The Use of Paramedics in Hospital-Based Roles

A report for the

Winston Churchill Memorial Trust

of New Zealand

Andrew Prescott MEmergHlth (Paramedic), MEmergMgt

kiwimedic319@gmail.com

Time of Travel – May/June 2018

Report Submitted – August 2018

Without change there is no innovation, creativity, or incentive for improvement. Those who initiate change will have a better opportunity to manage the change that is inevitable.

- William Pollard

Acknowledgements

I would like to thank the board of the Winston Churchill Memorial Trust of New Zealand. Without their generous fellowship this project would not have been possible. I would also like to thank my employer, The Order of St John, for the support they gave me.

Thank you to all the people and organisations that supported and encouraged my application for a fellowship from the Winston Churchill Memorial Trust.

And thank you to all the people and institutions I visited during my fellowship journey. I am grateful for the wisdom, knowledge, ideas, and insights they shared with me. Everyone I met was welcoming, helpful, generous, patient, and supportive. The list of people I would like to thank is lengthy but in particular I must mention:

- Craig McMillan, Dr Jackie Weaver, and Dr John Janikas (New York)
- Dr Sam Campbell, Pat Froese, Rob MacKinley, Tanya Penney, and Dr Andrew Travers (Halifax)
- Connor Bond and Fleur Mosley (London)

Finally, I would like to thank my wife Rosie, and my daughters Ruby and Olivia, for their patience and support.

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Executive Summary

The New Zealand (NZ) health system faces a number of challenges, primarily from increasing demand and a shortage of doctors and nurses, which is forecast to worsen. A partial solution to these challenges is the introduction of “non-traditional” and new providers of healthcare within our hospitals.

There have been tremendous advances in the education of paramedics (both Intermediate Life Support [ILS] Paramedics and Intensive Care Paramedics [ICPs]) over the last two decades with most ILS Paramedics now being degree qualified and most ICPs holding postgraduate qualifications. At the same time there is little scope for paramedics to develop careers outside of the ambulance service.

In mid-2018 I travelled to the USA, Canada, and England on a fellowship from the Winston Churchill Memorial Trust looking at hospital-based roles for paramedics, and non-traditional roles that could be undertaken by paramedics.

Albany, New York, USA

Although there are no dedicated hospital-based paramedic roles in Albany there were several hospital roles that could be undertaken by paramedics:

Scribes – Admin support for the doctors.

Emergency Room (ER) Technicians – A role that in NZ would be part orderly, part health care assistant, and part phlebotomist.

Physician Assistant (PA) – A long established North American medical role with a postgraduate level education that perform many of the functions of a doctor with a

certain degree of autonomy but ultimately under the supervision, directly or indirectly, of a doctor.

Halifax, Nova Scotia, Canada

Two hospitals were visited in Halifax that have long established programs using paramedics in hospital-based roles. These emergency department paramedics are task orientated and utilised as a physician extender undertaking a number of tasks including procedural sedation, airway management, working as part of the trauma team and code blue team, and teaching other health professionals.

An additional model used in Nova Scotia is that of Collaborative Emergency Centres (CECs). Which are smaller rural hospitals which provide an emergency service but after hours it is staffed by a registered nurse (RN) and paramedic working collaboratively, with medical support available by telemedicine.

London, England

Emergency Care Nurse Paramedic (ECNP)

At Croydon University Hospital they have a position called an Emergency Care Nurse Paramedic (ECNP) who may come from either a paramedic or nurse background. ECNPs work primarily in the resuscitation room of the emergency department and have more responsibility than a staff nurse and are trained in some extra clinical interventions.

Emergency Care Practitioner (ECP)

ECPs evolved from paramedic practitioners that were introduced to ambulance services to treat people at home and reduce the number of people being transported to hospital. From this beginning ECPs have expanded to work in hospital emergency

departments, minor injury units, and general practitioner practices. ECPs come from a health professional background, with a sizeable number having been paramedics. After completing university education in patient assessment ECPs may assess and treat patients independently, or in consultation with other health professionals.

Physician Associates (PA)

Physician Associates are the UK version of US Physician Assistants. Although not as long established as their US counterpart UK PAs are used in a similar fashion and it is a role that is forecast to expand dramatically in the future.

Paramedics in Prisons and Police Custody Suites

In both then UK and Halifax, Canada, there were private companies employing paramedics within prison medical services and police custody suites, alongside doctors and nurses, to provide healthcare services to prisoners.

Key Learnings/Discussion:

- The PA role has proved a valuable, if not essential role, in the USA. NZ Paramedics are in an ideal position to be the future NZ PAs.
- Hospital-based paramedics found the role satisfying. With time the role has become valued by the medical and nursing staff they work alongside.
- The use of paramedics in extended care paramedic roles has already occurred in NZ. With eventual paramedic registration we may see these roles evolve from a pre-hospital ambulance role to within clinics and hospitals.
- The skills and experience of paramedics working with people of all backgrounds, and the experience of paramedics working in uncontrolled and unpredictable environments make them well suited to the prison environment.

Recommendations:

- Hospital Based Paramedics – Consideration could be given to undertaking a trial of hospital-based paramedics in NZ, both in a large metropolitan hospital and a provincial hospital.
- Physician Assistants (PA) – Further work could be done to introduce the PA role to New Zealand.
- Emergency Care Practitioner (ECP) – Further work needs to be done to establish how ECPs could be used outside of the ambulance service, alongside existing roles.
- Paramedics in Prisons – Consideration could be given to the introduction of paramedics into NZ prison medical services, as a complimentary role to the current prison nurses.

Introduction

The New Zealand (NZ) health system faces a number of challenges which include; but are not limited to; an increasing population, increasing life expectancy, increasing rates of chronic disease, budgetary pressures and constraints, an aging medical and nursing workforce, and a projected future medical and nursing workforce shortage. There is no one solution to these challenges but a partial solution may be the introduction of “non-traditional” and new providers of healthcare within our hospitals.

In 2014 I completed three stints working for a private medical company in the Solomon Island’s providing medical support to Australasian police personnel attached to the Regional Assistance Mission Solomon Islands (RAMSI), and in 2015-2016 I completed a 12-month contract also working for the same company at a large industrial site in remote Western Australia. At both of these sites I was employed as an Intensive Care Paramedic (ICP) with a response role. But on both projects when ICPs were not responding to emergencies they worked in clinics, or on wards, alongside medical and nursing colleagues. In fact, many aspects of the ICP duties on those projects had more in common with the traditional role of a nurse than that of an ICP.

It was my experience working as an ICP for that offshore medical company, in conjunction with reading news items and various reports regarding current and projected shortages of doctors and nurses, that made me wonder whether there might be a place in the New Zealand public health system for paramedics as one example of a new or non-traditional hospital-based role. With this conception in mind I applied for, and was successful in gaining, a Winston Churchill fellowship to travel

to the United States of America (USA), Canada, and England to investigate hospital-based paramedic roles.

The safe transport to hospital, while providing some pre-hospital emergency care defines the paramedic role, and indeed is what distinguishes it from other health professionals. I have been involved in pre-hospital emergency care for around 25 years, and in that time I have witnessed progression and change within the ambulance industry, but particularly in the education of paramedics. I use the term “paramedics” to encompass both Intermediate Life Support (ILS) Paramedics and ICPs. One of the biggest advances for paramedics has been the transition from industry-based training to university-based training, not dissimilar to the nursing professions change from hospital-based nursing schools to the tertiary education sector.

The current NZ paramedic and nursing degrees share some common content. In fact, if we were to compare the nursing and paramedic degrees offered by the Auckland University of Technology we would see that they have about a third of their content in common, and they have a similar level of clinical placement hours (nursing 1200 hours, paramedics 1000 hours).

