complications, institutionalisation (Witlox et al., 2010) and mortality (Kiely et al., 2009), as well as significant patient and carer distress. Delirium is also a strong risk factor for the development of dementia (Davis et al., 2012). However, it is reversible once detected and delirium often resolves following treatment of the underlying medical disorder with



use of conservative, non-pharmacological, management strategies. It is also preventable, as demonstrated through exposure to a 33% reduction in incident delirium compared to usual care with use of a multimodal intervention tool (Inouye et al., 1999).

6.2.2.2 Dementia and neurodegenerative disease

Evidence on the direct effects of COVID-19 on brain structure and function is extremely limited. Neuropathological research may shed more light on this, but typically such studies involve smaller sample sizes, require specialised expertise and longer follow up periods than most clinical studies. This may be further inhibited by concerns that the use of oscillating saws, a tool commonly used during brain procurement, have been suspected to promote aerosolization (Cevik et al., 2020).

However, there is pathological evidence of the presence other coronaviruses in brain tissue. SARS-CoV, the pathogen responsible for the 2002-3 SARS outbreak, demonstrates a similar biochemical and genomic footprint to that of the SARS-CoV-2 pathogen (Andersen et al., 2020), and has been identified in the cerebrum of affected patients (Ding et al., 2004). Coronaviruses have also demonstrated the capability to invade the central nervous system from respiratory system foci (Desforges et al., 2014).

The direct long-term consequences of COVID-19 on brain health may take decades to become apparent. Neuroinflammation is heavily implicated in the aetiologies of dementias and other neurodegenerative diseases preceding the development of clinical features by several years (Guzman-Martinez et al., 2019). Such inflammation has also been proposed as a mechanism of the neurological manifestations of COVID-19 (Mao et al., 2020) and acute and severe cases of COVID-19 nervous system inflammation have been reported (Liu et al., 2020). The olfactory bulb is a particularly vulnerable sentinel site for the development of neurodegenerative pathology (Outeiro et al., 2019) and inflammation of the bulb has been proposed as a likely mechanism of the hyposmia commonly observed in COVID-19 infection (Mao et al., 2020). Long term neurological sequelae of systemic infection is not without precedent; Spanish influenza was hypothesised as contributing to the encephalitis lethargica epidemic which affected as many as one million people worldwide in the early twentieth century (Hoffman and Vilensky, 2017).

6.2.2 Indirect consequences of coronavirus infection in older persons

Age has been found to impact the emotional response to epidemics. In a study at the peak of the SARS outbreak older adults responded with less anger to the necessary restrictions and were better able to alter their coping strategies in response to the changing environment than younger adults (Yeung and Fung, 2007).

Chan et al. (2006) highlighted a 31.7% increase in suicide rates in older adults during the Severe Adult Respiratory Syndrome (SARS) epidemic in Hong Kong 2003 compared to the previous year, with peak deaths correlating with the peak of the epidemic (Cheung et al., 2008). There was also some evidence that suicide rates increased in the United States following the 1918-19 Spanish flu epidemic (Wasserman, 1992). As with any research into death by suicide, we must remain sensitive to the complexity of the factors involved but these highlight the need for an immediate and multidisciplinary response both in research and in the adaptation of clinical and crisis services (Holmes et al., 2020).

6.2.2.1 Isolation

In order to reduce the risk of COVID-19 in vulnerable proportions of the population that would have increased mortality, those over the age of 70 or with certain medical comorbidities were advised to remain isolated for a period of 12 weeks “shielding” (Sparrow, 2020). Self-isolation will disproportionately affect those that live alone, have reduced access to adapted community services or



reduced ability to utilise the growth of technology enabled communication either via lack of access, cognitive impairment or sensory impairment (Armitage and Nellums, 2020, Steinman et al., 2020). Being socially connected can improve emotional well-being but has also been associated with improved physical well-being and uptake of health screening programmes (Van Jaarsveld et al., 2006). Conversely, chronic loneliness has been found to contribute to increased morbidity, mortality and healthcare utilisation (Gerst-Emerson and Jayawardhana, 2015).

However, social isolation and loneliness-related outcomes are two related, but distinct, concepts and in a meta-analysis conducted by Holt-Lunstad et al. (2015), middle aged adults were at greater risk of mortality when lonely or living alone than when older adults experienced the same circumstances (Holt-Lunstad et al., 2015).

Prolonged isolation, disruption in food distribution or reduced opportunities to exercise may also result in physical deconditioning or nutritional deficits that could have a longer term health impact for older persons (Steinman et al., 2020).

6.2.2.2 Disruption to health service

In order to respond to the demand on the health service, plan for an expected surge in COVID-19 cases and accommodate staff shortages, there required a significant change in healthcare provision in a very short timeframe. This has resulted in a large number of elective procedures, investigations and treatments being suspended or cancelled and the older person is more likely to be directly affected.

There is also concern about the reduced attendances to general practitioners and emergency departments for non COVID-19 related serious health conditions such as symptoms of cancer, heart attacks or strokes due to fear of the disease (Thornton, 2020, Steinman et al., 2020). This may result in increased morbidity and mortality as well as increased waiting lists when services return.

6.2.2.3 Immunosenescence

One of the initial discussions presented by the UK government in response to the COVID-19 pandemic was herd immunity. Herd immunity arises when a significant proportion of the population provides a measure of protection for a vulnerable portion of the population, reducing the likelihood that the susceptible proportion will be infected (Lang, 2011). In the absence of a vaccine against COVID-19 however, and limited evidence to date to suggest that recovery from the infection results in immunity, this strategy has come under some criticism (Pawelec and Weng, 2020). Accumulation of deficits in immune response most typically seen with advancing age is given the term *immunosenescence* and also may result in reduced efficacy of any vaccination programme in older persons (Lang and Aspinall, 2012).

6.2.2.4 Perceived Ageism

Whilst older people do seem more susceptible to develop severe or life-threatening symptoms in response to COVID-19 infection, there has been felt to be an ageist discourse in the public's

perception and media reports about the disease (Brooke and Jackson, 2020). This may increase perception in the older person that they are a burden, or less valued by their community, increasing the negative emotional effects of the pandemic. It is important that the older person in our population is not seen as a homogenous group or that increased age felt to directly correlate with level of disability or chance of survival (Ayalon et al., 2020). The British Geriatric Society have also advocated for the increased inclusion of older people in COVID-19 related research (BGS, 2020b).

The COVID-19 global pandemic will present significant challenges in planning for healthcare services, particularly the mental health impact beyond the initial response to the disease. The older persons in our population and those with pre-existing mental health conditions may be especially vulnerable and so consideration, adaptive services, assertive outreach and inclusion in research will be required to deliver evidence-based interventions.

6.3 Children and Adults with Intellectual Disability

6.3.1 Increasing risk of contracting COVID-19 and of poor outcomes

The United Nations have recognised that people with disabilities have an increased risk of contracting COVID-19. This may be related to difficulties understanding and following public health recommendations such as hand washing and social distancing or increased reliance on carer support (UN News, 2020). It may also be because people with learning disability are more likely to be living / receiving treatment in group settings and underlying health conditions.

The Care Quality Commission in England have published data which suggests that there has been excess mortality from COVID-19 amongst individuals with Intellectual Disability (with a 134% increase in deaths amongst those receiving care over a 5-week period during April and May, compared to the same period last year) and that the impact on this group was being felt at a younger age range than in the wider population (CQC, 2020). General reviews of excess mortality amongst people with Intellectual Disability are often due to diseases of the respiratory system and can be linked to delays in diagnosing and treating illness, problems with organisational systems such as co-ordination of care and gaps in service provision such as postural care and epilepsy expertise (The Learning Disability Mortality Review, 2018).

This excess morbidity and mortality amongst people with intellectual disabilities leads an increased risk of anxiety and grief disorders. Families often report feeling fearful, isolated and powerless in relation to accessing appropriate support and treatment for the child or adult they care for and this can have significant mental health impacts. Such fears are evident in situations where families have decided to 'stay at home' prior to government advice and remain reluctant to allow the child or adult they care for to be in public spaces. Parents are anxious about their child's inability to understand social distancing and how that might place them at risk, but also how other people might respond negatively to their child's approaches. This is likely to lead to patterns social anxiety or specific phobias and long term isolation may lead to depression. People with Intellectual Disabilities are more likely to lose peers, in the same way that the 2010 H1N1 pandemic in Northern Ireland disproportionately affected children attending Special Schools, yet they are less likely to access support in relation to grief.

Within health and care settings, children and adolescents with Intellectual Disability may be frightened by the use of PPE, especially if they have traumatic memories of previous procedures, such as blood-letting or dental work.

6.3.2 Loss of social and educational / employment supports

Individuals with Intellectual Disability are reliant on a range of practical supports to allow them to access social, recreational and educational / employment opportunities. Many of these supports were withdrawn overnight at the start of the pandemic including (to varying extents) carers coming to the home, community-access and overnight short breaks. The resultant loss of access to meaningful routines and activities, reduced quality of life, lack of exercise and social isolation, alongside increased caregiver stress, will have negative mental health impacts in the short- and longer-term.

There are anecdotal reports however that the general emotional wellbeing of children and adults with Intellectual Disability improved during the initial stages of 'lock down'. This is likely to have been due to markedly reduced social demands and reduced exposure to anxiety-provoking situations. Many families were engaging in regular exercise, possibly eating better and getting more sleep (although for children with very restricted patterns of eating, accessing their preferred foods was a major concern for parents).

For others, social withdrawal (*e.g.* staying in their bedroom), reduced appetite and loss of interest in preferred activities was evident from the outset. A small but significant number of individuals quickly became overwhelmed and their levels of 'behaviours of concern' (such as self-injury) rapidly escalated. This can be understood as a communication of unmet need (*e.g.* for physical activity) and increased anxiety and frustration.

When the UK government announced school closures in mid-March, it was clear that schools should continue to offer placements for vulnerable children, including those with an 'Education, Health and Care Plan' in England - which is broadly comparable to having a Statement of Special Educational Needs in Northern Ireland. It was clear that, for many of these children, the risks of staying at home outweighed the risks of being in a school environment. During the first two months of the pandemic less than a quarter of special schools remained open across Northern Ireland. Families cannot replicate the specialist educational environment children with Intellectual Disability require and this lead to increased stress for children and their families.



Many education, health and social care providers have produced online resources, which can be of benefit, however it under-estimates the reality of 'digital exclusion' experienced by individuals with Intellectual Disability who lack the skills to access online activities and resources. This extends to virtual contact with family members, which can be hard to understand for people with Intellectual Disability who are not familiar with video messaging *etc.*

This loss of daily routines and networks of support has left many families in crisis, with a need for trusts to provide bespoke packages of support and, in some cases, care placements.

6.3.3 Exposure to disasters for people with disability

It is likely that people with Intellectual Disabilities are particularly vulnerable to natural disasters, although little is understood about this. The limited research available suggests a complex and protracted recovery process for people with disabilities, which can be mitigated by access to coordinated support (Stough *et al*, 2010).

“It would be anticipated that community-wide disasters are indiscriminate in who they impact as it is likely anyone in a community will be at risk of certain events, such as bushfires, floods and droughts. However, the physical vulnerability of people with disability, depending on the nature of the disability and level of supports, may be greater in terms of problems with mobility, communication and the ability to problem solve to determine avenues of escape. The psychological vulnerability may also be greater depending on their ability to understand and process what is occurring, and to put the experience in context” (Jackson, 2015)

6.3.4 Increased risk of mental illness and negative impact of trauma

Children and adults with Intellectual Disability will be directly and indirectly impacted by the COVID-19 pandemic, most likely to a disproportionate extent. Generally speaking, the evidence suggests that the COVID-19 pandemic appears to have exacerbated pre-existing inequalities in mental health (Banks 2020) and the pandemic threatens to exacerbate disparities people living with disabilities experience in relation to “greater health needs, worse outcomes and discriminatory laws and stigma” (Armitage, 2020). It is well recognised that individuals with Intellectual Disability experience significantly higher rates of mental health conditions than the general population, yet are more likely to experience significant barriers to accessing care (Royal College of Psychiatrists, 2020). This is particularly true for children and young people with Intellectual Disability (Royal College of Psychiatrists, 2016). Children and adults with intellectual disabilities are likely to experience increased rates of anxiety and depression as the pandemic continues, this is already being reported in clinical practice. The significant levels of unmet need which exist in relation to this patient population are likely to be further amplified by the impact of the pandemic.



The limited available literature suggests that individuals with intellectual disability are more likely to be exposed to the type of traumatic events that may result in PTSD, that they may be at increased risk of developing PTSD following exposure to trauma and that rates of PTSD are higher in this population, with rates of up to 60% reported in some studies. The increased risk of an individual developing PTSD symptoms after exposure to trauma might be due to compromised problem-solving ability at the time of the event or challenges in achieving reframing or ‘meaning making’ after the event (Paterson, 2017). Having an intellectual disability also places an individual at greater risk of specific traumas such as restraint and seclusion (see below). People with Intellectual Disability are much more likely to have Autistic Spectrum Disorder (ASD) than those on the general population and recent research has highlighted that “the characteristics of ASD may affect perceptions of trauma, with a wider range of life events acting as possible catalysts for PTSD development”, including being disturbed by their own violence towards others (Rumball *et al*, 2020)

PTSD is poorly understood in this population and further research is needed to identify the nature of PTSD symptoms in individuals with ID, the natural history of the condition and treatment outcomes (McCarthy, 2001).

Clinicians have reported that individuals who have some understanding of the virus and its impacts have become preoccupied and anxious, due to overly-literally interpretation of some of the key public messages such as “stay at home to save lives”.

Children and adults with Intellectual Disability are more likely to experience abuse. Often the signs are only picked up by professionals who know the individual well and recognise subtle changes in their behaviour or wellbeing, often in education or day care settings. Without this level of observation, it is more likely that abuse will go unrecognised and this is of particular concern as the impact of the increased caregiver burden increases over time.

6.3.5 Issues relating to inpatient mental healthcare

NHS England published guidance in relation to the provision of inpatient mental health care for people with Intellectual Disabilities, including making reasonable adjustments to clinical practice. This included access to physical healthcare if they contracted COVID-19, ensuring prompt recognition of COVID-19 cases and guarding against overly restrictive practice. A wide-range of resources have been published in support of this *e.g.* the use of visual supports to explain PPE. (NHS, 2020).

6.3.6 Increased risk of potential human rights abuses and resultant trauma

The UK Parliament’s Joint Committee on Human Rights have reported that the implementation of public health policy during the COVID-19 pandemic has resulted in increased human rights abuses for individuals with Intellectual Disability in institutional care. This has included blanket bans on visiting and the increased use of restraint and solitary confinement. The traumatic effects of such practices include increased distress and anxiety, leading to increased use of restraint (House of Commons, 2020).

