



Invited commentary

## Early intervention in psychosis: Building a strategic roadmap for Massachusetts



Kelsey A. Johnson<sup>a,\*</sup>, Margaret Guyer<sup>b,c</sup>, Dost Öngür<sup>c,d</sup>, Michelle Friedman-Yakoobian<sup>a,c</sup>, Emily Kline<sup>a,c</sup>, Emily Carol<sup>c,d</sup>, Beshaun Davis<sup>a,c</sup>, Matcheri Keshavan<sup>a,c</sup>

<sup>a</sup> Beth Israel Deaconess Medical Center, Department of Psychiatry, United States of America

<sup>b</sup> Massachusetts Department of Mental Health, United States of America

<sup>c</sup> Harvard Medical School, Department of Psychiatry, United States of America

<sup>d</sup> McLean Hospital, United States of America

### ARTICLE INFO

#### Article history:

Received 18 December 2020

Received in revised form 29 January 2021

Accepted 30 January 2021

Available online xxxx

#### Keywords:

Early psychosis

Strategic plan

Conference proceedings

First episode psychosis

Coordinated specialty care

Early intervention

### 1. Strategic planning for early psychosis interventions

Early intervention (EI) for psychotic disorders is an emerging priority for governments around the globe. This public health initiative has gained traction in the United States in the past decade, driven by a paradigm shift focused on prevention of poor outcomes through earlier treatment. The core tenets of EI— characterizing early psychosis, reducing treatment delays, and alleviating the burden of psychotic symptoms in their initial stages— have been shown to be effective, particularly in the short term (AlAqeel and Margoese, 2012; Srihari et al., 2012). Thus, the goal of the Department of Mental Health (DMH) in Massachusetts is to partner with community stakeholders to develop a strategic plan to support EI in psychosis.

On November 5th, 2020, the Massachusetts DMH, the Laboratory for Early Psychosis (LEAP) Center, and the Massachusetts Psychosis

Network for Early Treatment (MAPNET) jointly sponsored a symposium to develop a strategic plan for Massachusetts. The goal of this plan is to identify priorities for future state-funded EI initiatives, providing an evidence-based rationale for investing in EI. This conference brought in a broad set of stakeholders, including clients with lived experiences of psychosis, family members, clinicians, and others directly involved in Massachusetts's mental health system.

### 2. Global, national, and local frameworks

The opening talk was led by Professor Patrick McGorry (University of Melbourne) to provide a global perspective on EI in psychosis. Prof. McGorry described the need to “bend the curve” in improving outcomes in early psychosis, identifying key evidence-based interventions that are gaining traction worldwide. He identified a steady uptake in the incorporation of EI models into global healthcare services, noting several meta-analyses showing superiority of targeted treatment in early and emerging psychosis (Correll et al., 2018; Devoe et al., 2019). Lastly, Prof. McGorry pointed to the substantive heterogeneity in diagnostic outcomes across the psychosis spectrum and advocated for a transdiagnostic staging approach in EI.

Dr. Robert Heinsen (National Institutes of Mental Health) then provided an overview of national trends in care for early course psychosis. Dr. Heinsen reviewed foundational studies showing that EI improves both symptomology and quality of life (Kane et al., 2016). With backing from the 21st Century Cures Act (H.R. Report No. 34, 2016), government funding has led to a dramatic expansion of the number of coordinated specialty care (CSC) programs across the US — at least 330 as of 2020. Dr. Heinsen described the Early Psychosis Intervention Network (EPINET), which will fund multiple regional hubs across the US to create a learning healthcare system for EI.

Dr. Dost Ongur (McLean Hospital, Harvard Medical School) linked national progress with local innovations in Massachusetts. His talk introduced the LEAP Center, which seeks to develop collaborations between national stakeholders at EPINET and researchers in Massachusetts. Further narrowing the focus to Massachusetts, Dr.

\* Corresponding author.

E-mail address: [kjohns20@bidmc.harvard.edu](mailto:kjohns20@bidmc.harvard.edu) (K.A. Johnson).

Margaret Guyer (Massachusetts DMH) spoke specifically on the development of a strategic plan. Dr. Guyer outlined current goals to expand EI services to enhance awareness, access, and availability for all young people showing early signs of psychosis and encouraged attendees to reflect on promising directions for the future of EI.