In addition, the increasing focus of ambulance services in NZ is less of being an emergency service and more about being an integral part of primary health care, something that has contributed to preparing paramedics for roles outside of the traditional ambulance service.

Despite the changes in the education of paramedics, and the changes within NZ ambulance services, there continues to be little scope for paramedics to develop careers outside the ambulance service. The skills and experience of paramedics

who retire early due to stress and injury or ill health are often lost to the NZ health system completely. There is a need for more diverse career opportunities for paramedics and hospital-based paramedic roles may offer some opportunity.

Research Questions

The basic research questions I wanted to answer were:

1. How have paramedics integrated with department activities and service models?
2. What was the impact and contributory value of the paramedic role for patient outcomes, service quality and business models?
3. What factors supported or challenged the integration of the paramedic role into hospital departments/clinics and with specific professional groups?

When speaking with interviewees factors I was interested in included:

- The history of paramedics in their department/company, to understand some context.
- What background did they look for in the paramedics they recruited? How many years of experience? Did they look for any particular qualifications?
- What training/preparation/induction did they give their paramedics?
- What challenges did they face introducing paramedics? Do they continue to face them?
- What are the strengths of their programme?

Description of Visits

United States

There are hospitals within the United States (US) that use emergency medical technicians (EMTs) or paramedics within their emergency departments (EDs). As early as 1999 the American College of Emergency Physicians commissioned a study of EMTs/paramedics working in hospitals (Syndics Research, 1999). That study estimated that approximately 20% of US hospitals employed EMTs or paramedics within their emergency department at the time of the study. Some US states are more supportive of the use of paramedics within hospitals than others. This survey also found that the EMT or paramedics role was primarily one of patient care.

It should be noted that in the US the education of paramedics is not at the same level as NZ. US paramedics qualify with an undergraduate diploma in most cases, rather than a degree. Despite this qualification difference the US clinical practice levels for emergency medical services (EMS) are very similar to NZ, see table 1, although some individual states do not have the Emergency Medical Technician - Intermediate level.

United States	New Zealand
First Responder	First Responder
Emergency Medical Technician – Basic	Emergency Medical Technician (EMT)
Emergency Medical Technician – Intermediate	Intermediate Life Support (ILS) Paramedic
Emergency Medical Technician – Paramedic	Intensive Care Paramedic (ICP)

Table 1 – US vs NZ EMS clinical practice levels. Note these are approximate equivalents with some variation in scope of practice between them.

I discussed with one US paramedic why they had not followed the example of NZ, Australia, and the United Kingdom (UK) and progressed to an undergraduate degree level qualification for paramedics. He speculated that it was due to the fact that in the US being a paramedic is seen as a “blue-collar” profession. And the “best and brightest” within EMS used being a paramedic as a stepping stone to go on to gain a degree and become a registered nurse (RN), physician assistant (PA), or medical doctor. All of which have higher remuneration and are seen as having more prestige, and long-term career options, than being a paramedic.

While the use of paramedics within US EDs may not be common there are roles that can, and are, performed by people from an EMS or paramedic background. My focus in the US was to look at these alternate roles, how they could be performed by paramedics, and how they could be used to complement the existing medical and nursing roles within NZ hospitals.

Albany, New York, USA

Albany is the capital of the US state of New York, and has a population of approximately 1.1 million in the city and surrounding district. I visited Samaritan Hospital which is located in Troy, a city of just over 50,000 people within the greater Albany area. I met with Dr John Janikas, the Medical Director for the Emergency Department at Samaritan Hospital. Additionally, while in Albany I also spoke with several other emergency medicine doctors. The consensus was that within their hospital system there were basically three roles; scribes, emergency room (ER) technicians, and PAs; that could be performed by paramedics. But within New York state the use of paramedics in a standalone hospital role was not possible.

Figure 1 – Samaritan Hospital.

The facilities at Samaritan Hospital were first rate with a large brand-new emergency department. One aspect of the department structure I liked was that the triage area was run as a separate area to the main emergency department. This area consisted of 8 curtained cubicles and was staffed by a RN and a PA. The idea was that patients with minor complaints would be assessed and treated by the RN and a PA, and then discharged, without entering the emergency department proper. So when a patient presented at the emergency reception they registered with the administration staff and then were brought into the triage area before being seen by the RN or PA.

An additional innovation I noted at Samaritan Hospital was where one of the resuscitation rooms has a moveable wall between the family room and the resuscitation room. At the conclusion of resuscitative efforts that wall could be moved back so the relatives/friends gathered in the family room could spend time with their loved one in a positively patient/family focused way.

Scribes

Scribes are an administrative support role for emergency doctors. A scribe is assigned to a specific emergency doctor for the duration of their shift and accompanies the doctor while they see patients and documents the doctor's assessment and history taking. The idea of the scribes is to free the doctor from some of the administration and documentation components of their role. The doctors I spoke to said this had proved to be invaluable and freed up the medical staff to see more patients rather than sit writing notes away from the bedside.

Other clerical tasks performed by scribes include retrieving medical records, following up and documenting lab tests, and preparing discharge instructions.

To perform the role of a scribe the primary skills required are good grasp of medical terminology and some typing ability. To prepare people for the scribe role Samaritan Hospital puts candidates through a 3-day induction course.

Some scribes have a clerical background, others have an EMS background. Dr Janikas said they had made the wages of a scribe between that of a US EMT and a US paramedic to attract EMS people with base medical terminology knowledge.

Other people attracted to the scribe role are students intending to pursue a healthcare career; be it as a RN, PA, or doctor. For example, in the US as medical school is a graduate school a person may sometimes take a break between the completion of their undergraduate degree and starting medical school. Working as a scribe would allow a prospective medical student to gain some first-hand experience in a medical setting, to spend some one-on-one time with doctors, and also interact with other health professionals and grasp medical terminology.

As I will discuss later PA candidates must supply evidence of healthcare experience before they can enter a PA program. Working as a scribe prior to entering PA school allows candidates to satisfy that requirement.

Emergency Room (ER) Technician

Depending on the US hospital this position can have a variety of names – emergency room (ER) technician, emergency department (ED) technician, patient care technician. Additionally, the role and scope of tasks and duties performed by ER technicians can vary widely between hospitals.

Tasks that ER technicians perform include phlebotomy and inserting IV cannula, acquiring 12-lead EKGs, transporting patients to other departments within the hospital, recoding vital signs, assisting the RN's and doctors with patient care procedures, inserting urinary catheters, and some cleaning and housekeeping tasks.

In some organisations no formal training is required, ER technicians are trained on-the-job. However, there are also formal training courses to ensure ER technicians are taught appropriate skills. Often ER technicians are required to be qualified as a US - EMT Basic.

At Samaritan Hospital the only requirement is the ER technician candidate must have completed their high school education, and they receive training while they work. Any other pertinent experience would be to their benefit.

Physician Assistant (PA)

PAs are medically trained healthcare professionals that were introduced in the US in the 1960's due an uneven geographic distribution of doctors within the US. PAs work as part of a healthcare team under the supervision of a doctor. Although they may complete tasks independently, a supervising doctor has ultimate responsibility for the PA and the clinical care they provide. PAs are not independent practitioner's.

PAs perform patient examinations, order and interpret tests and x-rays, diagnose, order treatment, formulate management plans and review patients, assist in surgery, perform minor surgical procedures as required, and refer patients onto specialists.

The formal education of PAs consists of 2-3 years of postgraduate education. The local provider of PA education in Albany is the Albany Medical College. The Albany PA programme is 28-months long and leads to a Master of Science degree in Physician Assistant Studies. Entry into the Albany PA program includes an undergraduate degree with certain specific science papers, and a minimum of 1000 hours of healthcare experience.

