

Summer 2017 - Issue 2 | Volume 14

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'Let's Go Canadian' 106 Page Special Edition

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Association des paramédics du Canada

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Prehospital Capnography
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– *Part 1 of a 3 part study*

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across Africa
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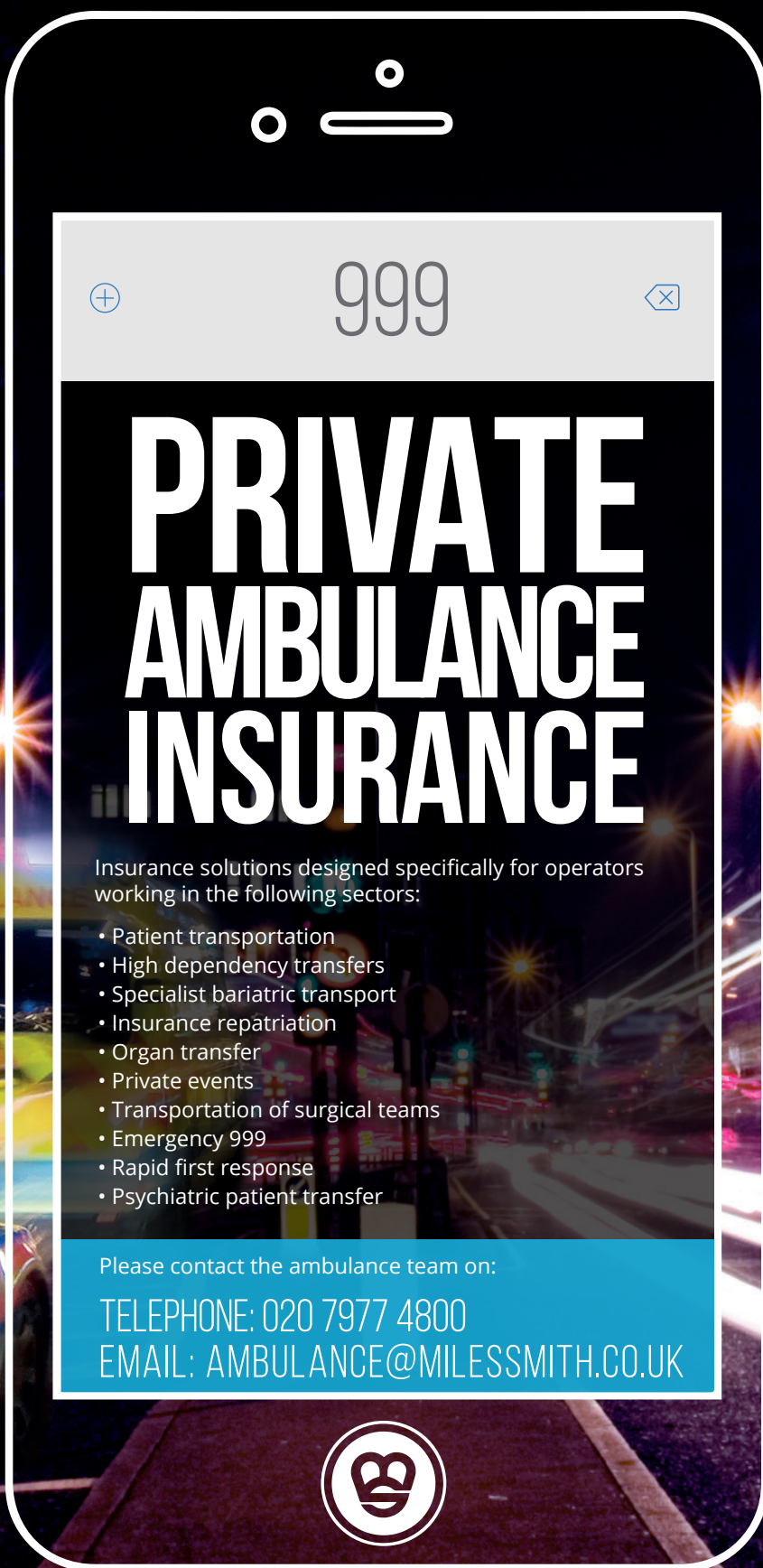
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Declan Heneghan
Editor, Ambulance Today



Come and meet the amazing 'Can-Do' paramedic community

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We met some inspirational ambulance people when *Ambulance Today* travelled across Canada recently to research for this 'Let's Go Canadian' special edition. Our hectic schedule took us from Halifax in the East to Calgary in the West and along the way we met some outstanding ambulance people and numerous warm and friendly non-ambulance folk.

When you visit Canada for the first time one of the first things that strikes you is its geography and its sheer size. Its population of just 39M people inhabit 1.3M square miles of land that take in four different time zones. Linguistically its provinces and territories boast either English or French as their first languages but the type of French spoken in different provinces can vary too; and then of course there are its 'First Nation' communities who also have their own languages, much older than either French or English. Its climate is varied and in many regions the temperature plunges to minus 30 in winter and then climbs to well over 30 in summer. It's a vast country comprised of many cultures and in every province we visited the grandeur of the often-snowy landscape was only exceeded by the warmth of its people.

Then there's the history. Although this year Canada is technically celebrating its 150th anniversary, of course as a country it is much, much older. This anniversary, celebrated as 'Canada Day' actually only marks the time in 1867 when three different colonies were united through an Act of Constitution into one country. But, as we found out on our travels, many Canadians from the English speaking residents of Ontario in the East, through to the French speaking residents of Quebec still cling fondly to their own region's cultural identity and engage in constant friendly banter with each other, asserting the cultural supremacy of their own neck-of-the-woods over all the others.

Which is perhaps why the development of Canada's ambulance system has, quite surprisingly, only really begun to take shape in recent decades. In this edition there are two wonderful articles shedding light on Canada's amazing history. One by Ambulance Today's own Les Pringle, explaining why this great country is celebrating only its 150th anniversary, and another by Ottawa Paramedic and Historian, Lynea Finn, outlining the development of ambulance care across this vast country. Both make for a fascinating read which I don't want to spoil for you; but, suffice it to say that Lynea's article will help you understand just why each province and territory has developed its ambulance care in so many different ways, each adopting different models of healthcare which have grown to meet the unique needs of their inhabitants. In some provinces the average level of prehospital clinical expertise available to the patient is still only that of the part-time volunteer, while in others the skills of Advanced and Critical Care Paramedics are among the best in the world. To call ambulance care in

Canada a 'post-code lottery' is not unreasonable or unfair, because it is.

Even while we were there in April, Nova Scotia became just the fourth province to launch its own college of paramedics. As we discovered, the establishment of a new college is something which generates considerable pride and excitement among a province's paramedic community because it is rightly seen as the first step towards full self-regulation and the key to rapidly enhancing standards of training and clinical skills for their paramedics.

We left Canada with a great respect and affection for its paramedics and its people in general. Perhaps the most notable characteristic we observed in Canadians – both paramedics and the general population – was their default behavioural mode - which is to be polite, friendly and non-confrontational. Never in our travels have we been met with so many smiles, kind gestures and generally courteous behaviour. And this cultural mind-set was abundantly visible at all the paramedic services we met during our travels. Every paramedic and every other ambulance worker we encountered exuded warmth, friendliness and a high degree of pride in their profession which shone through in every conversation. Their collective focus was invariably on what improvements were being made within their service, what investments were being pumped into clinical innovation and higher levels of training and the sheer honour they felt at the remarkable fact that they earned their crust serving their local community as a paramedic.

Which is why I urge you to follow in Ambulance Today's footsteps and visit the wonderful 'Can-Do' paramedic community of Canada for yourself.

From 18-19th August Quebec City will be hosting PACE – the Paramedicine Across Canada Expo which is organised by our good friends the Paramedic Association of Canada (PAC). It's your chance to learn more about this impressive and dedicated paramedic community and to find out for yourself why Canada is one of the most rapidly improving ambulance communities on the planet. Quebec City is a wonderfully historic and culturally-rich place - and no, you don't need to be a fluent French-speaker to hail a cab or order a beer! But quite apart from the many attractions of beautiful Quebec City in the summer-time, the real reason I urge you to head out to Quebec is that if we can learn just one thing from our warm, friendly and dedicated paramedic friends in Canada it is that if we really want to improve ambulance care globally we have to have the passion and the humility to reach out to each other and be willing to learn from each other.

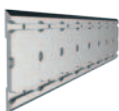
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CONTENTS

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INSIDE YOUR 'LET'S GO CANADIAN' EDITION:



**P7. A special foreword from
The Honourable Jane Philpott, P.C., M.P.
Canadian Minister of Health**



P11. Canada 150

Is Canada really only 150 years old? Les Pringle explains the history of Canada's confederation.

P13. Community paramedicine in Toronto

Adam Thurston and Mike Roffey of Toronto Paramedic Services on the development of their service's wider community paramedicine program.

**P25. The Introduction of a Novel Supraglottic Airway in
Renfrew County**

Jeff Dodge on the introduction of a new gel-based SGA across Canada.

P30. We all need a shoulder to lean on

Les Pringle met with Ottawa Paramedic Service to discuss their innovative peer support program.

P33. Carbon Dioxide - It's not just a gas

Martin Betzer of Falck Denmark explains how end tidal carbon dioxide monitoring can guide you in your clinical judgement of the critically ill.

P39. The future of paramedic training with CTAQ

Ambulance Today's Les Pringle and CTAQ Clinical Director, Eric Hamel take you through the Quebec ambulance provider's latest innovations in paramedic training.

P43. Canada invites the world to PACE 2017

Come to Quebec City on August 18th & 19th for PACE2017 – a special message from Chief Administrative Office of PAC, Dwayne Forsman.

P45. From Pioneers to Paramedics

Ottawa Paramedic Service's official historian, Lynea Finn explains how each of Canada's provinces developed their individual paramedic systems.

**P49. LAS – Building a fleet that's fit for a very
challenging future**

London Ambulance Service's Deputy Director of Fleet and Logistics, Justin Wand, gives an overview of the operational areas LAS are addressing to reduce waste and costs and improve performance.

P53. Innovative Pilot Project underway in Saskatchewan

Saskatchewan has invested in the implementation of an electronic health record (eHR) that captures patient information at point-of-care.

**P54. Building a better communications centre through
better staff communications**

The story of how Montreal's Urgences-sante updated their communications centre.

P57. From the Africa Desk of Ambulance Today

Ambulance Today introduces our new segment 'From the Africa Desk' by our Africa Editor, Michael Emmerich.

P61. Self-Regulation in Nova Scotia

Dr Andrew Travers on how Nova Scotia has achieved full paramedic self-regulation.

P64. Taking care to the patient

The Scottish Ambulance Service is continuing its drive towards fully delivering its 2020 strategy.

P68. The Three P's of Self-regulation

Health legislation bringing all self-regulating professions together in Alberta now includes the Alberta College of Paramedics

P73. Community Paramedicine in Edmonton

How Rob Sharman and his team at AHS are giving their community the best possible care.

P76. A glimpse of the future

Introducing Canada's first Stroke Ambulance.

P79. Paramedicine in British Columbia

A profile of current research and operational initiatives by Dr Ron Bowles.

P83. An introduction to MDA Israel

Ambulance Today welcomes Israel's MDA ambulance service to our family

Also inside:

UNISON Update

A leap of faith

Letter from Amsterdam

Canada can do better on patient hand-over!

IAEMSC

Leadership and self-actualisation

IAED

Across the provinces

GVK EMRI

India's 181 Women Helpline

TASC news

Paramedics get in the swim for ambulance charity

Out & About

The latest EMS news from around the world

**Products & Suppliers
News**

The latest in new products, services & technology

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A warm welcome to Canada's 'Can-Do' Paramedic Services



It is with great pleasure that I welcome you to Ambulance Today's "Let's Go Canadian" special edition. I am delighted to introduce you to this showcase of the very best of our Canadian emergency medical services.

I have seen first-hand the invaluable contribution paramedics make to Canada's health care system. Paramedics are critical partners in patient care, working with other health care providers to save lives every hour, every day.

This year is proving to be a momentous one for Canadian health care and developments in paramedicine. For example, paramedic self-regulation continues to spread across the country. On April 1, 2017, the province of Nova Scotia launched its own College of Paramedics. In August, Canada will also host Paramedicine Across Canada Expo 2017. Led by the Paramedic Association of Canada, PACE 2017 will provide a wonderful opportunity to showcase the best of Canada's paramedic system, and will help build partnerships with front-line paramedics from around the globe.

Paramedics are at the forefront of innovation in the healthcare system. For example, the Government of Canada is pleased to work with the provinces and territories and health professionals to support community paramedicine programs. In addition, paramedics are pioneering new technologies to benefit patients – in Alberta, for example, Edmonton's new Stroke Ambulance is a great example of how we can use technology to improve urgent care.

But as devoted paramedics have pointed out to me, no algorithm or new technology can replace that most vital of health care competencies: the ability to give kind and caring human contact to our patients.

Every day, paramedics strive to ensure that those who are most vulnerable in our society are getting the care that they need, in ways that are most accessible to them. For example, the Government of Canada recognizes the dedication and heroic efforts of paramedics and other first responders as we continue to combat the ongoing opioid crisis in this country.

Paramedics are often a person's first point of contact with our health care system. The compassionate and caring approach taken by paramedics and other front-line health workers and volunteers is something that I value enormously. That is why I see PACE 2017 as a terrific opportunity to use the Canadian approach, which is to reach out to share with and to learn from healthcare partners around the world. This will help to make our Canadian paramedic system even stronger than it already is.

**The Honourable Jane Philpott, P.C., M.P.
Minister of Health**

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Welcome to your special 'Let's go Canadian Edition' of Ambulance Today

Welcome from PAC President Chris Hood



I am pleased and honoured to introduce the Summer 2017 Edition of Ambulance Today, a special edition of this international magazine with the front cover headline, "Canada: Take a look at the Can-Do Paramedic Community."

As many are aware, the Paramedic Association of Canada at the request of the Board of Directors has begun a bi-annual educational conference called "Paramedics Across Canada Expo" (PACE). While the inaugural conference, held in 2015 in Edmonton Alberta was a huge success with approximately 1,100 paramedics and exhibitors from across Canada, there was a limited amount of international participation. The organizers saw this as an issue and responded with some changes to the strategic direction of the Paramedic Association of Canada to focus on sharing information with and from the international community; enter Declan Heneghan, Joe Smith and the team of Ambulance Today.

When members of PAC met with Declan and his team from the UK in 2016 they did so with an idea to utilize the vast readership of Ambulance Today to promote the PAC brand and more specifically to advertise the 2017 edition of the PACE conference. What has happened instead is the development of a relationship and friendship that stretches far beyond the original goals.

In April of 2017 a team from Ambulance Today visited a number of cities and Paramedic Systems in Canada. This visit, almost literally from coast to coast of the country, was designed for the team to learn about a number of aspects of the Canadian system. This included a look at self-regulation

of the paramedic profession, community paramedic projects, ambulance manufacturers, specialty programs in paramedicine and a whole lot of hospitality thrown in.

What you will find in this edition of the magazine is a small bit of some of the best that the Canadian Paramedic System has to offer. This edition in no way outlines all of the good things that are happening "North of the 49th". It is meant to cause enough interest in the readers that they seek additional information in a number of different ways, including a visit to our great country and joining the Paramedic Association of Canada in August in Quebec City at the Paramedicine Across Canada Expo.

The Paramedic Association is very proud of our involvement with Declan and his team at Ambulance Today. We believe sincerely that we have benefited from the good reputation of the team by being introduced to many different international colleagues and sharing with and from these groups. We hope you will enjoy this edition and look forward to seeing you all in Quebec City.

Sincerely,

Chris Hood

President, Paramedic Association of Canada





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The governance and strategic direction of the Association is driven by a volunteer Board of Directors. These volunteers are comprised of both paramedics and public laypeople. There are processes in place to ensure that geographical representation is maintained during the election process.

We are also unique in that we fulfill an advocacy role for the profession, pushing for best practices, new and emerging medical trends as well as promoting the profession.



Paramedic Association of New Brunswick

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Is it really only Canada's 150th Anniversary?

By Les Pringle



While travelling across Canada to meet the cream of its paramedic services, Ambulance Today's roving reporter extraordinaire Les Pringle realized that we had arrived in the country at a time when every territory, province, town and city was proudly proclaiming their pride at their nation's 150th anniversary. As a keen history buff and not being the kind of individual satisfied with unsolved mysteries or loose-ends, Les wondered if any other non-Canadians, apart from himself, might be a trifle confused at the notion that this great and influential country is this year only celebrating its 150th anniversary. After a little careful research Les was able to solve the mystery for us all, so read on and all will become clear...

Within moments of making my way through arrivals at Toronto Pearson International Airport I became weighed down by a nagging sense of guilt. **'Welcome to Toronto, we've been expecting you,'** the signs read. Really? They'd been expecting me? I had no idea. If I had known I certainly wouldn't have kept them waiting for six decades which, all things considered, is a fair-sized chunk of the 150 years since the birth of the Canadian Confederation in 1867.

Yes, that's right; Canada as we know it is a very young country. Events to celebrate this landmark occasion (as the other airport posters told me) have been in the planning for some time and are now well under way across the nation this summer. Even Prince Charles got in on the act by attending the national celebration in Ottawa on 1 July recently.

But all this begs the question; how come, I hear you non-Canadians ask, is Canada only one hundred and fifty years old? Surely it's been around a bit longer than that? Well, yes it has. It's complex, so please forgive me if I skip the first fifteen thousand years or so since the land-bridge with the rest of the world disappeared and begin with European settlers vying for land and influence to the consternation of Canada's indigenous peoples.

In 1583, Sir Humphrey Gilbert founded St. John's, Newfoundland, considered as the first North American English colony even though it was little more than a fishing station. Hot on Humphrey's heels came, Samuel de Champlain - a French explorer

who founded Port Royal in 1603 and Quebec soon after. This turn of events, (and you don't need to be a student of Anglo-French relations to understand this), was a recipe for trouble. What followed over the next hundred or so years involved wars, expulsions, land-grabs, treachery, and border changes. And that wasn't just between the colonists themselves but also involved the indigenous 'First Nation' tribes.

Major conflict between Great Britain and France broke out in 1754-1756 when the British attacked disputed French positions in North America and seized hundreds of French merchant ships. This was one of the sparks that led to the world-changing 'Seven Year War' (Described by many as 'the real First World War') which was fought relentlessly between European powers around the globe. The Anglo-Prussian coalition prevailed, destroying France's supremacy and contributing towards Britain's rise to predominant world power. Over the course of the war, Great Britain gained enormous areas of land and influence around the world at the expense of the French, not least in Canada where the fighting had been sustained and ruthless.

With the armed Anglo-French stand-off more or less over in Canada, treaties followed in abundance as the rest of the world was carved up. To accommodate English-speaking Loyalists in Quebec, the Constitutional Act of 1791 divided the province into French-speaking Lower Canada, (later Quebec) and English-speaking



Upper Canada (later Ontario), granting each its own elected legislative assembly.

1841 saw the Act of Union which merged the Canadas into the Province of Canada. Then, in 1867, (what these celebrations are all about) the 'Constitution Act' was passed which united the three separate colonies of Canada, Nova Scotia and New Brunswick into a single Dominion within The British Empire (With more provinces to join later).

From then on 'Dominion Day' was celebrated on 1st July. Some may see this event as just an important milestone in Canada's road to autonomy until the 'Canada Act' of 1982 truly established Canada's complete sovereignty as an independent country with Queen Elizabeth II as Monarch. Canada had established complete sovereignty as an independent country, with the Queen's role as monarch of Canada separate from her role as the British monarch or the monarch of any of the other Commonwealth realm.

It was at this time, 1982, that 'Dominion Day' was changed to 'Canada Day'. So, for any Canadians who have seen the need to read this far...I hope you just had a Happy Canada Day!



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¹Acosta JA, et al. Journal of the American College of Surgeons. 1998;186(5):528-533.



“Community paramedicine is all about being in the right place at the right time... and then sending the patient to the right destination!”

One of the main challenges facing highly-developed ambulance services globally is making the transition from being traditional transport and urgent health care providers to also becoming primary care providers who can support the patient in the home setting by additionally offering a diverse portfolio of post-discharge and after-care services. These can include medications management, mental health referral and home-based support in the treatment of patients suffering with long-term chronic health conditions.

Ambulance Today editor, Dec Heneghan, met with Commander Adam Thurston and Superintendent Mike Roffey, two key members of the TPS team responsible for the development of their wider community paramedicine program, to find out more about the wide range of initiatives TPS has been introducing and what impact they've had on the reduction of avoidable hospital transports and admissions across the Greater Toronto area.

With a population of 2.8 million, Toronto is the fourth largest city in North America, while the Greater Toronto area has a total population of 6.4 million residents; but further demand is placed on its main EMS provider, Toronto Paramedic Services (TPS), by the fact that the Ontario Province also sees 25 million tourists a year pass through. Handling such a high-level of constant EMS demand while also designing and introducing a comprehensive package of community paramedicine for its citizens has been no easy task but Toronto Paramedic Services has achieved this.

Mike Roffey explained what motivated Toronto Paramedic Services (TPS) to allocate such great resources (\$253,000CAD in 2016 in provincial funding) to focus on the needs of those members of the community who, while often presenting themselves to the healthcare system, often seem to be repeatedly overlooked. “Community paramedicine is a combination of outreach and partnership with community service agencies. We've been developing the community paramedicine program here since 1999 and now we've reached the stage where, through improved technology



Toronto's CN Tower

and multi-agency partnerships, we have the ability to identify those members of our community who are most vulnerable and have unique and individual healthcare needs that are best met by bringing the care to them – either in their homes or, in some cases, actually on the street. It's all about

recognizing that, so long as we have the appropriate and clinically-trained personnel and resources available, we should, wherever we can, take those resources directly to individuals who either don't require care in the Emergency department or the hospital-setting or who may be suffering from chronic healthcare conditions that are best treated at home.”

The geography and the social landscape of Greater Toronto alone make designing and delivering a comprehensive community paramedicine strategy quite a challenge. As Adam explained: “It's a complex healthcare landscape here -there are 56 different EMS services across Ontario – some are run by municipalities and six of them by First Nation Communities - and, inevitably, the commissioning of health services also comes from a wide range of sources. The fact that our First Nation communities have their own healthcare provision is really important to us as it means that their populations are receiving health and social care that's culturally-attuned to their own particular needs.”

The skills set of TPS's front-line clinicians is also vital to ensuring they can deliver the

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right kind of care to patients. To achieve this they have paramedics who are trained to primary care (PCP), advanced care (ACP) and critical care (CCU). Currently their PCP/ACP paramedics can perform detailed physical and environmental assessments, provide onsite diagnostics – SpO₂, I2/I5 Lead ECG, measure blood glucose, and vital signs. Community Paramedics who have an expanded scope of practice could provide point-of-care blood analysis, phlebotomy, IV fluid therapy and medications. They could also facilitate prescription orders – a really useful skill in terms of reducing the need for the patient to make unnecessary visits to either their doctor or the hospital.

There are many community programs now run by TPS. Their 'Cardiac Safe City' program offers education on First Aid, CPR and automatic external defibrillation to schools, businesses and community organisations. They are responsible for implementing and maintaining defibrillators in all city-managed arenas and pools.

Using patient data in such a practical way is the key to TPS's 'ICE sheet' ('In Case of Emergency') program. Adam explains: "This is a community program in which patients and clients are educated and shown how to keep their unique medical care information updated on a specialized TPS ICE Sheet form so that when we arrive on-scene we're aware of their unique health problems and care needs and we can quickly determine the best hospital for immediate care."

Another program managed by TPS's Community Paramedic unit is the 'Complex Care Case' program that focuses on identifying patients (typically pediatrics) with especially complicated and complex healthcare needs who may require



Independence at Home (cp@home)

Assessments

- 285 - identified in Q3
- 106 - visits completed
- 74 - primary visit
 - 24 - ≥85 yrs
 - 30 - 65 – 84 yrs
 - 20 - ≤64 yrs
- 30 - lived alone
- 8 - not seen primary care in last 6 months
- 2 - had no primary care
- 16 - 4 or high cost chronic conditions
- 51 - taking 5+ medications
- 17 - Clinical Frailty Score 7-9
- 57 - Scene issues identified
- 18 - Social issues identified
- 53 - Medical dependencies

Referrals/Connections

- 155 – Homebound flu shots
- 7 - Coordinated Care Planning
- 2 - Dietitian
- 2 - MD/NP (Primary Care)
- 4 - Mental Health
- 5 - OT/PT
- 0 - Pharmacist
- 2 - PSW/RSW
- 13 - CCAC
- 4 - Community Support Services

Assessments, referrals/connections

treatments outside of the typical paramedic scope or where there may be only one specialized physician/hospital in the City who can treat these complex medical conditions.

Adam explains, "Our partnership with our 'Community Care Access Centres' (CCAC) for our CREMS program and Toronto's isolated homebound senior population sees Community Paramedics go out to give flu inoculations to those who are isolated and house-confined. As you can imagine this has a positive impact on reducing hospital admissions; flu can lead to spikes of hospital admissions during the winter months and the best way to avoid this is simply by reaching out to vulnerable individuals, who are house-confined, and safeguarding them before they're affected."

Mike agrees. "Another example of this is our 'CREMS' or 'Community Referrals by EMS' program. It's all about making sure that our EMS crews are making the right kind of assessment of patient's needs and then referring them directly onto the most appropriate agency to meet their individual needs. You've got to remember that, not all the patients we get called to have urgent care medical needs, so this is especially important. It's about identifying the individual

patient's specific problems, physical or mental-health-related, and ensuring they get connected to the right resources. Where a patient is identified but is not able to be referred for a variety of reasons, these patients will then be followed up by our Independence at Home Team."



TPS's 'Independence at Home' program is a specialized Community Paramedic home visiting program for non-urgent clients (previous 911 patients). With an evidence-based approach, an algorithm was built to identify vulnerable patients in the community who are at risk of repeated medical emergencies. TPS uses dispatch data to identify these patients who are at risk of frequently calling 911 and requiring transport to ED regardless of their age or location. The statistical model computes the call patterns of the 911 users in the past year to produce a monthly report which the



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Home Visit Client Assessment

The form contains the following sections to complete on the client:

- Basic administration
- Social/Economic/Housing Profile
- Existing Community Supports
- Medical/Health Profile
- Clinical Findings
 - Medical Assessment
 - Pitting Edema
 - COPD Assessment Score
 - Mobility Assessment
 - Clinical Frailty Scale
 - Dementia Status
 - Cognitive Assessment
 - Sensory Impairments
 - ED Screener



Home Visit Client assessment form

Community Paramedics will use to reach out to the vulnerable clients.

The aim is to help these vulnerable individuals live at home independently. First a Community Paramedic visits the patient to identify their unique healthcare needs, often involving a combination of socioeconomic problems, mobility concerns, environmental issues, and medical complications. Based on the assessment the patient is then connected or referred to Community Service Agencies suitable to help improve their health and social care in their home to keep them safeguarded. "Our home visit is rigorous with detailed assessment tools to analyze mobility, clinical

frailty, sensory impairments, dementia/cognitive impairment, COPD, diabetes, heart failure and clients who are more complex and require a geriatrician or other specialist follow-up," explains Mike. "This process of identifying the clients who do not have the appropriate resources in place and connecting them to the appropriate health care practitioners and community resources, eventually means there is a less reliance on using 911 and the emergency department as a primary means of receiving medical care. This can help to reduce both the number of 911 calls made by these patients, and the number of their visits to the hospital. It also means that our ambulance crews' time can be used more effectively overall."

The national standard for paramedic training is led by the Paramedic Association of Canada (PAC), who have published the paramedic 'National Occupation Competency Profile.' While most paramedic training is performed in a Community College, Toronto Paramedic Services does have its own Canadian Medical Association accredited ACP training program.



Adam concludes by stressing: "What we're all about here at TPS is giving the right care to the right person at the right time and sending them to the right part of the healthcare chain. The key is to harness our resources and, even as we begin to treat each patient, ask: 'Is there a more appropriate alternative destination?'"



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NWAS Response to the Manchester Arena Bombing



The following is an account by NWAS medical director, David Ratcliffe which details the response the service made to the terrorist attack on Monday 22 May 2017.

By Dr David Ratcliffe

During the daytime it was very busy for NWAS and all NHS Trusts across the region. I was in Salford Royal Emergency Department all day and knew things were still hectic when I left to go home.

When the phone buzzed and I was made aware of the situation, I realised what the NHS system would have to do and the immediate concern in my mind was about capacity. Yet, once I was in the area command centre, having knowledge of the prior planning that my colleagues and the trauma network had put into place, plus having the right clinicians with the right leadership at scene, I was reassured that capacity was available for initial patients.

We were notified at 10.32pm of the explosion at the Manchester Arena and, soon after, declared a major incident. By this time we had already begun to respond.

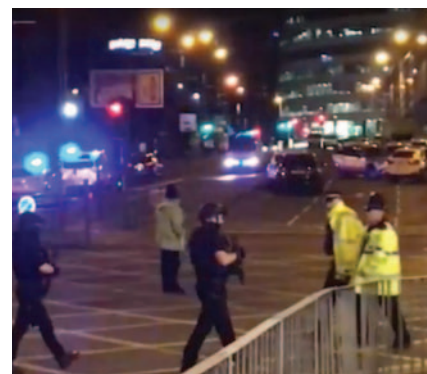


Our Emergency Operations Centre staff coordinated the large scale response and remained calm and professional throughout whilst ensuring that the rest of the 'usual' emergency and urgent care system did not become compromised. We sent 60 vehicles to the arena along with highly specialised crews, senior clinicians, doctors and Hazardous Area Response Teams who were able to move patients to a safe area, stabilise them at the scene and ensure they received the right treatment before they were taken to hospital.

Our plans worked and our patients were cared for appropriately and quickly. We took 59 patients to emergency departments in the Greater Manchester area. They were transported to hospital and once arrived, received highly specialised care with rapid access to theatres as necessary.

The local team leadership demonstrated at the scene, with staff working in incredibly difficult circumstances, was fantastic. All staff on-scene showed teamwork, co-operation, compassion and dignity to achieve life-saving, immediate treatment and evacuation of our patients. I was listening throughout the night from the control centre and we had a live feed throughout speaking to the people on the ground as necessary. Everything was calm, it was controlled and our patients were cared for in a way that demonstrated the clear preparation we have undertaken for an incident like this for many years across the NHS. I would like to thank all of my colleagues for what they did that night.

We received tremendous support from West Midlands, East Midlands, Yorkshire and



Welsh NHS Ambulance services who rallied to support our staff - it was great to see the services working seamlessly together. Colleagues in all areas of the service worked flexibly and we had so many staff who were off-duty volunteering to help to ensure we could continue responding in our communities. Those who continued with the usual care, who came from other areas, to ensure this continued should be very proud

Biography:

David Ratcliffe, NWAS Medical Director



After completing Medical School in Manchester, David spent time working in emergency medicine in Australia's Blue Mountains. He returned in 1996 and commenced work as a partner in a small Manchester practice in 1997.

Alongside GP work, David has maintained a clinical role in emergency medicine. For the last 17 years this has been in Salford. He became clinical lead for urgent care for Salford Primary Care Trust, and facilitated setting up the 'Salford out of hours' service and working closely with the then Greater Manchester Ambulance Service training the first cohort of emergency care practitioners.

His move to NWAS happened in 2008, where he worked initially as area medical director for Greater Manchester; then as deputy medical director from 2011 until moving to his current role in 2016.



David with Jon Rouse, Chief Officer of the Greater Manchester Health and Social Partnership

that their contribution was equally crucial to the overall effort.

We ensured that those staff involved in this tragedy in any way had, and continue to have, immediate access to help and support including; counsellor Drop-In centres and peer support via our Blue Light Champions and TRiM (trauma risk management) assessments, as we know the impact will be felt by different people at different times.

That week, we showed the world that we actually deliver the values of our organisation and the NHS. We truly worked



together for patients and we showed that everyone counts (both patients and staff). There is no doubt that our work saved lives that night as we were fully committed to providing the very best quality care for our patients who we treated, as we did our fellow colleagues, with compassion, respect and dignity.

We have shown we can be the best. This did not come from just performing well on the night, this came from a history of delivering these values, from a commitment to clinical leadership from planning and resilience preparation which our service does to the highest level. We were able to build on 'usual business' to deliver an exceptional response.

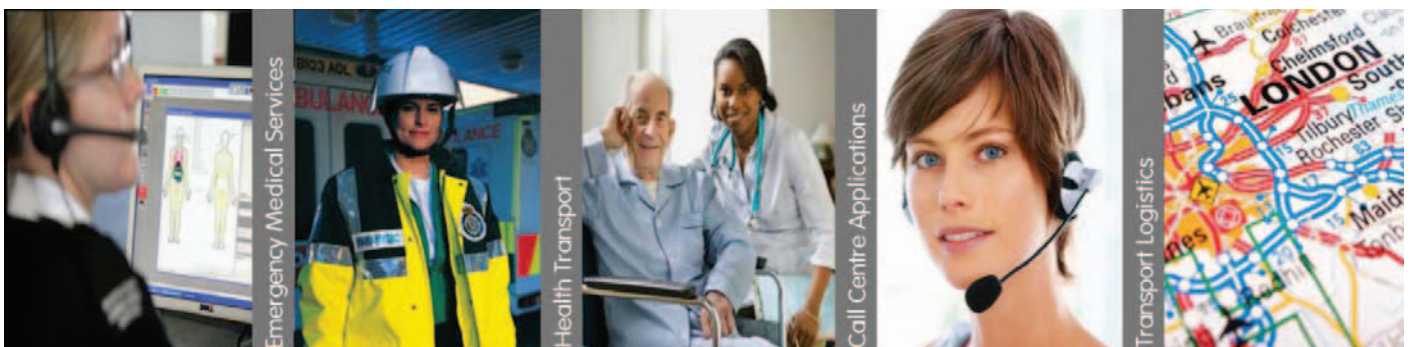
We have been inundated with messages and tokens of appreciation from the public. Our social media sites were awash with messages and good wishes and it is clear to see how much our response has touched the hearts of Manchester's population, the rest of the UK and the world.

We do of course send our sincere and heartfelt sympathies to the families of those people who lost their lives in this harrowing tragedy.

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On June 7th – 9th, 2017 the Paramedic Chiefs of Canada hosted their annual Leadership Summit in Halifax, Nova Scotia.

By Kelly Nash, PCC Executive Director

The Summit was an opportunity to gather Paramedic leaders in Canada and across the globe to share best practices, engage with industry stakeholders and learn from keynote and plenary addresses from experts in our profession. The Summit placed a heavy emphasis on the mental health of our first responder community. Delegates had the opportunity to participate in a mental health workshop, providing tangible outcomes to assist Paramedic leaders in their own services. Participants also had the chance to learn from a legal standpoint on mental health accommodation in the workplace.

Research in Paramedicine continues to be a critical component of the work we do. Summit delegates had the opportunity to view a variety of research abstracts and hear from administrators, researchers, front-line paramedics and key stakeholders who have dedicated their efforts to our profession.

Leadership and professional development is always prominent at our annual Summit. This year was no exception and we benefitted from hearing from subject matter experts on evidence-informed decision-making, and how education could impact Paramedic Services in Canada.

