

The need for early intervention for psychosis to persist throughout the COVID-19 pandemic and beyond

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In the last three decades, early intervention for psychosis (EIP) services have been established worldwide and have resulted in superior symptomatic and functional outcomes for people affected by psychotic disorders. These improved outcomes are a result of reducing delays to treatment and the provision of specialised, holistic interventions. The COVID-19 pandemic poses significant challenges to the delivery of these services, such as undetected cases or long delays to treatment. Furthermore, the COVID-19 pandemic will likely increase the mental health needs of communities, including the incidence of psychotic disorders. In this perspective piece, we provide suggestions as to how EIP services can adapt within this environment, such as utilising novel technologies. Finally, we argue that despite the economic consequences of the pandemic, the funding for mental health services, including EI services, should be increased in line with the need for these services during and beyond the pandemic.

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The last three decades have seen the advent and worldwide adaptation of early intervention for psychosis (EIP) services (Jackson & McGorry, 2009), which result in superior symptomatic and functional outcomes (Correll *et al.* 2018). The rationale behind these services is that by reducing delays to specialised treatment [referred to as the duration of untreated psychosis (DUP)], this contributes strongly towards better outcomes (Marshall *et al.* 2005). The DUP consists of two components. The first delay can occur between the onset of symptoms and the time by which an individual or their caregivers seeks help, referred to as the 'help-seeking delay'. The second delay can occur from the onset of help-seeking by the individual or their caregiver to the time that they get the appropriate treatment for a psychotic disorder, referred to the 'treatment delay'. Both delays can be considerable, with individuals often having multiple contacts with health-care professionals before it is recognised that they may be experiencing a psychotic disorder (O'Callaghan *et al.* 2010). In the UK, it was found that there were considerable treatment delays, even for individuals already attending a mental health service, where it was not identified that they were suffering with a psychotic disorder (Birchwood *et al.* 2013).

Therefore, a core component of EIP services is reducing these delays, thereby reducing the DUP and

improving outcomes. This task is considerable and requires large-scale, multifaceted interventions. Public education campaigns are required to inform people of the signs of psychosis (Krstev *et al.* 2004), particularly those who are likely to come into contact with young people, such as teachers, counsellors, social welfare officers and the police (Sutton *et al.* 2018). Young people with a first episode of psychosis (FEP) are often first seen by general practitioners, emergency department services or emergency services staff and interventions need to be targeted to these professionals to assist them in identifying psychotic symptoms and making the appropriate referrals (O'Callaghan *et al.* 2010). Furthermore, EI services need to respond rapidly and have a low threshold for conducting an assessment of someone suspected of having a FEP, even if that means conducting multiple assessments to identify one case of psychotic disorder (O'Donoghue *et al.* 2012). Employing the above strategies, EI services have been able to significantly reduce delays to treatments, for example, the Early Psychosis Prevention and Intervention Centre (EPPIC) in Melbourne, Australia has achieved a median DUPs of 8 weeks (Schimmelfmann *et al.* 2008), compared to over 1 year in other countries where EI had not yet been introduced (Addington *et al.* 2015). This work to reduce delays is considerable, but it also must be ongoing, as cessation of these strategies leads to the return of long delays, as demonstrated by the TIPS (Scandinavian early Treatment and Intervention in Psychosis Study) study in Scandinavia (Joa *et al.* 2008).

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At the turn of this decade, the COVID-19 pandemic has had an immediate and profound impact on our way of life and represents a healthcare crisis across the world. Social distancing, the most effective public health method for slowing the spread of the virus, has resulted in the closure of schools and universities, non-essential businesses, sports and recreational centres and places of religious worship (Prem *et al.* 2020). Social gatherings are also limited, and in some jurisdictions, people are only permitted to be in close proximity to their immediate family. While the above measures are clearly necessary to manage the pandemic and reduce the associated mortality, they will have a profound effect upon how we identify and provide treatment for people with major mental illnesses including those experiencing a FEP. Late adolescence and early adulthood are the peak periods for the onset of psychotic disorders (McGorry *et al.* 2011), but with the closure of the places where young people are likely to attend, the original targets for educational campaigns are no longer viable. Anecdotally, we are hearing from medical colleagues that people are now more hesitant about attending general practitioners and emergency departments for non-urgent matters, for fear of coming in contact with people infected with COVID-19. This essentially means that the main strategies for reducing treatment delays for people experiencing a FEP have suddenly become defunct. To further complicate things, identifying the subtle signs of early psychosis can be challenging enough, but in a world that has suddenly been consumed with anxiety, fear, social withdrawal and even widespread 'conspiracy theories' (Ahmed *et al.* 2020; Li *et al.* 2020), the task becomes even harder.