Samaritan Hospital makes extensive use of PAs in its emergency department. In addition to working in the triage area PAs work in the main emergency department. Samaritan Hospital uses the US Emergency Severity Index triage system, see table 2. Essentially PAs see all the minor (triage code 4 & 5) and most of the moderately ill or injured patients (triage code 3) freeing up the doctors to see the seriously ill or injured (triage code 1 & 2). Dr Janikas was very clear in communicating that without PAs they simply would not have enough doctors.

Level	Name	Description	Examples
1	Resuscitation	Immediate, life-saving intervention required without delay	Cardiac arrest Massive bleeding
2	Emergent	High risk of deterioration, or signs of a time-critical problem	Cardiac-related chest pain Asthma attack
3	Urgent	Stable, with multiple types of resources needed to investigate or treat (such as lab tests plus X-ray imaging)	Abdominal pain High fever with cough
4	Less-Urgent	Stable, with only one type of resource anticipated (such as only an X-ray, or only sutures)	Simple laceration Pain on urination
5	Non-Urgent	Stable, with no resources anticipated except oral or topical medications, or prescriptions	Rash Prescription refill

Table 2 – US Emergency Severity Index Triage Levels

Paramedics are suitable candidates for PA training, and several PAs there were from a paramedic background. Their paramedic experience satisfies the health experience entry requirements of the PA program. Unfortunately, due to the nature of paramedic education in the US most paramedics do not possess an undergraduate degree and thus would need to acquire this in the first instance. The lack of an undergraduate degree adds a number of years, and tens of thousands of dollars in tertiary fees, to a paramedic's aspirations to complete PA training. However, many US hospitals will pay for their staff to complete the pre-requisite courses for RN or PA training. And upon completion of RN or PA training these hospitals will also pay some of the employee's student loans in exchange for a return of service or bonding. Therefore, if a paramedic were to work for a hospital as a scribe or ER technician they have the potential to get assistance to complete studies to further advance their careers.

Canada

The clinical practice levels used with EMS in Canada are similar to NZ, see table 3, Although there is some minor variation between individual provinces.

Canada	New Zealand
Medical First Responder	First Responder
Emergency Medical Responder	Emergency Medical Technician (EMT)
Primary Care Paramedic (PCP)	Intermediate Life Support (ILS) Paramedic
Advanced Care Paramedic (ACP)	Intensive Care Paramedic (ICP)
Critical Care Paramedic (CCP)	ICP with Rapid Sequence Intubation (RSI)

Table 3 – Canadian vs NZ EMS clinical practice levels. Note these are approximate equivalents with some variation in scope of practice between them.

I visited Nova Scotia, which is one of eastern Canada's maritime provinces on the Atlantic, with a population of approximately 940,000. Halifax is the provincial capital and has a population of just over 400,000 people.

Halifax Infirmary Emergency Department Paramedic - QEII Health Sciences Centre

Figure 2 – Halifax Infirmary

Paramedics have been utilised in hospital roles within Halifax since the mid-1980's. A shortage of RNs at that time prompted a trial where the triage nurse was replaced by a paramedic, thus allowing the RN to be better utilised elsewhere. Evaluation of this programme concluded that paramedics could triage patients as effectively as nurses. A dedicated emergency department paramedic was introduced in the late 1990's.

The role of this paramedic includes, but is not limited to:

- Responding to cardiac arrests within the hospital.
- Working as part of the trauma team in the resuscitation room.
- Escorting critical care patients within the hospital.
- Undertaking procedural sedation on behalf of the medical staff. Including using medications such as propofol.
- Airway management.
- Venepuncture, and inserting intravenous cannulas.
- Applying plaster of Paris (POP) casts.
- Suturing of minor wounds.

The emergency department paramedic does not have a patient load like a nurse. It is more of a floating role that helps out where they are needed. The ED paramedics are Critical Care Paramedics (CCP), the highest local paramedic level, who will have a number of years of experience with sound clinical decision-making skills.

When a new CCP starts in the ED they undertake a formal induction programme. This includes an orientation to the emergency department, hospital procedures, hospital and patient documentation, and the numerous items of equipment in use. There is also training is skills such as the suturing of simple wounds, radiography of

the ankle and foot (Ottawa ankle rules) and applying POP casts. Many of the skills and contributions by the CCP are as a physician extender. The emphasis of the role is on being flexible with the ability to treat patients independently but also work as part of a multi-disciplined team.

Figure 3 – Patrick Froese, Halifax Infirmary CCP, in one of the resus rooms.

Procedural Sedation and Analgesia (PSA)

The cornerstone of the ED paramedic programme at this particular institution is procedural sedation and analgesia (PSA). There is a very robust training program to ensure the new ED paramedics are safe and competent to undertake PSA. This program has 5 steps:

1. Airway Intervention & Management in Emergencies (AIME) course (see appendix A.) This is an advanced airway management course that includes lectures, case-based scenarios and simulation, and cadaver lab training.

2. In-service PSA training. Includes lectures and simulation training.
3. Preceptored PSA. The new ED paramedics completes a minimum of 50 PSA's under supervision. Based on feedback from preceptors and physicians additional sedations may be required.
4. Completion of a PSA examination which consists of a multiple-choice exam and 3 simulated case based scenarios.
5. Medical director review.

All PSA's are documented in the form shown in appendix B.

Figure 4 - Halifax Infirmary resus room.

Airway Management

ED paramedics must be proficient in advanced and difficult airway management. This includes managing the resuscitation room airway trolley, assisting the medical staff in managing the patient's airway, and maintaining an airway registry (see

appendix B). Paramedics undertake about 10-20% of the intubations within the emergency department, but are involved in almost all of them, and actively teach airway management to medical and nursing staff.

Trauma Team

The ED paramedic plays an integral part in the trauma team. Roles include airway management; IV/IO access; medication administration; haemodynamic monitoring; fracture stabilisation; transport to and from imaging, operating theatres, and the intensive care unit (ICU).

Figure 5 – Stickers used to label the gowns or aprons of members of the trauma team.

