Shifting our Approach to Mental Health Care: Prevention and Early Intervention in Psychosis

A review and policy recommendations

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Introduction

Psychosis and related disorders typically emerge during young adulthood and have a significantly negative impact on people throughout their lives. Early Psychosis Intervention (EPI) services are the best treatment currently available to young people in the early stages of psychosis. Participation in high quality, evidence-informed EPI services is associated with improved symptoms, better quality of life, and lower relapse rates.

Despite the benefits of EPI services, the challenge is that many of the disabilities associated with a first episode of psychosis are highly impairing and are often difficult to reverse. The solution is to identify young people at risk of psychosis earlier in their lives and provide interventions that mitigate or prevent the development of psychosis.

Right now, the best way to identify young people at high risk of psychosis is primarily through research via community-based detection and assessment. This system not only overlooks a good portion of high-risk individuals, but the assessments are imperfect at predicting which high-risk young people will go on to develop psychosis. This is due to the complex and interconnected nature of psychosis risk factors, which researchers are still trying to understand.

What researchers do know is that there is a broad range of mental health symptoms in childhood and adolescence that often precede psychosis. This means that many young people who will go on to develop psychosis could already be seeking help in clinics and hospitals that provide care to children and youth. Successfully identifying and treating these early mental health symptoms is one immediate and crucial step for mitigating and preventing psychosis. The other major opportunity is for researchers to learn more about which individuals progress from mental health symptoms to psychosis as well as the why and how of this progression. Mapping out these pathways offers the opportunity to improve early detection and prevention of psychosis, as well as other mental illnesses.

This paper provides an overview of early psychosis intervention work to date and reviews some of the clinical and research initiatives that are setting the stage for psychosis and mental illness prevention. The paper concludes by providing recommendations for governments and decision-makers to help shift our collective approach to mental health care – a shift that will lead to a future without serious mental illness and a mentally healthier future for us all.

An Overview of Psychosis

Psychosis is a collection of symptoms that affect a person's mental health and well-being. During an episode of psychosis, an individual experiences disruption in their thoughts and perceptions and can struggle to differentiate between reality and illusion.[1] Psychosis is typically associated with schizophrenia, but can also occur in mood disorders, be induced by substances, or arise as part of other medical conditions.[*2] Psychosis consists of "positive" symptoms such as delusions and hallucinations and "negative" symptoms such as social withdrawal and flat affect (i.e. a severely restricted expression of emotions). A person's first episode of psychosis typically occurs in late adolescence or early adulthood and often results in feelings of fear, confusion, and distress due to the unfamiliarity of the experience.[3]

[*] Psychosis can also be a symptom of schizoaffective disorder, substance-induced psychotic disorders, bipolar disorder with psychotic features, major depressive disorder with psychotic features, and psychotic disorders due to another medical condition.

Psychosis has a significant impact on the health and well-being of young people, with psychosis disorders being the leading cause of disability among youth and young adults in developed nations.[4] A recent diagnosis of psychosis is associated with a significantly higher rate of suicide when compared to the general population.[5]

People with psychosis are also more likely to experience physical health challenges and a poor quality of life, which can lead to more severe symptoms, impaired social functioning, and a lower chance of recovery.[6] The likelihood of experiencing adverse outcomes increases the longer a person's psychosis goes untreated.[7] People with severe and chronic mental illnesses, for example, are more likely to experience poverty, and those with schizophrenia can experience difficulties in completing their education, securing employment, establishing social connections, and may require support for daily living.[8] Poverty, along with poorly treated physical health concerns, decreases life expectancy for people with psychosis by about 20 years compared to the general population.[9]

Because of the young age of onset and the need for intensive health care over the lifespan, psychosis contributes significantly to overall health care system costs.[10]

Risk factors

There are numerous factors than can increase a person's risk for psychosis – from social and environmental factors to genetics and other individual characteristics or experiences.[11] Social and environmental risk factors for psychosis include:

- geographic location (e.g. densely populated urban areas);
- obstetric complications;
- older parental age; and
- childhood trauma and adversity (especially abuse and bullying).[12]

Substance use is also associated with the onset of psychosis.[13] There is a particularly strong link between cannabis use at younger ages (and with high potency variants) and psychosis. A recent study found that adolescents (ages 12-19) who use cannabis are at an 11 times greater risk of developing psychosis than their peers who do not use cannabis.[14]

