

The Hunter Prize Policy Brief

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INTRODUCTION

The “wicked problem” of healthcare wait times is multifaceted and solutions to date have been limited to individual stakeholders, or through limited partnerships. While no singular solution will be able to eliminate this issue, I feel that this proposal will help through a number of different mechanisms. My proposal is for the creation of a “Low-Acuity Paramedic” Pod (LAP-Pod) staffed by Paramedics and Physician Assistants (PAs). The LAP-Pod would immediately reduce the number of patients requiring the ED, but also increase available Ambulances on the road, therefore reducing two types of healthcare wait times. The physical pod itself (beds and monitoring equipment) can be set up in a small area of existing hospitals, near or with access to the ED, thereby keeping capital costs low. The goal would be to identify and then accept stretched (non-ambulatory) patients that can be assessed, treated, and discharged quickly.

Paramedics are well trained to help identify and advocate for these patients, as they comprise most of the patients transported where an “offload delay” is experienced. Once identified, then LAP-Pod Paramedics will accept a transfer of care from frontline Paramedics, allowing Ambulances to be offloaded quickly and return to service. Patients in the LAP-Pod will be assessed, monitored, and treated as per recommendations by the other highly trained healthcare provider (HCP) I am proposing for this Pod – a dedicated PA. The combination of Paramedic and PA skills would allow for a wide variety of treatment options for these patients. Once discharged, patients can be returned home through traditional or possible EMS options, but offered enrollment in current EMS Community Care programs.

Reducing the Wicked Problem

As stated, the ultimate goal of all Hunter Prize submissions is to reduce healthcare wait times. Work to this effect has historically been done in isolation. Different healthcare partners, working in “silos”, trying their best individually to solve the issue. Hospitals have historically attempted to solve ED wait times through internal staffing and bed assignment policies. Paramedic services have attempted to divert patients from the ED altogether, or utilizing developing Community Care programs and Paramedics to assess, treat, and follow-up with patients in their own homes. Both solutions attempt to help in their own ways, but without more direct collaboration, are limited in their scope. This proposal helps by simultaneously reducing ED wait times and EMS OLDs, while adding capacity back into the frontline EMS system. This allows for a collaborative effort between these two entities, with the outcome being faster care for the patient. My proposal is to use the best of both, and leverage extensive training of Paramedics and PAs to make it work seamlessly.

The basic idea is that when the identified low-priority, stretchered patients are removed from the main ED stream, the overall wait time for ED beds will be reduced. Less patients waiting, means less time until a bed is available for other patients. The novel criteria I am proposing seeks to include patients not typically eligible for Urgent Care Centres (UCCs), non-urgent ED units, and/or the ED Rapid Assessment Zone (RAZ). These patients also require less urgent care, well within the Scope of Practice (SOP) of Paramedics, but need ED beds as they are non-ambulatory. This new inclusion criteria will further help by diverting patients that are typically assigned to new ED Tech programs, allowing the ED Tech to focus on longer term, semi-stable patients, further decreasing ED wait time.

A final part of this proposal is to connect patients with follow-up care, preventing readmission which will further reduce ED wait times. By coordinating with Community Care programs and Mobile Integrated Health (MIH) Paramedics, patients can be followed post-discharge and additional healthcare support offered. They can be assessed, treated if possible, and connected with Primary Care Physicians and other health support systems. Community Care Paramedic units have been shown to reduce 911 calls and patient transports¹, therefore the number of patients needing an ED. The interaction between the on-site Paramedics, frontline Paramedics, and MIH Paramedics means that in addition to decreasing ED wait times, this proposal also will also help decrease offload delay experienced by EMS. This has the immediate effect of increasing the amount of available ambulances on the road.

LAP-Pod vs ED

Patient safety is paramount. Any proposal to reduce healthcare wait times must ensure that the health and safety of the patients themselves is considered. My proposal ensures this by operating the LAP-Pod and its HCPs into the hospital building itself. Specific inclusion criteria, especially at the onset of the LAP-Pod model, ensures stable patients are selected and critical patients remain in the ED stream. However, if there are any concerns with patients accepted in LAP-Pod care, they can easily be transferred back to the ED stream. In the event that a patient deteriorates, or is determined to be more urgent than first assessed (i.e., once preliminary diagnostics or labs return), then Paramedics and PAs will ensure a proper transfer of care to ED staff. The ED doctor (MD) would remain in the loop as the supervisory MD for the PAs, further ensuring rapid transfer of care (TOC) should it be required. Proper selection criteria and patient monitoring will help identify and manage complex calls, and further ensure that exceptional patient care is the central focus.

¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5343405/>

PHYSICIAN ASSISTANTS

According to the Canadian Physician Assistant Competency Framework 2021², PAs are “academically and clinically educated medical generalists who practice medicine within a formalized relationship with physicians.” They are well suited to assess, treat, and discharge low priority patients outlined earlier in this document. PAs in Ontario are very new, and are in the process of acquiring new skills in their SOP. Current documentation suggests that the SOPs will be based on the four other provinces that currently utilize and regulate PAs (and have had them for over a decade). I have specifically chosen these exceptional healthcare providers for three main reasons: scope of practice, isolation of practice, and salary.

Scope of Practice

First and foremost for this proposal to work a HCP is needed to function in a similar capacity as Physicians do in the ED setting. This HCP will be required to remain in the LAP-Pod, and remain with its patients from admission to discharge. This will require the ability to assess patients for a treatment plan, but also for possible transfer back to the ED stream if required. PAs are ideal for this role, and are currently underutilized in Ontario. They are an emerging field capable of ordering appropriate diagnostics and labs, prescribing and administering treatment options, and then discharging patients with appropriate follow-ups.

A document entitled “Entrustable Professional Activities (EPA) for Canadian Physician Assistants”³ outlines the essential “actions” for all PAs. The following paraphrased essential activities immediately lend themselves to LAP-Pod needs:

- Safe Patient-focused, culturally competent care (EPA 1)
- Complete patient history and appropriate clinical judgement (EPA 2, 3)
- Forms and prioritizing complex differential diagnoses (EPA 4)
- Collaborates with other healthcare providers (EPA 7)
- Recognizing patients needing immediate care (EPA 8)
- Can initiate various treatment plans (EPA 5, 9)
- Can help educate patients on their health, and discharge need (EPA 10)

These particular essential skills mean that all patients in the LAP-Pod will be well cared for and treated.

² <https://capa-acam.ca/about-pas/epa-pa/>

³ <https://capa-acam.ca/about-pas/epa-pa/>

The actual functional SOP that PAs possess is dependent on their supervisory Physician. In my proposal, this MD would ideally work in the ED at the same time as their PA. In keeping with the essential skills noted above, when implementing this proposal, I would advocate for specific direction on functional skills for PAs as well. The following list from the “Canadian Association of PAs Scope of Practice and National Competency Profile”⁴ outlines the more specific functional skill sets that are entrusted to PAs:

- 1) Function effectively as a physician extender, integrating all of the CanMEDS Roles (as adapted for the PA) to provide optimal, ethical and patient-centered medical care;
- 2) Apply clinical knowledge, appropriate to patient care;
- 3) Perform a complete and appropriate assessment of a patient and formulate a clinical treatment plan;
- 4) Implement effective management plans that include preventive and therapeutic interventions;
- 5) Demonstrate appropriate procedural skills, both diagnostic and therapeutic;
- 6) Seek appropriate consultation from the supervising physician and other health professionals

All required “diagnostic and therapeutic” intervention skills needed could be documented in a written list of directives or standing orders specific to LAP-Pod PAs. This would ensure consistent treatment plans for all patients in the LAP-Pod.

Isolation of Care

All PAs require written or verbal directives from an MD to confirm their specific skill sets. The LAP-Pod PAs would be entrusted with pre-determined orders allowing them to manage the low-acuity patients in the proposal. Paramedics operate in a similar fashion, with some standing orders that can be used for specific patients or differential diagnoses, but others that require a consultation with a supervising MD. The LAP-Pod PAs would liaise with their supervising MDs in real time, allowing for consistent and appropriate care. This means that the SOP for the PAs in this proposal cannot be taken outside of the LAP-Pod itself, and they cannot be used in other sections of the hospital.

⁴ <https://capa-acam.ca/about-pas/scope-of-practice/>

Salary

PAs are very cost effective in the healthcare system. They cost less than MDs but can perform many of the same skills. Since at least one MD would remain in a supervisory role, some funding would be made available to this MD but without the proposal having to bear the cost of a dedicated MD. According to Government of Canada⁵ data, the salary for a single PA in Canada can range from \$30.18 to \$63.00 per hour (median of \$54.01). One (or two) PAs can manage all of the patients in the LAP-Pod over a 12 hour period. In order to staff the unit 24/7, an additional three (to six) PAs would be required, which is still considerably less than a dedicated ED Physician. At an average of 2181 hours a year, based on a traditional shift-work schedule, the cost to staff the LAP-Pod with dedicated PAs per year would range from \$471,183 to \$942,366 (depending on the hours of operation and the number of PA shifts).

PARAMEDICS

According to the Ambulance Act⁶, a Paramedic is a healthcare provider “who is authorized to perform one or more controlled medical acts” that will be listed later in this document. They too are well suited to assess, treat, and monitor patients much like PAs. With the addition of the Patient Care Model Standards document⁷, novel models of care that use Paramedics are encouraged in order to allow for alternative patient care or disposition. The core of this proposal is to utilize the exceptional care of Paramedics under the same three categories mentioned for PAs.