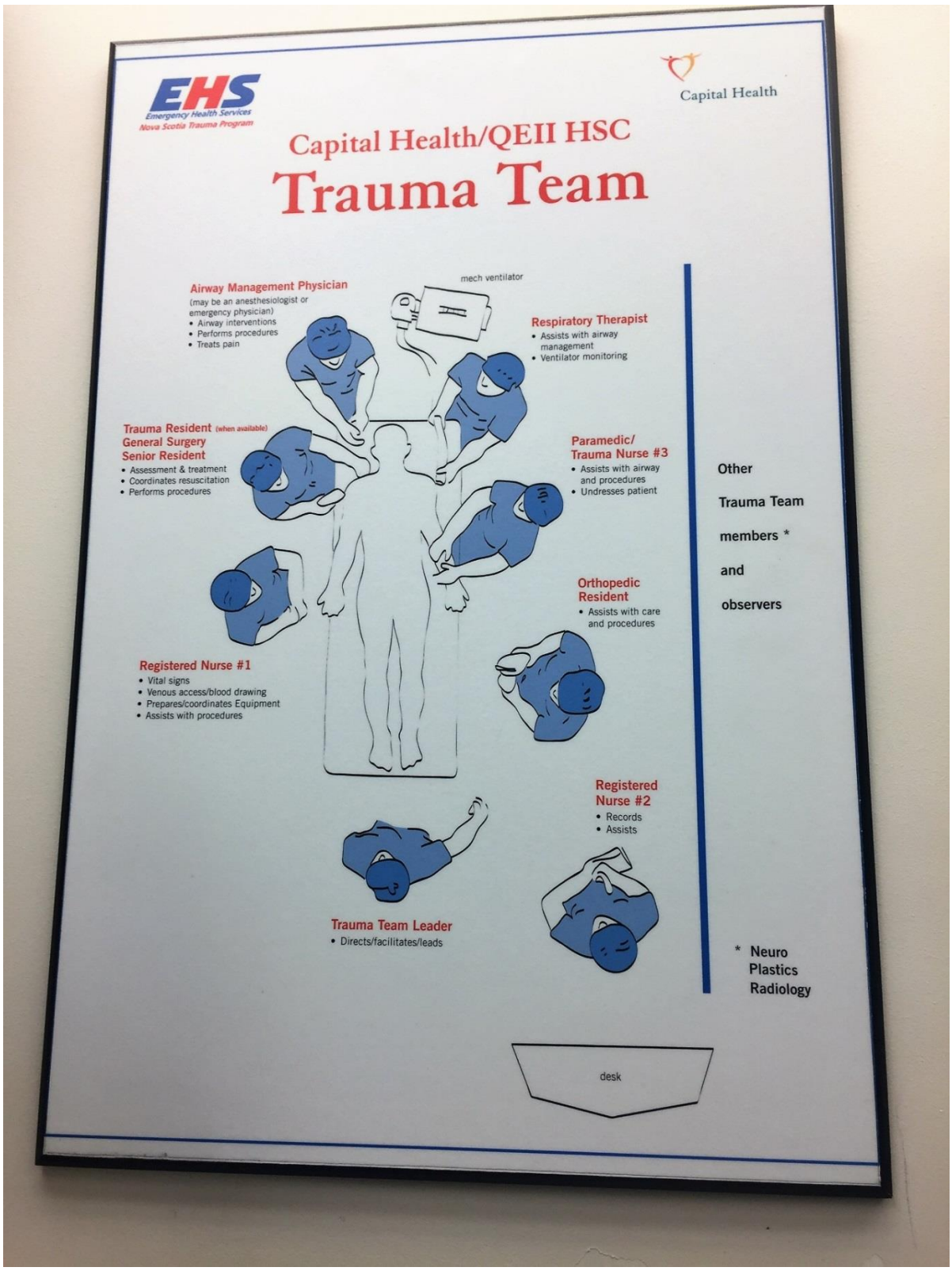


Figure 6 – Trauma Team Roles, Halifax Infirmary.

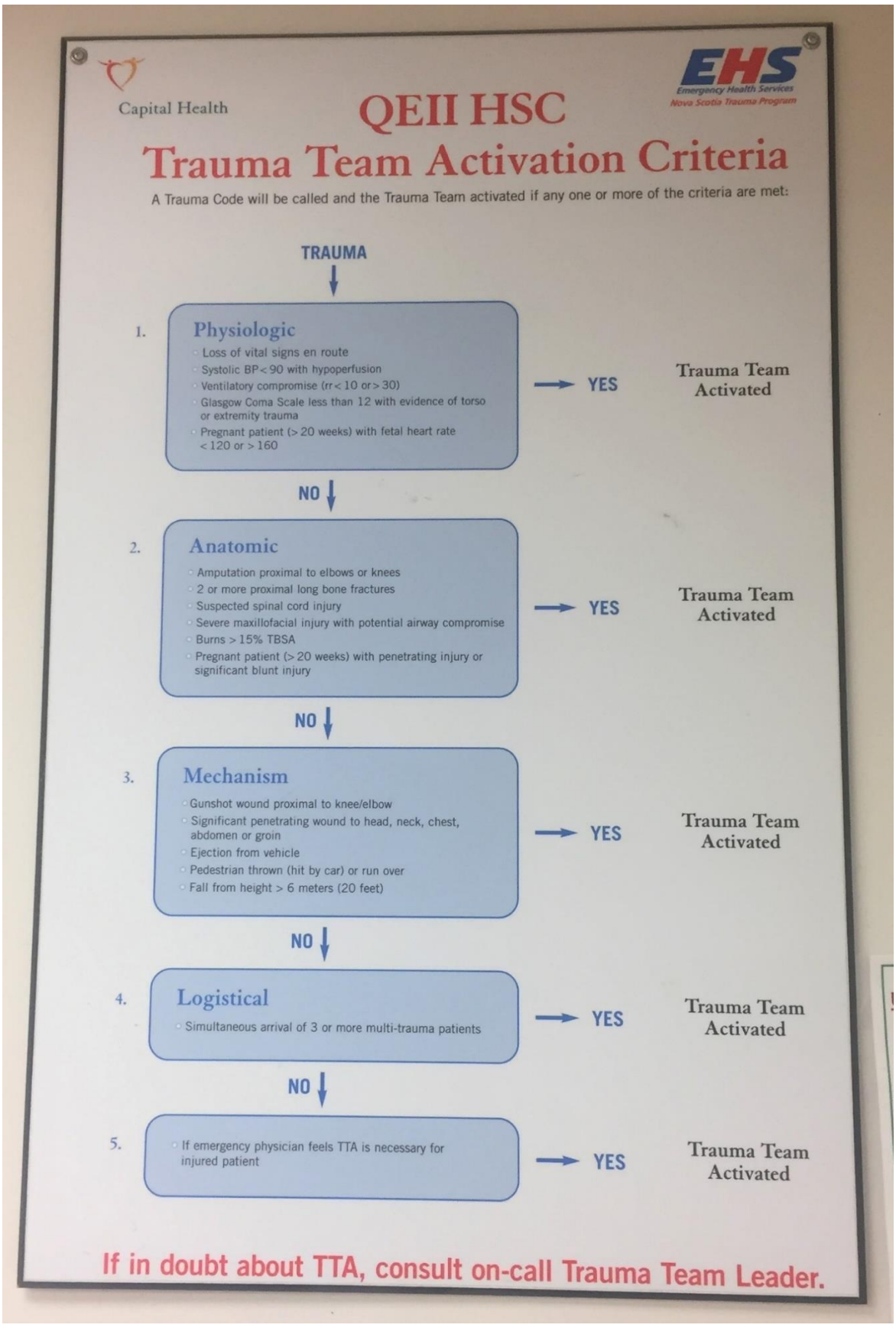


Figure 7 – Trauma Team Activation Criteria, Halifax Infirmary.

Code Blue Team

The ED paramedic is also a member of the hospital “code blue” team that responds to any cardiac arrests within the greater hospital. The ED paramedic takes a lead role until relieved by a code blue team medical doctor.

Teaching, Mentoring, & Research

ED paramedics act as a preceptor for Advanced Care Paramedic (ACP) students within the department. They also teach skills such as suturing to medical students. Dr Campbell made the comment that ED paramedics are fantastic in this role as the tend to have more time, and often more patience, than some of the ED doctors. ED paramedics assist, participate, and promote research activities within the department. They have been involved in the publication of journal articles on the use of paramedics within the ED (Campbell et al, 2012), paramedic led PSA (Campbell et al, 2006 & 2008b), and the screening and management of deep vein thrombosis (DVT) by paramedics (Campbell et al, 2008a & 2008c).

Halifax Infirmary POD 5 Paramedic

Within the ED of Halifax Infirmary is an area called Pod 5, which originally was an area for ambulatory and low acuity patients, but with time this has evolved somewhat. Without Pod 5 low acuity patients would be triaged to wait the longest because they are less likely to deteriorate and die. A shortage of general practitioners also adds to the number of low acuity patients presenting to ED.

Appendix D lists the type of patients that would typically be directed to Pod 5. They see a lot of orthopaedic type patients with sprains, strains, fractures, and dislocations. Common presentations also include back pain and patients with minor wounds.

Figure 8 – Pod 5 Waiting area. This photo was taken during a quiet moment towards the end of the POD 5 operating hours. Due to patient privacy I could not take a photo of the usual line of patients waiting in this area.

When the current Halifax Infirmary ED was opened it was larger than its predecessor but they did not have a corresponding increase in staff numbers and they simply did not have the emergency nurses to staff Pod 5. The decision was made to use ACPs to staff this area as it was felt that the subset of patients being seen in Pod 5 would

not benefit from the care of an emergency nurses and there was a financial benefit to the hospital as paramedics wages were, and still are, cheaper than a nurse.