### 3. Pathways & barriers to care

Dr. Emily Kline (Beth Israel Deaconess Medical Center, Harvard Medical School) presented on barriers to engagement in EI programs in Massachusetts. Dr. Kline noted the significant gap between research-demonstrated efficacy and real-world implementation of EI treatment services and presented evidence suggesting that many who need treatment do not receive it (Schoenbaum et al., 2017). Barriers and attrition in care engagement are inherently linked to economic and racial disparities. The efficacy-effectiveness gap could also be exacerbated by overly rigid efforts to implement evidence-based practices. Dr. Kline identified strategic areas for improvement including treatment accessibility, community awareness, and enhancing equity both in staffing and patient engagement.

Dr. Vinod Srihari (Yale University School of Medicine) presented a recently completed project demonstrating the ability of population-level interventions to reduce treatment delays for psychosis, building upon prior Scandinavian initiatives to demonstrate how delays might be reduced in the United States (Johannessen et al., 2000; Srihari et al., 2020). This project consisted of a media campaign, professional outreach to community referral targets (ex., schools, healthcare providers), and efforts to provide treatment in a CSC clinic within a week of contact. Compared to a demographically similar control site, preliminary results suggest that increasing awareness and providing rapid access to care can reduce treatment delays, thereby improving treatment outcomes.

### 4. Building capacity & workforce

Dr. Lisa Dixon (Columbia University Medical Center, New York State Psychiatric Institute) led a discussion on implementation strategies to scale up evidence-based interventions for psychotic disorders, drawing from her experience at the Center for Practice Innovations (CPI). Dr. Dixon identified the value of intermediate purveyor organizations, which provide external technical assistance to assist with education, fidelity improvements, and capacity building. Sharing the perspective developed at the CPI, she identified a strategy to build a synergetic system of care and outlined approaches to organize clinical data to inform improvements in both individual services and statewide mental health systems.

Drs. Margaret Guyer (DMH) and Michelle Friedman-Yakoobian (Beth Israel Deaconess Medical Center, Harvard Medical School) reviewed workforce development efforts in Massachusetts. They described a three-tiered approach, including educational resources to facilitate recognition and response to signs of psychosis in the community, targeted outreach to staff likely to come in contact with youth experiencing psychosis, and intensive training for students to build the future workforce. Ongoing challenges were discussed, including turnover, limited training on psychosis in graduate programs, and a need for increased racial diversity in the workforce.

### 5. Paying for services

Dr. Ken Duckworth (Blue Cross Blue Shield Association, National Alliance on Mental Illness) proposed a strategy to enhance financial sustainability of EI. He compared the financing of EI to similar services that are reimbursed using a bundled “day rate” rather than a fee-for-service model. He proposed a similar approach for CSC programs, in which a program-level day rate would replace or augment current billing code-based reimbursement. Dr. Duckworth offered evidence that EI reduces downstream costs related to emergency care as an industry

rationale for favoring this model (Dixon et al., 2015; Murphy et al., 2018). He advocated for establishing a nationally recognized certification and licensure model for CSC, which payers could rely upon to ensure high-quality clinical services.

### 6. Lived experience & clinician panels

Three panel discussions were held, one led by clients, another by parents, and a third by frontline clinicians. A common theme across panels was to identify the strengths of CSC, including the team-based approach, autonomy in choosing services, and access to peer support. The ability to participate in a shared decision-making model was viewed as critical by the client panel; one panelist described feeling as if they had been presented a “menu” of treatment options, from which they could build a treatment plan that worked for them. However, both clients and family members pointed to serious flaws in the mental health system. Hospitalizations and interactions with first responders were described as stressful and potentially harmful. Parents described obvious disparities between the physical facilities, staffing, and overall dignity of care provided in psychiatric facilities relative to other medical services. Such disparities are particularly salient for families with financial limitations and undermine confidence in the system. Amidst these challenges, parents identified family support groups as a lifesaving resource provided by CSC programs.

