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Emergency Department Overcrowding in Canada: Multistakeholder Dialogue

Tamara Rader
Lindsay Ritchie

Summary Report

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Abbreviations

ALC	alternate level of care
ED	emergency department
EMR	electronic medical record
HTERP	Health Technology Expert Review Panel
LTC	long-term care
PCP	primary care provider

Key Messages

- During 3 multistakeholder dialogue sessions, patients, families, community members, emergency department (ED) staff and trainees told us that ED overcrowding results from a wider health care system dysfunction. They communicated that a major driving force is hospitals operating at or over capacity and large proportions of alternate level of care patients unable to be discharged due to lack of long-term care spaces.
- We heard that an absence of health care resources available within communities could worsen the problem by filling the ED with patients who could be managed more appropriately elsewhere. Participants described how this creates frustration among patients and families and can contribute to staff burnout and moral distress.
- Participants suggested that to effect change, solutions need to address accountability and incorporate integration across the health care systems. We heard that the specific health needs of patients and families should drive decision-making about solutions.
- Participants described that currently available technologies and data are not being used to their full potential.

What Is the Issue?

EDs across Canada are under strain and experiencing ED overcrowding. In this situation, the demand for health services in the ED exceeds the capacity of the ED, hospital, or community to deliver quality care in a reasonable amount of time.[1]

Between April 2021 and March 2022, approximately 14 million patients visited EDs in Canada.[2] Recent evidence suggests that ED overcrowding is worsening in jurisdictions across Canada,[3] and there is an increasing trend of unexpected temporary ED closures or reduced services across the country.[4,5]

The causes and consequences of ED overcrowding are **complex, varied, and extend beyond the ED**.[1,6,7]

Left unchecked, ED overcrowding:

- contributes to a **deteriorating standard of care** as staff become overworked and burned out,[6]
- **puts patients' lives and health at risk** when treatment needs within the ED exceed the resources required to address them,[1]
- places additional strain on an already **overwhelmed health care system**.[5]

What Did CADTH Do?

To enhance the quality and relevance of this work, CADTH engaged people with extensive personal and/or professional experience with ED care within the Canadian health system.

The multistakeholder dialogue, consisting of a series of 3 consultations, was led by CADTH's Engagement team in the summer of 2023 to understand and discuss interim findings from the Environmental Scan of the contributing factors to ED overcrowding and a summary of systematic review evidence assessing the effectiveness of interventions to alleviate ED overcrowding[8] to hear perspectives about local context and implementation issues and identify and discuss important concerns for patients, families, ED staff and trainees. We reached out to a diverse group of stakeholders including affected families, clinicians, and community members to ensure their voices are heard and reflected in our work. The recruitment strategies we used and more details on the meeting format are included in Appendix 1.

This summary was reviewed by CADTH staff and used to inform our understanding of the published scientific literature and its relevance to ED in Canada. Perspectives and feedback from the multistakeholder dialogue sessions were used to reframe the ED overcrowding issue for the broader project and support interpreting the findings of other CADTH work in this area. It also supported the deliberation of CADTH's Health Technology Expert Review Panel (HTERP) as they drafted their guidance.

This summary is a compilation of perspectives and opinions from a range of stakeholders. CADTH values this diversity of experience. The participants were not asked to reach consensus, but rather to come together to raise considerations for CADTH staff as they review the scientific literature and HTERP as they deliberate about this topic.

What Else Is CADTH Doing?

This summary is part of a series of publications that CADTH will produce on the topic of ED overcrowding in Canada as an update to the 2006 publications.[9-12] Separate publications not described in this report will be published in October 2023 to address:

- the factors contributing to ED overcrowding in Canada
- which interventions effectively alleviate ED overcrowding
- the impact ED overcrowding has on quality of care and patient safety (i.e., the risks of overcrowding), and on health professional learner experience and staff well-being
- how ED overcrowding in Canada has changed since the last series of reports
- the identification of new and emerging interventions to alleviate ED overcrowding (those not captured in the summary of systematic review evidence).

CADTH's HTERP will use the CADTH deliverables as inputs into deliberations that will result in the development of guidance in response to addressing the decision problem of **what evidence-informed solutions should be considered to guide decision- and policy-making to effectively alleviate overcrowding of adult and pediatric ED services in urban, rural, and remote health care settings in Canada?**

Guiding Principles

Co-creation – We began by assembling a small working group made up of 3 patient and clinician partners and 4 CADTH staff members.

Transparency – A call for statements of interest was launched and shared widely via CADTH networks with a goal of assembling a diverse group of interested and affected people. Participants completed a conflict of interest declaration and are acknowledged in the summary of the multistakeholder dialogue sessions.

Inclusion – Participants were selected from a pool of those who responded to an open call. Interested individuals were engaged as expert consultants to ensure relevance and accuracy of the clinical context, peer reviewers to provide feedback on appropriate language, scope, and definitions and help ensure relevance to the Canadian context, as participants in a multistakeholder dialogue session, and as expert HTERP members to support deliberations and the development of pan Canadian guidance.

All stakeholders were included equally in each multistakeholder group session. CADTH staff acted as notetakers, observers, and facilitator.

Objectives

- To share interim results of CADTH literature reviews that identify the factors contributing to ED overcrowding in Canada and interventions to alleviate ED overcrowding, and to highlight areas where no literature was found.
- To understand and discuss these results, to hear perspectives about local context and implementation issues, identify and discuss important concerns for patients, families, ED staff and trainees, and communities emerging from the project.
- To support the development of guidance by HTERP and to support understanding about factors contributing to ED overcrowding, interventions that can effectively alleviate ED overcrowding, and the impacts of ED overcrowding on quality of care, patient safety, and staff well-being.