Currently Pod 5 is not quite open 24 hours, it runs from 0630hrs – 0300hrs and usually will be staffed with two ACPs. Pod 5 sees approximately one third of the total patients that present to ED and these patients spend on average one half as long in the department as patients streamed to other areas of the ED. This is not to say these two groups are similar and Pod 5 is more efficient. But that low acuity patients can be treated more quickly than high acuity patients without impacting on the latter group.

New ACPs orientating to Pod 5 spend 8 shifts with a preceptor and complete a number of policy orientation modules by self-directed learning. They also receive training in the application of POP casts and splints, the suturing of simple wounds, and they are made familiar with the PSA guidelines as they may assist the ED CCP to undertake a PSA in the Pod 5 area.

The new Pod 5 paramedic also must learn two DVT algorithms while with their preceptor and understand how to assess an extremity for DVT and use the Modified Wells Criteria to score probability for DVT. The staff of the Halifax Infirmary, including paramedics, have documented the role of paramedics in the management of DVTs in several published journal articles (Campbell et al, 2008a & 2008c).

Halifax Infirmary Simulation Centre

The Simulation Centre is run by Donna Warren, a Critical Care Paramedic. The Halifax Infirmary is currently building a CAD$1.8 million simulation suite so during my visit they were housed in an interim space within the hospital.

The simulation coordinator is a full-time position and to prepare her for this role Donna completed a 5-day Comprehensive Instructor Workshop at Harvard Medical School in the US. This workshop covered scenario creation and how to conduct debriefs. The feedback from Donna was that was the Harvard programme was very good and supported the role to develop within the hospital.

Figure 9 – Donna Warren, Simulation Coordinator

Nova Scotia has a long established human body donation programme. As well as using manikins the simulation centre makes extensive use of cadavers which they believe are superior to manikins for mastering many clinical interventions.

Halifax Infirmary is a teaching hospital affiliated with the Dalhousie University Faculty of Medicine, one of the oldest medical schools in Canada. Simulations are run regularly for the emergency medicine residents to master the techniques or various interventions. A simulation day is run for the emergency department on pretty much a monthly basis. This will most often consist of scenario training in the morning and practising clinical procedures in the afternoon.

Not all simulations are run in the simulation suite. Some are undertaken on the wards or in the emergency department so that staff are in their usual working environment and using the equipment normally available to them.

An unannounced simulation for the hospital trauma team is undertaken periodically. The multi-disciplined members of the team will be alerted through the hospital switchboard and make their way to one of the resuscitation rooms in the emergency department. They will be then briefed on the patient type expected and in due course a stretcher is brought in with a manikin on it. It is only at that moment that the trauma team realise that it is a simulation and not a real event. The timing of these trauma team simulations is also varied so as to not be predictable which allows staff to prepare properly and have the greatest learning opportunity.

The emphasis on many, if not most, of the scenario’s is interprofessional communication.

Centre for Collaborative Clinical Learning and Research, Dalhousie University, Halifax

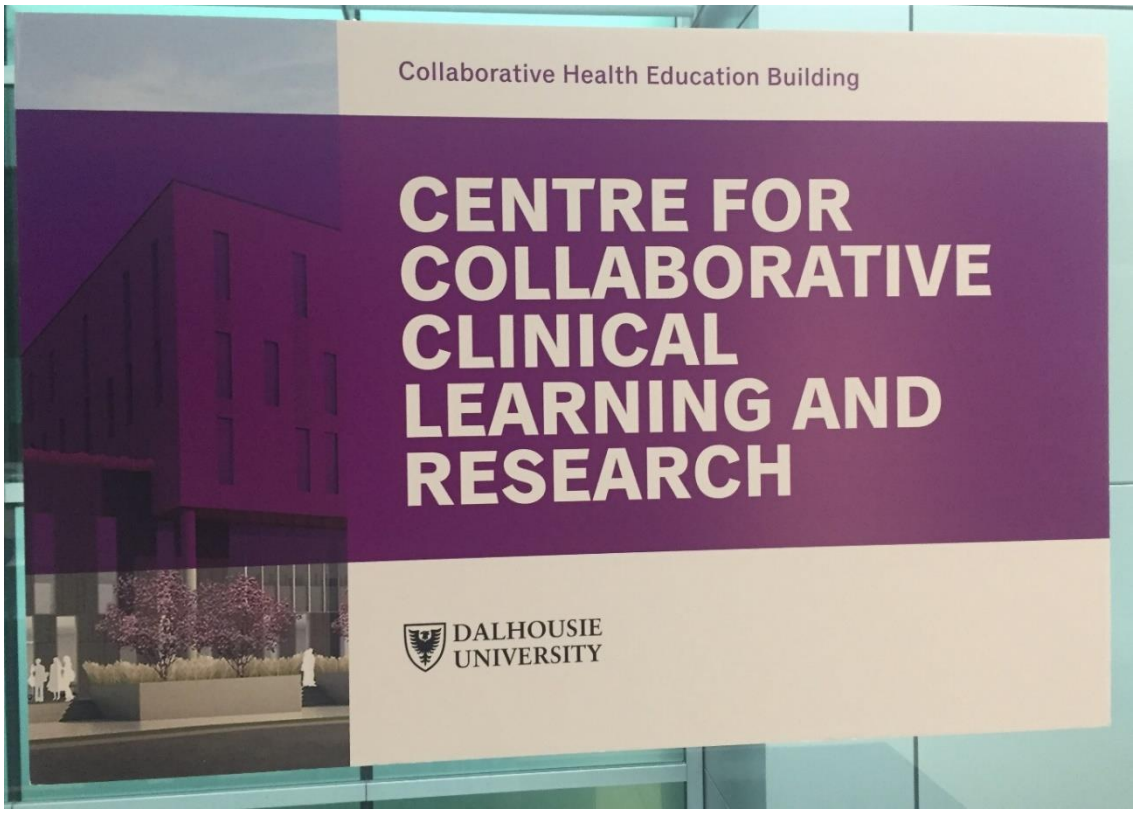


Figure 10 - Centre for Collaborative Clinical Learning and Research

I was invited to visit the Centre for Collaborative Clinical Learning and Research, located in the Collaborative Health Education Building of Dalhousie University. This impressive, modern, building is involved in the education of health professionals and allows them to practice:

- interviews and physical assessments
- procedural skills
- communication skills

The Collaborative Health Education Building is the only purpose-built facility of its type in Atlantic Canada. The Centre for Collaborative Clinical Learning and Research has multiple rooms to simulate various clinical examination rooms, an 8-bed hospital

ward (see figure 11), and a residential apartment. These rooms are fitted with multiple cameras which allows the centre staff to record scenarios and monitor the progress from a separate room.

Figure 11 – Simulated ward, Centre for Collaborative Clinical Learning and Research. Note – This photo was taken prior to a public open day, hence the yellow signs asking people not to touch.

While students from Dalhousie University, and some external health professionals, use the Centre for Collaborative Clinical Learning and Research there is no paramedic degree program currently offered in Nova Scotia. In fact, one factor that Nova Scotian paramedics were envious of NZ paramedics was that New Zealander's are degree qualified. So, although paramedics are not directly educated at the Centre for Collaborative Clinical Learning and Research they do participate in simulation training, both as participants and instructors. In fact, the value of paramedics in the education of other health professionals is recognized and their participation is sought after.

Dartmouth General Hospital (DGH)

Figure 12 – Dartmouth General Hospital

Dartmouth General Hospital (DGH) is another hospital within the greater Halifax area. It has a full range of services including a 24-hour emergency department although its ED is not at the same tertiary level as the Halifax Infirmary and they do not take patients with a STEMI (ST Elevation Myocardial Infarction's), serious trauma cases, or suspected strokes. The use of paramedics at DGH is not as long established as that at the Halifax Infirmary although it has been going for about 12-13 years. The DGH ED use of paramedics was started independently of the Halifax Infirmary, in fact it is touted it was started in an effort to emulate the Halifax Infirmary paramedic programme.

