Caught in the Currents: Evaluating the Evidence for Common Downstream Police Response Interventions in Calls Involving Persons with Mental Illness

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An RSC Policy Briefing

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Land Acknowledgement

The headquarters of the Royal Society of Canada is located in Ottawa, the traditional and unceded territory of the Algonquin Nation.

The opinions expressed in this report are those of the authors and do not necessarily represent those of the Royal Society of Canada.

Background on the Policy Briefing Report Process

Established by the President of the Royal Society of Canada in April 2020, the RSC Task Force on COVID-19 was mandated to provide evidence-informed perspectives on major societal challenges in response to and recovery from COVID-19.

The Task Force established a series of Working Groups to rapidly develop Policy Briefings, with the objective of supporting policy makers with evidence to inform their decisions.

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Executive Summary

In the wake of several high-profile cases involving deaths in police custody of persons with mental illness (PMIs), there has been significant public interest in police reform in this area. Much of this interest, and the resulting demands for change, is couched in the language of public health. Mental illness is seen as a health condition in which social determinants—that is, those economic, cultural, environmental, institutional, and other factors that can influence health outcomes—can function as supports or barriers to well-being. In this language, the metaphor of a stream or river is invoked in order to visualize where appropriate responses to mental health conditions should lie. 'Upstream' solutions are those programs, practices, policies, or other innovations that address factors which are limiting or preventing individual and community access to healthcare treatment. An example of an 'upstream' initiative might be a community-based outreach program aimed at moving mentally ill, homeless citizens into secure housing and treatment. Such approaches are contrasted with 'downstream' initiatives, which often entail programs or practices to respond to individuals who, lacking healthcare access and/or other necessary supports, are now in immediate crisis. As decades of research has shown, one of the single biggest examples of 'downstream' responses to individuals dealing with significant mental health issues is the use of public policing (Bittner 1967 1990; Lamb et a. 2002; Patch and Arrigo 1999; Schulenberg 2016; Teplin 1984; Wells and Schaffer 2006). To a dizzying extent, policing has in many instances become the *de facto* response to mental health issues (see also Wood, Watson, and Fulambarker 2017).

The origins of this report, and of the Royal Society of Canada's Mental Health and Policing Working Group, can be traced to the unique situation Canadians have faced as a result of the COVID-19 pandemic. The unique circumstances of this global outbreak, which have, for many Canadians, resulted in serious illness and death, intensified economic uncertainties, altered family and lifestyle dynamics, and generated or exacerbated feelings of loneliness and social dislocation, rightly led the Royal Society of Canada's COVID-19 Taskforce to consider the strains and other negative impacts on individual, group, and community mental health. With the central role that police too often play in the lives of individuals in mental and/or emotional crisis, we were tasked with exploring what can be reasonably said about the state of our current knowledge of police responses to PMIs.

In response to our charge, the Mental Health and Policing Working Group set out to assess the myriad ways in which police work results in encounters involving PMIs. The result was a working paper that documented the complex nature of these interactions. In this second volume, we move away from the dynamics leading to police encounters towards an exploration of some of the existing suite of 'downstream' policing programs and initiatives in use in Canada. In the pages that follow, we present an assessment of the current evidence base for each selected, with a particular focus on reviewing experimental, evaluative, and other research conducted in Canada. Our intention is to provide policymakers and practitioners with a better-informed understanding of the strengths and limitations of the current evidence base for programs that have already been widely adopted. In this paper, we explore the knowledge base in the following areas: mental health screening tools, situation tables/hub models, non-escalation and de-escalation training, and crisis intervention and co-response models. In each section, we provide a brief overview of the intervention, program, and/or tool. Then we move on to reviewing the evidence base for each, including presenting a discussion of what the relevant literature reveals in terms of the relative strengths and weaknesses of a given response model or tool. From there, we provide a succinct snapshot of what is both known about a model, as well as areas in which future research

is critically needed. Finally, based on an analysis of the data and research gathered, we present a series of recommendations for policymakers and practitioners.

Recommendations

Mental Health Screening Tools

1. Fund independent evaluations to assess both internal and external validity under different research contexts.
2. Fund independent research to explore issues with adoption and adaptation to mental health screeners across police services.
3. Explore PMI perspectives and experiences with mental health tools.
4. Support internal and external assessments as to the extent to which mental health screening tools reduce communication gaps between police and healthcare workers, and therefore reduce barriers for PMIs to access services.
5. Explore the issue of whether training on these tools meets the required objectives of increasing police knowledge of the tool and the concepts embedded in its use.

Situation Tables/Hub Models

1. Fund independent evaluations of Situation Tables broadly, as well as research with a specific focus on the outcomes of mental health-related cases since they appear to be the most prevalent.
2. Fund independent research to explore the perceptions and experiences of individuals who are the subject of Situation Table cases, as well as their families.
3. Given the sensitive nature of the data that may be shared within a Situation Table, research is additionally needed to determine the most optimal method of information sharing while also adhering to any privacy requirements.
4. If research supports their use, governments should develop innovative approaches to increase service provider and service user participation/retention in Situation Tables.
5. Develop policy to dismantle common barriers which often impede collaboration between service providers. Doing so may ease the need for Situation Tables in the first place.

Managing Encounters with Persons with Mental Illness: Non-escalation and De-escalation

1. Develop a definition of non-escalation and de-escalation that is well accepted across Canadian police jurisdictions.
2. Continue studying the physical and mental health implications of policing for police officers and ensure that appropriate supports are put in place for officers to help them manage their health and wellbeing.
3. Study the impact of an officer's mental health on their interactions with the public, particularly with PMIs, including their ability to make sound decisions related to non-escalation, de-escalation, and use of force.
4. Study the impact of an officer's mental health on their ability to regulate their emotions and behaviour in potentially volatile situations with PMIs.
5. To the extent that the competencies highlighted in the literature positively influence the quality of police-citizen interactions, actively select for these competencies when hiring new officers.

6. Introduce competency-based training and evaluate how the various competencies highlighted above influence interactions that police have with role players in realistic scenario-based training environments and with PMIs in field settings.
7. Carry out studies to determine how frequently various non-escalation and de-escalation strategies are used by police officers and which strategies relate to success so that those strategies can be focused on in training.
8. Examine the relationship between the use of de-escalation strategies and officer safety.
9. Conduct evaluations of non-escalation and de-escalation training programs offered in Canada (e.g., CID training) to determine their impact, being sure to focus on behavioural outcomes (e.g., on-the-job performance) in addition to outcomes related to knowledge and attitudes.
10. Establish national standards for mental health and de-escalation training in Canada to ensure all officers are appropriately trained.
11. Examine issues beyond police training, in particular organizational policies related to non-escalation, de-escalation, and use of force, to determine how these influence officer responses in police-citizen interactions, including those involving PMIs.

Crisis Intervention Teams and Co-response Teams

1. Jurisdictional scans of available resources should be conducted to understand local need for crisis response, available resources, and identify gaps to determine need for CIT, CRT, or other crisis response models.
2. Use of evidence-based strategies and models should be prioritized for informing police response to persons in mental health crisis, with some experts calling for all frontline officers to be trained in CIT (Hassell 2020).
3. Given available data on police-involved crisis response models, consideration should be given to reliance on CRT which blends aspects of CIT with deliberate inclusion of a mental health professional in the crisis response and allows for more direct linkages to service access for persons in crisis.
4. Investment is needed in research funding to evaluate best practice CIT, CRT, and alternative crisis response models in the Canadian context and in specific jurisdictions and cultural contexts.
5. Effective police-community partnerships are needed to design and implement any crisis response strategy or program aimed at supporting police with how they respond to persons in mental health crisis.
6. Any crisis response model must have sufficiently resourced mental health, addiction, social, and other community support services available to refer clients beyond the crisis point.
7. Models that dispatch non-police service providers to mental health calls coming through emergency services points of contact, such as the Crisis Assistance Helping Out On The Streets (CAHOOTS) initiative in Oregon, US and the Mental Health Ambulance Service in Stockholm, Sweden, and recently in Toronto, Canada should be explored and evaluated.
8. Standardization is needed in the definition of mental health crisis police calls to allow for consistent data tracking and comparability across Canadian jurisdictions.

Caught in the Currents: Evaluating the Evidence for Common Downstream Police Response Interventions in Calls Involving Persons with Mental Illness

Mental Health Screening Tools

In the rush to improve police effectiveness and efficiency in responding to calls for service involving PMIs, as well as case and clinical outcomes for those with mental illness who come into contact with police, an increasing number of Canadian police services are adopting mental health screening tools. Ostensibly, the purpose of employing such tools is to better identify individuals with mental health issues in order to provide appropriate responses, whether that be reframing de-escalation procedures, taking necessary suicide precautions on-scene or in police custody or, where appropriate, diversion to mental health facilities. In our review of the relevant literature, we identified two primary types of mental health tools in use by police services. These are:

- Screening tools used by frontline officers to assist in decision-making, and;
- Screening tools for assessing depression, suicidality, and/or other health and mental-health related concerns among individuals held in police custody.

Unfortunately, despite a handful of UK-based studies (Baksheev et al. 2012; Dorn et al. 2013), we could locate no Canadian evaluations or other research of in-custody screening tools. Nor did keyword searches using online search engines[1] turn up references to such tools in the Canadian grey literature[2], media or other sources.

By way of contrast to the dearth of information available on Canadian police custody screening tools, we did locate several news releases announcing the adoption of a mobile mental health screening tool by, among other agencies, the Royal Canadian Mounted Police, Ontario Provincial Police, York Regional Police, and Sarnia Police.[3] The tool is the interRAI Brief Mental Health Screener (BMHS). Intended for non-mental health professionals who are likely to be the first responder to a person with mental health needs, the BMHS consists of 46 questions. The BMHS is intended to assist police capture a patients' mental health data retrospectively 24-hours from a single point in time (Hirdes et al. 2020; Hoffman et al. 2016).

What is the BMHS? It's a mobile online form created for police by a consortium of academics based on previous screening tools developed for use in clinical and other settings (Hirdes et al. 2019). The form is to be used by frontline police officers when they encounter someone—in the field or elsewhere—who is exhibiting behaviours that may indicate an underlying mental illness (Hoffman et al. 2016). Responding officers are expected to answer questions across five sections, including: individual and incident characteristics; indicators of disordered thinking; indicators of risk of harm; time spent on the call from dispatch to clearance, and; an open-ended section for recording other pertinent information (Sanders and Lavoie 2020). The process of completing the

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1 To perform these searches, one of the authors began by using a university library search engine against all of the academic online databases available. Keywords included search terms such as 'mental health screener police' and 'mental health tool police.' The resulting abstracts were then read online and the following were excluded: (1) any paper that was not about mental health screening devices, (2) papers not in English, and (3) any papers that did not contain an evaluation. A similar approach was then taken to locate grey literature using Google Search.

