

How COVID-19 has impacted Mental Health Services.

Abstract

The COVID-19 pandemic has had a disastrous effect on the UK healthcare system both directly and indirectly, including mental health services. A literature search was performed using PUBMED, Google Scholar, PsychInfo, Cochrane Library and Embase to gather all research outlining how the pandemic had impacted primary and secondary mental health care services. This essay aimed to explain the current organisational structure of mental health services and the ways COVID had affected both the structure and the functioning of these services from diagnosis to treatment. Huge changes occurred as COVID-19 cases rose, including the closure of GP surgeries reducing referrals; the closure of Psychiatric wards; and the switch to virtual care for most services. Despite the changes, the evidence showed that in most cases a quick and effective switch in practice, led to those requiring mental health services the most, still receiving care.

Background

The 2019 novel coronavirus (COVID-19) has dramatically shifted the way society has functioned over the last year, especially in the healthcare sector. Since being officially declared a pandemic on the 11th March 2020, there have been almost 120 million confirmed cases worldwide and has led to over 2.6 million deaths as of 15th March 2021.¹ The COVID-19 virus is highly infectious and is transmitted by “cough, sneeze, droplet inhalation, contact with oral, nasal and eye mucous membranes” and can be transmitted through aerosol and medical procedures.² Infection with the virus causes a spectrum of disease ranging from mild cold symptoms to severe COVID pneumonia requiring hospital admissions.³ Due to this the NHS has had to undergo huge changes to reduce COVID-19 outbreaks in healthcare settings, and to divert resources to treat the large numbers of patients suffering from COVID-19 related disease.⁴ The UK Government have also enforced several public health policies to help control the spread including three Nationwide Lockdowns, tiered restrictions, shielding and quarantining for the most vulnerable and those with a positive COVID-19 swab.⁵

Research from the first six weeks of lockdown (n=3000) beginning the 31/03/20 showed a clear increase in mental health problems when compared to the pre-pandemic. Worryingly, rates of suicidal ideation increased from week 1 to week 6, despite reductions in feeling of entrapment.⁶ There have not been any clear increases in prevalence of suicides the UK in 2020 compared to other years, however, since it takes 5-6 months for a coroner report to confirm suicide, we will only have an accurate idea at the end of 2021.⁷ Importantly, one of the subgroups most affected from the effects of COVID-19 and lockdown were those with pre-existing mental health problems.⁶

Evidence suggests the pandemic and social policies that occur with it may have a heightened effect on those with psychotic symptoms and Schizophrenia.⁸ On one end people with schizophrenia will be more susceptible to catching COVID-19 due to several factors. These include impairments in insight, decision making, a lower awareness of risk and a reduced ability to adhere to infection control measures (social distancing, hand-washing, lockdown rules).^{9,10} This coupled with the fact that people who suffer from Schizophrenia are more likely to belong to vulnerable populations (lower income; homeless; incarcerated) which puts them at a greater risk of contracting COVID-19.^{11,12} This increased risk of transmission leads to an increased chance of hospitalisation, which could be damaging if liaison psychiatric services are reduced or restricted due to hospital policies. There is also research suggesting that due to the heightened immune state or the pharmacological treatments, contracting COVID-19 may precipitate psychotic relapses in patients with known psychotic disorder.¹³ On the other end continuity of care, outpatient appointments and inpatient visits may be disrupted by the pandemic, leading to worsening mental health in service users with severe mental illness and psychotic disorders.

With the top-down changes in Mental Health and primary care services due to COVID-19, it is unclear whether this increased prevalence of mental health problems can be appropriately dealt with under the NHS. This review of literature aims to explain how the current mental health service in the UK is organised and explore how those services have adapted to the changing healthcare landscape caused by the pandemic.

Organisation of Mental Health Services in the UK

Pre-NHS, mental health services were dictated by the 1890 Lunacy Act alongside the 1930 Mental treatment act which allowed hospitals to treat “lunatics” (patients with mental illness) without certification.¹⁴ Patients were kept inside Victorian Mental health asylums for years on end and contact was cut from the outside world.¹⁵ Whilst the creation of the NHS in 1948 did not have an immediate effect on mental health services, the 1959 Mental Health Act and the 1962 Hospital Plan heralded the beginning of removing the archaic mental health practices and aligning psychiatry into the wider medical system.¹⁴ After several years of restructuring and a speech by Enoch Powell, large asylums were closed and mental health care moved away from an in-patient model to a community care model, aided by the 1990 NHS and community care act.¹⁴ Whilst NHS mental health trusts can be run differently across the country, mental health services are split into primary care, community mental health teams and in-patient care (see figure 1)