The ED paramedic model used by DGH has some commonalities with that used by Halifax Infirmary, although its introduction was not without its difficulties (Marsh, 2009). The use of paramedics in DGH ED was initially opposed by the nurses union which therefore tainted acceptance of the paramedic role by nurses, and led to a negative perception of the value of ED paramedics by nurses. Considerable effort was put into resolving inter-professional differences in the early days with success. Lori Sanderson, the Health Services Manager at DGH, told me that to mitigate or

avoid conflict it is essential that the paramedic role is clearly defined, with clear reporting lines. Previous conflict at DGH ED had been exacerbated by Drs not understanding the scope of the paramedic role and some issues of reporting accountabilities between paramedics and nurses.

Like the Halifax Infirmary ED paramedic the DGH ED paramedic is used as support for the physicians and is used for specific tasks. They have leaned towards ACPs, rather than PCPs, as they have found ACPs have a superior level of experience and greater versatility.

Orientation of a new paramedic to the ED at DGH includes:

- Orientation to different areas of the department.
- Shifts with a preceptor.
- Familiarisation with equipment.
- Familiarisation of ED paperwork and documentation.
- Training in new skills – i.e. Application of POP casts, suturing of wounds, and procedural sedation and analgesia.

Although the ED at DGH has a lower acuity than the ED at then Halifax Infirmary the paramedics have proved to be a valuable and essential member of the DGH team. The DGH programme developed independently of the Halifax Infirmary but it was influenced by the Halifax Infirmary and the DGH ED paramedics perform similar tasks such as PSA, suturing of minor wounds, applying POP casts, taking blood samples and inserting IV cannulas etc.

Extended Care Paramedic (ECP) Programme

Figure 13 – Halifax ECP vehicle

Since the early 2000's there has been a number of extended care paramedic programmes introduced internationally. The titles used has varied – extended care paramedics, paramedic practitioners, urgent community care paramedics, emergency care practitioners. The focus of most of these programmes was providing a paramedic service with some extra skills that would allow patients to be treated at home and thus avoid the patient being transported to already acutely busy and overcrowded hospital emergency departments.

There has been some experimentation with extended care paramedic models in New Zealand and currently both St John and Wellington Free Ambulance provide some limited extended care paramedic programmes, where is known as Urgent Community Care (UCC).

I met with Dr Travers, the Provincial Medical Director for Emergency Health Services (EHS), and he explained to me the important role that their extended care paramedic

programme played in expanding the scope of paramedic practice and integrating with other health professions.

A problem faced by EHS ambulance crews is they transport patients to Halifax Infirmary and unload the patient from the ambulance but they are forced to continue care for the patient in the corridor until the hospital teams accepts them. This is also common in some parts of Australia, where it is known as “ambulance ramping”. The target for Halifax Infirmary is that 90% of patients are accepted within 20 minutes of arrival, unfortunately that target is often not met and in some cases patients can wait in the hallway with their paramedics for several hours. Patients, primary care physicians, and EHS were united in their opposition to the practice. Primary care physicians disliked referring patients to hospital when they were going to be subjected to delays but felt there were no other options available to them.

Like other extended care paramedic programmes the Halifax ECPs treat and leave a high percentage of patients, thus avoiding sending further patients to emergency departments already at capacity. But they also treat and refer patients to alternative pathways. They are involved in palliative care and have an established program looking after patients with special needs. For example, a patient with Addison’s disease experiencing a crisis may be visited at home and given hydrocortisone which is outside of normal paramedic practice but can be specially arranged for an individual patient as part of a management plan thus ensuring the patient remains at home and is not transported to hospital.

Dr Travers emphasized that one of the keys to the acceptance of ECPs and paramedics working in Collaborative Emergency Centres (CECs) was the work done in the early stages working with the regulatory bodies for both physicians and

nurses. It was emphasized with those regulatory bodies that the initiative was an enhancement to existing paramedics scope and role and would be collaborative with other aspects of primary care, not competing with them.

I rode along with an ECP unit and saw the programme at work first hand. To train as an ECP a candidate must be an ACP and they complete additional training in patient assessment and skills like wound suturing, and preceptor shifts with existing ECPs. One difference between the EHS ECP programme and the St John UCC programme is the EHS ECP has no emergency response role and it not utilised to attend emergency calls when workload permits.

Collaborative Emergency Centre (CEC)

The first CEC was opened in Nova Scotia in 2011. They CEC model of care was introduced following concerns over smaller rural hospitals closing their emergency departments, usually because no doctor was available. Often these doctors were a general practitioner (GP) with their own practice in the community in addition to providing emergency care at the local hospital. After hours emergencies at the hospital interfered with the Drs GP practice schedule the following day. And a frequent on-call schedule made recruiting Drs difficult. The result was that patient's in these areas had unpredictable access to emergency care, and as a flow on would have difficulty in gaining appointments with primary health services.

The CEC model aims to link three essential components: 1. A primary health care team, 2. Urgent care capacity, and 3. Protocols in place for emergency care.

An example of a CEC is Twin Oaks Memorial Hospital; which is located at Musquodoboit Harbour, a small rural community of approximately 2100 people located about 45 mins from Halifax. This CEC provides 24-hour emergency care with a doctor on-site during the day (0800-2000hrs), and an RN and paramedic during the night. To provide appropriate care the night RN and paramedic have the ability to consult with an emergency doctor by telephone if required.

Both PCPs and ACPs are used in the CEC model. They remain employees of EHS and work a mix of ambulance shifts on the road and CEC shifts. There are also some EHS paramedics that have casual contracts to do the occasional shift in CECs.

In 2014 an evaluation of the CEC model was completed (Stylus Consulting, 2014) and made a number of interesting observations regarding the use of paramedics including:

- The RNs felt more comfortable with paramedics who were experienced. CEC RNs felt that ACPs provided a better level of care than PCPs.
- Some paramedics complained of too much down time at night.
- The CEC model was seen by some paramedics as a good option for those seeking a less physically demanding role.
- CEC paramedics gained a greater understanding of hospital processes and patient flow.
- Paramedics benefitted from exposure to different clinical environments.
- Paramedics did not always feel welcome as part of the CEC team, but with time these relationships strengthened. Different approaches to patient assessment by paramedics and RNs led to tension in the early stages but both professions have progressed over time to value the other's skill sets.
- There needed to be work done on building strong relationships between paramedics and RNs.
- A majority (76%) of survey respondents found the CEC environment was a "good" or "very good" place to work.

One other interesting recommendation that the CEC evaluation proposed was that the paramedic profession be subject to licensure and self-regulation to recognise the growing role and scope of the paramedic profession, something that occurred within Nova Scotia in 2017.

Regarding the RNs comments that ACPs provided a better level of care than PCPs, table 14 below shows the expanded drug options available to ACP's rather than PCP's.

