EPI CANADA
Early Psychosis Intervention

How far we have come *and where we need to go:*

A multidisciplinary panel discussion on the use of long-acting injectable medication in Canada

In collaboration with

SSC™ SCHIZOPHRENIA SOCIETY OF CANADA

EPION EARLY PSYCHOSIS INTERVENTION ONTARIO NETWORK

Mood Disorders Society of Canada
Société pour **les troubles de l'humeur** du Canada

Executive summary

How far we have come *and where we need to go*

A multidisciplinary panel discussion on the use of long-acting injectable medication in Canada

Schizophrenia and related psychotic disorders present a significant burden in Canada, in part due to high relapse rates and frequent hospitalizations.[1,2] While oral antipsychotics are effective, consistent adherence is frequently compromised by system-level challenges and patient-level factors, resulting in a cycle of instability that is increasingly difficult to treat effectively over the long term.[2,3]

To address these challenges, clinical guidelines and real-world evidence increasingly advocate for long-acting injectable antipsychotics (LAIs) as a first-line treatment option, particularly during the critical early stages of illness.[2,3] Evidence demonstrates that LAIs are associated with significant reductions in all-cause mortality, suicide, relapse rates, and healthcare costs, while also decreasing the duration of hospitalizations and the frequency of legal system involvements such as arrests or incarcerations.[4–13] Despite these clear benefits, LAIs remain underused in Canada, representing a significant gap between clinical evidence and routine practice.[14–16]

To help understand the current landscape and offer guidance on overcoming barriers to LAI use, a multidisciplinary, pan-Canadian meeting was organized by *EPI Canada*, in late 2025. The panel identified several persistent hurdles to widespread LAI adoption, such as clinician bias, training gaps, transitions of care, and systemic issues.

To address these challenges, the panel suggests shifting the perception of LAIs from a "punishment for nonadherence" to a modern delivery system. Actionable strategies include expanding education, leveraging therapeutic innovation, and enhanced advocacy. By aligning frontline providers with patient-centered advocacy, Canada can reduce the long-term burden of schizophrenia and offer patients a meaningful chance at stable, long-term recovery.

Introduction

01

Schizophrenia and related psychotic disorders are serious conditions that impact all aspects of life for more than 147,500 people in Canada.[1,2]

Despite the efficacy of antipsychotic interventions, the high rate of relapse remains a critical concern. Beyond personal and family distress, relapses create a significant societal burden and can make the condition more difficult to treat effectively in the long run.[2,3]

Adherence to antipsychotic medication is complicated by challenges, such as cost and access; and patient level challenges, including lack of insight, cognitive dysfunction, lack of social support, economic disadvantage, substance use, and the stigma often associated with psychosis.[2]

Long-acting injectable antipsychotics (LAIs) have been associated with a number of benefits compared to oral antipsychotics, including functional improvements to allow focus on psychosocial interventions, as well as reductions in:[4–13]

- All-cause mortality, including suicide
- Number and duration of hospitalizations
- Relapse rates
- Treatment discontinuation rates
- Side effects
- Healthcare costs
- Arrests and incarcerations

"Greater use of LAIs, especially during early course of psychotic disorders, may prevent relapses in vulnerable patients, prolong periods of remission, and facilitate engagement in psychosocial interventions and rehabilitation in patients otherwise unlikely to engage in these aspects of treatment."

Dr. Ashok Malla,
"Long-acting injectable antipsychotics: Recommendations for clinicians",
The Canadian Journal of Psychiatry, 2013

While historically reserved for patients with a history of nonadherence, clinical guidelines and real-world evidence advocate for positioning LAIs as a first-line treatment option, particularly during the critical early stages of the illness.[1–3,14,15] Moreover, studies have shown that preventive use of LAIs is more beneficial than reactive use after nonadherence or relapse.[2] Oral antipsychotic use has been a stronger predictor of hospital readmission than substance misuse.[16,17]

Despite this, Canadian retrospective studies show that LAIs remain underused outside of early intervention programs, and are often delayed until the third line of therapy or later.[2] For healthcare providers in Canada, the primary challenge is no longer a lack of efficacy data, but rather the clinical implementation of these treatments. Overcoming biases and integrating LAIs into routine care are essential to reducing the long-term burden of schizophrenia and improving the quality of life for patients across the country.