2 Grey literature refers to non-peer reviewed studies. These are typically program or policy evaluations or other pieces of research conducted outside of academia.

3 Hirdes et al. (2019) state that, as of 2019, the InterRAI screener is in use in 4 Canadian provinces among some 40 police services.

questionnaire takes approximately 5 minutes and the results can be electronically transferred to a local hospital or other facility (Hoffman et al. 2016). The stated goals of having officers use this tool are twofold: "(1) to enhance the ability of police officers to recognize indicators of serious mental disorder and (2) to help facilitate a more collaborative relationship between frontline staff in the criminal justice and health systems" (Hoffman et al. 2016: 29).

As of this writing, we could only locate one evaluation of this tool: a quasi-experimental pilot study conducted by the development team with two Ontario police services (Hoffman et al. 2016). The researchers had officers complete forms (*n* = 235) in those situations in which they had reason to believe that an individual may have a mental illness. To determine the validity of the predictions made based on the tool, researchers then accessed patient records to determine clinician diagnoses and hospital admittance rates. From this, they concluded "the results of the study indicate that the 14-variable algorithm used to construct the interRAI BMHS is a good predictor of who was most likely to be taken to hospital by police officers and who was most likely to be admitted" (Hoffman et al. 2016: 28). Further:

> The instrument is an effective means of capturing and standardizing police officer observations enabling them to provide more and better quality information to emergency department (ED) staff.[4] Teaching police officers to use the form constitutes enhanced training on major indicators of serious mental disorders. Further, given that items on the interRAI BMHS are written in the language of the health system, language acts as common currency between police officers and ED staff laying the foundation for a more collaborative approach between the systems (ibid.: 28).

Whereas we could find no independent evaluations of this tool in Canada or elsewhere[5], we do note we were able to locate one additional study. In a recent article, Sanders and Lavoie (2020) explored the adoption of the interRAI BMHS by a Canadian police service drawing on field-based observations for a six-month period following implementation. What they found was that the medical terminology and framing of mental health issues failed to provide officers with a "shared understanding of what that language means or how to recognise and accurately assess for indicators. The lack of shared understanding, in turn, led officers to rely upon their own experiential knowledge for assessing risk and to perceive the screener as an administrative tool to be used after the fact" (ibid.: 12). These researchers also observed officer frustration with being required to fill out a form in situations in which they had little spare time or had to deal with simultaneous operational or other demands. As one of their informants put this point, one doesn't always "have the time, or a person is going crazy in the back of your cruiser" (ibid.: 8).

What We Know

- Canadian police services are rolling out mental health screeners—and associated training, policies, and procedures—without the existence of a significant evidence base.
- Limited available research shows that the interRAI BMHS may be predictive of hospital admissions (Hoffman et al. 2016), but further independent evaluation is required.

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4 To clarify, this is tool for police to more effectively work with clinical personnel in identifying individuals in crisis. It's meant to help both parties by creating a common language and protocols.

5 Hirdes et al. (2019: 7) state that "a pilot study of the BMHS in one US region is expected to launch in 2020".

- The screener is not intuitive for many officers, and therefore requires either extensive training and/or adaptations to the screener for officers to better understand its use when implemented (Sanders and Lavoie 2020).
- Some officers are resistant to the tool, seeing its use as 'unrealistic' in light of operational and other demands on their time (Sanders and Lavoie 2020: 8).

What We Don't Know

- Although different versions of the BMHS have been tested for different uses (Hirdes et al. 2019; Hoffman et al. 2016), lack of replication studies using policing samples means we only have one study assessing validity issues in this context.
- More research is needed to determine whether different types of screeners may be seen as having greater utility for police officers.
- More research is needed to understand whether police attitudes towards using the BMHS or similar tools change over time with increased use.
- We currently lack an evidence base that would inform improvements to training aimed at decreasing officer knowledge gaps.

Recommendations

1. Fund independent evaluations to assess both internal and external validity under different research contexts.
2. Fund independent research to explore issues with adoption and adaptation to mental health screeners across police services.
3. Explore PMI perspectives and experiences with mental health tools.
4. Support internal and external assessments as to the extent to which mental health screening tools reduce communication gaps between police and healthcare workers, and therefore reduce barriers for PMIs to access services.
5. Explore the issue of whether training on these tools meets the required objectives of increasing police knowledge of the tool and the concepts embedded in its use.

Situation Tables/Hub Models

In recent years, there has been a growing movement in Canada known as the Community Safety and Well-being (CSWB) movement. This movement is understood as: "the combination of social, economic, environmental, cultural, and political conditions identified by individuals and their communities as essential for them to flourish and fulfil their potential" (Wiseman and Brasher 2008: 358). Others, such as Ontario's Ministry of Community Safety and Correctional Services (2017: 3), define it as "identifying and responding to risks that increase the likelihood of criminal activity, victimization or harm, and working together to build local capacity and strong networks to implement proactive measures." While there do appear to be different conceptualizations of the CSWB movement, at its core, the movement posits that the responsibility of both 'community safety' and 'well-being' should not lie with a single agency or institution, but rather the responsibility should lie within the collaborative effort of multiple agencies and/or institutions—which have traditionally been fragmented—that can assist in the mitigation of risk, vulnerability, and/or harm (Bhayani and Thompson 2017; Nilson 2018).

The origins of the movement lie within several policing-related issues—namely, the economics of policing and the increasing number of calls for service containing social issues (e.g., mental health, substance abuse, homelessness, etc.) which the police have traditionally been ill-equipped to address but have nevertheless been tasked with due to gaps in social service delivery (Bhayani and Thompson 2017; Lansdowne Consulting Group 2016; Russell and Taylor 2014a). Thus, the logic behind this movement is that if the police can transfer social issue-related calls for service to other agencies which are better equipped to address said issues, this would then ease not only the demand on police, but also the costs that the police are incurring as a result of these calls (Babayan et al. 2015; Lansdowne Consulting Group 2016; Russell and Taylor 2015).

One mechanism through which this transfer of responsibility is facilitated are Situation Tables (otherwise known as the Hub model[6]). The structure and organization of Situation Tables can differ by jurisdiction (e.g., Nilson 2016); however, in large part, they involve weekly, or twice-weekly meetings with several local agencies—such as the police, social services, mental health, and education, among others—to discuss cases of acutely elevated risk (AER) (Bhayani and Thompson 2017; Brown and Newberry 2015; Ingersoll Nurse Practitioner-Led Clinic 2014; Lamontagne 2015; Lansdowne Consulting Group 2016). AER is a subjective "… threshold [that] combines both the degree of probable harm involved in any given situation, and the degree to which the operating risk factors involved cross multiple human service disciplines" (Russell and Taylor 2014b: 19). Put differently, Situation Tables only deal with cases in which there is not only a clear, imminent threat of criminality and/or victimization, but transcend various risk categories that require collaborative intervention from multiple agencies or services at the Table. As Sanders and Langan (2019) describe, there are over 100 risk factors—nested within 26 'Risk Categories'[7]—that are used to inform whether an individual meets the definition of AER. The overall aim of Situation Tables is to transfer cases that meet or exceed the AER threshold from one agency—such as the police—to multiple agencies or services that are collaboratively better equipped to address the risk(s) faced by the individual(s) in question.[8] In many jurisdictions with Situation Tables, the police not only appear to lead the effort in establishing their local Table, but most referrals to the Table originate from the police as well (Babayan et al. 2015; Brown and Newberry 2015; Ingersoll Nurse Practitioner-Led Clinic 2014; Lamontagne 2015; Lanark County Situation Table Project 2016; Lansdowne Consulting Group 2016; McFee and Taylor 2014). Thus, although Situation Tables are a collaborative approach to addressing social issues in the community, they are undoubtedly a police-led initiative.

A discussed in Volume 1, PMIs can comprise a considerable proportion of calls for police service. Thus, it is of no surprise that *Mental Health* is one of the 26 Risk Categories that are of focus for Situation Tables. Indeed, a high involvement of the police in mental health matters can be a driving force behind developing a Situation Table. For example, in describing the development of the Surrey Mobilization and Resiliency Table (SMART) in Surrey, British Columbia, Bhayani and Thompson (2016) note that a heightened focus for the Table was devoted towards a two-to-three block area of Surrey which was experiencing a concentration of mental health calls, as well as

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6 See Bhayani and Thompson (2017) for a discussion surrounding the differences and preferences over using the term 'Situation Table' or 'Hub'.

7 Alcohol, Drugs, Gambling, Mental Health, Suicide, Physical Health, Self-Harm, Criminal Involvement, Crime victimisation, Physical Violence, Emotional Violence, Sexual Violence, Elderly Abuse, Supervision, Basic Needs, Missing School, Parenting, Housing, Poverty, Negative Peers, Antisocial/Negative Behavior, Unemployment, Missing/Runaway, Threat to Public Safety, Gangs, and Social Environment.

8 See Russell and Taylor (2014a) for a discussion on how cases proceed through different 'filters' at the Situation Table.

addictions and other non-criminal issues. Further, consulting reports show that mental health is one of the most frequently seen risk categories for cases that pass through Situation Tables (e.g., Babayan et al. 2015; Lansdowne Consulting Group 2016; Russell and Taylor 2015).

Although the mental health risk factor comprises a significant amount of Situation Table cases, there has not been a single, high-quality, independent, peer-reviewed examination of how individuals with the mental health risk factor fare before, during, and/or after an intervention from a Situation Table. This is not a surprise given that, since the first Situation Table was established in Prince Albert, Saskatchewan in 2011 (McFee and Taylor 2014), there has not been a single, high-quality, independent, peer-reviewed evaluation of any Situation Table in Canada or elsewhere. The lack of evidence in support of Situation Tables is not only a concern given that there are over 100 Tables currently in operation (Corley and Teare 2019; Global Network for Community Safety 2016), but that politicians and other government officials seemingly keep supporting and investing in this unproven practice. For example, the former Ontario Minister of Community Safety and Correctional Services, Yasir Naqvi, labeled Situation Tables as the 'best practice' for risk identification and proactive, collaborative resource mobilization despite there being no evidence in support of this claim (Solicitor General 2015).