There is also evidence to suggest that social environmental inequities, such as racism, poverty and marginalization, increase the risk of psychosis in young people.[15]

At the individual level, male sex, family history (genetic risk), brain structural abnormalities and cognitive deficits can increase the risk of psychosis in young people.[16] Autism Spectrum Disorder (ASD) is associated with a substantially increased risk for psychosis,[17] and having a previously diagnosed mental illness such as depression also increases psychosis risk.[18]

Individual risk factors also intersect with social and environmental factors to increase a person's risk for psychosis. For example, a young person with a family history of psychosis who uses cannabis can further increase their chances of developing psychosis. In fact, they may be 2.5 to 10 times more likely to develop psychosis than people with a family history of psychosis who do not use cannabis.[19]

The association between family history of psychosis and cannabis use is strong – one study found that those with a family history who used cannabis were much more likely to experience psychosis than those without a family history.[20] But, there are many other factors involved in these and other cases of psychosis. While the specifics are still unknown, experts agree that psychosis is rooted in early neurological and social development and that clusters of overlapping social, environmental, and individual risk factors interact in various combinations to cause the disorder.[21]

Early Intervention in Psychosis

Given the significant, negative effects of psychosis on people throughout their lives, intervening early to mitigate this impact is crucial. Over the past 20 years, mental health practitioners have focused on offering support and treatment at the earliest signs of psychosis in young people. When delivered as intended, these evidence-based interventions have effectively reduced the adverse impacts of early psychosis.

The main goal of early psychosis intervention (EPI) services is to facilitate access to mental health treatment and enhance recovery for young people in the early phases of psychosis.[22] Evaluations of EPI services have shown that young people who participate in these programs see an improvement in their symptoms, experience better quality of life and social functioning, and are less likely to relapse or be re-admitted to hospital.[23] EPI services are also associated with improved access to psychiatric care, reduced strain on emergency departments, and a substantial decrease in mortality.[24] One study found that mortality rates for young people who accessed EPI programs were four times lower than young people who did not use these services.[25] There is also evidence to suggest that EPI services have the potential to be cost effective and even cost saving compared to other treatment approaches.[26]

Despite the clear benefits of EPI services, overall recovery rates in these programs remain low.[27] Part of the reason for this is the inconsistent delivery of EPI services. Experts have noted that implementing standardized, high-quality, and evidence-informed EPI services can be a significant challenge.[28]

Early psychosis intervention (EPI) services in Ontario

There are currently 160+ EPI programs across Canada. While these programs are connected through the Canadian Consortium for Early Intervention in Psychosis, which strives to enhance EPI services across the country, the delivery, design, implementation, and maintenance of EPI care is ultimately the responsibility of provincial and territorial governments.[29] In Ontario, successive governments have long been committed to EPI services. An EPI funding stream was established in the early 2000s, and a set of EPI service standards was developed in 2011.[30] There are now over 50 EPI programs across the province that are coordinated through the Early Psychosis Intervention Ontario Network (EPION).

EPI service standards are an important step in facilitating the implementation of high-quality and evidence-informed EPI programs, but they are not sufficient on their own. A study that looked at Ontario's EPI programs found a significant amount of variability in the type and quality of mental health care they provided. The study also found that program staff felt that the process for implementing recovery-based care lacked structure, staff training on evidence-informed practices was inconsistent, and there was a need for better connections and expertise sharing amongst EPI staff. These findings help to shed light on why EPI program implementation has been inconsistent across the province.[31]

To address the inconstancies across EPI programs, Ontario Health's Mental Health and Addictions Centre of Excellence (COE) has committed to creating an evidence-informed and standardized provincial EPI program that is accessible to all young people experiencing psychosis in the province.[32] The program is based on the NAVIGATE model, which originated in the United States, and is a structured, evidence-informed treatment model for early psychosis that consists of four program components:

1) individualized medication management (using routine measurement to help the young person and their health care provider work together to determine the best option(s)),
2) psychoeducation and evidence-informed psychotherapies termed 'individual resiliency training',
3) supported employment and education, and
4) family education.

