

**In what ways can the NSPPA contribute to the promotion and continuing development of the paramedic profession?**

Includes:

Final Report

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## Abstract

### **Purpose**

The objective of this research-based consultancy report is to provide a comprehensive understanding of the paramedic duties performed by the Nova Scotia Paramedic Professional Association (NSPPA). Additionally, the report aims to evaluate NSPPA's potential role in promoting and fostering the continuous development of the paramedic profession. Through the analysis of various credible sources, this report seeks to highlight the critical importance of adequately funding paramedic services. Such investments are essential for enhancing community health outcomes and ensuring the delivery of high-quality, life-saving care. This analysis will serve as a resource to underscore the value of supporting paramedic services in building healthier, more resilient communities.

### **Methods**

This consultancy based-research paper systematically explores the role of the Nova Scotia Paramedic Professional Association (NSPPA) in advancing the paramedic profession while addressing challenges in healthcare. The methodology includes four main sections: NSPPA's activities, provincial comparisons, challenges and contributions, and funding tools.

Key methods employed include policy and document reviews to evaluate NSPPA's strategic actions, such as paramedic education programs, tuition offsets, and advocacy training.

Interviews and stakeholder feedback provided insights into service quality and innovative practices like live data sharing. Comparative analysis of provincial associations in Ontario, Alberta, and British Columbia highlighted successful initiatives, including integrated community paramedicine and regulatory models, offering best practices that NSPPA could adapt to enhance emergency care and healthcare accessibility.

### **Findings**

Nova Scotia faces significant delays due to overcrowded hospitals and off-loading issues at emergency departments (EDs), creating ambulance shortages for subsequent emergencies. This problem is exacerbated in rural and underserved areas with minimal resources. While strategic investments in virtual care and real-time data

tools aim to reduce hospital pressure, EDs remain overcrowded, often handling non-urgent cases that could be managed elsewhere.

The province struggles with a shortage of trained paramedics, high turnover rates, and workforce burnout, despite NSPPA's efforts through tuition rebates and incentives. Community-based care and preventive initiatives, such as mobile health units and virtual urgent care, require greater funding and awareness. Enhanced staff retention and expanded healthcare pathways are critical to addressing these systemic challenges.

### **Recommendations**

The plan emphasizes key strategies to improve Nova Scotia's paramedic services. For employee retention, it proposes broader tuition rebates, housing and childcare incentives for rural paramedics, and mental health initiatives, including reduced shifts and debriefing sessions. Expanding preventive and community-driven care involves funding mobile health units, training paramedics in chronic disease management, and fostering partnerships with clinics and pharmacies for collaborative care. Lastly, advancing interoperability includes adopting real-time data systems across healthcare and prioritizing telehealth infrastructure in underserved regions.

## Introduction

The paramedic profession plays a critical role within the healthcare system, requiring constant evolution to effectively address the growing demands of public health. This research report examines the Nova Scotia Paramedic Professional Association (NSPPA), exploring its contributions to advancing and supporting the paramedic profession. Established to address the unique challenges faced by paramedics in Nova Scotia, the NSPPA undertakes a range of activities, including advocacy, professional development, and policy communication. Recent initiatives, such as member surveys and regional focus groups, have been instrumental in shaping the association's strategic decisions and policy frameworks.

This review delves into several key areas: a comparative analysis of NSPPA's practices with those of other paramedic associations, including the Ontario Paramedic Association (OPA) and the Paramedic Association of Canada (PAC); the effectiveness of these practices in fostering membership engagement and professional growth; and the regulatory and operational frameworks guiding these organizations. By investigating these elements, the review aims to identify successful strategies and highlight areas for improvement that could strengthen NSPPA's impact within the healthcare system.

To ensure a comprehensive understanding, this review draws on a diverse range of sources, including academic journals, professional reports, association publications, and legal documents. These sources were carefully selected based on their relevance, credibility, and the recency of the information, ensuring that the most pertinent and reliable data informs the analysis. This methodical approach to source selection underpins the discussions and conclusions presented, setting the stage for actionable recommendations that could enhance the professional landscape for paramedics in Nova Scotia.

## Literature Review

### Paramedic Duties Performed Across Canada

The primary objective of paramedic services across Canada is to deliver specialized emergency care to individuals in need. Over recent years, the demand for paramedic services has significantly increased. Currently, more than 30,000 licensed paramedics operate across various provinces in Canada. However, the rising demand has led to challenges, including a shortage of resources to meet these needs effectively (Brown, 2018; National Occupational Competency Profile for Paramedics, 2011; Paramedic Association of Canada [PAC], 2015).

Paramedic teams are trained to provide diverse and specialized services, extending beyond traditional home visits. These teams are equipped to handle a range of emergency scenarios that are from Professional Paramedic Association of Ottawa such as:

- **Bike Units:** Deployed in urban areas with high traffic congestion, these units offer rapid response in parks, bike paths, and other crowded locations.
- **Marine Units:** Assist with dive operations, river patrols, and marine rescue missions. They also conduct awareness campaigns for swimmers and boaters.
- **Support Units:** Handle search-and-rescue missions, bomb threat responses, and public safety risks. These units often collaborate with police and fire personnel.
- **Tactical Units:** Manage high-risk situations such as hostage crises, active shooter incidents, and dangerous police operations.
- **High-Risk Transfer Units:** Established in 2014 following the Ebola outbreak, these teams are trained in stringent safety protocols to transport critically ill patients requiring urgent care.

