



# **A Review of Progress and Outcome Monitoring for Addiction Treatment and Implications for a System-Wide Approach in Ontario**

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## Preamble

Homewood Research Institute (HRI) is dedicated to transforming mental health and addiction treatment through research. One of HRI's longest-running projects has been the development and implementation of a progress and outcome monitoring (POM) system in collaboration with Homewood Health. HRI's experience in working with more than 2,100 individuals receiving substance use treatment services at Homewood Health has shown us the potential value in collaborating with other mental health and addiction treatment services in Ontario to co-develop a province-wide POM system. As a first step, this report provides a review of existing POM systems and discusses implications for a system-wide approach in Ontario and beyond.

We are grateful to KPMG Waterloo and the KPMG Foundation for their partnership and investment in making improvements to the treatment system through POM.

If you see opportunities to collaborate with us on this important initiative, I invite you, with great enthusiasm, to connect.

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Executive Director  
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## Executive Summary

The demand for effective and accessible mental health and addiction services is quickly rising, as are the associated costs of delivery. Ongoing progress and outcome monitoring (POM) systems, much like those put in place for other chronic diseases, are seen as an essential but missing piece of the mental health and addiction treatment system. Without them we do not know what treatments are working, for whom, and under what circumstances. We need to know how people are progressing during and after treatment. More specifically, we need to know progress towards outcomes within treatment settings that are linked with desired long-term outcomes. The consequences of only working towards short-term outcomes, and with limited information, are both costly to our mental health and addiction treatment system and to the individuals accessing services.

Homewood Research Institute (HRI) partnered with Homewood Health Inc. to address this gap. Together, we developed, implemented, and enhanced a POM system that began in a residential addiction treatment program, and has since been adapted and implemented across Homewood Health Inc.'s spectrum of mental health and addiction treatment settings. This experience has shown the potential value in collaborating with other mental health and addiction treatment services in Ontario to build upon this foundation, and ultimately, to co-develop a province-wide POM system.

As a foundational first step, this report provides a review of existing POM systems and discusses implications for a system-wide approach in Ontario, and beyond.

**Approach:** We conducted a scoping review and key informant interviews to identify examples of POM systems within addiction treatment services in Ontario and beyond. We also sought to identify and describe the benefits of POM systems, their key features, lessons learned for system development and implementation, and best and promising practices that may inform future system design, implementation and sustainability.

**Findings:** A diverse sample of POM systems met the inclusion criteria for this review. In Canada, we identified one national system operated by Veterans Affairs Canada for the Operational Stress Injury Clinic Network and nine examples of systems currently in place within addiction or concurrent disorder treatment settings implemented at the program, organizational, or health system levels. These examples, along with other international POM systems that were reviewed, provide insight into the benefits of POM systems and their common features.

The nine benefits of POM systems that were identified in the literature and from key informants include:

- Strengthens treatment planning and delivery
- Improves treatment outcomes
- Supports client-centred practice

- Supports professional development and clinical supervision
- Provides infrastructure for evaluation and research
- Supports the business case for substance use treatment
- Supports accountability
- Drives quality improvement
- Has the potential to be cost-saving and cost-effective

Among the diverse set of POM systems identified, we also found common key features of POM systems and considerations for implementation. In the report we have described each of these using the following themes:

- Standardized outcome measures
- Routine data collection procedures
- Plans and resources to support data usage
- Infrastructure or supports to implement and sustain the system

With respect to system development and implementation, we identified common implementation challenges and recommended strategies to address them. The significant overlap across these two aspects of implementation reinforce the importance of taking a comprehensive and evidence-based approach to planning and implementation. We have described lessons learned using the following themes in the report:

- Dedicated resources needed
- Leadership, staff and client engagement
- Consensus on successful outcomes and their measurement
- Measurement fidelity and data quality
- Health equity lens

With respect to best and promising practices, our report highlights many. In broad terms, these practices include using recovery as a guiding principle, having standardized and integrated measurement practices across programs and organizations, and keeping the focus on implementation and sustainability.

**Next steps:** Our recommended next step in Ontario would be to pursue partnerships with hospital- and community-based mental health and addiction treatment services who are willing to explore how these key POM system components can be operationalized in their setting as a pilot. The importance of strategic collaboration across the sector cannot be understated in the development and funding of a provincial POM system.

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# 1. Introduction

## 1.1 Background

We know little about how people are doing after they receive treatment for mental health and addiction (MHA) issues. Unlike other chronic diseases like hypertension, diabetes, asthma or cancer, outcome monitoring for MHA typically ends when treatment ends. We do know, however, that progress and recovery extends well beyond the end of treatment. We also know that the process of recovery extends well beyond the absence of symptoms. Despite what evidence suggests, most outcome-measurement practices embedded within the Ontario MHA system are limited insofar as they reflect only the short period of time individuals are in treatment and tend to measure symptom reduction rather than more functional domains of recovery. With the exception of a handful of program- or organization-specific examples, there is no standardized approach in Ontario to measure progress in a fulsome manner beyond the end of treatment, leaving a critical gap in our understanding of the overall effectiveness of our province's MHA treatment system.

Since 2014, Homewood Research Institute (HRI)—an independent charitable organization that brings together leading Canadian scientists and clinicians to do practice-based research—has worked to develop, implement, and enhance a recovery monitoring system for substance use treatment services at Homewood Health Inc. This effort was largely based on work led by Dr. Brian Rush at the Centre for Addiction and Mental Health (CAMH) in 2010-2014 on outcome monitoring for addiction treatment (with funding from the national Drug Treatment Funding Program). As one of Canada's largest and leading facilities for the treatment of substance use and addictions, Homewood Health has provided a unique and dynamic testing environment for further development of such a system.

HRI recognized the value in collaborating with other addiction treatment services in Ontario to build upon this foundation, and ultimately, to co-develop a full provincial recovery monitoring system. A provincial system would fill a well-known gap in measuring service and system performance that is aligned with provincial priorities. For example, Ontario recently launched [Roadmap to Wellness: A Plan to Build Ontario's Mental Health and Addictions System](#). The plan provides a clear path forward to improve mental health and addiction services and calls for a standardized approach to measuring performance of the current system—a call also echoed by the [Auditor General](#) and [Addictions and Mental Health Ontario](#).

HRI further catalyzed this movement in March 2020 by hosting a MHA workshop that brought together key stakeholders across the MHA sector in Ontario who had a shared interest in progress and outcome monitoring (POM). The workshop was used to gauge interest, co-create a vision and identify opportunities for advancing routine POM in Ontario. As a foundational first step to inform future efforts in the design of a system-

wide approach, the group identified a need to learn about existing POM efforts across MHA services in Ontario, and within other jurisdictions. HRI commissioned an environmental scan of POM systems across Canada within substance use and/or concurrent disorder treatment services. Additional information regarding evidence-based practices was also summarized through a review of literature on POM systems available in Canada and internationally.