Moreover, given the individuals that Situation Tables have been designed to help—which disproportionally appears to be people living with mental illness who are also simultaneously experiencing other acute risk categories—the need for independent, rigorous evaluations cannot be understated. Simply put, we *need* to know whether Situation Tables are not only effective at reducing or eliminating the risk of harm for PMIs and the broader group of people they serve, but whether Table intervention has long-term impacts for PMIs, such as sustained engagement with mental health care or reduced interactions with the police in the future. Indeed, scholars and others alike have long been calling for a reduced or even eliminated police presence in mental health calls. Thus, in the event that Situation Tables are deemed to be effective, they can play a significant role in reducing the footprint of the police—and arguably the criminal justice system—in highly specific mental health cases which are deemed AER. Empirical research can also help further identify areas of the Situation Table approach that may need to be altered in order for them to be successful in achieving their objectives. Further, but along the same vein, empirical research can also help identify any potential areas of concern or situations in which individuals can or may experience harm through the Situation Table process. Again, given the population that is served by Situation Tables, this line of inquiry is especially important.

Ultimately, Situation Tables currently appear to have a questionable role when it comes to police involvement in mental health cases; however, whether these Tables are achieving their intended objectives—particularly as it relates to reduced contact between the police and PMIs—remains to be seen.

What We Know

- Many police services in jurisdictions across Canada are leading efforts toward implementing Situation Tables as a means of shifting social-related issues to more appropriate services.
- Situation Tables are framed as a 'best practice' within policy discourse, even though there is no evidence to substantiate this claim given the lack of independent, peer-reviewed evaluations.
- The police refer the most cases to Situation Tables relative to other participating services.

- Mental health is the most frequently seen risk factor by Situation Tables.

What We Don't Know

- We currently don't know whether Situation Tables are achieving their intended goals and objectives more generally.
- It is unclear whether mental health-related cases seen by Situation Tables are successfully engaging in the services and resources coordinated for their assistance by the Table over time.
- We also don't know whether the outcomes of mental health-related cases differ based on the number of co-occurring risk factors that are of concern to Situation Tables.
- We currently lack evidence that mental health-related cases that receive Table intervention are associated with reduced interactions with the police.

Recommendations

1. Fund independent evaluations of Situation Tables broadly, as well as research with a specific focus on the outcomes of mental health-related cases since they appear to be the most prevalent.
2. Fund independent research to explore the perceptions and experiences of individuals who are the subject of Situation Table cases, as well as their families.
3. Given the sensitive nature of the data that may be shared within a Situation Table, research is additionally needed to determine the most optimal method of information sharing while also adhering to any privacy requirements.
4. If research supports their use, governments should develop innovative approaches to increase service provider and service user participation/retention in Situation Tables.
5. Develop policy to dismantle common barriers which often impede collaboration between service providers. Doing so may ease the need for Situation Tables in the first place.

Managing Encounters with Persons with Mental Illness: Non-escalation and De-escalation

As outlined in Volume 1, a significant number of calls for police service involve PMIs. Given the impact that the COVID-19 pandemic has had on people's mental health (Xiong et al. 2020), these types of calls have likely increased recently. In addition, enforcing COVID-19 related regulations (e.g., social distancing) has likely created additional challenges for police officers that require the use of non-escalation and de-escalation strategies.

While the vast majority of interactions between the police and PMIs are resolved peacefully, serious injuries and deaths do occur (McNeilly 2017). A number of high-profile deaths in Canada, where the use of force by police was perceived to be biased or excessive, have led to calls for better police training to reduce the likelihood of citizens being unnecessarily harmed during their interactions with the police (e.g., Dubé 2016; Iacobucci 2014). In response to these calls for action, several independent research projects have been completed to review scientific evidence on non-escalation, de-escalation, and use of force training, and to collect data on current police training practices (Andersen et al. 2017 2018a; Bennell et al. 2018). These projects have helped identify knowledge, skills, and abilities (KSAs) that are critical for police officers to successfully
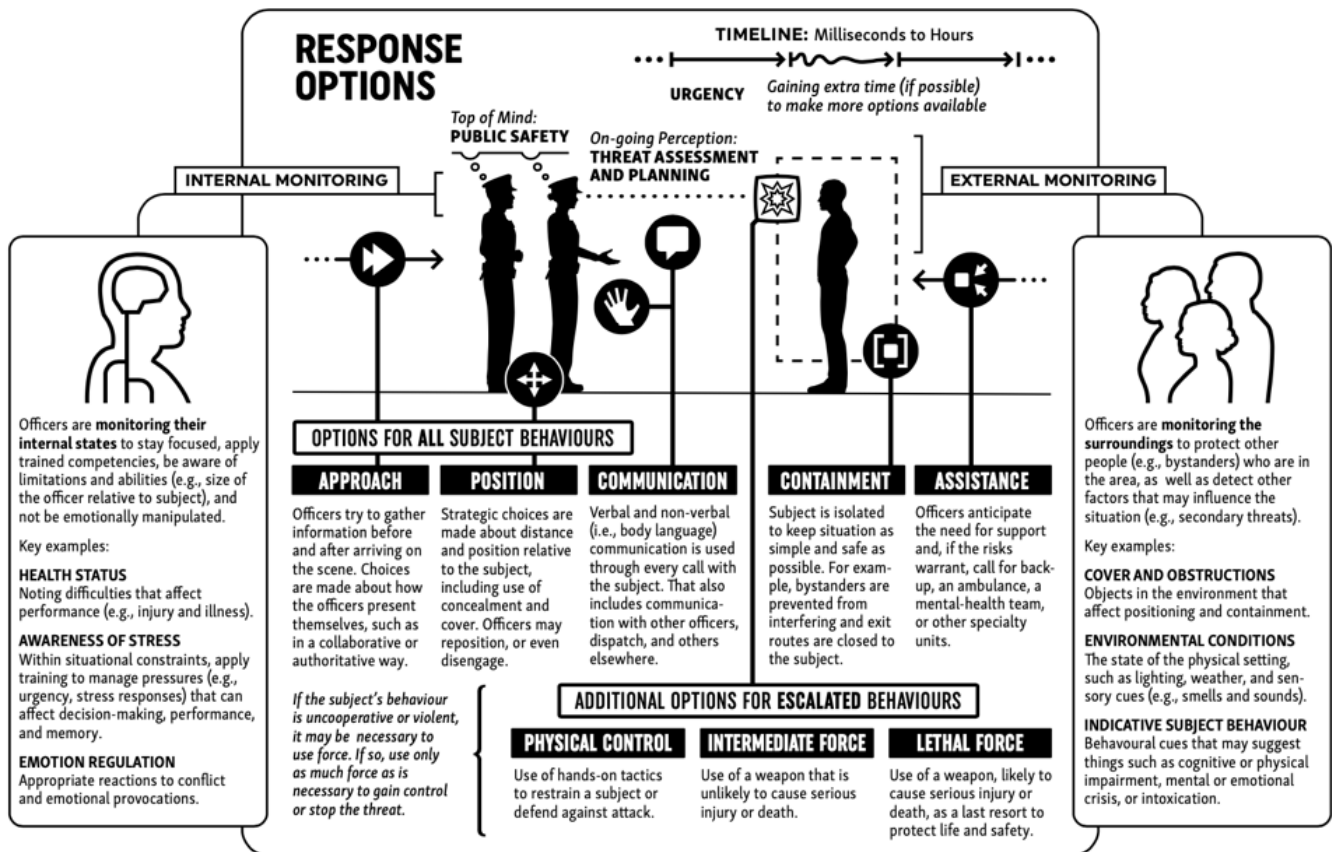
manage interactions with the public, including PMIs. Many of these KSAs are represented in the *Decision Model for Police Encounters* presented below (see the Appendix for a larger version of this image). This model was designed to emphasize the use of non-escalation and de-escalation strategies (*Options for All Subject Behaviours*) and de-emphasize the use of force (*Options for Escalated Behaviours*) (Andersen et al. 2018a).[9,10]

In this section of Volume 2, we describe what is known and not known about various components of the *Decision Model*, each of which is intended to improve the quality of police-citizen interactions and enhance public and police safety.

DECISION MODEL FOR POLICE ENCOUNTERS

Police officers try to achieve cooperation and compliance from a subject. **Safety is the overriding priority:** the primary responsibility of an officer is to preserve and protect life. To keep the public safe, officers must remain safe themselves.

Every situation is different and highly dynamic. Decision-making is highly fluid. De-escalation away from threatening or harmful behaviour is based on training but dependent on circumstances—there is no single step-by-step process.

RESPONSE OPTIONS

TIMELINE: Milliseconds to Hours

URGENCY *Gaining extra time (if possible) to make more options available*

Top of Mind: **PUBLIC SAFETY**

On-going Perception: **THREAT ASSESSMENT AND PLANNING**

INTERNAL MONITORING

EXTERNAL MONITORING

Officers are **monitoring their internal states** to stay focused, apply trained competencies, be aware of limitations and abilities (e.g., size of the officer relative to subject), and not be emotionally manipulated.

Key examples:

HEALTH STATUS
Noting difficulties that affect performance (e.g., injury and illness).

AWARENESS OF STRESS
Within situational constraints, apply training to manage pressures (e.g., urgency, stress responses) that can affect decision-making, performance, and memory.

EMOTION REGULATION
Appropriate reactions to conflict and emotional provocations.

OPTIONS FOR ALL SUBJECT BEHAVIOURS

APPROACH
Officers try to gather information before and after arriving on the scene. Choices are made about how the officers present themselves, such as in a collaborative or authoritative way.

POSITION
Strategic choices are made about distance and position relative to the subject, including use of concealment and cover. Officers may reposition, or even disengage.

COMMUNICATION
Verbal and non-verbal (i.e., body language) communication is used through every call with the subject. That also includes communication with other officers, dispatch, and others elsewhere.

CONTAINMENT
Subject is isolated to keep situation as simple and safe as possible. For example, bystanders are prevented from interfering and exit routes are closed to the subject.

ASSISTANCE
Officers anticipate the need for support and, if the risks warrant, call for back-up, an ambulance, a mental-health team, or other specialty units.

If the subject's behaviour is uncooperative or violent, it may be necessary to use force. If so, use only as much force as is necessary to gain control or stop the threat.

ADDITIONAL OPTIONS FOR ESCALATED BEHAVIOURS

PHYSICAL CONTROL
Use of hands-on tactics to restrain a subject or defend against attack.