Paramedic services play a crucial role in public safety, demonstrating adaptability and expertise across diverse emergency environments (Bowles, van Beek, & Anderson, 2017). The following table summarizes the key paramedic services available across Canada.

Practise settings	Care	Patient disposition
<p><b>Uncontrolled:</b></p> <ul style="list-style-type: none"> <li>At the patient's side</li> <li>Out-of-hospital care (e.g., home visits)</li> </ul> <p><b>Location-based:</b></p> <ul style="list-style-type: none"> <li>Events (e.g., sports, concerts, mass gatherings)</li> <li>Industrial sites</li> <li>In community (e.g., "store front")</li> </ul> <p><b>Community-based:</b></p> <ul style="list-style-type: none"> <li>Home visits</li> <li>Blood pressure/diabetes clinics</li> </ul> <p><b>Facility-based:</b></p> <ul style="list-style-type: none"> <li>In-hospital (e.g., emergency department [ED], triage, code team)</li> <li>In-facility (e.g., extended care)</li> <li>Rural ED</li> </ul>	<p><b>Emergency:</b></p> <ul style="list-style-type: none"> <li>Emergency responses</li> <li>Urgent responses</li> <li>Non-emergency/routine responses</li> <li>In-hospital code/cardiac arrest responses</li> </ul> <p><b>Urgent/ongoing care:</b></p> <ul style="list-style-type: none"> <li>Interfacility monitoring and intervention</li> <li>Triage or monitoring (e.g., in-hospital/ED)</li> </ul> <p><b>Definitive:</b></p> <ul style="list-style-type: none"> <li>Treatment and bypass (e.g., trauma, stroke, STEMI)</li> <li>Treatment and release (e.g., diabetes)</li> <li>Treatment and referral (e.g., blood pressure clinic, home visits)</li> <li>Interprofessional/team-based care (e.g., IPP team in ED, paramedic/nurse staffing rural ED)</li> <li>Primary and prevention</li> </ul>	<p><b>Transportation to care:</b></p> <ul style="list-style-type: none"> <li>Ambulance calls</li> <li>Airevac</li> </ul> <p><b>Transportation between care settings:</b></p> <ul style="list-style-type: none"> <li>Interfacility transfers</li> <li>Critical care transfers</li> </ul> <p><b>Care in place (no transportation):</b></p> <ul style="list-style-type: none"> <li>Treatment and release</li> <li>Treatment at point of care (e.g., in-facility, ED)</li> <li>Treatment and referral</li> </ul>

Source: Bowles, van Beek, & Anderson, 2017.

The table provides a structured overview of the diverse services offered by paramedics, categorized into three core areas: *Practice Settings*, *Care*, and *Patient Disposition*.

### ***Practice Settings***

Paramedics operate in various environments, including emergency scenarios such as home visits, roadside incidents, and event coverage (e.g., sports, concerts, industrial sites). They also contribute significantly to community-based healthcare by conducting home visits and running clinics to manage chronic conditions like diabetes and hypertension. In healthcare facilities, paramedics are integral to emergency departments (EDs), extended care centres, and rural emergency settings.

### ***Care***

Paramedics deliver a spectrum of care, from emergency responses for critical situations like trauma or cardiac arrest to providing urgent and routine care. They also engage in definitive care, addressing severe conditions, minor injuries, or chronic illnesses while collaborating with broader healthcare teams. Prevention is another

critical aspect, with paramedics offering early intervention and health education to mitigate serious medical issues.

### ***Patient Disposition***

Following treatment, paramedics manage patient transitions, including transportation to healthcare facilities via ambulance or air evacuation for severe or remote cases. They also facilitate transfers between settings, such as moving patients from rural clinics to hospitals or coordinating critical care transfers for specialized treatments. In some instances, paramedics provide on-site care, including treatment and release, stabilization, or referrals for follow-up care without transportation.

Overall, the table highlights the multifaceted roles of paramedics, from emergency response to preventive care. It underscores their adaptability across diverse environments and patient needs, showcasing how they bridge the gap between community care, healthcare facilities, and patient transitions to ensure timely and appropriate care delivery.

### **Regulations Applied to Different Provinces**

The regulation of the paramedic profession varies across provinces as shown in the table, with each aligning its practices and oversight with specific provincial regulatory authorities and governing legislation. For example, in Ontario, paramedic services are fully regulated by the Ministry of Health, which contracts organizations known as Base Hospitals to oversee paramedic skill development and maintenance. In contrast, the territories lack dedicated regulatory authorities; instead, they primarily depend on municipally hired paramedics and ambulance services to deliver care, particularly to home patients (Bowles, van Beek, & Anderson, 2017; Fjeldheim et al., 2014).