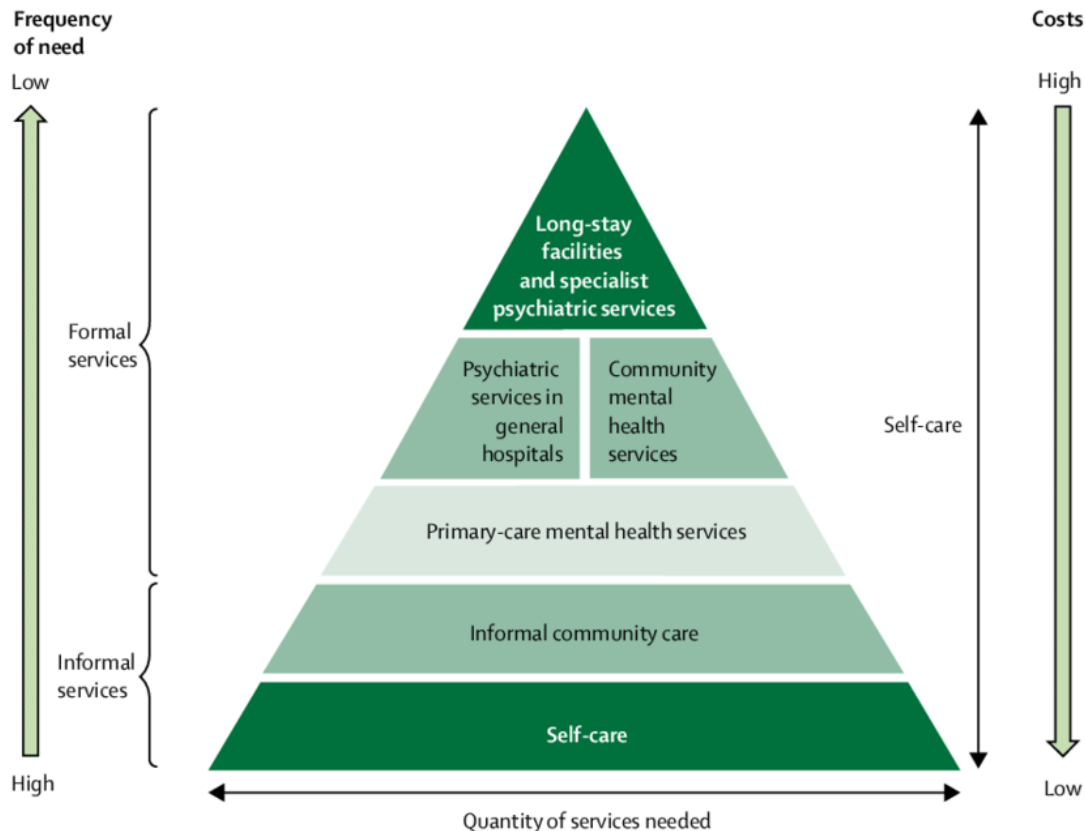


Figure 1: WHO pyramid model of mental health care¹⁶

Primary care in the UK, is known colloquially as the “front door” of the NHS and comprises of General Practices which house GPs (general practitioners), as well as nurses, pharmacists and other community based staff.¹⁷ The role of GP’s in providing mental health care is threefold:

- To assess, diagnose and treat common mental disorders (depression and anxiety disorders: General Anxiety Disorder, Panic disorder, Phobias, Social anxiety disorder, Obsessive Compulsive Disorder and Post-Traumatic Stress Disorder) if severity is mild to moderate.¹⁸ Treatment could be through pharmacological therapies, or through psychotherapy which can be referred to under the IAPT (Improving access to Psychological therapies) scheme. This scheme provides a range of accredited therapy, from Cognitive Behaviour Therapy (CBT), Interpersonal Psychotherapy (IPT) and talking therapies free-of-charge. The services available does vary between Clinical Commissioning Group’s.^{19,20}
- To refer patients with more severe mental illness to secondary care, either straight to an outpatient psychiatrist, to a community mental health team or to inpatient services if there is an acute presentation. This involves patients with severe presentations of common mental disorders including those with suicidal ideation, alongside patients with more severe mental illness such as Schizophrenia, Personality Disorder and Bipolar Disorder, which must be assessed, diagnosed and treated in secondary care.^{21–23}
- To provide long-term support to those suffering from severe mental illness, such as lithium monitoring, arranging CBT and other therapies, and making sure patients are remaining compliant with medications. They also see the patients more regularly than psychiatrists and thus can perform mental state examinations to assess if their condition is at baseline.²⁴

There has been a rise in the inclusion of bridging services between Primary Care and Secondary care which have different names across CCGs but are essentially primary care liaison psychiatric services.²⁵ Depending on the service, the teams will involve psychiatrists, psychologists and mental health nurses who will come to the surgery and hold clinics for

patients that exist in the middle space, where their symptoms are too severe to be treated by GPs but not severe enough to need secondary services.²⁵

Secondary mental health care is then further separated into two: community mental health services and inpatient mental health services.