## 1.2 Purpose of this report

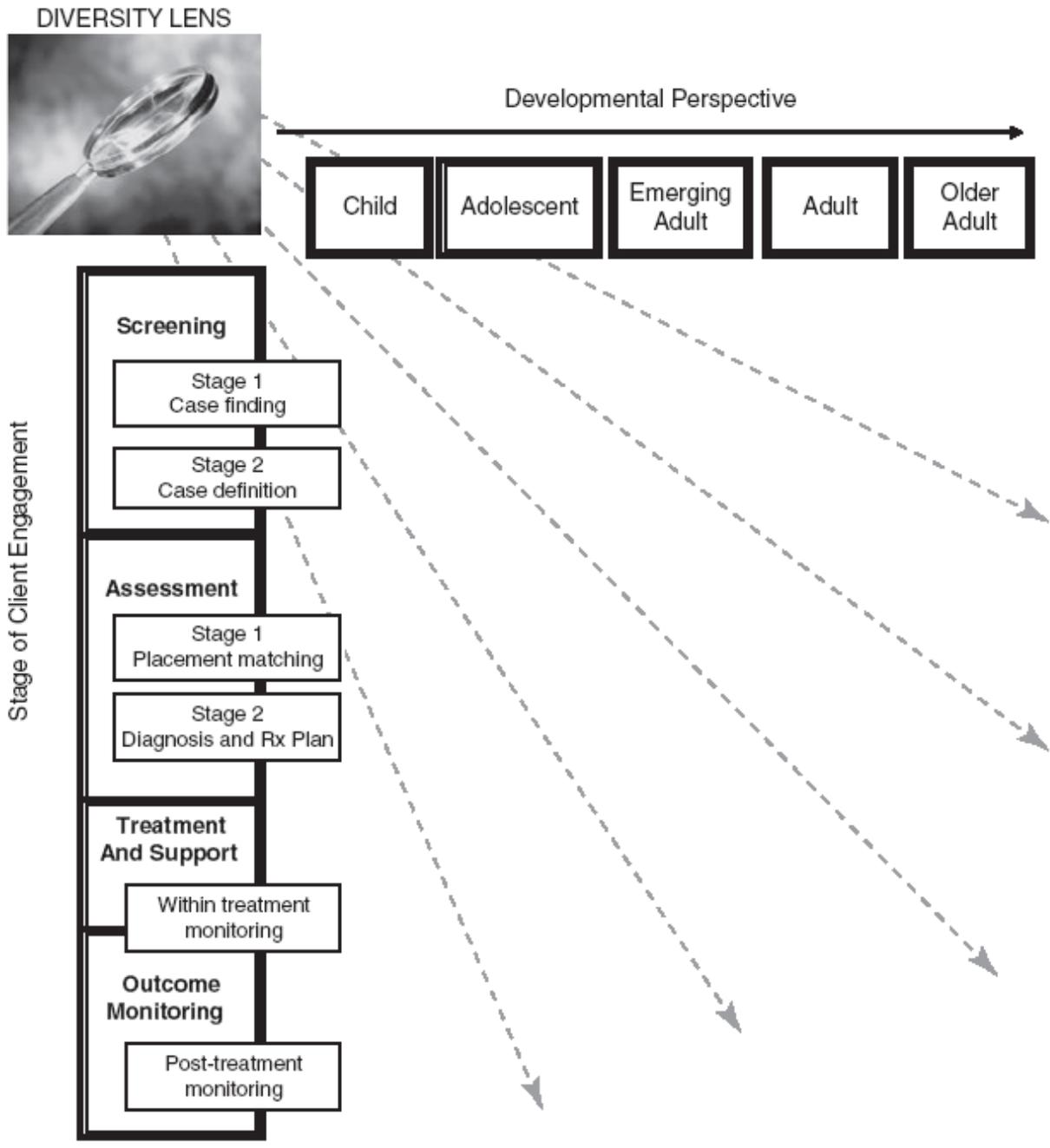
This report provides a summary of findings from the environmental scan and literature review that were conducted to:

1. Identify examples of recovery monitoring systems in substance use/concurrent disorder treatment services;
2. Identify and describe their key components;
3. Summarize lessons learned regarding their development and/or implementation; and,
4. Highlight evidence-based practices that could inform the development and implementation of a recovery monitoring system in Ontario.

## 1.3 Defining progress and outcome monitoring (POM)

In this report, we refer to POM as any systematic effort to measure client progress toward treatment goals with repeated measurement of one or more domains such as substance use, quality of life, or other relevant treatment outcomes. For inpatient/residential services this involves following up with clients post-discharge. For outpatient clients this may involve the repeated, systematic measurement of recovery domains, both during and after client engagement with treatment and support services. Some POM systems may also measure outcomes for the purposes of quality improvement. POM may include clinician-reported outcomes, client-reported outcomes, or both.

POM is recognized as an evidence-based practice within a stepped care service delivery model.<sup>1</sup> **Figure 1** shows the role of POM in a conceptual framework, developed by Brian Rush,<sup>1</sup> that captures an integrated approach to screening, assessment and outcome monitoring. In this framework, screening, assessment, treatment and support, and outcome monitoring are all linked in a staged approach and supported, ideally, by an integrated family of measurement tools and related decision-making process that are developmentally and culturally appropriate.



**Figure 1.** Conceptual framework for screening and assessment from Rush.<sup>1</sup>

## 2. Methods

To address our need to learn more about POM efforts currently underway across MHA services in Ontario, and within other jurisdictions, we conducted a literature review and a series of interviews with key informants.

### 2.1 Literature review

Publications on MHA services and systems were scoped using relevant key words (e.g., performance-based contracting, outcomes monitoring, recovery monitoring, continuous quality improvement) and electronic research databases and search engines. The search was limited to papers that were published no earlier than 2000 and available in English.

The following inclusion/exclusion criteria were also used to identify POM systems that fell within the scope of the review:

- Systems that have been implemented, as part of *ongoing* operations, in substance use/concurrent disorder treatment services (including *public, semi-private and private services*)
  - Time-limited research projects were *out of scope*
- Systems that measure either within-treatment (including measurement-based care) and/or post-discharge outcomes
  - Systems that focus exclusively on routine quality assurance and performance measurement (e.g., client perceptions of care) were *out of scope*

### 2.2 Key informant interviews

To learn more about current POM systems in Canada, system planners (N=18) from all provinces and territories within the project leads' professional network were invited to participate in a key informant interview. A project description was sent to each system planner, with the request that they help HRI identify operating POM systems in their jurisdiction. System planners were also asked to identify a key informant that could participate in an interview with members of the project team. In total, nine interviews were completed with 14 key informants (see **Appendix A**). The interview focused on key components of the POM system, use of data, infrastructure and supports, barriers to implementation, and opportunities for implementation (see **Appendix B** for interview guide).

### 2.3 Limitations

This report does not represent an exhaustive inventory of all relevant POM systems available in substance use and/or concurrent disorder systems. For example, the project team identified a small number of systems that had the potential to meet the criteria for inclusion, but were ultimately excluded because of an insufficient amount of publicly available information about them. On a similar note, the amount of publicly

available information on each POM system included in the review varied significantly. For this reason, the project team did not compare POM systems based on their key features.

### 3. Findings

A diverse sample of POM systems met the inclusion criteria for this review. In Canada, we identified one national system operated by Veterans Affairs Canada for the Operational Stress Injury Clinic Network and nine examples of systems currently in place within addiction or concurrent treatment settings implemented at the program, organizational, or health system levels (**Appendix A, Table 1**). In addition, we identified seven examples of POM systems in other countries (**Appendix A, Table 2**) and three commercial systems from the United States (**Appendix A, Table 3**).

Overall, out of the 15 POM systems reviewed (and excluding the three commercial systems from the United States), seven have been implemented at the system level, four at the organization level, and four at the program level. With respect to program type, two POM systems cover only outpatient treatment services (with planning underway for more programs), seven cover inpatient/residential treatment services (also with planning underway for more programs), and three systems cover both. Among the seven POM systems that cover inpatient/residential treatment services, seven include routine post-treatment follow up.

Although not an exhaustive list, these examples provide insight into the benefits of POM systems and their common features. More information about each of the systems, including implications for development and implementation, is described in the following sections.

#### 3.1 Benefits of POM

A number of benefits of POM were commonly identified in the research literature. These benefits were also raised by key informants, most often in the context of how they should be leveraged to increase buy-in amongst service providers and clients for the implementation of a POM system. Common reported benefits at the client, program, and system levels are described in **Table 1**.