To help understand the current landscape and offer guidance on overcoming barriers to LAI use, a multidisciplinary, pan-Canadian meeting was organized by EPI Canada. Attendees included psychiatrists, pharmacists, registered nurses, nurse practitioners, social workers, and patient advocates from across the country. This summary captures the panel's key insights.

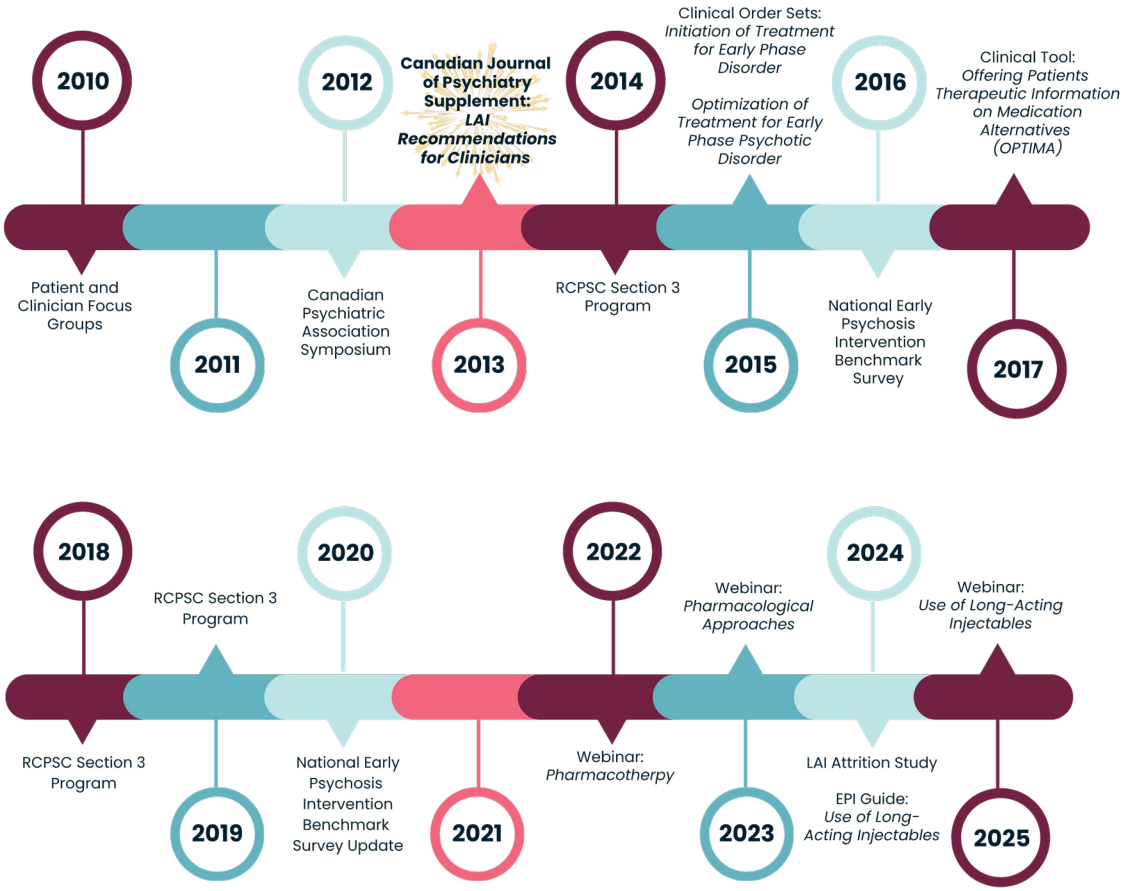
02 The role of Early Psychosis Intervention Canada

EPI Canada has long advocated for the use of LAIs to help improve patient outcomes after observing their benefits. This national not-for-profit, founded in 2012 as the Canadian Consortium for Early Intervention in Psychosis, brings together researchers and clinicians to improve early intervention services (EIS) for people with psychosis by offering guidance, research, education, and clinical tools.

Since first publishing *'Long-acting injectable antipsychotics: Recommendations for clinicians'* in 2013, as early adopters, the group has advocated LAIs as a first-line option for all patients, rather than a punitive measure for nonadherent patients.

With this goal in mind, EPI Canada continues to develop knowledge translation and dissemination activities, with the goal of offering patients the best chance at a meaningful life.