⁵ <https://www.jobbank.gc.ca/marketreport/wages-occupation/24908/ca;jsessionid=DC7EE4E71BCAF-6D44034222A7D032D3D.jobsearch76>

⁶ <https://www.ontario.ca/laws/statute/90a19>

⁷ https://www.health.gov.on.ca/en/pro/programs/emergency_health/docs/patient_care_model_standards_1_1_en.pdf

Scope of Practice

The SOP for Paramedics is extensive, including many standing directives and additional verbal orders available from associated MDs. Most Paramedics in Ontario fall under two main levels, Primary Care and Advanced Care. The official skill list is vast including multiple urgent and non-urgent interventions and medications. The more advanced skills sets are outline in the Ambulance Act in three “Schedules”:

Schedule 1

1. Administration of glucagon, oral glucose, nitroglycerin, epinephrine, salbutamol and ASA (80mg form).
2. Semi-automated external cardiac defibrillation.

Schedule 2

1. Administration of the drugs referred to in item 1 of Schedule 1, in addition to any other drug approved by the Director on the recommendation of one or more medical directors of base hospital programs.
2. Semi-automated external cardiac defibrillation.
3. Peripheral intravenous therapy.
4. Endotracheal intubation.
5. Non-automated external cardiac defibrillation and monitoring.

Schedule 3

1. Administration of any drug that an advanced care paramedic may administer under item 1 of Schedule 2, in addition to any other drug approved by the Director on the recommendation of one or more medical directors of base hospital programs.
2. The controlled acts referred to in items 2 to 5 of Schedule 2.
3. Non-automated external cardiac defibrillation, electrical cardioversion and pacing.
4. Maintenance and monitoring of arterial and central venous catheters.
5. Gastric intubation and suction.
6. Ventilation (mechanical) and setting of ventilatory parameters.
7. Lab blood value interpretation.
8. Management of chest tubes and chest drainage systems.
9. Chest x-ray interpretation.
10. Urinary catheter insertion.
11. Intravenous blood product administration.
12. Doppler flow monitor use.
13. Use of infusion pumps.
14. Other advanced airway techniques, e.g. needle thoracostomy, cricothyroidotomy.

The “Policy Framework on the Future of Paramedicine in Ontario” document from the Ontario Association of Paramedic Chiefs, further discusses the goals of developing Paramedic skills in order to help Ontarians by:

- 1) Reducing repeated emergency calls
- 2) Reducing emergency transports
- 3) Reducing emergency department visits
- 4) Reducing hospital admissions and readmissions
- 5) Improving patient quality of life and the patient experience when they transition from acute care settings back into the community.

These goals and Paramedic skill sets mentioned above, prove that Paramedics are an untapped resource that can help more patients, and reduce the strain on the ER system.

Isolation of Practice

Similar to PAs, Paramedics in Ontario are limited in their practice by current oversight structures. They operate under the license of an MD, and must follow all directives set out by the Ministry of Health and local “Base Hospitals”. Staffing of the LAP-Pod would be a specific position that Paramedics apply to, similar to how Safe Injection Sites (SIS) are currently staffed. These Paramedics cannot be moved to frontline deployment due to specific funding and contract language set out when EMS/SIS projects began. The LAP-Pod Paramedics could expand to use some types of modified and retired paramedics, so as not to impact staffing levels of the local EMS service. Consistent staffing of Paramedics dedicated to the LAP-Pod role would ensure a continuity of care, and even allow for regular training of staff, to maintain consistent standards.

Salary

By using Paramedics, the cost of this proposal is kept to manageable levels. Nursing wages are comparable to Paramedic, with similar skill sets, however at the moment there is a far greater strain demand for Nurses in Ontario. In order to attract Nurses to staff the proposed LAP-Pod, it would in fact cost more due to supply and demand projections. According to Government of Canada⁸ data, the salary for a single Paramedic in Canada can range from \$23.00 to \$45.00 per hour (median of \$35.30). It is difficult to predict the exact number of Paramedics needed to staff the Pod, as it would depend on HCP:patient ratios, and therefore available beds in the hospital area. Estimating 2-3 Paramedics per shift, with the same number of shifts as PAs equates to \$615,914 to \$923,871 per year.