**Table 1.** Benefits of POM systems at client, program, and system levels

Benefits	Client	Program	System
<b>Strengthens treatment planning and delivery:</b> POM is recognized as a best practice within a stepped care service delivery model; it can help inform treatment matching, treatment decisions and continuity of care. <sup>15-19</sup>	✓		
<b>Improves treatment outcomes:</b> Within mental health treatment services, clinical outcomes improve with frequent POM that provides rapid results to service providers. <sup>16,20-22</sup> There is emerging evidence that these benefits apply for substance use services, too. In particular, POM supports clients and facilitates reconnection to services when there is evidence of relapse or risk of relapse. <sup>23,24</sup> Finally, POM is associated with improved clinical outcomes through its role in performance measurement and quality improvement. <sup>15,25</sup>	✓		
<b>Consistent with client-centred practice:</b> POM can empower clients by increasing knowledge and understanding about their disorder and symptoms so that they can recognize early signs or risks of relapse. POM also validates clients' experiences and supports their involvement in decision making through the use of tools that facilitate communication with service providers. <sup>17,26,27</sup>	✓		
<b>Supports professional development and clinical supervision:</b> POM provides regular information about patient performance that is critical for clinical supervision and professional development. <sup>15,17,26,28</sup>		✓	
<b>Provides the infrastructure for evaluation and research:</b> POM provides the infrastructure needed to measure program effectiveness and to improve the quality and accessibility of services.		✓	✓
<b>Supports the business case for substance use treatment:</b> By providing evidence of the positive impacts of substance use services at the client, program and system levels, POM can help strengthen the business case for increased investment in the sector. <sup>17,19,29,30</sup>			✓
<b>Supports accountability:</b> POM provides infrastructure and information to support accountability to a broad range of stakeholders, including clients, family members, funders, and insurers. <sup>28,31</sup> POM data can also inform benchmarks <sup>28</sup> and facilitate comparisons across treatment systems. <sup>30</sup>		✓	✓
<b>Drives quality improvement:</b> POM is recognized as a core component of quality management approaches. <sup>30-32</sup> By providing benchmarks, POM can incentivize quality service delivery. <sup>31</sup> It can also inform system level planning by identifying client needs and service gaps <sup>28,33,34</sup> and it provides infrastructure for clients to offer feedback about treatment services. <sup>35</sup>	✓	✓	✓
<b>Has the potential to be cost-saving and cost-effective:</b> POM is a cost-effective and potentially cost-saving strategy, particularly with its potential to support early intervention and prevention. <sup>19,22,35,36</sup>		✓	✓

## 3.2 Key features across POM systems

Among the various POM systems identified and described in the literature, we identified some common features and considerations for implementation. We categorized these features and considerations under the following themes: standardized outcome measures; routine data collection procedures; plans and resources to support data usage; and, infrastructure or supports to implement and sustain the system. We elaborate on each of these themes below.

### 3.2.1 Standardized outcome measures

There was considerable variation across POM systems with respect to the recovery domains selected for measurement. Not surprisingly, all systems included domains related to substance use and addictions, and most included domains related to mental health. Other domains commonly reported included physical health, relationship and social functioning, quality of life, other aspects of well-being and, to a lesser extent, other determinants of health. Some within-treatment POM systems also focused on the quality and progress of the therapeutic relationship.

However, the reviewed literature and information shared by key informants provided few details on how the domains were selected. One key informant reported that the selected domains were informed by client feedback, expert opinion and the strength of evidence. Another key informant identified the need to ensure that domains were applicable across different service populations (based on expert opinion) and responsive to the interests of external stakeholders (including referral sources). Indirect client perceptions were also considered.

Most of the POM described in the literature employed standardized and validated tools to measure targeted domains. In contrast, POM systems described by key informants were more likely to use tools that developed in-house, either exclusively or in combination with standardized and validated measures.

Overall, POM systems used client-reported measures, as opposed to clinician-reported measures. The diversity of tools used in different POM systems reflects the variable ways that recovery domains were operationalized. Refer to **Appendix C** for descriptions of the various measurement tools we uncovered throughout our literature review that have been used in some capacity to monitor outcomes.

Key informants described using different criteria to inform the selection of measures within a particular domain. These included:

- Psychometric properties
- Length of time to administer
- Ease of use
- Cost to administer
- Availability in French
- Comprehensiveness

- Literacy requirements (for self-administered tools)
- Degree to which results can readily inform clinical practice/self-management

One key informant highlighted specific challenges to identifying a substance use measure that can monitor progress in a residential setting that requires abstinence as a condition of staying in the service. Two key informants also discussed the need to strike a balance between collecting enough information to inform POM while also not burdening clients. Finally, one key informant described processes for getting feedback from clients with respect to utility and the appropriateness of tools that were developed in-house.

### 3.2.2 Routine data collection procedures

The length of time to administer POM measures was only reported by a small number of key informants; estimates ranged from 10-15 minutes to 30-45 minutes. This detail was generally not available for the POM systems identified in the literature, but it is likely that they vary widely as well, especially given the length of time to administer some tools. For example, the Treatment Effectiveness Assessment (TEA) takes 2-3 minutes to complete, whereas 45-60 minutes are required for the Addiction Severity Index (ASI; see also **Appendix C**).

Most POM measures described by key informants were self-administered by clients. A small number of key informants noted that clinicians were available to support administration if needed. The one exception was a system contracted to a third-party company who administered POM measures by telephone. Other systems had measures administered in paper format (n=3), using an electronic system (n=3), or both (n=1). POM systems identified in the literature were composed of a mix of client-administered and staff-administered models, with most using or moving towards an electronic system.

Most POM systems included in this review targeted specific time points for POM with clients. For within-treatment systems, the most common time points reported were 3 and 6 months. One system reported measurement at every service event and one system recommended weekly measurement. Two systems reported that time of measurement was variable (depending on the client or the program). Common time points for post-treatment POM systems were at 1 month, 3 months, 6 months and 12 months. Only one system reported attempts to measure recovery beyond one year post-treatment.

### 3.2.3 Plans and resources to support data usage

Key informants were asked to share the ways in which their program/agency used the data collected from their POM systems. Use of data varied. The most commonly reported use was for quality improvement (e.g., to identify need for program improvements, changes to staff mix). Three key informants expressed concern that the data collected were not being used consistently or to their full extent for quality improvement purposes.

Key informants also commonly described the use of data to inform clinical service delivery (e.g., to help identify client needs, facilitate team discussions). Relatedly, of the four POM systems with a post-treatment follow-up component, three reported having a mechanism to connect clients back to services based on indicators of need from recovery monitoring contacts. These mechanisms were generally described as passive (e.g., sharing information regarding available resources, recommendation to the client to contact the treatment agency for support). And finally, three recovery monitoring programs used data for accountability purposes (e.g., demonstrating value of investments from funders).

Two stakeholders discussed how the absence of benchmarks/norms for specific recovery measures limited their use of the data for the purposes of clinical decision making, quality improvement and research. This was noted to be especially true for substance use measures that do not have defined cut-offs to denote clinically significant change. For one POM system, future plans for incorporating norms to support data interpretation and use were described. Another key informant reported that they were currently exploring a potential collaboration with a university to use their data for research purposes.

#### 3.2.4 Infrastructure or supports to implement and sustain the system

Most key informants reported having access to dedicated infrastructure and supports for data management, analysis and reporting, although the degree and nature of these supports varied substantially. Four POM systems reported varying levels of access to centralized, organization-level resources in research and analytics; reported resources ranged from one evaluator to entire teams supporting analytics and IT. As discussed in greater detail below, these resources were seen as important factors in developing, implementing and maintaining a robust POM system. Being able to resource such a system was noted to be less viable for small, publicly funded agencies. Case in point: the two POM systems that relied on clinicians to manage data reported having limited capacity to aggregate and report it at a program and/or organizational level. Only one POM system reported outsourcing measurement activities to a third-party group.