This could mean that following the pandemic, if steps are not taken to identify cases of FEP, there could be an increase in the number of people with a very long DUP. This is similar to the situation that EI services experience when they are established, as they can identify previously undetected case with a very long DUP (O'Donoghue *et al.* 2014). If the strategies to reduce delays cannot be employed and access to referral and treatment is hindered, then it is likely that the DUP will be prolonged for those experiencing a FEP throughout the pandemic. Following this, there would be a large 'backlog' of individuals with a very long DUP, who would present with a more enduring disorder and thereby less likely to make a full and sustained recovery (Santesteban-Echarri *et al.* 2017). Furthermore, there would be the regular, expected number of new cases of FEP, and EI services would struggle to provide the comprehensive treatments required for all of these new cases simultaneously.

When cases are identified during the pandemic, there will be further challenges in providing full,

holistic assessments and treatments. The other complementary explanation for improved outcomes with EI services is that they provide comprehensive, specialised treatments for those with a FEP within a critical period. Alongside antipsychotic medication, there are a range of psychological, vocational and family interventions that need to be delivered in order to achieve a full and sustained recovery (Killackey, 2009). The physical health of the affected individual also needs to be managed, in addition to any concurrent problems, such as substance abuse. Providing these multi-faceted interventions in an environment of social distancing and reduced in-person appointments poses a further challenge.

Therefore, throughout the COVID-19 pandemic, EIP services must be sustained or their roll out continued.

What can EI services do to adapt to the current environment? First, they need to monitor referral rates to their services in real time and compare them to the same period of the previous year, as any variation in the incidence of psychotic disorders in the same area over time is likely to be small (Kirkbride *et al.* 2009). A number of factors can precipitate the onset of a psychotic disorder, such as substance use or stress (Burns, 2013; Shah & Malla, 2015), and it is possible that the exposure to these factors during the pandemic may change. For some, the exposure to these factors may increase, such as financial stress for those who are unemployed, or their caregiver commitments may increase. While for others, stress may decrease with the cessation of school or substance use decline with the decrease in social gatherings. However, any major reduction in referrals is likely to reflect a decline in detection of cases and presentations to service, especially as the limited evidence to date suggests that the incidence of psychotic disorders is likely to increase during pandemics (Brown *et al.* 2020). If a service observed a decrease in referrals, they would need to ramp up their public education campaigns, albeit with different methods. Social distancing has resulted in people spending much more time in their homes, leading to an increase in activities such as watching television or streaming services and online activities (Dixit *et al.* 2020). It has already been established that television can be an effective method to increase the knowledge and awareness of the symptoms of psychosis in the general public and how to access care (Turner *et al.* 2014). Digital media advertisements are also a cost-effective and acceptable method by which to direct people with suspected psychotic symptoms to their local EI service (Birnbbaum *et al.* 2017b). Therefore, it makes sense during the pandemic that educational campaigns are directed through these mediums in order to have the maximum impact. While these suggestions are being made in relation to psychotic disorders, the mental health needs of the

community are likely to increase during and following the pandemic and the above approaches can be part of a broader strategy to improve and maintain access to care to mental health services.

Second, EI services should remove any existing barriers, such as the need for referrals from professionals. Direct referrals from affected individuals or their caregivers should be encouraged and facilitated. As already stated, in order to detect cases of FEP early, the EI service must be willing to conduct multiple assessments for each case. In Ireland, after the successful implementation of an educational campaign, it was found that for every three referrals for potential FEP, one was a case of FEP (O'Donoghue *et al.* 2012). If direct referral leads to an unmanageable amount of assessments, then services could consider implementing a screening instrument to triage referrals, although it needs to be considered that cases can be missed with this approach (O'Donoghue *et al.* 2018).

Third, EI services should be flexible in how they conduct assessments and provide treatment, such as via telehealth if clinically appropriate. This approach has been used successfully and effectively for rural and remote areas already (Hensel *et al.* 2019) and has recently been adopted at the EPPIC service in Melbourne and other services worldwide. An evaluation of this new method of service delivery is ongoing, but anecdotal evidence indicates that it is well received by young people (who conduct a lot of their social interactions via this method anyway), and clinicians have reported that attendance rates have increased, due to the convenience and flexibility that it provides. However, it has been identified that training for clinicians must be a priority to ensure that these services are used effectively (Torous & Wykes, 2020). Also, considering that telehealth offers opportunities to reform mental health services, it needs to be ensured that the practice is maintained as a component of service delivery and not abandoned after the pandemic (Torous & Wykes, 2020). This is just one method of providing treatment and assessment remotely, and other options include the use of moderated online social therapy (Alvarez-Jimenez *et al.* 2013), which provide online psychological treatments that are moderated by a clinician, the use of mobile apps and real-time monitoring and virtual worlds/virtual reality. Importantly, both two of these methods, telehealth and moderated online therapy involve a clinician, as it has been demonstrated that online interventions are much more effective when delivered in conjunction with a clinician (Linardon *et al.* 2019).