The established legal frameworks relating to deprivation of liberty and / or the care and treatment of individuals lacking the capacity to consent, including the recent Mental Capacity Act (Northern Ireland) 2016, have been temporarily amended or have become very difficult to implement across health and care settings *e.g.* best interest’s decision making. In some parts of the UK we have seen “constraints necessary for utilitarian goals being imposed with inadvertent and often disproportionate consequences” (Ruck Keene A, 2020)

The decision by CQC to reduce inspections during the pandemic has been challenged by various bodies.

6.3.7 Reports of increased reliance on psychotropic medication

Many psychiatrists are reporting an increased prescribing of psychotropic medications due to the level of distress being experienced by their patients and lack of access to psychosocial supports and targeted psychological interventions / non-pharmacological treatments. There are significant ethical and safety considerations, not least because access to physical monitoring is compromised.

Section Seven: Impact of COVID-19 pandemic on women

- **Domestic Violence**
- **Reproductive Healthcare**
- **Poverty**

- **Employment**

7.1 Domestic Violence

One of the key issues highlighted by the lockdown measures imposed by the UK government has been the risks posed to women in abusive relationships. The national domestic abuse charity Refuge has reported a 25% increase in calls to their helpline since lockdown and hits to their website has increased by 150%. The risks women face in calling these helplines or accessing these sites is also increased during lockdown as there may be restricted periods of time for them to privately access support. (Refuge, 2020) (Women's Resource and Development Agency, 2020 'COVID-19 and Domestic Abuse' para.2.). There is also evidence to suggest that deaths of women due to domestic violence has seen an increase during the lockdown period, as reported to the home affairs select committee. (Grierson, 2020)

7.2 Reproductive Healthcare

Access to reproductive rights, particularly access to contraception, emergency contraception and abortion care is vital during this pandemic. Poland's government attempted to further restrict access to abortion in the country during the COVID-19 crisis, with lockdown and public distraction making protest and opposition difficult. (Walker, 2020) The UK government showed a distinct lack of leadership in acknowledging the difficulties in accessing abortion care services during a pandemic. Despite the use of early medical abortion at home being safe, for several days after guidelines were released by the Northern Ireland Office, women were being told to travel to England for abortion care services. (Women's Resource and Development Agency, 2020 p. 4-5) (Ferguson, 2020) This ties in with concerns over domestic violence as reproductive coercion is a form of abuse against women.

7.3 Poverty

Women make up 85% of part-time workers and 91% of single parents in Northern Ireland. The UK organisation Money Advice Service reports that 64% of the estimated 8 million people living with severe debt problems are women. Women living in poverty in rural and urban communities face barriers to accessing internet services, women make up 70% of jobs ineligible for statutory sick pay due to earning less than £118 per week, and there is a five week wait for payment of Universal Credit. Food and housing insecurity are key problems for low-income and single parent families, which has been exacerbated by the loss of available work during the pandemic. (Women's Resource and Development Agency, 2020 p. 6-8)



7.4 Employment

70% of health and social care staff are women, putting women disproportionately at an increased risk of contracting COVID-19 and/or spreading infection to family members. Very often nursing home workers and healthcare assistants are women and are often paid minimum wage for the frontline work they do. Women in precarious, low-paid employment also often do not have more ready access to union representation to strengthen their rights in the workplace. This is alongside the reality that many women often face caring responsibilities, for children and elderly relatives, places women with the double burden of acting as frontline staff during this pandemic and supporting families at home. (Women's Resource and Development Agency, 2020 p. 4).

There are more issues for women living on the intersections of race, migrant status, disability and LGBT+ identity, including greater rights being given to immigration officers to detain people, issues with homelessness and mental illness, lack of access to hormone treatments for trans people, and rationing of healthcare to disabled people. (Women's Resource and Development Agency, 2020 p. 10-12).

Section Eight: Impact on services for Children and Adults with Intellectual Disability

8.1 Services for People with Intellectual Disability

People with Intellectual Disability are more likely to experience poor mental health outcomes as a result of the pandemic however pre-existing services were already ill-equipped to meet their needs. In order to meet the scale of need which is likely to result from the COVID-19 pandemic, mental health policy and services will need to address the following areas:

1. **Ensuring response planning considers the need for reasonable adjustments and the promotion of human rights.**

COVID-19 preparedness and response planning must be inclusive of and accessible to people with Intellectual Disabilities and ensure “dignity, human rights and fundamental freedoms” (Human Rights Watch, 2020). This means addressing communication needs, ensuring ongoing support needs are met and rapid awareness training on meeting the healthcare needs of this population (Armitage, 2020).

Where services are reduced due to social distancing or become reliant on virtual means of communication, the impact on accessibility for children and adults with Intellectual Disability should be considered and reasonable adjustments made. This includes GP and specialist services across health and social care.

A plethora of online resources have been produced by a range of voluntary and statutory services. Whilst these contain helpful advice, healthcare providers should recognise that children and adults with intellectual disability require robust assessment and highly individualised interventions which cannot be delivered through virtual platforms. However, there is anecdotal evidence to suggest that virtual ‘one to one’ or group-based therapeutic activities can be beneficial for some children and adults with milder intellectual disabilities.

Ensuring a rights-based approach also requires particular emphasis on the implementation of the Mental Capacity Act (Northern Ireland) 2016, inspecting standards of care and the ongoing reform of mental health services for children and adults with intellectual disability in Northern Ireland. Care and treatment should be provided using positive and practice approaches and ensure the least restrictive options are used at all times.

Mental health practitioners will need to advocate for their patients, and collaborate with other care providers, to ensure the holistic needs of individuals with Intellectual Disability are comprehensively met.

2. Ensuring a more robust approach to recognising and responding to the impact of trauma and mental ill health in individuals with Intellectual Disability

There is a growing recognition of the impact of trauma on children and adults with Intellectual Disability and their families and the need for a trauma-informed approach across health and social care, as well as improving access to trauma-specific and trauma-specialist services for this population. However, many of the internationally recognised frameworks for trauma-informed care make no explicit mention of people with intellectual disability. Access to trauma-specific interventions also appears to be limited, with most interventions used focussed on responding to behaviours of concern (Jackson *et al*, 2015). There is a growing understanding of how trauma-informed approaches can be integrated within a Positive Behaviour Support (PBS) framework. Although as yet there is a lack of widespread consensus on how trauma-informed, mental health and PBS models can be combined in practice, it is recognised that there is a significant potential synergy in doing so (Gore & Baker, 2017).

In general, access to specialist mental health services, in line with national guidelines and models of best practice, needs to improve across the region. This has been recognised in various service reviews prior to the pandemic and will need to be addressed urgently as the impacts of the pandemic continue to unfold. The Royal College of Psychiatrists in Scotland has called for urgent planning to expand the availability of ID CAMHS and other services in order to meet current and anticipated need. There is a need to ensure the overuse of psychotropic medications and, where prescribers are having to do so, trusts should ensure access to a wider range of interventions base on individual risk assessments.

There is a clear need to develop dedicated research and to improve access to specialist, multidisciplinary services that can deliver interventions in line with existing and emerging evidence.

8.2 Impact of COVID-19 and mental health and wellbeing on Primary Care services

8.2.1 Background to Primary Care Mental Health Services

Mental health care has always been an important part of Primary Care provision. The Royal College of General Practitioners (RCGP) issued an updated position statement on mental health in primary care in 2017. Mental health problems are common with one in six adults (McManus *et al.*, 2014) and one in ten children (ONS 2004) likely to have a mental health problem in any year. The RCGP advise an average GP list of 2000 patients will have (at any one time):

- 352 people with a common mental health problem
- 8 with psychosis
- 120 with alcohol dependency
- 60 with drug dependency
- 352 with a sub-threshold common mental health problem (Rodriguez *et al.*, 2012)(Pincus *et al.*, 1999)
- 120 with a sub-threshold psychosis
- 176 with a personality disorder

- 125 (out of the 500 on an average GP practice list) with a long-term condition with a comorbid mental health problem
- 100 with medically unexplained symptoms not attributable to any other psychiatric problem. (McAteer et al., 2011)

90% of people with mental health problems are cared for entirely within primary care, which includes people with serious and enduring mental illness. Around 30% of people who see their GP have a mental health component to their illness. (Jenkins et al., 2002). Early diagnosis and efficient and effective management of mental health issues have been linked to high quality outcomes and value for commissioners. Primary Care have a central role to play in delivery of prevention and early intervention in mental health problems. (DoH mental health outcomes strategy 2011)

Prior to COVID-19 general practice services were already under great strain due to increasing demands around access, which can have an impact on quality of care provided. (Kings fund 2016) Due to this the set-up of general practice healthcare provision is currently changing. A recent analysis in England showed that more non-GP clinical staff now work in general practice in than GPs. (Buchan et al., 2019)

In Northern Ireland with roll out of practice based pharmacists and multidisciplinary teams the landscape of general practice is also changing. This needs to be taken into consideration when planning service delivery within primary care in response to COVID-19 as well as ensuring there is appropriate training for other clinical staff in relation to managing mental health issues and psychological reactions to trauma.

The RCGP have called for reform in medical training so that an individual's physical healthcare is always considered alongside their mental health. They advise this process needs to start at medical school and continue in postgraduate GP trainee curriculums. They also advise that people with mental illness should help shape any improvements in mental health training. RCGP have advised any training in mental health for GP trainees must be meaningful and relevant to primary care practice and must be grounded in primary care. (England et al., 2017).

Current mental healthcare provision in Primary Care in Northern Ireland

There are 3 elements to services provided by GP practices in Northern Ireland:

1. Essential Services based on the 2004 General Medical Services (GMS) NI Contract. GPs will provide care for their registered patients who are ill or consider themselves to be ill. (GMS contract NI 2004)
2. Quality Outcomes framework (QOF) work. There are specific targets relating to mental health provision within QOF. These include depression, mental health and dementia indicators. Payment is based on reaching a threshold achievement. QOF also encourages accurate coding of health registers. (DoH NI QOF outcomes 2018-19)
3. Enhanced services which can be Directed, NI wide and Local. These are additional services. GP practices are paid additional fees for providing these services, they are not compulsory. Examples of current enhanced services pertaining to mental health include structured brief advice for alcohol, mild to moderate depression and care of seriously mentally ill patients.

8.2.2 GP multidisciplinary teams in Northern Ireland to support primary mental healthcare provision

In Northern Ireland Multidisciplinary teams are currently being rolled out through the federations into general practice. Part of the multidisciplinary team will include mental health practitioners. They will be a valuable resource in dealing with the impact of COVID-19 on mental health within primary care. The mental health practitioners will be able to support GPs to ensure there is sufficient capacity to cope with any upswing in demand. At the end of March 2020, five out of the seventeen federation areas were in the process of getting multidisciplinary teams established within practice. Of these five federation areas, two federation areas had almost fully completed recruitment and allocation of their mental health practitioners. Two federation areas had around half of their mental health practitioners recruited and one area hadn't started recruitment yet. There is still a significant amount of work before all seventeen federation areas have multidisciplinary teams in practice. It will be important for this work to continue as quickly as possible to help support general practice in managing some of the impact of mental health problems as a result of COVID-19.



8.2.3 Potential impact of COVID-19 on Primary Care Mental Health services

It is predicted that COVID-19 pandemic will leave many people vulnerable to mental health problems and suicidal behaviour and that the mental health effects will be beyond that of the population with existing mental health conditions (Holmes et al.2020). These consequences are likely to be present for longer and peak later than the actual pandemic (Gunnell et al., 2020). Lockdown early studies have shown increased likelihood that individuals who have pre-existing mental health difficulties will be exacerbated by the stressors related to COVID-19 pandemic (e.g., pre-morbid PTSD, psychosis, OCD etc.; Yao et al., 2020). However, evidence is limited with methodological shortcomings. Potential relapse or heightened symptoms may require enhanced mental health support, but anecdotal experiences are very individualised and varied. This requires further investigation.

GPs will be dealing with new presentations of trauma related illness. Some level of anxiety, stress and mood change is completely normal for the population in the current circumstances. Large scale studies suggest that psychological support will reduce the enormity of distress and emotional impairment associated with COVID-19. (Wang et al., 2020; Ammerman et al., 2020). To reduce pressure on GP services self-help and psychological support must be adequately promoted to the general public and easily accessible. GPs should be clearly communicated with so they can also signpost patients to these services.

We know that Northern Ireland has higher rates of common mental health problems and suicide than in the rest of the UK. Northern Ireland has higher rates of Post-traumatic stress disorder due in part to the legacy of “the Troubles” (O’Neill et al., 2015, McLafferty et al., 2018). Presentations of PTSD and complex PTSD are expected as a result of COVID-19. GPs and GP practice teams will need guidance to identify and assess people who are in need of psychological support appropriately.

GPs should be aware of those patients who may be at greater risk of developing mental health problems as a result of COVID-19. These may include; people who have no premorbid difficulties, but who have been exposed to significant trauma due to COVID-19, the General population experiencing severe stress (e.g., isolation, poverty) during pandemic (Shevlin et al.,2020), Patients with COVID-19 who have recovered (Bo et al., 2020), Family members of patients with COVID-19

who have passed away or recovered (Wallace et al., 2020), Healthcare staff (Bell and Wade, 2020), Staff in care homes (Greenberg et al., 2020).

People also may present to GPs with complicated grief and traumatic grief due to sudden traumatic loss of loved one (Stroebe & Schut, 2001), lack of contact with dying relative and restrictions around grieving processes and rituals (e.g., wakes, funerals) due to social distancing. GPs will need to be able to identify 'complicated grief' as opposed to normal grieving process.

Given that 90% of mental health problems are cared for entirely within primary care, the direct and indirect impact of COVID-19 on the mental health of the population is likely to cause significant increase in demand and workload for GPs. An increase in any presentations of mental health problems will increase demand on GP services. Consideration needs to be given how GP services can be supported to cope with any upswing in demand.

8.2.4 How do GPs identify and assess people who need psychological support appropriately?

To aid their clinical assessment brief screening tools can be used by GPs to help assess mental illness. These include PTSD - Primary Care PTSD screen (PC-PTSD-5; Prins et al., 2015), Depression - Patient Health Questionnaire-2 (PHQ-2; Kroenke et al., 2003), Anxiety - Generalised Anxiety Disorder (GAD-2; Kroenke et al., 2007). These are screening tools only and can have false positives, they can aid the GP as a rough guide who will also carry out a full clinical interview and assessment. However, screening tools are not embedded in current practice and are not used consistently by GPs at present.

8.2.5 What changes to assessment are expected as a result of COVID-19? What are the likely impacts?

Existing assessment methods, processes, referral pathways, services and models of care are all still applicable, albeit potentially in a modified format or reduced accessibility (e.g., telephone assessments, tele-therapy). Further information is needed about the effectiveness of remote consulting in management of mental health issues and with different groups of patients.