A key highlight of this year's Summit was the presentation of the PCC Awards of Excellence. Of the nominations received, the committee decided to give two awards this year.

The recipient of the first award for a Client Centered Initiative, went to the M.D. Ambulance Care Community Paramedic Program which has received calls for over 800 patients this last year and had a success rate of over 88% in keeping those patients in their own homes

while providing a level of care that would have previously seen them visit an Emergency Department.

In the creation of such a dynamic model, the M.D. Ambulance Care team has partnered with the Saskatoon Health Region and its 15 Long Term Care sites, as well as 7 private care homes for a total potential client base of over 1200 individuals.



Randy Mellow, PCC President with Kelly Nash, PCC Executive Director

The recipients of the award for the Client-Centered Initiative were Andrew Williamson and Angela Graham of M.D. Ambulance Care

The second award for Innovative Treatment or Technology went to Mike Plato, and George Gauvreau of Alberta Health Services for their Stroke Ambulance project which gives early rt-PA treatment (during transport) to patients who would otherwise encounter a delay in the administration of thrombolytic treatment for ischemic stroke due to prolonged transfer times from outlying areas to the University of Alberta in Edmonton, Alberta.

The Summit was a resounding success, and we look forward to seeing everyone in Edmonton, Alberta June 13th-15th, 2018.

We would like to thank all of you for assisting us in advancing and aligning Paramedic leadership in Canada.



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Garrett Emerson, CEO, London Ambulance Service NHS Trust

Since our Spring publication, when we reported on the terrorist attack on Westminster Bridge, London has again experienced a number of high profile major incidents that each required a unique response from one of the busiest ambulance services in the world. With terrorist attacks at London Bridge and Borough Market and then at Finsbury Park, closely followed by the blaze at Grenfell Tower, North Kensington, LAS have had to respond on a scale and frequency rarely experienced in peace-time by any Capital European ambulance service. Below is an account of how LAS handled each of these tragic events, yet again underlining the vital importance of our frontline NHS ambulance crews and control workers and their response to major incidents in demanding, dangerous and unpredictable times.

London Bridge Attack

Gary Edwards, 29, was one of the first Paramedics to arrive on scene at London Bridge on 3rd June 2017, in the aftermath of a terrorist attack that would injure 48 people and claim eight lives. A group of three men in a van had rammed a group of pedestrians on the bridge and had then got out on foot, using large knives to attack further victims. Gary was met with a flood of people "screaming for help." Gary saw multiple casualties lying in the road and "felt like a target" as he heard a volley of gun shots being fired yards from where he was standing. As he rushed to put on his body armour, police and members of the public ran up to him desperate for medical help on the south side of the bridge at about 10.10pm.

"Someone ran towards me to ask for help," he said. "As this happened, 10 gunshots went off behind me. It was very close - maybe 40 yards. I didn't know if it was the police firing the guns or the enemies, or a bit of both.

"As soon as I heard the gunshots I put my ballistic armour on. I didn't have time for my helmet. I was worried someone was going to run towards me with a knife. I felt quite exposed. I felt like a target."

Mr Edwards, who joined the London Ambulance Service in 2008, had been on solo duty in Southwark that evening in a Volvo fast-response car. He was attending a call several streets away with Met officers when the first details came through on the police radio.

"When I arrived there was a sea of blue lights in front of me from the police cars. There were multiple patients laying on the floor, and lots of people running towards.

"I couldn't get any further up because of the amount of people and police cars. There were 10 to 15 people laying all over the

pavement and in the middle of the road. I'm being approached by lots of members of the public and police officers screaming for help. At that part of the bridge I was the first paramedic on the scene."

Mr Edwards, a member of the LAS's specialist joint response unit, which works in tandem with the Met police in central London, began relaying information back to the LAS control room, declaring a major incident with multiple casualties.

More than 80 medics began to arrive. Another burst of about seven gunshots rang out.



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There was a third burst of gunfire as he made his way onto the bridge. LAS staff have been told by the coroner not to discuss details of the injuries they witnessed. Mr Edwards estimated he saw between 20 to 30 patients, though he treated only a few personally. The LAS took a total of 48 patients to five hospitals.

Mr Edwards, from Greenwich, was on scene until 4.30am but was back on duty at 6.30pm the following day. "I think staying at home wouldn't have been the right choice," he said.

"I think we [LAS] did very well and the patients were seen very quickly. I think lives were definitely saved. I can say that hand on heart. From the actions on the bridge - training people early and extracting people early - it made a huge difference."

Finsbury Park Attack

On 19th June 2017, a van was driven into a group of pedestrians near the Muslim Welfare House, 100 yards from Finsbury Park Mosque. At least eight people were injured a man who had earlier collapsed and was receiving first-aid died on the scene.

London Ambulance Service Deputy Director of Operations, Peter McKenna said:

"Our thoughts are with all of those affected by the incident in Finsbury Park and their friends and family.

"We took nine patients to three London hospitals and treated others at the scene for minor injuries.

"We were called to the incident at 12:15am (Monday 19 June) and sent over 60 of our medics including ambulance crews, advanced paramedics, specialist response teams and an advanced trauma team from London's Air Ambulance. The first of our medics arrived within 14 minutes of the first emergency call."

The driver of the van has been charged with terrorism-related murder and attempted murder. It is believed that many of the injured had come from night-time prayers as part of the celebration of Ramadan.

"We managed the incident in a dedicated special operations centre, and, as always, our priority was to assess patients and ensure that they were treated and taken to hospital as soon as possible.

"I'm very proud of all of our staff who responded to this incident alongside our other emergency services colleagues."

Grenfell Tower Fire

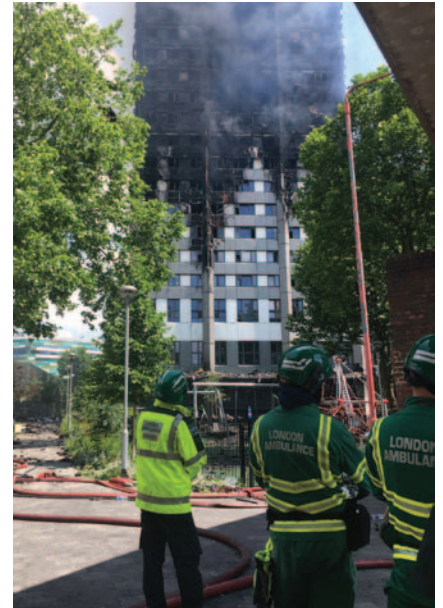
The Grenfell Tower fire started after midnight on 14 June 2017 in North Kensington, West London. The tower block fire has caused more than 70 injuries and at least 80 deaths although, because of the nature of the incident, a definitive figure is not expected to be reached till 2018. The fire started as a result of a faulty refrigerator in a fourth-floor flat and is believed to have been accelerated by the tower block's exterior cladding.

London Ambulance Service Director of Operations Paul Woodrow said: "Following the fire at Grenfell Tower, West London, we treated 68 patients and took them to six hospitals across London, where 18 people are currently in critical care. Our thoughts are with everyone affected by this incident and their friends and families.

"Over 100 of our clinicians have worked extremely hard in difficult circumstances to care for those who were injured. The fire has been a protracted and large-scale incident over many hours."

The fire in the 24-storey building burnt for 60 hours before being extinguished. Many residents in the local area were temporarily displaced for fear that the tower could collapse. Patients were taken to the following hospitals: St Mary's, King's College, Chelsea and Westminster, the Royal Free, St Thomas' and Charing Cross. A further 10 patients made their own way to hospital, bringing the total number of people treated to at least 78.

"We initially sent ambulance crews, advanced paramedics, advanced trauma teams from London's Air Ambulance, as well as our hazardous area response teams



who carry specialist equipment including breathing apparatus. We treated patients for a range of injuries, as well as for smoke inhalation.

"I am incredibly proud and grateful for the work of our staff and our emergency service colleagues and partner agencies."

**Garrett Emmerson,
Chief Executive of
London Ambulance
Service, said:**



"Our ambulance crews and control room staff have responded to five large-scale incidents in London over the past seven months, with three of these in June alone, and each time the commitment, dedication and professionalism of our teams has been amazing.

"From the Croydon tram crash and attack at Westminster to more recently the London Bridge attack, Grenfell Tower fire and Finsbury Park attack, more than a thousand of our staff have been involved in the response to at least one of these incidents. This is not just frontline clinical staff but also people in our control rooms managing very difficult calls and a range of support teams working behind the scenes to make it all possible.

"Responding to these tragic incidents inevitably affects different people in different ways, and we are now turning our focus to the well-being of individual staff members and our organisation as a whole."

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The Introduction of a Novel (to Canada) Supraglottic Airway designed for Prehospital Care - A Case Study in International Collaboration

By Jeff Dodge B.Sc. ACP

County of Renfrew Paramedic Service, Canada

In November of 2015, I attended a Paramedic Competition and Conference in Antalya, Turkey. On competition day, all Paramedic Teams were in a lock-up area for quite some time so naturally everyone's kit came out and a large adult version of "show and tell" quickly developed. In playing this game with Paramedics from the South East Coast Ambulance Service (SECamb) in the UK and the German team from Bavaria, I was introduced to what to me was an intriguing non-inflating supraglottic airway (SGA) kit, the i-gel O₂ Resus Pack®.

What was unique about this SGA was not only that it was non-inflating, but that it used a gel-like substance to produce a seal and had a number of appealing built-in features, like a gastric channel for suctioning or nasogastric tube insertion, an integrated bite-block and a supplemental O₂ port. The compact package also had an included support strap to secure the airway, a packet of lube and a nasogastric tube. No more trying to tape the airway in place! The paramedics that I spoke to were very enthusiastic about this SGA, claiming that it could be deployed faster and provided a more reliable seal than the inflating SGAs that they had previously used. I work for a rural paramedic service with large distances between bases meaning that trained on scene personnel frequently consists of just the two initial paramedics. Any backup crew often arrives long after airway issues have been dealt with. Any SGA that could deliver "faster-better" airway management would reap benefits in time that could be better spent on other aspects of resuscitation.

When I was about to leave Antalya, the SECamb medics presented me with their entire i-gel O₂ inventory from their competition kit! Clutching my prize like a Faberge egg, I headed back to Canada determined to explore this newfound tool further:

The manufacturer, Intersurgical Ltd. was contacted and confirmed that the SGA was available and approved for use in Canada.

While it had been deployed in close to 1000 sites in the USA, according to Intersurgical, as of early 2016, no Canadian Paramedic Service had deployed the i-gel O₂ although several were looking at it. By April 2016, the County of Renfrew Paramedic Service, had purchased a number of Intersurgical's i-gel O₂ Resus Pack supraglottic airways in adult sizes and began to deploy them throughout the fleet for a 10 month trial program.

Environment:

Renfrew County Ontario stretches from the outskirts of Canada's capital, the City of Ottawa, in the east and along the shores of the Ottawa River to the Northern tip of Algonquin Park's wilderness in the west. The County encompasses 17 municipalities and has an area of 7,645 sq. kms. Weather conditions vary widely from in excess of 30 degrees Celsius in the summer to -30 in the winter. Paramedic response is dispatched from 7 bases spread across the County, with 10 ambulances staffed during the day and 7 at night. Up to 5 Community Paramedics are also available during the day to provide first-response and Advanced Life Support backup if required. In 2016, the Paramedic Service responded to more than 25,000 requests for emergency medical assistance.

The County of Renfrew Paramedic Service has long taken pride in aggressively pursuing new and innovative equipment and clinical practices. Renfrew was one of the first Services to explore Community Paramedicine and now we have the



largest Community Paramedic program in the country. Our drone program has been in place for a number of years and we are heavily involved with government officials and partners in the first response community in developing regulations for drone use in a variety of situations. As with most publicly funded operations, Paramedic Services, especially rural operations are not exactly flush with surplus funds. In Renfrew, our starting point is to do "everything with nothing". This lean-and-mean mentality is the perfect environment for paramedic-lead innovation.

Biography:

Jeff Dodge B.Sc. ACP



After more than two decades in high technology, Jeff joined the Paramedic ranks in 2008. He is an Advanced Care Paramedic for the County of Renfrew and a Clinical Instructor in the Primary and Advanced Care Paramedic programs of Algonquin College in Ottawa. Marrying his first and second careers, he is interested in examining new technologies and clinical pathways to advance Paramedic care. Jeff holds a B.Sc. in Computer Science from Memorial University of Newfoundland and both Primary and Advanced Care Paramedic Diplomas from Algonquin College.



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Within weeks of arriving back from Turkey and after a week of having our dining room table filled with airways and carry bags, we were ready to start trialling our newly discovered airways.

Method:

Adult sized (#s: 3,4,5) i-gel O₂ SGAs were distributed to front-line vehicles for a ten-month period designed to capture both hot and cold weather conditions. The current SGA (King LTSD®) was not removed from service. Paramedics could use, at their option, either the trial SGA or the existing device. An evaluation form was made available for Paramedics to complete if they used the trial SGA. This evaluation covered not only the user's impression of the trial airway for that particular call, but also asked for the user's experience with SGA's and asked them to compare the trial airway with the existing inflating airway. Additionally, they were asked which one they preferred and would they recommend the trial airway for deployment. Free-form comments were also encouraged. Training consisted of a vendor supplied instructional video. I-gel O₂ airways were available to staff at their annual training day. Following the trial period, an i-gel O₂ airway refresher course was given during the annual CME day for 2017.

Results:

Over the 10-month trial period starting in April 2016, the County of Renfrew Paramedic Service responded to 125 Vital Signs Absent (VSA) calls of which 61 (49%) resulted in resuscitative efforts being initiated. Of these 61, 36 trial i-gel O₂ SGAs were placed, along with 10 existing inflatable SGAs and 4 endotracheal tubes (ETT). 2 of these 4 ETTs were initial airways and 2 ETTs were for airway protection after a Return of Spontaneous Circulation (ROSC). The remaining patients were managed using either oral airways or simple BVM. 21 written evaluation forms were received from crews using the trial SGA (58% response rate). The patient care records from all 36 calls were retrieved from the database and objective data (airway type, size, airway left in place, patient age, sex, estimated weight) were captured. Across all 36 calls using the trial airway, 34 insertions were deemed by the paramedic to be successful. Airway size selection (one thought to be too big, the other too small) was described as the suspected reason for failure. 3 trial airways were removed by Paramedics during the call for clinical reasons: 1 at ROSC (Pt gagging on airway); 1 for subsequent ETT at ROSC; one for suctioning of excessive secretions. Primary Care Paramedics were more likely to insert the trial airway (n=29) as opposed to

Advanced Care Paramedics (ACP) (n=7) even when ACPs were on scene. Male patients' outnumbered female 27 to 9. The patients ranged in age from 20 to 92, with an average of 65.5 years and a median of 67 years. Patients' weights based upon paramedic judgement on scene ranged from 60 to 200 kg with an average of 100.2 kg, and a median of 90kg. When documented, the most common i-gel O₂ airway size was found to be the #4 (patients 50-90 kg) n=20 followed by the #5 (patients 90Kg +) n=10. No size #3 airways were used.



Table 1: Subjective Assessments of the Trial i-gel O₂ SGA by Paramedics

Category	Performance (1=Excellent, 5=Poor) Average n=21 responses	Comparison to Existing Airway (B=Better, S=Same, W=Worse)
Convenience of Packaging	1.4	B=17 S=1
Ease of Size Determination	1.6	B=7 S=12
Ease of Insertion	1.5	B=17 S=1
Speed of Insertion	2.0	B=17 S=1
Airway Seal	2.0	B=8 S=9 W=1
Ability to Secure	1.6	B=14 S=3 W=1
Overall Ability to Ventilate	1.9	B=9 S=8

Note: Not all respondents provided input in all categories

In the subjective assessments (n=21), the i-gel O₂ SGA was the clear preference of 100% of responding paramedics, even when the airway was deemed unsuccessful. It was noted that the paramedics on the unsuccessful attempts had used the i-gel O₂ on other calls during the trial period. With respect to recommending deployment, 100% responded in favour of the i-gel O₂. Paramedics were asked to judge the i-gel on a number of factors, both by itself and in comparison to the existing airway, the King LTDS. Seven categories were used: Convenience of Packaging; Ease of Airway Size Determination; Ease of Insertion; Speed of Insertion; Airway Seal; Ability to Secure the Airway; Overall Ability to Ventilate. In judging the performance of the i-gel O₂, a 5-step scale was used, ranging from 1=Excellent to 5=Poor. In comparing the

i-gel O₂ to the King-LTDS in each category, three choices were given: Better; Same; Worse.

In order to provide a comparison period, a retrospective chart review was undertaken for the same time period of the previous year (April 2015 to March 2016) where the King LTDS was the only SGA available to paramedics. Table 2 shows the summary of airway data extracted alongside the trial period data.

Discussion:

From a training perspective, the introduction of the i-gel O₂ airway was simple and did not require considerable time or training materials. Informal feedback from many paramedics was that the device was "just like an oral airway". During our initial introduction to the i-gel O₂ a paramedic

Table 2. Retrospective Comparison of SGA Airways Used During Resuscitation

	Trial Period Apr 2016-Feb 2017	Previous Apr 2015-Feb 2016
Active Resuscitations	n=61	n=95
i-gel O ₂ Airways – attempted	n=36	n/a
i-gel O ₂ Airways deemed successful	n=34 (94%)	n/a
King LTDS – attempted	n=8	n=39
King LTDS deemed successful	n=7 (87%)	n=26 (67%)
No Adjunct used	n=4	n=4
Oral airway	N=10 (16% of calls)	N=34 (36% of calls)
ETT	n=8 (13% of calls)	n=18 (19% of calls)

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student who was on field training happened by. With no explanation whatsoever, we passed her the i-gel O₂ and asked her to place it in the manikin and ventilate the "patient". She took one quick look at it and then quickly and successfully placed it with the comment, "That's it!"

In Renfrew County, there is no tiered response as is commonly found in many urban areas in North America, where firefighters and police automatically get dispatched to potential VSA (Vital Signs Absent) calls. If we are fortunate, we may get a police officer or two if we are lucky. This means that a cardiac arrest call typically gets managed by two paramedics plus whomever we can draft into assisting. Trying to do continuous chest compressions, secure an airway and ventilate, establish intravenous access, push drugs, defibrillate, package for transport and extricate is a lot of work for two paramedics! One of the first actions after starting chest compressions is to secure the airway in a manner in which we get good ventilation but don't have to re-establish a good seal each time. This means an SGA or ETT. In terms of time to execute, an SGA wins hands down over an ETT. Additionally, only Advanced Care Paramedics in our home province of Ontario are trained to perform endotracheal intubation and there are occasions where they are not part of the first response team. Once we get an advanced airway established, we can decouple the 30:2 compression to ventilation rates and instead do continuous chest compressions asynchronously from ventilations. From personal experience, it's far easier to get a bystander to "gently squeeze this bag by 1/3 every 6 seconds" and manage chest compression rates and depths than it is to do the 30:2 dance. From a standard of care perspective, both the ERC and AHA^(1,2) strongly emphasize the need for uninterrupted chest compressions.

Having an SGA that can be placed quickly, easily while giving good ventilation to our patients is clearly a benefit in our practice. From both the objective and subjective trial data, the i-gel O₂ airway was both a technical and operational success. The i-gel O₂ was clearly favoured by the paramedics



over the existing SGA and the usage data showed that patients successfully received an advanced airway 61% of the time during the trial period (n=41) as compared to only 27% (n=26) of the time in the identical time period the year previous. While the time line for adequate airway management was not captured in this trial, early airway management has been shown to be associated with increased survival rates in out-of-hospital-cardiac-arrest³.

Unsuccessful i-gel O₂ airway attempts were noted by the paramedics to be related to device size selection for patients who were eligible for either a size 4 or 5. According to the vendor, such errors can occur from time to time as weights are estimated in less than ideal circumstances. This is not isolated to i-gel O₂ airways as other SGA's are also sized based upon similar estimations of weight or height. Additional training with respect to re-sizing up or down for unsuccessful airways may be useful to help reduce sizing errors. No issues relating to temperature and airway performance were noted by paramedics in their subjective evaluations.

Limitations:

The purpose of the trial was to determine whether the i-gel O₂ would be a superior alternative to the existing SGA. Primarily of interest was the speed of deploying the device and the quality of the airway seal in comparison to the existing SGA. The small sample size and lack of follow-up ability precludes drawing any conclusions as to whether the i-gel O₂ has an improved survival outcome compared to other SGAs, ETT's or other airway management devices. Survivability outcomes related to airway techniques are still widely debated and studied with no clear consensus as which devices and techniques generate the best resuscitation outcomes³.

Next Steps:

At the time of this writing (May 2107), other Canadian Paramedic Services have begun to deploy or test the i-gel O₂ SGA. For example, the province of Manitoba is



rolling out the i-gel O₂ Resus Pack and other Services in Ontario are either deploying or looking at the i-gel O₂.

Based upon our successful trial of the i-gel O₂ supraglottic airway, the County of Renfrew Paramedic Service is planning on making the i-gel O₂ Resus Pack its standard SGA.

The introduction of this device is a great example of what can happen when paramedics get together to share their experiences. On our to-do list is to begin looking at portable ultrasound for prehospital care and new treatments for acute stroke and myocardial infarction. Fall prevention in the elderly is also a hot topic within our community. Given our success with the SGA project we will be reaching out to the greater paramedic community to learn from their experiences in these areas and hopefully we can add to that base of knowledge.

Overall we will continue to reach out to the global community through conferences, publications, participation in national and international interest groups and of course via the convenience and power of social media.

Disclosures: None

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- Trademarks: i-gel and King-LTDS are trademarks of Intersurgical Ltd and King Systems Inc respectively



To find out more about County of Renfrew Paramedic Service, please visit:
www.countyofrenfrew.on.ca/departments/emergency-services/paramedic-services



We all need a shoulder to lean on

Ottawa's innovative peer-to-peer Support Programme

By Les Pringle

It can't have escaped anyone's notice that the burdens and expectations heaped on the shoulders of paramedics today are on the increase. Couple this with the growing realisation that their mental well-being has long been neglected and you don't have a pretty picture. The good news is that in recent years efforts have been under way to put things right. It's a hot topic of debate in most European services and it seems that Canada is not bucking the trend. In fact, some provinces might even be seen as world leaders when it comes to identifying and seeking ways to alleviate problems. Ottawa is one of them.

I am going to single out Ottawa for particular attention in this article but let me first establish my own credentials. I joined the ambulance service in Birmingham, England in 1977 and went on to spend the next thirty-one years responding to predominately emergency calls as a crew member. Birmingham is a big city and looking back now I suppose I must have been exposed to just about every horror a city could come up with. From motorway pile ups, cot deaths, suicides, fire victims, factory accidents, murders...I needn't go on. 'Counselling', wasn't even a concept for most of my career and when it did tentatively creep into the parlance of the day it received, at best, little more than grudging lip service. Before I get on to Ottawa perhaps it would be an idea to recount an example of something that happened to me as a way of illustrating past practices in England. We were called to a suicide and found the man in question had hanged himself from the back of a door. He was quite dead. But here's the rub; he was a friend of mine. Not a close friend, but a friend none the less. We had spent convivial evenings chatting in the pub over some years. Sadly, there was nothing to be done for him and we handed over to the police. When my partner passed details of the case to control he let slip my

past relationship with the patient. I couldn't understand why he did that, what had it got to do with them? After a few moments silence, presumably while some kind of consultation went on, we were told to go back to station and take half an hour. And that was about the extent of any kind of consideration for me. Thinking about it now, the controller didn't even pick up the phone to see how I was when we got back. Heartless, you may say. No, I don't think so. The fact that no system was in place wasn't questioned by anybody. What still rankles though is I only had about twenty minutes 'respite' before another job came through, denying me ten minutes which might have made all the difference.

Thankfully those days are well behind us, especially in Ottawa where the concern for every aspect of employee wellbeing is light years away from my early experiences. I was lucky enough to spend a few hours 'on the road' with Marc-Antoine Deschamps operating in his capacity as a roving supervisor. Post traumatic stress, I soon discovered, is a subject close to his heart. It must be remembered that PTS is a medical diagnosis and is the culmination of what might be a long and tortuous route. Marc's role in the peer support process is to identify problems early on and



Marc-Antoine Deschamps

make positive interventions long before that fateful diagnosis. This takes empathy and instinct and needs to be conducted as unobtrusively as possible. He's not an inquisitor; he's an observer and a listener. Human nature means most people are loath to admit, even to themselves, that pressures might be building up. If they were to admit it, they may fear being viewed by colleagues as weak. After all, it might be argued; if you can't stand the heat then get out of the kitchen. Marc was disabused of this hackneyed phrase when he attended a particularly gruesome murder scene. Experienced and hardened as he was, the incident hit home and preoccupied him for some time. Listening to his story



I suggested that it was bad luck and that most paramedics would go through their entire career without having to witness such a thing. "Bad luck?" He seemed surprised. "No, I don't see it like that. In a strange way it was probably a good thing. I learned a lot about myself. It stands to reason really; if you're trying to get a picture of what someone else is going through it helps if you've been there yourself. And the thing is, just talking something through with one of your own is often enough to nip a lot of problems in the bud.

"And you talked over your case with colleagues?" I asked, rather unnecessarily.

"Oh sure," he smiled, "that's how it works for everyone."

The man who oversaw the steady growth in awareness and management of the stresses placed upon staff is Joe Micucci. He joined the Ottawa service in 1982 and is now a commander. Joe is a likeable, down-to-earth character who makes no effort to hide the pride he feels in being pivotal in the design of a system that has been emulated by other emergency services. His early experiences were similar to mine in that there was precious little in the way of structured peer support. There was the 'Critical Incident Stress Management group' (CISM), an amalgamation of fire, ambulance and police which would hold de-briefs after serious incidents. Despite the grand title, it didn't go very far in addressing the day-to-day issues faced by staff. The coping mechanisms just weren't good enough' says Joe. The pressure for change intensified when a steady trickle of critical studies and reports highlighting deficiencies turned into a steady flow. The CIS principles were gradually moulded into the present structure which began to take solid shape by the early 2000's. So how does it work? Well, Joe is the overseer while the daily issues are addressed by the coordinator, Lorraine Downey who is also a full-time road paramedic. There are four 'leads' each in charge of one of the four platoons. The leads are the most senior members of the team and have a wealth of experience. All team members have received a 4-day Crisis intervention for individuals and groups, and senior members have undergone CISM training. The focus in the past 2 years has been on "Peer Support" and reaching out either formally or informally in a proactive manner rather than only after "bad calls". Peer support is 24/7 and can be an informal chat while waiting to offload a patient at a hospital or even after shift.

Peer Support Team Platoon leader, Mark Kapcala explained: "Paramedics play a vital role in our health care system and are



often the first point of contact for people entering the health care system. These situations are often traumatic, and these traumas accumulate over time and can have a profound effect on the health of paramedics. Our role as Peer supporters is to support paramedics and help to maintain a healthy work/life balance in order to continue to be able to provide valuable service to the communities we serve."

In the event of a "critical incident," a 'de-brief' is arranged. Quite often that's not necessary and a casual peer-to-peer chat is enough. This doesn't just apply to front-line staff. Control operatives are often exposed to harrowing calls and quite rightly receive equal consideration. When seemingly intractable problems arise, the individual is given a list of potential professional counsellors which they can choose to contact. The peer-to-peer response to several crews involved in major incidents has been overhauled. To avoid exposure to 'second hand trauma' each crew's level of involvement is evaluated and any debriefing required is set at an appropriate level. One such incident occurred three years ago when a train and double-decker bus were involved in a collision on level crossing just outside Ottawa. The people killed on the bus received frightful injuries and had to be dealt with accordingly. Five others were seriously injured and the rest were deemed to be minor injuries. This incident resulted in changes to the debriefing process with subsequent debriefs being much smaller and including employees who had similar levels of "exposure" being grouped together to avoid unnecessary 'baggage' being passed on to those who didn't witness the worst of the accident. (I have put together a précis of the event for those interested.)

'The incident happened on 18th September 2013 killing five people outright with one dying later in hospital. A further thirty-five people were injured on the bus (five with serious injuries and thirty with minor injuries). The level crossing's gates, lights, and bells were engaged forty-seven seconds before the crash, and its gates were fully horizontal across the road 25 seconds before the crash.

The subsequent enquiry pointed the finger of blame at the driver with a caveat; it was considered that he was most likely distracted by the video screens he was required to monitor as part of his job.'

Of course, it doesn't need to be a single bad experience that triggers mental anguish. For many it's the slow, cumulative process of taking on 'baggage' that wears them down and the peer support team have to be alert to this. Mood swings, out of character behaviour, frequent absence from work and a host of other signals are watched for. When things get bad enough and the employee goes off work citing 'stress' there are 'gradual return to work' guidelines set out. These involve frequent informal contact and, if appropriate, the involvement of family members. After all, stress can have a cascading effect. Staff have been educated and encouraged to contact a peer support member if they are concerned for a colleague. The peer support member then does a discreet "check in" with the employee.



Max the Therapy Dog

Joe Micucci has, until now, a secret weapon in his arsenal; Max, the comfort dog. Max is everybody's friend and when he's not asleep he happily ambles round headquarters sniffing at the occasional plant pot while lazily wagging his tail. He knows his job though. Just a glimpse of a jaded paramedic and he abandons whatever he's sniffing and trots over to dispense his own brand of stress relief by allowing his ear to be scratched. "We're always ready to try new innovations" says Joe. "But when it comes down to it, it's all about empathy and doing what's best for each other: If that means giving someone a hug now and then, then I'm happy to do that." This, for me, is one step too far. Just the thought of one of those senior officers from my past hugging me is enough to push my stress levels through the roof!

To find out more about Ottawa Paramedic Service go to:
ottawa.ca/en/residents/emergency-services/ottawa-paramedic-service

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Carbon Dioxide - It's not just a gas

Part 1: The basics

In this first of three articles, Martin Betzer of Falck Denmark explains how end tidal carbon dioxide monitoring might guide you in your clinical judgement of the critically ill and why you should never resuscitate without it. This article is the first in a special three part series on Carbon Dioxide.

The background

Prehospital emergency patient assessment often demands clinical decisions based on insufficient information which is retrieved under stressful conditions. As professional clinicians, we trust variables such as blood pressure, pulse oximeter readings, electrocardiogram tracings and respiratory rates to support us in our decision-making process. But what if we could apply one single piece of medico-technical equipment that would provide us with all the information we needed? Behold: End tidal carbon dioxide (EtCO₂) monitoring!

EtCO₂ monitoring, or capnography, has become increasingly accessible in the prehospital setting over the last decade or more. Capnography provides an overall essential insight to the patient's airway, respiratory, circulatory and metabolic state – a 'one-size-fits-all' parameter that has gained ground among emergency clinicians with some even referring to it as "the superior vital sign".

This article reviews the very basics of EtCO₂ monitoring, interpretation and pitfalls, leading to a discussion on the possible benefits of integrating it into patient assessment and management.

The very basic facts

EtCO₂ is the partial pressure of expired carbon dioxide (CO₂) gas in the very end

of an exhalation[1]. CO₂ itself emerges as a byproduct of cellular metabolism, and its mere presence thereby reveals that some sort of metabolism, circulation and ventilation is going on. Minimising the tech-talk, the overall modern approach to EtCO₂ monitoring is through a so-called side or mainstream sampling device. This device is hooked up to a monitor in one end, and an advanced airway or a binasal oxygen catheter in the other. In the monitor-end the EtCO₂ tracing comes to life through a real-time, breath-to-breath capnogram waveform visualising airway anatomy. The reference waveform is divided into inspiratory and expiratory phases, one ventilatory cycle being represented as a square-like pattern (fig. 1).

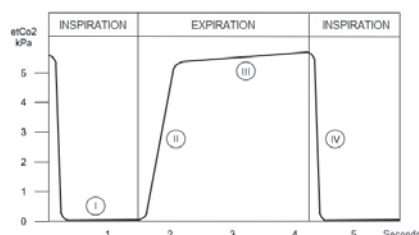


Fig. 1: The one-breath-capnogram has four phases. I: Dead-space expiration, II: the presence of CO₂ mixed with dead-space air during expiration, III: plateau with slightly increasing CO₂ levels during expiration, IV: inspiration, no tracing equals no sampling.

An example of a pathologic capnogram is the "sharkfin" visualised as a sloping expiratory curve due to prolonged expiration – think of the "sharkfin" as a reflection of bronchial constriction as ST-segment elevation reflects myocardial infarction.

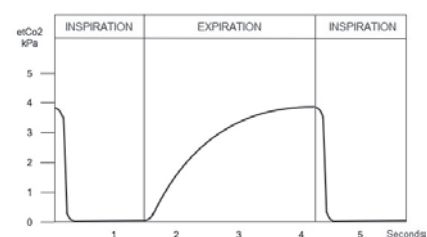


Fig. 2: The capnogram will have a "sharkfin"-like plateau phase in bronchospasm, reflecting prolonged expiration.

Biography: Martin Betzer



Martin Betzer is a Danish ALS-Paramedic with 12 years of experience working in the ambulance service, paramedic rapid response vehicle, emergency physician vehicle, and as emergency call-center operator. Furthermore, Martin has worked for 6 years as instructor at the Danish ambulance technician education. Martin has a Bachelor of Honour's degree in Prehospital Emergency Care from Coventry University, and begins his studies at the University of Stirling this fall in the Master of Research in Health Research. Martin is currently employed with Falck Emergency in the Zealand Region of Denmark as an Operational Leader and Clinical Supervisor. Further to this, Martin is also a Research Assistant at Falck Research.

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The capnogram is in many ways like the ECG or the pulse oximeter curve. You will need a well-shaped waveform to confirm the EtCO₂ value, which is measured through the monitor's built-in capnometer. The EtCO₂ value is displayed numerically – measured in either kilopascal (kPa), millimetres of mercury (mmHg) or percent (%) with reference intervals within the range of 4.0-5.7 kPa/35-45mmHg or 5-6%^[1]. Values below or above reference are indicative of hypo- or hypercapnia – too little or too much CO₂.

The common method of obtaining parts of the information provided by capnography is by invasive arterial blood gas analysis (ABG). Among other relevant things, ABG measures the partial pressure of CO₂ in arterial blood (PaCO₂). ABG is a painful, expensive, invasive, time-consuming expert procedure generally only used in-hospital, which solely provides a snapshot of the acid-base balance. Capnography on the other hand, is not painful, relatively cheap, non-invasive, fast, reliable and continuous. But the downside of this apparent wonder-parameter is the interpretation. And this is where your many years of clinical experience kick in!

The interpretation

This is by all means the tricky part. You should possess advanced theoretical background in respiratory physiology in order to recognise the conditions where PaCO₂ might not correlate with the end tidal measured equivalent. Remember; that capnography measures the partial pressure of CO₂ in expiratory gas, whereas ABG measures the partial pressure of CO₂ in arterial blood. Interpreting the EtCO₂ value, you thereby have to turn your mind around and differentiate between the two different sampling points. Furthermore, multiple factors affect the EtCO₂ readings.