Summary of the Multistakeholder Dialogue

The views presented here are paraphrased comments or quotations of the participants themselves. CADTH staff directly reported these comments as they were shared in the multistakeholder dialogue sessions. No interpretation, synthesis, or analysis was made in this summary. CADTH used the results of the sessions to reframe the ED overcrowding issue for the broader project and support interpretation of the findings of other CADTH work in this area.

This summary is a compilation of perspectives and opinions from a range of stakeholders. CADTH values this diversity of experience and recognizes that conflicting viewpoints may be presented here. Some views may be at odds with findings in the published literature. The participants were not asked to reach consensus, but rather to come together to raise considerations for CADTH staff and expert committee members.

Other CADTH reports in this series describe the evidence, and discrepancies may be noted there in the discussion sections. Discrepancies will also be addressed by the HTERP as relevant to their deliberation and guidance development.

Stakeholder Reflections on Factors Contributing to ED Overcrowding

Main Reactions to the Interim Evidence

General Comments and Themes

- The current health care system was not designed for emergency medicine in 2023.
- The most important factors contributing to ED overcrowding are missing from the list (the root causes): funding streams/mechanisms, governance structures, health system decision-making being part of the political cycle. Decisions are being made for "squeaky wheel" reasons and not for long-term planning.
- A limitation of the literature is it is always going to be narrowly focused on specific discrete contributing factors or potential interventions and not address the broader aspects of how the pieces of the system integrate.

Reframing the Problem

- The problem is hospital overcrowding. ED overcrowding is a consequence of hospital overcrowding.
- A more comprehensive view describes the ED as the **canary in the coalmine** as a symptom of a wider health care system dysfunction.
- Overcrowding is an accountability issue of the entire health care system, including, but not limited to, the ED, inpatient care, primary care, long-term care (LTC), specialist care, and diagnostics.
- Currently, the ED is being used to "fill the gaps in the system" or "gatekeeping" access to other areas of health care, but "it doesn't actually have to play that role for most patients."
- ED funding is related to metrics that don't necessarily reflect the purpose of the ED or the specialized skill set of the providers, and this keeps the narrative going that the ED is the appropriate place for these patients, as well as the expectation that this is the appropriate place to go.
- There is not enough skilled human resources to handle these expectations due in part to burnout or difficulty retaining new staff.
- Different areas of the system are working separately from each other, but if they were working efficiently together, many people would be able to bypass the ED. Similarly, many people seen in the ED could be appropriately managed in a timely way.
    - One participant described how the identification and treatment of mental health issues in children could be managed with an integration of the education system, social services, and the health care system.
    - An example with a tragic outcome was given about a youth having an acute mental health crisis who visited the ED where the appropriate community services/resources were not available.

"[There is a] hole in the bucket that lands in the ED. Interventions [e.g., having psychologists in schools] should have happened earlier."

- There is a lack of LTC options for older adults. This is especially felt in rural areas where sometimes patients are alternate level of care (ALC) for months or years while waiting for a LTC spot. Some older adults and their families don't want to move to an available spot hundreds of kilometres away.
- The social determinants of health are important to consider: "Why do we have inequity in our society because that will lead to actually using ED resources because the front door is always open."

People, Culture, and Human Nature

- Canada has a diverse population with complex needs and there is potential for systemic inequities to be reinforced when there is a difference of perspective and/or lived experience of culture, language, social status, needs, or expectations. For example:
  - There is a lack of language support available so more time is required to support people when there are barriers in communication. For instance, when there are differences in spoken or understood language between the provider and patient/caregiver or when the patient has a neurocognitive disorder. This can be compounded when other complex social and clinical needs are present.
  - There can be a difference in the socioeconomic backgrounds of providers and patients. This can sometimes lead to a disconnect, where patients feel their providers are not being sensitive to the needs, experiences, and challenges faced by their patients.
  - Staff can feel frustration and a lack of empathy when the management of patients less able to adhere to medical advice are perceived to be taking away time and resources from other patients. An example was given of people who are unhoused using the ED as a place to sleep.
- Culture, notably organizational culture, "affects the efficiency of the things we can control."
- Human nature is to default to what is easiest, and right now, patients and non-ED providers know that the ED is open and available when they or their patients need it.
- The expectations and prioritizations of society generally are shifting toward convenience and the use of technology. For example, when waiting for a bus, people use an app to let them know when the next bus will arrive using real time information. Many private companies offer online help via a chat function. Online appointment booking is the norm for some services. ED care is not typically delivered this way and does not meet shifting priorities and expectations of society.

Primary Care and Community Health Services

- Treating people who could be seen in primary care is not a strong factor in overcrowding. The resource use, time and costs needed to treat people in the ED who may be appropriately seen elsewhere are relatively minor since these patients are ambulatory, their ailment can be treated easily, and they have a place to go when leaving the ED. The lack of primary care options as a major factor contributing to ED overcrowding is an antiquated attitude.