INTERMEDIATE FORCE
Use of a weapon that is unlikely to cause serious injury or death.

LETHAL FORCE
Use of a weapon, likely to cause serious injury or death, as a last resort to protect life and safety.

Officers are **monitoring the surroundings** to protect other people (e.g., bystanders) who are in the area, as well as detect other factors that may influence the situation (e.g., secondary threats).

Key examples:

COVER AND OBSTRUCTIONS
Objects in the environment that affect positioning and containment.

ENVIRONMENTAL CONDITIONS
The state of the physical setting, such as lighting, weather, and sensory cues (e.g., smells and sounds).

INDICATIVE SUBJECT BEHAVIOUR
Behavioural cues that may suggest things such as cognitive or physical impairment, mental or emotional crisis, or intoxication.

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9 There is a lot of disagreement on how to define some of the terms used in this section of the report (e.g., Todak 2017). However, for the purpose of this report, non-escalation will refer to attempts by a police officer to *prevent* the escalation of conflict, tension, or harm in a police-citizen encounter. De-escalation will refer to attempts by a police officer to *reduce* conflict, tension, or harm in an encounter that has already escalated. Finally, use of force will refer to the use of any tactic applied by a police officer to *compel compliance* in a subject. Use of force intervention options (e.g., conducted energy weapons, or Tasers) can arguably be used to de-escalate situations, but for the purpose of this report, we will focus primarily on verbal and non-verbal tactics that police officers can use to de-escalate situations, including interactions with PMIs.

10 The *Decision Model for Police Encounters* was developed using two research strategies: a comprehensive review of non-escalation and de-escalation practices, theory, and expert practitioner state of the art recommendations in 2017 (see Andersen et al. 2017 2018 for the literature search strategy and methodology) and primary data collection, including surveys, guided interviews, focus groups, and expert guidance from cognitive and vision scientists and graphic designers (see Andersen et al. 2018). Also see Di Nota et al. (2021) for a critical review of current training models in non-escalation and de-escalation. This work was funded by a grant from the Government of Ontario, Ministry for Community Safety and Correctional Services.

Internal Monitoring

Police officers must concurrently monitor their internal states to stay focused during their encounters with the public, while also applying trained competencies, remaining aware of their limitations and abilities, adapting to stress, and managing their emotions. Issues related to health and stress can impact how well officers learn competencies during training and how they utilize these competencies in the field. Turning first to an officer's health status, we will focus on what is currently known, and what is still unknown.

What We Know

- Police work is associated with risks to physical health, including physical injuries, fatigue, sleep problems, cardiovascular disease, obesity, metabolic syndrome, endocrine dysregulation, neurological disorders, and other chronic conditions (Violanti et al. 2017).

- Policing is associated with risks to mental health, including depression, post-traumatic stress disorder (PTSD), anxiety, mortality (from suicide), psychological distress, and burnout (Carleton et al. 2018; Syed et al. 2020; Violanti 2020).

- A range of factors can exacerbate physical and mental health risks, including shiftwork, long-work hours, trauma exposure, organizational stressors (e.g., supervisor and peer interaction), workplace discrimination, excessive administrative demands, public interactions, and stress (Carleton et al. 2020; Chan et al. 2020; Violanti et al. 2017).

- Cognitive science indicates that mental health conditions are associated with "reduced cognitive flexibility, rigidity, or dysfunctional behavioural routines and rituals" (Schwabe and Wolf 2013: 66).

- Preliminary evidence indicates that anxiety disorders (e.g., PTSD) are related to hyperarousal of the stress response system, difficulty concentrating, and increases in impulsivity (Swick et al. 2012). PTSD severity may lead to changes in the brain that increase the risk of errors among police officers (Covey et al. 2013; Swick et al. 2012). Further, the severity of anxiety stimulates cardiovascular activity that changes emotion processing (Garfinkel et al. 2014). For example, anxious individuals may respond with more fear when they experience higher autonomic arousal (e.g., increased heart rate).

- During stress, the brain shifts from 'flexible cognitive' processing to 'rigid habit memory systems', which raises the risk of mental health conditions among vulnerable individuals (Schwabe and Wolf 2013: 60). Police officers frequently encounter stressful and potentially traumatic situations that raise the risk of psychological vulnerability.

What We Don't Know

- Currently, no tests exist that predict if an individual officer with a mental or physical health condition will be more likely to use force, exhibit excessive force, or commit a use of force error.

- Although it is known that stress and policing are associated with elevated risk for acquiring mental and physical health conditions, there is no test to predict, with any accuracy, if any one officer will develop a mental or physical health condition due to occupational stress exposures.

- Although it is known that cognitive flexibility is reduced during high stress encounters, impacting an individual's ability to think and apply their training, it is not known to what degree this happens in police officers or how the shift from flexible to habitual response patterns impacts an officer's interactions with PMIs.
- If an officer has a mental health condition, such as PTSD, we don't know what effect that will have on their interactions with PMIs.
- We also don't know if interventions that improve the physical and mental health of police officers reduce use of force errors and improve police interactions with PMIs.

As reviewed in Arpaia et al. (2019), stress has a significant, negative, and global effect on health and performance. Stress increases social unrest and negatively effects social connections, communication skills, relationships, and effectiveness. Stress has the potential to negatively impact neurological and autonomic nervous system regulation, which are fundamental components of cognitive and behavioural control (Burke 2017; Fridman et al. 2019). The good news is that it is possible to become aware of internal physiological processing related to stress and emotion regulation (Price and Hooven 2018). Adaptive autonomic nervous system modulation is associated with improved emotion regulation (Mather and Thayer 2018). Further, studies show promise in teaching skills to modify stress responses, which may in turn facilitate effective emotion regulation practices, although more research is needed in this area (Andersen et al. 2018b; Price and Hooven 2018). Below, we highlight what we know and don't know about stress awareness and emotion regulation during police-citizen interactions.

What We Know

- Fatigue and stress are associated with changes that interfere with cognitive function (Thayer et al. 2009).
- Internal physiological processes occur continuously during stress to shape perception, cognition, emotion, and behaviour (Garfinkel et al. 2014; Seth 2013). Acute stress reactions (e.g., fear) suppress the parasympathetic nervous system, which is responsible for keeping the brain in a calm focused state associated with cognitive flexibility (Berger et al. 2019; Garfinkel et al. 2014). This means that physiologic stress responses may change the way a police officer thinks and acts during volatile interactions with PMIs.
- Police officers experience internal stress physiology during training and active duty, with negative implications for decision-making and use of force errors (Andersen et al. 2018b; Baldwin et al. 2019; Giessing et al. 2019; Nieuwenhuys and Oudejans 2010; Novy 2012).
- Stress levels rise over the course of multiple encounters. Preliminary research indicates that physiological stress arousal may increase across police encounters that occur in rapid succession (Bertilsson et al. 2019) and that rising stress levels may have an impact on an officer's ability to communicate effectively over the course of multiple stressful calls (Arble et al. 2019).
- Stress impacts motor performance and communication skills. Patterns of maladaptive motor strategies have been observed in police officers during stressful encounters (Anderson et al. 2020). In addition, self-reported anxiety has been related to reduced shooting accuracy due to motor performance detriments during stress (Nieuwenhuys et al. 2017). Verbal communication skills in particular are impacted by stress and appear to deteriorate more rapidly than tactical movements during stress (Arble et al. 2019).

- Stress can negatively impact decision-making. Stress-induced cortisol impacts activity in brain regions responsible for decision-making and memory, including the prefrontal cortex and hippocampus (Di Nota et al. 2020). During critical incidents, police officers have been shown to rely more on implicit, automatic decision-making strategies over more deliberate, analytical strategies (Hine et al. 2018). Therefore, it is important that KSAs that are required during critical incidents are effectively trained and stored in long-term memory

- Behaviour, such as facial movements and body posture, communicate signals to the brain that can 'bias emotional judgements' about the situation at hand (Garfinkel et al. 2014: 6537). This means that the way an officer communicates with a subject (e.g., voice tone, body posture, and facial expression) may increase both the officer and the subject's stress levels and impact the outcome of a call.

- Research shows links between physiological control and improved emotion regulation, behavioural control, and goal-directed action (Saus et al. 2013; Smith et al. 2019).

- Various techniques to modify internal physiology during stress have shown preliminary success in supporting effective performance, wellness, and emotion regulation outcomes (Andersen et al. 2016 2018b; Carmichael 2009; Price and Hooven 2018).

What We Don't Know

Despite strong evidence suggesting that police work can have a significant impact on an officer's physical and mental health, relatively little attention has been paid to the impact of stress on performance (Bennell et al. 2021), and very little is known in regard to how an officer's stress and health influence interactions with PMIs. Some key questions that still require answers include:

- Do interventions that improve a police officer's ability to modify their stress response improve interactions with PMIs?

- Does training an officer to control their physiological stress responses improve emotion regulation and behavioural control?

- Does improved emotion regulation and behavioural control increase an officer's ability to react appropriately to conflict and emotional provocation?

- Do biases and stigma-based attitudes trigger a stress response similar to responses that have been shown to impact police performance and decision-making?

Officer Competencies

Researchers have identified various KSAs that will help police officers prevent interactions with the public from escalating and successfully de-escalate interactions that have become volatile, including interactions with PMIs. Bennell et al. (2018) completed a narrative review of relevant academic and grey (technical reports) literature and identified a number of KSAs that are likely to be important for these purposes. The material focused on in this sub-section draws on the findings from that review.[11]

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11 The review was conducted in two stages. The first stage involved an attempt to identify core competencies highlighted in existing literature as being potentially relevant to non-escalation, de-escalation, and use-of-force in the policing context through database searches (and further searches based on reference lists). The second stage involved a similar, but more targeted search of various databases to determine the degree to which the identified competencies were supported by empirical evidence, specifically in the form of archival data analysis, experimental studies, randomized controlled trials, systematic reviews, meta-analytic research, and other forms of empirical investigation. This work was funded by a grant from the Government of Ontario, Ministry for Community Safety and Correctional Services.

What We Know

The most essential competencies likely include:

- Knowledge of organizational policies (e.g., policies related to when various use of force options can be used; Alpert and Dunham 2010), legislation (e.g., Mental Health Act; Cotton and Coleman 2008), and laws (e.g., authority to use force; Cyr 2016).

- An understanding of mental health issues, such as an awareness of symptoms of mental illness, stigma attached to PMIs, available community mental health resources, etc. (Cotton and Coleman 2010).