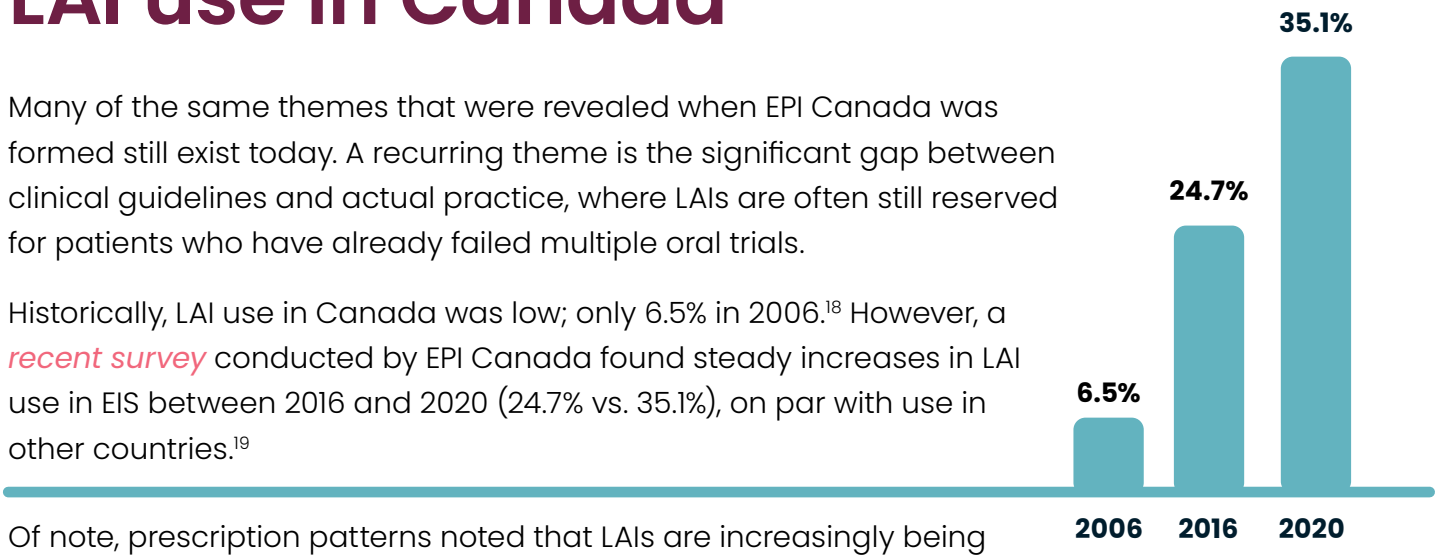
Figure 1. EPI Canada LAI-related activities



03 LAI use in Canada

Many of the same themes that were revealed when EPI Canada was formed still exist today. A recurring theme is the significant gap between clinical guidelines and actual practice, where LAIs are often still reserved for patients who have already failed multiple oral trials.

Historically, LAI use in Canada was low; only 6.5% in 2006.[18] However, a *recent survey* conducted by EPI Canada found steady increases in LAI use in EIS between 2016 and 2020 (24.7% vs. 35.1%), on par with use in other countries.[19]



Of note, prescription patterns noted that LAIs are increasingly being used early the course of illness and as part of routine clinical care, with most being initiated without coercive/legal context (e.g., community treatment orders), and as part of routine clinical care, in line with guideline recommendations.[3,19] The majority of injections were administered within the clinic an individual's case-manager or nurse, offering a patient-centred approach to support continuity of care and treatment engagement.[19]

70.6% of the patient population remained on LAIs at 24 months post-discharge

Another *EPI Canada real-world study* examining the continued use of LAIs following EIS discharge found that while 70.6% of the patient population remained on LAIs at 24 months post-discharge, discontinuation of LAIs after discharge may contribute to decreases in EIS treatment gains.[16] The retrospective cohort study further noted associations with LAI use and reduced emergency visits, inpatient admissions, and reduced inpatient stays in patients with long-standing psychotic disorders.[16]

While discontinuation was occasionally driven by clinicians' desires to reduce side effects or switching to clozapine, this study found it was most likely to be patient driven ("patient refused"). Unexpectedly, the study noted a subset of treatment-adherent patients who stopped and then restarted their LAI medication, suggesting that continuing to offer LAIs even after an initial period of discontinuation or reluctance may be beneficial. It also may indicate that, despite stated negative views of LAIs by patients in this subset at discontinuation, their past experience demonstrated LAI efficacy.[16] Further patient education, when indicated, on the long-term or ongoing benefits of LAI use may increase consistent use.[16]