- However, another participant, a physician in a pediatric ED, noted that a driver of volume is parents, worried about their children, looking for same or next day care. Many have primary care providers (PCP), but they could not access timely primary care. It is important to note that what parents or patients define as timely is not necessarily the same as what a physician would define as timely.
- The ED is the only access point to health care for many people. This point was shared throughout all 3 multistakeholder sessions by both patient and family advisors and ED staff.
  - Older adults in rural communities, especially, have difficulty accessing primary care. There is a worry that they are considered "a burden and a difficult population to deal with" because of difficulties hearing, speaking, or understanding, and this can be frustrating for the people working in the ED. We "need a system that responds equitably to all different populations."
  - The ED is often the only care available, especially during the evening, overnight, and weekend. Some communities don't have urgent care or walk-in clinics. There can be long waits to access community-based imaging or laboratory services.
- Awareness of PCPs is important:
  - There is a misjudgement on the part of PCPs (and patients) that if they send a patient to the ED, then they will be able to access specialty services faster. However, as noted by 1 participant, referral wait times for specialists or diagnostic imaging can be at least a year, so sometimes this strategy [of sending patients to the ED instead] is successful.
  - PCPs sometimes don't have the resources or knowledge to deal with an issue, so the solution is to send to the ED.
  - One participant noted that many PCPs are trained in urban centres where specialist resources are readily available. When they go elsewhere, they might not be as comfortable with their medical ability. More rural training could be beneficial.
  - A participant provided a personal account of visiting the ED at their PCP's insistence for an issue that was potentially, but not immediately, emergent.
- Additional points to consider:
  - One physician participant mentioned that PCPs [in Ontario] get financially penalized if patients on their roster go to a walk-in clinic. This could incentivize PCPs to send their patients to the ED rather than other available options.
  - There is currently a primary care collapse occurring in some regions. Many PCPs are retiring, and the new graduates are not filling the spaces.

Complexity of Needs

- There is a need for "an accountability of systems to come up with options for … complex continuing care patients."
  - Patients with complex needs require ongoing rather than urgent care. Lack of access to the electronic medical record (EMR) within the ED is a problem because these people may have

already had testing done in the community and it can be time-consuming for clinicians to obtain that information.

- Canada has a rapidly aging population, and the system has not adequately adapted to the care needs of older adults. The lack of LTC access (especially in rural communities) and the ALC problem in hospitals are major drivers of ED and hospital crowding.

Low-Acuity Visits

- Several participants noted the importance of defining the core competencies of emergency medicine and what that means for its function:
  - Definition of emergency medicine is **"to see [handle] unexpected, time dependent injury or illness,"** which includes lacerations and fevers. One participant, a physician at an urban adult ED, mentioned that treating low-acuity patients "may make you busy...but it has less impact on patient care outcomes."
  - What emergency medicine does not include is issues arising from a lack of access, chronic problems, a PCP's discomfort with dealing with an acute condition, or postoperative specialist problems. **"Ongoing, complex, continuing care issues could easily and should go somewhere else."**
  - ED staff are taught to treat unexpected, time dependent injury or illness but gave examples of families needing urgent respite care for an older relative or a patient coming to the ED to have their contraceptive intrauterine device removed. There is a disconnect between the expectations of patients and what the ED can provide them. Together, this can cause tension and frustration for both providers and patients.
  - An urban ED physician participant summarized: "What can we realistically accomplish in an emergency department? And then what leads from there is, what can we not do? And then we can get [the message] out to Canadians [about the role of the ED and where to be seen for other ailments]. And I think that'll ultimately get to a culture where we can say this particular presentation won't be seen here today, it's nonurgent and it'll be seen in a more appropriate way, for example, a postoperative clinic, or an outpatient mental health space, or a more of a primary care setting."
- Another participant brought up the potential dangers of only treating people who fall within the scope of emergency medicine:
  - Specialists are now defining their role by what they don't do, so the people falling through the cracks come to the ED as a safety net. **"If emergency medicine starts refusing access before the system actually gives other options for patients, that is an ethical place I'm not sure we really want to go."**
  - The conundrum is if emergency medicine doesn't do this [turn people away], then no 1 will fix the system. This is a reason why there is so much **moral injury** in emergency medicine.

- A patient and family advisor participant noted that you can't truly know if it is nonurgent until after the patient has been assessed. People go to the ED because it is potentially urgent and they feel it is urgent.

Operational Efficiencies

- Physician participants generally agreed that many EDs, especially in urban centres, have already maximized efficiency (e.g., throughput factors).
  - If we push more, there is concern that this will result "in cutting corners or harm or burning out our workforce."
  - Decision-makers should not focus on interventions targeting efficiencies within the ED. Specific processes to economize workflow should be left up to local centres and contexts.
- Patient and family advisor participants suggested that there was still room for improvement:
  - There are many physical space issues with hallway care (e.g., there is nowhere private and clean to change clothes).
  - One participant experienced waiting several hours in the room for a doctor to sign a discharge note.
  - Lack of use of available technology to help with access and flow, such as integrated EMRs and artificial intelligence.
- One participant described problems that can arise when tying hospital funding to efficiency:
  - The government denies requests for funding stating that the hospital is not efficient enough, without defining what that means. The hospital tries to adapt by making internal cuts, which only increases inefficiency. "Death by a thousand cuts." For example, ED wait times may increase because there are no longer employees who stock supplies so now the physician must spend additional time searching for suture material. Conversely, making many small changes can add up. "Healing by a thousand sutures."
- Hospitals with a training program may take longer to provide appropriate care to specific patients, because they are teaching the new generation of physicians.

Staffing

- "Cannot address the other things without having the people power to do it."
- Staff burnout is a huge and largely ignored problem:
  - Staff are leaving in large numbers because of exhaustion and harm to both mental and physical well-being. Conditions in the ED are "harsh, and challenging, and difficult to deal with," so the turnover of qualified people is high.
  - One participant submitted a paper on burnout to a well-known medical journal, which was quickly rejected. "The impression I got from their letter was that we [the journal editors] didn't quite believe it."