The NAVIGATE model translates Ontario's current EPI service standards into structured protocols for each of the four program components with the goal of delivering the same high-quality services across EPI program sites.

CAMH is currently working with partners on a project to evaluate the implementation and impact of NAVIGATE at six EPI program sites across the province.[33] This study, called Early Psychosis Intervention-Spreading Evidence-based Treatment (EPI-SET), is still in the analysis stage, but initial findings are promising. Young people participating in NAVIGATE programs have shown improvements in quality of life as well as social and occupational functioning after one year in the program.[34] Early findings also demonstrate that implementing NAVIGATE helped programs adhere better to Ontario's EPI Standards.[35] Recognizing the early success of NAVIGATE at the pilot sites, the COE is supporting the expansion of this model to additional sites, with a plan for provincial expansion over the coming years.

This province-wide implementation of NAVIGATE is a significant step in ensuring equitable access to early psychosis intervention, but Ontario's EPI system would benefit from other improvements as well. Right now, there is currently no centralized referral system in the province and variable adherence to standards for intake, admission, and exclusion, leaving young people and their families with significant barriers to accessing services (though the COE is working to implement standardized eligibility criteria across the province). Young Black people find themselves accessing Ontario's EPI system through more aversive pathways (e.g. the criminal justice system, involuntary hospital admissions) compared to their non-Black peers, suggesting that they enter EPI programs after their symptoms become more advanced and when treatment can be less effective.[36] Further, despite high demand for EPI services, there is insufficient funding for clinical support services. There are also challenges when young people are discharged from EPI programs - finding family physicians who have the skills and capacity to provide ongoing care to these young people can be difficult, as is securing community mental health treatment for those who require more specialized care. (N. Kozloff, personal communication, November 1, 2023). Addressing these challenges, along with implementing a standardized model of care, would help make sure that young people across the province have equitable access to life-changing EPI services.

Preventing Psychosis

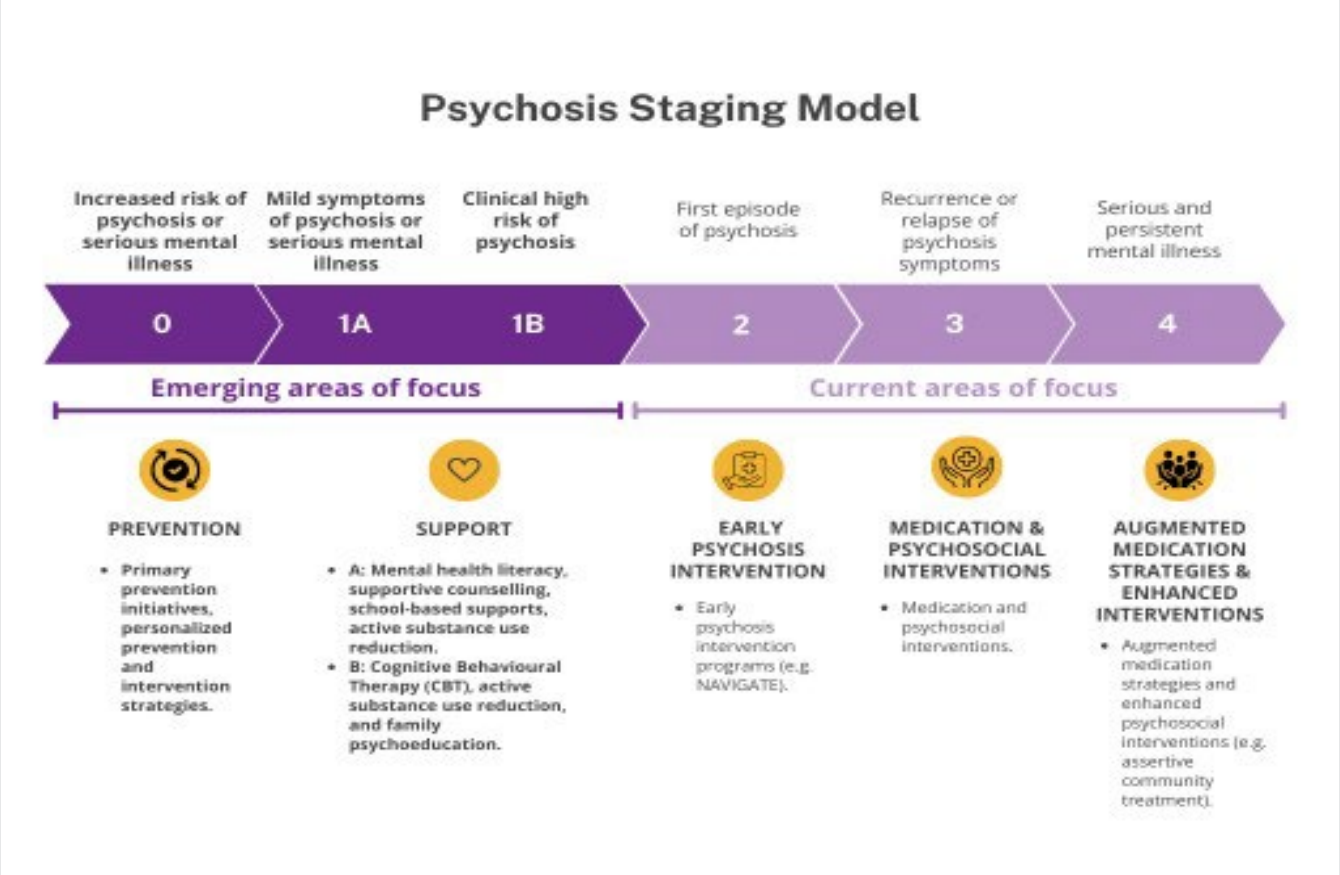
Early intervention is crucial for young people experiencing a first episode of psychosis as it lessens the severity of the illness and mitigates the social consequences.[37] The challenge is that most of the disabilities associated with psychosis develop before the onset of active symptoms and are often difficult to reverse, even when a person's psychosis is effectively treated.[38] Therefore, a more proactive approach is needed – an approach that seeks to intervene before active symptoms of psychosis emerge.