Community Mental Health Teams (CMHT) also differ amongst various NHS mental health trusts but are used to assess, diagnose and treat moderate to severe mental illness in 18-65 year olds, in the community setting.²⁶ CMHTs usually consist of psychiatrists, community mental health nurses, social workers, occupational therapists, clinical psychologists and pharmacists. The teams will work in several areas, some may have a base or a clinic, others work out of GP surgeries, and many focus on home visits to patients' houses.²⁷ It is common for patients to receive a key-worker/care-coordinator (mental health professional) that act as a patient's first point of contact and will help make and manage a patient's care plan.²⁶ There are multiple specialist CMHT teams with different NHS trusts utilising a variation of teams working alongside each other. One of the most common teams are the early intervention psychosis (EIS)/ first episode psychosis team. This team usually work with people between 14 to 65 who have been given a provisional diagnosis of psychosis, and aims to assess and treat with NICE recommended package of care within 2 weeks.^{27,28} Another important team is the Crisis Resolution and Home Treatment Team (CRHT) which aims to provide social and psychological help to people 16 or over who require urgent mental health care due to being at risk to themselves or others.²⁹ Other specialist teams include forensic (treats individuals who have offended or have potential to offend due to a mental illness or personality disorder); Perinatal (treats individuals suffering from psychological distress/psychosis during and post pregnancy); and assessment and brief treatment (first point of entry into community mental health teams, will triage, assess and provide brief treatment for people with moderate to severe mental illness that are referred by primary care).³⁰⁻³²

Finally, there are in-patient secondary care services, which provide care for patients detained under the mental health act, or those that are informally admitted. These services are usually

found in a hospital or on a hospital campus and are usually run by consultant psychiatrists. Similarly, to community teams, staff include mental health nurses, occupational therapists, clinical psychologists and pharmacists. In-patient services also have junior and speciality trainee doctors to help manage the patient load. Acute in-patient wards provide care for 16–65-year-olds, usually for less than 90 days. Wards are single sex and are sometimes split into admitting, short stay and general adult wards. Psychiatric intensive care units (PICU) are secure wards for compulsory detained patients undergoing an “acutely disturbed phase of a serious mental disorder”. Staffing levels are higher than normal acute wards, often with a 1:1 patient-nurse ratio. Various specialist wards can also be found depending on the site, including elderly, residential psychotherapy for personality disorder, eating disorder, learning disability, forensic, rehab, crisis housing and inpatient substance misuse beds.

COVID-19’s impact on Primary Care Mental Health Services

As with every area of healthcare there have been dramatic changes to GP surgeries, which has led to equally drastic changes in primary care mental health provisions.³³ The week beginning

16th March 2020, the majority of GP practices migrated from the traditional face-face service to one where the majority of patients were seen virtually by video or phone call, and face-to-face appointments if needed occurred later in the day.³³ As with other areas of healthcare, the availability of Personal Protective Equipment (PPE) and proper testing for staff was slow to roll out at the beginning of the pandemic, which both endangered the health of staff members, and meant staff were more likely to have to self-isolate at home with mild symptoms that may not have been caused by COVID. Several GP's across the UK died from COVID-19 due to inadequate PPE.³³ Appointments in general reduced hugely around this time with a drop of over 11M appointments per month (~41%) from January 2020 compared to April 2020.³⁴ This reduction sustained through the year with the total appointments between Apr-Sep 2020, reducing 16.51% compared to the total appointments from the corresponding period in 2019.³⁴ Current figures for Feb 2021 shows only 55% of primary care consultations took place face-to-face, compared to 80% in Feb 2020 indicating the dramatic rise in telemedicine.³⁴

These changes were evident in the execution of primary care mental health care with a reduction of over 10% in new referrals to general adult mental health services (secondary care/IAPT) between April-August 2020, compared to the previous year.³⁵ In the same time period there was a 14.8% reduction in the number of people in contact with NHS adult mental health services, reflecting the lowered referrals made by primary care. A large-scale nationwide cohort-study by Carr et al used electronic patient records from 1,697 General Practices across the UK to identify how COVID-19 had affected mental health provisions for 14,210,507 patients.³⁶ This study analysed data from March-Sep 2020 to outline the long-term effects of the pandemic, as well as Apr-May 2020 to show the initial effect it had. Pre-pandemic data (Jan 2010-Feb 2020) was used to provide an accurate and statistically viable expected incidence for each variable measured, to compare with the incidences seen during the pandemic. In April 2020, a sharp and substantial percentage reduction was found in the incidence of coded depression, anxiety disorders, antidepressant prescribing, and self-harm, compared with expected rates, for all four UK nations. There are several reasons why this sharp decrease occurred, including a reduction in appointments, a hesitancy from the public to

engage with healthcare services during a pandemic, as well as lockdown potentially reducing psychological stressors due to the pausing of education and employment across the UK.