The partial closure of community care facilities and outpatient clinics, along with a reduction in normal mechanisms for support and mental state monitoring is a concern (Holmes et al., 2020). Any reduction in services will increase pressure on primary care services.

8.2.6 Conclusions

As 90% of mental health problems are managed at primary care level the predicted increase in all types of presentations of mental health problems as a result of COVID-19 will result in increased demand for Primary care services. As the situation progresses further evidence will need to be reviewed to ensure services are designed to facilitate the need.

There are measures which can be taken to support GP services to cope with increased demand. It will be important to have adequate training both for GPs but wider GP practice team with some focus on PTSD. Clear referral pathways and appropriate waiting times for services are essential. Clear communication about available services including self-help and community services will be needed, both to the public but also to GP practices and their teams. Additional capacity to deliver services within GP practices will be helpful. Extra capacity can be delivered through further rollout of the MDTs in particular the mental health practitioners. Review and expansion of existing enhanced services relating to mental health provision may also be useful in increasing capacity of GP mental health services e.g. increasing provision of the mild to moderate depression LES.

Many of these measures are described of the Department of Health Mental Health action plan which was published in May 2020. It has a section relating to better mental health care and treatment in Primary care. Specific actions include continued rollout of mental health practitioners into GP practices through MDTs, addressing GPs training needs, increased availability of talking therapies and integration of those services into primary care. These proposals while not specific to COVID-19 will be beneficial in managing the impact of mental health issues in Primary Care as a result of COVID-19.

Section Nine: Research Implications

9.1 Research Strategy

It is essential that we reach an early understanding of:

1. The population effects of the COVID-19 pandemic on mental health outcomes, including neurological and cognitive impacts.
2. The impact of the COVID-19 pandemic on patients and clients who were already in contact with services prior to the pandemic.
3. The impact of the COVID-19 pandemic on staff well-being and mental health, including staff in the community, voluntary and private sector
4. “What works”, at an individual, community, workplace and societal level to reduce suicidal thoughts and behaviours, to prevent the development of mental illness in those at risk and to treat COVID-19 or lockdown related mental illness.

9.2 Recommendations

In order to ensure that these priorities the following considerations are important:

1. We seek to learn from the international experience, including international policy initiatives and responses to the mental health impact of the COVID-19 Pandemic.
2. We seek to identify specific aspects of the mental health impact which could be explored in greater depth and explore the relevant social determinants which increase or lessen the mental health impact.
3. We avoid duplication of effort both within NI, and across other nations.
4. We avoid placing an undue burden on potential research participants (patients, clients, staff, members of the public), and on structures and systems (Trusts, other health-care delivery bodies). All COVID-19-related mental health research must be ethically-based and seek to do no harm.
5. We consider whether NI has a unique contribution to make in one or more areas.
6. We liaise with relevant bodies in the other UK nations and in the ROI to explore possible areas for joint working and common approaches and seek appropriate representation of NI in existing studies.
7. We ensure that access to already collected data is prioritised in order to expedite the delivery of relevant research outputs in a timely fashion. It is important to explore what aspects of existing,

routinely collected data could be used to provide more comprehensive evidence on impact and how this may develop over time. There are existing UK/ Ireland and EU wide studies which are well designed, based on existing cohorts which provide important longitudinal data and we need to ensure that NI is represented and over-represented so that the unique features of our population are examined.

8. Timeliness of research products is of the essence and no unnecessary barriers must be allowed to impede high quality and relevant research

9. A central register of all MH relevant research should be established under the auspices of the DoH, and through the established MHWB Surge Cell structure. All COVID-19-related mental health research should have a clear pathway to impact identified.

10. Whilst multiple strands of COVID-19 specific funding have been established consideration should be given to the creation of a funding stream at DoH level to enable the award of small grants to ensure the above priorities are met.

11. Consideration should be given to the impact of the pandemic on MH across three overlapping phases; (i) the lock-down period; (ii) the post-lock-down period; (iii) the long-term economic impact focused period.

12. Consideration ought to be given to a mechanism for communication and work with Primary Care.

9.3 Potential Initial Research Priorities

The following areas are suggested for consideration as initial research priorities:

1. Explorations of the specific impact in NI given the context of pre-existing high levels of deprivation, trauma and mental health problems.
2. Explorations of the mental health impact of social distancing, bereavement, and possible multiple adversities (such as deprivation, trauma, mental health problems, domestic abuse and substance abuse). Specific consideration ought to be given to the importance of religious and traditional rituals in the local context.
3. Explorations of the direct impact of COVID-19 on those infected (through acute psychiatric syndromes, post-viral illness, or post-ICU PTSD)
4. Explorations of the specific role of the COVID-19 pandemic as a form of trauma.
5. Highlight what aspects of the current context and responses could be relevant to informing the prevention focused aspect of the draft Mental Health Strategy for NI.
6. Explorations of the indirect Impact of COVID-19 through economic recession, decreased incomes and unemployment
7. Explorations of the impact of COVID-19 pandemic on specific populations: Children and Adolescents; Older Adults; Children and Adults with Intellectual Disability; Children and Adults on the Autistic Spectrum; Individuals with Alcohol or Drug Dependence; Women; refugees and asylum seekers; BAME population.
8. Examinations of the impact of the pandemic on self-harm (SH), suicide ideation (SI) and completed suicide.

9. Examinations of the impact of COVID-19 pandemic on the risk of death amongst the most vulnerable psychiatric patients.
10. Examinations of the use of and outcomes relating to new technology employed to deliver services
11. Research designed to understand the efficacy and efficiency of supports, interventions and treatments, incorporating prevention, early intervention and recovery, with an emphasis on clinical trials including RCTs.
12. Explorations of the potential to harness the positive aspects of COVID-19-related lockdown generally and particularly in NI the opportunities to promote community resilience, reconciliation and peace building.
13. Explorations of the impact of the pandemic on the wellbeing of staff in all relevant settings, including deaths in care homes.
14. Explorations of how the maximising of the use of existing primary care services (eg beating the blues online CBT, alcohol screening, mental health practitioners in GP practices) might improve outcomes.
15. Considerations of the impact of public health messaging on Primary Care and the importance of promoting self-care and nurturing one's own mental health and wellbeing.
16. Examination of the efficacy and effectiveness of mental health interventions delivered remotely, including via all forms of digital technologies.

9.4 Conclusions

This Rapid Review provides an overview of the potential mental health impact of the COVID-19 Pandemic.

We went into the pandemic with an estimate that mental health problems here are 20-25% higher than in the rest of the UK, making it the largest cause of disability in the region. We know that there are higher rates of common mental health conditions (anxiety and depression), substance misuse disorders, PTSD, psychotic illnesses (schizophrenia, delusional disorder, bipolar affective disorder, psychotic depression and other conditions), and suicide in Northern Ireland than in England, Scotland, Wales and the Republic of Ireland.

The pandemic is a source of psychological distress is a form of direct and indirect trauma. As a result the prevalence of common mental disorders such as depression and anxiety is expected to increase due to new inceptions of illness.

People with pre-existing mental health conditions are at risk of an exacerbation of their condition, due to being more susceptible to the increased emotional stress in response to the current crisis. They are also arguably more susceptible to the physical effect of the pandemic as they are more likely than the general population to develop respiratory infections. The development of a COVID-19 related illness may increase the risk of relapse or deterioration in their mental health.

The partial closure of community care facilities and outpatient clinics, a reduction in normal mechanisms for support and mental state monitoring, and a consequent risk of delays in presenting

to services and/or reduced access to interventions may have exacerbated the symptoms of individuals already in contact with services.

It is clear that economic recessions are associated with increased death rates and increased risk of suicide. Such an impact is not inevitable and efforts should be brought to bear to reduce the risk.

HSC staff are at specific risk of negative outcomes. Whether someone develops a psychological injury or experiences psychological growth is likely to be influenced by the way that they are supported before, during, and after a challenging incident.

Mental health consequences are likely to be present for longer and peak later than the actual pandemic.

It is important that our response is based on evidence and hence the Review draws conclusions and makes recommendations regarding the research implications of the mental health impact of the pandemic. The aim of the research effort arising from the pandemic is to identify, analyse and present evidence to inform the response to mental health needs arising and/or being exacerbated by the COVID-19 Pandemic. A key article in *The Lancet* summarises research needs, much of which will be taken forward across the UK. There will be however important issues which need to be explored specifically in the Northern Ireland context.

Authors

Ciaran Mulholland, Michael Duffy, Carolyn Blair, Melanie Macpherson, Claire Potter, Jill McManus, Joe Kane, Kevin Dyer, Geraldine Hamilton, Siobhan O'Neill, Hayley Bowes, Rachael Edwards, Heather Hanna, Suzanne Barrett.

Recommended citation: *Mulholland C., Duffy M., Blair C., Macpherson M., Potter C., McManus J., Kane J., Dyer K., Hamilton G., O'Neill S., Bowes H., Edwards R., Hanna H., and Barrett S.L. (2020). **The Mental Health Impact of the COVID-19 Pandemic in Northern Ireland: A Rapid Review.** Department of Health, Northern Ireland.*

References

- Acarturk, C., Konuk, E., Cetinkaya, M., Senay, I., Subranu, M., Gulen, B. & Cuijpers, P. (2016). The efficacy of eye movement desensitization and reprocessing for post-traumatic stress disorder and depression among Syrian refugees: results of a randomized controlled trial. *Psychological Medicine*, 46, 2583-2593. <https://doi.org/10.1017/S0033291716001070>.
- Al-Shamsi, H. O., Alhazzani, W., Alhuraiji, A., Coomes, E. A., Chemaly, R. F., Almuhan, M., Wolff, R., Nuhad, I. K., Chua, M. L. & Hotte, S. J. (2020). A practical approach to the management of cancer patients during the novel coronavirus disease 2019 (COVID-19) pandemic: an international collaborative group. *The Oncologist*, 25:e936–e945. <https://doi.org/10.1634/theoncologist.2020-0213>.
- American Psychiatric Association (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC. <https://doi.org/10.1176/appi.books.9780890425596>.
- Ammerman, B. A., Burke, T. A., Jacobucci, R., & McClure, K. (2020). Preliminary investigation of the association between COVID-19 and suicidal thoughts and behaviors in the US. Available [website]: <https://psyarxiv.com/68djp/>.
- Andersen, K. G., Rambaut, A., Lipkin, W. I., Holmes, E. C. & Garry R. F. (2020). The proximal origin of SARS-CoV-2. *Nature Medicine*, 26, 450-452. <https://doi.org/10.1038/s41591-020-0820-9>.
- Armitage R. and Nellums L.B. (2020). The COVID-19 response must be disability inclusive. *Lancet Public Health*. 5(5):e257. [https://doi.org/10.1016/S2468-2667\(20\)30076-1](https://doi.org/10.1016/S2468-2667(20)30076-1).
- Ayalon L., Chasteen A., Diehl M., Levy, B., Neupert S.D., Rothermund, K., Tesch-Romer, C., Werner Wahl H-W. (2020). Aging in Times of the COVID-19 Pandemic: Avoiding Ageism and Fostering Intergenerational Solidarity [online: Apr 16th]. *The Journals of Gerontology: Series B*. <https://doi.org/10.1093/geronb/gbaa051>.
- Ayanian, J. Z. (2020). Mental Health Needs of Health Care Workers Providing Frontline COVID-19 Care. *JAMA Health Forum*, 1, e200397–e200397. <https://doi.org/10.1001/jamahealthforum.2020.0397>.
- Banks J. and Xu X. (2020). The mental health effects of the first two months of lockdown and social distancing during the COVID-19 pandemic in the UK. *Institute for Fiscal Studies Working Paper W20/16*. [online: June 10th]. Available [website]: <https://www.ifs.org.uk/publications/14878>.
- Barbisch D., Koenig K.L., Shih F.Y. (2015). Is there a case for quarantine? Perspectives from SARS to Ebola. *Disaster Medicine Public Health Prep*; 9: 547–53. Available [website]. <https://www.businessinsider.com/countries-on-lockdown-coronavirus-italy-2020-3?r=US&IR=T> [accessed 27/04/20].
- BBC website (2020). Coronavirus declared global health emergency by WHO (Jan 31st). Available [website]: <https://www.bbc.co.uk/news/world-51318246> [accessed 26/04/20].

- Bell, V. and Wade, D. (2020). Mental Health of Clinical Staff Working in High-Risk Epidemic and Pandemic Health Emergencies: A Rapid Review of the Evidence and Meta-Analysis. MedRxiv – The Preprint Server for Health Sciences.
<https://doi.org/10.1101/2020.04.28.20082669>
- Benros, M. E., Mortensen, P. B. & Eaton, W. W. (2012). Autoimmune diseases and infections as risk factors for schizophrenia. *Annals of the New York Academy of Sciences*, 1262, 56-66.
<https://doi.org/10.1111/j.1749-6632.2012.06638.x>
- Bisson, J., and Andrew, M. (2007). Psychological treatment of post-traumatic stress disorder (PTSD). *Cochrane Database of Systematic Reviews*, 3.
<https://doi.org/10.1002/14651858.CD003388.pub3>.
- Bisson, J.I., Roberts, N.P., Andrew, M., Cooper, R. and Lewis, C. (2013). Psychological therapies for chronic post-traumatic stress disorder (PTSD) in adults. *Cochrane Database of Systematic Reviews*, (12) CD003388. <https://doi.org/10.1002/14651858.CD003388.pub4>
- Blenkinsop C., Maxfield, L., Carriere, R., Nickerson, M., Farrell, D., Oren, U., Luber, M. & Thomas, R. (2018). White Paper - Eye Movement Desensitization and Reprocessing Early Intervention. Available [website]: http://emdrearlyintervention.com/wp-content/uploads/2018/10/8-White-Paper-EMDR-EI-Conf-w_bios.pdf [accessed 27/07/2020].
- Bo, H., Li, W., Yang, Y., Wang, Y., Zhang, Q., Cheung, T., Wu, X., Xiang, Y. (2020). Posttraumatic stress symptoms and attitude toward crisis mental health services among clinically stable patients with COVID-19 in China. *Psychological Medicine*, 1-2. <https://doi.org/10.1017/S0033291720000999> .
- Bradley, R., Greene, J., Russ, E., Dutra, L., & Westen, D. (2005). A multidimensional meta-analysis of psychotherapy for PTSD. *American Journal of Psychiatry*, 162 (2), 214-227.
<https://doi.org/10.1176/appi.ajp.162.2.214> .
- Breslau, N. (2002). Epidemiologic Studies of Trauma, Posttraumatic Stress Disorder and Other Psychiatric Disorders. *The Canadian Journal of Psychiatry*. 47(10), 923-9.
<https://doi.org/10.1177/070674370204701003> .
- Breslau, N. and Kessler, R.C. (2001). The stressor criterion in DSM-IV posttraumatic stress disorder: an empirical investigation. *Biological Psychiatry*, 50(9), 699-704.
[https://doi.org/10.1016/S0006-3223\(01\)01167-2](https://doi.org/10.1016/S0006-3223(01)01167-2).
- Brewin, C.R., Cloitre, M., Hyland, P., Shevlin, M., Maercker, A., Bryant, R.A., Humayun, A., Jones, L.M., Kagee, A., Rousseau, C. and Somasundaram, D. (2017). A review of current evidence regarding the ICD-11 proposals for diagnosing PTSD and complex PTSD. *Clinical Psychology Review*, 58, 1-15. <https://doi.org/10.1016/j.cpr.2017.09.001>.
- Briere, J. and Scott, C. (2012). Principles of trauma therapy: A guide to symptoms, evaluation, and treatment. Sage Publications.
<https://doi.org/10.1080/15299730802492553>.