- Staff are expected to do many things that they haven't been trained to do. For example, nurses in the ED are expected to continually change their role and it isn't defined like in other areas (e.g., patient ratios). **"The boundaries of what we practice have now become limitless."**

- Lack of effective human resource management:
  - Not only is there a shortage of numbers, but also a shortage of desirable roles.
  - You can't necessarily pull resources from 1 place without creating a gap somewhere else.
- Effects on care:
  - The ED is not as fully staffed, especially allied health, during the evening, overnight, and weekend.
  - For patients with complex needs (e.g., people with dementia), there isn't adequate staff to support them. They are unable to advocate for themselves and have to wait for family members.
  - Patients can sense this absence of enthusiasm and joy. The lack of joy can lead to mistakes and inefficiencies in care.
  - Provider communication to the patient about aspects of care (e.g., treatment plan, reason for delays, education) is often missing or rushed. Providers want to have the time to truly listen to their patients' concerns.
  - New graduates working in ED are still building the necessary experience and skills to deal with the range of issues presenting in the ED.

Consultation, Testing, and Decision Delays

- Multiple patient and family advisor participants expressed frustration with the consequences of consultation, testing, and decision delays:
  - There is a lack of communication with families about what is happening. Sometimes the patient's decision-maker or support person isn't available or included to help with decision-making.
  - This is often exacerbated by the urgency of the presentation.
- Long waits occur because a specialist isn't available (because of working hours or location). **"Only the ED runs 24/7 and none of the other services."**
- There is a lack of coordination of care. Certain presentations, like postoperative complications, should already have an organized backup plan in place, but they often don't.

Boarding and Access Block

- Multiple participants emphasized that boarding of patients is the driving force of ED overcrowding and prolonged wait times. Boarding is the practice of holding admitted patients in the ED after they have been admitted to the hospital because inpatient beds are not available, which limits available ED beds for new patients requiring assessment and management and, in turn, worsens overcrowding.[13-14]
  - Boarding is a complicated problem and is the result of a backing up throughout the entire organization.
  - Boarding prevents ambulance offload and people getting assessed, which drives increases in morbidity, mortality, and costs.

- Physics of flow and queuing theory
  - To have good flow through the ED (and prevent boarding), there needs to be no more than 85% capacity in the acute care wards to allow space for ED admissions.
  - **"Crowding does not exist [at the 85% occupancy level]."**
  - Multiple participants remarked that Canada is second lowest out of all Organisation for Economic Co-operation and Development countries in acute care beds per population.
  - To reach 85%, first, improve efficiencies (e.g., hospital length of stay, bed hour utilization) and then increase capacity.
  - If hospitals run < 100%, people think it isn't cost-effective and ignore the demonstrated principles of queuing theory.
  - To create **accountability**, the 85% target should be part of hospital metrics and funding.
- Hospital occupancy and alternate levels of care
  - ALC is used in hospitals to describe patients who occupy a bed but do not require the intensity of services provided in that care setting.[15]
  - One participant noted that the ED has been trying to maximize efficiencies for 20 years, but other areas of the health system haven't had to do that yet.
    - For example, 1 participant brought up how in some jurisdictions, there is an unwillingness or inability of hospitalists to provide inpatient care or to accept a greater case load.
    - Another example is the checklist needed to go through to move a patient from acute to LTC. This bottleneck blocks patients from accessing acute beds which have different resourcing.
  - Another participant gave an example of their small, rural hospital having a 40% ALC rate, which results in over half of the ED's stretchers being occupied by admitted patients who can't get on the wards.
  - It was also noted that fixing the ALC rate might not solve the problem of overcrowding because Canada has an aging population, typically requiring increased hospital and health care usage after age 80, for example. Even if the ALC rate could be improved, there would remain a need to increase the number of acute care beds to meet population demand.
- One participant brought up the possibility of invisible long-term effects of boarding. For example, an older patient may die of pneumonia on the ward, and it would remain unknown or unmeasured how much of that could be an after-effect of being cared for in a hallway (with delayed diagnostics and treatment) for several days beforehand. The effect of lack of access to acute care beds, or boarding, on patient outcomes isn't being tracked.
- Another participant stated that there is a public perception that care in a hallway isn't real care because there is **a lack of privacy, dignity, and person-centred support**.

Care Transfer and Discharge Planning Inefficiencies

- There is a lack of resources outside of the hospital to move some patients out of the ED.

- For example, people with mental health conditions often present to the ED at night or on weekends, but access to psychiatric care is typically Monday to Friday during business hours.
- It is distressing for patients and staff to watch people with mental health conditions get discharged without the appropriate services in place.

- The burden of coordination of postdischarge care (either from the ED or after a hospital admission) is felt by patients and families, and there can be a lack of communication about what is being done, what needs to be done, where it is being done, or who is in charge. Even leaving the hospital can be challenging for patients and families. A participant gave an example of an incident where a patient with a broken bone was told to arrange their own transport to a rehabilitation centre.
- Patients or their caregivers can sometimes feel like their baseline functional abilities, living situation, and support system are not being accounted for in the discharge plan created by their health care team.

Stakeholder Reflections on Published Evidence on Interventions to Alleviate Overcrowding

Main Reactions to the Interim Evidence

Participants' main reactions are summarized and presented according to the categories of interventions presented as part of the interim evidence summary (Appendix 2), including general comments, accountability, integration and others, Comments were not explicitly provided on point-of-care testing or streaming or tracks.

