

Early Intervention in Psychosis in Young People: A Population and Public Health Perspective

Over the past two decades or more, the creation of early intervention services (EIS) for psychoses has been regarded as one of the most significant developments in the reform of mental health services. The development of EIS is based on evidence of their superior effectiveness on multiple domains compared with regular care and the well-established relationship between delay in treatment of psychosis and outcome.

The benefits of EIS may, however, be underutilized because of a patchy implementation even within high-income countries, low attention to actively reducing delays in treatment, inadequate knowledge about the length and dose of EIS required, and a lack of a population perspective in research and service planning.

In this commentary, we offer some suggestions of how to address these challenges. (*Am J Public Health*. 2019; 109:S181–S184. doi:10.2105/AJPH.2019.305018)

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Public health, including mental health, refers to “the science and art of preventing disease, prolonging life and promoting health.”^{1(p30)} Here, we discuss the current status of young people with psychotic disorders and the opportunities for improving their health and social outcomes through a more population- and public health-based approach to early intervention.

Psychotic disorders include schizophrenia spectrum and affective psychoses (bipolar and major depressive disorders with psychosis). The symptoms usually include delusions, hallucinations, and disorganization of thought and behavior, as well as negative symptoms such as poverty of emotional expression and thoughts, low volition and motivation, anhedonia, and poor social interactions. Negative symptoms are associated more often with schizophrenia spectrum psychoses, whereas disturbances of mood and anxiety may be more prominent in affective psychoses. Although we recognize that there may be some differences in long-term outcome between schizophrenia spectrum and affective psychotic disorders, we have chosen not to deal with them separately because early intervention services (EIS) provide care to both.

The lifetime risk of these disorders is relatively high (3–3.5%),² although yearly incidence is modest but highly variable (8–43 per 100 000 per year),³ with a peak age of onset of 22 and 25 years for males and females, respectively. Treatment of psychotic disorders generally involves antipsychotic

medications, which should be—but is often not—accompanied by psychosocial interventions such as family and cognitive behavioral therapy and case management. Treatment is typically delayed, it often lacks fidelity to an evidence base, and initial high rates of remission frequently do not translate into good functional outcomes and recovery. There is rarely sustained high-quality continuing care, unlike with cancer, heart disease, and diabetes.

The most alarming aspect of psychotic disorders is the relatively high prevalence resulting from persistence of the disorder through adulthood and later in life. The commonly observed deficit in long-term social and work functioning⁴ is likely attributable to a combination of poor premorbid functioning, variation in illness severity, and failure of services to provide sustained good quality of care, supported employment, adequate housing, and treatment of comorbid conditions such as social phobia and substance abuse. In addition, individuals diagnosed with psychotic disorders face significantly earlier mortality compared with the general population,⁵ because of a high

prevalence of cardiovascular disease, suicide, and cancer. As a result, psychotic disorders inflict heavy suffering on individuals and their families and huge financial costs for society.⁶ Such impact on society and human suffering, including premature mortality, make them a public health problem.

EARLY INTERVENTION IN PSYCHOSIS

Development of EIS for psychoses over the past more than two decades may be the most significant development in mental health services globally since deinstitutionalization began more than half a century ago. This is particularly remarkable, as the development of EIS has been informed by scientific evidence, their effectiveness has been tested in controlled and uncontrolled studies across several countries,⁷ and many jurisdictions have scaled up EIS as part of public health policy. Despite these developments, the impact at the population level remains uncertain and limited. Here, we explore the nature of these

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limitations and what might mitigate them.

Early intervention in psychosis is based on two related concepts. First is a strong and independent association between the duration of untreated psychosis (DUP) and short- and long-term clinical and functional outcome.⁸ The second is the concept of a critical period of two to five years following the onset of psychosis, supported by evidence that trajectories of long-term outcome are established during the first two years.⁹ EIS delivered during this period is likely to be more effective than if delivered much later, when the negative impacts of the illness have become more consolidated.

There is consensus that an early intervention service must provide comprehensive and multimodal interventions within the context of a system of care appropriate for, and acceptable to, young treatment-naïve patients and their families. The dominant model of EIS comprises a package of interventions, most of which are evidence based (e.g., low-dose pharmacotherapy using second-generation antipsychotics, cognitive behavioral therapy, family intervention, supported employment programs, and, when needed, cognitive remediation). However, processes that bind this package may be difficult to assess on firm evidence without consideration of social, economic, and cultural contexts (e.g., ratio of service provider to patients). In addition, EIS must engage in practices that reduce delay in treatment. Furthermore, there is now level-1 Cochrane evidence in support of indicated prevention through deployment of relatively non-noxious interventions (e.g., cognitive behavioral therapy) for reducing risk of, or delaying, the onset of a diagnosable psychotic

episode in patients who meet criteria for clinical high risk for psychosis. It is estimated that up to two thirds of patients with a first-episode psychosis (FEP) have passed through the clinical high-risk state prior to their FEP, but only a fraction seek treatment during the clinical high-risk phase.¹⁰ Although potentially an effective way of reducing the incidence of psychotic disorders, changes required to the current system of care to achieve this remain unexplored.