The EtCO₂ level itself, and the relationship between PaCO₂ and EtCO₂ might be affected significantly by the patient's ventilatory, hemodynamic and metabolic state. The literature describes a phenomenon named ventilation/perfusion (V/Q) mismatch^[2]. In respiratory physiology, V is for ventilation – the amount of air

reaching the alveoli, Q is for perfusion – the amount of blood reaching that same alveoli through the capillaries. These two variables – ventilation and perfusion – should be evenly matched to obtain an optimal gas exchange. Pulmonary embolism is a classic example of a V/Q mismatch, where alveoli are being fully ventilated but the surrounding capillaries are not being perfused leading to a decrease in gas exchange, decrease in blood pressure and an increase in ventilatory rate all of which equals low CO₂ values and thus, hypocapnia. EtCO₂ and PaCO₂ are comparable in the healthy individual but the V/Q mismatch might affect this relationship making comparisons useless. Therefore, you should not apply capnography in order to predict those PaCO₂ levels you presume your patient might have. You should use it in order to monitor sudden changes in the EtCO₂ readings or to identify extremely abnormal values – as these are the findings relevant for interpretation^[3].



The science

The critical relationship of EtCO₂ monitoring and clinical decision-making in the intubated patient is well-described, and capnography is therefore the gold standard for continuous verification of endotracheal tube placement and ventilatory monitoring in this cohort^[4]. Additionally, capnography is recommended during advanced life support resuscitation^[5].

The rationale and benefits from applying EtCO₂ monitoring in the non-intubated cohort is, however; inadequately documented and guidelines and recommendations for its application are sparse. There is no doubt that the technology itself is functional and credible, as



well as the theory behind using it in a clinical context making sense. But does EtCO₂ monitoring make a difference, compared to regular clinical evaluation and standard vital parameters?

In Falck Emergency, we wanted to answer this question in order to identify categories of spontaneously breathing, non-intubated emergency patients where capnography could be handy in clinical decision-making. In 2016, we therefore conducted a systematic review including studies evaluating the usefulness of capnography in the non-intubated emergency patient^[6]. In total, we identified 409 studies through literature search, with 11 being included in our final review.

Six of the studies found that capnography was a meaningful addition to clinical decision making^[7-12]. Clinical accuracy in ventilation rate and apnea monitoring was confirmed in three studies^[13-15]. Five studies evaluated the beneficial properties of capnography during procedural sedation and they all concluded that hypoventilation and adverse respiratory events were identified faster with capnography than with standard monitoring alone^[7,8,10-12]. Three studies concluded that improvements in airway diameter in patients



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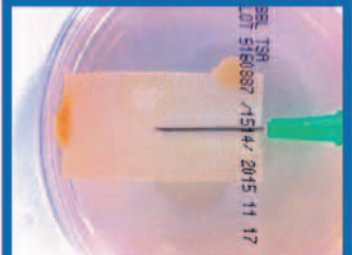
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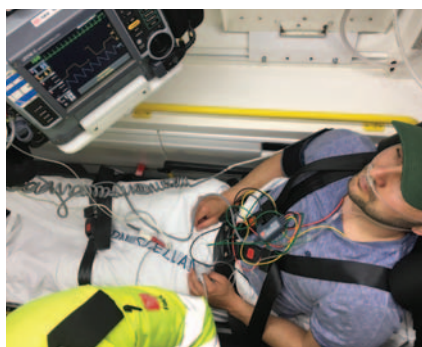


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with bronchospasm could be identified by the capnogram [15-17].

So, capnography is apparently meaningful - but does it **make a difference?**

The included studies were of variable quality and strength, which is why their conclusions must be carefully evaluated. None of the studies included true emergency patients as ethical considerations ruled out the sickest. Some studies had technical limitations as their approach to capnography consisted of inconsistent and confusing terms and reference intervals. But our most important finding: no study evaluated the impact of capnography on clinical decision-making in the emergency patient compared to standard monitoring alone.



We therefore concluded, in our systematic review, that there is not enough high-quality scientific evidence to support recommendations and guidelines for capnography as a tool in clinical decision making for the spontaneously breathing, non-intubated emergency patient. Until further research is conducted, exploring this very matter, the clinician should utilise capnography in the non-intubated cohort through a critical approach following the old saying: Treat the patient, not the monitor!

The summary

This article has reviewed the very basics of respiratory physiology, EtCO₂ interpretation and capnography application. Capnography is a non-invasive continuous monitoring form providing an instant overview of airway anatomy, ventilation, circulation and metabolism. Capnography and intubation are inseparable interventions and it might also be a valuable addition to clinical evaluation in spontaneously breathing, non-intubated emergency patients, but the science to support this is inadequate.

The next edition

With a critical approach, the usability during cardiopulmonary arrest will be reviewed in the next edition of *Ambulance Today*, leaving the application possibilities in the spontaneously breathing, non-intubated emergency patient for the Winter edition. Hold your breath – until next time!

Take home box

-Capnography interpretation requires substantial knowledge within respiratory physiology

-EtCO₂ and PaCO₂ are not always equivalent due to V/Q mismatch

-Capnography is the gold standard and a must-have in the intubated patient

- The benefits of capnography in clinical decision-making are not adequately scientifically supported in the spontaneously breathing, non-intubated emergency patient

For comments or feedback to the author, or to find out more about the work of Falck Research, please email: martin.betzer@falck.dk or follow @MartinBetzer on Twitter.

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The future of paramedic training with CTAQ



By Les Pringle
and Eric Hamel



After visiting various Ambulance Services in Europe and now Canada, it strikes me there are two common denominators that link us all. Firstly, we like to moan. I should know as I've been moaning for thirty years. Having said that, most paramedics love the job they have chosen and the great thing is that this love of the job brings with it enthusiasm which develops into dedication. A dedicated workforce is surely the biggest asset any Ambulance Service has. Good managers know this. And, talking of good managers, let me introduce you to, Eric Hamel, Clinical Director at CTAQ. Eric is the epitome of someone in love with his job and an enthusiast if ever I've met one.

Eric was a wonderful host and in a conversation ranging freely over every aspect of the Quebec Ambulance Service it became clear that training is something close to his heart. He enthusiastically listed on-going innovations above and beyond statutory demands but, before we get there, here are a few dry facts. The entrance level for Primary Care Paramedics in the province is a three year college Diploma built on the Canadian paramedic national competencies profile. (See PAC) There are eleven colleges in the Province providing the paramedic program. We visited the Quebec City facility at the Cégep de Sainte-Foy, a college which also caters for many other educational disciplines and has 6,000 students in all.



The area allocated for Ambulance training is spacious and well-appointed with all the paraphernalia you would expect plus one or two things you might not, such as a small family car to train on and a genuine, fully equipped ambulance body. (Not bad when you consider the rooms are on the 4th floor!) The bulk of training is centered on paramedical studies and attaining eighteen basic competencies; however time is also given to general knowledge, French, English, philosophy, sports, etc. Other than basic skills, all medics administer albuterol (salbutamol), glucagon, aspirin, GTN, epinephrine (adrenalin), naloxone (narcane). In the pipeline are programs for sedation and seizures treatment with benzodiazepines and analgesia with fentanyl. The combitube is being brought in, as is CPAP. For permission to practice, all new paramedic graduates have to take the provincial examinations (Theory and Practical). A statutory programme for continued training is laid down by the Ministry of Health which amounts to between twenty-four and thirty-two hours per medic per year. As a footnote, it's worth noting that a new two year university program for Advanced Care Paramedics

started at the University of Montreal in the fall of 2016.

What I found of particular interest were the various strategies developed by Eric and his colleagues to keep skill levels finely-honed while enhancing and consolidating the learning process. At CTAQ they have a team of fifteen instructors, a director and a

Biography: Eric Hamel



Eric Hamel is clinical director at Coopérative des techniciens ambulanciers du Québec (CTAQ), where he is also responsible for all aspects of innovation. His journey into paramedicine began in 1983 when he started as an EMT at Ambulances Beauport in Quebec, a service that would be one of many to fuse into CTAQ in 1988. In 1988 Eric started teaching continuing-education to Quebec paramedics in Cégep de Ste-Foy and still teaches all paramedic programmes there today as well as giving lectures across the globe. Eric has received a Certificate in Aeromedical Care from Seneca College, Toronto, a Bachelor of Health Science Degree and a Post-Graduate Certificate in Intensive Care Paramedic studies from Charles Sturt University, Waga-Waga, Australia, an Advanced Care Paramedic Certificate from Michener Institute for Applied Health Sciences, Toronto and a Post Graduate Diploma in education from l'Université de Sherbrooke. In 2017 he is due to complete a Master's Degree in Education at l'Université de Sherbrooke, Canada.

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judgement should be exercised when PENTHROX is to be used more frequently than on one occasion every 3 months. Potential effects on blood pressure and heart rate are known class-effects of high-dose methoxyflurane used in anaesthesia and other anaesthetics. Caution required in elderly due to possible reduction in blood pressure. Potential CNS effects such as sedation, euphoria, amnesia, ability to concentrate, altered sensorimotor co-ordination and change in mood are known class-effects. The CNS effects can be a risk factor for potential abuse. To reduce occupational exposure to methoxyflurane, the PENTHROX Inhaler should always be used with the AC Chamber which adsorbs exhaled methoxyflurane. Multiple use of PENTHROX Inhaler without the AC Chamber creates additional risk. Elevation of liver enzymes, blood urea nitrogen and serum uric acid have been reported in exposed maternity ward staff when methoxyflurane was used in the past at the time of labour and delivery. PENTHROX is not appropriate for providing relief of break-through pain/exacerbations in chronic pain conditions or for the relief of trauma related pain in closely repeated episodes for the same patient. **Interactions:** Methoxyflurane is metabolised by the CYP 450 enzymes, particularly CYP 2E1 and to some extent CYP 2A6. It is possible that enzyme inducers (such as alcohol or isoniazid) for CYP 2E1 and phenobarbital or rifampicin for CYP 2A6 which increase the rate of methoxyflurane metabolism might increase its potential toxicity and they should be avoided concomitantly with methoxyflurane. Concomitant use of PENTHROX with CNS depressants, such as opioids, sedatives or hypnotics, general anaesthetics, phenothiazines, tranquilisers, skeletal muscle relaxants, sedating antihistamines and alcohol may produce additive depressant effects. If opioids are given concomitantly with PENTHROX, the patient should be observed closely. Concomitant use of methoxyflurane with medicines (eg contrast agents and some antibiotics) which are known to have a nephrotoxic effect should be avoided as there may be an additive effect on nephrotoxicity; tetracycline, gentamicin, colistin, polymyxin B and amphotericin B have known nephrotoxic potential. Sevoflurane anaesthesia should be avoided following methoxyflurane anaesthesia, as sevoflurane increases serum fluoride levels and methoxyflurane nephrotoxicity is associated with raised serum fluoride. When methoxyflurane was used for anaesthesia at the higher doses of 40-60mL, there were reports of drug interaction with hepatic enzyme inducers (eg barbiturates) increasing metabolism of methoxyflurane and resulting in a few reported cases of nephrotoxicity, reduction of renal blood flow and hence anticipated enhanced renal effect when used in combination with drugs (eg barbiturates) reducing cardiac output; and class effect on cardiac depression, which may be enhanced by other cardiac depressant drugs, eg intravenous propofol during cardiac surgery. **Fertility, pregnancy and lactation:** No clinical data on effects of methoxyflurane on fertility are available. As with all medicines care should be exercised when administered during pregnancy especially the first trimester. There is insufficient information on the excretion of methoxyflurane in human milk. Caution should be exercised when methoxyflurane is administered to a nursing mother. **Effects**

on ability to drive and use machines: Methoxyflurane may have a minor influence on the ability to drive and use machines. Patients should be advised not to drive or operate machinery if they are feeling drowsy or dizzy. **Undesirable effects:** The most common non-serious reactions are CNS type reactions such as dizziness and somnolence [≥1/100 to <1/10] and are generally easily reversible. Serious dose-related nephrotoxicity has only been associated with methoxyflurane when used in large doses over prolonged periods during general anaesthesia. **Adverse drug reactions observed in PENTHROX clinical trials in analgesia:** **Common** [≥1/100 to <1/10]: Amnesia, anxiety, depression, dizziness, dysarthria, dysgeusia, euphoria, headache, sensory neuropathy, somnolence, hypotension, coughing, dry mouth, nausea, feeling drunk, sweating, uncommon [≥1/1,000 to <1/100]: paraesthesia, diplopia, oral discomfort, fatigue, feeling abnormal, increased appetite and shivering. **Post-marketing experience:** rare [≥1/10,000 to <1/1,000] reports of hepatic failure/hepatitis have been observed with analgesic use of methoxyflurane. Other events linked to methoxyflurane use in analgesia include drowsiness, agitation, restlessness, dissociation, affect lability, disorientation, altered state of consciousness, choking, hypoxia, oxygen saturation decreased, blood pressure fluctuation, vomiting, hepatitis, increased liver enzymes, jaundice, liver injury, increased serum uric acid, urea nitrogen and creatinine, renal failure, blurred vision and nystagmus. **Overdose:** Refer to SPC. **Legal Category:** POM. **NHS Price:** £17.89. **Marketing Authorisation Holder:** Medical Developments UK Limited c/o Price Bailey LLP, Causeway House, 1 Dane Street, Bishop's Cleeve, Herts, CM23 3BT, United Kingdom. **MA Number:** PL 42467/0001. Full prescribing information available from: Galen Limited, Seagoe Industrial Estate, Craigavon, BT63 3UA, United Kingdom. **Date of Preparation:** November 2015.

Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Galen Limited on 028 3833 4974 and select the customer services option, or e-mail customer.services@galen-pharma.com. Medical information enquiries should also be directed to Galen Limited.

Reference: 1. Penthrox Summary of Product Characteristics, December 2016. 2. Coffey F et al. Emerg Med J 2014; 31: 613-618. Date of preparation: May 2017. MA7-PEN-UK-000043.

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Before administering PENTHROX, make sure you have read and fully understood the SmPC and educational materials, which provide important information about how to safely use the device to minimise risk of serious side effects. PENTHROX educational materials and training on its administration are available from Galen on request.

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supervisor with the director also responsible for all innovative projects.

Below Eric runs through some of the programmes running at the moment starting with preparing their medics for the Ministry of Health's mandatory training sessions:

Mandatory Training Sessions

We have training sessions with our medics in advance of all the MOH mandatory ones. This gives them a broad understanding of the subjects rather than walking in 'cold' when the official training starts. This approach to the psychology of learning leads to more deeply imbedded knowledge and, of course, more efficient training sessions, and perhaps less 'stressed' students. We also produce four to six short briefings (seven minutes max) on all the subjects that will be covered in the mandatory training. These briefings are held at the start of every shift by the operation supervisors. Finally, forty-five days after official MOH training is over, we take a look at case studies in order to 're-activate' what has been learned and help prepare the medics to use these new skills with confidence when the time comes. In this way we hope to eliminate knowledge decay that occurs with time and is documented in the learning curve theory.

'Micro-training'

We organise this under four categories:

- Low frequency but not critical.
- Low frequency but critical.
- High frequency but not critical.
- High frequency but critical.

For example, we have gathered and analysed statistics regarding the low frequency/critical calls. It's clear that these calls are the ones where our medics make a difference in mortality/morbidity rates. However, exposure to these kinds of calls is very low for our personnel and it's only prudent to reinforce previous training in these critical areas. With this in mind we provide, throughout the year, four sessions of forty minutes on a two medics for one instructor basis. These sessions are done with all paramedics at the start of their shift. The service adds extra teams on the road to make sure these training sessions have no impact on response times. These sessions



are structured minute-by-minute to make sure all mandatory topics are covered. For example, for the last two years we have included in the micro-training: obstetrics and delivery, cardiac arrest, anaphylaxis, severe dyspnoea, and major trauma. Paramedics love these sessions and feel a lot more confident about these low frequency highly critical calls.

Low call density areas training

We have three areas, St-Simeon and l'Île aux Coudres in Charlevoix and Laurentides Wildlife Reserve where the low population density unsurprisingly results in fewer calls. Skill erosion under such circumstances is a concern and with that in mind we have in place an extra training schedule. Every two months, an instructor will visit these regions and practice emergency scenarios with the medics on a one to two ratio. We encourage all involved to highlight any topic they may personally feel needs reinforcing.

Training sessions after a long period of absence

When our medics return to work after long periods of absence they can be quite 'rusty,' especially when you consider that pregnancy leave can be two years. In order to prepare them for the mandatory MOH training, we provide structured one-hour training sessions on a one to one basis. The quantity of sessions can vary depending on individual needs and, if appropriate, start several weeks before return-to-work.

The veteran program

15% of our staff have more than thirty-five years on the service. Their initial training was more perfunctory than the present day but they have of course been trained in all the new skills and responsibilities as they come along. However, some may not feel at ease with certain aspects of the modern ambulance service. We are alert to this and offer a programme of ten, one hour modules with an instructor where skills can be refreshed and individual concerns addressed. This form of extra training alleviates any sense of stigma an older member of staff may have felt in the past. It's a popular innovation which allows our medics to be 'sharp' and confident thus reducing the possibilities of making errors.



The "Paramedic-O-quiz"

Last year, we launched an 'app' free to all named, Paramedic-O-Quiz. This application, which looks a bit like 'Trivia Crack,' is intended to review protocols, medication, ECG, anatomy and physiology etc. It's designed to be a fun game which comes with the serious benefit of reinforcing and refreshing knowledge. Every correct answer is rewarded with points and as the points accumulate the participant moves on to a new level and so on. Our people seem to love it.

Le CAP or Centre d'Apprentissage Paramédical. (Paramedic Training Centre)

We are currently working on a new addition to our training options: a web-based training platform. Everything pertinent to clinical care will be hosted on this site: conferences, videos, streaming, links, virtual libraries, subscriptions to magazines, previous training documents, etc. Also, as a web-based training centre, medics will be able to do their training online at their own pace, wherever and whenever they like. We will be able to establish what activities will be mandatory followed by an evaluation. The site has three distinct sections with different information and objectives. One for paramedic students, one for the public and one for our own medics.

We're also in the final stages of developing a 'virtual simulator.' By wearing special goggles, medics will be able to see and interact with accident scenes and patients. For example, some signs and symptoms of anaphylaxis are subtle and to ensure our medics distinguish them correctly, we put them through a virtual scenario. This involves a group of patients among which the signs and symptoms of anaphylaxis appear. Medics have to interact with these patients and decide on the appropriate care. We also have a small disaster scenario where medics learn the intricacies of triage. This modern technology offers exciting possibilities for the future development of training techniques.

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Canada Invites the World!

*A message from Dwayne Forsman,
ACP, MEM CAO, Paramedic Association of Canada*



The Paramedic Association of Canada welcomes the world this August 18 & 19 to Quebec City. Join us in celebrating Canada's 150th birthday by attending Paramedicine Across Canada Expo (PACE) 2017. The Paramedic Association of Canada invites EMS Educators, Researchers, Administrators, EMTs and Paramedics from across the globe to join your Canadian colleagues in beautiful Quebec City, Quebec.

The Paramedicine Across Canada Expo 2017 is the opportunity for EMS to connect with and learn and network with your Canadian colleagues as well as other international speakers. The two-day program along with the pre-conference courses and workshops, promises to enlighten and spark debate.

Key Note Speakers

- Bernard Lord, CEO Medavie Health and former Premier of New Brunswick
- Dr. Lori Gray, Clinical, Forensic, and Rehabilitation Psychologist

Program Tracks include

- Clinical
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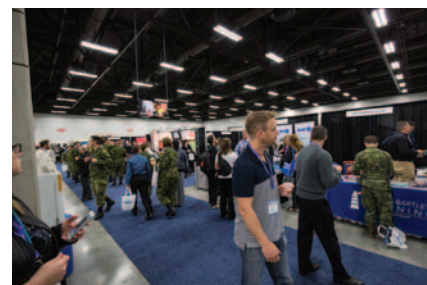


Pre-conference Courses and Workshops

- Advanced Medical Life Support (English & French)
- Learning Essential Approaches to Palliative Care
- Paramedicine Self-Regulation Workshop

New to this year's program is a spouse/partner workshop "When you have a paramedic in the family". This engaging workshop is free to spouses/partners of those who are registered for the full congress.

Consider bringing your family along to enjoy the beauty of Canada and the history that is Quebec City, a Unesco Heritage Site.



By participating in Paramedicine Across Canada Expo (PACE) 2017 you will help our goal, which is to bring the global EMS community closer together. We look forward to welcoming our partners from around the World.



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From Pioneers to Paramedics

By Lynea Finn

The progression of a medical first responder seems to be a subjective role that would vary greatly depending on the location in which they work. Canada is no exception as the provinces and territories have all had very different progressions towards their pre-hospital response even today. It's important to provide recognition to the response that was in place before legislation because these Canadian men and women attempted to run entire services without support - what a challenge! The legislation that would surround and support the Canadian emergency response and the eventual paramedic was a significant milestone in our development that wasn't without sacrifice from the previous pioneer generation. With the creation of legislation surrounding ambulance response, it triggered the voice of the responders themselves who wished to be included in the discussion as well as the first paramedics stepping out into the workforce. As a result of these varied paths towards better patient care in Canada, it caused the Paramedic Association of Canada to create standards with which to define our Canadian paramedics to the world.

Canadian Hospitals:

Although many aboriginal communities lived in North America and practiced ancient medicinal remedies, our history truly begins with the settlements and structure that came with European settlers. Prior to the existence of the first hospitals, the role of a stretcher bearer would not typically exist outside times of war. The map on page 44 gives an educated impression of when the first hospitals were opened and thus the



Vancouver BC, 1902 Credit: E.M. Miller/tom McPherson, Image #18609a

need for transportation to those hospitals would then be required. This means the birth place of a Canadian civilian paramedic system lies in the implementation of the emergency hospital system.

Ambulance Transport:

In this genesis of the profession, the mode of transportation was the significant feature - the ambulance was all that the patient needed in order to get to the newly created hospital or more often than not communicable disease quarantine. Many different businesses began offering stretcher transportation simply because the need was there with no oversight from any regulatory body. In almost all incidences where ambulances were given attention it was because of communicable diseases like small pox, cholera, diphtheria, and influenza that caused the medical community to focus on how basic ambulance transport was being completed and to control how infected persons travelled in order to

protect the general public from reoccurring fatal outbreaks. Many different methods of deploying the ambulance were used throughout Canada to achieve the goal of patient transport: police, fire, hospitals, volunteer, municipal, industrial, primary ambulance services (privately owned and

Biography: Lynea Finn



Lynea Finn has been a primary care paramedic with Ottawa Paramedic Service for the past twelve years. She has published "Paramedicine in Ottawa 1845-2001" this year and is the official historian of the Ottawa Paramedic Service as well as being published in several Canadian publications. She completed the Archives and Records Management certificate program with honours from Algonquin College and is a third-party First Aid and CPR instructor with the Ottawa Paramedic Service. Lynea received an Appreciation Award (2016) from the Ontario Paramedic Association for her work with Ottawa alumni paramedics as well as a Peer Recognition Award for personal achievement from the City of Ottawa (2016). She is one of the leaders in the Ontario Ambulance and Paramedic History Project that aims to protect our heritage at a provincial level. She also has two beautiful children with her husband Rob, Ben (7) and Kaitlyn (6).



for profit), secondary ambulance services (privately owned, for profit, usually funeral homes, mechanics garages or taxi services that also would provide ambulance services), private for hire aircraft, as well as others. As public health became more aware of the need to control and regulate ambulance services, the attendants themselves also wanted the ability to better provide for their communities. Each province and territory listed below has a vast history but only a few points are listed about each one's progression.



McKague's ambulance service, Saskatchewan 1918 Credit: Image #3176, EMSclassics.com

Prince Edward Island:

The first known ambulance service was operated in 1905 by G.D. Wright in Charlottetown, PEI. In 2006 five private operators (Kings County EMS, Niels Ambulance, Royal Ambulances, West Prince Ambulance and Rooney's Ambulance) were amalgamated to become part of Medavie Health Services. They remain a private service that is funded by the provincial government. PEI's ambulance attendants were also pushing for paramedics in the late 1990's and their first licenced advanced care paramedic occurred in 2000. Island EMS has been providing palliative care with their paramedics since December of 2015.

Ontario:

Ontario's first provincial legislation for ambulance services was enacted in 1966. Dr. Norman McNally, considered the Father of EMS in Ontario influenced the system heavily in favor of hospital based systems stating that "paramedics should be extensions of the hospital." As provincial legislation was being discussed the Ontario Ambulance Operators Association was created circa 1964 to have a voice for the management staff as well as the Association of Casualty Care Personnel to represent the ambulance attendants. After almost 30 years, all ambulance services regardless of their type were downloaded to the municipalities in 2000-2001. Advanced Care Paramedics were available in Ontario on the air ambulance first in the 1970s, Advanced Care Paramedics available in Toronto and Hamilton as early as 1983. It was not until after 1995 when both Primary

and Advanced Care paramedics became more common throughout all of Ontario.

Quebec:

Competition between Protestant English ambulance services and French Catholic ambulance services was a common issue for many areas of Quebec, as well as in Ottawa, Ontario since hospitals also had significant religious backgrounds. By 1959 the City of Montreal created the first free ambulance service by using police officers to run the ambulances. In 1976 the provincial government created changes similar to other areas of Canada by organizing training, insignia and titles for their Emergency Medical Technicians. Quebec was one of the first to create a single response number of 842-4242 in 1981 that was changed to 9-1-1 by 1985. In addition to police officer responders, Quebec also had physicians first responding in vehicles to emergencies known as "Telemedic." This system was private and unfortunately was unsustainable. By 1987 Urgences-Santé was created as a private paramedic service and is still in operation today.

New Brunswick:

New Brunswick utilized St. John Ambulance divisions since the 1950's to provide a province-wide invalid transport service. Air and ground ambulance services were once offered by St. John Ambulance in New Brunswick as well as Northwest Territories. No other provinces or territories had this type of partnership at a provincial level. Before December 16, 2007, New Brunswick relied on approximately 52 private, public and volunteer ambulance services. The training and abilities of those responders varied greatly. St. John Ambulance provided a much-needed transfer service until formal legislation was enacted. New Brunswick



Canadian civilian paramedic systems lie in the implementation of the hospital system:

Province or Territory with Opening Date and Name of Hospital:

British Columbia October 7, 1862 Royal Columbian Hospital (Fonds AAAA0531 - Royal Columbian Hospital funds : 1861-1943)	Ontario 1832 (first structures) Kingston General Hospital (Kingston General Hospital)
Yukon January 1901 Whitehorse General Hospital (Historical Timeline)	Quebec 1639 Quebec City Hôtel-Dieu (Harvey, 2017)
Northwest Territories Feb. 16th 1937 Con Mine Hospital (Later renamed Stanton after the first physician) (Staton Territorial Renewal Project)	Nunavut Uncertain of date Qikiqtani General Hospital (Department of health)
Alberta 1870 St. Albert Hospital (The Grey Nuns)	Newfoundland May 7, 1814 Riverhead Hospital (19th Century Health Care)
Saskatchewan Victoria Hospital, Prince Albert 1873 Ile-à-la-Croix (Encyclopedia of Saskatchewan)	Nova Scotia 1790 Bridgwell Hospital (smaller hospitals were located as early as 1750) (Bignell, April/May 2017)
Manitoba 1871 St. Boniface General Hospital (Winnipeg) (Wikipedia)	New Brunswick 1888 Victoria Public Hospital (Fraser memorial building (Old Victoria public hospital))
	Prince Edward Island 1884 Prince Edward Hospital (Clinton, 2017)

paramedics now work under a private operator Medavie EMS, which operates in the Maritimes and St. John Ambulance has withdrawn from the transportation of patients. (Chisholm, April/May 2017)

Nova Scotia:

After 1968 funeral homes in Nova Scotia no longer could keep up with the demand and removed ambulance transport from their services. Robert Schaffner was instrumental in forming the Ambulance Operators Association of Nova Scotia in 1969 and lobbied the provincial government for support. They asked for the government to fully take over ambulance services and provide financial assistance so that upgrades could be made. Many years of difficult transition occurred for Nova Scotia as they were bounced between government departments. (Ambulance Operators Association of Nova Scotia) The Report: Emergency Health Services Nova Scotia (Aka: Murphy Report) was conducted to identify the current state of ambulance



George Orme/Dr. Henry George, Alberta 1921 –
Credit: Red Deer City Archive P3915

services as well as moving towards a more medically driven system. The College of Paramedics came into effect on April 1st 2017 that will represent more than 1,400 paramedics in Nova Scotia.

North West Territories, Yukon and Nunavut:

Yellowknife and Inuvik have full time paid paramedic services. Yellowknife is a fire/ems based system that delivers PCP level of care with no symptom relief. Inuvik EMS is a private ambulance service that uses EMR teams that have a similar skill set to a PCP with symptom relief. Since 2007 there has been a steady improvement in the response to patients in Canada's north with the standard of care and medical directives coming in line with those of ORNGE and STARS air ambulances in the southern areas. There are currently still no regulations governing pre-hospital care and many communities are lucky to have even a volunteer ambulance service. Canada's north still does not have a 9-1-1 system. (Cross, 2017)

British Columbia:

One of the first surveys on British Columbia's ambulance operations indicated that in 1965 there were 127 ambulance services. Privately owned (60), Service clubs (3), fire departments (15), Ambulance association (15), Hospital society (7), municipal government (12) Industry (10) and Department of National Defense (5). The Emergency Health Services Act Bill received Royal Assent on May 30th, 1974 by the NDP government that would allow the first provincially owned ambulance service in Canada uniting all the ambulance attendants and future paramedics into one provincial service (Klein, 2012). On January 15, 1977, a dedicated air ambulance component was added to the provincial service. British Columbia was also the first province in Canada to officially accept the title of "Paramedic" to describe their responders.

"The time had come to take this orphan of health care and public safety, and finally

accord it the respect and funding it deserved."
Lynn Klein (Klein, 2012)

Saskatchewan:

The provincial government in Saskatchewan offered funding and advancement in air ambulance because of geographical challenges faced in the province but little funding was given to struggling land ambulance services. This caused conflict between land and air ambulance services. This legislation was created at a provincial level, the ambulance attendants responded with the creation of the "Saskatchewan Road Ambulance Association (SRAA)." By 1978 ambulance district boards and provincial funding for land ambulances were implemented for their transition period into a standardized system. On January 14, 1985 the long awaited Advanced Emergency Medical Assistant program began, moving Saskatchewan ambulance attendants into a paramedic role with self regulation being achieved in 2007 with The Paramedic Act and the creation of The Saskatchewan College of Paramedics in 2009. (SEMSA, 2016)



Portage La Prairie Funeral Chapel, Manitoba, 1929
Credit: Image # 19342, EMSclassics.com

Manitoba:

The First Ambulance Act was enacted in 1986¹ which triggered the transition period to an organized and standardized system. The Manitoba Emergency Medical Technicians Association (MENTA) was formed in 1977 after many new ambulance services were created during the province's grant program. This group changed their name to Manitoba Pre-Hospital Care Personnel Association Inc. Winnipeg

Ambulance Service began looking to expand into advanced medical skills in the 1980's, but it was not until the Paramedic Association of Canada released the National Occupational Competency Profiles as a basis for education before the service began with regularity referring to themselves as paramedics. Many other names for their responders were still used until 2006. (Glass, 2017)

Alberta:

The first organized ambulance service was in 1901 - a horse drawn carriage in Lethbridge that would pick up a physician and transport him to the emergency. In 1972 Smith's Ambulance became the sole provider for ambulance services for the City of Edmonton with rights to the 9-1-1 number. (Possibly the first 911 system in Canada) In the early 1970's the Alberta Ambulance Operators Association was founded and lobbied the government for improved ambulance services. The Southern Alberta Institute of Technology in Calgary implemented the first publicly funded paramedic program in Canada in 1972. (Review of Operations of Ground Emergency Medical Services in Alberta, 2013) The Alberta College of Paramedics was the first in Canada on April 1, 2000 and represents 5,600 paramedics.

Newfoundland and Labrador:

The Paramedic Association of Newfoundland and Labrador was formed on April 18th, 2005. Currently there is 911 coverage restricted to the St. John's metropolitan area and two other locations. In other areas of the province, the local ambulance service must be contacted directly for emergency response.

Paramedic Deployment and Transport:

As medical advancements improved, it became clear that basic ambulance transport was not enough in order to save lives. Each province and territory began looking at who was driving and attending in the ambulance. Education, medical skills and



Victoria General Hospital, Halifax, Nova Scotia 1949 Credit: Image #9249, EMSclassics.com



Government of Yukon 1986 Credit: Image #2200, EMSclassics.com

the ability to perform autonomously at the scene of the patient's distress became the standard after Canadian Forces (and other military studies) proved time and time again that treatments needed to occur at the site of the injury before transport to hospital for the best survival rates. Many aspects of Canada's system are either supported by or directly borrowed from our Canadian Forces. As each area continued to grow, there was a need to be able to classify a Canadian civilian paramedic regardless of province or territory of origin.

"Paramedics play an increasingly important role in our health-care system, not only as first responders, but also providing palliative care support and working alongside doctors, nursing and other health care professionals." Health and Wellness Minister Leo Clavin (College of Paramedics effective April 1)

Canadian Paramedics:

Paramedic Association of Canada (PAC) created the National Occupational Competency Profile that was published in 2001. This profile was created for national standards for education programs as well as a tool to assist paramedic regulators for establishing common workplace standards and enhance labour mobility. This profile lists four types of responders in Canada

that are all considered 'paramedics'. Each of these levels are integrated, one skill set building on the next with Emergency Medical Responder (EMR) being the most basic responder to Critical Care Paramedic (CCP) which has significantly advanced skills. This document can be located on the PAC website for further review.

Emergency Medical Responder (EMR):

Historically, they are the responders in rural or remote communities within Canada. Often associated with a volunteer organization and may be the sole providers for some communities. EMRs are responsible for initial assessment, practical care as well as transport to health care facility.

Primary Care Paramedic (PCP):

Has completed a post-secondary education in paramedicine lasting 1-2 years in length. PCPs are the largest group of paramedics in Canada working in rural, urban, remote, industrial, air ambulance and military services. This group of paramedics has controlled and delegated medical acts as well as the ability to administer medications.

Advanced Care Paramedic (ACP):

Has completed a post-secondary education in paramedicine with up to an additional one year of training, and may be required to complete the PCP program before entry. ACPs are deployed in all the same areas as PCPs and their numbers in the workforce continue to grow. In an idealistic land service model, all paramedics would be ACP certified to provide the most treatments to patients. Controlled or delegated medical acts include advanced airway techniques, interventions for breathing and circulatory emergencies and the methods for ACPs have more invasive and aggressive treatments than PCPs.

Critical Care Paramedic (CCP): Is the highest level of certification available in Canada. Their competency profile includes



North West Territories Credit: Northern Air response, Hugh Gilmour

advanced airway techniques, invasive hemodynamic monitoring devices and skills needed to manage complex patient transfers both on land and by air. They are heavily utilized in air ambulance because of their training in stabilizing, assuming care from physicians in rural areas that cannot fly with the patient and managing long egress for critically ill patients. (National Occupational Competency Profile, 2015)

Canada's emergency response system has seen a tremendous amount of change in the last 150 years. Standards surrounding the ambulance, training, equipment and medical advancements that could be used outside the hospital were all needed in order to see the creation of a paramedic profession that is growing with alarming speed. Canada looks to provide the best patient care from the Rocky Mountains, the never-ending prairie plains, the Northern tundra, large urban cities as well as the Maritimes. The nation's geographic and patient care challenges keep Canadian paramedics on their toes. Our paramedic services have humble beginnings but we will continue to strive for a medically-driven emergency response, whether or not we still use the same ambulances we started with.