Clinician stakeholders described the gratifying experience of following a client's recovery, noting that strengths- and resilience-based approaches are critical. Clinicians identified roadblocks including issues with transportation, technological barriers in telehealth, and limitations in a fee-for-service reimbursement system. Suggestions for the strategic plan included increasing the availability of peer support, enhancing services offered to families, and engaging with community partners in education and hospital settings.

### 7. Conclusion

This conference generated a wealth of knowledge for Massachusetts's strategic plan. The goals of EI remain aspirational, particularly given the implementation difficulties discussed as well as emerging evidence disputing the long-term clinical impact of current EI models (Chan et al., 2019). Increasing awareness of and access to EI, implementing evidence-based approaches to care, and enhancing affordability of care may be important steps to advance this system. The next step of this planning process will be to integrate these potential action items into the strategic plan alongside an analysis of implementation barriers. The resulting document will provide a roadmap to build a more responsive, cohesive, and inclusive system of psychosis care.

Though this conference was specific to Massachusetts, these discussions can provide guidance for other communities seeking to develop EI services. These efforts are naturally region-specific; there are substantial differences in the course, outcomes, and presentation of psychosis globally, each tied to a region's unique sociocultural context and healthcare system (Thirthalli, 2020). This conference posed critical questions for EI: what has worked, and what has not? How do we distribute the benefits more widely? Though the answers will differ across global settings, a critical lens on implementation is necessary to improve the lives of individuals affected by serious mental illness.

### Role of the funding source

Funding for this conference was provided by the Laboratory for Early Psychosis (LEAP) Center (NIH, 5P50MH115846-02) and the Commonwealth of Massachusetts Department of Mental Health (SCDMH822018082610000). Dr. Margaret Guyer of the Department of Mental Health had a role in planning and facilitating this conference, and reviewed this manuscript prior to submission.

## CRediT authorship contribution statement

Kelsey A. Johnson had the primary role in writing and organizing this manuscript, and aided in planning, facilitation, and note-taking for the November 5th conference.

Matcheri Keshavan presented at the November 5th conference and was a lead organizer in the planning and facilitation of this conference. He provided detailed notes which, along with video recordings, formed the majority of the content included in these proceedings.

Margaret Guyer, Dost Ongur, Michelle Friedman-Yakoobian, and Emily Kline presented at the November 5th conference and were lead organizers in the planning and facilitation of this conference. All provided input on this manuscript and reviewed it for accuracy.

Emily Carol aided in the planning and facilitation of the November 5th conference. She provided input on this manuscript and reviewed it for accuracy.

Bashaun Davis led the client panel in the November 5th conference and aided in the planning and facilitation of this conference. He provided input on this manuscript and reviewed it for accuracy.

## Declaration of competing interest

The authors listed on this manuscript have no affiliations with or involvement in any organization or entity with any financial interest in the subject matter discussed in this manuscript. There are no conflicts of interest to report.

## Acknowledgement

The authors wish to acknowledge Sandra Melanson for her role in planning and organizing the conference; Alisa Lincoln, Raimy Jaramillo, and Atsushi Matsumoto for their contributions toward developing a strategic plan; and Alyssa Williamson for her assistance in preparing these proceedings for publication. We would also like to acknowledge the Laboratory for Early Psychosis (LEAP) Center (NIH, 5P50MH115846-02) and the Commonwealth of Massachusetts Department of Mental Health (SCDMH822018082610000) for providing funding for this conference.

## References

21st Century Cures Act. H.R. 34, 114th Congress.