This study adds to the evidence that continued promotion of LAI use is important for treatment success for individuals with early phase psychosis.[16]

Philip Tibbo, MD, FRCPC

Professor

Dr Paul Janssen Chair in Psychotic Disorders

Director of Research

Department of Psychiatry; Dalhousie University

Clinical Director - Early Psychosis Intervention Nova Scotia

Past President – EPI Canada

Presenting on: EPI Canada LAI Initiatives

Pierre Chue, MBBCh, FRCPsych, LMCC, FRCPC, DABPN, MSc, CCST

Clinical Director of International Trainees,
Office of International Programs;

Professor, Faculty of Medicine and Dentistry;

Adjunct Academic Colleague, Faculty of Pharmacy & Pharmaceutical Science, University of Alberta

Professor, Global Faculty Affiliates Program, VinUniversity, Hanoi, Vietnam

Adjunct Academic Staff, Dalhousie University

Presenting on: Evidence for LAI Use Across the Globe

04 Barriers to adherence and widespread LAI use

Despite the wealth of guideline recommendations, demonstrated efficacy, research, and education demonstrating the benefits of LAIs, they continue to be persistently underused in clinical practice. During the meeting, panellists considered their experiences with LAIs to uncover present day barriers.

Clinician awareness, knowledge, experience, and attitudes

Clinician bias and stigma: There is a persistent assumption among some prescribers that patients will reject needles due to fear, feelings of coercion, or pain. However, anecdotal evidence shared by panellists suggested patients are often highly receptive to the "relief" of not requiring daily pills. Panellists considered that with the recent increase in use of injectable therapeutics, such as GLP-1 receptor agonists, buprenorphine/naloxone, suboxone, or vaccinations, patients may have increased comfort levels with needles as a method of administration.

Perceptions of appropriate patient populations: Lingering views of offering LAIs only to nonadherent patients persists, despite education and recommendations that they should be offered in all phases of psychosis.[3]

Discomfort with offering LAIs and expectations of refusal: Panellists noted that many clinicians are not comfortable with discussing LAIs or are not well equipped to handle objections. Others find that patients receive conflicting messaging on LAIs. One experienced psychiatrist stated that depending on how the discussion is framed, most patients are very accepting of LAIs.

Training gaps: Many medical residents lack exposure to LAIs. There is a critical need to update educational curricula to ensure new clinicians are educated on both the didactic and practical aspects of depot medication in schizophrenia and related psychotic illnesses. Multidisciplinary clinicians, such as primary care physicians, nurses, social workers, and pharmacists, also lack education on LAI administration and monitoring. One pharmacist mentioned that many colleagues are cautious to offer patients guidance on LAIs for fear of interfering with what their psychiatrist has told them. Given that patients tend to see mulidisciplinary clinicians more frequently than psychiatrists, they are a critical focus for education.

Initiation of LAIs is not often considered in acute/emergency settings: The antipsychotic medication and formulation that is initiated in emergency/inpatient care tends to be the one that is continued. However, long-term outcomes should be considered during antipsychotic initiation, as many medications can transition to LAI formulations following the first few doses of oral antipsychotic therapy.

The pharmacokinetics of atypical LAIs, new formulations that do not require oral supplementation or loading doses, and new loading strategies with the rapid achievement (hours to days) of therapeutic plasma levels suggests consideration of earlier initiation in a variety of acute care settings to help stabilize patients presenting with acute exacerbations of psychosis.[20] Initiation of LAIs in the emergency department or day hospital settings could avoid unnecessary medication switches. It may also allow for community interventions, deferring or avoiding hospitalization with consequently less disruption and stress for patients, caregivers, and supports.[20]

Atypical LAIs approved in Canada[20]	Injection type	Site	Frequency	Oral supplementation or loading dose	Time to therapeutic levels
Aripiprazole monohydrate *(monthly)*	Intramuscular (IM)	Deltoid/ gluteal	Q1M	Yes	24 hours
Aripiprazole thixotropic *(two-monthly)*	IM	Gluteal	Q2M	Yes	24 hours
Paliperidone palmitate *(monthly)*	IM	Deltoid/ gluteal	Q1M	Yes	4 days
Paliperidone palmitate *(three-monthly)*	IM	Deltoid/ gluteal	Q3M	No (must be stabilized on Q1M PP)	Therapeutic levels maintained if switched after 4 doses of Q1M PP
Risperidone microspheres	IM	Deltoid/ gluteal	Q2W	Yes	3 weeks
Risperidone In-situ microparticles	IM	Deltoid/ gluteal	Q1M	No	<24 hours
Risperidone extended-release suspension	Subcutaneous	Abdomen/ back of arm	Q1M	No	<24 hours