However, there are some circumstances in which telehealth will not be feasible or appropriate, and for these individuals, in-person appointments will need to continue and assertive outreach conducted when clinically indicated. The monitoring of physical health and the

management of any metabolic side-effects also need to provide if indicated. Services will need to be innovative in the manner by which they can manage this remotely. For example, it might consist of focusing on things that people can measure themselves at home, such as waist circumference, as this 'vital sign' is strongly correlated with cardiovascular disease (Ross *et al.* 2020). Lifestyle interventions should be encouraged, but overall people are less likely to be active with social distancing, and hence if there is indication of metabolic side-effects, then the corresponding pharmacological treatment such as statins or metformin should be considered early (Correll *et al.* 2013). EI services have also facilitated the development and evaluation of new treatments for early psychosis, and during the pandemic, a number of research centres have ceased recruitment (McDermott & Newman, 2020). It is not known how long social distancing will need to be in place, but new treatments are desperately needed in early psychosis and interventional research cannot be suspended indefinitely. Therefore, new ways of conducting clinical trials remotely in a safe and effective manner need to be established.

In the 1990s, the pioneering EI services for psychosis had to be creative in the approaches that they took to identify cases and configure services (McGorry *et al.* 1996). It is time again to harness this creativity and innovation. New methods for identifying those either at high risk for psychosis or experiencing a first episode need to be developed and there is promising work on this front. For example, it is possible to distinguish individuals with a diagnosis of schizophrenia by linguistics used on social media (Birnbaum *et al.* 2017a) and to identify those at risk of relapse (Birnbaum *et al.* 2019). Work is currently ongoing as to whether it is possible to identify those at risk of psychosis or experiencing a FEP using this method. EIP also includes specialised services for those who have been identified as being at ultra-high risk for psychosis (Yung & Nelson 2013), and these services typically provide care and monitoring for a defined period, most commonly 1 year. However, the risk of transitioning to a full-threshold psychotic disorder continues beyond this point, with 36% transitioning within 3 years (Fusar-Poli *et al.* 2012) and the risk is known to extend up to 10 years (Nelson *et al.* 2013). Therefore, during the pandemic, EI services could contact those discharged who were identified as ultra-high risk for psychosis and continue to provide monitoring remotely.

The advances made in EI have transformed mental health services and have resulted in improved outcomes for affected individuals and their families. In Ireland, EIP is one of the four National Clinical Programmes (NCP) and was developed in conjunction with the College of Psychiatrists of Ireland

(Power, 2019). In 2019, the Health Service Executive funded three EIP demonstration sites in Ireland (Cork, South Lee, Meath & Sligo), bringing the number of EIP services in Ireland up to five (DETECT in Dublin & EIST, Cork North Lee). The full implementation of the EIP Model of Care was expected over the following 3 years and would result in National EIP service provision. It is critical that the implementation of the EIP Model of Care proceeds as planned. Now is the time to accelerate progress rather than reverse gains made.

Healthcare services, particularly Emergency Departments and Intensive Care Units, will need additional resources and manpower during the COVID-19 pandemic; however, this can be not be provided at the expense of mental health services. In addition to the current unmet need, the demands on mental health services are likely to increase during and after the pandemic and will likely be a major legacy of this public health crisis. The stakes are high as psychotic disorders and other mental health disorders are associated with high rates of suicide, more so in young people and in those left untreated (Robinson *et al.* 2011; Too *et al.* 2019). In addition to the healthcare crisis, there will likely be an economic recession in many countries worldwide, which will result in even less resources for underfunded health services. Mental health services can often be the victim in such circumstances. However, it needs to be highlighted that EI services are cost-effective and deliver considerable savings compared to standard treatment (Aceituno *et al.* 2019). Therefore, these services are an investment and should not be sacrificed for short-term savings. If mental health services involute to only providing acute psychiatric care, or worse still, staff are diverted out of mental health services, then the ability to undertake any preventative interventions will diminish and this will lead to increased morbidity in this patient population. In Australia, dynamic modelling of the adverse impacts on COVID-19 on unemployment, social distancing and mental health has indicated that suicides could increase by 25% for up to 5 years beyond the pandemic and that these deaths would overtake the number of deaths in the country directly attributable to the COVID-19 pandemic (Australian Medical Association, 2020).

As this pandemic continues, it will require innovation and imagination as to how we can continue to provide timely identification and treatment for individuals with early psychosis. There may be some potential benefits from harnessing technology to assess and treat individuals with early psychosis, but there are clearly major threats and challenges to this vulnerable group. Throughout the world, services will be attempting to transform themselves rapidly to address this need and there needs to be a mechanism by which services

can inform each other as to what strategies are effective and which are not. The gains of the last three decades cannot be reversed but conversely must be built upon to meet the demands of the crisis and pivot to a 21st century model of care.

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Conflict of interest

The authors have no conflicts of interest to disclose.

Ethical standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committee on human experimentation with the Helsinki Declaration of 1975, as revised in 2008.

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