In English practices between April and March the incidence of primary care recorded depression was found to be 43% lower than expected, anxiety disorders were down 47.8%, self-harm was down 37% and the incidence of first antidepressant prescribing was 36.4% lower than expected. Incidences for all of these gradually increased in the coming months and returned to baseline by September 2020. The drop in benzodiazepine prescribing wasn't as severe in April/May compared to the other measures, however, the incidence remained low into September. The pattern of change over time in incidence of depression, anxiety, self-harm and prescribing were slightly different in Scottish, Welsh and Northern Irish general practices. Not only was there a greater percentage drop during Apr-May in depression, anxiety and prescribing incidence compared to English Practices, but also the rates remained 1/3 lower than expected through to September 2020. There was also a huge 75% reduction in referrals to mental health services in April in Scottish, Northern Irish and Welsh practices. The study also found that more deprived communities were affected disproportionately by COVID, as patients registered with practices located in deprived areas had a greater fall in primary care recorded mental disorders and referrals to mental care services.³⁶

Similar studies were performed in Cambridgeshire & Peterborough and Salford defining the impact of COVID-19 on physical and mental health services.^{37,38}

Chen et al found an early sharp drop in referrals to primary care mental health services in Cambridgeshire & Peterborough from March 2020 to May 2020, post initial lockdown. There was also a significant drop in referrals to IAPT services. Neither rate of referrals was back to expected levels by 22.05.2020, which was the last date data was recorded. The study found a reduction in calls to the NHS 111 mental health crisis line, and no increase in attendance at Emergency Departments or Minor Injury Units, showing that the reduction in primary care services did not have a knock-on effect on self-referral pathways. This showed that as supply of services reduced in the area so did demand for mental health services. Nevertheless,

mortality for those with Severe Mental Illness (SMI), especially in the over 70s was significantly more than the mortality of those without (SMI), indicating that reduction in services might have had an effect.³⁸ Chen et al also performed a controlled, interrupted time series (CITS) study on the same population and found that whilst referrals for mental health services dropped for all subgroups (with regard to gender, age, ethnicity and marital status) not all subgroups had the subsequent accelerations in referrals. No early acceleration was seen in those aged ≤ 19 or ≥ 65 even though both groups were suspected to be at greater vulnerability to mental health problems due to social distancing measures and lockdown.³⁹ Whilst, the elderly population were more isolated during this time, and an increase in anxiety was expected, the increase risk of mortality from COVID possibly caused a negative effect on mental health seeking behaviours. This is supported by the fact that a similar lack of significant acceleration of referrals were seen in ethnic minorities (whereas there was a huge acceleration in white people), as ethnic minorities were also at an increased risk of hospitalisation and mortality from COVID-19.³⁹

Williams et al used electronic health records from Jan 2010 to May 2020, to assess the difference in first diagnoses and first prescriptions in 47 Salford GP's during the COVID pandemic.³⁷ A large reduction in clinical code recording was seen across the board, including symptom, observations, and diagnostic codes. The one exception being codes for medication prescriptions which increased pre-lockdown and only dropped by a modest amount following lockdown. This was most likely due to the automated nature of prescription coding. There was a 50% decline from the 2147 first diagnoses of common mental disorders (CMD) that were expected during the period of March 1 to March 29, with only 1073 diagnoses of CMD reported. There was also a 39% reduction in first prescriptions of SSRIs (selective serotonin reuptake inhibitors) compared to expected prescriptions during this period.³⁷ These reductions in CMD first diagnosis and first prescription anti-depressants clearly match the national reductions seen in the analyses performed by Carr et al.³⁶ Due to the use of routinely collected patient data, it is not clear whether the reduction in diagnoses are due to a reduction in actual diagnoses or whether there was a reduction in the coding of the diagnoses (due to medical coders not coming into work etc.). Whilst both factors are likely at play, the reduction in

prescribing, which is fully automated, points to the likelihood that the reduction in coding was due to true mental health disorder cases going undetected and undiagnosed.