It is well-recognized amongst experts that young people who go on to develop psychosis typically experience other mental health symptoms beforehand. The current challenge is that there is a lack of clinical approaches to accurately predict which individuals with broad mental health symptoms will go on to develop psychosis and which

will not. Many researchers and clinical experts are actively investigating this challenge by looking at ways to identify young people at high risk for psychosis with the goal of mitigating or preventing early symptoms.

Understanding research on psychosis prevention

One way to understand research on psychosis prevention, and the work to date on early intervention in psychosis, is through the clinical staging model of psychotic and severe mood disorders.[39] Based on a similar framework applied to cancer, this model is built on the concept that psychiatric illnesses progress through successive stages characterized by symptoms of increasing intensity, recurrence, and impairment. The model spans from stage 0 to stage 4, beginning with individuals who are at risk for serious mental illness (stage 0) and progressing to individuals with severe and persistent mental illness (stage 4). At each stage, there are potential mental health interventions to improve a person's quality of life. To date, most mental health interventions have focused on stage 3 and 4, where treatment and supports focus on easing the more severe symptoms of mental illness. Current EPI programs intervene earlier at stage 2 when individuals have experienced their first episode of psychosis and offer comprehensive services to prevent the development of more serious illnesses. Experts are now focusing on ways to identify and treat young people at stage 1, when symptoms of serious mental illness are emerging, but before they experience a first episode of psychosis.



Identifying and treating youth who are high risk for psychosis

The Clinical High Risk of Psychosis (CHR-P) paradigm is the main apparatus used by clinicians and researchers to detect, assess, and intervene in the lives of young people who are at increased risk of psychosis.[40] Young people at clinical high risk of psychosis typically display a range of symptoms and behaviours that are known to be precursors for psychosis such as mild and/or short-term delusions, hallucinations, or disorganized speech.[41] They also tend to demonstrate a decline in work and/or educational functioning, social functioning, and overall quality of life.[42] Compared to their peers, young people at high risk for psychosis are also more likely to use tobacco and cannabis, have a co-occurring mental illness (typically depression or anxiety), and demonstrate high rates of suicidal thinking and self-harm behaviours.[43] They are also more likely to be male.[44]