- AlAqeel, B., Margolese, H.C., 2012. Remission in schizophrenia: critical and systematic review. *Harvard Review of Psychiatry* 20 (6), 281–297. <https://doi.org/10.3109/10673229.2012.747804>.
- Chan, S.K.W., Chan, H.Y.V., Devlin, J., Bastiampillai, T., Mohan, T., Hui, C.L.M., Chang, W.C., Lee, E.H.M., Chen, E.Y.H., 2019. A systematic review of long-term outcomes of patients with psychosis who received early intervention services. *International Review of Psychiatry* (Abingdon, England) 31 (5–6), 425–440. <https://doi.org/10.1080/09540261.2019.1643704>.
- Correll, C., Galling, B., Pawar, A., Krivko, A., Bonetto, C., Ruggeri, M., Craig, T., Nordentoft, M., Srihari, V., Guloksuz, S., Hui, C.L., Chen, E.Y., Valencia, M., Juarez, F., Robinson, D., Schooler, N., Brunette, M., Mueser, K., Rosenheck, R., ... Kane, J., 2018. Comparison of Early Intervention Services vs Treatment as Usual for Early-Phase Psychosis: A Systematic Review, Meta-analysis, and Meta-regression. *Jama Psychiatry* 75 (6), 555–565. <https://doi.org/10.1001/jamapsychiatry.2018.0623>.
- Devoe, D.J., Farris, M.S., Townes, P., Addington, J., 2019. Interventions and social functioning in youth at risk of psychosis: a systematic review and meta-analysis. *Early Intervention in Psychiatry* 13 (2), 169–180. <https://doi.org/10.1111/eip.12689>.
- Dixon, L.B., Goldman, H.H., Bennett, M.E., Wang, Y., McNamara, K.A., Mendon, S.J., Goldstein, A.B., Choi, C.-W.J., Lee, R.J., Lieberman, J.A., Essock, S.M., 2015. Implementing coordinated specialty care for early psychosis: the RAISE connection program. *Psychiatr. Serv.* 66 (7), 691–698. <https://doi.org/10.1176/appi.ps.201400281>.
- Johannessen, J.O., Larsen, T.K., McGlashan, T., Vaglum, P., 2000. Early intervention in psychosis: the TIPS project, a multi-centre study in Scandinavia. *Psychosis: Psychological Approaches and Their Effectiveness*. Gaskell/Royal College of Psychiatrists, pp. 210–234.
- Kane, J.M., Robinson, D.G., Schooler, N.R., Mueser, K.T., Penn, D.L., Rosenheck, R.A., Addington, J., Brunette, M.F., Correll, C.U., Estroff, S.E., Marcy, P., Robinson, J., Meyer-Kalos, P.S., Gottlieb, J.D., Glynn, S.M., Lynde, D.W., Pipes, R., Kurian, B.T., Miller, A.L., ... Heinsen, R.K., 2016. Comprehensive Versus Usual Community Care For First Episode Psychosis: Two-Year Outcomes From The NIMH RAISE Early Treatment Program. *The American Journal of Psychiatry* 173 (4), 362–372. <https://doi.org/10.1176/appi.ajp.2015.15050632>.
- Murphy, S.M., Kucukgoncu, S., Bao, Y., Li, F., Tek, C., Breitborde, N.J.K., Guloksuz, S., Phutane, V.H., Ozkan, B., Pollard, J.M., Cahill, J.D., Woods, S.W., Cole, R.A., Schoenbaum, M., Srihari, V.H., 2018. An economic evaluation of coordinated specialty care (CSC) services for first-episode psychosis in the U.S. public sector. *The Journal of Mental Health Policy and Economics* 21 (3), 123–130.
- Schoenbaum, M., Sutherland, J.M., Chappel, A., Azrin, S., Goldstein, A.B., Rupp, A., Heinsen, R.K., 2017. Twelve-month health care use and mortality in commercially insured young people with incident psychosis in the United States. *Schizophr. Bull.* 43 (6), 1262–1272. <https://doi.org/10.1093/schbul/sbx009>.
- Srihari, V.H., Shah, J., Keshavan, M.S., 2012. Is early intervention for psychosis feasible and effective? *Psychiatr. Clin. N. Am.* 35 (3), 613–631. <https://doi.org/10.1016/j.psc.2012.06.004>.
- Srihari, V., Ferrara, M., Kline, E., Li, F., Burke, S., Cahill, J., Guloksuz, S., Woods, S., Tek, C., Keshavan, M., 2020. Reducing the duration of untreated psychosis in a U.S. catchment: the Mindmap campaign. *Schizophrenia Bulletin* 46 (Suppl. 1), S1. <https://doi.org/10.1093/schbul/sbaa028.001>.
- Thirthalli, J., 2020. Early interventions in psychotic disorders: need for regional adaptations. *Journal of Psychosocial Rehabilitation and Mental Health* 7 (3), 199–202. <https://doi.org/10.1007/s40737-020-00206-4>.