COVID-19's impact on Community Mental Health Services

The community mental health service was hit just as hard during the start of the pandemic. Since the community team provides vital continuous services to those with the most severe mental illnesses, it was important to adapt quickly to the pandemic to prevent any serious incidences, and severe relapses in service users. The Coronavirus Act 2020 is a law that was passed to help mental care professionals cope with the abnormal conditions caused by the

pandemic. The Act makes legal changes to how the Mental Health Act 1983 works with regard to sectioning, however changes could only be made in emergency situations. During the emergency period an approved mental health professional only requires recommendation from one doctor who specialises in mental health, rather than the two doctors that is usually require, to put patients on a section 2 (detain in hospital for up to 28 days for assessment) or a section 3 (detain in hospital for up to 6 months for diagnosis and treatment). Section 5(4) holding powers, which allows nurses to keep voluntary patients from leaving for up to 6 hours to get seen by a doctor, has been extended to 12 hours during an emergency period.^{40,41} Whilst these amendments to the Mental health act were put in place, they were not enacted in England, however some changes were enforced in Wales.⁴¹ Changes to medico-legal hearings (switch to remote tribunals) and section 12 renewal for psychiatrists (12 month extension) were also made.^{42,43}

Guidance was disseminated by NHS England, in March 2020 and subsequently updated in November 2020, to inform clinical and non-clinical teams how to manage community services during COVID.⁴⁴ Core Principles dictated that all people with a mental health need, learning disability or autism, should be provided with the same level of care and protection from COVID-19 as other members of the population, regardless of age. Teams were asked to make difficult decisions that balance clinical needs of patients with the safety of patients, staff and the public. Critical services were asked to be maintained included services offered in the community, and ethics committees were made mandatory to ensure correct prioritisation of recourses along with service delivery. Changes to policies regarding family visits and face to face contacts were advised, along with a push for digital consultations to maintain continuity of care. Nevertheless, providers were expected to ensure that both COVID secure face to face and digital consultations were available to cater for both the patient's choice and the clinical needs of the patient. Patients' ability to adapt to alternative technologies as well as any safeguarding concerns should have prompted a face-to-face consultation. Lastly, staff well-being is paramount and providers were advised to signpost to relevant support.⁴⁴ Activity that didn't directly affect care provision were temporarily halted including: non-essential staff meetings,

audit and quality improvement initiatives, non-essential teaching and training, research and trials.⁴⁴

The Royal College of Psychiatry also provided advice on its website as to adaptations for both community mental health teams as well as inpatient mental health teams.⁴⁵ Those with higher needs should be identified based on multiple factors including risk, mental and physical health acuity, the support network they have and accommodation. Patients on medications such as lithium, clozapine, valproate and high dose anti-psychotics, with high incidence of side effects should be carefully monitored to prevent unnoticed side effects from occurring. Extra care had to be made to ensure community patients who require depot injections along with those who require physical health monitoring received their usual care. Home visits should be approached with caution, and telephone screening must be done in all circumstances. Door step evaluation of patients could be used as an alternative to minimise risk.⁴²

Chen et al found in Cambridgeshire and Peterborough there was a sharp reduction in referrals to all secondary mental health teams aside from the Early Intervention in Psychosis team.³⁸ This drop in referrals coincided with the start of the first lockdown, and gradually returned to normal levels by September. Cambridgeshire and Peterborough Foundation Trust (CPFT) closed many secondary mental health services to non-urgent referrals, and many staff were redeployed to the CPFT's first response team which provided crisis support. There was no evidence found of any compensatory rebound that showed referral levels spike past the initial levels. This possibly indicates that the people who were vulnerable and needed to be seen and treated were referred, and those who's referrals didn't occur were not strongly affected by the wait. This is backed up by reporting's that changes in referrals for those with a known serious mental illness (SMI) were much less than those without a recorded SMI. Furthermore, there were no drop in referrals to crisis teams and a less steep drop in referrals to community mental health teams in those with SMI. Chen et al also found there to be no changes in section 136's issued by the police reflecting that a decrease in mental health services didn't translate into mental health crisis's occurring out in public.³⁸

Referrals to the Crisis Resolution and Home Treatment team in Leicestershire also had a sharp drop in the four weeks following lockdown.⁴⁶ Abbas et al used electronic patient records and the Leicester Partnership Trust reporting tool to analyse the immediate effect of lockdown on its community and in-patient mental health services. A 12% drop in referrals was reported from 16th March-16th April, compared to an average of 2018 and 2019 during the same month. Whilst the drop was apparent, the percentage reduction in referrals was still small especially considering the drastic changes made in primary care at the start of the pandemic. This small reduction was reassuring in indicating that those with a strong need for psychiatric care were still being assessed and referred in such an unprecedented time. This may also indicate that thresholds for referral to the CRHT were already high to begin with, so only those with the most severe illness were getting referred and those with the more severe illness would also be more likely to present to mental care services despite the physical health risk of COVID-19. Chakraborty et al used the same electronic patient records to assess how Early intervention in Psychosis (EIP) have changed in the Leicester Partnership Trust.⁴⁷ Using the same methodology and time-frame as Abbas et al's study, Chakraborty found that referrals to EIP dropped from 14 per week pre-lockdown to 8 per week post lockdown. This drop is expected due to the majority of EIP referrals coming from primary care, which hugely limited patient contact during the first lockdown and therefore psychosis screening was not carried out frequently. Furthermore, there was a sharp reduction nationally to A&E, due to the fears of infection, along with hesitation due to the national lockdown, which no doubt would have reduced people with psychosis presenting to ED.⁴⁸ However, percentage of referrals accepted during this period remained similar, indicating that EIP services were still able to provide vital support, despite the changing healthcare landscape.⁴⁷ Patient contact with EIP services over the first four weeks of lockdown remained unchanged reflecting a quick and effective transition to non-face-to-face consultations that maintained continuity of care for new and existing service users.