To help identify young people who are at a clinically high risk of psychosis, researchers and clinicians use evidence-informed clinical assessments, such as the Comprehensive Assessment of At-Risk Mental States (CAARMS) tool. [45] The CAARMS looks at the various symptoms and behaviours that can indicate future psychosis and provides an overall score. Young people with a high CAARMS score are considered clinically high-risk for psychosis and are more likely to develop psychosis than those with lower scores.[46] However, not all young people identified as clinically high-risk go on to develop psychosis; over a three-year period, only about 22% develop psychosis after identification.[47] Individuals with more severe symptoms, particularly negative symptoms (such as social withdrawal) and lower levels of functioning are usually at higher risk.[48]

While tools like the CAARMS can identify which young people are at clinically high risk of psychosis and thus eligible for preventive interventions, the challenge is accurately detecting potentially at-risk individuals in the broader population in the first place. Right now, detection only happens if a young person seeks care from a health care practitioner, that practitioner suspects that there may be a psychosis risk and refers the young person on to mental health services for a clinical assessment like the CAARMS. This practice is inefficient and ineffective. Only 5-12% of early psychosis cases end up being identified during the high-risk stage through stand-alone or youth mental health services.[49] Therefore, even though young people experiencing clinically high-risk symptoms and behaviours have a significantly greater likelihood of going on to develop psychosis than the general population, low detection rates mean that most young people who present to health services with psychosis are not identified during the earlier phase of their illness. This is a lost opportunity for intervening in the lives of high-risk young people before they develop psychosis.

To better meet the needs of high-risk young people, some experts have called for the development of a standardized screening strategy that can be used in primary and secondary health care settings to help identify individuals that may be at a clinically high risk for psychosis. Recommendations have focused on the development of an integrated detection tool that not only identifies high-risk symptoms, but also incorporates established individual, social, and environmental risk factors for psychosis.[50] An integrated detection tool such as this could be used by health care practitioners in doctors' offices and emergency departments to identify young people who may be at a high risk for psychosis. They could then be referred to specialized mental health settings for an evidence-informed clinical assessment.[51] Any screening strategy such as this must also include pathways to evidence-informed care so that young people identified as clinically high-risk can be referred to mental health interventions that aim to mitigate and prevent psychosis (e.g. Cognitive Behavioural Therapy (CBT), active substance use reduction, and family psychoeducation).[52] However, it is important to note that there is currently no definitive evidence about the best and most effective interventions for psychosis prevention in this population. Some small studies of various interventions have shown promise but have failed to be replicated in larger studies. More research is needed in this area, particularly exploration of potential interventions that target young people with specific risk factor profiles.[53]

Understanding and intervening in psychosis risk trajectories

While the CHR-P paradigm helps to identify young people at clinical high-risk of psychosis—with the intent of mitigation and prevention—there are still many young people identified as high-risk that do not go on to develop psychosis.[54] Tools such as the CAARMS are imperfect at predicting psychosis risk because experts still do not fully understand the complex pathways that lead to psychosis. A lack of understanding of these psychosis 'risk trajectories' makes it difficult to determine which high-risk young people will go on to develop psychosis and which underlying factors most strongly contribute to the development of psychosis. It also hinders experts from developing even earlier interventions for young people who are most at risk.

The limited knowledge that experts currently have around psychosis risk trajectories is due to the numerous potential risk factors associated with psychosis. As described previously, these factors range from broader social and environmental challenges to genetics and brain abnormalities.[55] What experts do know is that it is the interaction of these factors, and likely others as well, that contribute to the emergence and complexity of psychosis in young people.[56] Therefore, a deeper understanding and additional research is needed to map out psychosis risk trajectories.

Mental health service use patterns

A starting point to understanding more about psychosis risk trajectories lies in the mental health service-use patterns of young people already diagnosed with psychosis. Research shows that *one year* prior to a first diagnosis of psychosis:

- 29% of young people made a primary care visit due to a mental health diagnosis;
- 29% received mental health specialty outpatient care;
- 24% received emergency department mental health care; and
- 8% received mental health inpatient care.