Notes:

¹Many areas of Canada had open ended regulations within other acts such as Public Health Act or a similar avenue for cities to ask for funding or subsidy for ambulance services. For simplicity's sake, the Author has only chosen to highlight legislation that was created specifically for ambulance services.

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Building a fleet that's fit for a very challenging future

For the past twelve months London Ambulance Service NHS Trust (LAS) has been exploring all opportunities for reducing waste and costs whilst adding value to its total service provision. Since modern ambulance care remains essentially a fleet-driven service, fleet management was a key area identified by its board and management for improvement as having the right fleet mix to meet the increasingly diverse range of medical services provided by LAS and being able to keep as many vehicles as possible on-road for the maximum time is an essential factor in terms of ensuring that frontline crews and other medical and support teams can meet the ever-increasing demands of growing patient numbers.

Below Justin Wand, Deputy Director of Fleet & Logistics and a paramedic of 25 years experience, gives a comprehensive review of the operational areas LAS are addressing and the proactive measures they are implementing right now to bring these improvements about as quickly as possible.

Background: With only 5,000 staff and 70 stations, LAS currently responds to over 1.8M calls per year and, as the regrettable series of major incidents they have responded to in one very short time period – Westminster Bridge, London Bridge/Borough Market, Grenfell Tower and Finsbury Park have all shown, they need the fleet capacity to not only meet the on-going medical emergency needs of the European Union's largest capital city (population 8.6M) but also to respond to the type of fast-moving and time-critical, major incidents that can present themselves at a moment's notice. As current political and media discussions have already highlighted – going forward, budget allocation will of course be a matter for healthy discussion.

When I joined LAS last summer, the process of evaluation was just beginning and we quickly identified that through the



re-engineering of our operational support functions was needed to proactively manage defect rates and limit time spent 'Out of Service,' and through issues such as the delays created by the insurance claims / repair cycle post-RTC we could make some major improvements. Right now, with the support of our recently-appointed new CEO, Garrett Emmerson, formerly of Transport for London (TfL), we are rapidly and systematically reviewing our processes, contracts and the bureaucratic burden placed upon us in a bid to make those as lean as possible.

Key to our thinking is remembering at all times that while we are now among the most clinically-skilled ambulance services globally, the key to successful service delivery is keeping in mind that we are a unique transport service that

must reach patients rapidly, bringing them the right medical response, and that we must constantly develop our logistical and technological infrastructure in order to ensure that we respond to our patients quickly and smoothly transport them to the best medical facility to meet their urgent medical needs. As if it was needed the series of major terrorist and public safety incidents we have handled in recent weeks provided a timely reminder of this for us all at LAS.

The more we are able to reduce unnecessary down time and shift to a leaner

Biography: Justin Wand Deputy Director Fleet & Logistics, London Ambulance Service NHS Trust.



Justin is a highly experienced, clinically focused, operational lead who has demonstrated the ability to manage diverse teams successfully in various roles within UK ambulance services. Having worked in both Traditional and High Performance EMS systems implementing lean 'Unit Hour' production processes and improving quality, he has implemented a number of Make Ready schemes providing a safe, efficient, vehicle preparation system contributing to the release of £50m of clinical time back into frontline care. Justin and his teams are working hard to modernise the operational support functions at London Ambulance Service to meet the Trust's strategy and implement a vision of patient centered staff friendly systems, designed to link frontline services to back office support, liberating time and efficiencies from needless bureaucracy and waste.





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way of working the more effective we become, without unnecessary disruption to how our staff work – in fact we will achieve the exact opposite -safer working environment for our staff and more effective patient care!

This is why LAS has approved a forward-thinking and progressive fleet strategy that places patient care and staff safety at the heart of our Trust's plans. Our strategy will modernise not just our vehicle fleet, but also the operational support systems needed to deliver the best possible care to the Capital.

The cornerstones of our strategy are:

Response time reliability -

Matching the expectations held by both our staff and patients that the operational fleet will support an agile timely response reliably and consistently when deployed.

Clinical Effectiveness -

Providing a 'connected' vehicle fleet that exploits technology, provides a safe, reliable platform in which our clinicians at all levels are able to deliver quality care and improved outcomes, communicating with the wider health economy when appropriate for the benefit of patients.

Customer Satisfaction -

Providing a professional, clinically appropriate, clean and medically equipped environment, comfortable and adaptable to the needs of the patient and staff that operate it.

Economically Efficient -

Supporting the ethos enshrined in the Carter review, that our fleet should be standardised, sustainable, and that it should reduce costs and its impacts on the environment whilst meeting the needs of the commissioner and the taxpayer alike.

Environmentally friendly -

Adopting the best tactics and alternative fuels available to minimise the impact the Trust has on the environment and communities it serves.

As any emergency services fleet manager knows an essential first step in achieving these goals is, of course, fleet renewal.

Vehicle replacement -

The first steps in the implementation of this strategy will see 140 double-crewed ambulances delivered into the Trust over the next 8 months, the first ten of which are being commissioned as we speak. These have been built by the highly-respected UK ambulance builder, Wilker Group, and a key element in our decision to choose their tender was our historical understanding that Wilker works closely and flexibly with

ambulance service customers, helping to ensure that the vehicle that comes off the production line conforms to the specification they were given at the outset and that any changes to the specification are only those identified by the ambulance fleet manager during the build process.

This will be followed by an additional batch of Ambulances for 2018/19. After this point a smoothed out and closely-regulated annual replacement programme has been devised to ensure a regular refreshing of vehicles for the fleet.

60 Fast Response Units have recently been deployed and will be supplemented later this year with an additional 60 units, allowing us to remove old, fuel-hungry, unreliable vehicles from service.

These initial steps will go a long way in helping us build a modern lower-emission, zone-compliant fleet.



Make-Ready -

Ensuring that often over-stretched ambulance crews can get on with the job of delivering patient-care, rather than distracting them with the burden of cleaning and restocking their ambulances is another measure that we have identified as essential. To this end we have already invested £8m in developing our Make-Ready function.

There will be 14 hubs delivered by end of July this year; 12 are already established and making a real difference, not just to our ambulance crews, but also in improving the patient experience. In addition we have established a network of secure stores which support the provision of stock for the hubs, removing the burden of bureaucratic paper work and the raising of orders and stock control, for station management allowing them to focus on delivering patient care and supporting staff.

Improving drug control and administration -

Bespoke temperature controlled drugs rooms are also being established. These are aligned to the hub network providing an infection-controlled compliant space secure for pre-packed, audited packs on station. Each pack has pre-populated drugs forms enabling our clinical staff to complete



quickly and efficiently and limiting the opportunity for mistakes; each drug form is directly linked to each patient report form, confirming by batch number what drug dose has been administered. As a paramedic myself I understand only too well that while our crews by necessity must manage and administer an increasingly diverse range of medications, the handling of these drugs is an additional pressure in which they deserve and need full support.

Exploiting Vehicle Technology -

We are looking to exploit a range of new technologies, not only to enable our frontline staff to connect to wider healthcare systems and to maximise referral pathways, but also to facilitate virtual case-conferencing, clinical support, telehealth and telemedicine, as well provide safe and secure mobile-computing for operational staff, allowing them to complete their online learning, raise issues, manage their shifts and other essential admin in a reliable, easily-accessible manner.

On-board technology will record all maintenance activities associated with each unit, providing end-to-end assurance of the vehicle, its contents and its condition before deployment. This will reduce the paper burden and duplication throughout the system and improve the patient experience - even before first contact with the patient!

Finally, technology will be used to improve safety for our staff and patients, providing a deterrent to assaults, fraudulent claims ("bash-for-cash") and other risks to our staff. Using a driver safety system, we can improve driver safety and performance and limit the clinical impact that poor driving may have on a patient's condition.

Although everybody across LAS is being challenged at the moment by recent major incidents, it's also an incredibly exciting time to be part of LAS. We are looking forward to doing things differently, benefitting staff and patients alike. The Trust's values are embodied in the support for this strategy and my team have particularly relished the opportunity to better support patient care and frontline staff in the job they do.'

To discuss the contents of this article with Justin please contact him at the following email address: justin.wand@lond-amb.nhs.uk

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Innovative Pilot Project Underway in Saskatchewan!

Saskatchewan is the birthplace of “Medicare”, Canada’s first universal healthcare plan. The province leads the nation in health system innovation and over the past number of years has invested heavily in the implementation of a provincial electronic health record (eHR) that captures patient information at point of care.

Patients and practitioners can access this information from anywhere in the world at any time, through a secure website tool called the “eHR viewer”. The eHR Viewer provides access to laboratory results, medication and immunization information, medical imaging reports, clinical encounters, structured medical records, chronic disease information, and discharge summaries. Approximately 3,300 Saskatchewan health care providers, including physicians, pharmacists, technologists, and nurses, have access to the eHR Viewer; paramedics cannot access the system.

Currently, the Saskatchewan College of Paramedics (paramedic regulatory body), along with the Regina Qu’Appelle Health Region and eHealth Saskatchewan, are midway through a pilot project that provides paramedics with access to the eHR viewer.

“After completing a literature review and an interjurisdictional scan, we could not locate any research specific to paramedics and their use of electronic health information,” says Jacquie Messer-Lepage, Executive Director of the Saskatchewan College of Paramedics. “As far as we know this is a unique project, so we are working with a research expert to ensure that the results are statistically relevant.”

A key objective of the project is to make certain that patients are not impacted negatively. The project is tracking clinical outcomes and provider experiences to ensure the appropriate use of information and treatment.

Improved clinical decision-making is another goal of the project.

“There’s a risk associated with giving people information and not knowing for certain that they actually have the breadth and depth of knowledge to interpret that information properly, which is why we’ve chosen a pilot project model. Anecdotally, we believe that additional patient information will help

practitioners make better clinical decisions. If we can demonstrate that the added information actually improves a patient’s outcome, that’s a real coup,” says Jacquie.

The project is also intended to contribute to evidence in paramedic practice and inform regulation of the profession.

Chris Fay, an Advanced Care Paramedic with Regina Qu’Appelle Health Region EMS has been working with the viewer and can see the potential to help paramedics on the job.

“There are some patients where it’s nice to know this information but it doesn’t change anything,” says Chris. “But there have been some key ones where it’s really helped to make decisions, and you can see where it could get better.”

The eHR Viewer allows healthcare professionals to login using the patient’s health card number, or their name and birthdate, which helps to confirm their identity.

“There are different tabs, so under Clinical Encounters, I can see the last couple years of when they’ve interacted with the healthcare system,” says Chris.

Chris goes on to give an example of a recent patient who wasn’t feeling very well. The person had slight dementia, was living at home, and couldn’t really tell the Chris any history at all. Through the eHR Viewer, Chris could see they had been at the hospital recently, but the patient didn’t know why, nor did they know if any of their medications were new.

Chris was able to look up their bloodwork and determine that they should go to Emergency. “The patient had bloodwork done the day before and their INR was through the roof, but they hadn’t had a call back yet from the doctor,” says Chris. “The family wasn’t sure if they should just go back to their doctor again or go to Emergency. They knew they had to go see



somebody, but we said no you have to go to Emergency. It was the only option.”

“There’s still a lot of work to do on this project. It’s a monumental task intended to advance patient care,” says Jacquie. “At the end of it, we hope to be able to quantify patient outcomes and determine if the added information has improved those outcomes.”

In the meantime, Chris uses the eHR Viewer every day. “It can open a whole new picture of what is going on as compared to just ‘I don’t feel good.’ It gives me a lot of insight,” he says.

The College hopes this pilot project will lead to all Saskatchewan paramedics having access to the eHR viewer in the near future.

“Paramedics are one of the few professions that work in the field with limited patient information. When this information became available, it made sense to see if it would help practice, or if it actually added no value whatsoever,” says Jacquie. Early data suggests it’s a positive move in advancing patient care.

To find out more about this project or to make an inquiry with the College, please contact us at:
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Phone: 1-306-585-0145
Email:
office@collegeofparamedics.sk.ca



Urgences-santé – Building a Better Communications Centre Through... Better Staff Communications!

Amongst the biggest challenges a 24/7 public security service faces is the need to stay technologically up-to-date in all aspects of the profession; it's a battle that cannot be paused, even temporarily. Urgences-santé, the Emergency Medical Service provider for the Montreal and Laval population, confronted that challenge head-on last year, in a bid to modernize its emergency call center.

When the decision was made 18 months before the move, our Communication Center had outgrown its facilities and to perform an upgrade on any of our outdated systems – telephony, security and ergonomics – relocation was required. This couldn't happen at the expense of our patients or employees, who stayed at the heart of our decision – the transition had to be a smooth one. The answers to many of our critical questions would be found on the journey. It would be another historic moment for the organisation.

Change is always a challenge; we all both love and dread a change of pace, mostly because of all the possible outcomes we can't foresee. After we found the location of our new headquarters, home to our dispatch center; the response of our employees to the news was far from unanimous. Some even said they would opt for an early retirement to avoid the move. To prevent this from actually happening, we put together several employees' committees to gather and measure staff perception towards the new facility, from desks and chairs to how the transition and the box-making should take place, we involved our employees in every aspect of this colossal move so that they would feel comfortable in their new work environment. We also

wanted them to feel how important they are to our organisation and how their opinions matter to us. New means of communication were created especially for these employees, to keep them fully informed and involved in all the events about to unfold. This allowed for a smoother transition and reassured many of our employees that their needs were taken into account and that the move would not only be better on the technological side, but would also improve their work environment.

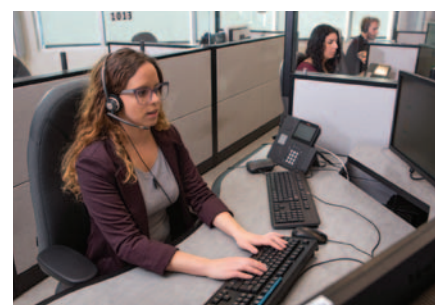


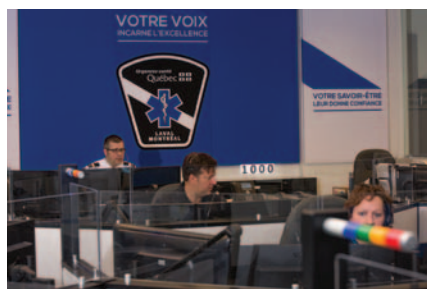
We also took the time required to accustom them to their new tools. Going from analog to digital telephony may seem trivial to many, but as the sole way of communication between our EMDs and the callers, our employees felt a change in the relationship they had with the patients. They for instance

Urgences-santé
Québec 

feared that their voices couldn't convey their sympathy. Changing a technology that one has relied on since 1993 also sparked some concerns on possible failures. In perspective, it was heartwarming to hear that the main concerns of our employees were truly centered on the patient and giving them as good a service as they could before. To help this transition, "super-users" were chosen. These employees were given a more in depth training with the new technology and were therefore able to help when their colleagues experienced bugs.

We also worked on upgrading many other aspects of the resources surrounding our EMDs. We eliminated most of the single points of failure, which were numerous at

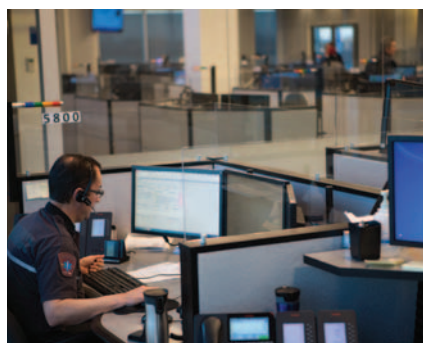




our previous location. We ensured that incidents wouldn't have an impact on our operations. We also took that opportunity to upgrade our back-up Communication Center with the latest technologies, which now can accommodate as many EMDs as our new facilities. And this also enabled us to adjust the level of security around our operations, ensuring that no matter what, we'd be able to answer all of our population's calls. We also integrated an important digital television mosaic where all information related to traffic, incoming call volume, ambulance availability and location and the local news are collated in real time and displayed for all to see. This information was all previously available to our team on different mediums, but they can now, at a glance, have a complete portrait of the reality for our teams on the road.

And then we moved! The much anticipated site and all the technological systems were finally ready on February 16, 2016, eighteen months after the initial decision to move. The excitement in the air was palpable. How would the line transfers go? Would the help of our neighbouring partners be required for calls? At 04:18 a.m., we received the first call. All was well; the computerized dispatch system was working, the forward of calls to our dispatchers worked and a new era had started for us. It took 6 hours to complete the transfers which were completed without any disruption to our service. No calls lost, no patients left unattended.

And then what? The bidirectional means of communication we had created for the move stayed, allowing us to find new bugs and work out the kinks, issues and fears of our employees and helping us to interact better with them. We are also taking every opportunity for improvement. And, most importantly, our employees' worries are fortunately long gone, as they now appreciate their new inviting work environment, giving regular feedback that continuously improves our system and process.



We have recently started a pilot project in collaboration with Info-Santé, Quebec's telephone health consultation service, so that their nurses can make a second and more thorough evaluation of the patient's condition for low acuity calls. This allows us to make sure that all symptoms are considered during the brief interview our dispatchers first go through. Also, these nurses are trained to give clinical advice to patients. For instance, they can orient the patient to the nearest clinic, give them health recommendations, teach self-therapy techniques, or suggest an alternative way to get to the nearest hospital. This project has thus far allowed us to redirect nearly 30% of the calls transferred through this process. And, all in all, it greatly helps our emergency response service by allowing us to use the right resources for the right tasks.

Urgences-santé
Québec



We will surely not stop there. We are already evaluating other ways to better serve our population from our Communication Center...

About Urgences-santé

Urgences-santé is the sole public organization of pre-hospital emergency services in the province of Québec for the islands of Montréal and Laval. With 950 paramedics and 100 EMDs, we cover 2.4 million people, and answer an average of 375,000 calls annually, which represents more than a third of all Quebec medical emergency calls. Our fleet of 154 ambulances is deployed from two centers in Montreal and one in Laval. During peak hours of the day more than 100 ambulances are deployed on the road. We fall under the direction of Quebec's Ministry of Health and Social Services and are the largest of 10 communication centers serving the province. Our Communication Center implemented the Medical Priority Dispatch System™ (MPDS®) in 1991 and was among the Academy's first accredited centers of excellence (April 1995).

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From the Africa Desk of Ambulance Today



By Michael Emmerich

At Ambulance Today we are always looking to expand our ambulance news coverage to different parts of the globe, which is why we are proud to launch our new segment 'From the Africa Desk' and introduce our Africa Editor, Michael Emmerich.

The Africa quarterly editorial will cover the main regions in Africa, with opinion pieces from various regional role players. Our focus will be on the key regions across the continent; East, West, Central, Sub Sahara and North Africa. I will explore key and relevant NGO's and the vital role that they play in brining medicine and emergency medicine to the continent.

As an introduction to the African continent, I will be giving you an overview of some of the pressing issues which create increased challenges for those working in the field of medicine. You, the reader need to understand that the issues facing communities across Africa are also encountered by medical and aid workers; myself and many of my colleague's have been struck down with Malaria, Typhoid, Cholera and even worse at times in the line of duty. Fortunately for us, most of us have more robust immune systems than our patients.

1. Water

Water shortages threaten food production and energy supplies and put additional stress on governments struggling with poverty and social tensions. Water plays a crucial role in accomplishing the continent's development goals; many countries on the continent still face huge challenges in attempting to achieve the United Nations water-related Millennium Development Goals (MDG)

Africa faces endemic poverty, food insecurity and pervasive underdevelopment, with almost all countries lacking the human, economic and institutional capacities to effectively develop and manage their water resources sustainably. North Africa has

92% coverage and is on track to meet its 94% target before 2015. However, Sub-Saharan Africa experiences a contrasting case with 40% of the 783 million people without access to an improved source of drinking water. This is a serious concern because of the associated massive health burden as many people who lack basic sanitation engage in unsanitary activities like open defecation, solid waste disposal and wastewater disposal. The practice of open defecation is the primary cause of faecal oral transmission of disease with children being the most vulnerable. Poor sanitisation causes numerous water-borne diseases and causes diarrhoea leading to dehydration, which is still a major cause of death in children in Sub-Saharan Africa.



Water provided for local villagers

"Africa is the fastest urbanizing continent on the planet and the demand for water and sanitation is outstripping supply in cities," explains Joan Clos, Executive Director of UN-HABITAT

2. Health Care Workers

Africa has faced the emergence of new pandemics and resurgences of old diseases. While Africa has 10% of the world's

population, it bears 25% of the global disease burden and has only 3% of the global health work force. Of the four million estimated global shortage of health workers one million are immediately required in Africa.

Community Health Workers (CHWs) deliver life-saving health care services where it's needed most, in poor rural communities. Across the central belt of sub-Saharan Africa, 10 to 20 percent of children die before the age of five. Maternal death rates are high. Many people suffer unnecessarily from preventable and treatable diseases, from malaria and diarrhoea to TB and HIV/AIDS. Many of the people have little or no

Biography: Michael Emmerich



Michael has been involved in Emergency Medicine, Fire and Rescue and its associated fields for almost 30 years, having worked as a remote site medic, project manager, consulting principal, general manager, EMS educator and clinical governance

director for various medical and health related industries/companies. Michael has spent many years involved in training and mentoring medical teams including underground Mines Rescue Teams (Proto) in South Africa, The DRC, Zambia, Tanzania and Gabon, and is qualified as an ACLS, ESI and ITLS instructor. One of Michael's current areas of locum work is as a trainer, mentor and course developer (adult CME programmes), mentoring new medics in a controlled clinical setting while still actively responding to calls as a paramedic. His other big passion is community-run volunteer EMS systems, of which he is currently setting up a third such system in Southern Africa. He consults for three African-based companies on new market areas and explores innovative ways of entering the market. He writes professionally on medical matters (amongst others), and has been published in a Global Health Forum (TWIGH), Infection Control Journal (InfectionControl.tips) and the ECSA (Emergency Care Society of South Africa) Journal. He has spoken at conferences on Medical Treatment, Health Issues, Fire Management and Mines Rescue.

*Illegal miners preparing to go underground DRC*

access to the most fundamental aspects of primary healthcare. Many countries are struggling to make progress toward the health related MDGs partly because so many people are poor and live in rural areas beyond the reach of primary health care and even CHW's.

These workers are most effective when supported by a clinically skilled health workforce, and deployed within the context of an appropriately financed primary health care system. With this statement, we can already see where the problems lie; as there is a huge lack of skilled medical workers and the necessary infrastructure, which is further compounded by lack of government spending. Furthermore, in some regions of the continent CHW's numbers have been reduced because of war, poor political will and Ebola.

3. Political Instability

Countries that are politically unstable, will experience problems with raising investment capital, donor organisations also battle to get a foothold in these countries. This will affect their GDP and economic growth, which will filter down to government spending where it is needed most, e.g.: with respect to CHW's. In some regions, I have worked with CHW's who have not been paid for months and survive on the kindness and generosity of their patients, communities or NGO's.

Political instability on the continent has also led to regional conflicts, which will have a negative impact on the incomes of a broad range of households, and lead to large declines in expenditures and in consumption of necessary items, notably food. Which in turn leads to malnutrition, poor childhood development and a host of additional health and welfare-related issues. Never mind the glaringly obvious problems such as, refugees, death of bread-winners etc...

Studies on political instability have found that incomplete democratization, low

openness to international trade, and infant mortality are the three strongest predictors of political instability. A question to then consider is how are these three predictors related to each other? And, does the spread of infectious disease lead to political instability?

4. Poverty

Poverty and poor health worldwide are inextricably linked. The causes of poor health for millions globally is rooted in political, social and economic injustices. Poverty is both a cause and a consequence of poor health. Poverty increases the chances of poor health, which in turn traps communities in poverty. Key mechanisms stop poor people climbing out of poverty; notably; the population explosion, malnutrition, disease, and the state of education in developing countries. These factors stop the poorest from reducing poverty or implementing developments. These are then further compounded by corruption, the international economy, the influence of wealth in politics, and the causes of political instability and the emergence of dictators.

*Local transport Gabon*

The new poverty line is defined as living on the equivalent of \$1.25 a day. With that measure based on latest data available (2005), 1.4 billion people live on or below that line. Furthermore, almost half the world, over three billion people, live on less than \$2.50 a day and at least 80% of humanity lives on less than \$10 a day. HCW's who are deeply committed to working in their communities survive on very low monthly salaries, with little or no support from regional governments.

5. Access to Food

The number of hungry people has fallen by over 200-million since 1992, so says the 2014 Hunger Map and a report titled "The State of Food Insecurity in the World: Strengthening the Enabling Environment for Food Security and Nutrition" jointly prepared by World Food Programme (WFP), the Food and Agriculture Organisation (FAO) and the International Fund for Agricultural Development (IFAD).

They go on to say that 805 million people, or one in nine of the world's population,

*DRC Transport*

go to bed hungry each night. But in Sub-Saharan Africa, this is even worse, with one in four people suffering from undernourishment. The report says that sub-Saharan Africa faces the most severe challenges in securing its food; mainly due to sluggish income growth, high poverty rates and poor infrastructure, which hampers physical and distributional access.

It states: "In general, in Africa, there has been insufficient progress towards international hunger targets, especially in the sub-Saharan region."

Regional conflicts, greedy power-hungry warlords all demanding access to food, how it is priced and distributed. This can affect when and if crops are planted, and who gets the produce, and then who sells it. Food can be and is used as a weapon, to control people or even to get votes, Zimbabwe and South Africa are cases in point.

The cost of food is then another key factor; Lester Brown wrote in 2011's "Food Issue" of the Foreign Policy magazine:

Americans generally spend less than 10% of their income on food, but there are 2 billion people who live in poverty around the globe who spend 50 to 70 percent of their income on food.

A slight increase in the cost of food for these persons could mean life or death, and the costs when they do escalate, are beyond the control of the consumer, at times manipulated by external forces, for their own (political or economic) gain.

On a sad and macabre note, Saudi Arabia, South Korea and China ventured beyond their borders in 2008 to grow grain in

*Local art in CAR*



River crossing DRC

cheaper regions, such as Ethiopia and Sudan, where, of course, people were starving and did not get any of the planted grain.

Closing Thoughts

Significant gaps are noted in the training of educators, and their academic facilities, which are over-burdened with large classes, poor or no sanitation and unsafe/unhygienic living conditions for the learners. Teaching takes place with no skills labs, anatomical models or access to textbooks or the internet. Many countries have no standardised curriculums, national or regional registers for Healthcare Workers. There are many challenges to improving the fragile healthcare systems in Africa and with

CHW's forming the backbone of healthcare service delivery in Africa, they face the cutting-edge reality of working in a difficult environment under very trying conditions. Evidence-based practice can have a positive impact on the African society that we serve, an impact that can help us achieve the Millennium Development Goals, but more importantly deliver better patient care, and it starts one patient at a time.

As practitioners, we need to be more involved in research, pushing for changes to policy or actively getting involved with policy and decision-making groups and NGO's. South Africa has one of the more robust EMS systems on the continent but we still pale into comparison with the developed world. South Africa has approximately 1 ambulance per 20 491 persons, compared to Australia 1 to 7373 and the USA 1 per 3996. Plus, we only number around 2000 ALS paramedics for a population of over 55 million. So yes, the struggle is real, but there are many of us who love and work on this great continent, remaining passionate and focused on delivering patient care and teaching under trying conditions, in the African bush.



Ambulance in Senegal

To my fellow passionate EMS friends across the world, I trust you will walk this continent with me as we delve deeper into the respective regions in future articles. Till then be safe out there and stay passionate.

Tell Michael what you think about this article by emailing him at:
mikesnexus@gmail.com

If you have any ideas for special feature articles on ambulance care in any part of Africa we would like to speak with you about them.

Equally, if you have any news items you would like us to run either in our magazine or on our daily-updated global ambulance news website please email us at:
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Regulatory Evolution of Paramedicine in Nova Scotia

by Bud Avery ACP, Karl Kowalczyk ACP, Judah Goldstein PCP PhD, Michelle MacDonald RN and Andrew Travers MD

Since the early inception of paramedicine within Nova Scotia there has been an ongoing evolution of the profession. Prior to 1995, Nova Scotia relied on approximately 50 funeral home, private and public ambulance companies to provide heterogeneous out of hospital care.

Following the election of Dr Ron Stewart into the NS House of Assembly in 1993, and his appointment as Minister of Health, several commissioned reports followed resulting establishing Emergency Health Services and enabling legislation with the Emergency Health Services Act in 2005¹. This resulted in the establishment of a high performance public utility model system of care. During this time some of the common philosophical strategies demonstrated by the broader profession included: [1] paramedics are clinicians and make healthcare decisions, and [2] paramedics are not a replacement but rather an enhancement to an effective healthcare team. In November 2015, Bill 123 Paramedics Act was passed within the NS House of Assembly enabling the final steps towards implementation of self-regulation of the profession within the province under the new College of Paramedics².

Systems of Care Evolution of Paramedicine in Nova Scotia

Paramedicine has evolved from a treat and transport system with traditional paramedic roles to a more diverse practice. Nova Scotia paramedics continue to work within the traditional ground ambulance setting, practicing within their primary, or advanced, or critical care scope using expanded evidence-based clinical practice guidelines³. Critical care paramedics staff an integrated critical care transport system that includes a CCT ground ambulance, along with rotor

wing and fixed wing air medical transport capabilities. Mobile Integrated Healthcare (MIH) programs have been established in Nova Scotia since 2000 with paramedics assuming collaborative roles working in the community and in nursing home settings. In addition, the Collaborative Emergency Centre (CEC) model was established to improve access to healthcare in rural settings. Paramedics work collaboratively with nurses, and offsite physician oversight to ensure timely access to primary and emergency care. Alternative practice settings for Nova Scotia paramedics include the Medical Communication Centre, Emergency Departments, outpatient clinics, inpatient units, governmental offices, offshore industry, industrial paramedicine, and within the department of justice, communications centre, and military.

Evolution of the Paramedic: Patient Interaction

Throughout both the various locations of practice, and the employed role, Nova Scotia paramedics expanded their scope and role in the broader healthcare system



providing safe and quality patient care⁴. The clinical maturity of the profession as illustrated briefly in the following initiatives:

- Extended Care Paramedicine Program where paramedics bring many ED-based therapies to long-term care facilities, mitigating the need to transfer patients to overcrowded emergency departments.
- Enhanced prehospital STEMI reperfusion strategies including: primary and secondary prehospital fibrinolysis; PCP/ACP activation of PCI lab; and the evolving 'drip and ship' programs.
- Paramedics providing non-transport palliative care at home with both basic (e.g. IV hydration, minor symptom relief) and advances roles (e.g. providing breakthrough pain management);
- Community Paramedicine: paramedics providing primary care interventions at patient homes and clinics.

Evolution of the Paramedic: Non-Medic Healthcare Provider Interaction

Collaborative care models promote role optimization so the right provider is providing care at the right time in the right place. Collaborative interdisciplinary care occurs in a variety of settings and may include multiple practitioners, like paramedics, nurses, doctors and others, based on the needs of the population. The



evolution of the paramedic role in Nova Scotia is aligned with this notion of role optimization. The expanded paramedic role has occurred through consultation with health profession regulatory bodies and employers and resulted in the enhancement of existing healthcare teams to better meet the needs of Nova Scotians. Paramedics are members of care teams within traditional practice settings like hospitals but also non-traditional settings, including Collaborative Emergency Centres, and long-term care facilities in Nova Scotia.

Health regulatory bodies in Nova Scotia have embraced the concept of inter-professional collaboration for years as demonstrated by the creation of an informal network of health regulatory bodies that evolved into the formal Regulated Health Profession Network (Network). The Network was established legally through the provincial legislation, the Regulated Health Professions Network Act in 2013⁵. The Network promotes regulatory excellence through voluntary collaborative regulatory processes, sharing best practices and resources. Paramedics have been a part of the Network for several years and will become a full member once the Paramedics Act comes into force.

Evolution of the Paramedic: National Interaction

Developing paramedic roles are often system enhancements rather than stand-alone services requiring collaboration with other health team members. This makes collaborative planning and professional relationship building essential. In addition to provincial relationship development with Network members, a federally funded project in 2009 resulted in the development of the Canadian Organization of Paramedic Regulators (COPR) (<http://www.copr.ca>). This collective of provincial paramedic regulators share regulatory practices, agree on competency profiles and is consulted when new or non-traditional role demands are considered. Like other health professionals, paramedics are able to move inter-provincially with relative ease due to agreed-upon national standards for entry to practice and licensure. A direct result of national regulator collaboration.

As paramedic practice continues to evolve and roles expand, the development of relationships with local and national organizations will continue. The continuing development of paramedicine as a profession with common educational requirements, roles and scope of practice and shared research requires a collective voice.



Future Steps in Nova Scotia

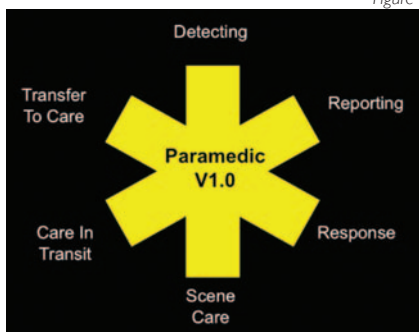
College of Paramedics Implementation

The College of Paramedics Nova Scotia came into operations on April 1, 2017, (<https://www.cpnsc.ca/>). Under the Executive Direction of Karl Kowalczyk, one of the many items moving forwards is remaining open to both feedback and thoughts from the public and paramedics to enable the establishment of the most effective structural (e.g. public and paramedic representation on the College Council and paramedic participation on committees, professional education) and process elements (e.g. effective policies and procedures) which will be the foundation of the Nova Scotia paramedic regulatory system.

Revisiting the EMS Star of Life

The EMS star of life was designed by Leo R. Schwartz, Chief of the EMS Branch, National Highway Traffic Safety Administration (NHTSA), and was trademarked in 1967. The six prongs of the EMS star of life defined the scope and role of paramedics at a very high level (Figure 1). In 2017, 50 years after the derivation of the logo it is perhaps time to reconsider the form of the ubiquitous graphic that is translated as paramedicine. When one ponders a 'star' they infer a constellation. A galaxy. This may be a suitable reference to indicate that paramedicine is one of many entities in the macrocosm of healthcare. However, a reference to a 'star' may perhaps be also restrictive in that it is insular, gravitational and isolated to the next celestial entity.

Figure 1



Only for the sake of discussion, perhaps a more contemporary is a 'gear' (Figure 2). The unique characteristics of the paramedic profession and the anatomy of the six unique cogs of the gear: the size and precise angle of the teeth of each individual teeth coming together to create the perfect gear that enables other gears to function effectively in the expansive and complex healthcare system.