### 3.3 Lessons learned for system development and implementation

This section describes the most common implementation challenges identified in the literature and by key informants, as well as the recommended strategies to address them. We found significant overlap across these challenges and strategies, which reinforces the importance of a comprehensive and evidence-based approach to implementation planning.

#### 3.3.1 Dedicated resources needed

Having dedicated resources for POM was seen as a critical facilitator for planning, implementation, and sustainability.<sup>57</sup> As noted above, the scope and robustness of POM systems tended to be directly proportional to the resources available. For example, agencies that relied exclusively on clinicians to manage POM had limited capacity to

aggregate the findings to inform program/organizational planning and quality improvement.

The following were some identified strategies, both by key informants and in the literature, to address this need:

*Dedicated resources and infrastructure for data collection, analysis, and reporting* -

Centralized resources help to off-set the burden on clinicians to monitor outcomes and ensures consistent practices across programs.<sup>35</sup> For example, a dedicated client-recruitment process would minimize the amount of time individual clinicians have to spend describing the program, obtaining consent to participate and collecting client information used for post-treatment follow-up. Smaller agencies without this capacity (or the resources to cover the costs of proprietary tools) may seek to develop external partnerships with larger agencies or research groups to leverage these kinds of resources and supports.

*Technology* - Web-based software/data management systems can facilitate the administration of POM tools, data analyses, and reporting of results. Efficiency can be improved by integrating this technology with other aspects of clinical service delivery (see also below). Use of handheld devices (e.g., iPads) can also support client self-administration of monitoring tools.<sup>17</sup>

*Staff training and administrative supports* - Staff should have the necessary training and time to administer and interpret POM tools efficiently and accurately. Staff capacity can also be enhanced at a system level through training on measurement-based care in professional academic programs.<sup>17,57</sup>

### 3.3.2 Leadership, staff, and client engagement

Staff, leadership and client engagement were commonly identified facilitators in implementing POM systems. In addition, clear communication about the benefits of POM is central to enhancing buy-in and engagement.<sup>37</sup> Staff and clients should also be involved in planning processes to ensure that their needs and priorities are reflected in the development of a POM system.<sup>38</sup> Other mechanisms that support engagement include:

*Integration/relevance to clinical practice* – A key “selling point” for clinicians and clients alike is a POM system that directly informs the delivery of effective service. Clinicians need to be confident that the measures used will better direct treatment decisions. Clients also reportedly value feedback that can help them identify goals and monitor their progress.<sup>25,37</sup>

Conversely, measures and processes that do not readily integrate with clinical processes can serve as a barrier to implementation. As noted by one key informant, POM should “never trump client need ... if you’re not using it, don’t collect it.”

Several strategies to support effective integration into clinical practice include:

- Tool selection – Tools should be relevant to the needs of clients and should yield actionable clinical results.
- Computerized, web-based data management and reporting systems – A POM system should provide immediate results. Key informants highlighted that systems that provide data visualization can be particularly powerful for increasing awareness of needs, informing treatment decisions, and validating progress among clinicians and clients.
- Training and supervision – Clinicians should receive appropriate training to interpret and apply results on a case-by-case basis, as well as to monitor their own professional development. Training can be further supported by integrating POM results and trends into supervision practices.

*Integration, relevance to quality improvement, accountability mechanisms* – POM is best supported by an organizational culture that prioritizes use of evidence to inform practice.<sup>25</sup> At an organizational level, results from POM can be used to identify areas for improvement, monitor the impacts of quality improvement efforts and demonstrate the value of services. Policies and procedures can provide concrete mechanisms to support the use of POM for the purposes of quality improvement. At the system level, POM helps make the business case for investment in services in substance use and addictions.

*Maintaining contact with clients post-treatment* – A common challenge with respect to client engagement is maintaining contact post-treatment.<sup>35,39</sup> Strategies identified in the literature and by key informants include:

- Client “give-backs” that could include a self-directed method or tool for them to continue tracking their progress (e.g., patient progress reports)
- Use of robust locator and client tracking systems
- Use of multiple modes of contact (e.g., telephone, email, text, mail)
- Engagement of institutions and organizations that are also in contact with clients
- Flexible hours to accommodate client schedules
- Use of more intensive follow-up services and supports (e.g., continuing care) for clients with more severe problems and/or who are at higher risk of relapse
- Mechanisms to maintain privacy and confidentiality during follow up

### 3.3.3 Consensus on successful outcomes and their measurement

A key challenge that limits the value of POM is a lack of consensus regarding what constitutes a successful outcome within and across different types of clinical services, and for different client populations and settings.<sup>40</sup> For example, “recovery” is defined and operationalized differently in existing POM systems. At a clinical level, one stakeholder noted that the absence of norms or “cut-offs” for specific measures may limit the ability to signal the need to revisit treatment plans. Similarly, at a system level, a lack of benchmarks/norms limits the use of POM data for the purposes of quality improvement/comparisons.

Key strategies to address this gap include:

*Engaging a range of stakeholders (and particularly clinicians and clients)* – As noted above, clinicians and clients should be involved in the process to identify and operationalize targeted outcomes to ensure that measures are clinically meaningful and useful. They can also provide important input into identifying the potential linkages between treatment system processes and structures and their impacts on client outcomes (see also section 3.5.2 below).

*Further research* – Research is needed to develop norms and benchmarks for recovery,<sup>41</sup> to better understand the connection between clinical outcomes and process and structural indicators for the purposes of quality improvement,<sup>42</sup> and to develop new measures, as applicable to reflect the different domains of recovery (see also section 4.0 below)

*Common approach to POM across programs/organizations* – Common approaches, including POM tools and data management systems, will contribute to aggregate and comparable data that can be used to establish benchmarks applicable to a range of programs, service settings and populations.<sup>25</sup>

For example, in 2012, the International Consortium for Health Outcomes Measurement (ICHOM) was launched by the Harvard Business School and the Boston Consulting Group in the United States, together with the Karolinska Institute in Sweden, to develop consensus for global Standard Sets of health care outcome measures, including one for the treatment of substance use and addiction. Standard Sets were developed by international teams of physicians, measurement experts and lived-experience experts. ICHOM also provides implementation and training resources to drive adoption of these Standard Sets worldwide. The addiction Standard Set includes outcomes in seven domains:

1. Global functioning and quality of life
2. Severity of dependence
3. Social functioning
4. Symptoms
5. Frequency and quantity of activity
6. Mental functioning
7. Physical functioning

### 3.3.4 Measurement fidelity and data quality

Key informants commonly voiced concerns regarding the extent to which POM is implemented consistently and with fidelity across programs and organizations. Depending on the scope of change required to implement a POM system, the following mechanisms may be necessary:

*Staff and client engagement* - Engaging staff and clients in planning and development is important to understanding their needs. Including their perspectives is also important to developing strategies that will address identified barriers.

*Implementation supports* - A range of different supports may be needed to ensure that measures are accurately and appropriately administered and that data are interpreted and applied effectively.<sup>32</sup> These supports should be tailored to the unique needs of staff and programs and may include staff training, checklists, reminder systems, team meetings and processes for supervision.

*Data quality standards and accountability mechanisms* - The development of standards can support data quality at the program, organization and system levels. Standards can be further enacted by accountability mechanisms to incentivize improvements to data quality and program fidelity.<sup>25</sup>

*Centralized, web-based data management system* – An information technology platform can support efficient data quality audits and validation checks that can be implemented at the clinician, program and organization levels.<sup>26,35</sup>

*Common or centralized POM processes and measures* - Common processes and measures can streamline POM, decrease the burden on any one staff, client, or program, and ultimately support program fidelity and data quality. Centralizing these processes at the system level, through investments in integrated data management systems, can further support agencies to implement POM systems.