- An ability to effectively interact with diverse groups, including members from marginalized communities. This should include an awareness of one's attitudes towards marginalized groups, such as PMIs, and an ability to manage the expression of biases (Fridell 2017).

- Awareness of what stress is and how it can impact officer performance, decision-making, memory, and so on, but also an understanding of how to effectively manage that stress before, during, and after an encounter (Andersen and Gustafsberg 2016).

- Communication skills, especially skills related to rapport-building, empathy, and active listening (Engel et al. 2020; Krameddine et al. 2013).

- Decision-making and problem solving skills, including a focus on pre-encounter planning and adaptive problem-solving during encounters to ensure optimal responses from the officer (Boulton and Cole 2016; Rajakaruna et al. 2017).

- Perceptual skills, especially those that are part of an officer's risk assessment, such as situational awareness (Saus et al. 2006).

- Motor skills, such as those involved in the use of various use of force options that might be effective for de-escalating volatile encounters (e.g., conducted energy weapons; Ho et al. 2011).[12]

- Modulating emotions and behaviours appropriately to rise above conflicts and inhibit inappropriate responses (Owens et al. 2018).

- Professionalism during interactions with the public (Watson and Angell 2013).

There are also other competencies that, while not investigated as thoroughly by researchers, are likely to be critical when officers are attempting to prevent escalation during encounters with the public or trying to de-escalate situations:[13]

- Understanding the role of the police in a free and democratic society.

- Tactical decision-making, such as how to effectively create distance between the officer and the PMI to create time for communication and problem solving, and how to use cover and concealment appropriately.

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12 While the use of such options for de-escalating interactions with the public are controversial, research suggests that conducted energy weapons can be used to avert situations that could result in injuries, For example, Ho et al. (2011) found that simply presenting the weapon or activating its laser sighting device (versus deploying the probes) is usually sufficient for gaining control over situations.

13 In the study conducted by Bennell et al. (2018), these additional competencies emerged from interviews with subject matter experts.

What We Don't Know

Despite some level of agreement that certain competencies are likely to be important for non-escalation and de-escalation purposes, there are still many unanswered questions with respect to these KSAs:

- How can we select officers who are likely to possess these competencies, or can easily learn them?
- Are certain competencies more important than others? If so, which ones, and what role do they play in police interactions with PMIs?
- How do these competencies interact with one another? For example, in the context of an interaction between an officer and a PMI, how does stress influence an officer's ability to communicate effectively?
- To what degree do officers receive training related to these competencies, and if they do receive training, how are these officers evaluated during that training to ensure they are developing mastery around these competencies?
- Can training have a positive impact on these KSAs (i.e., how easily can police officers develop these competencies if they don't already possess them)?

Non-escalation and De-escalation Strategies

Officers can employ a range of non-escalation and de-escalation strategies in their interactions with PMIs. The material below is drawn from several narrative and systematic literature reviews conducted in police and non-police settings (e.g., Andersen et al. 2017; Price and Baker 2012; Todak 2017).

What We Know

Specific strategies have been identified that may allow officers to prevent situations from escalating in the first place or to de-escalate situations that have already escalated. Many of these strategies can be categorized into *Approach*, *Position*, *Communication*, *Containment*, and *Assistance* strategies, as outlined in the *Decision Model*. While these strategies are not unique to encounters with PMIs, they are important for these encounters, and some of the strategies outlined below, such as keeping things simple and reducing stimulation, may be particularly critical when interacting with PMIs.

Approach Strategies

- *Pre-encounter planning*, which can involve assessments of what potential risks could be involved in an encounter, is a potentially useful strategy (Price and Baker 2012; Rajakaruna et al. 2017). Developing a plan on the way to a call (related to how the officer intends to handle the situation) may increase an officer's ability to remain calm and reduce the likelihood of force being required to resolve the incident.
- There are situations that require officers to confront citizens in a forceful manner (e.g., when assaultive behaviour is being exhibited). However, in the majority of cases where non-escalation or de-escalation is the goal, officers should be ready to use force if necessary, but approach the situation in a calm, *non-confrontational manner*, which indicates to the subject that the officer sincerely wants to help and does not wish to use force (Richmond et al. 2012).

Positioning Strategies

- Officers should *respect personal space* to reduce subject anxiety and enhance communication efforts (Price and Baker 2012; Richmond et al. 2012).

- Another strategy is *tactical repositioning*, which involves the continual assessment of the situation so that officers can adjust their position relative to the subject in order to maximize time and distance (International Association of Chiefs of Police 2020). Tactical repositioning can also involve complete disengagement from the situation if appropriate.

- Relatedly, officers can position themselves within their environment to *conceal* themselves, *protect* themselves, and/or put *obstacles* between themselves and the subject (Abanonu 2018). These strategies maximize officer safety while allowing them the time to more effectively problem solve, make decisions, and communicate.

Communication Strategies

- *Active listening* allows officers to get to know the subject, determine what brought them to their current situation, and use information they elicit in order to gain cooperation (Todak 2017). Oliva et al. (2010) identifies various active listening skills including: (a) introducing oneself, (b) using "I" statements (e.g., "I can hear that you are upset"), (c) restating (e.g., the subject says "He left me when I really needed him," to which the officer responds, "You feel abandoned"), (d) validate/reflecting (e.g., the subject says, "I'm tired of no one listening to me, it's really pissing me off," to which the officer responds, "It makes you angry"), and (e) summarizing/paraphrasing (e.g., "Okay, so what you have told me is that [restating the information], and you feel [identify the emotion]. Do I understand you correctly?").

- Officers should also treat the subject with *respect* in terms of tone and communication content (Todak 2017). This strategy assumes that aggression on the part of individuals is often a response to a loss of dignity (Carlsson et al. 2000).

- Officers need to *remain calm* and manage their emotions. This needs to be conveyed to the subject in order to maintain control of the situation (Todak 2017).

- *Being honest* involves attempts by the officer to be truthful with the subject about the situation, the outcome of the interaction (e.g., legal ramifications), officer obligations, and so on (Todak 2017). Being honest can allow the officer to gain cooperation by building trust, which has been identified as a characteristic of effective de-escalators (Price and Baker 2012).

- Officers can also *show empathy*, which requires that the officer put themselves in the shoes of the subject so they can understand how he/she/they came to be in their current situation (Todak 2017). This can include acknowledging the subject's perspective, seeking to understand the subject, and anticipating the subject's needs.

- *Compromising* can also be an important strategy. This involves rewarding good behaviour when it is possible to do so (Todak 2017). For example, an officer might provide a requested cigarette to the subject in return for their cooperation.

- It is important for the officer to *show humanity*, which encourages officers to focus on their 'human qualities' over their authority as a police officer. Todak (2017) suggests there is a power differential between a subject and a police officer and by using the humanity strategy this differential can be minimized, which will assist officers in gaining trust and cooperation.

- In a similar way, officers can use an *empowerment* strategy, which involves making the subject a part of the decision-making process so that they feel they have more control over their situation (Todak 2017). As Klugiewicz et al. (2018) suggests, this might include providing individuals with options and allowing them to choose between them (e.g., "I need to take you to a hospital. There are several we can go to, is there a hospital that you prefer?").
- Officers can also *set clear limits* by telling the subject what behaviour is acceptable and the consequences for inappropriate (e.g., violent) behaviour (Richmond et al. 2012).
- Given that police-citizen interactions can be chaotic, and subjects may be confused, officers also need to *keep everything simple*. Most importantly, officers need to keep communication as simple and concise as possible, such as having only one person talking to the subject, using simple sentences, and only giving one direction at a time (Richmond et al. 2012).

Containment Strategies

- If possible, officers can *separate* the subject from others. This can enhance privacy and may reduce feelings of being trapped (Klugiewicz et al. 2018; Richmond et al. 2012). This can also increase officer, subject, and public safety (e.g., by decreasing the chance that the subject will hurt others or that bystanders will interfere). Sometimes, even physical isolation can be beneficial, if appropriate. This can allow the subject the time they need to calm down and engage in communication with officers.
- As mentioned, police-citizen interactions can be chaotic and subjects, especially PMIs, can sometimes be confused. Given this, officers should try to *reduce stimulation* (e.g., decreasing the volume of radios, softening one's voice, turning down the lights, etc.; Price and Baker 2012; Richmond et al. 2012).

Assistance Strategies

- Officers can also rely on a strategy called *switching out*, which requires that officers recognize when they are not getting through to a person. In these cases, officers can ask for assistance and switch out with another officer to see if they can better connect with the individual (Todak 2017).
- In a broader fashion, officers can enhance officer, subject, and public safety by *activating necessary resources* (White et al. 2021). This might include back-up, a mobile mental health crisis team, emergency medical services, etc.

We also know that:

- Officers report using some of the strategies described above and see value in their use (White et al. 2021).
- Officers appear to use some de-escalation strategies (e.g., respect, humanity, and honest tactics) more than others (calm and empathy tactics; Todak and James 2018).
- Some de-escalation strategies (e.g., calm and humanity tactics) have been related to encounter success (i.e., whether subjects are calm at the end of the encounter; Todak and James 2018).
- Using de-escalation strategies can be challenging for officers (Todak and White 2019). For example: (1) de-escalation strategies can't always be used when other priorities (e.g., officer safety) must take precedence, (2) dynamic situations that are not well contained often limit

how long officers can spend de-escalating a situation, (3) persons under the influence of drugs and/or alcohol, or suffering from a mental illness, often don't have the capacity to be reasoned with, thus limiting the impact of some de-escalation strategies, and (4) de-escalation often doesn't work with committed individuals who have their mind set on a particular course of action (e.g., suicide).

What We Don't Know

Despite a recent increase in non-escalation and de-escalation research, many issues related to these strategies remain unclear. For example, we don't know:

- how non-escalation and de-escalation should be defined and what the implications of different definitions are;
- how often de-escalation strategies are used by officers across police jurisdictions;
- whether certain strategies are used more often than others across police jurisdictions;
- whether these strategies are equally effective for preventing and/or reducing conflict, tension, or harm in a situation;
- whether the use of these strategies compromise officer safety, and if so, how;
- how various factors, such as organizational policies, influence strategy use; or
- how the competencies highlighted above (e.g., stress management) relate to strategy use and effectiveness.