This information related to regulations across different provinces can help NSPPA to analyse and examine what different provinces mentioned in the table across Canada have enacted with the help of different regulatory authority bodies in different timeline and kind of measures that NSPPA can take in order for them to come up with new sets of paramedics act which as a result can have a positive impact on the community leading to the

contribution of promotion and development of paramedic profession. The following table provides a detailed overview of the regulatory authorities and legislative frameworks governing the paramedic profession across various regions.

Province	Regulatory Authority	Year of regulation
British Columbia	Emergency Health Services Act	1974
Alberta	Alberta College of Paramedics	2008
Saskatchewan	Paramedics Act, 2007	2009
Manitoba	Emergency Medical Response and Stretcher Transportation Act, 2014	1984
Ontario	Ambulance Act, 1990	1968
Québec	Loi sur les services préhospitaliers d'urgence (Act Respecting Pre-Hospital Emergency Services)	2011
New Brunswick	Paramedic Act	2006
Nova Scotia	Paramedics Act, 2017	2005
Prince Edward Island	Emergency Medical Technicians Act	1972
Newfoundland and Labrador	Regional Health Authorities Regulations	2010

Source: Canadian Organization of Paramedic Regulators, 2016; CIHI, 2017b.

This table summarizes the regulatory authorities and legislation governing the paramedic profession across Canadian provinces, highlighting their unique legal frameworks and governing bodies that ensure adherence to defined standards of care and accountability.

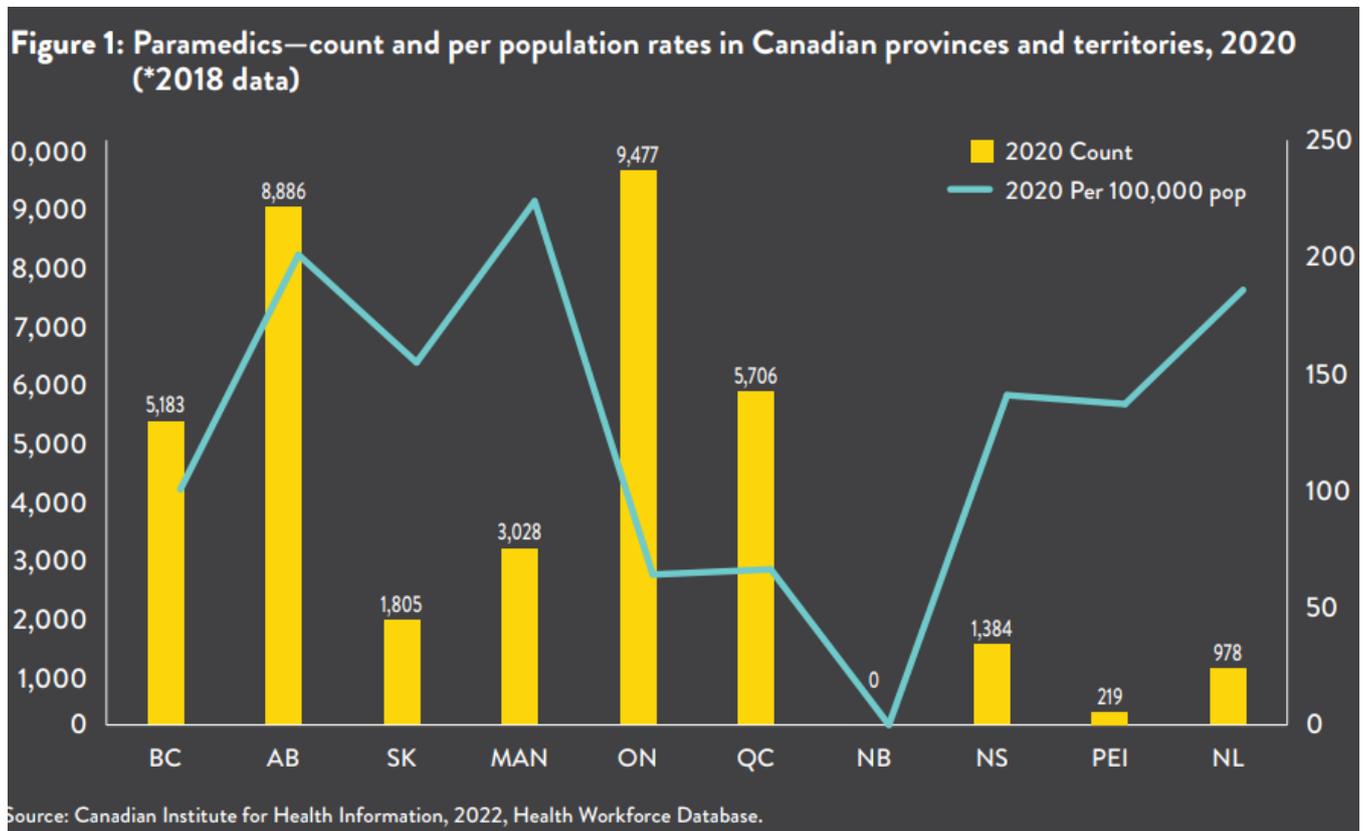
In British Columbia, paramedics operate under the *Emergency Health Services Act* (1974). Alberta established the *Alberta College of Paramedics* in 2008, while Saskatchewan formalized the profession with the *Paramedics Act* in 2007. Manitoba's *Emergency Medical Response and Stretcher Transportation Act* (1984) focuses on safe and effective medical transport. Ontario follows the *Ambulance Act* (1968), one of Canada's oldest paramedic regulatory frameworks, and Québec introduced the *Act Respecting Pre-Hospital Emergency Services* in 2011.