### 3.3.5 Health equity lens

Health is influenced by a range of social and environmental factors, including income, race, gender, education and physical environment. It is now widely recognized that individuals living in more disadvantaged social and environmental contexts tend to experience poorer health. This is no less true in Ontario, where health equity has been identified as a priority by the provincial government<sup>43</sup> and a shared responsibility for all sectors of society to address.<sup>44</sup>

With respect to POM specifically, health inequities can affect the reach and impact of monitoring efforts. For example, individuals with low income or housing instability may be more difficult to contact post-treatment, resulting in missed opportunities to connect them back to services when needed. Therefore, it is critically important that planning for POM considers the potential negative impacts on health equity for specific populations.

One key informant who highlighted gender-specific considerations for all stages of planning, implementing, and evaluating a POM system in Ontario reinforced the importance of taking a health equity lens to this work. For example, women are reported to have a faster trajectory from non-problematic substance use to hazardous use and substance related problems, are more likely to struggle with intersecting social inequities, and they face unique barriers to accessing substance use and addictions

services (e.g., stigma, child care responsibilities, etc.),<sup>45</sup> all of which could potentially impact their health care experience.

A provincial report released by Public Health Ontario and Cancer Care Ontario<sup>44</sup> recommends that health equity be systematically assessed prior to implementing any health or social program and policy using a formal [Health Equity Impact Assessment \(HEIA\)](#), such as that developed by the Ontario Ministry of Health and Long-Term Care. The HEIA is described as a “decision-support tool that walks users through the steps of identifying how a program, policy or similar initiative will impact population groups in different ways.”<sup>46</sup> The HEIA also provides a structure to identify mitigating strategies to address potential risks to health equity and methods to measure the success of these strategies. With careful planning, a provincial POM system in Ontario could contribute to reaching health equity by connecting individuals to services who need them most and by providing relevant population-level data that can inform health system planning.

### 3.4 Best and promising practices

#### 3.4.1 Recovery as a guiding principle

There is general consensus that the concept of recovery should be foundational in the development of a POM system.<sup>41,47</sup> For example, recovery should be viewed as a non-linear process that falls along a continuum, rather than a dichotomous state (i.e., either being “in recovery” or not). One of the most relevant and practical implications of this recovery lens is the need for a long-term approach to monitoring, including use of repeated measures over a longer period of time and assertive mechanisms to connect clients back to treatment and support as early as possible.<sup>48</sup>

As noted throughout this report, interpretations of recovery domains and their level of priority vary.<sup>48</sup> For example, while most agree that recovery means more than abstinence, there is some disagreement as to whether abstinence is always required for recovery.<sup>41</sup> This grey area has important implications when it comes to identifying specific measures and reaching agreement about what constitutes as treatment “success.” Making comparisons between agencies who define treatment “success” differently (e.g., abstinence-based versus harm reduction focused programs) could be a challenge.

#### 3.4.2 Standardized and integrated measurement practices

A provincial POM system that will inform both clinical decision making and system planning— with the ultimate goal of improving client outcomes—will require standardized and integrated measures and practices within and across substance use and addiction programs and organizations. This presents unique challenges given the diversity in substance use and addiction services and relevant infrastructure available in Ontario.<sup>34</sup>

Additional considerations relevant to this need for standardized and integrated measurement practices include:

*Long-term measurement* – Long-term measurement reflects a recovery lens, through which recovery from substance use and addictions is viewed as a non-linear, highly personal process that occurs over time and through multiple pathways.<sup>49</sup> It is also consistent with the “paradigm shift” toward a chronic disease management model that positions substance use disorders as chronic relapsing conditions.<sup>50</sup> It has been suggested that given this evolving nature of recovery, measures should extend to at least five years post-treatment.<sup>41,50</sup>

*Evidence base and psychometric properties* – There is clear consensus regarding the need for standardized recovery measures that have a strong evidence base and psychometric properties, including reliability, sensitivity to change and validity. This need is reinforced by research showing that clinicians tend to overestimate positive outcomes in their clients and are poor in identifying clients at risk for a negative outcome.<sup>36</sup> The importance of evidence-based measures is particularly noteworthy in the context of our finding that some existing POM systems use invalidated measures developed in-house. This perhaps reflects the “trade-off,” demonstrated by research, between psychometric properties and clinical feasibility.<sup>51</sup>

*Use of multiple measures to reflect a recovery lens* – As described above, recovery is a highly personal process. To increase the likelihood of measuring the impacts of treatment services and supports, multiple measures are needed across different domains of recovery. It is also important to consider how measures need to reflect attainable outcomes at different stages of one’s recovery. For example, short-term measures that would be applicable to a client in treatment may include symptom-based indicators (e.g., frequency and quantity of use for alcohol, tobacco, other substances; mental health symptoms), while long-term measures applicable to clients post-treatment may include indicators that reflect higher-level functioning in broad life domains that contribute to overall wellness (e.g., empowerment, healthy relationships, physical and mental health, productive community engagement, self-sustainability, etc.).<sup>50</sup>

*Use of multiple measures to connect outcomes with performance measurement* - While the primary focus of POM systems is on client outcomes, POM should also include, or be linked to, indicators and measures related to processes (i.e., what is done, and for whom) and structures (i.e., resources available for service delivery),<sup>52</sup> given their potential influence on client outcomes.

A conceptual “matrix” framework developed by Rush et al.<sup>53</sup> maps outcomes and process and structural factors across three levels of service delivery—system, program, and client—to help identify the full range of potential variables relevant to developing a system of outcome monitoring for substance use services. As described above, benchmarks are needed for all measures linked to a POM system to facilitate their use in clinical decision making, quality improvement and research,<sup>28</sup> as well as their implications for diverse programs and organizations.<sup>36</sup>

*Value at individual, program and system levels* - The need for POM data that can be easily interpreted and used to inform treatment planning was commonly identified in the literature<sup>13,28,54</sup> and by key informants. Further, POM data should be actionable, ideally for both the service provider and the client. For example, outcome tools that produce a “score” or that can be tracked or easily interpreted with visual tools can facilitate application of POM results. Having POM data accessible using an electronic platform also helps ensure that data is easy to interpret with supporting visualizations, and that it is available in real time.

*Feasibility to implement* – Substance use programs and organizations have varying capacity and infrastructure to implement POM measures. Considerations such as the cost of proprietary tools, training requirements, and time needed for administration and interpretation may make an otherwise appropriate measure challenging to implement. To mitigate these challenges, where possible and appropriate, measurement practices should be integrated within existing data collection processes and/or systems to minimize burden on clients and to avoid creating barriers in the therapeutic relationship, and/or implementation processes.<sup>28</sup> Encouraging clinician buy-in should also be considered, given the evidence that clinicians do not always use results from standardized recovery measures to inform clinical decision-making; having additional supports such as training and supervision are important facilitators for uptake.<sup>36</sup>

### 3.4.3 Focus on implementation and sustainability

Many of the challenges identified in the previous section, including stakeholder buy-in, program fidelity, and lack of resources are common to any significant change initiative. As such, application of principles and practices of implementation science are particularly critical to ensuring the long-term success of a POM system. This includes facilitating readiness for change, identifying barriers at various levels and developing mechanisms to address them.

Specific examples of implementation mechanisms include:

*Meaningful engagement of clients and staff in all phases of planning, development, implementation and evaluation* – Since POM reflects a partnership between clients, service providers, and the larger organization, all parties should be engaged during system implementation, from early development to evaluation phases. Involving stakeholders in a meaningful way helps ensure that the end result meets everyone’s needs from the POM system. Ongoing opportunities to provide feedback should also be encouraged, as a POM system may need to evolve alongside changes in care delivery, treatment practices, structural changes at the organizational level, etc. A significant number of key informants described efforts to engage clients in the selection and adaptation of POM measures for these reasons.