Non-escalation and De-escalation Training

A search of the academic and grey (technical reports) literature revealed that many police officers receive training to prevent situations, including those involving PMIs, from escalating and to de-escalate situations that have already escalated. In this section we provide a brief overview of findings related to mental health training, which is designed in part to ensure that police officers don't escalate interactions involving PMIs (this topic is also dealt with in the next section where crisis intervention training is discussed). We focus instead on what we know and don't know about de-escalation training.[14]

What We Know

- Entry-level mental health training is provided to many police officers in Canada and elsewhere, although such training varies from one jurisdiction to another in terms of amount, format, content, and goals (Coleman and Cotton 2014).
- Much of this training focuses on relevant policies and legislation, symptom recognition, crisis intervention strategies, and knowledge of community mental health resources (Krameddine and Silverstone, 2015).
- Evaluations of mental health training are mixed, but there is a reasonable amount of evidence that such training can increase the degree to which police officers feel confident in their interactions with PMIs (e.g., Krameddine et al. 2013) and reduce stigma toward PMIs (e.g.,

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14 Some of the competencies highlighted above, such as stress management and emotion regulation, are arguably not dealt with at all in typical police training. Other competencies are targeted in training, but not in non-escalation or de-escalation training. For example, relevant competencies may be dealt with in training around fair and impartial policing (https://fipolicing. com) or in use of force training.

Wittman et al. 2021). However, caution is warranted when considering such findings given that control groups are often missing from studies and relatively short follow-up times may not pick up on KSA decay.

- Studies examining training-related changes in behavioural outcomes following mental health training are relatively rare compared to more subjective outcomes, such as increased confidence or reduced stigma. However, some relevant studies exist. For example, a Canadian evaluation of scenario-based mental health training conducted by Krameddine and her colleagues (2013) found that police officers exhibited more empathy toward PMIs, communicated more effectively with PMIs, and used more verbal de-escalation skills and less force with PMIs in the 6-months following training.

- In addition to mental health training, de-escalation training is also very popular, although it too varies across jurisdictions (Engel et al. 2020b), including the training provided to police officers in Canada (Dubé 2016).

- Well-established de-escalation training programs exist in the US, such as Tact, Tactics, and Trust (T3) social interaction training (McLean et al. 2020), Integrating Communications, Assessment, and Tactics (ICAT) training (Engel et al. 2020a), and Verbal Judo (Giacomantonio et al. 2020). The most rigorously evaluated de-escalation training program is ICAT. Recently, Engel and her colleagues (2020a) found this training improved certain behaviours among police officers over 2-year period, including the use of force (-28.1%) and citizen (-26.3%) and officer injuries (-36.0%).[15]

- In Canada, the most popular de-escalation training program appears to be Crisis Intervention and De-escalation (CID) training, which is a mandatory course for some officers. This training is designed to ensure officers are able to use CID techniques to effectively manage police-citizen interactions, including incidents involving PMIs (Canadian Police Knowledge Network 2020). We are not aware of any independent, peer-reviewed evaluations of this training.

- Other training programs also exist in Canada, which focus less on de-escalation strategies, and more on other competencies that will likely improve an officer's ability to de-escalate, such as Andersen's international Performance, Resilience, and Efficiency Program, which has been shown to improve performance in dynamic, high stress situations by teaching officers methods for physiological stress control (Andersen et al. 2018b).

- Evaluations of de-escalation training in any context are rare and when they are conducted, they are often of questionable quality (Engel et al. 2020b), making it difficult to draw strong conclusions about the effectiveness of current training programs.

- Like mental health training, evaluations of de-escalation training that have been undertaken present a generally favourable view, but more so for outcomes related to trainee knowledge, attitudes, and perceptions than behavioural outcomes, such as severity of incidents, application of strategies, organizational impact (Engel et al. 2020a).

- Issues beyond training need to be considered to ensure that non-escalation and de-escalation strategies are prioritized by police officers (when safe to do so) and are used effectively. In particular, organizational policy appears to play an important role in guiding officer behaviour in potentially volatile situations (e.g., Terrill and Paoline 2017; White 2000).

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15 These improvements occurred from January 2018 to April 2020. ICAT training took place from February to November, 2019.

What We Don't Know

Given the limited research on non-escalation and de-escalation training (Engel et al. 2020b), many critical questions currently remain unanswered:

- Are the goals of non-escalation and de-escalation training programs being met?
- Are some training programs more effective than others? If so, why?
- For training programs that are effective, what are the specific training components that make them effective?
- Do the effects of training programs go beyond knowledge and attitude changes to include changes in behavioural outcomes (e.g., actual application of strategies)?
- What is the optimal way to deliver non-escalation and de-escalation training (e.g., with respect to amount, format, content, etc.)?
- How rapidly do non-escalation and de-escalation skills degrade following training and how often is refresher training required?
- If non-escalation and de-escalation programs are effective, what impact do they have on police-public relations?

Recommendations

1. Develop a definition of non-escalation and de-escalation that is well accepted across Canadian police jurisdictions.
2. Continue studying the physical and mental health implications of policing for police officers and ensure that appropriate supports are put in place for officers to help them manage their health and wellbeing.
3. Study the impact of an officer's mental health on their interactions with the public, particularly with PMIs, including their ability to make sound decisions related to non-escalation, de-escalation, and use of force.
4. Study the impact of an officer's mental health on their ability to regulate their emotions and behaviour in potentially volatile situations with PMIs.
5. To the extent that the competencies highlighted in the literature positively influence the quality of police-citizen interactions, actively select for these competencies when hiring new officers.
6. Introduce competency-based training and evaluate how the various competencies highlighted above influence interactions that police have with role players in realistic scenario-based training environments and with PMIs in field settings.
7. Carry out studies to determine how frequently various non-escalation and de-escalation strategies are used by police officers and which strategies relate to success so that those strategies can be focused on in training.
8. Examine the relationship between the use of de-escalation strategies and officer safety.
9. Conduct evaluations of non-escalation and de-escalation training programs offered in Canada (e.g., CID training) to determine their impact, being sure to focus on behavioural outcomes (e.g., on-the-job performance) in addition to outcomes related to knowledge and attitudes.

10. Establish national standards for mental health and de-escalation training in Canada to ensure all officers are appropriately trained.

11. Examine issues beyond police training, in particular organizational policies related to non-escalation, de-escalation, and use of force, to determine how these influence officer responses in police-citizen interactions, including those involving PMIs.

Crisis Intervention Teams & Co-response Teams

Crisis Intervention Teams

The Crisis Intervention Team (CIT) model originated more than 30 years ago in Memphis, Tennessee, USA, as a frontline response to mental health-related calls to police services (it is sometimes referred to as the Memphis Model). CIT was born in response to a critical incident in which a police officer shot a person with mental illness and addiction issues and which highlighted the need for a better police response to persons in mental health crisis (Compton et al. 2008). Representatives of the Memphis police force, academia, and mental health professionals developed CIT training to achieve the goal of diverting PMIs away from the criminal justice system and into appropriate mental health supports whenever possible (Hassell 2020), build better collaborations between the police and mental health services and systems to provide more accessible services to persons in crisis (Compton et al. 2008; Koziarski et al. 2020), and increase officer and client safety during these encounters (Compton et al. 2008; Rogers et al. 2019). Since its inception, CIT has become a popular police-based alternative response to calls involving PMIs in many North American police organizations (Taheri 2016).

The way CIT works is to deliver a comprehensive 40-hour training package on crisis intervention and mental health to police officers typically working as frontline patrol officers. A template of the Memphis model CIT training is available through the University of Memphis (see University of Memphis CIT Centre: http://www.cit.memphis.edu). According to this template and other generic CIT training models, this training typically includes classroom delivered content intended to develop an officer's knowledge of mental illness and factors that can influence one's mental health presentation; knowledge of available community resources and services; development of diversity awareness for when engaging PMIs; and legal matters relevant to the duties of a police officer when responding to calls involving persons experiencing a mental health crisis. Via simulation-based experiential learning scenarios, the CIT training also teaches skills in de-escalation and situational assessment practices to minimize the risk of violent outcomes and enhance safety (Compton et al. 2008; Pelfrey and Young 2020). CIT also has training components for dispatch operators to identify calls for the specialized team deployment and a component for the local mental health facilities to which teams take clients in need of additional services (Rogers et al. 2019). Notably, establishing agreements with mental health service agencies that require them to receive CIT clients as referrals and in-person drop-offs is argued to be an essential element of CIT (Pefrey and Young 2020).

A recent survey of police organizations across Canada suggests that there is variation in deployment and operational protocols of CIT programs (Koziarski et al. 2020), likely because they are adapted to the unique jurisdictional goals, resource capacities, and service options of the communities in which they are being implemented (Pelfrey and Young 2020).

What We Know

Much of the available research on CIT has examined the effects of the crisis intervention training on officer knowledge and perceived confidence in responding to mental health calls, but data also exists on the effects on CIT-trained officer actions and their call outcomes. Data sources for this information typically include use of officer attitude and self-reported call response surveys, interviews with officers about their experiences with CIT training and call response, interviews and focus groups with CIT managers and community stakeholders, and official statistics concerning number of voluntary and involuntary transports to hospital/mental health services and other police actions (Pelfrey and Young 2020). Narrative and systematic literature reviews are available on CIT (Compton et al. 2008), especially in the recent literature (Peterson and Densley 2018; Rogers et al. 2019; Steadman and Morrissette 2016; Watson and Compton 2019). These reviews are beginning to include meta-analytic reviews as well (Taheri 2016). Some of this research is based on simple pre-post training research designs to determine how officers changed in their knowledge, attitudes, and perceived practices from before to after training. However, studies using stronger research designs exist as well to offer insight into the influence of CIT in comparison to the knowledge, attitudes, and perceived practices of non-CIT trained officers.