British Geriatric Society (2020a). British Geriatric Society: Managing the COVID-19 pandemic in care homes for older people. [Online]. Available [website]: <https://www.bgs.org.uk/resources/COVID-19-managing-the-COVID-19-pandemic-in-care-homes> [accessed 25/04/2020].

British Geriatric Society (2020b). COVID-19: British Geriatric Society statement on research for older people during the COVID-19 pandemic [online]. Available [website]: <https://www.bgs.org.uk/resources/COVID-19-bgs-statement-on-research-for-older-people-during-the-COVID-19-pandemic> [accessed 27/04/2020].

British Medical Best Practice [BMJ] (2019) Coronavirus Disease (COVID-19). [https://bestpractice.bmj.com/topics/en-gb/3000168/pdf/3000168/Coronavirus%20disease%202019%20\(COVID-19\).pdf](https://bestpractice.bmj.com/topics/en-gb/3000168/pdf/3000168/Coronavirus%20disease%202019%20(COVID-19).pdf) [accessed 29/04/20].

Brooke, J. & Jackson, D. (2020). Older people and COVID-19-19: Isolation, risk and ageism. *Journal of Clinical Nursing*. 29 (13-14); 2044-2046. <https://onlinelibrary.wiley.com/doi/full/10.1111/jocn.15274?af=R>.

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*; 395:912-20. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8).

Bryant, R. A., Sackville, T., Dang, S. T., Moulds, M., & Guthrie, R. (1999). Treating acute stress disorder: an evaluation of cognitive behavior therapy and supportive counseling techniques. *American Journal of Psychiatry*, 156(11): 1780-1786. <https://doi.org/10.1176/ajp.156.11.1780>.

Buchan J., Gershlick B., Charlesworth A., Seccombe I. (2019). Falling short: the NHS workforce challenge. Available [website]: <https://www.health.org.uk/publications/reports/falling-short-the-nhs-workforce-challenge>. [accessed 28/07/2020].

Bunting, B. P., Ferry, F. R., Murphy, S. D., O'Neill, S. M. & Bolton, D. (2013). Trauma Associated With Civil Conflict and Posttraumatic Stress Disorder: Evidence From the Northern Ireland Study of Health and Stress. *Journal of Traumatic Stress*, 26, 134-141. <https://doi.org/10.1002/jts.21766>.

Care Quality Commission (2020) CQC publishes data on deaths of people with a learning disability [Published online: June 2nd]. Available [website]: <https://cqc.org.uk/stories/cqc-publishes-data-deaths-people-learning-disability>

CDC Website (2020) History of 1918 Flu Pandemic. <https://www.cdc.gov/flu/pandemic-resources/1918-commemoration/1918-pandemic-history.htm> [accessed 28.04.20].

Cevik, L., Alves, M. J. & Otero, J. J. (2020). Neuropathologists play a key role in establishing the extent of COVID-19 in human patients. *Free Neuropathology*, 1, 11-11. <https://doi.org/10.1016/j.jns.2020.116884>. [accessed 27.07.20].

- Chalkidou, K. (2020) Responsible Response: Examining the UK Government's COVID-19 Strategy. *Centre for Global Development*. Available [website]: <https://www.cgdev.org/blog/responsible-response-examining-uk-governments-COVID-19-strategy> [accessed 26.04.20].
- Chan, M. (2010). Mental health and development: targeting people with mental health conditions as a vulnerable group. *World Health Organization*, 3, 111-21. https://www.who.int/mental_health/policy/mhtargeting/development_targeting_mh_summary.pdf[accessed 28.07.20].
- Chan, S. M., Chiu, F. K., Lam, C. W., Leung, P. Y. & Conwell, Y. (2006). Elderly suicide and the 2003 SARS epidemic in Hong Kong. *International Journal of Geriatric Psychiatry*, 21, 113-8. <https://doi.org/10.14336/AD.2014.0223>.
- Cheng, S. K.-W., Tsang, J. S.-K., Ku, K.-H., Wong, C.-W. & Ng, Y.-K. (2004). Psychiatric complications in patients with severe acute respiratory syndrome (SARS) during the acute treatment phase: a series of 10 cases. *The British Journal of Psychiatry*, 184, 359-360. <https://doi.org/10.1192/bjp.184.4.359>.
- Cheung, Y., Chau, P., & Yip, P. (2008). A revisit on older adult suicides and Severe Acute Respiratory Syndrome (SARS) epidemic in Hong Kong. *International Journal of Geriatric Psychiatry*, 23(12), 1231–1238. <https://doi.org/10.1002/gps.2056.1223>.
- Cloitre M., Courtois C.A., Ford J.D., Green B.L., Alexander P., Briere J., Herman J.L., Lanius R., Stolbach B.C., Spinazzola J., Van der Kolk B.A. and Van der Hart O. (2012a) The ISTSS Expert Consensus Treatment Guidelines for Complex PTSD in Adults. Available [website]: https://www.istss.org/ISTSS_Main/media/Documents/ISTSS-Expert-Concesnsus-Guidelines-for-Complex-PTSD-Updated-060315.pdf [accessed on 26.04.20]
- Collins, N., Blanchard, M. R., Tookman, A. & Sampson, E. L. (2010). Detection of delirium in the acute hospital. *Age and Ageing*, 39, 131-135. <https://doi.org/10.1093/ageing/afp201>
- Commissioner for Older People for Northern Ireland [COPNI] (2015). Domiciliary care in Northern Ireland 2015 report [Online]. © The Commissioner for Older People for Northern Ireland copyright 2015. Available [website]: <https://www.copni.org/media/1119/domiciliary-care-in-northern-ireland.pdf> [accessed 26/04/2020].
- Correll, C. U., Citrome, L., Haddad, P. M., Laurillo, J., Olfson, M., Calloway, S. M. & Kane, J. M. (2016). The Use of Long-Acting Injectable Antipsychotics in Schizophrenia: Evaluating the Evidence. *The Journal of Clinical Psychiatry*, 77, 1-24. <https://doi.org/10.1093/ijnp/pyz035>
- Cotter, J., Kaess, M., & Yung, A. R. (2015). Childhood trauma and functional disability in psychosis, bipolar disorder and borderline personality disorder: a review of the literature. *Irish Journal of Psychological Medicine*, 32(1), 21-30. <https://doi.org/10.1017/ipm.2014.74>.
- Cruise, S. and Kee, F. eds. (2017). Early Key Findings from a Study of Older People in Northern Ireland: The NICOLA Study. Northern Ireland Cohort for the Longitudinal Study of Ageing. Centre for Public Health, Queen's University Belfast. Available [website]:

<https://www.qub.ac.uk/sites/NICOLA/FileStore/Filetoupload,783215,en.pdf> [accessed 27.07.2020].

Cui, Y., Li, Y., Zheng, Y., & Chinese Society of Child & Adolescent Psychiatry (2020). Mental health services for children in China during the COVID-19 pandemic: results of an expert-based national survey among child and adolescent psychiatric hospitals. *European Child & Adolescent Psychiatry*, 29. 743-748. <https://doi.org/10.1007/s00787-020-01548-x>

Cullen, W., Gulati, G., & Kelly, B. D. (2020). Mental health in the COVID-19 pandemic. *QJM: An International Journal of Medicine*. 113(7). 311–312. <https://doi.org/10.1093/qjmed/hcaa110>.

Davidson, P. R., & Parker, K. C. (2001). Eye movement desensitization and reprocessing (EMDR): a meta-analysis. *Journal of Consulting and Clinical Psychology*, 69(2), 305. <https://doi.org/10.1037/0022-006X.69.2.305>

Davis, D. H., Muniz Terrera, G., Keage, H., Rahkonen, T., Oinas, M., Matthews, F. E., Cunningham, C., Polvikovski, T., Sulkava, R. & Maclulich, A. M. (2012). Delirium is a strong risk factor for dementia in the oldest-old: a population-based cohort study. *Brain*, 135, 2809-2816. <https://doi.org/10.1093/brain/aws190>

De Leon, J. & Diaz, F. J. (2005). A meta-analysis of worldwide studies demonstrates an association between schizophrenia and tobacco smoking behaviors. *Schizophrenia Research*, 76, 135-157. <https://doi.org/10.1016/j.schres.2005.02.010>

De Picker, L. J., Morrens, M., Chance, S. A. & Boche, D. (2017). Microglia and brain plasticity in acute psychosis and schizophrenia illness course: a meta-review. *Frontiers in Psychiatry*, 8, 238. <https://doi.org/10.3389/fpsy.2017.00238>

Department of Health (2019). Department of Health - Statistics on Community Care for Adults in Northern Ireland 2018/2019 [Online]. Available: <https://www.health-ni.gov.uk/sites/default/files/publications/health/cc-adults-ni-18-19.pdf> [accessed 26/04/2020].

Department of Health (2020a). Department of Health: COVID-19 Daily Dashboard [online]. Available: <https://app.powerbi.com/view?r=eyJrIjoiZGYxNjYzNmUtOTlmZS00ODAxLWE1YTEtMjA0NjZhMzlmN2JmliwidCI6IjIjOWEzMGRILWQ4ZDctNGFhNC05NjAwLTRiZTc2MjVmZjZjNSIsImMiOjg5>

Department of Health (2020b). Department of Health: Prevalence of Autism (including Asperger Syndrome) in School Age Children in Northern Ireland [online]. Available: <https://www.health-ni.gov.uk/sites/default/files/publications/health/asd-children-ni-2020.pdf> [accessed 28/07/2020].

Department of Health NI (2004). Standard General Medical Services Contract (NI). <https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/GMS%20Contract%20NI%20-%20March%202004.pdf> [accessed 27/07/20].

Department of Health NI (2018/19) Quality & Outcomes Framework 2018-2019. <https://www.health-ni.gov.uk/publications/quality-and-outcomes-framework-201819> . <https://www.health-ni.gov.uk/sites/default/files/publications/health/qof-stats-ni-2018-19.pdf> [accessed 28/07/20].

Department of Health NI (2020). Department of Health Mental Health Action Plan. <https://www.health-ni.gov.uk/sites/default/files/publications/health/mh-action-plan-plus-COVID-19-response-plan.pdf> [accessed 27/07/20].

Department of Health, Social Services & Public Safety (2010) Delivering Excellence Supporting Recovery: A Professional Framework for Mental Health Nursing in Northern Ireland. DHSSPS, Belfast. [online]. Available [website]: <https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/delivering-excellence-supporting-recovery.pdf>

Department of Health, Social Services & Public Safety (2014) Department of Health, Social Services and Public Safety: Making Life Better, A whole system strategic Framework for Public Health 2013-2023 [online]. Available: https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/making-life-better-strategic-framework-2013-2023_0.pdf

Desai, H. D., Seabolt J. & Jann, M. W. (2001). Smoking in patients receiving psychotropic medications. *CNS drugs*, 15, 469-494. <https://doi.org/10.2165/00023210-200115060-00005>

Desforges, M., Le Coupanec, A., Brison, É., Meessen-Pinard, M. & Talbot, P. J. (2014). Neuroinvasive and neurotropic human respiratory coronaviruses: potential neurovirulent agents in humans. *Infectious Diseases and Nanomedicine*, 807:75-96. https://doi.org/10.1007/978-81-322-1777-0_6

Dignani, M. C., Costantini, P., Salgueira, C., Jordan, R., Guerini, G., Valledor, A., H, F., Nenna, A., Mora, C. & Rocchia-Rossi, I. (2014). Pandemic 2009 Influenza A (H1N1) virus infection in cancer and hematopoietic stem cell transplant recipients; a multicenter observational study. *F1000 Research*, 3. <https://doi.org/10.12688/f1000research.5251.2>

Ding, Y., He, L., Zhang, Q., Huang, Z., Che, X., Hou, J., Wang, H., Shen, H., Qiu, L. & Li, Z. (2004). Organ distribution of severe acute respiratory syndrome (SARS) associated coronavirus (SARS-CoV) in SARS patients: implications for pathogenesis and virus transmission pathways. *The Journal of Pathology: A Journal of the Pathological Society of Great Britain and Ireland*, 203, 622-630. Website/Available: <https://onlinelibrary.wiley.com/doi/full/10.1002/path.2067> [accessed 27/07/2020].

Duan L and Zhu G. (2020) Psychological interventions for people affected by the COVID-19 epidemic. *Lancet Psychiatry*; 7:300–2. [https://doi.org/10.1016/S2215-0366\(20\)30073-0](https://doi.org/10.1016/S2215-0366(20)30073-0).

Dubovsky, A. N., Arvikak, S., Stern, T. A. & Axelrod, L. (2012). The neuropsychiatric complications of glucocorticoid use: steroid psychosis revisited. *Psychosomatics*, 53, 103-115. <https://doi.org/10.1016/j.psym.2011.12.007>.

Duffy M, Bolton D, Gillespie K, Ehlers A, Clark DM (2013) A Community Study of the Psychological Effects of the Omagh Car Bomb on Adults. *PLoS ONE*, 8(9): e76618. <https://doi.org/10.1371/journal.pone.0076618>.

Duffy M., McDermott M., Percy A., Ehlers A., Clark D.M., Fitzgerald M., Moriarty J. (2015) The effects of the Omagh bomb on adolescent mental health: a school-based study. *BMC Psychiatry* 15:18. <https://doi.org/10.1186/s12888-015-0398-9>.

Duffy, M. & Wild, J. (2017) A cognitive approach to Persistent Complex Bereavement disorder (PCBD): *The Cognitive Behaviour Therapist*. e 16 , special issue - invited paper, p. 1 – 19. <https://doi.org/10.1017/S1754470X17000034>.

Duffy, M., Gillespie, K. and Clark, D.M. (2007). Post-Traumatic Stress Disorder in The Context of Terrorism and Other Civil Conflict in Northern Ireland: Randomised Controlled Trial. *British Medical Journal* (Clinical Research Ed.), 334 (7604), 1147. <https://doi.org/10.1136/bmj.39021.846852.BE>.