New Brunswick enacted the *Paramedic Act* in 2006, and Nova Scotia updated its own *Paramedics Act* in 2017. Prince Edward Island began regulating paramedics under the *Emergency Medical Technicians Act* in 1972, one

of the earliest such legislations, while Newfoundland and Labrador established paramedic regulations through the *Regional Health Authorities Regulations* in 2010.

These diverse regulations reflect each province’s unique healthcare priorities while collectively aiming to ensure high-quality, standardized paramedic care nationwide.

Furthermore, paramedic demographics indicate a workforce of over 36,000 providers, with a national provider-to-population ratio of 90.7 (CIHI, 2020). Women are increasingly joining the profession, rising from 34% in earlier data, while approximately 20-30% of paramedics are under the age of 30, showcasing the sector's growing youth representation.



This figure illustrates the distribution of paramedics across Canadian provinces and territories in 2020, highlighting both the absolute number of paramedics (yellow bars) and the rate per 100,000 population (blue line). The data reveals significant regional variations in workforce size and paramedic-to-population ratios.

Quebec leads with the highest number of paramedics (9,477), though its paramedic-to-population rate is relatively moderate. Alberta follows with 8,886 paramedics and a high per-capita rate, indicating strong workforce density. Ontario, despite its large population, has 5,706 paramedics, resulting in a comparatively lower paramedic-to-population ratio.

British Columbia (5,183 paramedics) and Manitoba (3,028 paramedics) maintain substantial workforces with moderately high paramedic-per-capita rates. Smaller provinces like Saskatchewan (1,805 paramedics), Nova Scotia (1,384 paramedics), and Newfoundland and Labrador (978 paramedics) show smaller absolute numbers but relatively high paramedic-to-population ratios. Notably, Newfoundland and Labrador exceed 200 paramedics per 100,000 population.

Data for New Brunswick is absent, while Prince Edward Island has the smallest workforce (219 paramedics) but a notable per-capita rate. Overall, the figure underscores the uneven distribution of paramedics across Canada, reflecting how workforce size and density vary with regional population needs and healthcare infrastructure.

### **Challenges and Support**

The Nova Scotia Paramedic Professional Association basic aim is to provide solution-oriented responses challenges facing the paramedic profession in Nova Scotia.

The government plays a crucial role in ensuring that the people of Nova Scotia receive timely and efficient emergency care. They are focused on improving ambulance response times and expanding access to care, easing the burden on emergency departments. According to Michelle Thompson, the Minister of Health and Wellness, significant investments are being made across all healthcare services.

Paramedic services play a vital role in meeting urgent patient needs. These include doctor-led teams to ensure quick patient transfers from ambulances to emergency departments, employing physicians and nurses in emergency departments for prompt care, and utilizing virtual care to address non-urgent cases—saving time, reducing costs, and targeting care based on patient needs. Paramedics also provide real-time data on bed availability across healthcare systems, ensuring faster care and optimizing hospital capacity.

To support paramedics, the government offers province-wide training and a tuition rebate of \$11,500 for those committing to work in Nova Scotia for at least three years. Additionally, a second air ambulance has been introduced to handle routine transfers, freeing ground ambulances to remain in communities. Funding is also allocated for training medical first responders who are the initial responders at emergency scenes.

To reduce pressure on emergency care, the government is expanding collaborative family medicine practices and increasing pharmacy services. Virtual care hours have been extended, enabling doctors to provide emergency services to patients outside the province. A key innovation is the "Digital Front Door" app, which helps patients find appropriate services and locations. This, along with mobile primary care, mobile respiratory clinics, and urgent treatment centres, enhances access to care across Nova Scotia.

The President and CEO of Nova Scotia, Karen Oldfield quotes:

*“The healthcare system was built during a different era, and aside from technological advances, it has barely changed since. That is not our future. No one person can move this mountain by themselves. We can do it if we all pull together with a common goal: a system that is ready, responsive and reliable.”*

In accordance with government and private healthcare regulations, a new initiative was launched in January 2023 aimed at improving emergency care by providing greater access to primary healthcare. This approach seeks to alleviate pressure on emergency departments by ensuring that individuals receive the care they need without necessarily visiting the emergency room. Surveys were conducted to assess the effectiveness of these access initiatives, with sample sizes varying across different time periods and initiatives. These surveys helped gauge the impact of the program and identify areas for improvement in healthcare delivery.