Figure 2

Revisiting the 6 Roles of the Profession

The original 6 postulates of the EMS star of life are listed in Figure 1. Although important in terms of its legacy and history, they are dated and restrictive for an evolving profession. Through ongoing consultation with the paramedics of Nova Scotia, proposed themes of populating the six domains have included the following:

- **Types of EMS Care:** Primary Care, Basic Life Support (LS), Advanced LS, Critical Care LS, Continuing Care Support, End of Life Support





• **Area of Practice:** Community, Ground Ambulance, Air Ambulance, Emergency Department, Inpatient Unit, Outpatient Unit

• **Health Advocacy:** Public Health, Primordial, Primary, Secondary, Tertiary, and Quaternary Prevention.



Figure 3

A recent publication by Tavares et al demonstrated demonstrated six roles in a methodologically elegant study (Figure 3)⁵. There are some subtle differences in the CanMeds six roles of the healthcare competency framework (Figure 4). Are we really so different as clinicians that we have to have something different from physicians and nurses, or are we all in the



Figure 4

practice of taking care of people? The pros of cons of finalising the six struts of the NS EHS 'star' or 'gear' remain controversial. Regardless, the evolution of the profession in Nova Scotia continues.

Special Thanks to the Following EHS Clinicians, Colleagues and Collaborators

Bruce Sangster, Colleen Carey, Darrell Bardua, Derek LeBlanc, Donna Warren, JJ MacIsaac, Karl Kowalczyk, Lawrence Briand, Maureen Sturgeon, and Paul Landriault, Colleen Carey, Maureen Leslie, Bruce Sangster, Bruce Cruickshank, Angela Hickox, Craig Morrison.

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Taking care to the patient

By Mark Bargon

The Scottish Ambulance Service is continuing its drive towards fully delivering its 2020 strategy Taking Care to the Patient. At the heart of this strategy is providing patients with the highest quality of care in the most appropriate setting.

Responding to more than 1.6 million calls for emergency and non-emergency assistance each year, the Scottish Ambulance Service is truly nationwide, providing accident and emergency as well as patient transport services across Scotland's urban, rural, remote and island communities.

Last year the Service introduced a 12-month pilot of a new response model following the most extensive, clinically-evidenced review ever undertaken in the UK, with more than 500,000 patient calls examined.

The most significant change to the time-based targets system in Scotland since 1974, the model more accurately identifies patients with immediately life-threatening conditions such as cardiac arrest and helps ensure all patients receive the response they need based on their clinical condition.

Where it is clinically appropriate, the Service is also committed to seeing and treating more patients in their own homes and

communities, rather than taking them away from family support and into a hospital environment. This is supported by the development of specialist paramedics, whose training in urgent and emergency care enables them to treat patients in a homely setting and refer them for an appropriate follow-up where necessary.

In turn, this means more ambulance resources are available to respond to emergencies and immediately life-threatening calls, helping to save more lives and further improve patient outcomes. The Service has also committed £11.3 million of additional primary care funding to deliver more frontline and ambulance control centre staff and support the development and training of 1,000 paramedics over five years.

Delivering this transformational change requires ongoing investment in equipment and vehicles. The Service's approved £77.8



million vehicle replacement project is entering its second of five years and has provided an opportunity to develop a fleet that will meet both immediate and long-term needs, taking emerging technology and innovation into account.

Engagement with staff and patient groups has brought benefit to each of the diverse vehicle types operated by the Service. Following user groups and wider engagement, the Service has evidenced where more traditional concepts remain the design of choice but also areas where these can be improved for patients, staff, sustainability and best value.

The introduction of 167 replacement emergency ambulances over 12 months will be completed before the demanding winter period and will give the Service the enviable position of having half of its frontline operational accident and emergency fleet be less than a year old.





The design has been developed to improve patient and staff experience in many ways, including automatic transmission and a patient lift designed exclusively for ambulance use. Having incorporated bariatric capability into vehicle design for several years, the Service is supporting this by introducing powered trolleycoats.

Scheduled care is integral to the Service's strategy and the design of the initial 110 replacement vehicles has followed the same stakeholder engagement approach, with valuable input from patient groups giving insight into patient needs and experience. Sustainability is also a foremost consideration and the Scottish Ambulance Service is reviewing how to minimise environmental impact without compromising patient care.

Where diesel vehicles have been specified as the most effective in a role, the early introduction and ongoing use of EU6 compliant engines set dramatically higher standards on NOx emissions (the oxides of nitrogen which are linked to urban air quality issues) and particulates (soot). This results in emissions from the diesel vehicles being close to similar capacity petrol engines, while still offering far lower CO2 emissions.



The focus looking forward is on alternative fuels, reducing the use and reliance on fossil-fuelled vehicles. Having considered hydrogen fuel and the short term challenges around the supply infrastructure and vehicle availability, the Scottish Ambulance Service committed to trialling electric powered vehicles. It is the first UK service to bring electric powered paramedic rapid response vehicles on to its operational fleet with the introduction of converted BMW i3 REx response vehicles in Edinburgh, Aberdeen and Glasgow.

Initial trials of the i3 REx in partnership with BMW arranged through the Service's National Vehicle Design and Equipment Group were very positive and tested performance exceeded existing vehicles in this role.

Trevor Spowart, General Manager of Fleet Services, said: "The acceleration and manoeuvrability even when fully loaded was beyond our expectations and although the excellent range on the battery exceeds our normal paramedic response shift needs, with the range extender specification our staff have the reassurance that they will never be in a situation where they cannot respond due to range."



The i3 REx conversions use the latest technologies to reduce weight and manage power and have been designed for integration with the Telehealth communications hub providing the WiFi network for the removable tablets used by the Service's frontline staff.

Electric charging points are being installed in the Service's stations in Aberdeen, Edinburgh and Glasgow.

Director of Finance and Logistics Gerry O'Brien, chair of the Scottish Ambulance Service's Sustainability and Environment Group, said "We all have a role to play in reducing our impact on the environment. This is essential given the effect



environmental change can have on public health.

"All of us want to live in a Scotland with cleaner air and where we have healthier lifestyles and better health outcomes. We are always looking at ways to reduce our emissions, including exploring alternative fuel options. The introduction of the BMW i3 REx into our three major cities will help us reduce our carbon footprint in these areas."

Aligned to the long-term investment, the Service's National Vehicle Design and Equipment Group is also focusing on ensuring the right vehicles and equipment are in place to support the new specialist paramedic roles.



"Scotland has a fantastic and diverse landscape, with vehicles being placed in cities and remote islands, motorways and single-track mountains," said Trevor.

"The challenges are to get the right vehicle in each location through all seasons – which we often have in one day – and be able to safely and effectively transport patients, staff and equipment."

To find out more about the Scottish Ambulance Service, please visit:
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£17,001-£20,000	£11.50
£20,001-£25,000	£14.00
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A leap of faith

Over a weekend in May UNISON held its biannual ambulance seminar at Warwick University, bringing together ambulance service activists from across the UK. The theme of this year's seminar was health and wellbeing. With the current pressures in the system – rising demand and reducing resources – staff are overwhelmed.

**By Alan Lofthouse
National
Ambulance
Officer, UNISON**



The seminar gave us the chance to speak to activists about the work that ambulance employers, NHS Employers and Trade Unions are doing to improve the health and wellbeing of ambulance staff. There are a number of work streams around themes such as reducing violence, staff engagement, leadership development, bullying, wellbeing and mental health – to name a few.

In 2015, the NHS pay settlement contained a commitment to improve the health and wellbeing of ambulance staff. In December 2015, UNISON hosted a health and wellbeing seminar in partnership with employers to learn from external experts, national research and evidence based practice, as well as sharing best practice in staff support and wellbeing.

During the work on recruitment and retention it was recognised that pay and reward are important factors to keep hold of staff and reduce attrition but it is all for nothing if they are forced to leave because the work is too bad for their health and wellbeing.

There are of course some factors that we will never be able to change in the ambulance service, such as the 24/7 nature of the work or the exposure to traumatic experiences, these are always going to be part of the job. However, we can start to look at systems to ensure we reduce

the causes of harm, recognise the impact on people and provide the right kind of support to staff when they need it the most. It is like the 3 Ps from basic training:

Preserve our staff and keep them from harm

Prevent avoidable illness and injuries

Promote wellbeing and a positive culture of talking openly about mental health

Ambulance staff are the key to providing high quality care to patients in an environment of increasing demand. Evidence tells us that when they are engaged and well, they provide better patient outcomes and high quality care. When we talk about enabling ambulance staff to deliver effective patient care, supporting their health and wellbeing is not just a nice thing to do... it is an essential.

The last few years of ever more difficult target chasing have left staff tired, demoralised and unwell. It is not just about the reactive mechanisms and support systems that we have in place for staff. We need to focus on root causes and identify what actions can be taken to prevent poor health and wellbeing in the first place, through leading the development of healthy working environments and organisational cultures that promote higher levels of morale, motivation, staff satisfaction and engagement. We need to start to change the culture of the ambulance service, putting the health and wellbeing of staff and patients as matters of equal importance.

I would like to point to one example where we are seeing the green shoots of change, and that is in the amazing work that our

colleagues in Mind have done through the Blue Light Programme and the volunteers in all the emergency services acting as Blue Light Champions. I have noticed the change in how ambulance staff are speaking about mental health. Our social media posts on mental health seem to get an increasing amount of support and speaking to our activists across the country it was clear that ambulance staff are finding themselves more able to talk about mental health without it being seen as a weakness, sharing experiences and supporting each other.

There is still a long way to go and cultures do not change quickly. The same change is needed for staff health and wellbeing. We need to find a way to balance the tension between ensuring patient care is maintained at its highest standard and ensuring staff wellbeing is not compromised to achieve it. This is a real challenge for employers, leaders, local managers and for us in the trade union movement.

At a recent strategy meeting that I attended on behalf of the ambulance trade unions – with NHS Improvement, NHS England, ambulance services, and others – I noticed a change in language. They started by talking about sickness levels and how they can be reduced, but what was reassuring was the people in the room talking about improving the health and wellbeing as the primary focus which should then lead to improvements in other areas – sickness being just one.

I was heartened to hear this and we will wait and see whether this is just lip service or a genuine will to change focus. Ambulance staff have a healthy cynicism for these kinds of things. I think this comes from years of working in a caring service and not feeling cared for by the service. It stems from a disconnect between staff and senior leadership and from a lack of engagement. However, for things to change we need to start to break down some of the ways we see each other, not as 'us and them,' but as one team delivering patient care and looking after each other. For this to happen it will take a leap of faith for us all to move from the past and embrace the future.

Alan welcomes feedback from ambulance staff and can be contacted at:

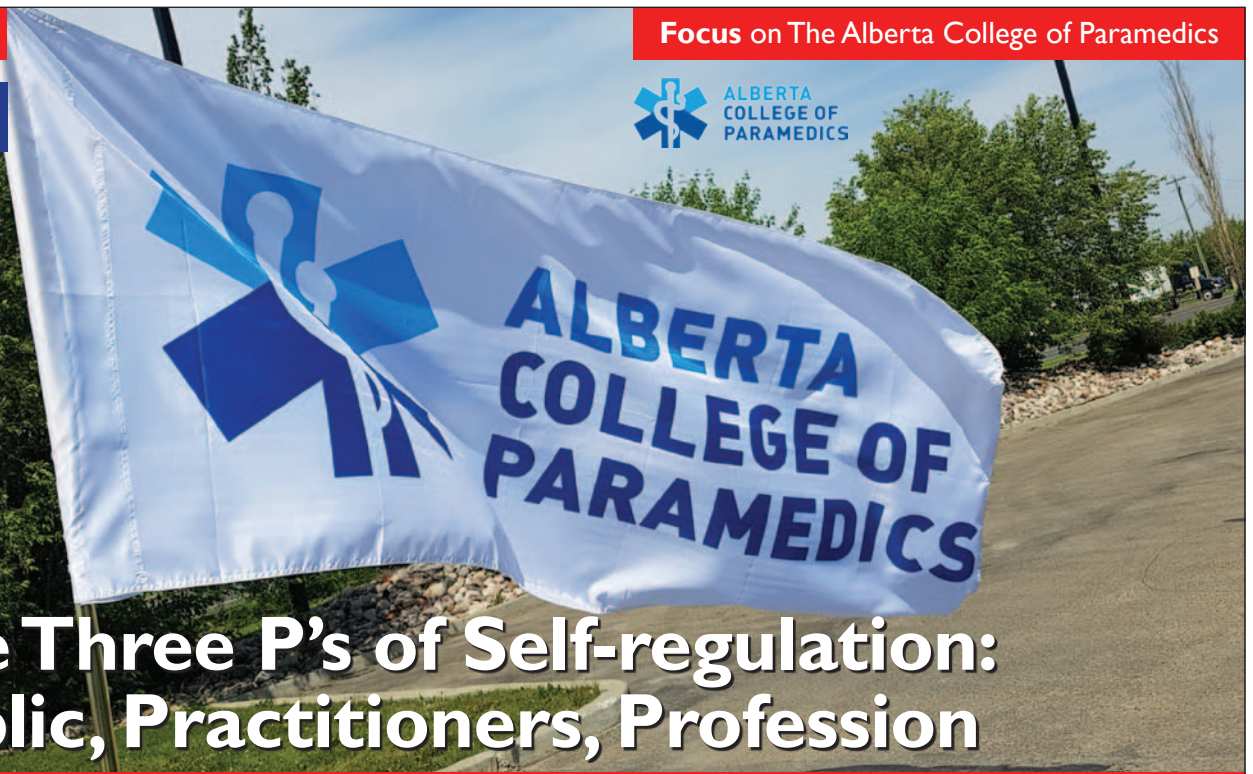
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The Three P's of Self-regulation: Public, Practitioners, Profession

September 2016 marked a turning point for the paramedic profession in Alberta, Canada. It was proclaimed that the health legislation that has slowly worked to bring all self-regulating professions under one umbrella in the province, now included the Alberta College of Paramedics.

As one of only three jurisdictions in Canada with a regulation structure as comprehensive as the *Alberta Health Professions Act*, many may be wondering, "If only three jurisdictions subscribe to this way of thinking, what is the purpose of self-regulation? How exactly could legislation of this type benefit the public, practitioners and the profession as a whole?"

Self-regulation

At its basic level, self-regulation in healthcare is the ability for the profession to oversee its own structures and processes for the essential components of registration, education requirements, continuing education and standards of conduct.

Self-regulation ensures practitioners from within the profession, those with the best understanding of the challenges and opportunities of that profession, are the ones to build, guide and oversee protection of the public. The unique and fulsome understanding that practitioners bring to their governance is, without question, invaluable in helping to identify where and how they can best serve in the interest of patient safety.

Alberta's Health Professions Act

Introduced in 1999, the *Health Professions Act* focuses on creating more transparency through increased public openness and the implementation of common processes for complaints investigations and methods for setting educational and practice standards.

Under this legislation, Alberta's regulated health professions are expected to meet the same requirements for governance, registration and discipline.

Alberta's *Health Professions Act* also dictates the involvement of public members at all levels of the self-regulating College's governance structure. From public members appointed to the voting Council that oversees all college functions to public member involvement on conduct appeal committees, hearing tribunals and appeal bodies, the public interest is represented fairly and fully.

Another key component of the *Health Professions Act*, and the healthcare environment in Alberta, is the concept of overlapping scopes of practice. Professionals in healthcare are provided with the latitude in their field to provide the best care possible. When all are self-regulated with a consistent legislative foundation, the public can feel secure in their understanding of the standard of care, regardless of the practitioner.

The Public

In Alberta, a self-regulating college "must carry out its activities and govern its regulated members in a manner that protects and serves the public interest."¹

Under Alberta's *Health Professions Act*, the public is served first and foremost by the guarantee that all those who provide paramedic services are registered with their

regulatory college. Anyone employed in the profession of paramedicine must be a regulated member of the College, and may only be a regulated member if they are deemed to meet and maintain the stringent registration and education criteria.

The Public

Public protection is served by ensuring the services provided are done so by practitioners who are qualified and skilled, thus protecting the public from unregulated individuals providing paramedic (or other) healthcare services.

In addition to the confidence that they are receiving competent care, patients and the public can be assured that practitioners meet ongoing requirements for continuing competence. Paramedic regulation in Alberta mandates that practitioners attend courses/seminars and other professional development that ensures they maintain currency in the profession.

In the rare cases where a practitioner's conduct is called into question, the public is also served by knowing there is an established, regulated process by which they can initiate an investigation. As the College that works in the interest of all three, the public, practitioner and profession, and with the involvement of public members at all levels, the appropriate processes are followed and the public can be assured by the decision.

¹Health Professions Act, Section 3(1)(a)



Left to right: Melissa Manion Council Vice-president, Pete Helfrich Council President, Dusty Schlitter Treasurer

Under the *Health Professions Act*, self-regulating colleges face appropriate accountability, which helps them avoid the challenges of conflict of interest and the chance of loss of reputation.

The Practitioners

In Alberta, paramedics practice in a number of different settings. The roles of the paramedic are many, including clinician, team member, health and social advocate, educator, reflective practitioner and professional.

No matter what corner of the province they work in, paramedics are trusted to deliver expert health care to Albertans when it's needed most. It's an important job with enormous responsibility. When paramedics have the technical expertise, supportive tools and competency they need, Albertans get the absolute best care possible.

Legislation and health regulation provide a very clear framework for practitioners, which outlines appropriate conduct and expectations. These key elements help employers understand the services paramedics offer, as well as give them confidence in their employees' ongoing skills and competence.

Under the Alberta legislation, paramedic titles are protected. By ensuring that only qualified, competent practitioners are able to work in a paramedic position in Alberta, patients are protected.

Self-regulation at the college level mandates that the practitioners of the profession are the ones to oversee the governance of it. At the practitioner level, self-regulation requires each practitioner to take accountability for their own conduct, adhering to the Standards of Practice and Code of Ethics that govern interactions with the public, other practitioners, employers, other healthcare colleagues and more.

The Code of Ethics is a set of guidelines and principles that govern practitioners' conduct overall. Standards of Practice provide direction on the delivery of professional

services. Both the Code and Standards are enforceable, requiring each practitioner to understand and abide by them.

This self-regulation is an exceptional privilege and speaks highly to the professionalism and dedication of each practitioner in the province. By upholding, among themselves, the standards for care and ensuring professional, appropriate conduct, the reputation of the paramedic profession is advanced in the overall healthcare landscape.

By enhancing the reputation of the profession, another benefit to the public and practitioners is the ease by which inter-professional delivery of care can be achieved. Knowing that each of the healthcare practitioners in the province are legislated by a common set of rules, ensures the confidence in the capability of each. Care can be more combined and more unified because of the trust that comes with consistent approach to legislation and the resulting self-regulation that it requires.

Through a college and through practitioners committed to self-regulation, practitioners bolster the profession by maintaining and enhancing the quality, safety and integrity of their work. Practitioners at an individual level can feel proud of their profession, knowing that it is seen as a valuable healthcare delivery service in the overall healthcare landscape.

The Profession

What is occasionally overlooked is the substantial benefit to the profession overall in the arena of self-regulation. Health regulation clearly protects and serves the public interest, and protects practitioners' right to call themselves a qualified healthcare provider; but it can also serve to enhance how the profession is perceived and received.

By ensuring that only those who meet specific qualifications are able to provide services to patients, the credibility and reputation of the profession is upheld. As a self-regulating college that governs in

accordance with the accepted processes and procedures of the common legislation, the profession is enhanced.

Diligent action by the College Council, in conjunction with the public members, in the areas of governance, registration and discipline enforce the trustworthiness and reliability of the practitioners of the profession.

Conclusion

As a profession that continues to evolve and grow, the addition of legislation and self-regulation will establish an exciting future direction for paramedicine. With recognition growing first in their own jurisdictions, then countries and then globally, the role of the paramedic of tomorrow will be one of incredible opportunity.

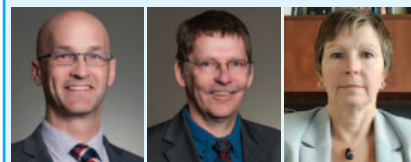
Paramedics are valuable contributors to the overall healthcare landscape. Self-regulation gives our profession the ability to demonstrate our skills, competence, qualifications and intense commitment to serving our public, our fellow practitioners and our profession going forward.

About the College

The Alberta College of Paramedics was founded in 1989 as the Alberta Pre-hospital Professions Association, or APPA, after the amalgamation of the Registered Emergency Paramedic Association of Alberta and the Registered Emergency Medical Technicians Association of Alberta. In 1999, APPA changed its name to the Alberta College of Paramedics to align with newly introduced legislation.

The Alberta College of Paramedics functioned as a self-regulating body under the Health Disciplines Act of Alberta until September 2016, when it was transitioned to the Health Professions Act (HPA). As a self-regulatory body under the HPA, the College is aligned with 30 other health professions in the province.

The Alberta College of Paramedics is the fourth largest regulatory college in Alberta and is governed by a Council of seven elected members and three government-appointed public members. Day-to-day operations and management are overseen by Mr. Tim Essington, Registrar/Executive Director and Ms. Becky Donelon, Deputy Registrar. The College has a staff of almost 30 full-time employees who work alongside the numerous volunteers and committee members to serve the paramedic profession.



Pete Helfrich
Council President

Tim Essington
Registrar/Exec.
Director

Becky Donelon
Deputy Registrar

Alberta is focused forward. If you would like to read about our activities, please visit our website:
collegeofparamedics.org

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SCAS praised by CQC for innovative and cost saving approach to demand forecasting and planning

Since joining SCAS in 2015 Steve West, Director of Planning and Performance Forecasting has undertaken a complete overhaul of the organisation's planning and forecasting technology with a current estimated saving of 2 million pounds.



South Central Ambulance Service NHS Foundation Trust

His vision was for a fully-integrated system linking automated demand forecasts from CAD (Computer Aided Dispatch) to capacity planning of Staff and

Private Providers (PP's) to ensure capacity matches demand, not only down to every hour of the day, but every minute of the hour.

To achieve his goal, in particular, he focused on implementing a new integrated PP Resource Management System, which gave him clear visibility of the cost and effectiveness of Private Provider (PP) resource. A monumental challenge as he inherited an old not fit for purpose system with spiralling costs, and old scheduling system, compliance challenges, a mounting administrative burden and no real-time information.

Two years later and SCAS has earned the approval of CQC (the Care Quality Commission) and industry commentators for having in place an exemplary process utilising a sophisticated and effective new system.

So how did SCAS achieve a saving of 2 million pounds?

By joining forces with Skillstream, a highly configurable payments system used by employers around the world.



Founded by Steve Lucas in 2001, their first job was to immerse themselves at the Trust and understand the scope of the challenge.

According to Sales Director at SkillStream, George Lewis: "It was pretty clear from day one that the system would need to automate the scheduling of PPs if we were to address all the other challenges throughout the process. Hence we needed to understand how we could identify vacant shifts and log them in our system".

"At the time SCAS were using a scheduling system called Kronos, but were committed to introducing a more efficient system, GRS. However the need to implement Skillstream quickly meant that a simple interim solution was created using Excel until GRS was fully functioning".

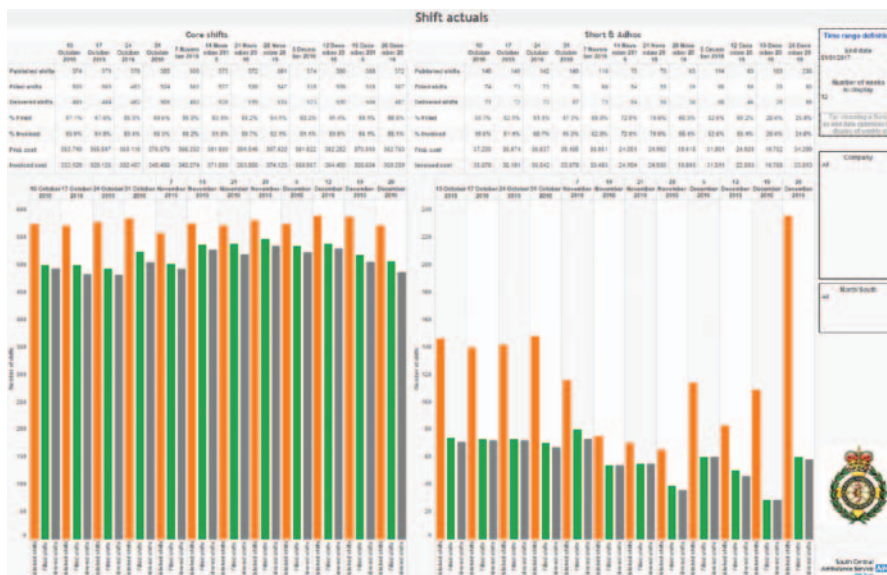
The challenge was not only linking Skillstream to the SCAS scheduling systems but it was critical it was linked to CAD.

If the Private Providers' own systems didn't link into Skillstream, then the ambition of end-to-end automation of the process would be compromised.

What followed was an intense six month period where SCAS and Skillstream teams worked on the detailed spec and overcame the technical challenges of linking so many different systems.

By May 2015 as, George Lewis explains, everything was ready to go:

"Once GRS was implemented we had the interface working from day one, and the system was able to manage shift allocation with PP shifts being generated directly from vacant shifts in GRS." That also meant that





the PP was able to provide appropriate vehicles and staffing and could see the requirements of SCAS – all in real-time. At the same time the Trust's ops team was able to monitor location and deployment status.

The system now produces all the invoicing and reporting for compliance and because all data is integrated, the PP's show on crewing sheets in Control. This means that through the Skillstream/GRS interface, control have supplier names, shift start/finish times and crew names.

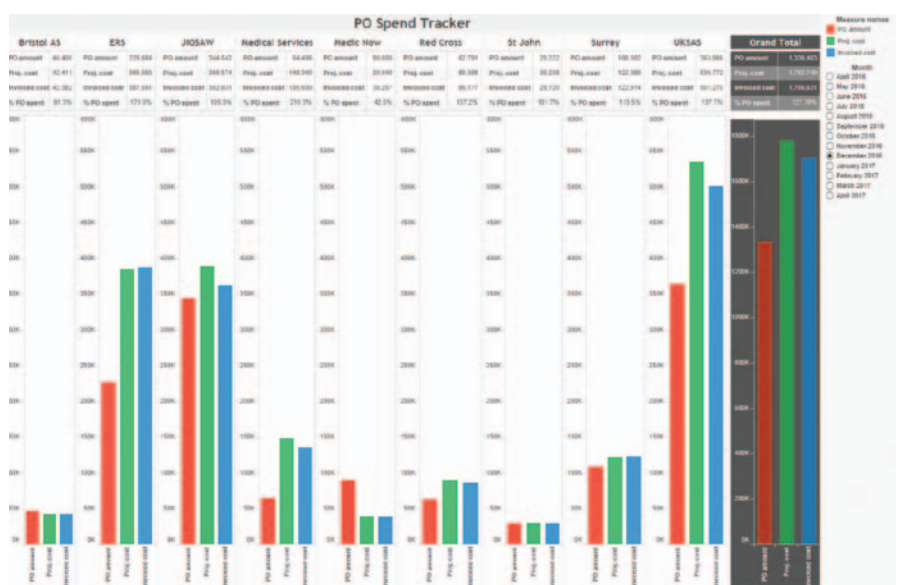
As well as operational benefits and cost effectiveness the Skillstream system is helping with making compliance more visible.

It stores details for every individual permitted to work on the SCAS contracts and automatically stops them from working a shift if their DBS/Driving licence or any Statutory and Mandatory training becomes expired.

What about the PP's?

It's perhaps not surprising that initially there was some scepticism and resistance from the PP's but they all now report significant benefits. It allows them better resource planning and with the self-billing functionality, invoices are paid within 7 days as opposed to 30 days – hence their own cashflow has significantly improved.

As Jarred Rose, Clinical Director at UKSAS (SCAS's largest supplier) says: "The Skillstream system has transformed the way we service the SCAS contract; not only do we get immediate visibility of contractual



shifts up to a month in advance, but we are now able to respond to short term demand in a far more proactive way."

The technology has also benefitted UKSAS staff: "The system also works as a scheduling tool for our staff allowing them to input their availability and preferences and receive shift matches based on these."

He also stresses the benefits which the technology has brought to the back-office: "With the system's invoicing capabilities, we have been able to move away from monthly billing and are now being paid on a weekly basis, making our accounts department a much happier place."

That in turn helps them run their businesses more effectively while the system also helps with their own staff, who through the app are able to keep their own details up-to-date and recognise when they need to renew their certifications, as well as having full visibility of available shifts.

SCAS has saved at least £2m from its PP spend since the introduction of the system in May 2015. The Trust invested a modest sum for the installation of the system but ongoing costs are borne by the PP's based on a small hourly charge.

Steve West says the results have been hugely beneficial operationally and financially to SCAS.

"We're delighted with the strength the systems have brought to our operational delivery. We are getting maximum value for the public in these financially challenging times."

Praised by the CQC, could the integrated system be a benchmark for the whole industry?

"This is a very sophisticated system," says Gurpreet Dulay, Public Sector Manager at Auditors, BDO. "It offers significant visibility, cost savings, compliance, invoicing and reporting facilities over private providers and our experience with the software have been very positive."

The last word has to rest with Steve West: "It has transformed our management of private provider resource enabling robust clinical and financial governance as well as ensuring the cover provided aligns with our demand requirements. And the fact that CQC recognised it as an 'exemplary process' is just the icing on the cake."



To find out more about Skillstream please visit their website at: skillstream.co.uk

Or contact
Sales Director,
George Lewis directly
at Email:
George.lewis@skillstream.co.uk
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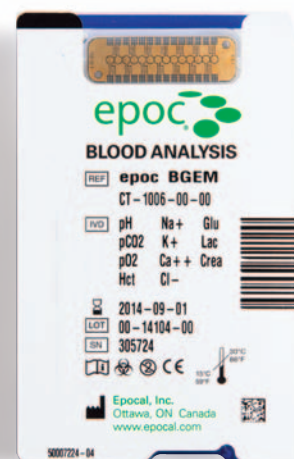
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Giving our communities the best possible clinical care

Alberta Health Service's Rob Sharman is the Strategic Manager who was given the challenge of setting up and running Edmonton Zone's EMS Community Paramedic Program, developed and run in partnership with the city's Continuing Care and Addictions & Mental Health Department. In less than two years Rob, a nurse and paramedic with over twenty-five years experience, and his various teams have developed a series of programs that deliver care in the community for specific patient populations. Their goal has been to decrease EMS usage and subsequent ED presentations and they are succeeding. Rob and his teams have been transforming how AHS ensure they provide health services for those who find it hard to access them. Below Dec Heneghan, Les Pringle and Joe Smith take a look at the work of Edmonton Zone EMS Community Paramedic Program as well as their TEMS (Tactical Emergency Medical Services).

Given the task of developing and delivering a comprehensive Community Care program that met distinct populations, Rob also recently also took responsibility for a number of existing teams which include the city's TEMS (Tactical Emergency Medical Services), the Public Safety Unit (PSU), the Incident Response Team, the Rapid Access Paramedics (RAP) and their Clinical Support Paramedic Response Unit (CS-PRU). Rob responded by building up a group of community focused specialists focuses on Continuing Care, Addiction and Mental Health and Vulnerable homeless populations. The goal was to provide a shared commitment to helping those most in need is only equalled by their respect and affection for their ever busy but always calm and approachable boss.

Les and Dec first met Rob on a snowy Good Friday morning at the Down-Town Boyle Street Co-op, a vital homeless drop-in centre, situated on a run-down block, ironically directly in the shadows of the city's newest, shiniest and most illustrious landmark, the recently-opened Rogers Place stadium. We'd come down to meet Rob and paramedic, Denise Vanderkooi, a key frontline member of Rob's City Centre Paramedic Response Unit (Community

Paramedic Teams) to see for ourselves how the members of this hard-pressed frontline team engaged with the users of their unique service. When we met outside in the rapidly-increasing snowfall, with a group of Boyle Street service-users milling around smoking cigarettes and killing time by chatting to each other, the first thing that struck us was that the local homeless people who depend on this shelter on a day-to-day basis, immediately recognised both Rob and Denise and greeted them in the friendliest of fashion.

Rob began by explaining the ethos of the Community Paramedic Teams's existence: "It's main function, and in fact its best achievement, is that it breaks down the barriers that stop these people accessing

the health services that the rest of the community find relatively easy to take advantage of. If you're homeless and have associated problems that make your life chaotic, it isn't easy to access the healthcare services you need – whether that be typical doctor or hospital services or, as is often the case, mental health support services. So, what our Community Paramedic Teams team does is come out, find these people, form trusting relationships with them and build a bridge between them and the health services that most people, thankfully, take for granted. Sometimes it's in the form of conventional paramedic care – you drive by, see somebody collapsed, stop, check them out and then take them to the emerg (emergency department) just like any other patient; but on other occasions it's sitting down with the person and helping them access primary care and other forms of community support services, such as mental healthcare or after-care services. So, for example, if one of the Community Paramedic Teams teams sees that a person needs this kind of help they can then call out a CREMS team. The CREMS team always consists of a paramedic and a Mental Health Therapist provided by AMH, which means that the therapist can check out the person's



Denise Vanderkooi and Rob Sharman



Boyle Street

needs and we can, usually, immediately refer them to whichever part of the system can best help them – it might mean getting them an inpatient bed or setting up support for them with an AMH clinic.”

Denise agreed, pointing out that treating the clients of the Boyle Street Co-op, presents a different set of challenges to that faced on more conventional shifts. “A lot of the people we treat need regular medical treatment but also have health problems directly-related to living on the streets. Urinary tract infections are much more common and, not surprisingly, hypothermia is a big one.”

I asked Denise how homeless people coped in such a bitterly cold winter climate. Surely more than a few must die of exposure to the cold, I queried? “We do what we can,” explained Denise. “One measure we have in place is that if the external temperature drops to -15 degrees on any given night we work with the police and open up the subways so they can sleep there. We also provide hot coffee and blankets and the like. But a key thing is that when we see a patient we can keep an eye on them and provide them with after-care for 72 hours which gives them a continuity of care.”

Rob explains: “Sometimes the best way we can help is by helping them navigate the system. For example, I was out recently with another member of our regular inner-city team, Paramedic Amy Benson, and we picked up a homeless skate-boarder who'd sprained his ankle. We took him in for an X-ray, which confirmed the sprain. Next, the guy was given a prescription for a supportive walking boot and sent to a local pharmacy. This meant walking four blocks on an injured ankle and when he got there he was told the prescription would cost him \$170 CAD, which, being homeless, he clearly didn't have. So, he came back here to Boyle Street and found Amy. Luckily, Amy knew that there was a stock-pile of these boots at the Boyle McCauley Health Centre, so she took him there and sent him away with one in his size at no cost. She was able to send him on his way happy. It may not seem like much to some but without Amy's intervention he'd have been back on the

street in a worsening state and, eventually, he'd have needed to be admitted to the hospital.”

The next morning, with the snow falling even thicker, Dec and Joe headed over to Pylypow Station to meet up with Rob again and find out more about the work of his Tactical EMS team. They were greeted by TEMS members Advanced Care Paramedic Katie McRory and Primary Care Paramedic Andrew Croy.

Katie explained: “Whenever our Edmonton Police Service Tactical team goes out, and they want a medical person to come with them, they'll call our team. We work quite closely with them. It might be a search warrant or it might be a school shooting; we're trained to go in with them and identify casualties.”