And, in the *three years* prior to a first diagnosis, nearly 75% of young people sought or received health care due to a mental health problem. Most young people with psychosis (60%) also received at least one mental health or substance use diagnosis in the year prior to their first diagnosis of psychosis.[57]

When young people with a first diagnosis of psychosis were compared with young people with a first diagnosis of a mood disorder, there was little difference in their use of primary care or outpatient mental health services. However, those receiving a first diagnosis of psychosis were three-times more likely than those receiving a first diagnosis of a mood disorder to have accessed mental health services in an acute care setting, such as inpatient care or the emergency department, in the year prior to their diagnosis.[58] Recent research in Ontario uncovered similar findings.[59]

Looking at mental health service-use patterns in a different way, a Finnish study compared mental health outcomes for young people who had received specialist psychiatric services through the country's Child and Adolescent Mental Health Services (CAMHS) with those who had not. They found that the risk of developing psychosis by age 28 was 1.4% for those who had not received care at CAMHS, but was 9.8% for those who had had any CAMHS contact during childhood or adolescence. Further, the researchers found that the risk of developing psychosis increased to 20% for young people who had received inpatient care at CAMHS, and to 30% for those who received inpatient care between the ages of 13 and 17.[60]

Mental health service-use patterns identify an opportunity for early detection and intervention with young people at higher risk for psychosis. These patterns suggest that young people at higher risk for psychosis tend to receive mental health care in acute hospital settings in the years prior to developing psychosis. Therefore, psychiatrists and clinicians may be able to prevent or mitigate psychosis in this high-risk population by ensuring that they administer the CAARMS (or other assessment tool) as part of their regular practice when providing care to young people with mental health challenges in emergency departments and inpatient units. Care teams could then use the findings from these assessments to

develop a young person's support and treatment plan. Even more significantly, mental health service-use patterns provide a starting point for researchers to map out psychosis risk trajectories. Working with young people who use emergency and inpatient mental health services, researchers can study what combination of risk factors are most likely to lead to the development of psychosis among high-risk individuals, with the ultimate goal of even earlier detection and intervention.

The Toronto Adolescent and Youth (TAY) cohort study

The Toronto Adolescent and Youth (TAY) cohort study is one research project where CAMH and partners are trying to shed light on psychosis risk trajectories by looking at young people who are users of mental health services. As part of the study, young people seeking mental health care from CAMH are asked to participate in a series of assessments over a five-year period that look at their physical and mental health, cognition and education attainment, brain imaging and genetics, and health care usage. With this information, researchers are hoping to create a comprehensive and integrated portrait of young people with mental health challenges to better understand which combinations of risk factors are most strongly associated with the development of psychosis, and map out how psychosis risk trajectories unfold. Information from the assessments is also sent back to the participants and their care team so that appropriate support can be offered.[61]

Very early results from the TAY cohort study found that 49% of participants were already beginning to display early symptoms of psychosis,[62] highlighting the strong link between previous mental health challenges and psychosis. Results also show a high level of co-occurring mental illnesses amongst participants, with each young person having a mental health diagnosis in an average of 3 ½ separate categories.[63] Both of these findings demonstrate the importance of identifying and treating earlier mental health challenges in young people as one important tool in intervening in psychosis risk trajectories. Further, the high degree of co-occurring mental illnesses in young people points to the need to develop mental health interventions that are not specific to one illness but address multiple illnesses at the same time. CAMH and partners are beginning to investigate this through the Cohort Network for Adolescents and Youth with Mental Health Mental Health Conditions (CALM) study funded by the Ontario Brain Institute. [64]

The TAY cohort study is still in its early stages, but the hope is that it will eventually lead to a better understanding of psychosis risk trajectories and identify new opportunities for prevention and early intervention. For example, early data show that there is a connection between the development of psychosis symptoms and poorer cognition and academic issues.[65] Learning more about this connection could lead to the development of targeted school-based supports for young people who show declining academic performance. Research like the TAY cohort study offers hope for mental health recovery and psychosis prevention, while improving the lives of young people who are currently at a high risk for psychosis. It also provides an exciting glimpse into the future of mental health care.

Preventing Mental Illness

Preventing psychosis would be a groundbreaking achievement in the mental health field and immensely beneficial to the health and well-being of at-risk young people and their families. Research on psychosis risk trajectories, and complementary research on evidence-informed prevention strategies, is making this more of a reality. This research is also helping experts to gain a better understanding of other mental illnesses that have a significant impact on young people and often persist throughout their adult lives.