*Leadership support* – Leaders are necessary (but not sufficient) to successfully implement a POM system. They play a critical role in communicating the value of POM to staff and clients, and to external service partners, funders and system planners.

Having leadership on board will also shape the type and amount of resources that get allocated to support implementation, as well as how POM data is used to inform strategic planning and quality improvement efforts.<sup>55</sup>

*Readiness and capacity for change* – Readiness and capacity for change can vary significantly across different service providers, programs and organizations within a system of care. Readiness with respect to supportive policies and procedures, culture, technological infrastructure, staff competencies and resources are particularly relevant to the successful implementation of POM systems.<sup>55</sup>

*Flexibility* – POM systems must be flexible enough to adapt to changing profiles of substance use and addiction in the population it serves, including new developments in our understanding of substance use and concurrent disorders. Organizations must also be nimble in response to policy and directional changes at the system level, which could include shifts in strategic priorities that may affect funding (and accountabilities related to POM), privacy legislation and changes to the service delivery model.

## 4. Implications for a POM system in Ontario and beyond

In this report, we have reviewed existing POM systems to highlight their benefits, common key features, and best and promising practices with respect to system implementation and sustainability. These findings provide a foundation for HRI to further its collaborative efforts with other mental health and addiction treatment services in Ontario to co-develop a province-wide POM system. While POM systems will need to be adaptable to each treatment service's context, HRI's work can support greater consistency between sites when it comes to key system components, such as the use of standardized outcomes measures, recommended data collection protocols or procedures, requirements for data storage and recommended data use or knowledge translation practices.

The recommended next step in Ontario would be to pursue partnerships with hospital- and community-based mental health and addiction treatment services who are willing to explore how these key POM system components can be operationalized in their setting as a pilot. HRI should draw on principles from implementation science to guide these efforts; facilitators such as readiness for change and having dedicated resources, for example, require exploration, as they are critical for sustainable implementation. The importance of strategic collaboration across the sector cannot be understated in the development and funding of a provincial POM system.

Finally, although our focus here has been on furthering the development of a POM system within Ontario, we believe the information gathered and synthesized here will be of value to important stakeholders across Canada and elsewhere.

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## Appendix A. Examples of progress and outcome monitoring systems

**Table 1.** Canadian examples of progress and outcome monitoring systems in addiction (or concurrent) treatment services

POM System	Implementation Level	Program type	System type	Brief Description
<b>National</b>				
Veterans Affairs Canada (VAC) – Operational Stress Injury Clinic (OSIC) Network	System (all OSI clinics)	Outpatient	Within-treatment	The Client-Reported Outcomes Monitoring Information System (CROMIS) is a national, web-based software (OQ-Analyst) system that supports ongoing, session-by-session client-reported mental health outcomes tracking. The approach is to monitor important mental health indicators to prevent deterioration and/or premature drop-out, by accurately identifying those at risk and by providing actionable, “just-in-time” evidence-informed recommendations to both clients and clinicians. <sup>2</sup>
<b>British Columbia</b>				
Homewood Ravensview†	Organization (all programs)	Inpatient/ Residential	Both	An adapted version of the Recovery Journey Project (RJP) <sup>3,4</sup> was implemented at Ravensview upon its opening in early 2019. The electronic, web-based system routinely collects client-reported data on various mental health and substance use indicators at admission, mid-treatment, upon discharge, and at one, three, six, and twelve months post-discharge. The data collected can be used by staff to inform client treatment plans, monitor and evaluate treatment quality and effectiveness, and generate new knowledge about the recovery process.
<b>Manitoba</b>				
Addictions Foundation Manitoba (AFM)†	System	Inpatient/ Residential	Post-treatment	Inpatient/residential clients served by the Addictions Foundation Manitoba (AFM) are contacted three months post-treatment discharge to complete a brief follow-up questionnaire focuses on different recovery domains, as well as service utilization, perceptions of care and satisfaction with services. Information is used for quality improvement. Data are collected electronically through a web-based survey platform.
St. Raphael Wellness Centre†	Organization (three programs)  <i>*Planning underway for all programs</i>	Outpatient	Within-treatment	Phased implementation planned for all programs (beginning with women and men’s recovery programs). Transition evaluations are conducted to measure progress toward client-identified goals, as well as other indicators of recovery. Paper-based assessments are administered by counsellors and are repeated at regular intervals following completion of several program sessions. Data are collated into a database by a dedicated program evaluator.

<b>New Brunswick</b>				
Addiction Services†	Program	Inpatient/ Residential  <i>*Planning underway for outpatient services</i>	Within-treatment  <i>*Post-treatment under development</i>	Paper based tools are self-administered by clients at admission, one month in treatment and at discharge if treatment extends significantly beyond the interim measurement. Measures are focused on substance use and mental health symptoms and related functioning. Clinicians enter data into an Excel spreadsheet designed to generate graphics summarizing assessment results. Results are used to inform treatment planning (for both clinicians and clients) and also shared with referral sources to provide a summary of progress in treatment.
<b>Newfoundland and Labrador</b>				
Department of Health and Community Services†	System	Inpatient/ Residential	Post-treatment	The goals of the Recovery Aftercare Program (RAP) are to 1. obtain feedback from clients regarding their substance use, health, treatment history and treatment experience; and 2. support clients after they leave treatment. The RAP is administered by 811 HealthLine, a contracted third-party telephone line that provides confidential, 24-hour health and mental health and addictions advice, education and support. 811 HealthLine nurses make calls at one, three, and six months post-treatment and offer support and information to prevent or address relapse and will contact the service provider if the client wishes to return to treatment. Results are also collated and shared with programs on a quarterly basis and can be used for the purposes of service planning and quality improvement.
<b>Ontario</b>				
Bellwood Health Services†	Program	Inpatient/ Residential  <i>*Planning underway for outpatient services</i>	Within-treatment  <i>*Post-treatment under development</i>	A suite of standardized self-report outcome measures is administered through an electronic platform to clients at intake, at two-week intervals while in treatment and at discharge. Tools are focused on substance use and mental health related recovery domains as well as the status of clients' relationships with their clinician. Results are used to inform clinical services and quality improvement. POM is supported by a dedicated data analytics team.
Homewood Health Centre†	Program  <i>*Planning underway for all programs</i>	Inpatient/ Residential  <i>*Planning underway for other inpatient programs</i>	Both	The Recovery Journey Project (RJP) <sup>3,4</sup> was first developed and implemented in the Addiction Medicine Program in 2015. The electronic, web-based system routinely collects client-reported data on various mental health and substance use indicators at admission, upon discharge, and at one, three, six, and twelve months post-discharge. The within-treatment data can be used by staff to inform client treatment plans, while the post-treatment data

				is used to monitor and evaluate treatment quality and effectiveness, and generate new knowledge about the recovery process.
The Residence at Homewood†	Program	Inpatient/ Residential	Both	An adapted version of the RJP <sup>3,4</sup> was implemented at The Residence upon its opening in 2018. The electronic, web-based system routinely collects client-reported data on various mental health and substance use indicators at admission, upon discharge, and at one, three, six, and twelve months post-discharge. The within-treatment data can be used by staff to inform client treatment plans, while the post-treatment data is used to monitor and evaluate treatment quality and effectiveness, and generate new knowledge about the recovery process.
Monarch Recovery Services†	Organization (two programs)	Inpatient/ Residential (men's and women's)	Post-treatment <i>*Standardized post-treatment data collection no longer underway</i>	Upon intake, all clients are assigned to Connections Counsellor who maintains contact during the pre-treatment stages and for a period of six months after treatment. The Connections Counsellor engages clients in services, provides assistance with practical needs (as part of the intake process), supports and reconnects clients back to care following treatment, if needed. Historically, Connections Counsellors also sent clients follow-up questionnaires at 1, 3 and 6 months post-treatment by mail but this practice was discontinued due to a low response rate and limited resources.
Royal Ottawa Mental Health Centre†	Organization	Inpatient/ Residential and Outpatient	Within-treatment <i>*Post-treatment under development</i>	Standardized progress monitoring is conducted across all inpatient and outpatient services. Recovery measures are paper-based (with plans to move to an electronic platform) and include a mix of client and clinician administered tools focused on a range of recovery domains. Processes to support POM are facilitated by dedicated evaluators embedded in all programs and results are linked to the hospital's quality improvement framework. Data are collected at admission and discharge.