General Comments and Themes

Accountability

- The biggest concept to consider with a whole system redesign is **accountability**, including with governments, health care providers, and the public.
- None of the presented interventions address the root causes of crowding or accountability. They might be effective on a smaller scale, but to produce system-wide changes, we need "bigger and bolder solutions." It is a multifaceted problem, so we will need a multifaceted solution.
- One participant described the Iceberg Model of system change:
  - In order of largest potential impact to smallest, changes can be made to the following:
    - Mindset à Structural à Processà Outcomes
  - What we notice and react to are the outcomes of a system. The interventions as presented are in the Process category, and **"we will have minimal impact if we aren't actually changing structures…and mindsets."**
  - Need to consider how to package these interventions as a systems approach.
- Creating benchmarks has potential, but they need to be useful and reflect integration within the system. For example, 1 participant noted that the emergency community wasn't happy with the single ED-related benchmark recently proposed by the Canadian Medical Association.

- All of these solutions will increase the stress on staff, so the causes of attrition need to be addressed first.

Integration

- The solution needs to be an entire system overhaul. To move patients through the ED, providers need to rapidly connect patients with the services they need 24/7.
- **Patients and providers want "early access to good quality care."** The solution needs to provide easier options to quality care than going through the ED.

Collaboration

- We can learn a lot from studying what works in other publicly funded health care systems, especially regarding elder care. There is no 1 ideal system, but there are "many good strong points from different systems."
- Consider using different strategies for remote, rural, and urban EDs. For example, primary care and outpatient specialist options make more sense in a rural ED.
- **Efficiency interventions are already being implemented**, especially in tertiary care centre EDs.
  - Some EDs will need access to more resources for sharing knowledge and implementation advice. Are we still in crisis because these interventions truly aren't working or because the uptake hasn't been across all EDs equally?
  - Knowledge sharing between urban and community hospitals can help to fill in the gaps of implementation.
- Technology can help lessen the implementation barriers facing community, rural, and remote EDs (e.g., triage at home; ability to leverage human resources between geographical areas).
- Combine the voices and passion of doctors and nurses to get messaging out to the public about the real issues facing EDs.

Technology

- Consider the utility of leveraging data, metrics, and technology. Data can be used to understand how the system is functioning, economize flow, and maximize efficiency. Technology can be used to increase integration within the system.
  - Data Rich, Insight Poor: The information is already being collected, but it is not being used in a meaningful way.
- In some hospitals, those in long-term leadership can be resistant to change, especially regarding digital solutions. The decision on whether to implement an intervention needs to factor in patient health information security, cost, bandwidth, and reputation.

Triage Protocols

- Nurse-driven protocols are already being implemented in some jurisdictions. There is an opportunity to create consistency across Canada.

- Remote or virtual triage might not be a feasible option since vital sign collection is an integral part of the acuity decision tool.
- The Canadian Triage and Acuity Scale already incorporates parameters for safe wait times after triage. Interventions addressing prioritization would be redundant.

Time Targets

- A metric, not a solution.
- Could be used to identify where there are bottlenecks.
- Reframe how the metrics are used to show impact and create an accountability framework throughout the system. For example, instead of ED length of stay, look at measurements of bed access for patients admitted to hospital from the ED. These types of metrics are better at showing how other parts of the system are affecting flow through the ED.

Specialists' Roles

- One participant emphasized the current lack of geriatricians. A **"fulsome geriatric assessment program"** is essential to prevent the snowballing effect of problems seen in older patients, which ultimately leads to boarding and ED overcrowding.

New Health Care Professional Roles and Responsibilities in the ED

- Nurse-initiated activities are an opportunity to improve efficiency by streamlining the process, but all sites in a system need to be on the same page (e.g., imaging departments agreeing that nurses can do X-rays).
- A social worker engaged as a waiting-room monitor could help mitigate patient safety concerns associated with long wait times by tracking individual wait times, noticing changes in condition, and proactively anticipating patient needs and intervening when necessary.
- The rate-limiting factor of flow through the ED (i.e., the slowest part of the process) is always changing, so it is important to be able to adjust staffing to demand.
- There is a lack of available skilled personnel, space, funding, and desire to work these positions.
- Staff need a break from work in acute/critical care. There should be the option to rotate to an "easier" environment or section to recover. Burnout could also be addressed by giving ED nurses specific, more focused roles.
- Bringing external staff in reduces morale and creates resentment, especially if salaries or responsibilities differ.
- Performance incentives or bonuses tied to human resource metrics such as total sick calls are a possible, if controversial, solution. They could address burnout and provide a sense of value to the entire department.

Primary Care Options

- Need to be careful with what we mean when we talk about primary care improvements:

    - Pseudo-access solutions, like urgent or walk-in care centres, do not address the need for longitudinal and patient-focused care.
    - Implementing these types of solutions only results in short-term gains and takes away money and resources from creating a working system.
- **"Form follows function"** is a concept that organizes the system around the needs of the patients.
    - Regionally rostered, multidisciplinary, same day or next day access primary care
    - Home care, continuing community care, and LTC.
- One participant noted that older adults do not want to go to EDs, so the availability of other options is critical. It is important that these resources are also **available and accessible in rural and remote areas**. The number of PCP and supports for them (e.g., outreach consultation) need to be increased in these regions. Another participant commented on the value that pharmacists with an extended scope of practice are bringing to a rural community.
- Knowing when it is appropriate to send a patient to the ED is important, but the right alternative services to refer patients to also needs to be in place.
- PCPs can collaborate with patients to create health care plans for chronic conditions, so patients know what to do before a situation escalates to the point of needing emergency care.
- Primary care referral systems need to be as easy and timely as if they were being accessed through the hospital.
- Competency-based education for providers will help patients stay within their smaller communities.