Challenges with transitions of care: Another area where medication adherence is challenged is during transitions of care. Following discharge from inpatient units or EIS, patients have less support with medication adherence. Particularly, the transition of care from specialized EPI programs back to primary or community care can be especially difficult, as many family physicians feel uncomfortable administering injections, changing medication dosage or agent, or managing the specialized side effects of antipsychotics. Panellists considered that LAIs may offer a buffer to ensure continued therapeutic levels during this challenging time, with the potential to reduce length of stay and keep patients stable through the transition to community care, when patients are often at increased risk of decompensation and thus decreasing the likelihood of early readmission.[20]

Patient and caregiver awareness, knowledge, experience, and attitudes

Stigma: Stigma remains a major hurdle; some patients perceive injections as coercive or "not normal" compared to taking a pill. Further, panellists considered that patients with a history of substance use may resist injectable treatments, as the use of needles can serve as a psychological trigger for relapse or recall traumatic past experiences with both drug use and the healthcare system.

Lack of insight serves as a primary clinical barrier to the initiation and maintenance of LAIs as it denotes a fundamental disconnect between the patient's perceptions of health and the clinical reality of their condition. Patients with low insight are often more likely to prioritize immediate autonomy of oral medication over the long term stability offered by injectable formulations.

Lack of awareness/education: Patients and caregivers are often overwhelmed after a schizophrenia or related illness diagnosis and may share perceptions that LAIs are reserved for nonadherent patients. Ensuring they are educated on the importance of adherence, avoiding relapse, and understand the benefits of LAI medication during shared decision making is critical.

Discomfort with questioning prescribers: While some patients may be interested in LAIs, many are not comfortable questioning their healthcare team and assume that "prescribers know best".

Impact of patient gender: It was noted in the *EPI LAI prevalence study* that most patients currently on LAIs were male, leading to the question as to why more women were not on LAIs.[19] While community treatment orders may play a factor,

many patients choose LAIs. It was considered that women may be perceived to be "more adherent" to medication than men and therefore may not be offered LAIs as frequently. Further, women are more likely to experience increased rates of side effects which may result in more LAI discontinuation.[21]

Cost, convenience, and access

Decentralization of injection clinics: Many dedicated injection clinics have been integrated into community practice, with nurses and pharmacists administering injections. This has been viewed as both beneficial, increasing access and convenience for patients, and detrimental, offering less oversight and varying comfort levels of clinicians, nurses, and community pharmacists in administering LAIs. Further, for those patients that receive their injections outside of their usual clinic, quality of care can be impacted as LAI administration appointments are major points of interaction for patients to address side effects and symptoms.

Perceptions of inconvenience: Administration of LAIs requires appointments, travel, and effort, which can impact acceptance.

Coverage: The cost of medication can be prohibitive and reimbursement can be complex. Ensuring LAIs are accessible and reimbursed easily and equally across Canada is critical to ensuring access. Ensuring equal coverage in both the public and private medication payer systems is essential as well.

Medication considerations

Barriers to therapeutic drug monitoring (TDM): The application of TDM to LAIs can be helpful in clinical scenarios, such as lack of therapeutic response, occurrence of relapse, or adverse drug reactions related to antipsychotic treatment. Access and use vary significantly across Canada, and patient barriers of convenience or lack of understanding can also impact TDM use.[22,23] The newer loading strategies and formulations of atypical LAIs allow for the attainment of therapeutic plasma levels within hours to days after initiation.[20]

Lack of awareness of dose optimization: Many clinicians are not aware of how to initiate and titrate to optimize LAIs or understand the flexibility of LAI dosing. Very low doses or fractionating the dose (where feasible) can help to manage side effects and should be considered when patients discuss stopping LAIs for this reason. Discussions emphasized "individualized dosing," noting that younger, first-episode patients often remain stable on lower doses than the standard range (e.g., lower-range aripiprazole or risperidone). Due to the cohort in pivotal clinical trials (older, long duration of illness, etc.), clinicians considered use of a lower dose than the currently approved dosing indications, particularly for first-episode patients, may prove beneficial. In conjunction with TDM, LAI dosing and frequency can be adjusted empirically outside of product monograph recommendations in clinical practice to optimize outcomes.[24]