CC-PRU team member, Sal Humberstone

Paramedics in SWAT gear may seem like a totally alien concept to our European readers, but the Edmonton TEMS is well-equipped and well-trained to stay as safe as possible in such a situation, with an impressive range of high-grade body armour, helmets and gas-masks.

Rob Sharman added: “I think just like with police officers, ironically the greatest risk of harm is a benign call which turns out not to be a benign call. The tactical team goes in with the right mind set and I think that makes all the difference in the world. Ten years ago we had a paramedic who was stabbed while she was taking the garbage out in the alley at the back of the station.



A happy CC-PRU team



TEMS members, Andrew Croy and Katie McRory

When you're not in that mind-set and you're performing a routine task you're probably not prepared.”

One of the major challenges for Rob and his team in recent years has been the emergence of wild fires across Alberta. In 2014 the Wabasca Fires forced the displacement of 200 seniors from lodges and the wider community. They were placed in one hotel in Edmonton and received Urgent Care as required. With no access to the patients' medical records, the URT saw all those that needed immediate care starting within 2 hours of being called. In the summer of 2016, a state of Emergency was called in Alberta and 90,000 people had to be relocated to the Edmonton Expo Center. Using inflatable mobile field hospitals, an Urgent Care centre was up and running within 3 hours, seeing 450 clients a day, making it the busiest emergency department in the city. AHS EMS was able to send thousands of EMS man-hours to Fort McMurray to support the city during the disaster.

IRP team member, Bruce Wade, recalled: “When we got up to Fort McMurray the hospital was closed so for an ambulance to take someone out of Fort McMurray there would have been a 4-hour turnaround time to be back in service. With the mobile field hospitals we were able to treat multiple patients on-scene and transport them with



Rob Sharman getting around in the snow



Members of the IRP team

the mass incident response bus. The units can be fitted out with a heater for incidents out in the elements, or even adapted for clean-up purposes in a hazmat situation."

Dec and Joe's time with Rob Sharman and his teams came to an end when Rob dashed off for another meeting to discuss clinical advancements recently introduced by his URT Team. As he explained: "We've recently been working with Alere, a global leader in rapid diagnostic tests at point-of-care and provider of the Alere epoc® and Triage™ Systems. They're helping us to fully make use of cardiac markers, blood gas, electrolytes and metabolites and it's given our URT team the additional skills and resources they need to deliver a range of medical interventions that were previously only available to the patient once they arrived at the ED."



Bruce Wade

The URT team uses Alere's epoc® and Triage™ Systems for point-of-care testing which allow immediate diagnostic ability once only available in the acute care environment. The information is uploaded into the AHS laboratory system anytime a Paramedic or Nurse Practitioner is within WiFi range of a healthcare facility and Rob was clearly delighted that he and his URT team have been able to access this clinical technology to broaden their clinical skills-set. As he explained as he headed out the door: "This kind of forward thinking is encouraged here at Alberta Health Services by our Chief Paramedic, Darren Sandbeck, and it makes working with all my teams really worthwhile. Basically, we're all just paramedics working in the community, so it's great to work in an environment in which we're given the resources to make improving our clinical delivery an achievable goal. We want to give our communities the best possible clinical care and we're getting better at it every day!"

The four teams which make up the core of the Community Care Paramedic Program are listed below.

EMS - Urgent Response Team (URT):

In partnership with Continuing Care, EMS introduced an Urgent Response Team (URT) to provide community-based medical interventions that one would typically only receive in a city ED. These include urgent lab analysis, diagnostic imaging, suturing, casting, antibiotic treatment of infections, wound management and a myriad of other diagnostic and treatment pathways. The focus of the team is to stabilize the patient on site, develop a treatment plan for facility nursing staff to implement, reconnect the patient with their physician, and provide follow up when required.

Crisis and EMS (CREMS):

Partnering with Addictions and Mental Health (AMH) resulted in the formation of an EMS Crisis Response Team (CREMS), with Mental Health Therapists provided by AMH. This team responds to clients in mental health crisis and has the ability to use primary care, AMH clinics and inpatient beds to best meet a client's immediate needs. They also ensure a continuum of care is provided within the AMH system and focus on utilizing existing community supports, reducing EMS and ED presentations.

Community Health and Prehospital Support (CHAPS):

EMS North Zone CHAPS enables EMS responders to identify, via ePCR, those patients that may benefit from additional health and safety supports to maintain optimal health and quality of life. Common reasons for referral include: falls risk reduction, mobility/safety assessment, personal care services, assistive equipment, chronic medical conditions, caregiver support, inability to cope in current living conditions and frequent EMS usage. Consent must be obtained from the patient for a referral to be disclosed. CHAPS work with numerous AHS and community partners to build solutions for clients within the community. All clients sign a waiver on the EMS electronic patient care record that allows CHAPS to review and build support plans that meet their individual needs.

City Centre Paramedic Response Unit (CC-PRU):

This team responds to calls in the core of Edmonton with a focus on events that involve inner-city support sites and their clients. CC-PRU's goal is to foster strengthened relationships with these sites and to build trust with inner-city clients by improving their access to primary care and other community supports as alternatives to zone EDs and EMS.

The other EMS Teams run by Rob Sharman are:

Clinical Support Paramedic Response Unit (CS-PRU):

Paramedics will staff a regularly deployed PRU that has the added ability to support front-line ambulances when they are called to transfer a critically ill person. The CS-PRU staff has additional training, a larger medication formulary and point-of-care lab abilities that support their peers when moving patients between ICU's to provide the best care available.

Tactical Emergency Medical Services (TEMS):

Edmonton Zone deploys TEMS staff with the appropriate tactical equipment and specialized training to certain events integrated in the Edmonton Police Service Tactical Team. These frequently are high risk warrants or site management or breaching of building with ongoing tactical events. The TEMS medic is there first to provide medical response to the EPS team in the event someone is injured or wounded and in a support roll to EMS for civilian casualties.

Public Safety Unit (PSU):

Edmonton EMS works with the Edmonton Police Service in times of civil unrest and mass gatherings. They are supported with the same protective equipment that Police wear but remain immediately behind the police line supporting any police members that go down or citizens that are injured in the protest or in the arrest process.

Rapid Access Paramedics (RAP)

To improve access to clients during major festivals, parades or other large public events, Edmonton EMS has a number of specially trained Paramedics using EMS Bicycles, Segways, and Golf carts to respond and treat clients when and where needed.

To find out more about Alberta Health Services visit their website:
www.albertahealthservices.ca



A Glimpse of the future: Canada's First Stroke Ambulance

By Joe Smith

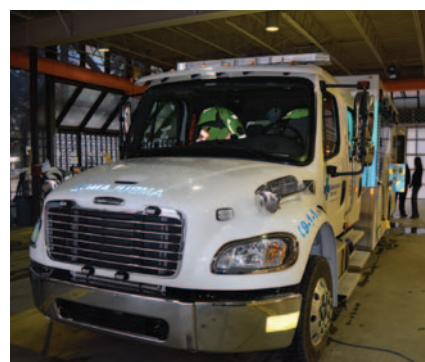
It's no secret that being practical people, most paramedics love their technology. It's not just a case of showing off the latest gadgets; the frontline is where new innovations are really put to the test and anything that represents a solid improvement will ultimately be embraced by ambulance crews. That's why when we heard excited whispers about a new secret weapon being deployed from the garages of the University of Alberta Hospital, we already knew we were about to see something special...

In February of this year, Edmonton became home to Canada's very first specialised stroke ambulance unit. The colossal vehicle is custom-made to meet the needs of stroke victims and has a dedicated team of paramedics, CT technician, nurse, and stroke physician trainee to man it, but most importantly of all it has a fully-operational, onboard CT scanner.

Like heart attacks, the seconds and minutes between when a stroke occurs and when it is treated can be absolutely vital to reducing the chance of permanent neurological damage and fatality. Unlike heart attacks, it is necessary to identify what type of stroke has occurred before treatment can be administered. For instance, treating a haemorrhage stroke with medication intended to treat an ischemic (blood-clot-caused) stroke can result in the death of the patient. The only way to differentiate between types of stroke is with a CT scan, and the time it takes to have one done is a

major factor in preventing lasting damage. The onboard CT scanner in the new stroke ambulance allows paramedics to perform scans almost immediately, relaying them to waiting neurologists at the hospital thus drastically cutting delay times in treatment. Doctors can interact with patients and the stroke team via military-grade LifeBot audio and video equipment, with three cameras allowing the hospital team to oversee the correct procedures en route. If it is confirmed the patient is suffering an ischemic stroke, they will be given clot-busting drugs immediately without having to wait to arrive at a hospital. For large parts of the Canadian population who live in remote rural areas, and for those who simply don't live near a hospital with a CT scanner, the time saved can mean the difference between life and death.

"Reducing treatment time is the critical factor in saving a patient's life and limiting their disability," says Dr Tom Jeerakathil,



Stroke Neurologist at the University of Alberta Hospital. "The further you live from a centre that can give clot-busting drugs for a stroke, the greater the chances you're going to suffer major disability in a life changing way, or die."

The Stroke Ambulance was funded by donors to the University Hospital Foundation's Brain Centre Campaign, as part of a \$3.3 million, three year pilot





(L-R) Shy Amlani, Jason Layton, Jason Bobyak, Dave Gauvreau, Kelly Brown, Laurel Morrison, Mike Kohut

project. With the cost of caring for each stroke patient being as high as \$110,000 per annum (depending on the level of disability), the 50-100 patients the stroke ambulance is expected to serve in its first year could potentially represent long term savings of over \$6-12 million. This is in addition to saving the brains and lives of the Albertans with stroke who receive care.

Shy Amlani, Stroke programme manager, Edmonton Zone commented: "This project really exemplifies teamwork and has brought together a number of different areas of the healthcare profession including stroke, emergency department, EMS, lab services, diagnostic imaging, ergonomics, simulation and IT, amongst others.

"Initially, it was Dr Ashfaq Shuaib's idea dating back to 1998 and at the time a stroke ambulance was unheard of in the world. He created the first draft of the proposal and obtained ethics approval for the first version of the project. In 2013 another neurologist, Dr Tom Jeerakathil and I became involved and worked with him to modify it. We added several components, created an economic argument and business case, and got it into a form that was approved by Alberta Health Services and fundable by the University Hospital Foundation. Then we recruited others, like project coordinator Laurel Morrison, to help get things off the ground."

The confluence of so many different healthcare disciplines meant that there



was a 14-month development period for different specialists to decide over the fine details. Apart from the clinical technology and portable blood-laboratory in the back, the mechanical needs of the Demers-built vehicle were also pretty unique; the scanner requires a large and robust chassis, carrying a weight of over 8 tonnes at speed requires a lot of horsepower; and performing a CT scan on an uneven parking lot is accommodated by the Bigfoot hydraulic levelling system.



Shy Amlani added: "Although it was originally a stroke idea we could not have done it without numerous collaborators. EMS is a huge partner in the project, as is diagnostic imaging, laboratory medicine, and information technology – all of which play an integral with the function of highly specialized equipment."

The dedicated stroke team consists of many including, Jason Layton, advanced care paramedic, Dave Gauvreau, CT Technician and Jason Bobyak, critical care nurse. Hayrapeet Kalayshan serves as the primary stroke fellow, a specialist physician role which sees him travelling out to remote areas which require his expertise. Kelly Brown, an EMT with Alberta Health Services, is the team member, who among many of his responsibilities is lucky enough to regularly drive the stroke ambulance. He previously worked for twenty years in the military and couldn't be more enthusiastic about his job if he drove the Starship Enterprise:

"One of the hospitals we arrived at had a backlog of patients waiting for CT scans. You should have seen the look on the physicians' faces when we told them the Stroke Ambulance could do the scans right there and then!"

The stroke ambulance won't just be of benefit to the stroke patients of the greater Edmonton area, whose lives may well be saved one day by the existence of the new vehicle. As more services in North America and Europe decide to take Canada's lead in designing their own specialist units, the data gathered in the early stages of this project will be invaluable to innovators across the globe. This unique vehicle might only be a glimpse into a future where we can be as prepared for strokes as we currently are for cardiac arrests, but as Canada makes this brave step forward you can bet that the rest of the world is watching.

To find out more about the stroke ambulance, go to the University Hospital Foundation's Brain Centre Campaign Website:
www.braincentrecampaign.ca

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Paramedicine in British Columbia: A profile of current research and operational initiatives

By Dr Ron Bowles, with thanks to Peter Thorpe (BCEHS) and Dave Deines (APBC).

British Columbia is the westernmost province of Canada. BC Emergency Health Services (BCEHS) provides ground and air emergency medical services to BC's 4.75 million inhabitants (Statistics Canada, n.d.) through more than 180 stations in metropolitan, urban, rural, and remote communities throughout the province. BC's 4,600 paramedics and dispatchers are represented by the Ambulance Paramedics of BC (APBC). Justice Institute of British Columbia (JIBC) is a public post-secondary degree-granting institution providing paramedic education and continuing medical education for a wide range of health and community-based practitioners across the province and internationally. This article focuses on current research and operational initiatives, with a particular focus on a Paramedic Association of Canada-sponsored study that provided the foundation for the new Canadian Paramedic Profile.

BC Emergency Health Services (BCEHS) provides emergency patient care and inter-facility ground and air patient transfers, and emergency medical dispatch services across the province of British Columbia (BC). BC, Canada's westernmost province, covers 950,000 square kilometers and has a population of approximately 4.75 million (Statistics Canada, n.d.). BCEHS's 4,600 employees provide air and ground ambulance support, inter-facility transfers,



clinical oversight and research, with ambulance stations in over 180 remote, rural, urban, and metropolitan communities. Last year, the service responded to over 475,000 911 (emergency call) events and provided 96,000 patient transfers (BCEHS, 2015/2016).

In recent years there has been an increasing demand for emergency patient care. Without changes, provincial demand is projected to increase by 6.1% annually. In 2016, BCEHS released an action plan called *Transforming Emergency Health Services* that outlined key innovations and the strategic investment of additional resources to help improve patient care and ensure the provincial service is more sustainable moving forward.

In addition, BC is implementing community paramedicine in rural and remote communities throughout the province. The program aims to help stabilize paramedic staffing and bridge health service delivery gaps in communities that are sometimes underserved and have aging populations living with chronic and complex diseases. Community paramedicine will add at least 80 FTE community paramedic positions by 2018, with 76 communities selected to date.

Justice Institute of British Columbia is a public post-secondary degree-granting institution providing education and training for a wide range of community, health, justice, and public safety practitioners. The Health Sciences Division offers initial education for Emergency Medical Responders, Primary Care Paramedics, Advanced Care Paramedics, and Community Paramedics, as well as a Diploma in Health Sciences and a wide range of continuing and professional education for all health professionals.

JIBC has an active applied research program, with prehospital and paramedic-related research as one of four strategic priorities. In the last several years, JIBC has participated in several projects to support the evolution of paramedicine as a profession in Canada.

One study built on the Canadian EMS Research Agenda (Jensen et al., 2013) project by exploring the role of educational research in paramedicine. This study involved a review of then-current paramedic research and interviews with key stakeholders in Canadian paramedic education and practice, with the goal of identifying trends and gaps in education-related research that JIBC could contribute to.



The results of that study included the development of a model for describing four dimensions of paramedic practice: Who the practitioners are; What types of care they provide; Where they practice; and, What patient disposition options are available? This framework is useful for analyzing the evolution of paramedic practice into new practice settings, different types of care, and alternative outcomes (Bowles & Van Beek, in press).

JIBC also housed a national study, funded by the Paramedic Association of Canada

(PAC), to support the development of the new Canadian Paramedic Profile. Three paramedic researchers, Dr: Ron Bowles, Dr: Becky Donelon, and Dr: Walter Tavares conducted a mixed methods study to articulate the key attributes and characteristics required of paramedics in Canada, regardless of their certification level or practice setting. The study included concurrent streams: a discourse and content analysis of how paramedics are described in academic, professional, and grey literature; and in-depth semi-structured interviews with twenty-one key stakeholders in Canadian paramedicine. The results were analyzed individually, then combined for more in-depth analysis. Following a process of inductive analysis, the study identified a series of framing concepts, cross-cutting themes, and roles that describe current and anticipated paramedic practice in Canada to 2025 (Tavares, Bowles, Donelon, 2016).

The study found three framing concepts that are essential to understanding paramedicine in Canada: paramedics now practice in a diverse and growing set of practice contexts (e.g., industry, community, in-facility), paramedics engage in multiple

and embedded sets of interpersonal relationships, and a recognition that all patient encounters have both a medical/health and a social/cultural context which must be considered. The four cross-cutting themes included patient safety, compassion, communication, and adaptability/problem-solving. The study identified six roles that paramedics assume: Clinician, Professional, Educator, Team Member, Advocate, and Reflective Practitioner. These roles are integrated within the overall role of Paramedic Practitioner. These roles form the structure of the recently released Canadian Paramedic Profile (Paramedic Association of Canada, 2017).




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JIBC is also engaged in research that supports individual paramedic, allied health and public safety practitioners. Recent and current studies include an exploration of precipitates to workplace violence against paramedics. The study explores what factors, if any, are associated with propensity for the violent victimization of paramedics in Canada. In this study, violence is defined as verbal assault, intimidation, physical assault, sexual harassment, and sexual assault. A second study addresses the development of personal resilience. This study evaluates an open-access course on building and

strengthening personal resiliency that has been designed, from the ground up, by experts in emergency response, for persons who are employed or volunteer in professions that require them to respond to a wide range of emergency situations.

Paramedicine is a rapidly evolving discipline, with paramedics taking on new job functions in non-traditional contexts while continuing to provide urgent and emergency care in the out-of-hospital setting. Within British Columbia, key stakeholders in paramedicine including BC Emergency Health Services, Ambulance Paramedics of BC and Justice

Institute of British Columbia are working to better prepare and support paramedic practitioners through innovative operational initiatives, advanced education and training programs, and ongoing applied research.

For more information please see the websites below:

BC Emergency Health Services:
www.bcehs.ca

Ambulance Paramedics of BC:
www.apbc.ca

Justice Institute of British Columbia:
www.jibc.ca

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He who saves one life...

Introduction to Israel's Magen David Adom ambulance service

Magen David Adom (MDA) ambulance service serves as Israel's national pre-hospital Emergency Medical Services and Blood Services, as well as being the Israeli Red Cross Society. MDA serves the entire population from day-to-day and in times of emergency. From this edition onwards, Ambulance Today will feature regular articles from Israel and our magazine will be circulated to around 30,000 of their staff and health-partners. We are proud to welcome MDA to the Ambulance Today family!

MDA is a non-governmental, non-profit organization established before the State of Israel and it works under the direction of the 1950 MDA Law as passed by the Knesset (Israeli Parliament). The organization is a voluntary one in its basic structure, whereby the volunteers not only take part in the operative activities, but they also serve as an inseparable part of its management: the National Council and the Management Council. The organization's voluntary structure is what gives the organisation its unique character. Fulfilling the Talmudic saying of "He who saves one life... it is as though he has saved an entire world," is the ideological basis that creates the voluntary spirit amongst the MDA's volunteers and employees. They see this fulfilment as a priority and invest above and beyond what is required in an effort to make this saying a reality. Almost all of MDA's managers started their path as volunteers, and the same is true of most of the employees who staff the ambulances and Mobile Intensive Care Units (MICU).

MDA's staff comprises over 16,000 volunteers (youth, EMTs, Paramedics and Doctors) and less than 2,000 paid employees.

Dispatch Centre

The emergency phone number for MDA is 101. All Dispatch Centre staff are either Paramedics or EMTs and have vast experience working on ambulances. In addition to the receiving of the call, they provide medical guidance over the phone until the arrival of the medical team. Utilizing leading technology (developed in-house) including GPS, GIS, live-video from the scene and mobile-applications helps to reduce response time and saves lives. The Dispatcher can also see on the screen the location of any nearby Police and Fire vehicles, as well as using the social-app "Waze" to locate traffic or a

specific accident. The average time taken to answer a call in the Dispatch Centre is up to four seconds. The speed of this response is largely made possible by advanced telecommunication systems that locate the first available dispatcher in any of ten MDA regional or national Dispatch Centres which then activate more than 1,000 ambulances, 600 of which are on shift located in 147 MDA ambulance stations, with a further 200 in various small rural communities.

The "MyMDA" mobile-app is an efficient and fast way to contact MDA; the patient's details, along with those of his immediate family, can be stored ahead of time. Details such as previous medical history, ECGs, medication and allergies can be stored and easily accessed. Calling MDA via the app allows for the GPS location to appear in the Command and Control program, as well as the patient's medical file. It also allows the caller to stream a live video from the scene and has a chat option in any language, with options for the deaf and mute.

First Responders – Immediate Medical Response

By dispatching highly trained volunteer First Responders to emergency calls enables MDA to drastically reduce the response time to medical emergencies. There is a national unit of over 8,000 volunteer EMTs, Paramedics and Doctors who are dispatched through the "MDA Teams" app. The First Responders carry BLS or ALS emergency medical kits. Over 300 are equipped with MDA Medi-Cycles - the rest respond in cars, bicycles and on foot.

Life Support Ambulances and Mobile Intensive Care Units (MICU)

Life Support Ambulances and Mobile Intensive Care Units make up 95% of MDA's fleet. The treatment provided by the Life Support Ambulance team includes CPR, automatic defibrillation, providing Epipens, trauma treatment, aspirin, basic first-aid, fluid

resuscitation, childbirth, as well as transport to hospital. The crew includes at least two EMTs.

Mobile Intensive Care Units (MICU) provide Advanced Life Support. An MICU team includes paramedics and senior EMTs. The medical scope of treatment is extensive and the medical protocols are authorised by the Ministry of Health. The paramedics are allowed to perform advanced airway management, needle-chest decompression, defibrillation, external-pacing and administration of intravenous and intraosseous medications.



The teams are supervised and assisted online by the National Medical Supervision Centre which is manned by emergency medical doctors and senior paramedics. The Centre can monitor the patient's vital signs including ECG and therefore advise the crew to assist in the decision-making process.

The MICU crew can transfer STEMI or CVA patients directly to the relevant hospital departments. The crew can send the patient's findings via a joint-app to a senior doctor in the department, where the decision can be made to take the patient directly for an angiogram depending on the specific requirements.

To find out more about MDA:
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Canada: Can do better on patient hand-over!

I have never been to Canada. Probably a pity and since I still feel young... who knows? I speak French, so I could move around freely in its huge nature-rich countryside. However, I do know something about the ambulance service in Canada. Almost since it came out in 1982 I have owned a copy of James A. Hanna's book "A century of red blankets". It describes the history of ambulance services in Ontario. And judging by other books that have seen the light, the Canadian ambulance people seem very apprehensive of their past.

A few years ago (to be exact in March 2007) we were visited by a Canadian ambulance delegation that gave an interesting presentation about the ambulance care during the SARS-episode (2002-2004). Among them was a paramedic with Dutch origins and I had the pleasure to have her ride-along for a shift. It was very interesting to exchange information and the challenges were, on the whole, roughly the same.

I must admit that the ambulance organizations in Canada seemed to have a lot more means in terms of ambulances, special vehicles and facilities for training and decontamination. The SARS-epidemic had been a big accelerating factor in this, but being financed by the government was also a major contribution. By that time, we in the Netherlands were, and in a way still are, crushed between health insurance companies that squeeze our finances and a government that only gives financial support in order to avoid disasters. I do not understand why the directors of the Dutch ambulance services do not plead for wages that are of the same level as other specialized nurses. But let us turn to Canada.



There was one big issue that was bothering our Canadian ambulance colleagues. The paramedic was amazed: it took us only minutes to hand over our patient into the care of the nurses from the Accident &



Emergency Department and we became a little annoyed when it took a few minutes longer. In Canada, she told us, this may take hours. Now it was my turn to be amazed. Hours? Even several hours? Unbelievable! One to a couple of hours was normal - twelve was her personal record.

How can people accept this? I am sure patients can be trusted to the care of our Canadian colleagues, but how on earth did this iniquity come to be? My Canadian colleague explained it was due to time-targets set by the hospital. The staff had a few hours to sort out everything about the patient and then the patient should either be sent home or admitted to a ward in the hospital. They called in patients at the moment they judged they could meet the targets.

I shook my head in disbelief and writing this down I still shake my head. Statistics are meant to give insight into certain aspects of care given to sick or wounded patients. When the figures bring about problems (long waiting times) one should look for solutions not by polishing the figures, but by improving care. Figures can be used to show you are on the right track.

What if the ambulance service would have a target to hand over the patient to the accident and emergency unit within 15 minutes (and we in the Netherlands

consider this to be a long time-interval!)? It would be easy for them to meet this target: just leave patients in the hall or corridor of the hospital. If there is no nurse to tell the story of the patient, no bother! They had an opportunity of 15 minutes to speak to the ambulance crew and if they did not do it, it is not the ambulance crews' fault. In large Canadian ambulances there is no doubt room for an extra stretcher so you can leave your patient and be ready to ride out and pick up a new one.



Now I know this does not feel good: leaving your patient while not being sure the next link of the chain of care is ready to attend to his or her needs. I hope people in Canada will realize this is not the right track and this way of doing things should be kept in the history books - telling us how it WAS and how it never should be.

Tell Thijs what you think about this article by emailing him at: tgras@xs4all.nl

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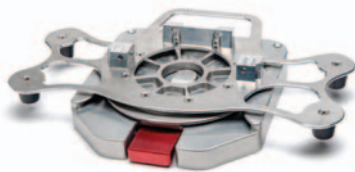
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Leadership and Self-Actualization

By Paul Brennan

Recently I was involved in an online discussion regarding EMS leadership and the question: “Can you achieve self-actualization as an EMS leader?” was posed. As someone that has been the director of an EMS agency for 25 years my first thought was: “What does that even mean?” Self-actualization is defined as the achievement of one’s full potential through creativity, independence, spontaneity, and a grasp of the real world.

As the online conversation grew, people referenced Maslow’s hierarchy of needs and other articles and citations. As I read these comments I stopped a moment and thought: Have I done this? Have I achieved self-actualization? The cynic in me thought that if I had it was highly overrated. There was no moment of enlightenment, no party, no bonus check or reward. Had I achieved this somewhere earlier in my career and not recognized it?

The online conversation continued and segued into a larger discussion of EMS leadership styles. Participants included individuals that ranged in age from approximately 20 to 55 years. Generational perspectives were evident and the different perspectives caused me to take pause and consider my own leadership style and how it has changed over the years.

The discussions continued, and referenced those leadership styles as outlined in the book *Leadership Essentials for Emergency Medical Services* (Brody, 2010). These included:

Autocratic Leadership: A leader with complete control.

This by far was the leadership style that everyone agreed was the least favored. Multiple examples were given regarding individuals that worked for an agency where the leader had complete control and led by dictatorship. Morale was often described as being low, and expectations for a pro-active work environment were essentially non-existent.

Transactional Leadership: A leader that rewards positive results, but less than acceptable results are met with discipline or punishment.

This leadership style received negative marks as well due to the discipline approach rather than an approach that promoted a culture of learning and education.

Bureaucratic Leadership: A leader that is policy-driven. Employee performance is based on following guidelines, policies/and or procedures and deviations are considered unacceptable.

This leadership style is in some ways like the autocratic leadership style and was frowned



Richard Sernio, Distinguished Visiting Fellow at Harvard University TH Chan School of Public Health, former Deputy Administrator US Federal Emergency Management Agency (FEMA) and past Chief of Boston EMS

upon by the group. Unfortunately, most participants could relate to working in an organization where this type of leader or officer existed.

People-Oriented Leadership: A leader that is people-oriented and is interested in developing, coaching and mentoring staff.

This type of leadership style was welcomed by many. It promotes collaboration and investment by the leader in each person’s success. One of the concerns with the people-oriented leadership style is that some leaders may try to please everyone and not make the tough decisions that often need to be made. Boundaries must be set and the leader must ensure that he/she remains a leader and not a servant to the staff.

Participative Leadership: This leader will listen to ideas and comments from subordinates and take things into consideration before making decision.

Most agreed this was the preferred leadership style as it promoted good dialogue between staff and leadership and gave the employees a vested interest in the success of the organization.

Charismatic Leadership: This leader is inspirational and enthusiastic. They inspire to motivate followers and work to achieve high performance results.

This is a difficult leadership style to learn. Charismatic leaders are high energy individuals and you can’t fake it. You either have the skills and attributes of this leader or you don’t.

Laissez-Faire Leadership: These leaders have a more hands-off approach.

When dealing with highly motivated and competent staff that require little oversight this can be successful however some individuals commented on potential negatives associated with this style. This could include an impression of laziness, disengagement or a leader that is simply collecting a paycheck.

As each one of us discussed our own leadership style, I found it difficult to try to select just one that mirrored my own style. I have coached and mentored staff and worked with employees to ensure their place at the decision-making table when possible. I have experience leading teams who required little oversight, and I consider myself to be motivated and enthusiastic about the work that myself and the team do each day. I do however strictly enforce regulations, and compliance is both directed and expected. There is no democratic way around this other than how the information is shared within the team and how I will measure understanding and compliance with the regulation.

As I considered my lengthy career I realized that I have included bits and pieces of every one of these styles. Sometimes the style and approach worked well, and on occasion not so much. As I have grown as a leader, I have found that reflection has been my greatest ally. It has afforded me the opportunity to consistently consider my approach and determine if I could have managed situations differently.

So, I go back to my original question, have I achieved Self Actualization. I honestly don’t know, have you?

Reference: Brophy, J. R. (2010). *Leadership essentials for emergency medical services*. Sudbury, MA: Jones and Bartlett.

Biography: Paul Brennan



Paul Brennan is the President of the International Association of EMS Chiefs, Washington D.C. He has been active in EMS for 35 years as a paramedic, educator and administrator. He can be contacted at paul.brennan@iaemsc.org

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Phone Line offers Life Line to females suffering violence

Globally over one third of all women will experience gender-based violence in their lifetime. It is well known that of the over 218 million women in India who will experience gender-based violence (GBV) in their lifetime, less than 1% will ever seek help outside of family or friends - casting doubt on the feasibility and utility of a helpline (Palermo 2014). GVK Emergency Management and Research Institute (GVK EMRI), India, in association with the Government of Gujarat and Government of Uttar Pradesh established and now operate the 181 Women Helpline. This 24/7 helpline known as “Abhayam” in the state of Gujarat is supported by rescue vans with counsellors and a lady constable. ⁽¹⁾

The Helpline is functional in Gujarat as of 4th February 2014 through a toll free number. The Women and Child Development Department has started the services in collaboration with **GVK EMRI** (as Operating Agency and project partner), **Home Department** (as project Partner), **TISS** -Tata Institute of Social Science (as Knowledge partner). To date, the service has responded to 233,473 calls out of which more than 135,600 beneficiaries received help.

The Government of India in its guidelines to universalise the Women Help Line (WHL) has set the following objectives for the scheme (May 2015):

- To provide a toll-free 24-hour telecom service to women affected by violence seeking support and information.
- To facilitate crisis and non-crisis intervention through referral to the appropriate agencies such as police/ Hospitals/Ambulance services/District Legal Service Authority /Protection Officer /One Stop Centre.

The Scheme of Universalisation of Women Helpline is intended to provide 24-hour immediate and emergency response to women affected by violence through referral (linking with appropriate authorities such as police, One Stop Centre, hospital) and information about women-related government schemes across the country through a single uniform number:

Key Features of 181 Abhayam:

- Easy Accessibility & Social Acceptability
- Skilled Manpower
- Clear operating procedures & knowledge support
- Technology Integration & coordinated response
- Prompt & affectionate response
- Feedback Mechanism
- Concern Redress
- Confidentiality
- Non-discrimination
- Documentation & Record keeping

WHL will undertake outreach and awareness generation activities to inform and encourage women to utilize its service in case of need. For women to contact WHL, they first need to know about the service and understand what it can do for them. Hence, outreach and awareness-generation activities are therefore key components of WHL. ⁽²⁾

A review of its first 10 months of operation demonstrated that the helpline has successfully reached women in distress. During this period, it received 9,767 calls. Most callers identified themselves as women (8654). Many were married (5,161) and 5,479 callers called on their own behalf. The caller's primary concern, as classified



by the response officer and the counsellor independent of each other, fell into one of six major categories: violence against women; financial vulnerability; mental health; sexual, reproductive and family health; information; and other. ⁽³⁾

References

1. www.emri.in
2. http://wcd.nic.in/sites/default/files/GuidelineapprovedMinisterandwebsite_1.pdf
3. Using an emergency response infrastructure to help women who experience gender-based violence in Gujarat, India. Bull World Health Organ 2016;94:388-392 | doi: <http://dx.doi.org/10.2471/BLT.15.163741>, Department of Emergency Medicine, Stanford University School of Medicine, Stanford, (USA), GVK Emergency Management Research Institute, Hyderabad, India. Correspondence to Jennifer A Newberry Jennifer A Newberry, a Swaminatha Mahadevan, a Narendrasinh Gohil, Roma Jamshed, Jashvant Prajapati, GV Ramana Rao & Matthew Strehlow

To find out more about GVK EMRI visit their website at: www.emri.in

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“At the emergency communication center, of course,” said Kim Rigden, Associate Director of Accreditation for the International Academies of Emergency Dispatch® (IAED™).

“That’s where it all comes together,” said Rigden, who started her dispatch career as an Emergency Medical Dispatcher (EMD) at the British Columbia Ambulance Service (BCAS) and used the Medical Priority Dispatch System™ (MPDS®). “The protocols used in centers do not work in isolation. They are part of a process that defines the highest standards in emergency communications.”

As of June 2017, 58 agencies in Canada use the MPDS. This includes centers in every province in the country as well as the Yukon Territory. The protocol is used in both French and English, although not every center uses both languages. MPDS currently covers approximately 67 to 69 percent of Canadians (24 million people/35.8 million total population). Once Ontario completes its adoption of the MPDS in 20 Central Ambulance Communication Centres (CACCs) by early 2019, there will be roughly 35 million people covered (97 percent).

Let’s learn about some of these Canadian agencies in their own words:

Medicine Hat Regional 911 Communications

Medicine Hat, Alberta, Canada

1. Describe your operations:

Medicine Hat 911 is a primary PSAP in southeastern Alberta, serving a coverage area of approximately 46,000 square kilometers. We take calls and dispatch for police, fire, city utility departments, and Special Transit. Medicine Hat 911 handles 1,500 to 2,000 911 calls monthly on average.

We have 21 staff members who are very dedicated to helping people!

2. Describe a unique feature about your agency:

We have achieved ACE, and as such we love protocols and procedures. We use Case Entry and Case Exit for our utility calls for service, as well as for our Special Transit clientele. The consistency for all calls for service makes us definitely a Center

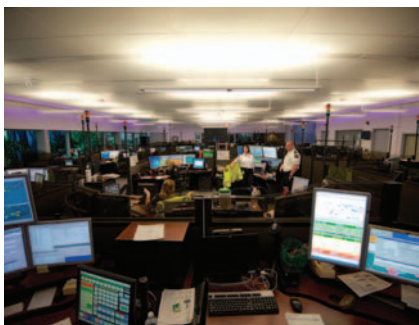
of Excellence. Our staff deserve the credit for the remarkable job they do through all the emergency calls, customer service they provide, and their willingness to be the very best they can be—it makes them a very special group indeed.