Expanding ED Capacity

- A bigger ED only means that more people will visit it.
- "Expand" capacity with available technologies, for example, by using a single integrated EMR, providing the option for virtual care, and using artificial intelligence to optimize bed usage.
- Have a sufficient emergency preparedness plan to deal with surge conditions (e.g., COVID).

Patient Education

- Patients or their caregivers need to know how to continue care at home and when to seek medical support again.
    - Education should be provided in the patient's preferred language, and people with vision or hearing impairments should be accommodated.
    - Patients should be given information on available off-hours services (e.g., pharmacies) and contact information for follow-up services and community resources.

Hospital Leadership Support

- One participant commented that support from hospital leaders would only partially help, since it is governments who direct the funding.
- Another participant raised that executive leadership involvement is vital "because they can direct funding to high impact solutions, limit 'fixes that fail,' and hold programs accountable."

Discharge from ED

- Community integration, especially for aging populations, is crucial. There is value in looking to other health care systems (e.g., Nordic countries) and their policies/accountability systems.
- One nurse participant commented that postdischarge follow-up could be a helpful strategy to manage repeat visits. This would give more time to educate patients in detail. Also, it could be used as an opportunity to follow-up with outstanding diagnostic needs and treatment effectiveness.
- A patient and family advisor participant noted the importance of discharge follow-up after a hospital admission. Currently, there is a gap in accountability: the PCP may not be caught up on patient specifics when the hospital has already closed the case, so the patient has no 1 to reach out to with immediate concerns.

Patient Case Management

- Participants agree that a multidisciplinary approach is important.
- In the ED, access to specialists and services needs to be 24/7 and not during business hours only.
- In the community, teams of PCP, pharmacists, physio- and occupational therapists, home care nurses, and others can be used as a preventive strategy to avoid hospital visits.

Interventions Targeting Social Determinants of Health

- "The majority of people who come to the emergency room [emergency department (ED)] need to be there." Every patient who visits the ED has a perceived acute need and the "appropriateness" of the visit can only be determined after assessment.
- People with complex health needs (e.g., people with dementia, people with substance use disorder) are unlikely to avoid ED visits through education on appropriate health service use.
- When considering complexity as a contributing factor to overcrowding, jurisdictions must include and recognize social determinants of health (e.g., income and employment, food and housing security, education, experiences of discrimination) as part of that complexity. It is important to include individuals with lived experience and community resource groups in the planning process.

Changing Payment Models

- According to several academic centre ED physician participants, fee-for-service models might not compensate for the complexity of a patient and could perpetuate ageism or other discrimination already embedded in the system (e.g., a geriatric psychiatry consult would get paid the least because it takes the most amount of time). An Ontario ED physician gave the feedback that no payment model accounts for the time it takes to care for someone with complex health needs, apart from time modifiers for consultations that already exist for specialists (e.g., < 60 minutes, > 75 minutes).
- Another ED physician participant pointed out that salary models could potentially exacerbate crowding because physicians and patients might try to maximize the amount of quality care they give or receive.

Applying Formal Efficiency Frameworks

- Lean and other structured approaches to efficiency improvement can be useful, up to a point.
- It is important to not misinterpret the end goal as running at 100% capacity when 85% is the target.
- When addressing efficiency, capacity and surge capacity needs to be addressed at the same time.

Improving Paramedic Resources

- Expanded scope paramedicine needs appropriate management and resources.
- These types of interventions will not work unless there is coordination and integration with the other components of the system.

Home Care, Including LTC and Palliative Care Interventions

- The LTC population is "unique and underserved." One participant mentioned local examples of a patient-centred approach:
  - Having a goals-of-care discussion with patients or residents and regularly re-visiting this discussion.
  - Moving away from the default policy of sending people to the ED by opening lines of communication between LTC providers and ED physicians, and especially, considering the preferences of the resident.
  - Providing outreach options for common situations (e.g., acute health concerns secondary to a fall from standing).

From the project's outset, we considered how to explore and understand Indigenous Knowledges and the perspectives and experiences of Indigenous people who engaged with (or faced barriers to accessing) health care services in overcrowded EDs in Canada. We understand that Indigenous Peoples' experiences, values, needs, and priorities are important for understanding and improving the state of health services provided in EDs and informing decision-making around the potential solutions to ED overcrowding in Canada. Ultimately, after careful deliberation with CADTH's Strategic Partner, Indigenous Engagement and Partnerships, we decided in the interest of fostering culturally safe practices that it would be best not to seek input from Indigenous Peoples regarding their perspectives and experiences for several reasons. CADTH set the project timelines and research design to respond to short-term decision-making needs, which precluded the ability to engage with Indigenous Peoples and Knowledges appropriately. Without adequate time to develop respectful and meaningful relationships with Indigenous Peoples to inform this work, CADTH is aware that any attempt to reflect Indigenous Knowledges and voices would not be culturally appropriate or safe and could further perpetuate harm. CADTH acknowledges the lack of engagement and inclusion of Indigenous perspectives and voices as a major limitation and gap. In the spirit of reconciliation, CADTH is committed to engaging with Indigenous partners to explore the importance of this topic and future CADTH work in this area, which would involve the development of a strengths-based approach and process to conduct the work respectfully and rigorously.

For more information on CADTH's work on this topic, please visit our website: Emergency Department Overcrowding in Canada: An Update | CADTH

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Appendix 1: Methods

Note that this appendix has not been copy-edited.