†These agencies participated in a key informant interview with members of the project team

**Table 2.** International examples of progress and outcome monitoring systems in addiction (or concurrent) treatment services

POM System	Implementation Level	Program type	System type	Brief Description
<b>Australia</b>				
Network of Alcohol and Other Drug Agencies (NADA)	System	Inpatient/ Residential and Outpatient	Both	The Client Outcomes Management System (COMS) consists of a brief, self-report outcome self-assessment tool designed to record and report on client outcome data across NADA's non-government members providing drug and alcohol services in New South Wales (NSW). NADAbase assists agencies in electronically entering and maintaining data collected. Each service decides how frequently the measures should be completed but is encouraged to use the COMS surveys routinely. Tools are directly administered by a support worker or clinician or can be completed by the client (with the support of a worker) on paper or directly into NADAbase. Currently client outcome measures are not mandated for the NGO alcohol and other drug sector; however, certain funding bodies have established contracts with services where outcome monitoring and reporting are required. <sup>5,6</sup>
<b>New Zealand</b>				
Ministry of Health	System	Inpatient/ Residential and Outpatient	Both	The Programme for the Integration of Mental Health Data (PRIMHD) is the Ministry of Health's national collection of mental health and addiction service activity and outcomes data. This includes secondary inpatient, residential, outpatient and community services provided by District Health Boards and NGOs. Under PRIMHD, all community-based outpatient adult addiction services, including outpatient after-care or continuing care programmes, post-residential and outpatient intensive treatment programmes, are required to collect outcome monitoring data via the Alcohol and Drug Outcome Measure (ADOM). <sup>7</sup> The information is used to inform service planning and quality improvement at local, regional and national levels. Ongoing resources and supports, including a community of practice to support data analytics, are also available to improve national consistency in the collection and analysis of PRIMHD data. <sup>8</sup>
<b>United States</b>				
South Dakota Division of Behavioural Health (DBH) Treatment Outcomes Program	System	Inpatient/ Residential and Outpatient	Within-treatment	The Division of Behavioural Health (DBH) Treatment Outcomes Program is a comprehensive data collection and analysis process to measure the impacts of Behavioral Health services. Outcome monitoring is relevant to multiple levels, including, but not limited to, the client, the provider, and funding sources at both state and federal levels. This comprehensive approach to data collection and outcome monitoring also allows DBH to measure the extent to which publicly

				funded behavioral health services are an effective and efficient use of public funding. <sup>9</sup> Measures are completed and submitted using the State Treatment Activity Reporting System (STARS).
North Carolina Treatment Outcomes and Program Performance System (NC-TOPPS)	System	Inpatient/ Residential and Outpatient	Both	NC-TOPPS is a web-based program implemented by the state government to gather outcome and performance data on behalf of mental health and substance use consumers in North Carolina's public system of services. The NC-TOPPS system is used to measure the impact of treatment and to improve service and manage quality throughout the system. NC-TOPPS was launched in 1997 as a partnership between the federal government and the state. In 2005, mental health services were added to the system and NC-TOPPS moved to a web-based format. <sup>10</sup>

**Table 3.** Examples of commercial progress and outcome monitoring systems from the United States

POM System	Implementation Level	Program type	System type	Brief Description
INSIGHT Addiction and 20/20 system	All	Inpatient/ Residential and Outpatient	Both	INSIGHT Addiction is a measurement-based care system designed for substance use treatment programs. It collects client data and provides real-time summaries in graphic format to inform clinical care. INSIGHT Addiction is HIPAA compliant and uses academically validated symptom severity rating scales. Measurements take approximately 2-3 minutes, are customized to ask only the questions that are relevant to that client, and are self-administered from electronic devices. While the frequency and timing of measurement is at the discretion of the treatment provider, Vista recommends weekly for at least the first month of treatment and then bi-weekly once clients stabilize. <sup>11</sup>
Outcome Questionnaire (OQ) System	All	Inpatient/ Residential and Outpatient	Within-treatment	The OQ system allows review of patient-reported recovery data that can be used to inform adjustments for ongoing treatment. It is composed of two tools focused on measuring recovery domains and therapeutic alliance. The OQ-Analyst is an online software application that facilitates real-time electronic feedback for clinicians (and clients). Based on data entered, it will send a signal when clients are not making expected treatment gains and are at risk for a poor treatment outcome. <sup>12,13</sup>
Partners for Change Outcome Management System (PCOMS)	All	Inpatient/ Residential and Outpatient	Within-treatment	The Partners for Change Outcome Management System (PCOMS) <sup>14</sup> uses two, four-item scales to solicit consumer feedback regarding early progress and the quality of the therapeutic alliance. Because of its brevity, this system facilitates the discussion of real-time assessment results at every session. The identification of at-risk clients can be generated by using web-based software. The positive impacts of PCOMS on treatment engagement and provider productivity have been shown in randomized clinical trials. <sup>13</sup>

## Appendix B. Key informant interview guide

### CONTACT INFORMATION

Organization:

Key Contact:

Name:

Email:

Phone:

Alternate Contact:

Name:

Email:

Phone:

### BACKGROUND/ INTRODUCTION

The **purpose** of the interview is to learn more about recovery monitoring efforts currently underway in Ontario (and across Canada), specific to substance use and concurrent disorders treatment and support services.

The **goal** is to identify key components, lessons learned, and best practices across these individual efforts so to find points of linkage and synergy across programs and services. As well as, inform the design of a province-wide recovery monitoring system for MHA treatment services in Ontario.

1. Is a Recovery Monitoring System (RMS) currently in place within your organization/ agency?
2. If so, in which programs/ services? (If necessary, please complete for each program with a Recovery Monitoring System currently in place)

### PROGRAM INFORMATION

Program Name:

City:

Province:

Regional Health Jurisdiction (e.g., Ontario Health Team/ LHIN):

Type of Program or Service (e.g., Residential, non-residential, , withdrawal management, Opioid Agonist Treatment etc.):

Description of Population Served (e.g, substance specific; males or female only, adult or youth, marginalized)

Average # of Patients/ Clients Served per Year:

Approximate year opened

### RECOVERY MEASUREMENT

3. Does the recovery monitoring system include standardized measurement of recovery outcomes?
  - a. How were the recovery outcomes identified?
  - b. What domains are covered, eg, ....?
  - c. What tools/ measures are used?
  - d. How were tools/ measures selected?
  - e. About how long does it take for patients/ clients to complete the tool?
  - f. Is there a qualitative component, (e.g., client interview)
  
4. How is the outcome data collected?
  - a. At what time points are outcome data collected (including baseline)? (if residential, if non-residential?)
  - b. What methods are used to collect outcome data (e.g., self-report, researcher/clinician interview, clinician-reported; paper-based or electronic; tablet, electronic app or emailed survey link)
  
5. For post-discharge follow up, is there a mechanism to re-engage patients/ clients back into treatment? How? Has this been successful?