Ehlers A., Clark D.M., Hackmann A., Grey N., Liness S., Wild J., Manley J., Waddington L., and McManus F. (2010). Intensive cognitive therapy for PTSD: A feasibility study. *Behavioural and Cognitive Psychotherapy*, 38(4), 383-398. <https://doi.org/10.1017/S1352465810000214>.

Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, 38(4), 319-345. [https://doi.org/10.1016/s0005-7967\(99\)00123-0](https://doi.org/10.1016/s0005-7967(99)00123-0).

Ehlers, A., Clark, D.M., Hackman, A., Mc Manus, F., & Fennell, M. (2005). Cognitive Therapy for post-traumatic stress disorder: Development and evaluation. *Behaviour Research & Therapy*, 43, 413-431. <https://doi.org/10.1016/j.brat.2004.03.006>.

Ehlers, A., Clark, D.M., Hackmann, A., McManus, F., Fennell, M., Herbert, C., & Mayou, R. (2003). A randomized controlled trial of cognitive therapy, self-help booklet, and repeated assessment as early interventions for PTSD. *Archives of General Psychiatry*, 60. <https://doi.org/10.1001/archpsyc.60.10.1024>.

Ehlers, A., Grey, N., Wild, J., Stott, R., Liness, S., Deale, A., Handley R., Albert, I, Cullen D., Hackmann A. & Manley, J. , McManus, F. Brady, F., Salkovskis, D., Clark M. (2013). Implementation of cognitive therapy for PTSD in routine clinical care: effectiveness and moderators of outcome in a consecutive sample. *Behaviour Research & Therapy*, 51(11), 742-752. <https://doi.org/10.1016/j.brat.2013.08.006>

Eisma, M.C., Lenferink, L.I.M., Chow, A.Y.M., Chan, C.L.W., Li, J. (2019). Complicated grief and posttraumatic stress symptom profiles in bereaved earthquake survivors: a latent class analysis. *European Journal of Psychotraumatology* 10, 1558707. <https://doi.org/10.1080/20008198.2018.1558707>.

EMDR Early Intervention (2020) EMDR Early Intervention and Crisis Response Summit. Natick, Boston, USA. Available [website]: <https://emdrearlyintervention.com/> [accessed 27/07/2020].

England L, Nash V, Hawthorne K. (2017). GP training in mental health requires urgent reform. *British Medical Journal*, 356. <https://doi.org/10.1136/bmj.j1311> .

Farrell, D., Keenan, P., Knibbs, L. & Hicks, C. (2013). A Q-Methodology Evaluation of an EMDR Europe HAP Facilitators Training in Pakistan. *Journal of EMDR Practice and Research*, 174-185. <https://doi.org/10.1891/1933-3196.7.4.174>.

Farrell, D., Kiernan, M. D., De Jongh, A., Miller, P. W., Bumke, P., Ahmad, S., Knibbs, L., Matthes, C., Keenan, P. & Mathes, H. (2020). Treating implicit trauma: a quasi-experimental study comparing the EMDR Therapy Standard Protocol with a 'Blind 2 Therapist' version within a trauma capacity building project in Northern Iraq. *Journal of International Humanitarian Action*, 5, 3. ISSN: 2364-3404.

Ferguson A. (2020) Reuters: "Northern Irish women told to sail to England for abortions despite pandemic" [viewed 29th April 2020]. Website: <https://www.reuters.com/article/us-britain-nireland-abortion/northern-irish-women-told-to-sail-to-england-for-abortions-despite-pandemic-idUSKBN21P2S1>

Fiorillo A., Gorwood P. (2020). The consequences of the COVID-19 pandemic on mental health and implications for clinical practice. *European Psychiatry*, 63(1), e32, 1–2. <https://doi.org/10.1192/j.eurpsy.2020.35>.

Foa, E. B. & Rothbaum, B. O. (1998) *Treating the Trauma of Rape: Cognitive–Behavioral Therapy for PTSD*. New York: Guilford Press. <https://doi.org/10.1080/10503309912331332731>

Fonseca, L., Diniz, E., Mendonca, G., Malinowski, F., Mari, J. & Gadelha, A. (2020). Schizophrenia and COVID-19: risks and recommendations. *Brazilian Journal of Psychiatry*. <https://doi.org/10.1371/journal.pmed.0020141>.

Gattinara, PC, Pallini, S. (2017) The use of EMDR with Refugees and asylum seekers: a Review of Research studies. *Clinical Neuropsychiatry*, 14, 5, 341-344. <https://doi.org/10.1016/j.ejtd.2018.08.001>

Gauhar, Y. W. M. (2016). The Efficacy of EMDR in the Treatment of Depression. *Journal of EMDR Practice and Research*, 10 (2), 59-69. <https://doi.org/10.1891/1933-3196.10.2.59>.

Gerst-Emerson, K. & Jayawardhana, J. (2015). Loneliness as a public health issue: the impact of loneliness on health care utilisation among older adults. *American Journal of Public Health*, 105, 1013-1019. <https://doi.org/10.2105/AJPH.2014.302427>.

Gilbert R., Kemp, A., Thoburn, J., Sidebotham, P., Radford L., Glaser, D., & Macmillan, H. (2009). Recognising and responding to child maltreatment. *The Lancet*, 373(9658), 167–180. [https://doi.org/10.1016/S0140-6736\(08\)61707-9](https://doi.org/10.1016/S0140-6736(08)61707-9).

Gillespie K., Duffy, Hackmann A., Clark D.M. (2002) Community based cognitive therapy in the treatment of post-traumatic stress disorder following the Omagh bomb. *Behaviour Research and Therapy*. 40, 4, 345-357 13. <https://doi.org/10.1080/20008198.2018.1558707>

Girdhar, R., Srivastava, V. & Sethi, S. (2020). Managing mental health issues among elderly during COVID-19 pandemic. *Journal of Geriatric Care and Research*, 7. <http://pu.edu.pk/MHH-COVID-19/Articles/Article22.pdf>; ISSN 2397-5628.

Gore N. & Baker P. (2017) Mental health and motivational operation: Service-user and caregiver emotional states in the context of challenging behaviour. *BILD: International Journal of Positive Behaviour Support*, 7(1): 15 – 23. <https://www.ingentaconnect.com/contentone/bild/ijpbs/2017/00000007/00000001/art00003>

Graves, T. (1928). Influenza in relation to the onset of acute psychoses. *Journal of Neurology and Psychopathology*, 9, 97. <https://doi.org/10.1136/jnnp.s1-9.34.97>

Greenberg, N (2020). Managing mental health challenges faced by healthcare workers during COVID-19 pandemic. *British Medical Journal*; 368: m1211. <https://doi.org/10.1136/bmj.m1211>

Grierson J. (2020) The Guardian: “Domestic abuse killings 'more than double' amid COVID-19 lockdown”, [online] *The Guardian* [April 15th]. Website/Available: <https://www.theguardian.com/society/2020/apr/15/domestic-abuse-killings-more-than-double-amid-COVID-19-lockdown> [accessed 28/07/20].

Grierson J. (2020) The Guardian: “MPs call for action over expected rise in child sexual abuse during pandemic” [online] *The Guardian* [April 16th]. Website/Available: <https://www.theguardian.com/society/2020/apr/16/mps-call-for-action-over-expected-rise-in-child-sexual-abuse-during-coronavirus-pandemic> [accessed 28/07/20].

Guan, W.-J., Ni, Z.-Y., Hu, Y., Liang, W.-H., Ou, C.-Q., He, J.-X., Liu, L., Shan, H., Lei, C.-L. & Hui, D. S. (2020b). Clinical characteristics of coronavirus disease 2019 in China. *New England Journal of Medicine*. 382:1708-1720. <https://doi.org/10.1056/NEJMoa2002032>.

Guan, W.-J., Liang, W.-H., Zhao, Y., Liang, H.-R., Chen, Z.-S., Li, Y.-M., Liu, X.-Q., Chen, R.-C., Tang, C.-L. & Wang, T. (2020a). Comorbidity and its impact on 1590 patients with COVID-19 in China: A Nationwide Analysis. *European Respiratory Journal*. 63(1) e32 1-2. <https://doi.org/10.1183/13993003.00547-2020>

Gunnell, D., Appleby, L., Arensman, E., Hawton, K., John, A., Kapur, N., Khan, M., O'Connor, R.C., Pirkis, J., Caine, E.D. and Chan, L.F. (2020). Suicide risk and prevention during the COVID-19 pandemic. Online 1st Jan: *The Lancet Psychiatry*. [https://doi.org/10.1016/S2215-0366\(20\)30171-1](https://doi.org/10.1016/S2215-0366(20)30171-1)

Guzman-Martinez, L., Maccioni, R. B., Andrade, V., Navarrete, L. P., Pastor, M. G. & Ramos-Escobar, N. (2019). Neuroinflammation as a common feature of neurodegenerative disorders. *Frontiers in Pharmacology*, 10, 1008. <https://doi.org/10.3389/fphar.2019.01008>

Haack, M.-J., Bak, M., Beurskens, R., Maes, M., Stolk, L. & Delespaul, P. A. (2003). Toxic rise of clozapine plasma concentrations in relation to inflammation. *European Neuropsychopharmacology*, 13, 381-385. [https://doi.org/10.1016/S0924-977X\(03\)00042-7](https://doi.org/10.1016/S0924-977X(03)00042-7)

Harned, M. S., Jackson, S. C., Comtois, K. A., & Linehan, M. M. (2010). Dialectical behavior therapy as a precursor to PTSD treatment for suicidal and/or self-injuring women with borderline personality disorder. *Journal of Traumatic Stress, 23*(4), 421-429.

<https://doi.org/10.1002/jts.20553>

Harris, C. & Barraclough, B. (1998). Excess mortality of mental disorder. *The British Journal of Psychiatry, 173*, 11-53. <http://dx.doi.org/10.1192/bjp.173.1.11>

Health Protection Surveillance Centre [HPSC] (2020). Epidemiology of COVID-19 in Ireland. Report prepared by HPSC on 23/04/2020 for NPHEM [Online]. Available [website]:

<https://www.hpsc.ie/a->

[z/respiratory/coronavirus/novelcoronavirus/casesinireland/epidemiologyofCOVID-19inireland/COVID-](https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/casesinireland/epidemiologyofCOVID-19inireland/COVID-19%20Epidemiology%20report%20for%20NPHEM%2020200423_website.pdf)

[19%20Epidemiology%20report%20for%20NPHEM%2020200423_website.pdf](https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/casesinireland/epidemiologyofCOVID-19inireland/COVID-19%20Epidemiology%20report%20for%20NPHEM%2020200423_website.pdf). [accessed 25/04/2020].

Helms, J., Kremer, S., Merdji, H., Clere-Jehl, R., Schenck, M., Kummerlen, C., Collange, O., Boulay, C., Fafi-Kremer, S. & Ohana, M. (2020). Neurologic Features in Severe SARS-CoV-2 Infection. *New England Journal of Medicine. 382*:2268-2270.

<https://doi.org/10.1056/NEJMc2008597>

HM Government (2011) No health without mental health: A cross-government mental health outcomes strategy for people of all ages (Feb 2nd). © Crown Copyright. Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/138253/dh_124058.pdf. [accessed 28/07/20]

Hoffman, L. A. & Vilensky, J. A. (2017). Encephalitis lethargica: 100 years after the epidemic. *Brain, 140*, 2246-2251. <https://doi.org/10.1093/brain/awx177>

Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessley, S., Arsenaault, L., Ballard, C., Christensen, H., Cohen Silver, R., Everall, I., Ford, T., John, A., Kabir, T., King, K., Madan, I., Michie, S., Przybylski A. K., Sharon, R., Sweeney, A., Worthman, C. M., Yardley L., Cowan, K., Cope, C., Hotopf, M. & Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry; 7*: 547–60. [https://doi.org/10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T. & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: a meta-analytic review. *Perspectives on Psychological Science, 10*, 227-237. <https://doi.org/10.1177/1745691614568352>

House of Commons, House of Lords, Joint Committee on Human Rights. (2020). Human Rights and the Government's response to COVID-19: The detention of young people who are autistic and/or have learning disabilities (June 12th). Authority of the House of Commons. Available [website]:

<https://publications.parliament.uk/pa/jt5801/jtselect/jtrightts/395/39508.htm> [accessed 28/07/2020].

Human Rights Watch. (2020) Human rights dimensions of COVID-19 response (March 19th). Available [website]: <https://reliefweb.int/sites/reliefweb.int/files/resources/Human%20Rights%20Dimensions%20of%20COVID-19%20Response.pdf> [accessed 27/04/2020].

Independent (2019) More than 100,000 children denied mental health treatment each year, figures suggest (June 17th). <https://www.independent.co.uk/news/uk/home-news/child-mental-health-services-children-cuts-nhs-camhs-report-a8960736.html> (Accessed 26.04.20).

Inouye, S. K., Bogadarius JR, S. T., Charpentier, P. A., Leo-Summers, L., Acampora, D., Holford, T. R. & Cooney JR, L. M. (1999). A multicomponent intervention to prevent delirium in hospitalized older patients. *New England Journal of Medicine*, 340, 669-676. <https://doi.org/10.1056/NEJM199903043400901>. [accessed 27/07/2020].

International Classification of Diseases, 11th Revision (2018). 6B40 Post traumatic stress disorder. Available [website]: <https://icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/2070699808> [accessed 26.04. 2020].

International Study for Traumatic Stress Studies [ISTSS] (2004). Posttraumatic Stress Disorder Prevention and Treatment Guidelines. Available [website]: http://www.istss.org/getattachment/Treating-Trauma/New-ISTSS-Prevention-and-Treatment-Guidelines/ISTSS_PreventionTreatmentGuidelines [accessed 26.04.2020].

International Study for Traumatic Stress Studies [ISTSS] (2019). Posttraumatic Stress Disorder Prevention and Treatment Guidelines Methodology and Recommendations ISTSS PTSD Guidelines-Methodology and Recommendations. Illinois: International Society for Traumatic Stress Studies. Available [website]: https://istss.org/getattachment/Treating-Trauma/New-ISTSS-Prevention-and-Treatment-Guidelines/ISTSS_PreventionTreatmentGuidelines_FNL-March-19-2019.pdf.aspx [accessed 27/07/2020].

Jackson A.L. Waters S. and Abel T. (2015) Taking Time – A Literature Review: Background for a trauma informed framework for supporting people with intellectual disability. Berry Street. Melbourne, Australia. Available [website]: http://static1.1.sqspcdn.com/static/f/551166/27167270/1469580806813/Trauma_Informed_Framework_Jackson_Waters_V6I2.pdf?token=BJDyBZbFvJDgTE9EWSIEe1qQqpc%3D [accessed 27/07/2020].

Jenkins R. McCulloch A. Friedli L, Parker C. (2002) Developing a national mental health policy. *Maudsley Monograph*, 43. Hove: The Psychology Press. ISBN 1-84169-295-6.