The early impact of COVID on community and home treatment teams was studied by Stewart et al for the South London and Maudsley catchment.⁴⁹ The South London and Maudsley foundation trust (SLaM) cover 1.2 million residents residing in Croydon, Lambeth, Lewisham and Southwark. Records from this trust are fully electronic and updated daily allowing

researchers to quickly and accurately identify how the pandemic has affected community mental health services quantitatively. Using de-identified data from the 1st of February 2020 to the 15th of May 2020, activity and caseloads for both community mental health teams (CMHT) and home treatment teams (HTT) were analysed and compared to pre-pandemic (16th March) numbers. Contact data was collected from electronic health records which were divided into face-to-face contacts and virtual contacts for both CMHT and HTT along with mortality data across the SLaM trust. Compared to pre-pandemic there was a 14.6% (702 to 599) reduction in mean total daily contacts for the working age CMHT's, whilst there was a greater reduction of 24.9% (161 to 121) for HTT's. There was an understandable and clear reduction in face-to-face appointments, with both CMHT and HTT reducing by over 50%. The high reduction in face-to-face appointments for home treatment teams is especially worrying for service users requiring depot injections, or close side effect monitoring. This consequently led to a spike in virtual contact for both CMHTs and HTTs which increased by 147% and 102.7% respectively. The impact on daily caseload for CMHTs were minor, only suffering from a 2% reduction, however there was a more dramatic 26.4% reduction in daily caseloads for the HTTs. Nevertheless, this reduction showed signs of reaching regular levels as there was a 12.2% increase in daily caseloads in May compared to the March-April period. Mortality data showed that over the period of March to May there were 2.4 times more deaths of current and past SLaM service users, compared to the same period in 2019.⁴⁹ Using data from the Office for National Statistics, across Lambeth, Lewisham and Southwark there were approximately 1.6x more deaths (2297 in 2020 vs 1448 in 2019) for the corresponding period. Whilst this is a very crude comparison that is not adjusted for age, sex and ethnicity there is a suggestion that there was a greater mortality rate in service users of SLaM compared to the general public in South London.⁵⁰ This corresponds with findings from Chen et al, that those with SMI had a greater mortality rate even when adjusted for age, sex and ethnicity compared to those without.³⁸

The early stages of the pandemic clearly left community services in an unprecedented position and whilst the above figures show the changes made numerically, Lyne et al outlined how services in Dublin and Wicklow adapted.⁵¹ Regular meetings were a cornerstone in quickly reacting to the changing healthcare landscape, with clinical directors, executive clinical

directors and service managers initially meeting daily. These senior management meetings involved local consultant psychiatrists to forge appropriate changes in service provisions. To begin with adequate PPE and hand sanitiser was secured and healthcare staff were given appropriate education in using it to aid infection control. The members of staff and service users who were most at risk were identified early and adjustments were made accordingly. These meetings laid out how sites maintained social distancing, including preventing shared office spaces, spacing out bed capacity on the wards, and making most in-person meetings, virtual. Staff were advised to work from home where possible which was easier for the services with access to electronic patient record systems. There was also a bolstering of staff rosters to allow for shielding staff, or those who got infected and had to quarantine. Telephone clinics were used in the early stages whilst videoconferencing systems were in the process of being put in place. Due to age or geographical regions, not all patients on the service had adequate access to technology and broadband, and therefore telephone or face to face appointments were made (Perspex screens, masks and social distancing were employed). Intervals between injections for long-acting antipsychotics were stretched, and services attempted to reduce home visits for delivery of clozapine and long-acting injectable medication. GPs were given better access to psychiatrists on the phone, so that the patients who needed immediate assessment were given same day outpatient appointments. As found by Chen et al, the closure of some secondary services offered in primary care and the reduction in other mental health services did not show an immediate impact on CMHTs.³⁹ Whilst this pandemic has had countless negative effects on mental health services, it has led to a robust and functional telemedicine system, along with more effective governance meetings which will lead to better clinical practice in the future.