Initiatives	Time Period	Result of Action
Primary healthcare visits	April - November 2023	1.17 million (+18% more visits since last year)
Virtual Urgent Care	November-December 2023	55% of people would have gone to an emergency department
		36% of people would have gone to walk-in clinic
Virtual Care Primary Care	May 2021-December 2023	24% of people would have gone to an emergency department
		36% of people would have gone to a walk-in clinic
Mobile Primary Care	September 2022-December 2023	6% of people would have gone to an emergency department
		13% of people would have gone to a walk-in clinic
		11% of people would have gone untreated
Pharmacy Walk-in Clinic	February 2021-December 2023	60% of people would have gone to and emergency department
YourHealthNS App	November-December 2023	15% of people would have gone to an emergency department
		30% of people would have looked for information online

The table above summarizes key healthcare initiatives implemented over various periods and their outcomes in improving access to care while alleviating pressure on emergency departments.

From April to November 2023, primary healthcare visits reached 1.17 million, reflecting an 18% increase from the previous year. Virtual care services have been instrumental in redirecting patients from emergency and walk-in clinics. The Virtual Urgent Care program (November–December 2023) prevented 55% of users from visiting emergency departments and 36% from using walk-in clinics. Similarly, the Virtual Care Primary Care initiative (May 2021–December 2023) demonstrated a significant impact, with 24% of participants avoiding emergency rooms and 36% bypassing walk-in clinics.

The Mobile Primary Care service (September 2022–December 2023) provided a flexible healthcare solution, reducing emergency visits by 6%, walk-in clinic visits by 13%, and leaving only 11% of individuals untreated. Pharmacy Walk-In Clinics, active since February 2021, diverted 60% of patients from emergency departments.

Finally, the YourHealthNS app, used between November and December 2023, proved valuable as a digital healthcare tool, with 15% of users avoiding emergency visits and 30% opting for online information instead of in-person care. Together, these initiatives demonstrate a comprehensive, multi-faceted approach to improving healthcare accessibility and reducing the burden on traditional medical facilities.

## Funding Model Implementation

Funding for paramedic services and delivery models in Canada is sourced from various streams. Provincial health systems primarily finance paramedic services through the 911 system, while additional costs are either billed to municipalities or covered by private health insurance plans (Canada Health Act, 2005). Paramedic associations operate across diverse settings, including municipal services, hospital-based programs, and fire departments, reflecting their adaptability to different organizational structures and community needs (Symons & Shuster, 2004).

### **Tuition-Free Training and Subsidies**

The Nova Scotia government introduced fully funded tuition for over 460 paramedics, with a focus on rural and remote areas. This initiative supports NSPPA's recruitment and retention efforts, ensuring paramedic availability across underserved regions.

### **Government Investments in Workforce Development**

The province allocated \$6.83 million to cover tuition subsidies and other training initiatives. These funds enhance NSPPA's ability to train paramedics and address staff shortages, directly contributing to service reliability and growth (Nova Scotia Department of Health and Wellness, 2024)

### **Collaborative Rural Funding Models**

Models such as tuition rebates and location-specific incentives encourage paramedics to work in rural areas, improving healthcare equity. This aligns with NSPPA's vision of expanding emergency services beyond urban centres (Nova Scotia Department of Health and Wellness, 2024).

### **Collective Bargaining and Job Satisfaction**

Recent agreements for better wages and improved working conditions, achieved through government collaboration, reduce burnout and turnover. This supports NSPPA's long-term stability and ensures a consistent workforce.

## **Integration of Technology in Operations**

Investments in telemedicine and real-time data-sharing systems enhance emergency response capabilities. NSPPA leverages these advancements to modernize services, aligning with the government's broader healthcare objectives (Nova Scotia Department of Health and Wellness, 2024).

## **Impact of Funding Models on NSPPA's:**

### ***Employee Retention***

NSPPA uses incentives such as tuition training to bring in fresh talent and keep current paramedics on board effectively tackling workforce shortages and securing the long-term sustainability of their services (Nova Scotia Department of Health and Wellness, 2024).

### ***Enhanced Availability in Remote Regions***

Special funding strategies tailored for neglected areas enhance the accessibility of assistance. This contributes to promoting fairness, in healthcare and enhancing the community influence of NSPPA (Nova Scotia Department of Health and Wellness, 2024).

### ***Improved Workforce Satisfaction***

Better compensation and work-life balance achieved through funding-supported agreements reduce paramedic burnout, leading to higher retention and operational efficiency.

### ***Developments in technology and Operations***

Investments in advancements like telemedicine and platforms for sharing data play a role in improving the quality of services and quickening response times. According to the Nova Scotia Health Authority in 2024, these factors significantly impact patient outcomes. (Nova Scotia Department of Health and Wellness, 2024).

## **Funding Model Evaluation:**

NSPPA can evaluate funding models based on their effectiveness in addressing the following:

**Workforce Metrics:** Improvement in Recruitment by adding young people, improving retention rates, and paramedic distribution in rural areas can help NSPPA to achieve their motive to a greater extent and this can help NSPPA to utilize their funds for a better future paramedic workforce (Nova Scotia Department of Health and Wellness, 2024).