Officer Impact

- CIT trained officers self-report gains in mental health knowledge and greater competency in illness detection relative to pre-training knowledge levels (Compton et al. 2008; Bonfine et al. 2014; Ellis 2014; Hassell 2020; Seo et al. 2021a), as well as enhanced de-escalation skills (Compton et al. 2014). Some of these reported gains are measured shortly after CIT training (Ellis 2014), whereas others measure officer knowledge and perceived competency gains more than 2 years after CIT training (e.g., Bonfine et al. 2014), suggesting sustained impact beyond the immediate effects of training. However, direct observations of these competencies are less often a focus of available research and research on skills and abilities related to mental health and crisis responding in service provider populations show some degradation over time (Holmes et al. 2019; Vaughan et al. 2020). Thus, more long-term longitudinal research is needed to understand the long-term field competency of CIT to determine the appropriate timing of refresher training. CIT trained officers report feeling better prepared to respond to situations involving persons with mental illness relative to non-CIT trained officers (Bonfine et al. 2014; Borum et al. 1998; Compton et al. 2008; Ritter et al. 2010), including greater confidence in how to respond to individuals experiencing psychosis and suicidal ideation/behaviours (Compton et al. 2014).
- CIT training knowledge and self-efficacy benefits for officers has been sustained at least for 1-2 years post-training (Compton et al. 2014).
- Officers working in the same organization as the CIT trained officers tend to view the program as meeting its goals of reduced criminalization of PMIs, minimizing time spent on mental health calls, and better community safety (Borum et al. 1998).
- One study indirectly examined the benefits of recruiting officers who volunteer (self-select) for CIT training rather than assigning them to these roles. Compton et al. (2017) compared self-selected officers for CIT training to those without CIT training (a proxy for any officer assigned to do this work rather than seeking these roles) on knowledge, attitudes, and crisis intervention skills, as well as call response in actual crisis call situations. Two years post-

training, the CIT group maintained generally more positive attitudes about mental illness, displayed stronger de-escalation skills, and made more informed referral decisions when responding to calls than did the non-CIT trained group. Although CIT officers were more likely to use physical force (which included handcuffing) than the non-CIT officers in their citizen encounters, they were also more likely to refer individuals to treatment services and less likely to arrest the individual when they did use physical force relative to the practice of the non-CIT officers. Statistical adjustments for such factors as officer gender, use of empathy, and prior exposure to the mental health field did not change these findings. Compton et al. concluded that self-selection for CIT training and team membership has value over obligating an officer to accept this role.

- Reduced adherence to mental health stereotypes and stigmatizing beliefs have been a consistent finding among CIT trained officers relative to pre-training attitudes and that of officers not trained in CIT (Compton et al. 2008; Ellis 2014).

- Relative to pre-training knowledge, CIT trained officers tend to be more knowledgeable of local resources available to respond to the needs of PMIs (Compton et al. 2008). CIT trained officers also tend to view emergency services systems as more helpful than officers without this type of training (Borum et al. 1998).

- The frequency of using informal (i.e., resolved on scene or no formal action taken) resolutions to mental health calls is similar regardless of whether CIT or non-CIT officers respond (Watson et al. 2021).

Client Impact

- Clients referred to psychiatric services by CITs are similar in characteristics to clients referred to such services by non-CIT officers (Broussard et al. 2010), suggesting that CIT training does not affect the type of client referred for emergency mental health services by police.

- Some research suggests that CIT clients are less likely to be arrested and more likely to be re-directed to mental health services in police organizations that have CIT initiatives relative to those that do not (Compton et al. 2008). However, more recent data suggests that a CIT response did not significantly influence the odds of whether a client is arrested, whereas simply having the call pre-identified as a mental health call reduced the likelihood of arrest by both CIT and non-CIT responding officers (Watson et al. 2021).

- When CIT officers are involved, the balance shifts from involuntary apprehensions for mental health reasons to greater use of voluntary treatment referrals (Hassell 2020).

- CIT teams have a moderate effect on diversion away from jail and hospital resources (Seo et al. 2021a).

System Impact

- CIT implementation has been widespread with adoptions in various policing contexts, including rural and small communities (Semple et al. 2021; Strassle 2019); large urban centres (Helfgott et al. 2016), U.S. state (but not province/territory) level (Oliva and Compton 2008), and airports (McGriff et al. 2010).

- Some studies have found a reduction in the rate of involuntarily transports to mental health facilities for both CIT and non-CIT trained officers relative to the preceding years before

CIT was initiated in an organization (Teller et al. 2006), suggesting spill over benefits in non-trained officers in how they perceive and respond to mental health calls.

- Some research suggests that CIT officers have faster response times to mental health crisis calls than non-CIT officers (Compton et al. 2008), and CIT can reduce time spent on scene (Seo et al. 2021a).

- Cost-benefit analyses usually favour CIT models due to deferred hospitalizations and reduced detention/jail time, though savings are described as modest in the few studies formally examining this issue (El-Mallakh et al. 2014).

What We Don't Know

- Although the University of Memphis provides a template for the CIT training, there is variation in this training across jurisdictions given the tendency to use local resources to develop and provide this training (Pelfrey and Young 2020). Thus, the nature of the 40-hour training is not standardized per se unless deliberately following the Memphis CIT model.

- It is unclear how well the knowledge and de-escalation competencies learned with CIT are sustained over time post-training given that very little research examines this question with prospective long-term follow-up studies, and what does exist is limited to 2 years post-training at most. Thus, it is not clear how often training should be provided to officers and others involved in CIT delivery to sustain gains in knowledge, competencies, and system benefits, and to minimize program drift.

- Most of the research on CIT focuses on the effects of the training rather than the functional aspects of the model (Watson and Compton 2019). For example, research is lacking on the operational aspects of CIT, such as the ideal call threshold for deployment of CIT and which forms of mental health crisis calls CIT may be more effective working with versus calls where it may be less impactful. Research is also lacking on the factors that influence the degree to which clients are more successfully engaged with appropriate services post-CIT contact, despite this being one of the goals of CIT.

- Data is lacking on the degree to which CIT reduces criminalization among the individuals receiving a CIT response (Rogers et al. 2019). Very few studies examine detention and arrest/charge outcomes following a CIT response using official data sources (versus officer perception and self-report; Peterson and Densley 2018) and the only meta-analysis on CIT outcomes found no effect of CIT response on arrest rates (Taheri 2014).

- It is unclear whether availability of CIT trained officers affects the need for deployment of emergency tactical teams by police forces. Compton et al. (2009) found that CIT availability had no effect on the likelihood of tactical team deployment, arguably due to the low utilization of tactical teams and the different functions of these two teams. However, earlier studies did reporte reduction in use of tactical teams for mental health-related calls (see review by Pelfrey and Young 2020).

- It is unclear whether CIT achieves its goals of increased officer and client safety and reduces the need for use of force (Rogers et al. 2019; Taheri 2014). A recent meta-analysis found only a small impact on use of force, arrests, and injuries for CIT (Seo et al. 2021a).

- Research on the role of officer characteristics and the impact of community resources on the outcomes achieved from CIT is lacking (Peterson and Densley 2018).

- Most sites where CIT has been implemented train one quarter or less of their frontline officers in CIT, which may be insufficient to meet higher volume mental health crisis calls and recommendations have been made to provide some form of crisis intervention training for all officers (Seo et al. 2021a). However, research is lacking on the benefits and limitations of having both CIT for some officers alongside delivery of lighter versions of this training for all frontline officers.

- Most of what is known about CIT comes from CIT implementation research in the US. Gaps remain in how well CIT works within a Canadian context (Koziarski et al. 2020). Furthermore, this research often does not rely on randomized or matched control study designs which best determine outcomes for clients, officers, and systems when CIT has been implemented (Peterson and Densley 2018).

Co-response Teams

Co-response Teams (CRTs) have existed for more than 20 years. Although several CRT models operate in Canada (Koziarski et al. 2020; Shapiro et al. 2015), their common feature is a dedicated mental health professional who responds to mental health crisis calls alongside a police officer. In full team models, this clinician works in an integrated manner with police officers specifically trained in mental health crisis response and de-escalation, often in the form of CIT training or equivalent (e.g., Helfgott et al. 2016). In other models, the mental health professional works with general duty patrol officers. Some models operate 24 hours/7 days per week, whereas others operate within specific hours of service and have gaps in service access (Koziarski et al. 2020). The mental health professional is often a nurse or a social worker, and there is sometimes a consulting psychiatrist attached to the service. In most cases, co-response teams are a secondary response service (i.e., called to scene after patrol officers have responded and determined the need for CRT), which is likely due to the presence of a civilian on the team; however, some teams in Canada do operate as a first response point of access (Koziarski et al. 2020). The service is usually delivered on-scene, though some models use phone/remote access support to officers on scene (Shapiro et al. 2015). The goals of CRTs are similar to those of CIT in terms of reduced criminalization of PMIs, strengthening opportunities for de-escalation, diversion from hospitalization to community services, and safer outcomes for clients and officers (Koziarski et al. 2020; Shapiro et al. 2015). The joint police-clinician response is argued to be of value as the clinician is the expert in crisis intervention and mental health care, whereas the police officer is there to support de-escalation while also being attentive to safety risks and has the capacity to enact appropriate response options for safety purposes when warranted (Shapiro et al. 2015).

What We Know

A search of the academic and grey (technical reports) literature was conducted to learn about the format of CRT models and their impact for officers, clients, and systems, with emphasis given to peer reviewed literature in the reporting of these findings. This review indicated that various evaluations of CRT have been conducted, including recent peer reviewed evaluations of this model in Canada where they are more commonly used relative to CIT models (Koziarski et al. 2020). These evaluations typical use pre-post evaluation designs and/or comparison sites to speak to the team impact relative to general patrol responses.

Officer/Mental Health Professional Impact

- Clinical crisis staff report feeling safer when attending community crisis calls alongside police officers (Baess 2005).

- Police who receive crisis intervention training tend to show greater tendency towards valuing the use of verbal de-escalation and active listening techniques with individuals in crisis (Allen Consulting Group 2012; Canada et al. 2011).

- There is positive impact on officers' understanding and perception of mental illness (Seo et al. 2021a). For example, CRT officers report a better understanding of mental health issues (i.e., diagnostic criteria and behavioural interventions, Baess 2005), greater tolerance for responding to PMIs, and more strongly endorse their role in supporting PMIs than officers working in departments without these programs (Abbott 2011).

- Use of force is infrequent in police-citizen interactions, but persons in mental health crisis are more likely to be the subject of use of force incidents (Livingston et al. 2014; Morabito et al. 2017). Blais and colleagues (2020) recently examined use of force rates for the Mobile Crisis Intervention Team in Sherbrooke, Quebec. They found a significant decrease in the rate of use of force when CRT responded relative to the control group. Specifically, the rate of use of force was 12.1% for control group units compared to 4.2% for CRT units.

- The effect of CRTs on arrest rates is small (Seo et al. 2021a), though few studies are available to examine this outcome.

Client benefits

- Clients served by CRTs display greater engagement in follow-up services relative to matched control cases not serviced by these teams (Kisely et al. 2010) and report positive experiences with CRT responders (Kirst et al. 2014; Lamanna et al. 2018).