Primary Care Paramedic (PCP)	Advanced Care Paramedic (ACP)	
Acetaminophen Acetylsalicylic Acid Clopidogrel D50W Dimenhydrinate Diphenhydramine Epinephrine Glucagon Ipratropium Bromide Ketorolac Metoclopramide Nitroglycerin Oxygen Salbutamol Topical Anaesthetic Eye Drops	Acetaminophen Adenosine Amiodarone Acetylsalicylic Acid Atropine Calcium Chloride Clopidogrel D50W Diazepam Dimenhydrinate Diphenhydramine Dopamine Enoxaparin Epinephrine Fentanyl Furosemide Glucagon Ipratropium Bromide	Ketorolac Lidocaine Magnesium Sulphate Metoclopramide Midazolam Morphine Naloxone Nitroglycerin Oxygen Salbutamol Sodium Bicarbonate Tenecteplase Thiamine Topical Anaesthetic Eye Drops Tranexamic Acid Haloperidol Hydromorphone

Figure 14 – PCP vs ACP Drug Scope of Practice

A 2018 study looked at the experiences of paramedics working in CECs found similar observations, attitudes, and feelings to the 2014 evaluation of the CEC model (Whalen, 2018). These included:

- There were initial difficulties in the relationship between paramedics and RNs. Differences in the culture and experiences of the two professions challenged team functioning. However, this relationship strengthened with time.
- Overall paramedics viewed their experiences with RNs positively.
- Paramedics reported a lack of feedback and follow-up from the health authority.
- There was a desire amongst CEC paramedics to expand their scope of practice and acquire additional skills.

- Paramedics felt the CEC model was valuable to communities and there was a high level of satisfaction from patients.
- The paramedics interviewed in this study reported –
    - They felt that CECs were beneficial to the public perception of the paramedic profession.
    - They found working in the CECs to be both professionally and personally rewarding.

While the CEC model has proved successful several Halifax medical staff privately expressed opinions to me that some CECs should be closed as both the number of patients seen by them, and the acuity of most the patients they saw, was low but they felt there was not the political will to make that unpopular decision.

Talking with a CEC paramedic and reading the CEC evaluation report and journal article I could not help but notice that the reasons the paramedics enjoyed the CEC model were very similar to those expressed by the hospital paramedics at the Halifax Infirmary and Dartmouth General Hospital.

College of Paramedics of Nova Scotia

Prior to 1995 there was approximately 50 separate ambulance services within Nova Scotia. There was great variability amongst the individual services as to the equipment and vehicles used, training and qualifications of staff, and the quality of service provided. Following a 1993 critical review of Nova Scotian emergency medical services the Nova Scotia government created Emergency Health Services (EHS) [which is a branch of the Nova Scotia Department of Health] to take over all ground ambulance services, which was completely accomplished by 2004. EHS follow the North American public utility model where they are responsible for providing ambulance services and own (or lease) the vehicles, equipment, and facilities; but then subcontract to a private ambulance company called Emergency Medical Care Inc (EMC) to provide the paramedic staff and run the day-to-day operations.

Interestingly the decision to call the new organisation EHS rather than EMS was deliberate as it was thought that eventual expanded roles for paramedics should be linked broadly to health services rather than just within ambulance or emergency services as EMS might imply (Geddes, Stewart, & Baskett; 2017).

From 1994 until 2017 EHS was the regulatory body for paramedics in Nova Scotia. Following the passing of the Paramedics Act by the Nova Scotia House of Assembly in 2015 the College of Paramedics of Nova Scotia (CPNS) was formed to be the new regulatory body for paramedics in Nova Scotia. Paramedics became registered in Nova Scotia in April 2017. Under the Paramedics Act (2015) the objectives of the CPNS are to:

(a) serve and protect the public interest in the practice of paramedicine;

(b) preserve the integrity of the paramedic profession; and

(c) maintain public and member confidence in the ability of the profession to regulate the practice of paramedicine.

One of the barriers to paramedics being introduced to NZ hospitals is the fact that NZ paramedics are currently not registered, and therefore not accountable under the Health Practitioners Competence Assurance Act (2003). The registration of NZ paramedics is currently under consideration by the Minster of Health. I was interested in visiting the CPNS to discuss paramedic registration in general, and its impact on hospital-based paramedics in particular.

The CPNS was set up with money from the Nova Scotian provincial government. It has two paid staff, a director and an administration person. Its governing council consists of a representative of the college of nurses, a representative of the college of physicians, a representative of each of Nova Scotia's districts, a representative of each paramedic level (PCP, ACP, CCP), and four members of the public.

While Canadian paramedics are regulated on a provincial basis there is also a body called the "Canadian Organisation of Paramedic Regulators" or COPR which

attempts to bring together the various provincial paramedic regulators, break down interprovincial barriers, and promote national consistency.

Paramedics became registered in Nova Scotia in April 2017. To initially register a paramedic had to be "*in good standing*" with EHS and pay a registration fee of CAD$470 (approx. NZD$530). There was no assessment of competency, the paramedic merely had to be registered with EHS in the 12 months prior to the 1st April 2017.

Like what has been proposed for NZ paramedic registration Medical First Responder's and Emergency Medical Responder's in Canada are not registered. PCP is the entry paramedic level. For a new graduate PCP to register with the CPNS they must:

1. Submit verified copies of:

- proof of legal name.
- photo ID
- a copy of their criminal record check and vulnerable sector check.

2. Have their paramedic school submit a copy of their diploma or academic transcript.

Once these documents have been accepted by the CPNS the new graduate is eligible to sit the entry-to-practice exam set by the COPR. This exam consists of 200 multi-choice questions and candidates have up to 4 hours to complete the exam. The COPR sets an exam fee of CAD$650 (approx NZD$736) + 15% tax. Once the new graduate has sat, and passed, the entry-to-practice exam they are eligible to apply for registration with the CPNS.

You cannot register as an ACP unless you are already registered as an PCP. The process for a registered PCP to upgrade their registration to ACP is the same as a

new graduate, the only difference is the COPR ACP entry exam is obviously set at a higher level.

Six of the ten Canadian provinces use the COPR entry-to-practice exam. Two of the others already have their own licensing exams and charge money to sit it, so because they make a profit from that exam they don't want to sign up to the COPR exam. The other two provinces are looking into adopting the COPR exam. One obstacle with the exam is that it is currently only available in English and one province, Quebec, wants the exam also available in French.

Nova Scotian paramedics pay their own registration fee, it is not paid by their employer. However, employees of EMC get a CAD$500 a year education allowance which some use to pay their registration.

To maintain registration paramedics must participate in a competency program which includes group activities, self-directed learning, and a patient simulation scenario.

The CPNS has not struck anyone from the register thus far. They have received a few complaints that are currently under investigation. They are very conscious of the need to be responsible self-regulators to ensure the government and the public has confidence in them.

Canadian paramedics who work for EHS (or its contractor) or the Nova Scotian Health Authority (i.e. in a hospital paramedic role) are provided indemnity insurance by their employer. Those paramedics that work for a private company would need to purchase indemnity insurance or negotiate for their employer to provide it.

The first year that the CPNS was up and running was incredibly busy. They started at grassroots, then set up the CPNS and its functions. This included 11 different

committees and working groups. There were a couple of notable aspects that proved to be invaluable. The first was the representatives from college of nurses and college of physicians that were appointed to the CPNS council. Both these individuals had extensive experience in self-regulation and governance and they provided inestimable assistance. Additionally, there is a working group of Nova Scotian health profession regulators which the CPNS participates in. Being able to meet, work with, learn from, and gain assistance from the other health profession regulators has greatly aided the CPNS.

Karl Kowalczyk, the executive director of the CPNS, also expressed that many paramedics did not understand the role and function of the CPNS and during his first year he put a lot of effort into educating this group.

As far as paramedic regulation and hospital paramedics are concerned Karl Kowalczyk expressed his opinion that although hospital-based paramedics were well established in Nova Scotia prior to paramedic regulation the advent of regulation has strengthened their position within the health system and provided greater professional protection for the public.

EHS LifeFlight

While not a specific focus of my fellowship trip while in Nova Scotia I was given the opportunity to the visit the base of EHS LifeFlight, the local provider of both rotary and fixed wing air ambulance services within Nova Scotia. I was interested to take up this offer as EHS LifeFlight operate a King Air fixed wing aircraft, which is the same as Air Wanganui, my local fixed wing air ambulance provider.