3. Why a career in emergency communications?

Emergency services is a fantastic field to work in. You never have one day the same as the next. It truly is a higher calling and not always an easy assignment. Our staff supports each other, which makes the team well-knit. Our team is focused on “it’s not about us—it’s about who we serve”.

Colleen Bachewich

Superintendent 911 Communications



Toronto Paramedic Services

Toronto, Ontario, Canada

1. Describe your operations:

Toronto Paramedic Services is the largest municipal paramedic service in Canada, covering 641 square kilometers and a daytime population of 3.5 million people (resident population is 2.8 million). Our Communications Centre processes about 334,000 calls per year and responds to approximately 265,000 requests for service resulting in transport of about 182,000 patients per year. Toronto Paramedic Services operates a fleet of 241 vehicles. The 172-member comm. center staff includes calltakers and dispatchers, a destination coordinator, an out-of-town response coordinator, information technology personnel, and supervisory personnel.

2. Describe a unique feature about your agency:

The system links MPDS Determinant Codes with patient outcome data gathered from the paramedic’s electronic patient care record. This clinical data has allowed Toronto Paramedic Services to create Determinant Level-specific responses and assign each MPDS Determinant Code its own response plan based on the historical data that shows the likelihood of an intervention. For instance, a 2-D-IM requires a BLS response within 8 minutes and 59 seconds with firefighter first responder response while a 2-D-II requires an ALS response within 8 minutes and 59 seconds with a firefighter first responder response.

Response plans are built on clinical evidence, which is generated from a database of over 500,000 patient records linked to 911 calls from a three-year period. Not only does it improve patient care at the point of response, but it also determines the level of EMS resources dispatched according to high- and low-acuity patient types.

3. Why a career in emergency communications?

“It might sound odd, but it’s about putting predictability in an environment that is unpredictable. The calming, reassuring voice of the call-taker provides a large dose of encouragement to callers and patients in the throes of unpredictable and urgent situations. It’s the ability to help that makes the job most satisfying.”

Journal of Emergency Dispatch

July 30, 2014

Centre de communication Urgences-santé

Montreal, Quebec, Canada

1. Describe your operations.

Urgences-santé is the sole public organization of prehospital emergency services in the province of Québec for the islands of Montréal and Laval. Urgences-

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santé covers 2.4 million people, and handles an annual average of 375,000 calls, which represents more than a third of all Québec medical emergency calls.

2. Describe a unique feature about your agency:

Urgences-santé falls under the direction of Québec's Ministry of Health and Social Services and is the largest of 10 communication centers serving the province of Quebec.

The opening of Urgences-santé emergency communication center in February 2016, and answering the first call, was monumental. The process resulted in the safe and reliable transfer of call-taking and dispatching operations without interruption of service to patients. The organization knew ahead of time to coordinate the move and the transfer of services and a master plan and calendars were prepared to facilitate the "live transfer."

3. Why a career in emergency communications?

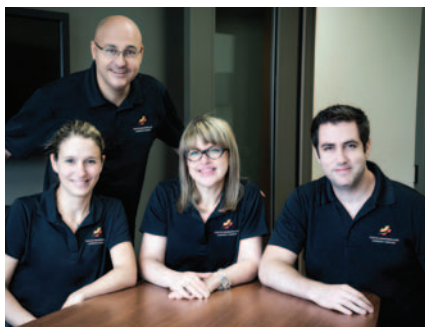
The callers are all amazing people. They all have different ways of communicating. Some are sad, some are stressed-out, and some are calm. No matter what their emotions, emergency dispatchers are able to help.

Vincent Brouillard

Supervisor of Operations

Bénédicte Lévesque-Royer

Emergency Medical Dispatcher

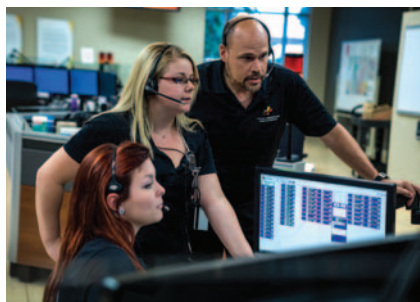


Centre de Communication Santé Laurentides-Lanaudière

Blainville, Québec, Canada

1. Describe your operations:

The Health Communications Partners of the Laurentians and Lanaudière implements and manages the operations of the 10th and last health communication center (CCS for Centre de Communications Santé) to be established in the province of Québec. Our Level II Public Safety Building, with a surface area of 950 square meters, is state of the art



in terms of technology and communications. We provide emergency communication services for 1.1 million people in two regions, covering 32,853 square kilometers. We receive 114,000 calls per year and coordinate response for 11 ambulance services and 26 medical first responders services. Our organization is a big family of 60 professionals: 52 EMDs supported by a team of 8 managers.



2. Describe a unique feature about your agency:

Because we wanted experienced EMDs at the new center, we hired everyone from the two communication centers that were closed in the Laurentides and Lanaudière regions and joined forces here. We are a highly technical center and have event-specific contingency plans already in place for these emergencies if needed. These plans are based on incorporating call volume, response data, and all information we need to respond promptly, accurately, and confidently during an emergency and in the hours and days that follow.

To improve our organizational performance and promote a customer experience, we focused on listening, consultation, and involvement. For example, our operational committee is comprised of representatives from every ambulance service we cover, along with communication center management and Laurentides and Lanaudière regional directors.

3. Why a career in emergency communications?

We are dedicated to the well-being of our patients. We are the force behind emergency services, managing the right tools

in place and creating partnerships that allow us to make split-second decisions accurately. We officially opened June 6, 2012.

Guillaume Pelletier

Quality Assurance

Groupe Alerte Santé Inc.

Longueuil, Québec, Canada

1. Describe your operations:

The role of the health communication center, which is governed by the Act Respecting Pre-hospital Emergency Services, is to provide all operational functions related to processing urgent calls for health services and to coordinate and support field resources. There are nine secondary agencies like ours in the province of Québec.

I've been working for Groupe Alerte Santé over the last 16 years. We serve the area called Montérégie. It represents a territory of more than 3,861 square miles characterized by the co-location of urban, semi-rural, and rural areas including 177 municipalities and towns. EMDs from our agency are taking about 164,000 medical calls per year.

2. Describe a unique feature about your agency:

Groupe Alerte Santé was created in 1997. We are therefore celebrating our 20th anniversary this year! Our EMDs have been using MPDS since 1999, and we were an Accredited Center of Excellence from the Academy five times throughout the years. We are accredited and keep striving to improve the quality of our services to the population as well as our operational functions by relying on medical supervision, qualified effective measure, operating standards, and advanced technology.

3. Why a career in emergency communications?

Dispatchers, supervisors, and paramedics agree that the purpose of doing this job is to make a difference in people's lives, to support them when they need it the most. We are profoundly altruistic. I feel privileged to work with people who dedicate themselves to improving services and using best practices every day to meet their desire to make a difference.

Claude Marie Hébert

Quality Specialist

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Adam Wright, Ambulance Driver, Yorkshire Ambulance Service



Photograph: ESS

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The lengths that some people will go to for TASC!

A courageous group of paramedics from East and West Suffolk are taking to the English Channel in an amazing 'international' effort to help raise money for ambulance charities. At 33.3 kilometres in its narrowest stretch, the English Channel equals 666 lengths of an Olympic swimming pool.

Two teams of paramedics and student paramedics from East of England Ambulance Trust will be aiming to swim across the English Channel to France in relay this summer.

They hope to raise thousands of pounds in aid of TASC, The Ambulance Staff Charity, which supports past and present ambulance staff and their families in times of need, and the Ambulance Wish Foundation UK, which aims to help terminally ill people to fulfil their final wish.

The East and West Channel Swim Challenge, which is due to set off from near Dover, comprises two teams of six swimmers.

One team, led by main organiser Mark Ransom, represents west Suffolk paramedics based at Bury St Edmunds, while the other team is being captained by Carl Friar and drawn from East Suffolk paramedics at Ipswich.

Together, the 12 swimmers, made up of ten paramedics and student paramedics, plus a lifeguard and oceanographer, will have to complete the approximate 21 mile crossing, with each swimmer having to spend an hour in the water at a time.

Mark, aged 47, knows what is in store for his colleagues having swum the Channel on his own in 2008.

He says: "It was an ambition I have had since I was a kid. I used to be a competitive swimmer and when I was ten I met Mike Read, who then held the world record for the most amount of Channel swims, at an awards ceremony. But I gave up swimming when I was 17 and never considered going back to it."

However, when a fellow paramedic, who was also a keen swimmer, left the East of England trust in 2007, they decided to swim the Channel the following year.

"Unfortunately she had to pull out of the challenge, but I eventually got to swim the Channel when I was 38. Ever since then it was in my mind to organise a Channel relay



(left to right) Carl Friar, Mark Ransom, Tia Whiteman and Ria Delves.

swim. I had a couple of colleagues who knew of my ambition who kept saying to me 'when are you going to do it?', so a couple of years ago I decided to start planning it."

Mark, who is married with three children aged 21, 20 and 17, added: "I sent out an email to people who I thought would be interested and immediately got about eight or nine colleagues saying they wanted to do it. So we decided to put two teams together, although I had to recruit a couple of non-paramedics in the end.

"Throughout the winter we have been training in the pool but we are now training in the sea. There are strict rules about swimming the Channel, so each swimmer taking part has to first do a two hour qualifying swim in open water in temperatures of less than 16 degrees, and without wearing a wetsuit.

"During the actual Channel swim, each swimmer has to go in for an hour at a time, so we will probably have to go in at least twice during the course of the crossing. Unfortunately you don't go in a straight line because of the tides which drag you up and down the Channel. But it's about 21 miles from point to point, and we should land



on the French coast somewhere south of Calais."

Each team of swimmers will be accompanied by a support boat.

Carl, who is the oldest swimmer at the age of 51, said: "I have been doing a lot of open water swimming in the past, such as triathlons, and a couple of years ago I did an Iron Man challenge in Tenby which involved swimming in the rough sea for over an hour.

"I knew Mark had previously swum the Channel, so when he suggested a Channel relay attempt, I did not hesitate to join in.

"I have always enjoyed team events and the prospect of raising money for ambulance charities in the process was too good an opportunity to waste."

Carl, who has been in the ambulance service for 25 years having previously served as an Army Medic, added: "I am quite proud of the fact that I am a bit older as hopefully it may help to inspire my younger colleagues to get involved in sport and live life to the full."

Donations can be made by visiting:
uk.virginmoneygiving.com/team/paramedicchannelswim

Further information about TASC, The Ambulance Staff Charity is available by visiting:
www.theasc.org.uk/
or by calling 0800 1032 999.

Information about the Ambulance Wish Foundation UK can be found at: www.ambulancewishfoundation.org.uk/

Visit the only daily ambulance news site on the net at:

www.ambulancetoday.co.uk

New Assistant General Secretary and Head of Health appointed at UNISON



Christina McAnea has been promoted to Assistant General Secretary, and Sara Gorton takes over as Head of Health, UNISON announced.

Christina will be responsible for bargaining and negotiations across health, local government and education. She will also be responsible for the unions' equalities work.

Christina was previously head of health, a job she held for six years, and before that covered roles in the education, local government and police sectors.

Sara Gorton has taken over from Christina as head of health. Previously Christina's deputy, Sara had responsibility for NHS pay and health campaigning work. Sara will now succeed Christina as lead negotiator for the 14 unions across the NHS.

Commenting on her appointment, Christina McAnea said: "I'm proud to move to this pivotal role, working on behalf of those who provide our public services.

"The big challenge is to end the public sector pay cap and ensure proper funding for both the services

we rely on, and the workforce that are essential to provide them.

"They do a fantastic job and should be properly rewarded for their often difficult and stressful work."



Sara Gorton said: "The NHS is facing huge challenges. A re-think on funding and pay is essential. Pay restraint must be lifted and

any changes to the health service must not be driven by cost.

"Securing the right to stay for EU nationals is a key concern, as is how the NHS can hold onto its experienced staff, and recruit the next generation.

"NHS employees have the right to be safe at work but many are not. More must be done to understand the reasons why persistently high numbers of NHS staff experience violence at work, and stop these attacks from happening in the first place."

EMAS Paramedic will lead the way in child pain management

Research Paramedic Greg Whitley has secured funding from Health Education England, East Midlands and National Institute for Health Research and National Institute for Health Research and Collaboration for Leadership in Applied Health Research and Care for a PhD exploring:

'What are the predictors, barriers and facilitators to effective

management of acute pain in injured children by ambulance services?' The aim of his PhD is to identify why pain is poorly managed in injured children within UK ambulance services and to explore ways to improve this.

Greg was shortlisted for an interview on the 8th June 2017 where he gave a 10 minute presentation followed by 50 minutes of questioning from a panel.

The studentship is very prestigious and highly competitive with only

four funded places across the East Midlands. Greg was thrilled to accept the offer.

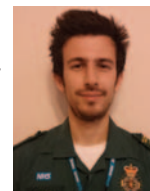
This PhD is not only an amazing opportunity for Greg but will also improve the research profile of EMAS and the University of Lincoln.

Greg said: "I feel privileged and honoured to be selected for the PhD studentship, I am very eager and excited to start and I'd like to encourage anyone else who wants to do a PhD to look into funding"

Greg will start his PhD at Lincoln University in 2018. He will continue to work part-time as a paramedic during the PhD.

This will help maintain his clinical skills and stay patient focussed.

We wish Greg luck with his studies #PrideinEMAS



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SWASFT CEO Pays Tribute to Brave Kath

The Chief Executive of South Western Ambulance Service NHS Foundation Trust has paid tribute to Paramedic Kath Osmond who lost her battle against cancer on her 41st birthday. (Tuesday April 18 2017).

Kath joined as a paramedic in 2000 and has had various roles in the Trust.

She inspired many of her colleagues to help fundraise for a new cancer treatment TILs (Tumour Infiltrating Lymphocyte). Kath had been sharing her experience with thousands online as she went through her treatment for an aggressive form of malignant melanoma.

SWASFT CEO Ken Wenman said, "Kath inspired hundreds of our

staff to get involved and fundraise for a new treatment therapy, whilst raising awareness of the signs and symptoms of melanoma across the United Kingdom. She was a brave lady who will be missed by her colleagues. On behalf of the Trust I offer my condolences to Kath's family and friends through this difficult time."



This Year's Emergency Services Show is All About You

With the strapline "It's all about you," this year's Emergency Services Show offers paramedics a valuable opportunity to focus on their own career development and personal health and wellbeing. Returning to Hall 5 at the NEC, Birmingham from 20th to 21st September 2017, the event will feature a host of new learning opportunities including CPD-accredited seminars and a Medical and Trauma Challenge – as well as the ever-popular College of Paramedics workshops.



Terrorism and traffic incidents are among the topics planned for The Learning Zone, where emergency services and partner agencies will share their experiences of responding to real incidents. For example North West Ambulance Service will present a session on the Wirral Gas Explosion, alongside Merseyside Police and Merseyside Fire & Rescue.

A new seminar theatre dedicated to health and wellbeing will cover issues such as fitness, nutrition, mental health and health and safety. It will include an update on the blue light wellbeing framework for all emergency services being developed by The College of Policing in conjunction with Public Health England.

Other free seminars include a session on the work undertaken by the Centre of Excellence for Information Sharing to reduce high demand on blue light services from



local residents through education and intervention. All of the free seminars will be CPD-accredited.

The College of Paramedics will once again deliver a programme of free 30-minute CPD workshops. This year's programme includes a reflective account on the London bombings and a review of the changes to the AACE Maternity Guidelines. There will also be sessions on trauma, frequent caller management, airway management, paediatric cardiac arrest, newborn life support, infectious diseases, paediatric resuscitation, basic and advanced life support.



A new feature dedicated to road safety and rescue will incorporate a Medical and Trauma Challenge within an "immersive environment" tent. To add authenticity to the trauma scenarios, West Midlands Fire Service Casualty Simulation Zone will be providing casualties with realistic make-up and prosthetics.

Over 400 exhibiting companies and organisations will be showcasing the latest solutions in communications, emergency medical care, protective clothing, uniforms, outsourcing, training and vehicles. Meanwhile in The Collaboration Zone, over 80 voluntary groups, charities and NGOs will be sharing details of the support they offer.

Entry to the exhibition and seminars, as well as parking, is free.

To register for free entry visit www.emergencyuk.com

Edge Hill University launches a Professional Doctorate in Emergency Services Management



Edge Hill University Business School is proud to launch its new professional doctorate research programme from September 2017.

Pareskh Wankhade, Professor of Leadership and Management at Edge Hill University Business School

This is the first integrated programme of its kind for the ambulance, fire & rescue and police services. Designed for senior managers and potential leaders, this novel and unique programme provides an opportunity to engage in cross-disciplinary dialogue with academics and fellow practitioners interested in the wider aspects of emergency management.

To be admitted to the course, candidates will typically need a Bachelor's degree in any subject, as well as a Master's degree and five years of management or professional experience. A research proposal of approximately 2,000 words outlining the academic and practitioner fields will also be required. As part of a four-to-five-year part-time programme, candidates will work on a research project resulting in a thesis of doctoral standard.

Candidates will undertake research development activities and study core subject-related themes such as contemporary issues, interoperability, and becoming a reflective practitioner. Upon completion of the programme, candidates will develop strategic decision-making skills enabling them to make a significant contribution towards professional practice and academic knowledge and furthering new career opportunities.

Professor Helen Woodruff-Burton, Director of the Business School, said: "The context in which emergency services currently operate is becoming increasingly complex and the pressures of funding, training and cultural transformations are being felt globally. We are confident that the research generated from this programme will help to solve real life problems in these organisations."

Professor Pareskh Wankhade, said: "This new and innovative programme of research will help candidates to develop professional management practice while gaining an appreciation and understanding of the relationship between academic



Edge Hill University

research and the professional practice of management."

The course will be launched at an event organised on the **13th July 2017** between 17:00-19:00 at Edge Hill University's Ormskirk campus. The event is likely to be attended by regional and local emergency services leaders and staff.

Free places to the event can be booked at:

edgehill.onlinesurveys.ac.uk/business-school-launch-event-copy

Applications for September 2017 can be made at:

www.edgehill.ac.uk/courses/emergency-services-management

Further details and informal inquiries can be made to

Professor Pareskh Wankhade, Programme Leader; at:

Pareskh.Wankhade@edgehill.ac.uk

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TODAY Ambulance

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Director of Operations receives Queen's Ambulance Service Medal

The Director of Operations at South Western Ambulance Service NHS Foundation Trust has been awarded a top honour in the Queen's Birthday Honours.

Neil Le Chevalier will receive the Queen's Ambulance Service Medal. It is believed this is the first time the honour has been awarded to anyone at South Western Ambulance Service.

Neil joined the ambulance service in 1975 as a Control Room Assistant. He then transferred in to frontline duties and throughout his 42-year

career has progressed in to senior management positions.

Prior to holding his current position of Director of Operations his accomplishments include:

- Holding various managerial positions including station, control, contract and emergency planning
- Seconded to work with the Department of Health and involved in the rewriting of national NHS resilience guidelines
- Instrumental in the SWASFT acquisition of Great Western Ambulance Service, heading up operations during this time

- Taking the lead for the implementation of the national NHS Ambulance Response Programme (ARP)

Neil is currently chair of the National Directors of Operations Group and has lead responsibility for national performance standards. He was awarded a Serving Brother of the Order of St John for his voluntary work with cadets.

Speaking about receiving his award Neil said: "I am pleased to be receiving this award and want to thank everyone at SWASFT for all the support they have given to me.

"It is nice to be recognised for some of the projects that I have been involved in. I am very lucky to work with some incredible people and to be able to help patients across the south west is very rewarding."

Ken Wenman, Chief Executive of SWASFT, added: "I am delighted for Neil and it is great to see that he has been recognised for his contribution to the ambulance service and the wider NHS.



WAST appoints Non-Executive Director Helen Birtwhistle

The Welsh Ambulance Service has appointed a new Non-Executive Director in the shape of Helen Birtwhistle.

Helen, who is a graduate of St Anne's College, Oxford, and who has a degree in Philosophy, Politics and Economics, has a background in strategic leadership and communications with a particular emphasis on health and care.



Most recently, she was Group Director of External Affairs at the NHS Confederation after four years as Director of the Welsh NHS Confederation.

There she worked to equip the organisation to be a strong independent voice of the seven integrated health boards and three NHS Trusts in Wales, including the Welsh Ambulance Service, and a driver for positive change.

Helen began her career as an NHS National Administrative Trainee with the then South Glamorgan Health

Authority and subsequently became a hospital manager.

She switched career in 1984 when she gained a post-graduate diploma in journalism studies at Cardiff University and joined daily newspaper, the South Wales Argus. There she became health correspondent and deputy news editor before moving into public relations.

Helen worked in a number of roles at a PR company, with a particular emphasis on healthcare, for 20 years, latterly as managing director.

She also spent a year seconded to the National Assembly for Wales as Head of External Communications. Currently she is Director of Wales For Europe, an independent grassroots organisation, campaigning to foster the strongest possible continuing relationship with the EU.

She is also a member of the Governing Body of the Church in Wales, and Vice Chair of its Standing Committee, and a member of the International Advisory Board, Cardiff Business School.

Heart failure more fatal than common cancers

A study led by Keele University, in collaboration with the Universities of Aberdeen and Manchester, shows that men and women suffering from heart failure have a higher risk of death than people with most common types of cancer.

The primary care database study if the first of its kind to compare survival of them, separated by gender. Heart failure is a leading cause of death globally, and the result of this study will be vital in working towards improving the outcomes of heart failure patients.

Anonymised data was collected between 2000 to 2011 from 393 general practices in Scotland. The dataset (PCCIU) used included

patient information for approximately a third of the Scottish population and represented a mixture of age and gender, as well a range of people geographically and economically.

For men, the four most common cancers are prostate, lung, colorectal, and bladder; while for women, they are breast, colorectal, lung, and ovarian. Diagnoses of cancer and heart failure were at similar ages in men, but women typically experienced heart failure later in life. Only 5.5% of either gender suffering from heart failure did not have another disease as well, compared to 20-38% of cancer patients.

Despite advances in healthcare, the study showed that heart failure remains as life-threatening as the

most common forms of cancer, in both men and women.

Lead author Professor Mamas Mamas, Professor of Cardiology at Keele University and Consultant Cardiologist at the Royal Stoke Hospital, University Hospital North Midlands Trust, stated: "The findings of this study are important, our study shows that despite advances in the treatment of heart failure with newer drugs and devices, mortality rates remain significant and heart failure remains as malignant as many of the common cancers."

Professor Phyo Kyaw Myint, University of Aberdeen, said: "Older patients with heart failure also have other co-morbid diseases, and therefore understanding of outcome

in this patient group is important for clinicians. This study also reminds us that observational studies are important in clinical research because clinical trials do not include the typical older people we manage in day to day clinical practice."

Dr Matt Sperrin, Health eResearch Centre at The University of Manchester, commented: "This study highlights how anonymised data from general practices can be used to uncover evidence that helps us understand how patients can be best managed. The comparison will hopefully highlight the potential impact of heart failure to the public, who can take proactive steps to prevent it."

SECamb introduce Computer Aided Dispatch System

South East Coast Ambulance Service NHS Foundation Trust is set to begin the process of migrating to a new Computer Aided Dispatch, (CAD), system.

The new system is well established and currently in use in three other UK ambulance trusts.

The CAD is the system used to record all data related to 999 and urgent requests for ambulance assistance requested of the Trust and is primarily used by Emergency Operations Centre (EOC) staff to assess, prioritise and, if necessary,

dispatch ambulance crews to 999 calls.

Following an extensive testing and training process, staff at the Trust's Coxheath EOC in Kent are expected to begin using the new system from tomorrow (5 July).

Staff in the Trust's new Crawley EOC will be next to begin using the new system with the Trust working towards a go-live date later this month. Staff currently based in Banstead are due to start using the new CAD at the same time as moving to the new Crawley EOC in early September.

The Trust has been using its current CAD system for more than 10 years. A decision was taken by the Trust Board last year to upgrade to a new system in order to improve reliability, user experience and improve performance and information. A competitive tendering exercise led to Cleric Computer Services being awarded the new contract to implement the new CAD early this year.

'Cleric' have been working with ambulance services for more than 30 years ensuring they have developed a deep understanding of user and service needs.

SECamb Executive Director of Operations Joe Garcia said: "We're really pleased to be introducing a new and dynamic CAD system which will be of huge benefit to the EOC staff and ultimately the patients that we provide a service to. It will greatly enhance the information capabilities to plan and forecast activity, being a more modern, reliable and future-proofed system."

For more information please visit SECamb's website at: www.secamb.nhs.uk

Monroe Capital Expands Credit Facility to Priority Ambulance

Chicago, IL, June 13, 2017 – Monroe Capital LLC recently announced an increase in the credit facility to Priority Ambulance, LLC to support the acquisition of Puckett EMS. Priority is a portfolio company of Enhanced Equity Funds.

Based in Knoxville, Tennessee, Priority provides the highest level of clinical excellence in emergency and non-emergency medical transport to the communities it serves in Tennessee, Alabama, New York, Arizona, Indiana, Georgia and South Carolina. Throughout its national footprint, Priority operates approximately 400 emergency and

non-emergency vehicles staffed by more than 1,600 licensed paramedics and EMTs. Priority's state-of-the-art ambulances are equipped with the latest medical equipment and technology. Puckett EMS is one of the largest private ambulance operators in the state of Georgia, serving the West and Northwest Atlanta suburbs. The addition of Puckett EMS further expands the contiguous geographic footprint and aligns with Priority's continued growth strategy.

About Monroe Capital

Monroe Capital LLC is a leading provider of senior and junior debt and equity co-investments to

middle-market companies in the U.S. and Canada. Investment types include unitranche financings, cash flow and enterprise value based loans, asset based loans, acquisition facilities, mezzanine debt, second lien or last-out loans and equity co-investments. Monroe Capital prides itself on its flexible investment approach and its ability to close and fund transactions quickly. Monroe is committed to being a value-added and user-friendly partner to owners, senior management and private equity sponsors. Monroe has been recognized by Private Debt Investor as the 2016 Lower Mid-Market Lender of the Year; M&A Advisor as the 2016 Lender Firm of the Year;



Global M&A Network as the 2016 Small Middle Markets Lender of the Year; and the U.S. Small Business Administration as the 2015 Small Business Investment Company (SBIC) of the Year. To learn more about Monroe Capital LLC, visit www.monroecap.com.

SECamb invests in fleet with purchase of new ambulances

South East Coast Ambulance Service NHS Foundation Trust (SECamb) is pleased to have completed an order for 42 new ambulances to serve its region.

The vehicles, which will replace ageing ambulances across Sussex, Surrey and Kent, are expected to hit the roads by the new calendar year. They are then expected to be rolled out at a rate of four vehicles each week.

The vehicles follow the design of the Trust's other ambulances being a box body on a Mercedes Sprinter chassis.

The purchase is a beneficial investment to the Trust as it is estimated that on average for every year older an ambulance gets it costs the Trust an additional eight pence per mile. SECamb's fleet covers approximately 15 million miles each year so the new vehicles will deliver significant savings.

The ambulances will be fitted with full telematics and speed limiters, which operate when the vehicles are not responding on blue lights and sirens.

SECamb Head of Fleet and Logistics, John Griffiths said: "I'm delighted we've been able to place this order which will bring obvious benefits to the Trust and of course patients. The purchase follows a review of our fleet and will see our oldest vehicles, which have been

in operation since our legacy Trust days, replaced with brand new ambulances.

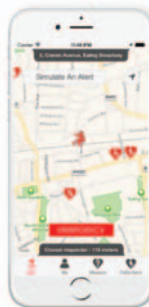
"I know the new vehicles will be very much welcomed by staff across our region and they also represent a good investment for the Trust. Our fleet department and mechanics do a fantastic job to keep our vehicles on the road but it is vital that these vehicles are replaced as they are operating beyond their economical lifespan."

NEAS secures funding to partner with GoodSAM smartphone app to help save North East lives

North East Ambulance Service (NEAS) has secured funding to partner with the GoodSAM smartphone app to support the region's residents who suffer cardiac arrest.

It is one of five projects to receive follow on funding from Nesta and the Office for Civil Society as part of the Centre for Social Action Innovation Fund. As a result, volunteer responders, including off duty paramedics and community first responders, will soon be able to register to be automatically alerted by the GoodSAM Responder app on

their smartphones, when someone has a cardiac arrest nearby, along with the location of the nearest defibrillator. Already trialled and making a difference in London with the London Ambulance Service, GoodSAM (Good Smartphone Activated Medics) developers have built the



system, using the latest technology. GoodSAM Responders will be alerted when a member of the public dials 999 in the North East to report a suspected cardiac arrest or triggers an alert via the GoodSAM Alerter app.

Gareth Campbell, Emergency Care Operations Manager says, "This is excellent news for the North East population and means that those special skills our workforce uses every day to help save lives are even more accessible. The partnership will not impact on or substitute standard ambulance dispatch, with crews

continuing to be sent to scene in the usual way.

Professor Mark Wilson, GoodSAM's Medical Director and Co-Founder, said: "There are first aid trained people all around us but usually the first they know of a neighbour having a cardiac arrest is an ambulance appearing in their street. If they had known and started CPR a few minutes prior to the ambulance arriving, chances of survival can be considerably increased. GoodSAM now makes this possible, connecting those with the skills to the public in their minute of need."

New Chief Executive joins London Ambulance Service

London Ambulance Service has appointed a new Chief Executive. Garrett Emmerson began in his new role at one of the busiest ambulance services in the country on 30th May this year. Garrett replaces Andrew Grimshaw who has left to become the Chief Financial Officer at St George's University Hospitals NHS Foundation Trust.



Garrett said he is "proud and honoured" to be appointed as Chief Executive and says it is "an exciting time to join the Service". Setting out his immediate priorities over the next few weeks, Garrett said: "The quality of our patient care is already

good and we will continue deliver excellent health care to Londoners in the face of increasing demand. "I want to build on progress already made in the last two years and help set the Service's longer-term vision and strategy."

On his first day in the Service, Garrett met ambulance crews, motorbike and cycle responders as well as control room staff and those supporting frontline operations in



the back office. Garrett, who was previously Transport For London's Chief Operating Officer for Surface Transport, says he is proud to work in "one of the greatest cities in the world".

Visit the only daily ambulance news site on the net at:
www.ambulancetoday.co.uk

Introducing the Baby Pod 20 Infant Transport Device

Transporting new-born infants requires an environment that will keep them warm, safe and secure, and until now the only way to guarantee a warm environment for the baby has been to use a heavy, cumbersome and physically large transport incubator, at a great cost.

Using the same technology, materials and design features that protect Formula 1 racing car drivers from injury during a crash, the revolutionary Baby Pod range provides the security and warmth that a new-born needs, at a fraction of the cost of a standard transport incubator; in a package that is light, easy to handle, and can attach to



any transport stretcher currently available

The Baby Pod 20 is the culmination of two years of development between Advanced Healthcare Technology Ltd. and Williams

Advanced Engineering with the aim of incorporating new technological developments and user requested features from the past 15 years of experience with the original Baby Pod II, and to bring to market a Baby Pod Infant Transport Device to meet the challenges of transporting infant patients in 2017, and into the future.

The new Baby Pod 20 features many of the same qualities and features of its predecessor, but improves upon them in key ways. The most striking difference being the completely reengineered viewing lid.

We're confident that the Baby Pod 20 is a strong step forward for the Baby Pod range, offering improved patient access and visibility both during transport and in hospital, an



even lighter weight, and a stronger fixation system, satisfying ever increasing industry standards for medical device fixation.

For more information on our products, visit our website at:
www.babypod.com

Or e-mail us at:
info@babypod.com

The Baby Pod 20 is available from Ferno Canada.

Find out more at:
www.ferno.ca

FERNO EZ GLIDE PowerTraxx™

The Track Chair that safely goes UP & DOWN stairs at the touch of a button

Moving patients safely on stairs can be distressing to the patient and carry substantial manual handling injury risks.

Ferno has the product to end these problems – the EZ GLIDE PowerTraxx™.

So much more flexible than any other powered tracked chair. Capable of moving down and upstairs under controlled power; you

can slow it down... turn it around... bring it to a halt... all at the touch of a button.

It's not just for stairs, either – EZ GLIDE PowerTraxx™ effortlessly moves over all kinds of difficult terrain, including curbs. It can even be used to move heavy equipment, as well as people.

All the weight of the chair and the occupant is borne by the track and motor... not the operators – so the risk of manual handling injuries is minimised.

- High load capacity – will transport patients and equipment loads of up to 227 kgs/35st 10.4lbs and the fixed frame LBS version will carry 50st

- Excellent patient safety - an automatic braking system combined with options such as adjustable cushioned headrest/shoulder support and extended



footrest, ensures patient safety and comfort

- Convenient to use – detachable battery stays charged over 20 flights of steps, just 60 mins recharge time

We are FERNO in the UK and we are building the Ambulance of the Future – Today...

To find out more call:
+44 (0) 1274 851 999
Or visit: www.ferno.co.uk

SWASFT to partner Ortivus on electronic Patient Care Records (ePCRs) until 2019

SWASFT and Ortivus have agreed terms for a 2 year extension of the contract to provide Mobimed Smart ePCR as a managed service. The extension was signed off towards the end of May, and secures the partnership for the provision of ePCR to the SWASFT fleet until December 2019.

The Mobimed Smart project has been clinically managed by Dave Partlow, Consultant Paramedic (East Division, SWASFT, who commented: "Over the last three years, our goal has been to develop an Electronic Care System (ECS) fit for a busy and fast-moving 21st century ambulance service and I'm pleased to say that both the feedback from our frontline



crews and the data we've been able to gather all indicate that through Mobimed Smart we're achieving this."

MobiMed implementation in figures:

- 2,500 operational users trained
- 659 MobiMed electronic patient care record devices distributed to vehicle fleet
- 367 Mobimed Smart Vital Signs monitoring devices distributed

- 21 emergency departments having access to 470 clinical workstations providing real-time access to VSM and ePCR in ambulances
- 95% of patient records digitalised

Some of the benefits with MobiMed Smart:

- Improved decision support for paramedics
- Earlier detection of critical conditions leading to improved patient outcomes
- Digital records allowing for better follow up and possibility to conduct clinical research
- Possibility to access patient history and summary care records for improved treatment
- Improved safeguarding of vulnerable patients



- Accurate timestamps allowing for smoother handover between ambulance and hospital

To find out more about how MobiMed Smart can help your ambulance crews:
Visit: www.ortivus.com

Call Ortivus on:
0844 8404 999

Email: sales@ortivus.com

Or call Ortivus UK MD, Philip Swan on:
+44 (0) 7525 277 218

Or email him at:
philip.swan@ortivus.co.uk

DLL: Providing Integrated Financial Solutions for Ambulance

With many years' experience working with major manufacturers and vehicle converters, DLL is a leading funder of new, used and remounted ambulances as well as specialist vehicles to both public and private organisations.

DLL is committed to providing integrated financial solutions that

support the complete asset life cycle to help customers successfully navigate a challenging and evolving market environment.