**Sustainability and Adaptability:** Analysing how models like tuition rebates and rural incentives are impacting the long-term workforce hence to achieve financial stability various surveys can help NSPPA to grow and they can make changes in their funding model if necessary. (Nova Scotia Department of Health and Wellness, 2024).

### **Overall Impact**

NSPPA's current funding models can be improved by the following factors

- 1) Build a resilient and well-trained paramedic workforce.
- 2) Expand its services to reach more communities, especially rural areas.
- 3) Ensure operational sustainability and strategic growth.
- 4) Improve emergency response times and care quality across Nova Scotia.

## Methodology

This research integrates a literature review, case analysis, and comparative analysis to examine how the Nova Scotia Paramedic Professional Association (NSPPA) facilitates the growth and continual evolution of the paramedic profession. These methodologies provide a multi-faceted approach to understanding the challenges and opportunities faced by the NSPPA.

The study draws upon secondary research, including real-life case studies, policy documents, and industry standards. Key sources include national occupational competency profiles and guidelines from the Paramedic Association of Canada (PAC), reports from the Canadian Institute for Health Information (CIHI) on paramedic staffing levels and coverage across Canada, and insights from the Canadian Medical Association (CMA) on health funding frameworks. Empirical research articles from various scholars further enrich the analysis, providing valuable theoretical and practical perspectives (e.g., Richmond et al., 2021; Batt et al., 2024; Cameron & Batt, 2024; Tavares et al., 2023; Weber et al., 2023; Lee et al., 2021; Yang & Samadi, 2024; D'Cunha & Carney, 2024). These diverse sources form a robust foundation for understanding NSPPA's operational landscape and the broader paramedic profession.

Case analysis offered a focused examination of paramedic services across Canada. By reviewing operational models, resource allocation strategies, and community engagement practices, the researchers identified practical insights into NSPPA's strengths and potential areas for improvement. For instance, an analysis of digital health system implementation and community paramedicine revealed successful strategies in certain provinces, which could serve as benchmarks for NSPPA's development. These case studies also highlighted the importance of addressing regional disparities in paramedic services and leveraging innovative approaches for enhanced service delivery.

Comparative analysis was employed to evaluate the NSPPA's practices relative to other provincial paramedic associations, such as those in Ontario and British Columbia. This method facilitated an exploration of similarities and differences in approaches, strategies, and performance outcomes (Lo et al., 2020).

For example, Ontario's decentralized team model promotes flexibility and shared responsibility, enabling rapid response during emergencies. However, challenges remain in reorganizing staff for continuous education and administrative leadership. These findings emphasize the importance of balancing centralized control with local autonomy, a principle that could inform NSPPA's strategy. Similarly, British Columbia's integration of digital management systems has improved response times and operational efficiency, offering valuable lessons for NSPPA's efforts to modernize and streamline its services.

To boost the quality of its services and enhance efficiency the Nova Scotia Paramedic Professional Association (NSPPA) should concentrate on crucial areas of growth drawn from successful strategies, in different provinces and healthcare systems. Here are in depth perspectives and approaches that NSPPA can adopt to enhance its services and suggestions for enhancements, in case NSPPA is already using these approaches.

### **Workforce Development and Retention**

NSPPA can enhance workforce development through targeted initiatives such as professional development programs, tuition reimbursement for rural paramedics, and retention bonuses. These programs aim to reduce workforce turnover, especially in rural areas, where paramedics face higher challenges due to isolation and longer shifts (Fjeldheim et al., 2014). Additionally, NSPPA could establish career progression pathways within the organization, offering paramedics clear opportunities for advancement.

Further improvements could include expanding mental health support programs and creating peer mentoring systems for paramedics. These initiatives would help alleviate stress and burnout, a growing concern in the profession (Symons & Shuster, 2004).

### **Integration of Technology and Data-Sharing Systems**

NSPPA has started incorporating technology into services to improve data sharing and communication, with hospitals. There is room for further enhancement. Enhancing real time data exchange systems, among paramedics, emergency departments and doctors could enable paramedics to review patient histories and make informed decisions prior, to reaching hospitals—potentially reducing treatment delays and enhancing patient outcomes.

Expanding telemedicine services by allowing paramedics to consult with doctors, through video or phone calls on site can be advantageous in remote areas. With the use of these technologies paramedics can quickly make decisions. Improve coordination, with hospitals in time. NSPPA can also work on expanding the mobile health unit program to provide essential non-emergency services, reducing the burden on emergency rooms, especially in rural and remote areas (Nova Scotia Department of Health and Wellness, 2024).

### **Collaboration with Provincial and Federal Bodies**

NSPPA should maintain its partnership, with the Ministry of Health and Wellness and health agencies while also advocating for funding and regulatory backing at the provincial level to enhance its operations further. Engaging with entities to secure grants, for upgrading technology and implementing training initiatives could greatly enhance the quality of services offered. NSPPA could also enhance connections, with paramedic associations to exchange successful strategies and coordinate on policy efforts that affect paramedic services nationwide ( Nova Scotia Ministry of Health, 2023).

