Invited discussion on concurrent disorders

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In this issue ofJCACAP, two articles address gaps in the literature on the management of youth with concurrent disorders; that is, the co-occurrence of a substance use disorder and another mental disorder (e.g., mood disorders, anxiety disorders, psychotic disorders). Given the high prevalence (1), high morbidity (2), high risk of mortality (3) and association with longitudinal impairment of concurrent disorders in youth (4), it is imperative to examine the clinical management of this population through an evidence-based lens.

The aim of this commentary is to highlight strengths, challenges, limitations, research implications and clinical aspects of the management approaches discussed in these articles. These highlights are viewed through the lens of individual patient care, health care system delivery (e.g., implementation) and policy.

The first article by Halladay and colleagues describes the development of a treatment program, quality improvement approach and profile of an early sample of youth in the treatment program (5). They call the service the Young Adult Substance Use Program (YA-SUP). The authors have referred to established consensus-based guides in their approach, including the Medical Research Council’s framework for developing and evaluating complex interventions (6), the QUERI Roadmap for Implementation and Quality Improvement (7), and the International Consortium for Health Outcomes Measurement (ICHOM) (8). In doing so, they have nicely developed a dynamic Learning Health System that can apply principles of best practice today (within the limits of available resources), while also contributing to knowledge acquisition and further improvements to their own treatment program and beyond (9). In particular, reference to ICHOM is helpful, as this consortium has recommended sets of outcome measurement instruments for various conditions to promote harmonized data collection that can be pooled and compared across clinics for greater system-level impact. Youth Engagement in the development process also increases relevance to the population it is intended to serve (10). This approach is exemplary for other program developers.

YA-SUP is also embedded in a Measurement-based care (MBC) framework. MBC is “the systematic administration of symptom rating scales and uses the results to drive clinical decision making at the level of the individual patient” (p.2) (11). MBC is most often studied in a longitudinal context, where change scores in the rating scales of interest are used to guide decisions at the individual patient level, as opposed to a model where only baseline data are used (11). In its optimal form, it is also a component of shared decision-making, where youth patients are empowered in the process to jointly make clinical decisions with the health care provider after discussing the change scores at repeated time points (12).
If consistent data are collected across patients within a clinic, the data can also be used for program evaluation and quality improvement initiatives. For example, if it is found that no improvements in target outcomes are observed in a sample of youth attending a group therapy program in YA-SUP, it would be worthwhile investigating the barriers to improvement (e.g., poor clinician fidelity to the therapy model, limited youth engagement in the therapy model, whether other treatment models should be pursued instead). Similarly, baseline measures in MBC can be used to describe the needs of youth attending the clinic, informing resource allocation and other policy decisions. Specifically, Halladay et al. report a high prevalence of youth with cannabis use and low prevalence of opioid use (5). These data may lead to support greater investment in treatment programs targeting cannabis use, or funding greater efforts to engage youth with opioid use in the hospital setting. It is equally important that policymakers request that the data are analyzed, interpreted, and reviewed at regular time points to optimize the impact of these data at the system-level.

In youth with concurrent disorders, high quality MBC that is consistently applied is much needed and presents important challenges. One challenge in programs like YA-SUP is determining which outcomes are prioritized with respect to substance use. For example, clinicians could measure change scores in domains of motivation, cravings, frequency of substance use, degree of impairment attributed to substance use, frequency of high-risk behaviours associated with substance use or a composite of these outcomes (13). Each approach has its advantages and disadvantages, which are unique to the substance of interest and the current phase of the youth’s treatment. For example, change in frequency of use in the past 30 days might be straightforward to assess for clinical importance in substances with regular patterns of use (e.g., going from daily cannabis use to weekly use), whereas substances that often have sporadic binge patterns of use for many youth (e.g., cocaine), change in frequency of use in the past 30 days becomes harder to interpret. Measures of high-risk behaviour may be a more important outcome if an opioid is the substance of interest. This becomes even more complicated when multiple substances are involved. The choice of substance outcomes has important implications at the patient-care level, clinic service delivery level and policy level.