COVID-19's impact on Inpatient Mental Health Services

As with primary care and community mental health services, in-patient care drastically changed. A change to ward layouts, reduction of both patients and staff on the wards, limiting procedures involving physical touch and blanket ban on visitors were placed in hospitals across the UK, including psychiatric wards.⁵² Several papers have explored how in-patient psychiatric care has changed, along with the different demographics of patients admitted.

The effect COVID-19 has had on psychiatric wards is far-reaching, and a case-report of a COVID outbreak on a busy PICU in London early in the pandemic (mid-March) revealed how quickly and efficiently in-patient mental health services needed to change.⁵³ Due to the nature of severely mentally unwell patients, especially those in an acute psychotic episode, along with the initial ward layout, COVID-19 had an extremely rapid transmission on this PICU ward and undoubtedly wards across the UK. Another distinction between psychiatry wards and general hospital wards is in personnel, where the mental health nurse workforce has limited knowledge and experience managing acutely medically deteriorating patients due to differences in training compared to general nurses. This may possibly have led to a steep learning curves in PPE, infection control procedures and medical management of unwell patients not severe enough for medical admission. This particular PICU had its first patient with COVID in mid-March who within only 13 days had infected all 9 patients on the ward, with one requiring medical admission. Despite a younger average age (34) the proportion of severe cases of COVID-19 on this ward was higher than reported global population figures, reflecting the seriousness of the problem. Adequate PPE was available throughout the outbreak, however isolating, zonal segregation, seclusion and a reduction in face-to-face interactions were clearly not enough to prevent spread. Ethical considerations over whether the Coronavirus Act alongside the Mental Health Act, allowed practitioners to detain patients in their rooms, to prevent spread of infection and harm to others.⁵³

Chen et al 's study on the impact of COVID-19 in Cambridgeshire and Peterborough also captured data on inpatients services as well as liaison psychiatry referrals.³⁸ They found a sharp reduction in detained (sectioned) and informal (voluntary) inpatients at lockdown. This change indicated both a reduction in admissions along with a push to discharge the more stable patients just before lockdown began. The reduction in admissions were partly due to the steep decline for inpatients across non-mental health hospitals, which reduced referrals from other wards in the hospital. Furthermore, the changes in primary care and community service provisions also aided with the drop in new admissions. Nevertheless, the fact that Mental Health act usage remained unchanged throughout, indicated that clinicians often viewed the

risk of contracting COVID as outweighing the benefit of admission. Isolation areas were formed on some mental health wards, and available beds were reduced severely to prevent spread of infection. One of the CAMH wards were completely closed for 3 months. Inter-ward transfers were immediately curtailed at lockdown as the usual system of having patients move from an admission ward to a treatment ward and finally to a rehab ward, was temporarily halted. The reduction in admissions were sustained up until September, indicating that threshold for admission, particular for informal patients, was adapted. There was no change in mental health presentations in CPFT, which were reported in other trusts.

Abbas et al's study also analysed how acute in-patient care changed in Leicestershire in the four-week period following lockdown. An average 20% drop in inpatient admissions was seen when compared to the same period in 2018 and 2019. There were no statistically significant differences in age, gender, race and housing status between the 2019 control group and the COVID group. There were however statistically significant differences in primary diagnoses on admission compared to the control group. There was both an increase in patients presenting with schizophrenia, schizotypal, delusional and other non-affective psychotic disorders (52% vs 35%), as well as an increase in patients admitting with bipolar disorder/mania (25% vs 15%). Consequently, there were a decrease in percentage of patients with a diagnosis of depression (8% vs 16%); anxiety disorder (0% vs 3%) or adjustment disorder (0% vs 8%). Diagnoses of personality disorders also dropped during the COVID period with emotionally unstable personality disorder dropping from 15% to 6% and other personality disorder diagnoses reducing from 5% to 0%. These changes could indicate that COVID-19 precipitated increased symptomology in patients with more severe mental illnesses, such as schizophrenia and bipolar disorder, however it is more likely that the threshold for admission was raised, and the patients with these diagnoses were deemed more at risk.⁴⁶ The impact of COVID-19 on symptomology was evident however, with 35% of inpatients admitted reporting a clinically significant fear/anxiety of contracting COVID-19 and 13% indicated the social consequences of the pandemic (lockdown, job and study changes, isolation) precipitated their admission. During admission one third of patients (mainly psychotic patients) were reported to have developed COVID-19 related auditory/visual hallucinations as well as delusions related to the virus.⁴⁶ There was a

reduction in informal patients admitted during the COVID period, in line with findings by Chen et al, however whilst usage of the mental health act did not change in Chen's study, there was an increase in mental health act use in Leicestershire Partnership Trust.^{38,46}