DLL has initiated an innovative ambulance remounting programme. As an ambulance is a vehicle driven under load (the box), the chassis is the main wearing component of the vehicle. The DLL remounting programme

involves refurbishing and reusing the modular box component of the ambulance and installing it onto



a new chassis, extending the useful life of the vehicle and significantly reducing the cost when compared to a new vehicle.

To find out more about DLL:
E-mail: remarketing.uk@dllgroup.com
Phone: 07500 068055

Visit the only daily ambulance news site on the net at:
www.ambulancetoday.co.uk

Cartwright Introduces Five Year Warranty

Cartwright Conversions introduces a five year warranty on its PTS Vehicles that covers the base vehicle and the conversion; part of its launch of a new line of restyled ambulances.

The Yorkshire-based vehicle converter will offer the manufacturer-backed warranty as standard on its Heritage line of PTS Vehicles built on the latest Fiat Ducato. This restyled ambulance has a modern, sleek finish with a moulded lining that's lighter and easy to clean.

Cartwright's bold move to introduce dual warranty covering both the base vehicle and the conversion comes from their commitment to give customers ultimate peace of mind.

Operations and Commercial Director, Steve Shaw, said: "We are 100 per cent confident in the quality and reliability of all our



Steve Shaw, Commercial and Operations Director at Cartwright Conversions

vehicles but undeniably in life there are times when things go wrong. "This five year warranty is a commitment to support our customers long after they've taken delivery of their vehicle and with our unique dual cover the vehicle is covered both inside and out, so whatever the problem we can arrange to get you back up-and-running with maximum efficiency." Cartwright operates a 24-hour warranty advice line and works hand-in-hand with the vehicle manufacturer to provide nationwide roadside cover up to 120,000 miles.



Manufacturing and More

The new line of PTS vehicles was launched into the market at NAPFM's Emergency Fleet Exhibition in June to positive feedback and can be bought or hired on weekly terms from Cartwright Conversions.

Visit **www.cartwrightconversions.co.uk** to view the full range of products or call: **0800 0320 279.**

Code Blue - Highest quality vehicles and medical equipment

Code Blue Specialist Vehicles continue to supply the highest quality medical vehicles and associated medical equipment

We offer a range of medical vehicle designs, including PTS, Event Support, HDU and A&E, on a multitude of chassis options. Supplied with European Community Whole Vehicle Type Approval and CEN EN1789 compliance where required.

Our exemplary build quality, coupled with competitive pricing and our industry leading 3-year warranty give impressively low whole life costs.

Code Blue Specialist Vehicles individually tailor the design of every vehicle around our customers' requirements, giving medical professionals a clinical workspace which has unparalleled ergonomics,



exceeds the highest safety standards, and is easy to clean.

Code Blue SV also offer a range of patient handling and treatment equipment from our partners at 'Promeba Medical and Rescue', including our latest addition, a fully featured Electric Tracked Stair Chair at only £2250 plus VAT. Giving a CONSIDERABLE SAVING over other similar products.



For further information on our exceptional range of vehicle conversions and associated medical equipment, contact us on: **0800 061 4785**, view our website at: **www.codebluesv.com** or email: **chris@codebluesv.com**

Paramedic Practice in Hazardous Environments

Whilst the environment for most cases that Paramedics attend to is not seen as "Hazardous" there is always a possibility that Paramedics may be tasked to deal with such an incident.

The concept of "Gold Standard Care" should be explored. It is tempting to assume that the "Gold Standard" is defined by what can be read in a textbook or a journal. However, this assumption fails to recognise the fact that the Paramedic's environment is dynamic, ever changing and present risks to casualty and rescuer alike. Think of it this way, we should always aim to provide the highest level of care that

can be achieved whilst recognising the constraints placed upon care delivery by the environment and other factors.

The Gold Standard is the highest level of care when the world isn't playing fair!

When you add other, non-environmental elements into the mix, such as, logistics, communications,



team skill mix, ergonomics and other agencies; the potential for "Human Factors" issues can add even more fuel to the fire. High quality care, the "Gold Standard", can only be achieved through teamwork and a greater understanding of how those teams work.

The Bachelor of Science Paramedic – Remote and Hazardous Environments course develops the student from the very foundations of prehospital care and allows the successful candidate to apply for registration as a Paramedic with the HCPC on achieving Diploma level. The student can then continue their studies through to the final degree modules. Those already qualified and



registered as a Paramedic can enter the programme at a higher level and "Top-Up" to a degree.

The final degree modules concentrate on the skills necessary to understand and to take command of complex incidents, such as; multiple casualty events, flooding, collapse structures, working at height, tactical environments and major incidents to name just a few.

Contact us: **Phone: 01248 603012**
Email: enquiries@orms247.co.uk
Website: orms247.co.uk

Eberspächer lets you take control of your climate

Eberspächer is the market leader in the supply of complete heater, air conditioning and climate control solutions for all types of Ambulances including A&E, PTS, PTV.

Independent diesel-fuelled heating systems are used to heat the rear saloon while at an incident with the rear door open, to pre-heat vehicles with the engine switched off while on standby at the roadside, when taking breaks, for demist/defrost or when additional heat is required on the move.

Climate control systems combine an independent heater with an air conditioning unit to provide automatic temperature control in the vehicle which will maintain a stable temperature for the patient and a comfortable working environment for the crew. User controls vary from simple manual control such as the 801 modulator with built-in heater diagnostic



function to the fully-automatic digital climate controller which offers total temperature control for both heating and air conditioning from one switch. Now available is the 'Ambutronic', a seven-litre stainless steel refrigerator specifically designed for drug and vaccine temperature control within the ambulance market. A complete range of Refrigerated Insulated Container Boxes for professional users can be found in daily operation where critical temperature control of high dependency pharmaceutical, medical and other products are in transit



Also available for mobile applications is the 'Polarn' portable heater system, self-contained with integral fuel tank makes it the right solution for men and machines working in low temperatures.

For more information please contact Richard How, Tel: 01425 480151, Email: **richard.how@eberspaecher.com**

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Malley Industries Continues to Innovate Following 2016 Award

Malley Industries has a winning combination of Type II van ambulances. Their Ford Transit and Ram Crossover Ambulances provide the highest level of enhanced safety and comfort. The bariatric-capable Malley Crossover Ambulance recently won a Top Innovation Award from EMS World. The company is continuing to break new ground with the introduction of its Ford Transit Ambulance. Their award-winning vehicle range has been developed with the utmost concern for paramedic safety, ergonomics and ease of cleaning, making them as ideal for patient transfer services as they are for frontline paramedic providers.

Their Crossover Ambulance on the Ram ProMaster and Ford Transit Ambulance are unique in their design and method of construction. Their vehicles currently offer the highest payload of any Type II ambulance with each exceeding a capacity of 1,134 kg (2,500 lbs). This is mainly due to their light-weight, high-strength, thermo-formed ABS composite interior – a material

rugged enough to be widely used in aircraft interiors. The high grade, vacuum formable composite is durable but not rigid, making it the ideal material for the interior of an ambulance. In the event of a collision, the energy-absorbing ABS ensures the safety of both paramedics and patients. The vehicles' contoured structure vastly increases interior volume and aisle width over traditional straight wall construction. Their lightweight interior reduces operating costs by improving fuel economy and decreasing wear on chassis components.

Chris Hood, President of the Paramedic Association of Canada (PAC), and Registrar of the Paramedic Association of New Brunswick has worked with Malley Industries extensively from his New Brunswick base. Commenting on their win, Chris said: "I was



A Malley Crossover Ambulance on the Ram ProMaster chassis.

delighted but not one bit surprised when they won the prestigious innovation award from EMS World recently. Malley Industries is a family company with all the values you'd expect from a business that has really close links with all their ambulance customers. Apart from the consistently superb standard of their overall builds, they have a real passion for design and innovation. It's great to see a relatively small family company like Malley Industries take on the bigger builders and win accolades for their vehicles, not least because they're a fantastic ambassador for both Canadian paramedic care and also for our Canadian manufacturing sector in general. I hope attendees at PACE 2017 make a special point of checking out their stand as their ProMaster Ambulance is even more impressive when you see it up-close."

A Malley Crossover Ambulance is significantly less expensive to purchase and operate than a mini-modular (box type) ambulance yet it offers almost as much space for equipment. Being front-wheel drive, it handles very well in poor weather conditions and offers a tighter turning-radius than a dual



rear wheel Type III mini-modular. Interior headroom is an impressive 188 cm (74"), more than 21 cm (8.3") greater than a mini-modular ambulance.

To find out more about Malley's award-winning vehicles contact:

Malley Industries Inc.
1100 Aviation Avenue
Dieppe, NB Canada, E1A9A3
Phone (Toll Free):
1-877-859-8591
Website:
www.malleyindustries.com
Facebook: www.facebook.com/malleyindustries
Twitter: @malleyind

Lift your standards with Stone Hardy

Stone Hardy is the market leader in the service and repair of tail lifts, passenger lifts, shutters and winches for commercial and passenger vehicles. They offer a 24-hours-a-day, 365-days-per-year service with teams throughout their regional locations in Bathgate, Bristol, Birmingham, Manchester, London and Northampton.

Stone Hardy currently has 65 mobile tail lift engineers which enable them to provide extremely good coverage within the UK. Their service vans are well-specified in

terms of equipment and carry a good selection of manufacturer's parts. The engineers are well trained, knowledgeable and can deal with most emergency situations.

Stone Hardy are agents for all the major tail lift manufacturers,



and they have many blue-chip companies as their customers, with a turnover of approximately £10m a year, and a skilled and knowledgeable workforce with a wide range of experience in all aspects of the industry.

In 2016, the company upgraded their facilities in Bathgate by moving to a new site. More than £1 million was invested during 2015-17 in a new fleet of fully-equipped service vans, and six new rapid response vehicles, providing genuine national coverage ability for its 76 engineers. Technical innovations, such as digital technology and new computer



systems, are always being introduced on a rolling basis, bringing the company a long way since its inception 40 years ago.

For further information please contact:

Dave Aylott
Tel: 01604 683495
Mobile 07713 316366
Email: enquiries.sales@stonehardy.co.uk

epoc® Blood Analysis System

Alere
The Right Result at the Right Time

The epoc® System is a handheld, wireless solution that provides blood gas, electrolyte and metabolite results at the patient's bedside in approximately 30 seconds after sample introduction. Accurate results are transmitted immediately into the EMR for review by the entire care team; streamlining the patient testing process, improving patient safety, provider satisfaction, workflow and operational efficiencies.

The epoc® Blood Analysis System is comprised of the epoc® BGEM

Test Card, epoc® Reader and epoc® Host² Mobile Computer. Each single-use epoc® BGEM Test Card features Smartcard technology with a full menu of tests on one card that can be stored at room temperature for the life of the test card.

With rapid results and a clinically driven, patient-centered testing process, you are empowered to make faster treatment



decisions that may lead to better patient outcomes. By implementing a more efficient process with reduced steps and turnaround time, you and your patient get the right result at the right time.

epoc® BGEM Test Card

The single-use, self-calibrated epoc® BGEM Test Card features Smartcard technology. Its intelligent design provides clinical, operational, and economic benefits to care providers – and a better experience for patients.

Each epoc® BGEM Test Card contains a full menu of 11 analytes and can be stored at room temperature. Each test card includes barcoded lot and expiration information for error-free test panel recognition and simplified quality control and inventory management. With only a 92 µL (about a 1/10th of

a CC) of sample required, the epoc® BGEM Test Card can simultaneously measure and analyze arterial, venous, or capillary whole blood samples with results available in about 30 seconds after sample introduction.

Test Menu includes 11 analytes

The epoc® Blood Analysis System incorporates 11 analytes on a single-use, self-calibrating epoc® BGEM Test Card.

Measured Parameters:
pH, pO₂, pCO₂, Na⁺, K⁺, Ca⁺⁺, Hct, Hb, Lac, Creat, Glc

Calculated parameters:
eTCC, eHCO₃⁻, BEact, BEt, eSO₂, eHb, eGFR, eGFR-a, AGap, and AGapK

To find out more about the Alere epoc® System please visit us at:
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www.ambulancetoday.co.uk

Edesix Video Tag is ideal for First-Responders

Body Worn Cameras have become increasingly popular in public facing roles. Cameras are worn by police, paramedics, prison officers and security guards to name a few, and are a rapidly evolving security solution, with developments being made to suit each market.

The most recent innovation from Edesix Ltd is the VideoTag incident recording device, due to be launched in June 2017. Smaller, lighter and more discreet than traditional BWCs, this incident recording device is an ideal tool for first responders and EMTs.

The VideoTag has an unobtrusive design and is securely attached to the

paramedic's uniform, requiring only a single-touch to start recording, leaving hands and concentration free to focus on clinical tasks.

The VideoTag is a low maintenance solution, requiring minimal attention, and can remain on standby for up to 3 months prior to incident recording. With assignment via RFID, staff can simply use their ID cards to access



their assigned VideoTag, which streamlines workflow management and can share footage over Wi-Fi for immediate response.

Current Edesix Body Worn Camera solutions have been used by the Resuscitation Research Group (RRG) who work on improving Out-of-Hospital Cardiac Arrest (OHCA) outcomes. RRG selected the Edesix VideoBadge BWC for their Resuscitation Rapid Response Unit (3RU).

"VideoBadge has made it possible to evaluate new equipment while out in the field. We can measure key aspects of performance in ways which were not previously possible"

Dr Gareth Clegg –RRG lead.

edesix

Footage is encrypted on the device until it is offloaded to VideoManager, complying with medical confidentiality. Footage is used by the team to audit performance, protocols and equipment to improve practice.

If you'd like to learn more about the Edesix Body Worn Camera solution, then contact:

Email: sales@edesix.com

Tel: 0131 510 0232

for more information, or to request a trial.

Tackling High Absence Rates with the Miles Smith Early Intervention Scheme

Many ambulance trusts suffer from high sickness absence rates and in 2015/16 the ambulance service as a whole had a sickness absence rate of 5.5% compared to 4.2% for all NHS clinical staff. These high absence rates are largely due to the demanding nature of the work, with stress, musculoskeletal injuries, mental ill health and back pain being amongst the main causes of absence.

These conditions are four of the top five causes of both short-term and long-term absence (CIPD Absence Management Annual Survey 2016), yet treatment for these conditions is frequently regarded as low priority by the NHS and patients can wait for several weeks to receive treatment. The Miles Smith Early Intervention Scheme (EIS) is an insurance policy which has been carefully created to help manage absenteeism. It assists employees to return back to work quickly and safely by

providing early access to treatment for musculoskeletal injuries, stress, anxiety and depression. EIS is a simple, proven product providing employees with first class physiotherapy or psychological therapy after 3 consecutive working days of absence or immediately after a reported motor accident. Evidence indicates that early intervention is key to success for both common mental health and musculoskeletal issues, because the longer someone is off sick the less

likely they are to return to work. EIS provides this early access to treatment and can work with your ambulance trust to help reduce the number of days lost due to staff sickness or ill health.

For more information contact Miles Smith Insurance Group:

T: 020 7977 4867

or 020 7977 4872

E: girwin@milessmith.co.uk or jsouthwood@milessmith.co.uk



Philips Minicare I-20 with cardiac troponin-I assay - rapidly rule in and rule out Acute Myocardial Infarction when time is critical

When a patient is suffering from chest pain, time is critical. The sooner you can diagnose Acute Coronary Syndrome (ACS), the faster your patient can receive potentially life-saving treatment or be discharged.

Philips Minicare I-20 provides lab-comparable results for cardiac troponin-I and can be performed in the Emergency Department (ED), ambulance and physician's office – through a simple finger-prick test. Reliable results are delivered within just 10 minutes, allowing you to make

on-the-spot, informed decisions while speeding up the diagnosis process.



Simple finger-prick testing and rapid triage

Using just a single blood droplet from a simple finger-prick, Minicare I-20 gives you lab-comparable results for cardiac troponin-I (cTnI) directly

at the point-of-care. The test can be done while you assess vital signs or perform an ECG. Minicare I-20 features an intuitive user interface, making the device easy to operate with minimal training. You can perform fast, efficient near-patient testing that speeds up your existing workflows.

The availability of the Minicare cTnI result in the ambulance supports decision making for referral prior to reaching the ED. Minicare cTnI supports a 0/3h diagnostic protocol and test results are available within 10 minutes at the point-of-care.

PHILIPS

Waiting for cTnI lab test results often takes an hour or more. After initial testing in the ambulance, performing only the second Minicare cTnI test in the ED will save time and shorten the ACS pathway substantially.

For further information please visit:
www.philips.com/minicare
or Email:
minicare@philips.com

Medavie Health Services – Delivering the right care at the right time

Medavie Health Services (MHS) is a primary health care delivery organization with a long history of providing innovative community paramedicine programs and delivering mobile integrated health services.

Last year, through its 12 subsidiary companies, MHS served over 2.4 million people through 350,000 ambulance service requests and provided medical communications and community-based health



solutions to communities across Nova Scotia, New Brunswick, Prince Edward Island, Ontario, Saskatchewan, Alberta and Massachusetts. The company also

offers Primary Care Paramedic and Advanced Care Paramedic training through Medavie HealthEd, including training for English and French Canadian Armed Forces Medical Technicians for the Department of National Defence. Together, MHS employs or manages nearly 3,500 dedicated, health care professionals, making it the largest private provider of EMS management services in Canada.

Along with Medavie Blue Cross, Medavie Health Services is part

MEDAVIE HEALTH SERVICES

of Medavie, a not-for-profit organization proud to commit an annual social dividend to the Medavie Health Foundation. Since late 2011, the Foundation has partnered with over 60 organizations offering programs in the areas of child and youth mental health, type 2 diabetes, and post-traumatic stress disorder.

For more information about Medavie Health Services, visit:
medaviehs.com

Visit the only daily ambulance news site on the net at:
www.ambulancetoday.co.uk

Professionalising Paramedicine Nationally and Internationally

The Department of Community Emergency Health and Paramedic Practice (DCEHPP) is one of the leading Paramedic Departments in the world. DCEHPP was first established at Monash University, Melbourne, Australia in 1999 and today continues to provide excellence in education, research and scholarship. We are very proud to be associated with Australia's largest and most global university; and privileged to be associated with a university ranked 60th best in the world.

Nationally and internationally we are recognised as producing paramedic graduates of high quality,

underpinned by a contemporary pedagogy that is relevant to today's industry and community needs. Our number one focus is to help professionalise paramedicine nationally and internationally. This is evidenced and demonstrated by the number of postgraduate and research students studying at DCEHPP. Our organisational achievements include leading and participating in projects with key stakeholders and major customers from Australia, New Zealand, Jordan, United Arab Emirates, Kingdom of Saudi Arabia, Ireland, Taiwan, and India. We have a comprehensive understanding of both vocational and tertiary education sectors and the articulation pathways between each sector. DCEHPP offers the following



training and education opportunities, adaptable to national and international industry needs: Short Courses (award and non-award), Bachelor of Paramedicine, Bachelor of Paramedicine (Research Honours), Masters of Specialist Paramedic Practice (Aeromedicine, Intensive Care, Extended Care), Masters in Philosophy (Research) and Doctor of Philosophy (PhD). All postgraduate



clinical and research programs are offered via distance education. For example, many of our international Honours and PhD students study from their home country, and Monash's flexible curricula allows pathway's to PhD after one year of research training.

For further information about DCEHPP and our programs please visit:
www.med.monash.edu.au/cehpp/

For any enquiries or questions, please contact Joanne Tymms at:
joanne.tymms@monash.edu
or 61 4 9904 4511.

Mount systems for portable medical devices

Engineered for safety - Designed for flexibility - Made for medical environments

Technimount System creates mounts and brackets for portable medical devices such as defibrillators, ventilators, and pumps, that adapt to different brands of medical equipment for OEM ambulance manufacturers, EMS users, and hospitals.



Products list:

- Standard Base
- Extended Base
- Bracket Pro Serie 20™
- Bracket Pro Serie 25™
- Bracket Pro Serie 30™
- Bracket Pro Serie 35™
- Bracket Pro Serie 40™
- Bracket Pro Serie 45™
- Bracket Pro Serie 50™
- Bracket Pro Serie 60™
- Stretcher Safety Arm System™
- Wall Mount Pro System™
- Converter Pro™
- Spacer Pro™

Depending on the customer's needs we offer standard products, standard-adapted products and custom products.



Installation / Application:

- Surface installation (counter, crash cart, etc.)
- Cot / Stretcher system
- Wall Mount installation (retro-fit, narrow counter, etc.)



At Technimount, we take safety very seriously. Our products are compliant with the highest industry standards, including the SAE J3043 regulation for impact resistance with ambulance or emergency vehicles.

Find out more about Technimount System:

Website:
www.technimount.com

Email:
info@technimount.com

Wilker: Sixty Years of Quality Vehicle Conversions

Wilker was founded 60 years ago in Clara, Co. Offaly Ireland and has grown to become an internationally recognised vehicle conversion specialist, with production facilities in both Clara and in Sandbach in Cheshire, England.

Wilker builds specialised vehicles for the Ambulance Services, Fire Services, Police Services and Military, as well as customised vehicles for the Commercial & Industrial sectors. Our extensive customers base extends throughout Ireland, England, Scotland and Wales, the Isle of Wight and Jersey, with exports to Cyprus, Trinidad & Tobago and Abu Dhabi. Some of the products Wilker offers are as follow:

Wilker product offerings include:

- Ambulances: Coach Built and Van Conversions

- Patient Transport Vehicles: Coach Built and Van Conversions
- Wheelchair Accessible Vehicles
- Rapid Response/First Responder Vehicles
- Police Conversions (Beat cars, Traffic Cars, Mobile Police Stations)
- Police Cell Vans
- Mobile Incident Command and Control Vehicles
- Fire Service Conversions: Emergency Tenders & Equipment Carriers



- Mobile Workshops, Crew Cabs & Jetting Vans
- Bespoke Conversions (Bloodmobile, Mobile Breast Screening Trailers)

Wilker Ambulance Conversions are both CEN 1789-2007 & A1 2010 compliant.

Our Voyager Coach Built Ambulance is European Whole Vehicle Type Approved (EWVTA). Our Sandbach facility is a VOSA approved Private Operator authorised to carry out Individual Vehicle Approval (IVA).

We pride ourselves in the flexibility we offer our customers - each project is carefully designed to meet the specific requirements of the customer; prototype mock-ups are built for approval prior to production and changes are accommodated throughout the build.

To find out more please contact:

The Wilker Group
Wilker UK
UNITS 1&2
Millbuck Park,
Millbuck Way, Springvale
Industrial Estate
Sandbach, Cheshire
CW11 3HT

Telephone: 01270 765 999

Email: info@wilkergroup.com

Wilker Auto Conversions
Frederick Street
Kilcoursey, Clara
Co.Offaly, Ireland
Telephone: +353 57 93 3125
Email: info@wilkergroup.com
www.wilkergroup.com



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Mental health in the ambulance service – talking saves lives

People who work in the ambulance service do an extremely challenging job day in, day out, frequently encountering difficult and traumatic situations. According to research conducted by Mind in 2015:

- 91% of ambulance staff and volunteers had experienced stress and poor mental health at work.
- Over half of ambulance respondents had personal experience of mental health problems.
- 80% of ambulance personnel thought that their organisation does

not encourage them to talk about mental health.

That's why Mind set up the Blue Light Programme. We've been engaging with ambulance service staff in all roles and ranks across England for the past two years and our support is now available in Wales too. We can work together with services to help them challenge



stigma, improve their overall approach to wellbeing and take care of their staff.

What can affect mental wellbeing?

- repeated exposure to traumatic events
- impact of physical injuries
- workload pressures.
- suffering some sort of loss
- experiencing loneliness
- have relationship problems
- worries about money.

Mental wellbeing is just as important as physical wellbeing. If you work in



the ambulance service, it's especially important for you to look after your mental wellbeing and seek support if you need to. Registered charity no. 219830

Contact our confidential Blue Light Infoline
0300 303 5999
Bluelightinfo@mind.org.uk
Text: 84999
Mon to Fri 9am to 6pm Local rates apply

Genesis PULSE with Waze Integration. Saving Time. Saving Lives.

Genesis PULSE is a software solution that enhances existing CAD systems. PULSE takes information from CAD and displays it in an intuitive way to enable the highest level of dispatch decision support possible. PULSE is an all-in-one tool with live vehicle tracking, weather, recording/replay capabilities, reporting with analytics, a mobile app with Waze integration, and much more.

PULSE is unique in its ability to account for real-time weather, traffic,

road closures, and accidents in the Estimated Time Enroute (ETE) calculations presented alongside fastest unit recommendations. PULSE visually displays these items on a Google base map (with satellite, street, and traffic views) alongside exclusive Waze integration and weather for users to quickly and easily identify challenges responders may encounter along their routes. PULSE also displays End of Shift (EOS) information visually prior to a call being assigned to a unit to avoid overtime, where possible. In addition, for scheduled calls in queue, PULSE

knows the average task time to help schedule units more efficiently. PULSE Partnerships provides the ability to view all resources from multiple PULSE customers (under agency-defined parameters) to allow for interagency cooperation and mutual aid for life-threatening emergencies, severe weather events, multi-casualty incidents, etc. For customers coordinating multi-agency responses, knowing current locations for all responding at any moment in time presents one of their biggest challenges. PULSE solves this challenge.

PULSE enables responders and their support teams to make decisions that save time, save money, and save lives.



For more information:
Visit www.genesispulse.com
Call +1 903-787-7400
E-mail pulse@genesismobile.com

New Range of Helmets for Ambulance Crews, Paramedic and HART Rescue Teams, Available Now.

The Holy Grail for both users and helmet manufacturers is a product suitable for all paramedic and HART rescue operations from RTCs, through to water rescue, hazmat, vehicle extrication and for use during specialist operations including rope rescue.

Until now, this has not been possible. Designers have struggled to develop one helmet which not only seeks to protect the user in a multitude of environments, but is also independently verified and certified to a number of EN Norms ensuring

the purchaser can be confident in his selection.

The Pacific R6 Dominator helmet range from VimpeX solves this problem. Approved for Technical Rescue, At Height Work, and Water Rescue (PAS 028 pending) (R6DX only), the R6 is a true all-round multipurpose rescue helmet. R6 helmets are manufactured using Kevlar reinforced composite material, which has a very high strength to weight ratio. The centre of balance of the R6 is superior to all other rescue helmets meaning the wearer can concentrate on the job in



hand rather than neckache. The R6 range comes in a variety of colours and with a number of optional accessories. Examples include: a premium reflective trim with high retro-reflectivity for increased visibility, customised decals (badges, wording, and rank markings) and clear polycarbonate face shield plus a helmet mounted torch.



There's signs that the use of technical rescue helmets is going to increase in the ambulance service, it is therefore all the more vital that the correct due diligence is carried out on the claims of the helmet supplier to be sure that you really know what you are procuring.

If you want to discuss your requirements or would like to trial a new R6 helmet, please contact VimpeX at sales@vimpeX.co.uk or call and speak with one of our PPE specialists on 01702 216999.

ProMove: A safer and more dignified way of lifting patients

ProMove UK Ltd was established in 2007 to manufacture and supply the ProMove sling. Today the business is working closely with Ambulance Trusts as well as Fire and Rescue Teams across the UK to improve manual handling procedures.

Ambulance Services and Fire and Rescue Teams are routinely required to lift and move injured, incapacitated, disabled or bariatric individuals in challenging situations. The ProMove sling can be placed beneath an individual in a restricted

space (e.g. crashed vehicle or cramped bedroom) with minimal disturbance, helping to make transferring individuals safer by reducing the risk as much as possible.



The unique design of the ProMove sling means it is simple to deploy and can be placed under the individual, it provides support without risk of friction or shearing. The strategically placed rubber and padded handles allow a minimum of two to eight rescuers to take a firm grip and share the load, thus reducing the risk of musculoskeletal injury to the rescuers.

Three different types of kits are available: Emergency Services kit, Ambulance Patient Transfer Service kit and the Bari-kit. The safe working loads of the kits vary from 45 stone



(285kg) to 63 stone (400kg). All sling models provide a safe, comfortable and more dignified means of moving and lifting an individual.

PROMOVE UK LTD
Tel: 01970 820 893
Web: www.promove.uk.com
Facebook: [facebook/](https://www.facebook.com/promoveproducts)
promoveproducts
Twitter: [@a2bwithdignity](https://twitter.com/a2bwithdignity)

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www.ambulancetoday.co.uk

Self-Cleaning Medical Tapes and Dressings

The scientifically proven reality is that **ALL** conventional Medical Adhesive Tapes and Island dressings rapidly become microbiological reservoirs of potential infection to patients and Emergency responders.

This is documented in numerous scientific publications and recognized by manufacturers. I3 Biomedical Inc. (Canada) & Subsidiary: TrioMed™ Innovations (Europe) has created the only safe, clean and competitively priced solution.

Our **TrioMed™ Technology** is proven to kill **99.9%** of Fungi, Bacteria and viruses on the external

surface of Adhesive Tapes & Dressings, therefore eradicating the microbiological reservoirs that are on **ALL** patients, furthermore this puts a STOP to the migration of infectious microbiological pathogens from the external surface to the skin trauma.

TrioMed™ products incorporate a unique Tri-iodide patented interactive technology that reacts to the presence of micro-organisms at the molecular level and renders these potential sources of infection inactive.



This generalized source of infection to both the patients and first responders is **ELIMINATED** with the interactive Antimicrobial TrioMed™ Technology with no chemical agent released to the patient.

Sold in numerous countries both in hospitals and drugstores, the **TrioMed™ family of products** in wound care provides for the very first time high technological performances in conventional wound management.

Our products are manufactured with the highest manufacturing standards of the industry and are provided to



the users at competitive prices. For the same price, you, the first responders, can provide a solution to all your patients.

**TrioMed Innovations
Europe S.A.**
Chaussée de Nivelles 167
7181 Arquennes, Belgique
13 BioMedical Inc
14163 boul. Du Curé Labelle
Ste 50
Mirabel, Québec,
Canada, J7J 1M3
E. info@i3biomedical.com
Facebook: TrioMedEurope
Web: i3biomedical.com

The i-gel O₂™ Resus Pack from Intersurgical

In emergency medicine you need equipment that's easy, rapid and reliable to use. The **i-gel O₂ Resus Pack** contains everything you need to prepare, insert and secure the i-gel O₂ quickly and efficiently: an i-gel O₂ supraglottic airway, a sachet of lubricant, and an airway support strap. A suction tube is also included in the pack (except in the US market).

The i-gel O₂ has been designed to facilitate ventilation as part of standard resuscitation protocols, such as those designated by the European Resuscitation Council (ERC) and the

American Heart Association (AHA). However, the i-gel O₂ incorporates a supplementary oxygen port, so it can also be used for the delivery of passive oxygenation as part of an appropriate CardioCerebral Resuscitation (CCR) protocol.

The i-gel O₂ gets its name from the innovative soft, gel-like material from which it is made. It is the innovative application of this material that has enabled the development of a unique non-inflatable cuff. This means there is no need for cuff deflation prior to insertion and no cuff inflation after placement to secure a seal, shortening and simplifying the preparation and insertion procedure.



The i-gel O₂ is incredibly easy to use. Insertion is rapid and can normally be achieved in less than 5 seconds.

The pack includes a specially designed airway support strap for securing the i-gel O₂ in position. This makes it ideal for use where adhesive tape is unsuitable.

The i-gel O₂ Resus Pack – everything you need to prepare, insert and secure the i-gel O₂.



For further information, please contact Intersurgical:

**Intersurgical
Crane House
Molly Millars Lane
Wokingham
Berkshire RG41 2RZ
England**
Tel: +44 (0)118 9656 300
Fax: +44 (0)118 9656 356
Email: info@intersurgical.com
Website: www.intersurgical.com

The New C-MAC®S with Pocket Monitor

The Premium Class in Video Laryngoscopy

EMS providers will appreciate the extremely durable **C-MAC® Video Laryngoscope** from **KARL STORZ** which is currently being used in several air-rescue and ground-based EMS. There is now the possibility to use the **C-MAC® S Single-Use blades** with the portable and waterproof **Pocket Monitor (C-MAC® PM)** which meets various requirements for airway management unique to pre-hospital settings.

Because of the removable and rechargeable battery, C-MAC®

Pocket Monitor is always ready for use along with the C-MAC® S Single-use blades. The OTI (Open To Intubate) display is activated automatically, when the monitor is flipped open.

The new C-MAC® PM additionally features real-time image capture capabilities and video documentation to support continuous training and quality assurance. Universal C-MAC® system interface allows you to tailor your airway management and the system is completely watertight (IPX8).

Standard shaped MAC blades (MAC #3 & 4) for adults are available with

the benefit of a low learning curve and the option to look directly if needed. The additional D-BLADE is highly curved for managing anterior and difficult airways. The MAGILL forceps have been adapted to the shape of the C-MAC® blade to facilitate foreign body removals under video guided laryngoscopy.



**KARL STORZ Endoscopy
Canada Ltd.**
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Tel.: 905-816-4510
Fax: 905-816-4599
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78532 Tuttlingen Germany
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E-Mail: c-mac@karlstorz.com

Interdev: EMS Information and Technology Experts

Interdev is a leading developer globally of solutions for Emergency Medical Services. A proudly Canadian company, our flagship ePCR application iMEDIC GENii, leads the industry in innovation, analytics and integration. Interdev offers clients expertise in both health care and information technology. An emphasis on the user experience has gained Interdev a proven record of acceptance from paramedics across the country.

In addition to iMEDIC GENii, the full Interdev Suite now also includes, CADLink (mobile data terminal), mDOCs (records management) and CERTn (credential and learning management) comprising a full suite of services.



Interdev delivers fully managed and hosted solutions. This means that all data collection, distribution, analytics, mobile devices, security and privacy are managed by our team allowing your organization focus on the delivery of emergency services.

Interdev Technologies Inc. Has over 20 years of experience in Emergency Medical Services planning and data management. After two decades of growth, the founding partners keep involved



with day-to-day operations, ensuring customers have the solutions and support they need to provide the highest level of patient care.

Contact us at:
001 416 739 -333
or sales@interdev.ca
www.interdev.ca



AMZ - KUTNO S.A.

POLELESS.

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Pole position

noun

the most favourable position at the start of a motor race.

- a leading or dominant position.

“a company boasting the pole position in the ambulance manufacturing business”

- AMZ Kutno - a Polish company who leads in the build of Ambulance, Police and Military Vehicles in Europe, and who are now providing vehicles to the UK and Ireland

1068

POLEWARDS.

† a. Pearl-barley. Obs. † b. A kind of barley meal. Obs. c. Porridge made from steeped and parched barley or, later, of meal of chestnuts, maize

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AMZ hold “Pole Position” in their field of expertise.

the images of objects separated from direct view by intervening obstacles.

† Polemy. Obs. rare-1. [f. Gr. πόλεμος war + -y: cf. Gr. (78) πόλεμος (Thuc.) matters of war, neut. pl. of πόλεμος adj.] Warfare, strife; controversial or polemical writing.

1614 Sir E. Dering. *On Relic*. xvi. 85 You will maintain the Pen as well as the Pulpit, Polemic as well as persuasive learning. *Ibid.* 86 For perfect Polemy in letters, you may guess what our Universities can yield.

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