- CRT results in a larger proportion of referrals to treatment/community services (Semple Semple et al. 2021) and are more likely to be managed within their own social networks (Blais, et al. 2020) than when general patrol responds, with positive impact on diversion of clients away from jail/hospital resources (Seo et al. 2021a).

- Involuntary Mental Health Act apprehensions tend to occur less frequently when CRT responds to mental health calls relative to general patrol (Blais et al. 2020). For example, Semple et al. (2021) found a decline from 37.9% to 11.8% involuntary apprehensions after a CRT model was implemented in an Ontario police service.

- Ambulances are more commonly used for client transport to hospital than police vehicles when CRT is involved relative to control sites without such teams (Allen Consulting Group 2012).

- Hospitalization rates tend to be lower for CRT served clients relative to general patrol as there is better screening of who needs to be transported to the hospital with CRT (Scott 2000).

System Benefits

- Research has demonstrated that the number of crises to which teams were able to respond tends to increase after implementing a CRT model relative to control sites (Kisely et al.

2010), though these teams tend to have minimal impact on response time given that they are often deployed as secondary responders (Seo et al. 2021a).

- CRT results in decreased on-site handling time by other officers, thereby reducing the burden on police resources (Allen Consulting Group 2012; Kisely et al. 2010) and making them more available for other calls. In one Canadian study from Vancouver Island, the average on-site handling time was 52 minutes for CRT compared to 3 hours in the control region (Allen Consulting Group 2012).

- With CRT models, average police wait times in the emergency department were consistently shorter (less than one hour) than calls involving non-CRT police officers (Fahim et al. 2016). This finding reflects potential for reduced burden on emergency departments and acute mental health services (Allen Consulting Group 2012). However, a Canadian survey of CRT/ CIT programs indicated that the time it takes to transfer care from teams to hospital services remains a barrier for some jurisdictions (often 2-3 hours wait time) and reduces the teams' ability to respond to other crisis calls while waiting for these transfers to take place (Koziarski et al. 2020).

- CRT may be efficient at reserving the intensive hospital emergency services for those most in need (Allen Consulting Group 2012). For example, in Hamilton, Ontario, Mobile Crisis Response Teams (MCRTs) produced a 49% reduction in the overall rate of mental health crisis calls brought to the emergency department (Fahim et al. 2016).

- Although funding can be an obstacle for crisis response programs at the outset, and cost-benefit analyses are often not reported, the little data available suggests that CRTs can be cost-effective for police organizations due to reduced time spent on calls and time spent waiting in hospitals (Allen Consulting Group 2012; Scott 2000; Semple et al. 2021; Shapiro et al. 2015).

- In general, CRT staff, clients, and community stakeholders tend to have favourable views of co-responding police-mental health teams (Allen Consulting Groups 2012; Baess 2005; Ligon and Thyer 2000), though these views are sometimes contextualized by implementation and resources challenges that may limit positive outcomes (Koziarski et al. 2020).

- Seo and colleagues' (2021a) recent comparison of CIT and CRT models in their meta-analysis found that CRT produced stronger overall outcome effects. They suggested that co-responding partnerships between police and mental health may be more impactful than models that only rely on crisis intervention training for officers.

What We Don't Know

Despite emerging research speaking to the potential gains from using CRTs, there are gaps in knowledge that need to be understood before we can fully understand the essential elements of this model and its full impact on citizen outcomes, officer safety, organizational change, etc.

- Given diversity in the operational models of CRTs, it is not yet clear which co-responding model works best for which type of mental health crises and clients, or if it matters. For example, it is not clear whether teams that pair general duty patrol officers with the mental health professional are as, more, or less effective in achieving safety outcomes for clients and team members than use of a fully integrated, specialty trained crisis response officer, though CIT research suggests the latter is likely to be more effective for de-escalation.

- Many CRTs receive some form of mental health awareness, de-escalation, and service resource training, but it is not yet clear what the ideal intensity of training is for these teams and this level of need may depend on the adopted CRT model.
- Cross-training is often lacking for mental health/social service providers to help them understand the roles, competencies, and responsibilities of police officers when responding to mental health calls (Steadman and Morrisette 2016).
- Arrest is not a common response to mental health crisis calls (Morabito et al. 2018), but PMIs are more likely to be arrested in general relative to persons without mental illness (Boyce et al. 2015). Thus, tracking arrest data is necessary to determine whether CRTs reduce criminalization of persons in mental health crisis. Unfortunately, data is mixed on whether CRTs reduce arrest rates relative to police jurisdictions without CRTs (Watson et al. 2019); however, some data suggests that CRTs can divert individuals away from the criminal justice system as evidenced through reduced use of police detention when CRT responds (Puntis et al. 2018; Seo et al. 2021a).
- Research on the cost savings to the health sector are lacking, though findings of fewer emergency department visits and reduced hospitalization for CRT served clients may contribute to cost savings for those sectors as well.
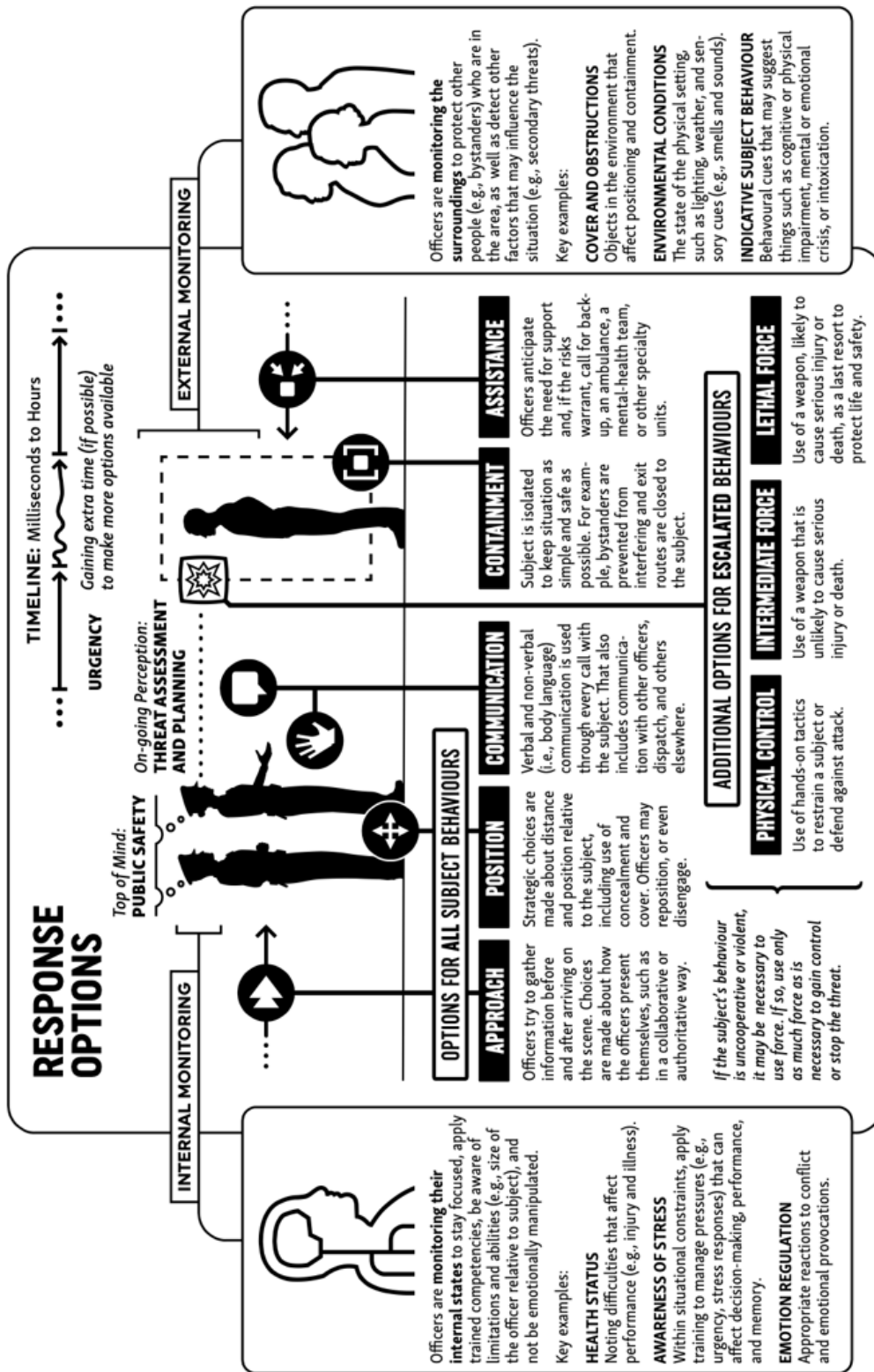
Recommendations

1. Jurisdictional scans of available resources should be conducted to understand local need for crisis response, available resources, and identify gaps to determine need for CIT, CRT, or other crisis response models.
2. Use of evidence-based strategies and models should be prioritized for informing police response to persons in mental health crisis, with some experts calling for all frontline officers to be trained in CIT (Hassell 2020).
3. Given available data on police-involved crisis response models, consideration should be given to reliance on CRT which blends aspects of CIT with deliberate inclusion of a mental health professional in the crisis response and allows for more direct linkages to service access for persons in crisis.
4. Investment is needed in research funding to evaluate best practice CIT, CRT, and alternative crisis response models in the Canadian context and in specific jurisdictions and cultural contexts.
5. Effective police-community partnerships are needed to design and implement any crisis response strategy or program aimed at supporting police with how they respond to persons in mental health crisis.
6. Any crisis response model must have sufficiently resourced mental health, addiction, social, and other community support services available to refer clients beyond the crisis point.
7. Models that dispatch non-police service providers to mental health calls coming through emergency services points of contact, such as the Crisis Assistance Helping Out On The Streets (CAHOOTS) initiative in Oregon, US and the Mental Health Ambulance Service in Stockholm, Sweden, and recently in Toronto, Canada should be explored and evaluated.
8. Standardization is needed in the definition of mental health crisis police calls to allow for consistent data tracking and comparability across Canadian jurisdictions.

Appendix: Decision Model for Police Encounters

Source: Andersen, J. P., Boychuk, E. C., Di Nota, P., Back, D., & Poplawski, S. (2018). *A decision making model for police: Scientific review of police decision making and visual model development.* Report prepared for the Government of Ontario, Ministry for Community Safety and Correctional Services. Copyright for the image and intellectual property remain with the lead author (Judith P. Andersen).

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