Recruitment

Patient, clinician, and industry engagement officers promoted the call for statements of interest widely. The open call was shared with those who subscribe to CADTH E-Alerts, which are time-sensitive alerts about CADTH, feedback opportunities, and corporate news. There are about 150 Canadian clinician groups and patient groups are subscribed.

In addition to CADTH E-Alerts, invitations to complete or share the open call for statements of interest was shared with the following stakeholder groups:

- Canadian Association of Emergency Physicians
- National Emergency Nurses Association
- Paramedic Chiefs of Canada
- Society of Rural Physicians of Canada
- Black Physicians of Canada
- Patient and Family Advisors Network, Ontario
- Patient Advisor Network
- Shepherds of Good Hope
- Ottawa Inner City Health Inc.
- Canadian Coalition for Seniors' Mental Health
- Canadian Alliance to End Homelessness
- Carers Canada.

Meeting Format

Three sessions were held via Zoom on June 21, 2023 at 11 a.m. EST; July 13, 2023 at 6 p.m. EST; and July 19 at 1 p.m. EST to accommodate times zones and stakeholder requests for an evening option.

Each meeting was 2 hours of short presentations and whole group discussions.

Two days before the meeting, materials were sent to all stakeholders. The premeeting materials consisted of an agenda, project overview, participant biographies, and a participant guide summarizing a draft List of Factors Contributing to Emergency Department Overcrowding, and a draft list of intervention examples from the literature review A (Appendix 2). In the first hour of each meeting, a CADTH staff member presented interim results of the Environmental Scan of *Factors Contributing to Emergency Department Overcrowding*, followed by 45 minutes of facilitated discussion. After a break, a CADTH staff member presented the interim results of a summary of systematic Review Evidence on Interventions found in the scientific literature and

the group shared their perspectives about the relevance of these interventions in their settings. Additional details and definitions of each of the presented factors and interventions can be found in Appendix 2.

All stakeholders were required to comply with existing CADTH policies regarding code of conduct and the disclosure and management of conflicts of interest. Honorariums were offered to health care providers and patient and family advisors to compensate for their time spent reviewing meeting materials, attending the meeting, and reviewing the draft meeting summary.

An emotional support designate was engaged to observe the meeting and offer support if any of the participants became distressed during the meeting.

A full list of working group members, meeting attendees, and emotional support designates can be found in Appendix 3.

Appendix 2: Participant Meeting Materials

Note that this appendix has not been copy-edited.

Table 1: Meeting Agenda

Time	Agenda item
12:50 p.m.	Zoom link opens, audio check, and virtual refreshments 1
1:00 p.m.	Welcome and Territorial Acknowledgement Objectives and why we are here today
1:05 p.m.	Presentation: Factors contributing to Emergency Department Overcrowding - Interim results of an Environmental Scan
1:15 p.m.	Discussion of Factors: 1. Which factors presented are relevant to your region or setting? Which are not? 2. From your perspective, why is it important to address these factors?
2:00 p.m.	Break – 10 minutes Turn off your mic and video
2:10 p.m.	Presentation: Interventions and solutions to alleviate Emergency Department Overcrowding – Interim result of an overview of systematic reviews
2:20 p.m.	Discussion of Interventions: 1. Which interventions might be promising in your region or setting? Which are not? 2. Would any of these interventions address factors described earlier? 3. What concerns or considerations do you have about any of these potential solutions? 4. Which interventions will have that the greatest impact in your setting?
2:55 p.m.	Thank you and next steps Close of meeting

Participant Guide

What Is the Purpose of the Multistakeholder Dialogue?

The purpose of the multistakeholder dialogue is to support CADTH's HTERP as they appraise the evidence and deliberate about solutions for effectively alleviating overcrowding of adult and pediatric ED services in urban, rural, and remote health care settings in Canada.

What Will Happen During the Session?

- CADTH staff will share the interim findings of a review describing factors contributing to ED overcrowding in Canada, and the interventions that aim to alleviate ED overcrowding identified in the literature.
- Participants (clinical, patient, and community members) will be led in a facilitated discussion of contextual and implementation considerations related to solutions to effectively alleviating ED overcrowding.

How Do I Prepare?

Below you will find a list of factors that contribute to ED overcrowding and a list of interventions that aim to alleviate ED overcrowding.

Please read over the list and make a note of any factor or intervention that is relevant to your setting, or important from your perspective. Note any important considerations that should be raised when considering these factors and interventions.

You should apply these criteria from your personal or professional point of view and experience. There is no right or wrong perspective.

Please have any notes with you when you join the online session.

Table 2: List of Factors Contributing to ED Overcrowding

Factor	Description
Lack of primary care and community health services	Patients who visit the ED may not have a primary care provider or may not be able to make an appointment in a timely manner. They may also have difficulties accessing diagnostic services in the community.
Increase in complexity of patient needs	There is a growing number of patients with complex and chronic conditions. This is linked to the aging population and increase in older adults presenting to the ED.
Low-acuity visits	Patients may seek out care in the ED when their needs are not urgent and could instead be addressed by a primary care provider.
Operational inefficiencies	ED operations such as patient processing, triaging, and bed placement may slow down patient flow.
Staffing matters	The most common issues identified are: • a shortage of staff (e.g., too few nurses) • a need for more experienced staff.
Consultation, testing, and decision delays	Patients may need to wait for consults from other medical specialties or diagnostic imaging before they can be fully assessed.
Boarding and access block	Patients are unable to access a hospital bed outside of the ED in a timely manner due to a high hospital occupancy. As a result, they must wait in the ED until a bed becomes available.
Impediments to leaving the ED	Patients may experience a delay in leaving the ED for a variety of reasons such as a lack of posthospital resources (e.g., home care), transport delays, and/or unclear transfer processes.