Concerns over method of administration: Perceptions of pain, fear, or discomfort over administration sites for intramuscular injection may impact acceptance of LAIs. Subcutaneous injection or in-situ microplant technology may offer additional options.[25,26] These new formulations may improve ease of use, increase rapidity of onset, add multiple injection site options, and extend treatment duration intervals, allowing for greater flexibility, simplicity, and patient acceptability in clinical practice.[27] Further, subcutaneous injection is easier for pharmacists to administer and requires less credentials for nurses, potentially increasing the number of available providers to offer injection.

Duration of action: Currently approved LAIs in Canada offer injection intervals of between 2 weeks and 3 months, allowing for more or less frequent visits, based on patient and clinician preference. While more frequent visits may be considered more burdensome, additional interaction with clinicians may be beneficial for additional opportunities for monitoring, education, and social interaction.

05 Proposed interventions

The multidisciplinary meeting concluded with a number of suggestions for actionable strategies that clinicians and EPI Canada can target to improve care and LAI use in patients with schizophrenia and related psychotic disorders.

Expanding education focus

Multidisciplinary clinicians: As the burden of injection begins to fall more on primary care, community care, nurses, nurse practitioners, social workers, and pharmacists, creating targeted education directed to these groups was desired.

Psychiatrists: While offering continuing medical education to psychiatrists has long been a focus of EPI Canada initiatives, additional education, particularly Section 3 RCPSC accredited programs or quality improvement programs, was considered beneficial. Further education on leveraging newer formulations, such as subcutaneous injections, are likely to be advantageous.

Emergency physicians: Given the front-line role of emergency physicians in initiating antipsychotic medication and likelihood of ensuing treatment inertia, targeted education for this group could be a new avenue for increasing LAI use.

Residents: Offering hands-on and didactic education to increase residents' comfort with LAIs, as well as developing shared decision-making tools and patient scripts would offer residents and patients consistent messaging, more confidence in treatment decisions, and alignment with guideline-directed therapeutic decision making.

Patients: Continue offering education to patients and caregivers to increase comfort with LAI use, as well as on topics such as substance use, relapse prevention, and suicide. LAIs should be presented to patients as a "modern delivery system" that offers freedom from the daily reminder of illness, rather than a punishment for nonadherence.

Engaging in research

Participants desired more data and publications in certain areas: Updating the *2016 EPI benchmark survey* and *2013 LAI Consensus Recommendations*, advocating for more research for antipsychotic medication use in youth/first-episode psychosis/ gender population differences, understanding discrepancies between levels of hyperprolactinemia in clinical trials, and real-world studies on LAI use.

Developing clinical tools

Creating tools to support education and discussions of topics, including scripts and objection handlers to support LAI patient discussions, transitioning oral to LAIs in acute/emergency care, dose titrations, TDM, comorbid substance abuse, metabolic syndrome, and suicide, could help to optimize LAI use in Canada. Education programs around existing tools, such as the *Offering Patients Therapeutic Information on Medication Alternatives (OPTIMA) tool*, could be leveraged for this purpose.

Digital and accessible resources: Moving away from lengthy manuals toward "one-pagers" for clinicians, and QR-code-accessible videos (modelled after modern social media communication) to educate patients and their families on the benefits and risks of LAIs.

Advocacy and systemic improvements

Policy and funding: Ensuring simple coverage to different formulations of LAI is necessary, as reimbursement is a barrier to patient use. Increased advocacy from clinicians in this sector could drive reimbursement change.

Patient advocacy: Shifting to patient-directed advocacy; if patients understand the benefits and demand LAIs, it may drive clinician behaviour more effectively than top-down guidelines, as well as revise reimbursement. Patient organizations could help to connect patients to this information.

06 Conclusion

Increasing the clinical adoption of LAIs necessitates alignment between frontline care providers and patients, caregivers, and advocacy groups to address systemic barriers within the Canadian healthcare landscape. LAIs can be used as part of a multifaceted treatment plan for people with schizophrenia, bipolar disorder, and related psychoses, to shift focus from medication management and offer opportunity for additional psychosocial support. Evidence continues to support the benefits of LAIs in early intervention, as well as throughout the disease course, to offer patients optimal outcomes. The diverse perspectives offered by the expert consensus panel provided an overview of LAI use in Canada; demonstrating how far we have come, what challenges remain, and what can be done to help overcome barriers to considering, offering, and use of LAIs.