EIS have been scaled up nationally (e.g., in England and Wales, Australia, Denmark, Netherlands), or regionally in countries such as Canada (e.g., in Ontario, Nova Scotia, British Columbia, Yukon). Others have emerged from individual clinical programs and through crucial and determined leadership and the enthusiasm of service providers, academics, and service user families (e.g., in Québec and Alberta in Canada; Schizophrenia Research Foundation [SCARF] in Chennai, India), or they have been supported through implementation of research endeavors (e.g., Recovery After an Initial Schizophrenia Episode [RAISE] in the United States). Assessment of adherence to key elements necessary for an early intervention service may be challenging, although recent efforts may be promising.¹¹ Such assessment will need to take into account the nature of evidence for different components of EIS as well as the local context.

EFFECTIVENESS OF EARLY INTERVENTION SERVICES

Several randomized controlled trials have reported on the superior effectiveness of EIS

compared with regular care, summarized in recent meta-analyses.⁷ These effects have been demonstrated on rates of remission, level of positive and negative symptoms, hospitalizations, relapse rates, independent living, social and occupational functioning, and satisfaction with services. Health economic evaluations of EIS range from costs of direct care to sophisticated modeling of costs within a randomized controlled trial design.¹²

MISSING A POPULATION PERSPECTIVE

Despite level-1 Cochrane evidence in support of specialized EIS, the implementation of EIS remains patchy at best and essentially absent outside countries in the Organisation for Economic Co-Operation and Development.¹³ Many gaps remain in addressing the implications of psychotic disorders at the larger population level and as a public health problem, despite their well-known impact on individuals, families, society, and the economy. Here, we attempt to highlight some of these gaps, and the putative reasons for such gaps, and we offer some recommendations to address them.

Benefits May Be Underestimated

Systematic and meta-analytic reviews of EIS show low to moderate effect sizes on most domains of outcome. However, evidence from randomized controlled trials of EIS versus routine care may not capture the full potential of EIS given the limitations of enrollment in a randomized controlled trial, the

heterogeneity in the magnitude and number of effective components included in each service, and the duration of treatment.¹³ Additionally, most studies have included patients who had received prior treatment in regular care, the very system of care that has been demonstrated to produce inferior outcomes to EIS. FEP patients with little or no previous treatment exposure are likely to derive greater benefit from EIS because of their greater capacity for change at such early stages. Therefore, systemic interventions for early and rapid access to treatment are needed.

Underused Benefits/Lack of Population Approach

Most EIS have been established as clinical services attached to an existing system of care. In general, their focus remains on treating patients who make it to the EIS, without adequate regard for the needs of the community, the level of untreated prevalence, or pathways to care encountered by those who seek services but may not make it to the EIS. There is often large variation in what constitutes an early intervention service and in how an early psychosis patient is defined. In jurisdictions without a policy-driven EIS establishment, some individual initiatives have eventually led to policy changes with public funding while others have remained mired in advocacy for public funding and policy support for years (e.g., in Québec).

Even when EIS are scaled up as part of a national policy (e.g., in the United Kingdom and Denmark), they are invariably added to the prevailing structure of services through which those seeking services must navigate. Such approaches to providing

EIS do little to alter pathways to care involving several layers of primary and secondary care (e.g., community mental health services). Further, there are large variations in incidence rates across urban and rural areas³ that have generally not been considered when EIS were planned or delivered. More recently in the United Kingdom, however, greater attention is being paid to planning EIS and their staffing by aligning them closer to epidemiologically derived local population needs.^{14,15}

Further, most patients in EIS, including those in some pivotal controlled studies, have long DUPs.¹⁶ Ironically, the idea of early intervention was originally supported by findings related to the impact of delay in treatment. Some of the earliest EIS had indeed incorporated interventions to reduce delays in treatment.¹⁷ Despite evidence of the effects of reduction in DUP on outcome,¹⁸ apart from recent initiatives in the United Kingdom to ensure access to an early intervention service within two weeks,¹⁵ most EIS have paid limited attention to reducing delays in treatment. Within EIS, better outcome is associated with lower DUP.¹⁹ It has been suggested that reducing DUP to less than 12 weeks would lead to greater benefits of EIS,²⁰ although we need more substantial evidence to support such a cutoff.