#### **DATA/ KNOWLEDGE USE**

6. How is the recovery outcome data used (with examples)?
  - a. To inform/ support clinical decision making? (examples....)
  - b. To Inform and monitor quality improvement efforts? (exam[les.... )
  - c. To demonstrate accountability (to whom)? (examples....)
  - d. To support research and/ or evaluation studies? (examples....)
  
7. What types of knowledge translation products have been produced? Provide any examples?

#### **INFRASTRUCTURE AND SUPPORTS**

8. What capacity exists/ is needed to collect/ enter the outcome data (i.e., human resources, software, etc.)?
  
9. What capacity exists/ is needed to store and manage the outcome data (i.e., secured server, human resources, etc.)?
  
10. What capacity exists to analyze and compile the outcome data into reports, etc. (i.e., human resources, expertise, software, etc.)?
  
11. Is the recovery monitoring system supported as part of routine clinical practice or by another means (i.e., research project, fee for service)?

12. Is special consent required/ in place for the collection/ use of outcome data?

13. Are special agreements required/ in place for the collection, storage, transfer and/ or use of outcome data?

## **FACILITATORS AND BARRIERS TO IMPLEMENTATION**

Consider the following implementation drivers as prompts: decision support/ data systems; facilitative administration; adaptive leadership; technical leadership; and other common facilitators/ barriers (e.g., time constraints, staff buy-in, resources, cost, organizational change, etc.).

14. What were the facilitators/ critical success factors to implementing the RMS within this setting?

15. What were some of the barriers to implementing the RMS within this setting?

16. Can you identify 1-2 key lessons learned?

## Appendix C. Progress and outcome monitoring measures

<i>Addiction Dimensions for Assessment and Personalised Treatment (ADAPT)</i>	The ADAPT is a 14-item instrument for substance use treatment planning, clinical review and outcome monitoring. It includes domains related to addiction-related severity, health and social problem complexity and recovery strengths.
<i>Addiction Severity Assessment Tool (ASAT)</i>	The ASAT is a behavioural health screener for adults using substances. The screener measures problem severity in daily functioning, relationships, dysphoric states, dependence severity, recovery skill/self-efficacy and existential factors.
<i>Addiction Severity Index (ASI)</i>	The ASI is a multi-dimensional interview used to measure the substance use, health, and social problems of those with alcohol and other drug problems, both at admission to treatment and during subsequent follow ups.
<i>Addiction Severity Index – Lite (ASI-Lite)</i>	The ASI-Lite is a shortened version of the ASI above.
<i>Alcohol and Drug Outcome Measure (ADOM)</i>	The ADOM is a brief, 18-item, two-part, outcome monitoring instrument designed for routine use with clients in the New Zealand Alcohol and Other Drug (AOD) treatment sector.
<i>Alcohol Treatment Outcome Measure (ATOM)</i>	The ATOM was designed to measure the key outcomes of alcohol treatment whilst remaining a brief and easy to use clinical tool.
<i>Brief Addiction Monitor (BAM)</i>	The BAM is 17-item monitoring instrument covering substance use related behaviors to support measurement-based care and outcomes assessment.
<i>Brief Treatment Outcome Measure (BTOM)</i>	The BTOM is a brief, multi-dimensional instrument for routine, on-going treatment outcome monitoring in alcohol and other drug (AOD) services
<i>Clinical Outcomes in Routine Evaluation– Outcome Measure (CORE-OM)</i>	The CORE-OM is a 34-item self-report standardized outcome measure.
<i>EUROHIS Quality of Life Scale (EQoL)</i>	The EQoL is an eight-item measure of quality of life.
<i>Global Appraisal of Individual Needs (GAIN-Q3)</i>	The GAIN-Q3 or Q3 is a multipurpose assessment used to accurately and efficiently identify a wide range of life problems among adolescents and adults in both clinical and general populations. The GAIN-Q3 Follow-Up (in two versions, Standard and Lite) can be administered quarterly after the initial assessment to monitor the participant’s response to treatment, clinical status and service utilization. The Q3 Follow-Up can also monitor outcomes at a group, program, agency or regional level.

<i>Health of the Nation Outcome Scales (HoNOS)</i>	The HoNOS is a clinician-rated instrument composed of 12 simple scales for measuring behaviour, impairment, symptoms and social functioning for those who are 18 to 64 years of age. Additional HoNOS measures have been developed for special populations and applications. England, Australia and New Zealand have mandated the use of HoNOS for routine monitoring and outcome measurement across their mental health services at a national level. It is also used in at least two provinces in Canada.
<i>Maudsley Addiction Profile (MAP)</i>	The MAP is a brief, interviewer-administered questionnaire for treatment outcome research applications.
<i>Methadone Treatment Index (MTI)</i>	The MTI is a brief instrument designed in consultation with clinicians and clients for use in monitoring treatment progress with clients receiving methadone maintenance treatment.
<i>NAATP Outcomes Pilot Project (OPP) survey tools</i>	The surveys used in the NAATP's OPP were developed to monitor substance use treatment outcomes and to contribute to quality improvement. The brief surveys include an Intake Form, Locator Form, Discharge Reminder Form, Follow-up Form and Service Summary Form.
<i>Narconon Routine Outcome Monitoring (ROM) system</i>	The Narconon ROM is an economical, staff-based system that uses an 18-item telephone survey for aggregate reporting of long-term outcomes achieved by graduates of the Narconon drug and alcohol rehabilitation program.
<i>Ontario Within-Treatment Outcome Measure for Addictions (OWTOM-A)</i>	The OWTOM-A was developed to monitor clients' general well-being during their treatment process.
<i>Opiate Treatment Index (OTI)</i>	The OTI is a comprehensive, multi-dimensional treatment outcome index.
<i>OQ®-ASC (Assessment for Signal Clients)</i>	The OQ®-ASC is a 40-item self-report measure (for use in conjunction with OQ adult outcome questionnaires) to assess the type and severity of problems that may be impeding treatment progress (e.g., problems related to therapeutic alliance, motivation, social support and stressful life events).
<i>Outcome Rating Scale (ORS)</i>	The ORS was developed as a brief alternative to the Outcome Questionnaire 45 described below.
<i>Outcome-Questionnaire-45 (OQ-45)</i>	The OQ-45 was designed for ongoing measurement of client progress throughout therapy and following termination. The Modified OQ-45 includes drug and alcohol use.
<i>Session Rating Scale (SRS)</i>	The SRS is an ultra-brief alliance measure designed specifically for every session clinical use.

<i>Severity of Dependence Scale</i>	The SDS was devised to provide a short, easily administered scale to measure the degree of dependence experienced by users of different types of drugs.
<i>Substances and Choices Scale (SACS)</i>	The SACS is a one-page pencil and paper self-report questionnaire for young people aged 13-18 years with high acceptability, validity, and reliability. It has utility in screening and measuring outcomes and can be used to enhance the identification and treatment of AOD difficulties in young people across a range of health settings. It can be completed alone or in association with the young person's health or social agency worker.
<i>SURE (Substance Use Recovery Evaluator)</i>	SURE is a psychometrically valid, patient-reported outcome measure for recovery from drug and alcohol dependence. SURE consists of 21 questions and uses a scoring system. It was designed with the help of service users to ensure that it measures what is important to them.
<i>Texas Christian University (TCU) Client Evaluation of Self and Treatment (CEST)</i>	The CEST is a 144-item self-rating instrument that includes 16 scales measuring patient functioning and treatment perceptions. It can be used for the regular assessment of patient status and progress on patient motivation, psychosocial functioning and treatment engagement.
<i>Treatment Effectiveness Assessment (TEA)</i>	The TEA is a patient-centered instrument for evaluating treatment progress and recovery from substance use disorders, including opioid use disorder (OUD).
<i>Treatment Outcome Profile (TOP)</i>	The TOP is a validated tool for monitoring the changes that occur during treatment for service users.