DISCLOSURE: *The meeting that led to this expert consensus report was supported by Teva Canada through an educational grant. This report summarizes the discussions held during the meeting. Discussions were based exclusively on scientific evidence and expert opinion. All multidisciplinary participants were independent experts in their respective fields.*
Medical writing was provided by Sharon Windsor Harker of Myelin & Associates.

07 References

1. Schizophrenia Quality Standards National Demonstration Project Outcomes Report. Mental Health Commission of Canada. January 20, 2026. Accessed January 21, 2026. https://mentalhealthcommission.ca/professional-resources/standards/schizophrenia-quality-standards-national-demonstration-project-outcomes-report/
2. Kane JM, Agid O, Castle DJ, et al. The Use of Long-Acting Injectables for People with Schizophrenia: Consensus Panel Recommendations for Overcoming Barriers and Implementing Treatment. *Neurol Ther.* 2025;14(6):2551-2581. doi:10.1007/s40120-025-00838-3
3. Malla A, Tibbo P, Chue P, et al. Long-Acting Injectable Antipsychotics: Recommendations for Clinicians. *Can J Psychiatry.* 2013;58(5_suppl):30-35. doi:10.1177/088740341305805s05
4. Taylor M, Ng KYB. Should long-acting (depot) antipsychotics be used in early schizophrenia? A systematic review. *Aust N Z J Psychiatry.* Published online December 3, 2012. doi:10.1177/0004867412470010
5. Haddad PM, Correll CU. Long-acting antipsychotics in the treatment of schizophrenia: opportunities and challenges. *Expert Opin Pharmacother.* Published online March 4, 2023. Accessed June 18, 2024. https://www.tandfonline.com/doi/abs/10.1080/14656566.2023.2181073
6. Fu AZ, Pesa JA, Lakey S, Benson C. Healthcare resource utilization and costs before and after long-acting injectable antipsychotic initiation in commercially insured young adults with schizophrenia. *BMC Psychiatry.* 2022;22:250. doi:10.1186/s12888-022-03895-2
7. Gentile S. Discontinuation rates during long-term, second-generation antipsychotic long-acting injection treatment: A systematic review. *Psychiatry Clin Neurosci.* 2019;73(5):216-230. doi:10.1111/pcn.12824
8. Song X, El Khoury AC, Brouillette M, Smith D, Joshi K. Treatment discontinuation of long-acting injectables or oral atypical antipsychotics among Medicaid recipients with schizophrenia. *J Med Econ.* 2019;22(11):1105-1112. doi:10.1080/13696998.2019.1615927
9. Kishimoto T, Hagi K, Kurokawa S, Kane JM, Correll CU. Long-acting injectable versus oral antipsychotics for the maintenance treatment of schizophrenia: a systematic review and comparative meta-analysis of randomised, cohort, and pre–post studies. *Lancet Psychiatry.* 2021;8(5):387-404. doi:10.1016/S2215-0366(21)00039-0
10. Aymerich C, Salazar de Pablo G, Pacho M, et al. All-cause mortality risk in long-acting injectable versus oral antipsychotics in schizophrenia: a systematic review and meta-analysis. *Mol Psychiatry.* 2025;30(1):263-271. doi:10.1038/s41380-024-02694-3
11. Correll CU, Bookhart BK, Benson C, Liu Z, Zhao Z, Tang W. Association of relapse with all-cause mortality in adult patients with stable schizophrenia. *Int J Neuropsychopharmacol.* 2025;28(5):pyaf018. doi:10.1093/ijnp/pyaf018
12. Correll CU, Solmi M, Croatto G, et al. Mortality in people with schizophrenia: a systematic review and meta-analysis of relative risk and aggravating or attenuating factors. *World Psychiatry.* 2022;21(2):2. doi:10.1002/wps.20994
13. Wong KO, Klarenbach SW, Martins KJB, et al. Health resource utilization and cost before versus after initiation of second-generation long-acting injectable antipsychotics among adults with schizophrenia in Alberta, Canada: a retrospective, observational single-arm study. *BMC Psychiatry.* 2022;22(1):444. doi:10.1186/s12888-022-04075-y
14. The INTEGRATE Advisory Group, McCutcheon RA, Pillinger T, et al. INTEGRATE: international guidelines for the algorithmic treatment of schizophrenia. *Lancet Psychiatry.* 2025;12(5):384-394. doi:10.1016/S2215-0366(25)00031-8