Johannsen M., Damholdt, MF, Zachariae, R., Lundorff, M., Farver-Vestergaard, I., O'Connor M. (2019) Psychological interventions for grief in adults: A systematic review and meta-analysis of randomized controlled trials, *Journal of Affective Disorders*. 253(15): 69-86. <https://doi.org/10.1016/j.jad.2019.04.065>

Johns, L. C. and Van Os, J. (2001). The continuity of psychotic experiences in the general population. *Clinical Psychology Review*, 21: 1125-1141. [https://doi.org/10.1016/s0272-7358\(01\)00103-9](https://doi.org/10.1016/s0272-7358(01)00103-9)

JRF Analysis Unit (2018). Joseph Rowntree Foundation Analysis Unit: Poverty in Northern Ireland 2018 Briefing [online]. Available [website]: <https://www.jrf.org.uk/report/poverty-northern-ireland-2018> [accessed 27/07/2020].

Kalil, A. C. (2020). Treating COVID-19—off-label drug use, compassionate use, and randomized clinical trials during pandemics. *JAMA*: 323(19):1897-1898. <https://doi.org/10.1001/jama.2020.4742>

Karatzias, T., Murphy, P., Cloitre, M., Bisson, J., Roberts, N., Shevlin, M., Hyland, P., Maercker, A., Ben-Ezra, M., Coventry, P., Maon-Roberts, S., Bradley, A., & Hutton, P. (2019). Psychological interventions for ICD-11 complex PTSD symptoms: systematic review and meta-analysis. *Psychological Medicine*, 1-15. <https://doi.org/10.1017/S0033291719000436>

Keene R., Barrister A. (2020) Capacity in the time of Coronavirus. *International Journal of Law and Psychiatry*, Available online 11 April 2020, 101560. <https://www.sciencedirect.com/science/article/pii/S0160252720300194?via%3Dihub> [accessed 28.07.2020].

Kelvin D.J., Rubino S. Fear of the novel coronavirus (2020). *The Journal of Infection in Developing Countries*. 14(1):1–2. <https://doi.org/10.3855/jidc.12496>

Kepinska, A. P., Iyegbe, C. O., Vernon, A. C., Yolken, R., Murray, R. M. & Pollak, T. A. (2020). Schizophrenia and influenza at the centenary of the 1918-1919 Spanish influenza pandemic: mechanisms of psychosis risk. *Frontiers in Psychiatry*, 11, 72. Available [website]: <https://doi.org/10.3389/fpsy.2020.00072>.

Kersting, A., Brähler, E., Glaesmer, H., & Wagner, B. (2011). Prevalence of complicated grief in a representative population-based sample. *Journal of Affective Disorders*, 131(1-3), 339-343. <https://doi.org/10.1016/j.jad.2010.11.032>

Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, 52(12), 1048-1060. <https://doi.org/10.1001/archpsyc.1995.03950240066012>

Khan, L. (2016). Missed Opportunities: A review of recent evidence into children and young people's mental health, Centre for Mental Health [online: Charity registration no. 1091156/A company limited by guarantee registered in England and Wales no. 4373019. Available [website]: https://www.centreformentalhealth.org.uk/sites/default/files/2018-09/CentreforMentalHealth_MissedOpportunities.pdf

Khanaker, G. M., Zimbron, J., Dalman, C., Lewis, G. & Jones, P. B. (2012). Childhood infection and adult schizophrenia: a meta-analysis of population-based studies. *Schizophrenia Research*, 139, 161-168. <https://doi.org/10.1016/j.schres.2014.05.019>.

Kiely, D. K., Marcantonio, E. R., Inouye, S. K., Shaffer, M. L., Bergmann, M. A., Yang, F. M., Fearing, M. A. & Jones, R. N. (2009). Persistent delirium predicts greater mortality. *Journal of the American Geriatrics Society*, 57, 55-61. <https://doi.org/10.1111/j.1532-5415.2008.02092.x>

Killikelly, C., Bauer, S., & Maercker, A., (2018). The assessment of grief in refugees and post-conflict survivors: a narrative review of etic and emic research. *Frontiers in Psychology*, 9, 1957. <https://doi.org/10.3389/fpsyg.2018.01957>

Killikelly, C., Lorenz, L., Bauer, S., Mahat-Shamir, M., Ben-Ezra, M. And Maercker, A., (2019). Prolonged Grief Disorder: Its Co-Occurrence with Adjustment Disorder and Post-Traumatic Stress Disorder in A Bereaved Israeli General-Population Sample. *Journal of Affective Disorders*, 249, 307-314. <https://doi.org/10.1016/j.jad.2019.02.014>

Kimball, A. (2020). Asymptomatic and presymptomatic SARS-CoV-2 infections in residents of a long-term care skilled nursing facility—King County, Washington (March). *MMWR. Morbidity and Mortality Weekly Report*, 69. <https://doi.org/10.15585/mmwr.mm6913e1>

Kings Fund. (2016). Understanding pressures in general practice (May). © The King's Fund 2020. Available [website]: https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/Understanding-GP-pressure-Kings-Fund-May-2016.pdf [accessed 27/07/20].

Kinner, S. A., Young, J. T., Snow, K., Southalan, L., Lopez-Acuna, D., Ferreira-Borges, C. & O'Moore, É. (2020). Prisons and custodial settings are part of a comprehensive response to COVID-19. *The Lancet Public Health*, 5, e188-e189. [https://doi.org/10.1016/S2468-2667\(20\)30058-X](https://doi.org/10.1016/S2468-2667(20)30058-X). Kozloff, N., Mulsant, B. H., Stergiopoulos, V. & Voineskos, A. N. (2020). The COVID-19 Global Pandemic: Implications for People with Schizophrenia and Related Disorders. *Schizophrenia Bulletin*. <https://doi.org/10.1093/schbul/sbaa051>.

Kroenke K, Spitzer RL, Williams JB, Monaghan, P.O., Lowe B. (2007) Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. *Annals of Internal Medicine*;146:317–25. <https://doi.org/10.7326/0003-4819-146-5-200703060-00004>.

Kroenke, K., Spitzer, R.L. and Williams, J.B.W. (2003). The patient health questionnaire-2: Validity of a Two-Item Depression Screener. *Medical Care*, 41(11):1284-92. <https://doi.org/10.1097/01.MLR.0000093487.78664.3C>

Kuoppasalmi, K., Isometsa, E., Pirkola, S., Partonen, T., Tuulio-Henriksson, A., Hintikka, J., Kieseppa, T., Harkanen, T., Koskinen, S. & Lonnqvist, J. (2007). Lifetime Prevalence of Psychotic and Bipolar I Disorders in a General Population. *Archives of General Psychiatry*, 64, 19-28. http://www.easacommunity.org/files/Lifetime_Prevalence_of_Psychotic_and_Bipolar1_Disorders.pdf

Lai, J., Ma, S., Wang, Y., Cai Z., Hu, J., Wei, N., Wu, J., Du, H., Chen, T., Li, R., Tan, H., Kang, L., Yao, L., Huang, M., Wang, H., Wang, G., Liu, Z. & Hu, S. (2020). Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease

2019. *JAMA Network Open*, 3, e203976-e203976.

<https://doi.org/10.1001/jamanetworkopen.2020.3976>

Lam M.H., Wing Y., Yu M.W., Yu W-M, Leung C., Ma R.C.W., Kong A.P.S, So W.Y., Fong S.Y. Lam, S-P. (2009) Mental Morbidities and Chronic Fatigue in Severe Acute Respiratory Syndrome Survivors: Long-term Follow-up. *Archive of Internal Medicine*;169(22):2142–2147. <https://doi.org/10.1001/archinternmed.2009.384>

Lang, P. O. and Aspinall, R. (2012). Immunosenescence and herd immunity: with an ever-increasing ageing population do we need to rethink vaccine schedules? *Expert Review of Vaccines*, 11, 167-176. <https://doi.org/10.1586/erv.11.187>

Lang, P.O. (2011). Adverse effects of the herd immunity or when childhood vaccination becomes deleterious for the epidemiology of infectious diseases in adults. *Geriatric et psychologie neuropsychiatrie du vieillissement*, 9, 11-19. <https://doi.org/10.1684/pnv.2011.0260>

Latham, A. E. and Prigerson, H. G. (2004). Suicidality and bereavement: complicated grief as psychiatric disorder presenting greatest risk for suicidality. *Suicide and Life-Threatening Behavior*, 34(4), 350-362. <https://doi.org/10.1521/suli.34.4.350.53737> .

Lee J. (2020) The Lancet Feature: “Mental health effects of school closures during COVID-19” [online:April 14th] *The Lancet Child & Adolescent Health*, 4(6), P421. [https://doi.org/10.1016/S2352-4642\(20\)30109-7](https://doi.org/10.1016/S2352-4642(20)30109-7).

Lester, D. (1979). Temporal variation in suicide and homicide. *American Journal of Epidemiology*, 109(5), 517-520. <https://doi.org/10.1093/oxfordjournals.aje.a112709>

Lewis, C., Roberts, N. P., Bethell A., Robertson L., Bisson J.I. (2018) Internet-based cognitive and behavioural therapies for posttraumatic stress disorder (PTSD) in adults. *Cochrane Database of Systematic Reviews*. CD011710. pp. 1-94. doi: <https://doi.org/10.1002/14651858.CD011710.pub2>.

Lichtenthal, W. G., Nilsson, M., Kissane, D. W., Breitbart, W., Kacel, E., Jones, E. C., & Prigerson, H. G., (2011). Underutilization of mental health services among bereaved caregivers with prolonged grief disorder. *Psychiatric Services*, 62(10), 1225-1229. https://doi.org/10.1176/ps.62.10.pss6210_1225

Liu, K., Pan, M., Xiao, Z. & Xu, X. (2020). Neurological manifestations of the coronavirus (SARS-CoV-2) pandemic 2019–2020. *Journal of Neurology, Neurosurgery & Psychiatry*. <http://dx.doi.org/10.1136/jnnp-2020-323177>

Liu, X., Kakade, M., Fuller, C. J., Fan, B., Fang, Y., Kong, J., Guan, Z. & Wu, P. (2012). Depression after exposure to stressful events: lessons learned from the severe acute respiratory syndrome epidemic. *Comprehensive Psychiatry*, 53, 15-23. <https://doi.org/10.1016/j.comppsych.2011.02.003>

Maguen, S., Metzler, T. J., McCaslin, S. E., Inslicht, S. S., Henn-Haase, C., Neylan, T. C. & Marmar, C. R. (2009). Routine work environment stress and PTSD symptoms in police

officers. *Journal of Nervous & Mental Disorder*, 197, 754-60.

<https://doi.org/10.1097/NMD.0b013e3181b975f8>

Maia, D. B., Marmar C. R., Henn-Haase, C., Nobrega, A., Fiszman, A., Marques-Portella, C., Mendlowicz, M. V., Coutinho, E. S. & Figueira, I. (2011). Predictors of PTSD symptoms in Brazilian police officers: the synergy of negative affect and peritraumatic dissociation. *Revista Brasileira de Psiquiatria*, 33, 362-6. Available:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3974925/> [accessed 29.07.2020].

Mao, L., Wang, M., Chen, S., He, Q., Chang, J., Hong, C., Zhou, Y., Wang, D., Miao, X. & Hu, Y. (2020). Neurological manifestations of hospitalized patients with COVID-19 in Wuhan, China: a retrospective case series study. *JAMA Neurology*, (6)77: 690-683.

<https://doi.org/10.1001/jamaneurol.2020.1127>

Matthews, C. J. & Hall, T. L. (2014). A clozapine conundrum: clozapine toxicity in an acute medical illness. *Australasian Psychiatry*, 22, 543-545.

<https://doi.org/10.1177/1039856214559041>

Maxfield, L. (2019). A Clinician's Guide to the Efficacy of EMDR Therapy. *Journal of EMDR Practice & Research*, 13, 239-246. <https://doi.org/10.1891/1933-3196.13.4.239>

Mayou, R. A., Ehlers, A. & Hobbs, M. (2000) Psychological debriefing for road traffic accident victims. Three-year follow-up of a randomised controlled trial. *British Journal of Psychiatry*, 176, 589–593. <https://doi.org/10.1192/bjp.176.6.589>

McAteer A., Elliott A.M. and Hannaford P.C. (2011) Ascertaining the size of the symptom iceberg in a UK-wide community based survey. *British Journal of General Practice*; 61 (582): e1-e11. <https://doi.org/10.3399/bjgp11X548910>

McCarthy, J. (2001) Post-traumatic stress disorder in people with learning disability. *Advances in Psychiatric Treatment* (7): 163 – 169. <https://doi.org/10.1192/apt.7.3.163>

McDermott M, Duffy M, Percy A, Fitzgerald M and Cole, C. (2013) A school based study of psychological disturbance in children following the Omagh Bomb. *Child & Adolescent Psychiatry and Mental Health* 7 (36). <https://doi.org/10.1186/1753-2000-7-36>.

McFarlane A.C. (2015) The impact of war on mental health: lest we forget. *World Psychiatry*; 14(3):351–353. <https://doi.org/10.1002/wps.20253>

McLafferty, M., O'Neill, S., Murphy, S., Armour, C. & Bunting B. (2018). Population attributable fractions of psychopathology and suicidal behaviour associated with childhood adversities in Northern Ireland. *Child Abuse & Neglect*, 77, 35-45.

<https://doi.org/10.1016/j.chiabu.2017.12.015>

McManus S, Bebbington P, Jenkins R, Brugha T. (2014) Mental health and wellbeing in England: Adult psychiatric morbidity survey 2014. Leeds: NHS digital. Available:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/556596/apms-2014-full-rpt.pdf [accessed 27.07.2020].

Mehrotra, S. (2014). Humanitarian Projects and Growth of EMDR Therapy in Asia. *Journal of EMDR Practice Research*, 8, 252-259. <https://doi.org/10.1891/1933-3196.8.4.252>.

Momen, N. C., Plana-Ripoll, O., Agerbo, E., Benros, M. E., Borglum, A.D., Christensen, M. K., Dalsgaard, S., Degenhardt, L., De Jonge, P. & Debois, J.-C. P. (2020). Association between Mental Disorders and Subsequent Medical Conditions. *New England Journal of Medicine*, 382, 1721-1731.

<https://www.nejm.org/doi/abs/10.1056/NEJMoa1915784?journalCode=nejm&journalCode=nejm> [accessed 29.07.2020].

Mueser, K. T., Drake, R. E., & Wallach, M. A. (1998). Dual diagnosis: a review of etiological theories. *Addictive Behaviors*, 23(6), 717-734. [https://doi.org/10.1016/s0306-4603\(98\)00073-2](https://doi.org/10.1016/s0306-4603(98)00073-2).

Murthy RS, Lakshminarayana R. (2006) Mental health consequences of war: a brief review of research findings. *World Psychiatry*. 5(1):25–30 . [https://doi.org/10.1016/S0306-4603\(98\)00073-2](https://doi.org/10.1016/S0306-4603(98)00073-2).