### **Raising awareness and Promoting advocacy**

The NSPPA is already focused on educating people about the importance of paramedics. However, they could further boost these efforts by launching public awareness campaigns that shed light on the crucial roles paramedics fulfil in emergency situations and community well-being alike. Moreover, the push, for funding could be strengthened by highlighting the invaluable contributions paramedics make to the healthcare system in areas that lack adequate services (Paramedic Association of Canada 2015).

### **Comparative Analysis of Other Provincial Associations**

Reviewing successful programs such as Alberta's work integrating paramedics within primary healthcare teams and community paramedicine in British Columbia that include mental health, along with emergency care can work for NSPPA (Paramedic Association of Canada 2015; Canadian Paramedicine Association 2021). Examination of some regulatory models from the Paramedics Act in Saskatchewan and the Emergency Medical

Response Act in Manitoba are some of the best practices that could apply (Canadian Institute for Health Information, 2020).

### **Saskatchewan's Paramedics. Regulatory Framework**

In Saskatchewan's Paramedics Act stands out as an illustration of a set of laws governing the paramedic field in the province. The legislation outlines the duties and expectations, for paramedics to guarantee the efficient delivery of their services. Moreover, Saskatchewan has established training guidelines and routine certification renewals for paramedics to uphold top notch care standards (Canadian Institute, for Health Information 2020). NSPPA could benefit from adopting Saskatchewan's approach, to regulations by pushing for a framework in Nova Scotia that would promote uniformity in paramedics training quality and service standards, throughout the region.

### **Manitoba has passed the Emergency Medical Response Act**

Manitoba's Emergency Medical Response Act creates a set of rules to guide the training and certification of paramedics and to ensure they receive education support. It also helps establish guidelines, for emergency services (EMS) throughout the region to ensure paramedics operate within a well-defined and supervised system. Manitoba's strategy focuses on fostering collaboration across areas to enable paramedics from locations to work together efficiently during emergencies (Canadian Institute, for Health Information 2020). NSPPA could propose the implementation of an EMS law, in Nova Scotia to enhance efficiency across localities and promote collaboration, among various emergency services units This initiative would also facilitate the uniformity of paramedic training and response procedures to improve the quality-of-service provision.

### **Albertan Rural Paramedic & Public Health Initiatives**

In Alberta, efforts to support paramedics in areas better and encourage them to work in underserved regions have included providing benefits, like forgiving student loans and offering housing assistance. These incentives are designed to address the chronic shortage of paramedics in rural communities and enhance service delivery in these high-need areas. Additionally, Alberta has emphasized paramedic mental health and wellness programs,

ensuring that paramedics have access to psychological support services, given the stress and trauma inherent in the job (Canadian Paramedicine Association, 2021). NSPPA might consider extending incentive initiatives, like those in Alberta to draw in and keep paramedics in the areas of Nova Scotia as well as implementing mental health resources for paramedics to enhance retention rates and combat burnout. A prevalent concern, in the field.

The combination of literature review, case analysis, and comparative analysis provided a comprehensive understanding of the NSPPA's operational framework. These methodologies not only revealed practical approaches to improving paramedic services but also identified opportunities for the NSPPA to adapt successful practices from other provinces. For example, the introduction of digital health management systems in some regions demonstrated measurable improvements in response times and efficiency. These insights were instrumental in shaping tailored recommendations for the NSPPA.

Through this multifaceted methodological approach, the study systematically identified actionable strategies to support NSPPA's mission of enhancing paramedic services and advancing professional standards within the industry.

## NSPPA's Contributions and Challenges

### ***Problem Identification***

The Nova Scotia Paramedic Professionals Association (NSPPA) faces several significant challenges, including paramedic burnout, workforce shortages, and emergency room congestion. In addressing these issues, NSPPA has developed strategies aimed at expanding training opportunities, increasing mental health support for paramedics, and implementing technological solutions to improve paramedic services:

### ***Paramedic Burnout and Workforce Shortages***

One of the key challenges facing NSPPA is paramedic burnout, which is by high-stress work environments, long shifts, and increasing service demand. NSPPA has expanded training programs that include both clinical skills and stress management techniques to help paramedics handle pressure effectively. These initiatives aim to reduce burnout, improve job satisfaction, and help retain paramedic personnel in the workforce. According to Fjeldheim et al. (2014), focusing on stress management in training programs has been shown to have a positive impact on paramedic job retention and overall well-being.

### ***Mental Health Support for Paramedics***

Emergency response work can be extremely problematic, and paramedics often face significant mental health challenges as a result. To address this, the Nova Scotia Paramedics Professional Association (NSPPA) can further enhance its services to improve access to mental health resources for paramedics. These resources include counselling services, peer support programs, and resilience training. Such initiatives are vital in supporting paramedics' mental well-being and creating a positive, supportive work environment. Research has shown that these mental health programs can lead to better retention rates and improved performance within paramedic teams (Bowles et al., 2017).