The effect of COVID-19 on self-harm presentations were documented by McIntyre et al, at a tertiary hospital in Ireland.⁵⁴ The study compared data from 1st March to 31st May 2020, with the same period in 2019, and found reduction in referrals to the liaison psychiatry team of 31.9%. A modest decrease of 8.5% were seen in referrals due to self-harm, which contrasted with the decrease of presentations of other psychiatric indications. Whilst presentations of self-harm dropped in the first month of lockdown by 35% compared to the three previous years, it rose by 104% the following month. The characteristics of the population presenting with self-harm remained similar in 2020 compared to previous years. Worryingly, however, the severity of the self-harm presentations was significantly worse during the COVID period, with 2.7 times rise in percentage of patients requiring medical or surgical management, compared to previous years (24.4% vs 8.9%). A shift in the underlying diagnosis of the self-harm event was also noted, with a statistically significant increase in patients with a background of substance abuse. A few trend differences were also seen, despite the pandemic, including a rise in self-poisoning, an increased percentage with severe mental illness including a rise in those with adjustment and anxiety disorders. A trend decrease was seen with cutting as the form of self-harm, along with a decreased trend of patients with an underlying diagnosis of depression and personality disorders. The extremely low-levels of self-harm patients presenting in the first month of the pandemic (Mar-Apr), may be explained by the reduced access to shops and pharmacies, which would reduce the means to self-harm. Furthermore, many people were in lockdown with friends or family, which would make self-harm more difficult to carry out and hide from the rest of the household. Nevertheless, a more likely explanation is that people who had self-harmed may have refused to seek medical attention, due to the severity of the virus, as well as perceived infection risk of attending hospital. The easing of lockdown in Ireland was followed by a steep increase in self-harm presentations which could indicate public felt safer attending hospitals therefore more willing to present for less severe reasons; found it easier to self-harm outside their home, or when home was empty;

environmental pressures of school, employment or other psychosocial reasons returned once the cocooning ended.^{54,55} Retrospective research should be carried out to determine what the cause of the spike in severity and presentation in self-harm was, however, national research has not encountered a clear increase in self harm presentation and severity during COVID-19.^{55,56}

Conclusion and Future Directions

The COVID-19 has clearly had far-reaching and long-lasting implications on the NHS and more specifically mental health services in the UK. The pandemic required services, from primary care across to tertiary care, to adapt to a changing healthcare landscape. Whilst mental health problems seemed to be worsened due to the pandemic and its biopsychosocial repercussions, most evidence points to a quick and effective switch in practice, that allowed those who truly needed mental health services to receive it. Whilst big changes were required across the UK from reducing ward capacity, shutting down services, increasing crisis telephone capacity, making appointments virtual and suspending house visits, we did not see a huge spike in

mental health presentations past usual levels for most conditions in the UK. On the whole patients who were truly vulnerable and seeking acute mental health care received adequate care, and resources were effectively redeployed to the areas needed the most. We found the demographic of patients on the wards, shifted towards those with psychotic or very severe non-psychotic illnesses, whereas those with less severe presentations were discharged early. Regular meetings with senior management and senior clinical staff in every service forged a way to a healthy balance for patients of risk from their mental health and risk of contracting COVID. Whilst data did suggest that mortality rates were higher for those with severe mental illness, an increased suicide rate that has been associated with other pandemics, has not been reported in the UK. This may indicate that the pandemic had a cohesion effect that brought a previously very divided kingdom, together.

A huge part of the NHS's ability to provide aid to new patients and continuity of care for existing patients was the transition to virtual and telepsychiatry, which many are lauding as a silver lining to the pandemic. The pandemic has been labelled the big bang for digital psychiatry by Dave et al, who believes that it will evolve the way psychiatry is practiced forever.⁵⁷ There are many archaic and resistant to change legislating bodies such as the GMC, Royal Colleges, clinical guidance and NHS Trusts, that make facilitating a new digital system difficult. Furthermore, those that suffer from severe mental illness are more likely to be from a lower income demographic and may not have access to technology and connectivity most of the UK take for granted. Nevertheless, for many people being able to attend appointments online, will be far more convenient both during a pandemic and outside of one. Anecdotally, there has been a reduction in DNA's (did not attend) with virtual outpatient appointments, and when completed with video function, most of the Mental State Examination can be carried out as if face-to-face (which cannot be said for telephone consultations). Digital Psychiatry is not just used for virtual consultations and allowing clinicians to work from home, it also has exciting future uses that may be embraced quicker due to this "big bang". For example, group therapy sessions could be performed online to improve access for those without services near them; computerised software such as AVATAR therapy which uses 3D models to help with auditory

hallucinations in those with schizophrenia; and using AI to help risk satisfy thousands of patients to prevent vulnerable patients from slipping through the net. ^{58,59}

COVID-19 is not yet over, and the impact that it has had on patients suffering from all mental disorders has yet to be fully realised. Nevertheless, the new ways of working may have led to a new dawn in psychiatry.

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