Myles, N., Myles, H., Xia, S., Large, M., Kisely, S., Galletly, C., Bird, R. & Siskind, D. (2018). Meta-analysis examining the epidemiology of clozapine-associated neutropenia. *Acta Psychiatrica Scandinavica*, 138, 101-109. <https://doi.org/10.1177/0004867419833166>.

National Health Service [NHS] (2020). Supporting patients of all ages who are unwell with coronavirus (COVID-19) in mental health, learning disability, autism, dementia and specialist inpatient facilities. Available: https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0290_Supporting-patients-who-are-unwell-with-COVID-19-in-MHLDA-settings.pdf. [accessed 30.04.2020].

National Society for the Prevention of Cruelty to Children (2020) Hundreds of children counselled over impact of coronavirus (COVID-19) outbreak [online]. *NSPCC* . Available: <https://www.nspcc.org.uk/what-we-do/news-opinion/childline-coronavirus-counselling/> [accessed 01.05.2020].

NI DIRECT. (2020). Oral Statement on Alternative Awarding Arrangements for Summer 2020 Examinations (GCSE, AS and A Level) [online]. Available: <https://www.education-ni.gov.uk/sites/default/files/publications/education/ORAL%20STATEMENT%20TO%20THE%20ASSEMBLY%20BY%20EDUCATION%20MINISTER%2C%20PETER%20WE....pdf>.

The National Institute for Health and Care Excellence [NICE]. (2013). National Institute for Health and Care Excellence: Attention deficit hyperactivity disorder: Evidence Update July 2013 [Online]. Available: www.nice.org.uk/guidance/cg72/evidence/cg72-attention-deficit-hyperactivity-disorder-adhd-evidence-update2 [accessed 26.04.2020].

The National Institute for Health and Care Excellence [NICE]. (2018). Guidelines for Post-traumatic stress disorder. NICE guideline [NG116]: 8th Dec. Available: <https://www.nice.org.uk/guidance/ng116> [accessed 26.04.2020].

The National Institute for Health and Care Excellence [NICE]. (2020). NG159 - COVID-19 rapid guideline: critical care in adults [Online]. Available: <https://www.nice.org.uk/guidance/ng159> [accessed 17.05.2020].

Northern Ireland Statistics and Research Agency [NISRA] (2016). Northern Ireland Statistics & Research Agency: Young Person Behaviour and Attitude Survey – Top Line Results [online]. Available: <https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/YPBAS2016ToplineResults.pdf>.

Northern Ireland Statistics and Research Agency [NISRA] (2020). Northern Ireland Statistics & Research Agency: Northern Ireland Labour Market Report [online]. Available: <https://www.nisra.gov.uk/system/files/statistics/labour-market-report-may-2020.pdf>.

Northern Ireland Statistics and Research Agency (2020a). NI Summary Statistics [Online]. © Crown Copyright. Available [website]: <https://www.nisra.gov.uk/publications/ni-profile-february-2020> [accessed 26/04/2020].

Northern Ireland Statistics and Research Agency (2020b). Northern Ireland Labour Force Survey Tables (Online: April). © Crown Copyright. Available [website]: <https://www.nisra.gov.uk/publications/labour-force-survey-tables-april-2020> [accessed 26/04/2020].

O'Neill S., Armour C., Bolton D., Bunting B., Corry C., Devine B. and Murphy S. (2015) Towards a better future: the trans-generational impact of the Troubles on mental health. Commission of Victims and Survivors, Belfast. <https://www.bacp.co.uk/bacp-journals/healthcare-counselling-and-psychotherapy-journal/july-2016/a-troubled-legacy/>.

O'Neill, S., Armour, C., Bolton, D., Bunting, B., Corry, C., Devine, B. & Murphy, S. (2015). Towards a better future: the trans-generational impact of the Troubles on mental health. Commission of Victims and Survivors, Belfast. Available: <https://core.ac.uk/display/34723140> [accessed 27/07/2020].

Office for National Statistics (2004) Mental health of children and young people in Great Britain. ©Crown Copyright 2005. Available: <https://sp.ukdataservice.ac.uk/doc/5269/mrdoc/pdf/5269technicalreport.pdf> [accessed 28.07.2020].

O'Sullivan, R., Inouye, S. K. & Meagher, D. (2014). Delirium and depression: inter-relationship and clinical overlap in elderly people. *The Lancet Psychiatry*, 1, 303-311. [https://doi.org/10.1016/S2215-0366\(14\)70281-0](https://doi.org/10.1016/S2215-0366(14)70281-0).

Outeiro, T. F., Koss, D. J., Erskine, D., Walker, L., Kurzawa-Akanbi, M., Burn, D., Donaghy P., Morris, C., Taylor, J-P. & Thomas, A. (2019). Dementia with Lewy bodies: an update and outlook. *Molecular Neurodegeneration*, 14, 1-18. <https://doi.org/10.1186/s13024-019-0306-8>.

Pagura, J., Stein, M. B., Bolton, J. M., Cox, B. J., Grant, B., & Sareen, J. (2010). Comorbidity of borderline personality disorder and posttraumatic stress disorder in the US population.

Journal of Psychiatric Research, 44(16), 1190-1198.

<https://doi.org/10.1016/j.jpsychires.2010.04.016>.

Paterson B., Young J., Bradley P. (2017). Recognising and responding to trauma in the implementation of PBS? *BILD: International Journal of Positive Behaviour Support*, 7 (1): 4-14.

<https://www.ingentaconnect.com/contentone/bild/ijpbs/2017/00000007/00000001/art00002> [accessed 29.07.2020].

Pawelec, G., Weng, N. (2020) Can an effective SARS-CoV-2 vaccine be developed for the older population? *Immunology & Ageing* 17, 8. <https://doi.org/10.1186/s12979-020-00180-2> [accessed 29.07.2020].

Perala, J., Suvisaari, J., Saarni, S. I., Kuoppasalmi, K., Isometsa, E., Pirkola, S., Partonen, T., Tuulio-Henriksson, A., Hintikka, J. & Kieseppa, T. (2007). Lifetime prevalence of psychotic and bipolar I disorders in a general population. *Archives of General Psychiatry*, 64, 19-28. <https://10.1176/appi.ajp.2010.09101463> [accessed 29.07.2020].

Pietrzak, R. H., Goldstein, R. B., Southwick, S. M., & Grant, B. F. (2011). Prevalence and Axis I comorbidity of full and partial posttraumatic stress disorder in the United States: results from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions. *Journal of Anxiety Disorders*, 25(3), 456-465. <https://doi.org/10.1016/j.janxdis.2010.11.010> [accessed 29.07.2020].

Pincus H.A., Wakefield Davis W., McQueen L.E. (1999) Subthreshold' mental disorders. A review and synthesis of studies on minor depression and other 'brand names'. *The British Journal of Psychiatry*, 174 (4) 288-296. <https://doi.org/10.1192/bjp.174.4.288>.

Police Service of Northern Ireland [PSNI]. (2020). Police Service of Northern Ireland: Domestic Abuse Calls Received by Police in Northern Ireland [online]. Available: <https://www.psnipolice.uk/globalassets/inside-the-psni/our-statistics/domestic-abuse-statistics/COVID-19/domestic-abuse-calls-to-19.05.20.pdf>.

Powers, M.B., Halpern, J.M., Ferenschak, M.P., Gillihan, S.J. and Foa, E.B. (2010). A meta-analytic review of prolonged exposure for posttraumatic stress disorder. *Clinical Psychology Review*, 30(6), 635-641. <https://doi.org/10.1016/j.cpr.2012.09.005>.

Prins A, Ouimette P, Kimerling R, Cameron R.P., Hugelshofer D.S., Shaw-Hegwer, T.A., Gusman, F.D. and Javaid, I.S. (2003) The primary care PTSD screen (PC-PTSD): developing and operating characteristics. *Primary Care Psychiatry*, 9 (1):9-14. <https://doi.org/10.1185/135525703125002360>.

Rando, T. A. (1993). Treatment of complicated mourning. Research Press. ISBN: 978-0-87822-329-9

Rawal G. Yadav S. and Kumar R. (2017) Post-intensive Care Syndrome: an Overview. *Journal of Translational and International Medicine*, 5(2):90-92. <https://doi.org/10.1515/jtim-2016-0016>.

- RC PSYCH. (2020). COVID-19: Providing medication [Online]. Available: <https://www.rcpsych.ac.uk/about-us/responding-to-COVID-19/responding-to-COVID-19-guidance-for-clinicians/community-and-inpatient-services/providing-medication> [accessed 14/05/2020].
- Read, J. (1998). Child abuse and severity of disturbance among adult psychiatric inpatients. *Child Abuse & Neglect*, 22(5), 359-368. [https://doi.org/10.1016/S0145-2134\(98\)00009-X](https://doi.org/10.1016/S0145-2134(98)00009-X) [accessed 14/05/2020].
- Refuge (2020) Press Release: “25% increase in calls to National Domestic Abuse Helpline since lockdown measures began” [online]. Refuge <https://www.refuge.org.uk/25-increase-in-calls-to-national-domestic-abuse-helpline-since-lockdown-measures-began/> ©Copyright Refuge 2017.
- Resick, P. A., & Schnicke, M. K. (1992). Cognitive processing therapy for sexual assault victims. *Journal of Consulting and Clinical Psychology*, 60(5), 748–756. <https://doi.org/10.1037/0022-006X.60.5.748>.
- Resick, P.A., Galovski, T.E., Uhlmansiek, M.O.B., Scher, C.D., Clum, G.A. and Young-Xu, Y., (2008). A randomized clinical trial to dismantle components of cognitive processing therapy for posttraumatic stress disorder in female victims of interpersonal violence. *Journal of Consulting and Clinical Psychology*, 76(2). <https://doi.org/10.1037/0022-006X.76.2.243>.
- Rhodes J, Chan C, Paxson C, Rouse CE, Waters M, Fussell E. (2010) The impact of hurricane Katrina on the mental and physical health of low-income parents in New Orleans. *American Journal of Orthopsychiatry*; 80(2):237–247. <https://doi.org/10.1111/j.1939-0025.2010.01027.x>
- Roberts, N. P., Kitchiner, N. J., Kenardy, J., Robertson, L., Lewis, C., & Bisson, J. I. (2010/2019). Multiple session early psychological interventions for the prevention of post-traumatic stress disorder. *Cochrane Database of Systematic Reviews*, (8). <https://doi.org/10.1002/14651858.CD006869.pub3> .
- Rodríguez M.R., Nuevo R., Chatterji S., and Ayuso-Mateos J.L. (2012) Definitions and factors associated with subthreshold depressive conditions: a systematic review. *BMC Psychiatry* 201212:181 <https://doi.org/10.1186/1471-244X-12-181>.
- Ronconi, J. M., Shiner, B., & Watts, B. V. (2014). Inclusion and exclusion criteria in randomized controlled trials of psychotherapy for PTSD. *Journal of Psychiatric Practice*, 20(1), 25-37. <https://doi.org/10.1097/01.pra.0000442936.23457.5b>.
- Rossi, R., Socci, V., Talevi, D., Mensi, S., Niolu, C., Pacitti, F., ... & Di Lorenzo, G. (2020). COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. An N= 18147 web-based survey. *MedRxiv: The preprint server for health sciences*. <https://doi.org/10.1101/2020.04.09.20057802> [accessed 29.07.2020].
- Roulston, A., Clarke, M.J., Donnelly, M., Candy, B., Mcgaughey, J., Keegan, O. and Duffy, M. (2018). Psychological therapies for major depressive disorder and prolonged grief in

bereaved adults. *Cochrane Database of Systematic Reviews* (12), CD013237. <https://doi.org/10.1002/14651858.CD013237> [accessed 29.07.20].

Royal College of General Practitioners (2017). RCGP Position Statement: Mental Health in Primary Care [online]. *RCGP*. Available: <https://www.rcgp.org.uk/-/media/Files/CIRC/Mental-Health---2014/Mental-Health-2017/RCGP-PS-mental-health-nov-2017.ashx?la=en> [accessed 29.07.20].

Royal College of Psychiatrists (2016) Psychiatric services for young people with intellectual disabilities. *College Report CR200*. RCPsych. © 2016 The Royal College of Psychiatrists. Available: <https://www.rcpsych.ac.uk/improving-care/campaigning-for-better-mental-health-policy/college-reports/2014-2016-college-reports> [accessed 29.07.2020].

Royal College of Psychiatrists (2020) Mental health services for adults with mild intellectual disability. RCPsych College Report CR226. *RCPsych*. Available: https://www.rcpsych.ac.uk/docs/default-source/improving-care/better-mh-policy/college-reports/college-report-cr226.pdf?sfvrsn=8220109f_2 [accessed 29.07.2020].

Rumball F, Happe, F and Grey N (2020) Experience of trauma and PTSD Symptoms in Autistic Adults: Risk of PTSD Development Following DSM-5 and Non-DSM-5 Traumatic Life Events. *Autism Research*. (00): 1 – 11. <https://doi.org/10.1177/1362361320927590> .

Runeson, B., Tidemalm, D., Dahlin, M., Lichtenstein, P. and Långström, N., (2010). Method of attempted suicide as predictor of subsequent successful suicide: national long term cohort study. *British Medical Journal*, 341, c3222. <https://doi.org/10.1136/bmj.c3222> .

Saltini, A., Rebecca D., Callera, C., Fernandez, I., Bergonzini, E. & Starace, F. (2018). Early Eye Movement Desensitisation and Reprocessing (EMDR) intervention in a disaster mental health care context. *Psychology, Health & Medicine*, 23(3), 285-294. <https://doi.org/10.1080/13548506.2017.1344255>.

Seidler G H, Wagner F E. (2006) Comparing the efficacy of EMDR and trauma-focused cognitive-behavioral therapy in the treatment of PTSD: a meta-analytic study. *Psychological Medicine*, 36(11): 1515-1522. <https://doi.org/10.1017/S0033291706007963> .

Severance, E. G., Dickerson, F. B., Viscidi, R. P., Bossis, I., Stallings, C. R., Origoni, A. E., Sullens, A. & Yolken, R. H. (2011). Coronavirus immunoreactivity in individuals with a recent onset of psychotic symptoms. *Schizophrenia Bulletin*, 37, 101-107. 10.1093/schbul/sbp052 .

Shapiro, E. & Maxfield, L. (2019). The Efficacy of EMDR Early Interventions. *Journal of EMDR Practice and Research*, 13, 291-301. *Journal of EMDR Practice and Research*, 10(2). <https://doi.org/1933-3196.10.2.59> .

Shapiro, F. (1991). Eye movement desensitization and reprocessing procedure: From EMD to EMDR: A new treatment model for anxiety and related traumata. *Behavior Therapist*, 14(5), 133-135. <https://doi.org/10.1177/1359104598032010> .