### ***Technological Solutions***

Technological advancements, like real time data sharing platforms and telemedicine play a role in enhancing paramedic services effectiveness and patient care quality improvement in emergency situations according to

research by Fjeldheim et al (2014). These tools enable NSPPA paramedics to communicate instantly with hospitals and emergency teams leading to reduced wait times and better preparedness of facilities in advance for response especially, in rural areas to optimize resource allocation and improve overall response times. Moreover, the use of telemedicine enables paramedics to seek guidance, from doctors from a distance ensuring that patients get the treatment before they get to the hospital ( Bowles et al., 2017 ).

## Findings

### **Pressure on Emergency Departments (EDs)**

Emergency rooms in Nova Scotia regularly deal with issues due to patients seeking treatment for non-emergency problems that could be handled more effectively elsewhere. The situation worsens due to the absence of healthcare options which results in visits to the emergency room and puts additional pressure on paramedics. Additionally mobile health clinics and virtual care services could provide alternatives for emergency situations; however, their potential is not fully realized due to limited availability and insufficient awareness, among the public. (Symons & Shuster, 2004; Nova Scotia Ministry of Health and Wellness, 2023).

### **Challenges in Supporting and Retaining Workers**

The paramedic team, in Nova Scotia is facing challenges due to a shortage of staff members. Struggles to manage the increasing number of emergency calls efficiently. Issues like burnout and a high turnover rate are worries for the workforce. Although NSPPA has introduced initiatives like tuition rebates and incentives to attract paramedics they have not been fully successful in meeting the rising need for professionals. Improving retention strategies through options, for career growth and promoting a work life balance is crucial to maintain an effective workforce in the long term. (Fjeldheim et al., 2014).

### **Community-Based and Preventive Care Models**

Although paramedics in Nova Scotia are increasingly involved in community-based and preventive care roles, these programs are not yet widely implemented. Expanding the reach of mobile health units and promoting preventive care measures can alleviate the burden on ED's. However, these initiatives require significant investment and broader public awareness to achieve meaningful results (Symons & Shuster, 2004; Bowles, van Beek, & Anderson, 2017).

### **Investments in Technology and Resources**

Real time data systems are getting better at coordinating between ambulances and hospitals; however; the gap, in technology, between urban areas is still an obstacle. In areas where infrastructure is lacking compared to centres,

delays and inefficiencies are more common. To bridge this gap focused investments, in telehealth infrastructure and resources are needed for regions. (Bowles, van Beek, & Anderson, 2017).

## Recommendations

### **Enhance employee retention and up-skilling**

In order to assist paramedics working in underprivileged regions effectively a wider ranging tuition refund plan could be put into place with added perks, like housing aid and childcare assistance. An objective of these measures is to ease pressures and entice professionals to these crucial areas. Also, a crucial establishment of health support programs, for paramedics to ensure their overall wellbeing can be improved. Introducing strategies to prevent burnout such as shortening shifts and organizing debriefings may give paramedics team the chance to unpack their experiences and safeguard their health. Working together can boost the morale of teams. Improve their job satisfaction and retention rates significantly.

### **Broaden the Models of Preventive and Community-Driven Care**

Expanding mobile healthcare units and boosting support, for these services in underserved regions is crucial for enhancing healthcare accessibility beyond urban areas. In addition, taking steps to train paramedics in aiding with disease management and health education can play a role, in reducing avoidable emergency room visits triggered by worsening chronic conditions. Collaborating with pharmacies and clinics to create integrated healthcare teams that include paramedics can further enhance preventive care delivery. These efforts not only strengthen community healthcare systems but also ensure that individuals receive timely and comprehensive care closer to home.

### **Advance Interoperability and Technology Adoption**

In order to improve the coordination and delivery of healthcare services, in Nova Scotia for paramedics team it is crucial to ensure that paramedics and medical facilities consistently utilize a real-time data system efficiently together. This technological system can enhance communication channels among healthcare providers which can lead to patient care and reduced response times. Furthermore, directing resources towards enhancing telehealth infrastructure in rural regions plays a vital role in closing the healthcare accessibility gap. By focusing on these

advancements in technology healthcare services can become more effective, fair and accessible, to all community members.

## Conclusion

The Nova Scotia Paramedic Professional Association (NSPPA) has made significant strides in addressing the challenges faced by paramedics and enhancing the overall healthcare system. By focusing on advocacy, professional development, and technological advancements, the association has played a vital role in supporting the paramedic profession. However, the findings highlight critical areas requiring immediate attention, including ambulance response times, emergency department congestion, workforce shortages, and limited access to preventive care in rural areas.

The analysis underscores the importance of improving ambulance response mechanisms, enhancing employee retention through comprehensive support programs, and expanding preventive and community-driven care models. Investments in interoperability and technological tools such as real-time data systems and virtual care platforms can further strengthen healthcare delivery in Nova Scotia.

Adopting best practices from other provinces, and addressing the pressing issues of burnout and resource allocation. By implementing the recommendations outlined in this report, the NSPPA has the potential to transform paramedic services, ensuring that Nova Scotia's healthcare system is responsive, resilient, and inclusive of all communities.

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