Interventions to reduce DUP require attention to two distinct aspects of delay: first in seeking help and then delays encountered in the health care system following first contact. Each aspect of DUP has somewhat different determinants that require different interventions.²¹ The systemic delay requires systemic interventions that would allow direct and rapid access to the EIS without the person seeking help

having to navigate the prevailing layers of primary and secondary care. Emergency departments remain a major source of entry to the mental health system, including EIS. This is generally expensive and traumatic and indicates failure to engage patients early in more user-friendly settings. To reduce system-related delay, a wider community approach is required that targets all potential sources of referral within the health and other service sectors (e.g., education, social services); reducing help-seeking delay requires direct communication with the community for raising mental health literacy around psychosis and the importance of early intervention.¹⁸ These approaches to reducing DUP demand a thorough understanding of the size and nature (e.g., ethnic and cultural composition) of the population to be served, the extent of untreated prevalence, the nature of pathways to care, and a careful mapping of health, education, religious, and social services in the community served. Reducing DUP demands a population- and system-level perspective generally lacking in clinical services and, sadly, even from many policy decisions. The recent development of integrated youth mental health services may provide a softer entry portal to patients with FEP at an early stage as long as these services are backed up by specialized care EIS.²²

Other Health-Related Implications

The high rate of premature mortality for individuals with psychosis is related to greater medical morbidity (e.g., cardiovascular disease, diabetes, and cancer) and suicide,^{4,5} even in early phases. The impact of EIS

on these important indicators of outcome has generally not been examined. A recent study of a defined catchment area with an early intervention service has shown that those who received treatment in EIS, compared with those who did not, had one fourth the mortality rate during the first two years of treatment.²³ The excess mortality in the non-EIS sample appears to be related to nonsuicidal causes. Although these important results need replication in different settings and systems, they highlight two major issues: first, that despite availability of a publicly funded early intervention service, almost twice as many cases of FEP did not receive treatment in the early intervention service as those that did; second, that premature mortality may be reduced if more individuals with FEP receive treatment in EIS. If such findings are confirmed in other settings, we must find ways to have a deeper reach into the community and be able to target individuals who may otherwise be missed during assessments for entry to EIS or who do not seek treatment in EIS. This will require knowledge about the characteristics of individuals less likely to seek care in EIS. Also needed will be assertive efforts by EIS to connect with the local community, engage in strategies known to facilitate early case identification, maintain greater visibility in the communities they serve, and improve patients' access to primary care services.

Long-Term Need and Implications for Services

Although it has been claimed that the gains made through treatment in EIS may not be sustainable once patients are transferred to regular care, current evidence suggests that

extension of EIS, even at a reduced intensity, over the entire critical period of the first five years produces better clinical outcomes than does regular care.²⁴ Such extended full-scale EIS, however, have resource implications and may not be necessary for all FEP patients after the first two years of EIS. In a recent random controlled trial, almost half of the patients who completed EIS for two years were stable enough to be transferred to primary care²⁴ as long as their needs were matched with the service and transitions were carefully managed. The role of primary care in maintaining the gains of EIS remains largely unexplored, and the recent report that FEP patients in EIS use primary care less than FEP patients not in EIS may be of some concern,²³ as being in EIS may reduce patients' access to physical monitoring and, eventually, to mental health monitoring. Given the long-term nature of the treatment required for psychotic disorders, a better-equipped primary care, use of e-technology,²⁵ and non-health care interventions such as employment and housing support may assist in maintaining the gains of EIS beyond their tenure.

CONCLUSIONS

Early intervention in psychosis is one of the most evidence-based reforms in mental health care. Scaling up EIS has, however, been patchy, and the quality of care remains uncertain partly because of problems with assessing and maintaining fidelity to key components. Delays in treatment remain a major issue and can only be addressed through community-focused public health interventions. It may be more effective to embed

early case detection of FEP or subthreshold clinical high-risk states in an enhanced form of primary care that is designed specifically to address a wide range of mental health problems in young people and that addresses their functional, educational, employment, and physical health needs. An extended tenure of EIS may be required, but not necessarily embedded in specialist care. Such broad approaches to address variation in the needs of patients in the early phases of psychosis will require specialized EIS to be vertically integrated with youth-friendly primary care. Last, but not least, the physical health of young people with psychosis needs to be addressed from the time they seek services initially, and this is another good reason to connect such services to primary care. EIS may also need to include physical health monitoring as a standard of quality care. An active role of primary care in EIS, and in the treatment and follow-up of FEP, is likely to be easier in countries with a publicly funded system of care than in those without. **AJPH**

CONTRIBUTORS

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CONFLICTS OF INTEREST

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