Shared risk factors and primary prevention

The TAY cohort study found a high percentage of young people displaying psychosis symptoms, along with other co-occurring mental illnesses (with anxiety, depression and neurodevelopmental disorders being the most common).[66] These finding are not surprising given that many of the risk factors for psychosis are quite broad and overlap with risk factors for other mental illnesses (e.g. childhood adversity).

The non-specificity and overlapping nature of risk factors for psychosis and other mental illnesses have led some experts to focus on primary prevention initiatives. These types of interventions strive to reduce exposure to social and environmental risk factors at the population level and improve societal health more broadly, including reducing the prevalence of psychosis and other mental illnesses. For example, interventions that aim to decrease family violence, abuse, and neglect are beneficial to everyone, but also have the potential to disrupt pathways to a variety of mental illnesses in young people before any symptoms would emerge.[67] Similarly, school-based interventions that focus on skill-building, psychosocial development, and relationships help to reduce substance use among young people (and the harms associated with that substance use),[68] while also directly addressing one of the major risk factors for psychosis and other mental illnesses in young people (particularly by preventing the early and frequent use of cannabis).

While primary prevention initiatives are vital in their own right, the intersection of social and environmental risk factors with individual risk factors means that more personalized, individual-level interventions are also needed to prevent and mitigate psychosis and other mental illnesses in at-risk young people. This is where the study of psychosis risk trajectories offers further promise. Not only will a better understanding of the pathways that lead from having a general risk of mental illness to a more specific risk of psychosis help researchers to develop precisely targeted interventions to prevent psychosis, but it will also provide researchers with the opportunity to map out the risk trajectories associated with other mental illnesses. This work will set the stage for even earlier interventions that will be able to prevent the onset of mental illness in children and youth.

The Youth Mental Health Paradigm

Understanding how researchers can begin to unravel risk trajectories that lead to other mental illnesses in children and youth is complicated, but the youth mental health paradigm can help conceptualize the process.[69] This paradigm identifies *sensitive periods* across the lifespan when disruptions in brain development and related emotions, cognitions, language and behaviours can increase a young person's risk of developing symptoms of specific mental illnesses.[70] Evidence shows that the average age of onset for each mental illness is:

- Anxiety disorders, age 5 ½ (with another spike at age 15 ½);

- Obsessive compulsive disorder, age 14 ½;
- Eating disorders, age 15 ½;
- Substance use disorders, age 19 ½;
- Mood disorders, age 20 ½;
- Psychotic disorders, age 20 ½; and
- Personality disorders, age 20 ½.[71]

Similarly, neurodevelopmental disorders such as ASD and attention-deficit/ hyperactivity disorder (ADHD) develop during sensitive periods in infancy and early childhood,[72] and can lay the groundwork for subsequent mental health problems in later childhood and adolescence.[73] For example, children with ASD can begin to show mental health difficulties at age four, with emotional difficulties, conduct problems and hyperactivity persisting into their young teenage years.[74] They are also at a five to six fold increase of developing psychosis or bipolar disorder as young adults,[75] suggesting shared genes may bear some responsibility for the overlap of ASD and certain mental illnesses. Children with ADHD are at significantly increased risk of a range of mental illnesses as they move into adolescence, including conduct disorders, mood and anxiety disorders, personality disorders and substance use disorders.[76]

The youth mental health paradigm relies on recent evidence suggesting that young people who experience symptoms of one mental illness are at greater risk of developing subsequent mental illnesses.[77] Therefore, a young person diagnosed with an anxiety disorder in their teenage years, may be at greater risk of developing a substance use disorder in early adulthood compared to a peer without a previous mental health diagnosis. Evidence further suggests that the younger a person is when they first develop symptoms of mental illness the more likely they are to develop other mental illnesses as they grow older.[78] A child with ASD, for example, may start by showing symptoms of anxiety in early childhood, followed by symptoms of depression and/or substance use disorder in their teenage years, then progress to psychosis symptoms in early adulthood. The younger a person is when they initially show signs of mental illness, the more difficult it may be for them to recover.[79] Fortunately, the youth mental health paradigm's sensitive periods also align with *windows of opportunity* for targeted prevention and intervention strategies.