One limitation of the YA-SUP substance use measurement protocol is that repeated measures have been designed for screening purposes (e.g., Alcohol Use Disorder Identification Test (14)), whereas MBC measures ideally perform well in tracking change over time. ICHOM has recommended the use of short versions of questionnaires available through the Patient-Reported Outcome Measurement Information System (PROMIS) for longitudinal follow-up (13,15). This may be a preferred option over screening tools to measure change, though this approach also requires further validation. Optimal self-report measurement of youth substance use is an important gap in the literature that requires further research.

The high variability in need for patients with concurrent disorders calls for MBC to be both standardized and personalized. One approach to navigate this tension has been to use measures of personalized goals to assess progress using instruments like the Goals-Based Outcome measure (16). This approach may require more guidance from clinicians as some youth find it difficult to articulate operationalizable goals. Moreover, youth may change priority goals from one session to the next, rendering it difficult to track change over time. It will be important to periodically reassess the MBC process in YA-SUP, to identify the optimal approach.

The implementation of MBC in this population is a challenge. To optimize adoption, program developers need to select and apply a technology platform that allows for youth-friendly and clinician-friendly data entry, provides visualizations of change scores to support shared decision-making, integrates smoothly with an electronic health record and is of reasonable cost to initiate and maintain. Moreover, youth with concurrent disorders often fluctuate in their engagement with treatment (including MBC), in keeping with the fluctuating course of symptoms. There are likely to be gaps at crucial time points in the data available for MBC. It will be important for the YA-SUP developers to capture implementation outcomes of the program components (including MBC), like adoption, acceptability, clinician fidelity and youth adherence to each component (17). These results can also be used for quality improvement at the service delivery level, and can inform resource allocation at the policy level.

The second article, by Keramatian and Levit provides a thorough discussion of a case of psychotic symptoms co-occurring with ongoing substance use (18). The presentation described is common in clinical settings (19) and presents several points of discussion with respect to management. The authors discuss multiple potential relationships between psychotic symptoms and substance use – including no causal relationship and causal relationships in each direction. One relationship the authors only briefly discuss is one of a transactional nature. For example, there is the possibility that vulnerability to psychotic symptoms can lead to substance use, which then leads to more psychotic symptoms, leading to more substance use with a cascading positive feedback loop ensuing. This transactional model
would be difficult to examine in research and may account for some of the lack of clarity in causal pathways studied to date.

Though the etiology of psychotic symptoms in these instances may be complex and nuanced, treatment decisions are often presented as binary. For example, the situation is often framed that the clinician needs to decide whether to start an antipsychotic, or the clinical team at a first episode psychosis clinic needs to decide whether to accept a patient to their intensive service. Keramatian and Levit note that a quarter to a half of these patients will meet criteria for a primary psychotic disorder at follow-up (18). The stakes are high and uncertainty abounds.

When there is this degree of uncertainty in clinical decision-making, it can be helpful to consider the impact of both false positive and false negative scenarios. An example of a false positive scenario would be where an antipsychotic was started, but it was not needed as the psychotic symptoms would have resolved in the absence of substances (assuming the patient can stop the contributing substances). If this were to be the case, it is anticipated that medications would be stopped upon follow-up after an adequate period of stability (e.g., a few months) with little enduring sequelae. An example of a false negative situation is where an antipsychotic medication would be helpful (i.e., there is a primary psychotic condition), but the psychiatrist decides to withhold it, anticipating the psychosis will resolve upon cessation of substances. The false negative scenario risks greater time in hospital and longer duration of untreated psychosis, with arguably greater risk of unfavourable outcomes than the false positive scenario. Of course, the relative importance of each scenario changes depending on severity of symptoms and tolerability of the antipsychotic medications, among other factors.

Models of care that account for the uncertainty may be appropriate. Youth with co-occurring substance use and psychosis and their healthcare providers would benefit from a systematic treatment pathway with close follow-up similar to that outlined by Halladay and colleagues specifically designed for this population (5). A structured, consistent, and MBC approach could contribute to the sparse literature on best approaches with this population. It would also allow for the exploration and validation of prediction models and set the stage for randomized controlled trials examining potential benefits, harms, and economic costs of various treatment approaches.

With all their complexities, concurrent disorders in youth require our full attention and systematic approaches to improve outcomes. Investment in structured and systematic approaches, guided by established processes, can pave a way forward in the optimal management of these debilitating conditions. The two articles in this issue do a great job of highlighting these needs.

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