⁸ <https://www.jobbank.gc.ca/marketreport/wages-occupation/4415/ca>

INCLUSION CRITERIA

All current low-acuity centres such as UCCs and RAZs, are stable ambulatory patients. The key to the LAP-Pod proposal is to include the similar patient status language, but now accept stretchered EMS patients. During the start up of the first LAP-Pods, a common set of criteria for EMS patient diversion to local UCCs can be used; this would be all CTAS 4 and 5 patients. According to the Prehospital Canadian Triage and Acuity Scale⁹ document, CTAS 4 patients are considered “less urgent” with stable vitals and includes stable conditions that have potential for deterioration or complications that would benefit from intervention or reassurance. CTAS 5 patients are “non urgent”, also stable, but have the conditions which may be part of a chronic problem with or without evidence of deterioration. These patients are ideal for LAP-Pod inclusion as they can be managed quickly, with little risk of deterioration. As inclusion criteria is expanded, it could include CTAS 3 patients which are described as “urgent” with conditionals that could potentially progress to a serious problem requiring emergency interventions. While Paramedics themselves are expected to effectively manage all patients in the field regardless of CTAS, by limiting inclusion to these three levels, the LAP-Pod can ensure top notch care for their patients while the ER is focused on the more critical patients requiring extra assessments and/or interventions. Any further inclusion, or exclusion, criteria can be discussed prior to implementation. However, the above criteria is offered to ensure safe selection of appropriate patients during setup or trial of the proposed LAP-Pod.

COSTING

I have addressed staffing costs above, and overall cost effectiveness of this proposal stems from using existing resources and equipment in underused portions of local hospitals. Minimal additional equipment would be required, and no new capital costs incurred. The larger the hospital, more specifically the larger the unused space, the greater the number of patients that can be admitted. However even if a specific site can only provide a few beds, there is still a positive effect on healthcare wait times. A suggestion for future hospital builds would be to include a LAP-Pod area in the original build, minimizing conversion costs. The residual funding required for the initial set-up and operation of the LAP-Pods could come from multiple sources such as (but not limited to): operating budgets (hospital/EMS), provincial healthcare spending, and federal grants.

⁹ https://www.health.gov.on.ca/en/pro/programs/emergency_health/edu/docs/ctas_paramedic_guide_v2_0_en.pdf

ADDITIONAL SOURCES

Source	Evidence
The Sault Ste. Marie Local ¹⁰	<ul style="list-style-type: none"> • Paramedics supporting ED staffing issues • Existing help, Offload RN, often redeployed
Canadian Medical Protective Association ¹¹	<ul style="list-style-type: none"> • MDs (and any HCP) have a legal obligation to see patients on OLD
Canadian Union of Public Employees ¹²	<ul style="list-style-type: none"> • Increasing call volumes and OLD stress EMS systems • Additional funding to both EMS and hospitals in required to elevate stressors
Toronto Sun ¹³	<ul style="list-style-type: none"> • “Batching” patients to free up EMS resources • Allowing for alternative destinations, other than just the ED • Expanding redirect policies where Paramedics offload to other areas
CityNews ¹⁴	<ul style="list-style-type: none"> • Beds and staff are needed to fix the problem • Recommendation to increase Paramedic:Patient ratios
CityNews ¹⁵	<ul style="list-style-type: none"> • ED wait times up, despite less patient in ED • The issue is lack of staff
CP24 ¹⁶	<ul style="list-style-type: none"> • ED wait times increasing • Expanding 911 models of care possible solution
CBC News ¹⁷	<ul style="list-style-type: none"> • Staffing shortage, lack of funding causing issues • Need to bring front-line staff to the discussion table • PAs and Paramedics needed to help with these issues

¹⁰ <https://www.sootoday.com/local-news/plan-in-place-to-stop-ems-offload-delays-but-theres-a-hitch-6727604>

¹¹ <https://www.cmpa-acpm.ca/en/advice-publications/browse-articles/2021/ambulance-offload-delay-at-the-emergency-department-clarifying-your-duty-of-care>

¹² <https://cupe.ca/under-pressure-statistical-report-paramedic-services-ontario>

¹³ <https://torontosun.com/news/provincial/ontario-suggests-batching-patients-to-reduce-ambulance-off-load-delays>

¹⁴ <https://kitchener.citynews.ca/2022/07/29/ontario-paramedics-say-ambulance-response-times-slower-due-to-growing-offload-delays-5639084/>

¹⁵ <https://toronto.citynews.ca/2022/11/10/ontario-hospital-wait-times-emergency-rooms/>

¹⁶ <https://www.cp24.com/news/average-er-wait-times-in-ontario-drop-slightly-in-november-but-remain-high-data-shows-1.6226955?cache=yes%3FclipId%3D89530>

¹⁷ <https://www.cbc.ca/news/health/canada-er-pressure-health-care-system-solutions-1.6885257#:~:text=Ontario%20ER%20wait%20times%20hit%20record%20highs&text=For%20patients%20who%20were%20admitted,ERs%20in%202021%20to%202022>