Shapiro, F. (2001). Eye movement desensitization and reprocessing (EMDR): Basic principles, protocols, and procedures. Guilford Press. <https://doi.org/10.1002/anxi.3070020302>.

Shapiro, F. (2007). EMDR, Adaptive Information Processing, and Case Conceptualization. *Journal of EMDR Practice and Research*, 1, 68-87. <https://doi.org/10.1891/1933-3196.1.2.68>.

Shevlin M., McBride O., Murphy J., Gibson Miller J., K Todd. Hartman, Levita L, Mason L, Martinez AP, McKay R, Stocks T, KM Bennett, Hyland P, Karatzias T, & Bentall RP. (2020). UK Population Mental Health and COVID-19. Available: <https://www.bma.org.uk/what-we-do/population-health/mental-health/the-impact-of-COVID-19-on-mental-health-in-england>. [accessed 29.07.2020].

Shigemura, J., Ursano, R. J., Morganstein, J. C., Kurosawa, M. & Benedek, D. M. (2020). Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: mental health consequences and target populations. *Psychiatry and Clinical Neurosciences*, 74, 281. <https://doi.org/10.1111/pcn.12988> [accessed 28.07.2020].

Siskind, D., McCartney, L., Goldschlager, R. & Kisely, S. (2016). Clozapine v. first-and second-generation antipsychotics in treatment-refractory schizophrenia: systematic review and meta-analysis. *The British Journal of Psychiatry*, 209, 385-392. <https://doi.org/10.1192/bjp.bp.115.177261>.

Sparrow. (2020). Coronavirus: UK over-70s to be asked to stay home 'within weeks', Hancock says. *The Guardian* (15th March). <https://www.theguardian.com/world/2020/mar/15/coronavirus-uk-over-70s-to-be-asked-to-self-isolate-within-weeks-hancock-says> [accessed 27.07.2020].

Spence, W., Mulholland, C., Lynch, G., McHugh, S., Dempster, M., & Shannon, C. (2006). Rates of childhood trauma in a sample of patients with schizophrenia as compared with a sample of patients with non-psychotic psychiatric diagnoses. *Journal of Trauma & Dissociation*, 7(3), 7-22. <https://doi.org/10.1016/j.schres.2008.12.005> [accessed 29.07.2020].

Steinman, M. A., Perry, L. & Perisinnoto, C. M. (2020). Meeting the Care Needs of Older Adults Isolated at Home during the COVID-19 Pandemic. *JAMA Internal Medicine*, 180(6):819-820. <https://doi.org/10.1001/jamainternmed.2020.1661>.

Stough LM, L. M., Sharp, A. N., Decker, C., & Wilker, N. (2010). Disaster case management and individuals with disabilities. *Rehabilitation psychology*, 55(3), 211–220. <https://doi.org/10.1037/a0020079>.

Stroebe M, Schut H, Finkenauer C (2001) The Traumatization of Grief? A Conceptual Framework for Understanding the Trauma-Bereavement Interface. *The Israel Journal of Psychiatry and Related Sciences*, 38(3-4):185-201. Available: <http://dspace.library.uu.nl/handle/1874/384096>. [accessed 29.07.2020].

Taylor, D. M., Barnes, T. R. & Young, A. H. (2018). *The Maudsley prescribing Guidelines in Psychiatry*. John Wiley & Sons. ISBN: 978-1-119-44260-8.

The Children's Society (2020). Report: "The Impact of COVID-19 on Children and Young People" [online: May 1st]. The Children's Society, 20.

<https://www.childrensociety.org.uk/sites/default/files/cv-19-impact-on-children-report-from-the-childrens-society.pdf> [accessed 28.07.2020].

The Learning Disability Mortality Review (LeDeR) Programme (2018) Annual Review. University of Bristol. Norah Fry Centre for Disability Studies. Available: <https://www.hqip.org.uk/resource/the-learning-disabilities-mortality-review-annual-report-2018/#.XyGDUe98DZ4> [accessed 29.07.2020].

The National Confidential Inquiry into Suicide and Safety in Mental Health (2019) Annual Report: England, Northern Ireland, Scotland and Wales. University of Manchester. <http://documents.manchester.ac.uk/display.aspx?DocID=46558> [accessed 28.07.2020].

Thornton, J. (2020). COVID-19: A&E visits in England fall by 25% in week after lockdown. *British Medical Journal*, 369. BMJ Publishing Group. <https://doi.org/10.1136/bmj.m1848> .

Troyer E.A., Kohn J.N., Hong S. (2020) Are we facing a crashing wave of neuropsychiatric sequelae of COVID-19? Neuropsychiatric symptoms and potential immunologic mechanisms (Apr 13th). *Brain Behavior Immunity*. S0889-1591(20)30489-X. <https://doi.org/10.1016/j.bbi.2020.04.027>.

Tsai, J. & Wilson, M. (2020). COVID-19: a potential public health problem for homeless populations. *The Lancet Public Health*, 5(4), e186-e187. [https://doi.org/10.1016/S2468-2667\(20\)30053-0](https://doi.org/10.1016/S2468-2667(20)30053-0).

UN Educational, Scientific and Cultural Organisation [UNESCO]. (2020). United Nations Educational, Scientific and Cultural Organisation: Global Monitoring of School Closures Caused by COVID-19 [online]. Available: <https://en.unesco.org/COVID-19/educationresponse> [accessed 29.07.2020].

UN News (2020) Preventing discrimination against people with disabilities in COVID-19 response [online: March 19th] <https://news.un.org/en/story/2020/03/1059762> [accessed 29.07.2020].

United Nations Population Fund (UNFPA). (2020). Technical Brief: “Adolescents and Young People & Coronavirus Disease (COVID-19)” [online] *UNFPA* [May 1st]. Available: https://www.unfpa.org/sites/default/files/resource-pdf/COVID-19_Preparedness_and_Response_-_UNFPA_Interim_Technical_Briefs_Adolescents_and_Young_People_23_March_2020.pdf [accessed 28.07.2020].

Van Jaarsveld, C. H., Miles, A., Edwards, R. & Wardle, J. (2006). Marriage and cancer prevention: does marital status and inviting both spouses together influence colorectal cancer screening participation? *Journal of Medical Screening*, 13, 172-176. <https://doi.org/10.1177/096914130601300403>.

van Minnen, A., Zoellner, L. A., Harned, M. S., & Mills, K. (2015). Changes in comorbid conditions after prolonged exposure for PTSD: a literature review. *Current Psychiatry Reports*, 17(3), 17. <https://doi.org/10.1007/s11920-015-0549-1>.

- Van Os, J. & Linscott, R. J. (2012). Introduction: the extended psychosis phenotype—relationship with schizophrenia and with ultra high risk status for psychosis. *Schizophrenia Bulletin*, 38, 227-230. <https://doi.org/10.1093/schbul/sbr188>.
- Verity, R., Okell, L., Dorigatti, I., Winkill, P., Whittaker, C. Imai, L. et al. (2020). Estimates of the Severity of Coronavirus Disease 2019: A Model-based Analysis. *Lancet Infectious Diseases*, 20: 669-77 [online]. Available: [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(20\)30243-7/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30243-7/fulltext).
- Walker, S. (2020) Concerns over Polish government tightening abortion laws during COVID-19 crisis [online: April 14th] *The Guardian* <https://www.theguardian.com/world/2020/apr/14/concerns-over-polish-government-tightening-abortion-laws-during-COVID-19-crisis> [accessed 29.07.2020].
- Wallace C., Wladkowski S.P., Gibson A., White P. (2020). Grief During the COVID-19 Pandemic: Considerations for Palliative Care Providers. *Journal of Pain and Symptom Management* 60(1). <https://doi.org/10.1016/j.jpainsymman.2020.04.012>.
- Wand A.P.F., Zhong B.L., Chiu H.F.K., Draper B., De Leo D. (2020). COVID-19: the implications for suicide in older adults [online: Apr 30th]. *International Psychogeriatrics*. 1-6. <https://doi.org/10.1017/S1041610220000770>.
- Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, Ho R.C. (2020). 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*. 17(5):1729. <https://doi.org/10.3390/ijerph17051729>.
- Wasserman, I. M. (1992). The impact of epidemic, war, prohibition and media on suicide: United States, 1910–1920. *Suicide and Life-Threatening Behavior*, 22, 240-254. <https://doi.org/10.1111/j.1943-278X.1992.tb00231.x>
- Weale. (2020). Sharp rise in number of calls to ChildLine over coronavirus. *The Guardian* (online: Mar 27th). Available [website]: <https://www.theguardian.com/world/2020/mar/27/sharp-rise-in-number-of-calls-to-childline-over-coronavirus> [accessed 29.07.2020].
- WHO and UNHCR (2015). mhGAP Humanitarian Intervention Guide (mhGAP-HIG) Clinical Management of Mental, Neurological and Substance Use Conditions in Humanitarian Emergencies. ISBN: 978 92 4 154892 2. Available [website]: https://www.who.int/mental_health/publications/mhgap_hig/en/ [accessed 27/07/2020].
- Witlox, J., Eurelings, L. S., De Jonghe, J. F., Kalisvaart, K. J., Eikelenboom, P. & Van Gool, W. A. (2010). Delirium in elderly patients and the risk of postdischarge mortality, institutionalization, and dementia: a meta-analysis. *JAMA*, 304, 443-451. <https://doi.org/10.1001/jama.2010.1013>. (accessed 28.07.2020).
- Women’s Resource and Development Agency (2020). Briefing: Domestic Violence and Abuse – COVID-19 and Legislative Reforms. Women’s Resource and Development Agency [online:]

April 27th]. Available:

https://wrda.net/2020/04/27/briefing-on-domestic-violence-and-abuse-COVID-19-and-legislative-reforms/?fbclid=IwAR1bZSkdz1Pv_sJhdKUFdCk3OYZE2jq0ln3lrIE9pTHbigzkEVpkghFU0EI#sdfootnote1sym [accessed 30.04.2020].

Women's Resource and Development Agency and Women's Policy Group NI. (2020) Submission to Westminster Women and Equalities Committee Inquiry: Unequal impact: Coronavirus (COVID-19) and the impact on people with protected characteristics. Women's Resource and Development Agency (online: April 27th). Available: <https://wrda.net/wp-content/uploads/2020/04/WPG-Submission-to-Westminster-Women-and-Equalities-Committee-21.04.20-with-logo.pdf?fbclid=IwAR07ed-5SrKuqxdbJPHbIHmar8K-1BK2jTueO-IJXIA1hlpJvDREGBTto> [accessed 30.04.2020].

Woolford, S.J., D'Angelo, S., Curtis, E.M. Parsons, C.M., Ward, K.A., Dennison, E.M., Patel, H.P., Cooper C., Harvey N.C. (2020) COVID-19 and associations with frailty and multimorbidity: a prospective analysis of UK Biobank participants. *Aging, Clinical and Experimental Research* (July 23rd). Available: <https://doi.org/10.1007/s40520-020-01653-6> .

World Health Organisation (2013). Mental health action plan - 2013-2020. © World Health Organization 2013. Available: https://apps.who.int/iris/bitstream/handle/10665/89966/9789241506021_eng.pdf;jsessionid=D462BA917F6FCE4A49DD5596002240C8?sequence=1 [accessed 29.07.2020] .

World Health Organisation (2013). WHO Guidelines on conditions specifically related to stress. Geneva, Switzerland: WHO Press. Available: https://apps.who.int/iris/bitstream/handle/10665/85119/9789241505406_eng.pdf?sequence=1 [accessed 29/07/2020].

World Health Organisation (2014). World health organisation: Social Determinants of Mental Health. © World Health Organization 2014. ISBN 978 92 4 150680 9. Available: https://apps.who.int/iris/bitstream/handle/10665/112828/9789241506809_eng.pdf?sequence=1 (accessed 29/07/2020).

World Health Organisation [WHO] (2020), Mental Health and Psychosocial Considerations during COVID-19 Outbreak (Mar 18th). WHO/2019-nCoV/MentalHealth/2020.1. Available: <https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf> (accessed 28.04.2020).

World Health Organisation [WHO] website (2020) Mental Health in Emergencies. Available: <https://www.who.int/news-room/fact-sheets/detail/mental-health-in-emergencies> (accessed 27.04.2020).

World Health Organisation [WHO] website (2020), Coronavirus disease (COVID-19) pandemic. Available: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019> (accessed 26.04.20).

World Health Organisation website (2020). Suicide data. Available: https://www.who.int/mental_health/prevention/suicide/suicideprevent/en/ [accessed 30.04.2020].

World Health Organization (2020) Mental Health during COVID-19 Outbreak. Geneva, Organization, 2020. Considerations World Health. WHO/2019-nCoV/MentalHealth/2020.1. © World Health Organization 2020. Available: <https://www.who.int/publications/i/item/WHO-2019-nCoV-MentalHealth-2020.1> [accessed 27/07/2020].

Xie, X., Xue, Q., Zhou, Y., Zhu, K., Liu, Q., Zhang, J., & Song, R. (2020). Mental Health Status among Children in Home Confinement During the Coronavirus Disease 2019 Outbreak in Hubei Province, China. *JAMA paediatrics* [online]. Available: <https://doi.org/10.1001/jamapediatrics.2020.1619>.

Yao, H., Chen, J-H. & Xu, Y-F. (2020). Patients with mental health disorders in the COVID-19 epidemic. *The Lancet Psychiatry*, 7(6). E29-E30. [https://www.doi.org/10.1016/S2215-0366\(20\)30153-X](https://www.doi.org/10.1016/S2215-0366(20)30153-X).

Yeung, D. Y. & Fung, H. H. (2007). Age differences in coping and emotional responses toward SARS: a longitudinal study of Hong Kong Chinese. *Aging Mental Health*, 11, 579-87. [https://doi.org/10.1016/S2215-0366\(20\)30153-X](https://doi.org/10.1016/S2215-0366(20)30153-X).

YOUNG MINDS. (2020). Coronavirus: Impact on young people with mental health needs [online]. Available: https://youngminds.org.uk/media/3708/coronavirus-report_march2020.pdf. [accessed 29/07/2020].

Zanarini, M. C., Frankenburg, F. R., Hennen, J., Reich, D. B., & Silk, K. R. (2004). Axis I comorbidity in patients with borderline personality disorder: 6-year follow-up and prediction of time to remission. *American Journal of Psychiatry*, 161(11), 2108-2114. <https://doi.org/10.1177/070674371506000702>.

Zhang, J., Shuai, L., Yu, H., Wang, Z., Qiu, M., Lu, L., Cao, X., Xia, W., Wang, Y., & Cheng, R. (2020). Acute stress, behavioural symptoms and mood states among school-age children with attention-deficit/hyperactive disorder during the COVID-19 outbreak. *Asian Journal of Psychiatry*, 51, 102077. <https://doi.org/10.1016/j.ajp.2020.102077>.