The youth mental health paradigm provides a framework for researchers to begin mapping out the risk trajectories of each mental illness and to learn more about what triggers onset at different sensitive developmental periods. A better understanding of these risk trajectories will then help researchers to develop personalized, evidence-informed prevention and intervention strategies that target specific risk factors during corresponding windows of opportunity.[80] These individualized care pathways, combined with efforts to support early neurodevelopment, provide a glimpse of a future where mental health recovery is assured and serious mental illness is preventable.[81] Research studies like the TAY cohort study are crucial for achieving that goal, but are just the beginning.

Shifting Our Approach to Mental Health Care

Preventing serious mental illness is possible, but getting there will take time. It will require a shift in our collective approach to mental health care. This means pivoting from a focus on providing care and treatment as usual, to implementing mental illness prevention and intervention strategies across the lifespan. Given that the majority of mental illnesses begin before the age of 25,[82] prevention and early intervention for children and youth will be of particular importance. This will require standardizing and improving access to evidence-informed clinical services across the country, such as EPI programs, and strategies to identify and intervene with young people at high risk of psychosis and other

mental illnesses. It will also mean significant new investments in research, data and knowledge sharing, [83] both to understand the risk trajectories of psychosis and other mental illnesses, but also to develop targeted, evidence-informed prevention and intervention strategies – strategies that will benefit from continued advancements in precision/personalized medicine.[84]

Shifting our focus in mental health care will require a commitment from everyone across the mental health care system and beyond. Support from governments and decision-makers will be crucial.

Recommendations for governments and decision-makers

Provincial recommendations

1. Create a framework for inter-sectoral collaboration and integration between the child and youth mental health sector, the broader health care sector (e.g. primary care, adult mental health care) and other sectors (e.g. education, child welfare, justice) to ensure seamless, comprehensive care and supports for young people.
2. Expand implementation of NAVIGATE across all EPI programs in Ontario to ensure standardized care for all young people with psychosis.
3. Create a centralized access point for all EPI programs in Ontario along with standardized criteria for consultation, admission and exclusion.
4. Work with experts to develop and implement an integrated screening tool to help front line health care professionals identify young people who may be at clinical high risk of psychosis. Ensure all young people with a parent with psychosis are proactively screened.
5. Substantially increase funding for child and youth mental health clinics in tertiary settings (E.g. EPI programs; intensive, specialty team based care) for young people with multiple, complex diagnoses, to facilitate recovery and mitigate long-term impacts.
6. Make significant investments in inter-sectoral partnerships to a create matched-care models for child and youth mental health. This should include funding for primary prevention programs, early screening, assessment and diagnosis services, and a range of care and treatment programs. Rapid, equitable access to care and supports must be a priority.
7. Introduce school-based interventions to prevent/reduce cannabis and other substance use in young people. Interventions should be evidence-based and include a focus on skill-building, psychosocial development, and relationships.

Federal recommendations

1. Develop national standards for EPI services so that all young people experiencing a first episode of psychosis have access to high-quality, evidence-informed care and treatment no matter where in Canada they live.
2. Double the current funding for health research and substantially increase investments in mental health research. Earmark a significant portion of this funding for research on understanding psychosis and other mental illness risk trajectories and developing targeted, preventative interventions for young people.
3. Remove barriers to data sharing across sectors and provinces/territories to assist mental health research and evaluation.

Conclusion

The study of psychosis risk trajectories offers hope for psychosis prevention and mitigation, and offers a glimpse into the future of personalized mental health care – a future where good mental health and well-being is available to us all.

Conclusion

Evidence-based EPI programs improve the lives of young people experiencing their first episode of psychosis by reducing symptoms and enhancing quality of life. Ontario's efforts to expand and standardize these programs are an important step in creating equitable access to high-quality mental health care for young people with psychosis across the province. The challenge is that existing EPI programs do not intervene early enough to reverse many of the disabilities associated with psychosis. That is why efforts to intervene even earlier are so crucial. Identifying and treating young people at high risk for psychosis, as well as research to understand and intervene in psychosis risk trajectories offer hope for psychosis mitigation and prevention. Research on psychosis risk trajectories also offers a glimpse into the future of mental health care – a future where personalized, evidence-informed prevention and intervention strategies disrupt mental illness risk trajectories and good mental health and well-being is available to us all.

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