Table 3: List of Interventions

Intervention	Description and examples in the literature	Notes
Triage protocols	Changing how triage is carried out in the ED: • e.g., virtual/remote triage to overcome barriers of in-person clinical decision-making • e.g., the triage professional starts some of the therapy or diagnosis process before the patient sees the physician • e.g., prioritizing patients and putting a time limit on how long before they are seen by a physician	
Time targets for ED length of stay	Putting a time cap on how many hours the patient stays in the ED	
Specialists' roles	Improving how specialists are consulted in the ED: • e.g., changing the criteria for requesting a consult or decreasing consults needed, improving the timeliness of the consult Having specialists in the ED for special populations: • e.g., physiotherapists, neurologists, psychiatrists	
New health care professional roles and responsibilities in the ED	Increasing the existing scope of tasks that a health care professional does, or introducing new health care professional roles: • e.g., introducing a special triage liaison physician to improve patients' experience in the ED • e.g., introducing medical scribes to record patients' process in the ED • e.g., having nurses manage patient flow.	
Point-of-care testing	Performing diagnostic testing where the patient is receiving care rather than sending it to a lab location and waiting for results	
Streaming/tracks	Creating different streams/tracks of patients based on severity of their condition and caring for streams in different ways	
Primary care options	Providing more primary care options to people such as walk-in centres led by primary care physicians or extending primary care physician opening hours	
Expanding ED capacity	Examples: • increasing ED beds • increasing ED staff	
Patient education	Health care providers giving 1-on-1 education to people within the ED, may include disease-specific curriculum/topics	
Hospital leadership support	Hospital leaders working with ED staff to expedite hospital admissions or meet time-based targets	
Discharge from ED	Patients provided with follow-up care after discharge from the ED: • nurses telephoning patients to go over discharge instructions, medication compliance, and physician follow-up • patients having access to nurse discharge plan coordinators for 1 week.	
Patient case management	Teams of multidisciplinary health care providers giving patient-specific care and linking patients to additional services as needed	

Intervention	Description and examples in the literature	Notes
General population interventions or interventions targeting the social determinants of health	Examples: • alternative clinics for those who are redirected or who have nonurgent needs • public health campaigns to educate people on when to use the ED • financial disincentives for attending the ED.	
Changing payment models	Payment for physicians changed from flat rate contract to fee-for-service to reward volume	
Applying formal efficiency frameworks	To improve efficiencies and quality of care • e.g., lean health care • e.g., lean health care with digital technology support e.g., computerized patient-tracking systems vs. dry-erase boards	
Improving paramedic resources	Examples: • paramedic practitioners treating patients on site to improve pathways of care, give referrals to specialists, and avoid trips to the ED • transporting patients to non-ED health care settings.	
Home care	Care delivered in the home for older adults, patients with complex conditions, or those with low mobility; some involving multidisciplinary health care teams.	

Appendix 3: List of Working Group Members and Participants

Note that this appendix has not been copy-edited.

Working Group Members

Maggie Keresteci, Patient and Family Advisor, ON

Frank Scheuermeyer, Emergency Physician, BC

Sameer Sharif, Emergency and Critical Care Physician, ON

Attendees

Patricia Candelaria, Registered Nurse, Manager, Pediatric Emergency Research Team, AB

Tim Chaplin, Emergency Physician, ON

Joe Cherian, Emergency Physician ON

Ivy Cheng, Emergency Physician, ON

Greg Clark, Emergency Physician, QC

Robert DeMarco, Emergency Nurse, ON

Kerstin de Wit, Emergency Physician, ON

Alan Drummond, Family and Emergency Physician, ON

Alexander Hoechsmann, Emergency Physician, BC

Ayisha Kamran, Patient and Family Advisor, Pharmacist, AB

Sandra Ketler, Patient and Family Advisor, BC

Lori Korchinski, Emergency Nurse, Executive Director of Emergency Care BC, BC

Paul Mak, Patient and Family Advisor, ON

Valerie McDonald, Patient and Family Advisor, ON

Joe Nemeth, Emergency Physician, QC

Tasleem Nimjee, Emergency Physician, ON

Tanya Penney, Emergency Nurse, Senior Executive Director, Clinical Portfolio for the Nova Scotia Department of Health and Wellness. NS

Dawn Peta, Emergency Nurse, President of the National Emergency Nurses Association, AB

David A Petrie, Emergency Physician, NS

Tania Principi, Pediatric Emergency Physician, AB

Mary Reeves, Patient and Family Advisor, NB

Marie-France Tourigny-Rivard, Geriatric Psychiatrist (retired), ON

Marisa Vigna, Patient and Family Advisor, Emergency Medicine Resident, ON

Emotional Support Designates

Nicole MacKenzie, NS

Perri Tutelman, AB

Authors: Tamara Rader, Lindsay Ritchie

Acknowledgements: Renata Axler, Francesca Brundisini, Nazia Darvesh, Gino De Angelis, Robyn Haas, Ana Komparic, Kaitlin Lee, Danielle MacDougall, Jeff Mason, Amil Reddy, Carolyn Spry, and the Multi-Stakeholder Dialogue working group members, participants, and emotional support designates

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Questions or requests for information about this report can be directed to Requests@CADTH.ca