References...*continued*

15. Remington G, Addington D, Honer W, Ismail Z, Raedler T, Teehan M. Guidelines for the Pharmacotherapy of Schizophrenia in Adults. *Can J Psychiatry Rev Can Psychiatr.* 2017;62(9):604. doi:10.1177/0706743717720448
16. Crocker CE, Hastings T, Roy MA, Otter N, Tibbo PG. Real-world examination of the rates of long-acting injectable attrition in a cohort of early psychosis patients after discharge from an early intervention service for psychosis. *Ther Adv Psychopharmacol.* 2025;15:20451253251384509. doi:10.1177/20451253251384509
17. Besana F, Civardi SC, Mazzoni F, et al. Predictors of Readmission in Young Adults with First-Episode Psychosis: A Multicentric Retrospective Study with a 12-Month Follow-Up. *Clin Pract.* 2024;14(4):1234-1244. doi:10.3390/clinpract14040099
18. Williams R, Kopala L, Malla A, Smith G, Love L, Balshaw R. Medication decisions and clinical outcomes in the Canadian National Outcomes Measurement Study in Schizophrenia. *Acta Psychiatr Scand.* 2006;113(s430):12-21. doi:10.1111/j.1600-0447.2006.00757.x
19. McKee KA, Crocker CE, Dikaios K, et al. Short communication: Prevalence of long-acting injectable antipsychotic use in Canadian early intervention services for psychosis. *J Psychiatr Res.* 2023;165:77-82. doi:10.1016/j.jpsychires.2023.07.005
20. Chue P, Abba-Aji A, Chue JD, Tate M, Andreiev AI. PS04-3226 Shifting the paradigm: the use of long-acting atypical antipsychotics in acute care. Presented at: ECNP Congress; October 11, 2025. Accessed February 9, 2026. https://www.ecnp.eu/congress2025/programme/provisional-programme/
21. Galbally M, Wynter K, Siskind D, Correll CU, Northwood K, Every-Palmer S. Sex Differences Between Female and Male Individuals in Antipsychotic Efficacy and Adverse Effects in the Treatment of Schizophrenia. *CNS Drugs.* 2024;38(7):559-570. doi:10.1007/s40263-024-01089-w
22. Lopez LV, Shaikh A, Merson J, Greenberg J, Suckow RF, Kane JM. Accuracy of Clinician Assessments of Medication Status in the Emergency Setting: A Comparison of Clinician Assessment of Antipsychotic Usage and Plasma Level Determination. *J Clin Psychopharmacol.* 2017;37(3):310. doi:10.1097/JCP.0000000000000697
23. Schoretsanitis G. Establishing and Extending the Use of Therapeutic Drug Monitoring in Neuropsychopharmacology. *Ther Drug Monit.* 2024;46(2):141-142. doi:10.1097/FTD.0000000000001171
24. Hýža M, Šilhán P, Češková E, et al. Plasma Levels of Long-Acting Injectable Antipsychotics in Outpatient Care: A Retrospective Analysis. *Neuropsychiatr Dis Treat.* 2021;17:1069-1075. doi:10.2147/NDT.S298050
25. Messer T, Bernardo M, Anta L, Martínez-González J. Risperidone ISM®: review and update of its usefulness in all phases of schizophrenia. *Ther Adv Psychopharmacol.* 2024;14:20451253241280046. doi:10.1177/20451253241280046
26. Kane JM, Harary E, Eshet R, et al. Efficacy and safety of TV-46000, a long-acting, subcutaneous, injectable formulation of risperidone, for schizophrenia: a randomised clinical trial in the USA and Bulgaria. *Lancet Psychiatry.* 2023;10(12):934-943. doi:10.1016/S2215-0366(23)00288-2
27. Chue P, Abba-Aji A, Chue JD, Tate M, Andreiev AI. EP05-0463: Revisiting risperidone: new formulations - new futures? Presented at: ECNP Congress 2025; October 11, 2025. Accessed February 9, 2026. https://www.ecnp.eu/congress2025/programme/provisional-programme/