EHS LifeFlight operate two Sikorsky S76C+ helicopters and a single King Air 200 fixed wing aircraft. They perform in the region of 900 jobs per year, of which about 90% are interfacility transfers within the province. The split of the workload is about 55% rotary response, and 45% fixed wing. Due to weather there is a greater proportion of fixed wing responses in the winter and conversely more rotary responses during the summer. EHS LifeFlight do not have a winch capability; if a mission requires a winch then that is carried out by a helicopter from the Canadian Defence Force, which is a rare event only happening a few times a year. EHS LifeFlight also follow the standard North American flight team model of a flight paramedic and a flight nurse for all missions except for neonatal or serious obstetric complications where specialist teams from the IWK Health Centre are used.

The big difference between the Nova Scotian King Air aircraft compared to the local one run by Air Wanganui is the interior layout. EHS LifeFlight has moved away from the LifePort stretcher system which has long been considered the standard for fixed wing aeromedical aircraft as it offers a loading system and a stretcher with inbuilt power, oxygen, medical air, and suction. While there are some advantages to the LifePort system getting the stretcher through the aircraft door and turning it into the aircraft can be difficult, particularly if the patient is on the large side. There was a

recent event where a patient was dropped while being loaded into a NZ air ambulance, not Air Wanganui, at Hawkes Bay Airport (Sharpe, 2018).

As an alternative to the LifePort system EHS LifeFlight has modified the interior of their aircraft to take two Ferno “drop-leg” ambulance stretchers. To adapt their aircraft to this configuration was a major piece of work. The interior lining of the aircraft cabin was removed as they needed to make interior walls slightly narrower and fit the aircraft with built in suction and medical oxygen systems. EHS LifeFlight believe this is a superior system to using the LifePort system and allows them to transport two stretcher patients on “drop-leg” ambulance stretchers which are easier to load and unload from the aircraft and can be then loaded straight into an ambulance without the necessity to transfer the patient from a LifePort stretcher onto an ambulance stretcher.

I have shared the pictures I took of the EHS LifeFlight setup with Air Wanganui. While the EHS LifeFlight modifications are innovative and superior in some respects as many NZ operators do a degree of commercial work in addition to aeromedical work the LifePort system, and its ability to be easily removed from the aircraft, offer some advantages and to duplicate the EHS LifeFlight setup may not be practical or cost effective.

Figure 15 – EHS LifeFlight King Air

Figure 16 – EHS LifeFlight King Air Interior.
First stretcher is placed to the left-hand side, against the interior wall, marked by the red rectangle.

Figure 17 – EHS LifeFlight Ferno stretcher and equipment

Figure 18 – Stretcher bridge used to load the Ferno drop-leg stretcher

Figure 19 – Ferno stretcher being loaded onto the EHS LifeFlight aircraft.

Dr Ronald D. Stewart

As a side note during my visit to Nova Scotia I have the pleasure to meet Dr Ronald D. Stewart. Dr Stewart is considered a legend in North American emergency medicine and EMS, if not international emergency medicine and EMS. Dr Stewart is a native Nova Scotian and was one of the first trainees in emergency medicine as a standalone speciality. He was the first medical director of both the Los Angeles County paramedic programme and the Pittsburgh USA EMS system. He also founded the Center for Emergency Medicine at the University of Pittsburgh, which is now the largest emergency medicine research and education institute in the US.

Figure 20 – Dr Ronald D. Stewart

Upon returning to Nova Scotia Dr Stewart was elected to the provincial parliament and became the provincial Minister of Health. It was under his leadership that the consolidation of provincial ambulance services occurred and EHS was created.

The list of accolades that Dr Stewart has received is lengthy but includes being a member of the Order of Canada, and a member of the Order of Nova Scotia.

Without the vision of Dr Stewart, and others, during the infancy of our profession paramedics would probably not exist as we know it.

England

Croydon University Hospital – London, England

Figure 21 – Croydon University Hospital

Croydon is a town located in South London with a population of approximately 380,000 and the local hospital is called Croydon University Hospital. The emergency department at Croydon University Hospital has employed its own paramedics since 2014; and was one of the first hospitals in London, if not England to do so. There had been previous instances of paramedics being used within English hospitals during periods of extreme nursing shortages. However this had been an ad hoc arrangement with paramedics being borrowed from the local ambulance service,

which are also part of the UK National Health System (NHS), rather than employees of the individual hospital itself.

A previous manager within the emergency department at Croydon University Hospital put a lot of effort into improving the structures and systems within the emergency department. Prior to their efforts the emergency department was described as having no order and lacking a uniform plan. Changes were introduced to set up a dedicated emergency department team with less reliance on staff and support from other areas of the hospital. This included introducing new upskilled roles one of which was the Emergency Care Nurse/Paramedic (ECNP) role.

Emergency Care Nurse/Paramedics (ECNP)

In the UK NHS pay system a standard staff nurse is a band 5. Croydon University Hospital have a position called an Emergency Care Nurse/Paramedic, or ECNP for short, that works predominantly in the resuscitation room (about 90% of the time). This is a band 6 position which means they are more experienced and have a leadership/coordination role. As the ECNP title suggests they can come from either a nurse or a paramedic background. In fact, there is no differentiation made between whether a person is a nurse or a paramedic and the current ECNP ranks contain people from both backgrounds, with about two thirds coming from a nursing background and one third coming from a paramedic background. The current Lead ECNP, Fleur Mosley, comes from a paramedic background. She stated that ECNPs from a paramedic background tend to need a slightly longer induction to the role which she attributed to paramedics being less familiar with the hospital systems and structure compared to ECNPs from a nursing background. However, both nursing

and medical staff told me they found ECNPs from paramedic backgrounds to be excellent as they were self-starters and just “got on with it”. They also reflected that ECNPs from a paramedic background developed tremendously with the experience of the ECNP role.

Figure 22 – Fleur Mosley, Lead ECNP, Croydon University Hospital

The job description for the Croydon ECNP position can be found in appendix E. Both the nurses and paramedics employed as ECNPs possess degrees and are registered health professionals. A successful ECNP candidate should be clinically competent and confident, but I was also told a certain degree of political awareness

was advantageous to allow them to have a good working relationship with the other health professionals within the hospital.

ECNPs work a rotating roster of 12 hours shifts - 2 day shifts, 2 night shifts, and 5 days off. The role is competency based and all ECNP's are orientated to the role irrespective of their background. It was emphasised that the ECNP orientation program was flexible and dependant on the needs of the individual but typically covered equipment, the ECNP role, and hospital documentation. New ECNPs tend to spend approximately 3 weeks supernumerary within the emergency department to allow them to settle in, meet people, and get to know how the emergency department works. The new ECNPs then complete a number of training days covering such topics as intravenous therapy, trauma care and policies, sepsis, advanced life support, airway management, POP cast application, wound care, triage and stream policies. The ECNPs have some expanded scope over the band 5 staff nurses such as taking arterial blood gas (ABG) samples and gaining intraosseous access for example.

Fleur the lead ECNP stated that training within the department involving all the different roles and professions played an important part in breaking down any barriers between them. And that there is a strong emphasis within the department of mutual benefit and respect between the different health professionals.

Emergency Care Practitioner (ECP)

In 2001 the United Kingdom (UK) Department of Health published a document titled "*Reforming Emergency Care*" (Department of Health, 2001). At that time Accident and Emergency (A & E) Departments were stretched, hospital capacity was insufficient, and people were experiencing overly long delays to treatment. New approaches were introduced in an attempt to reduce the number of patients being transported to A & E by ambulances. This included utilising alternative destinations and encouraging ambulance staff to treat people at home without transporting them to hospital. Towards the latter several similar pilot programmes were introduced around the United Kingdom where a "*paramedic practitioner*", an ambulance paramedic with extra training and assessment skills, would assess and treat the patient at home, thus avoiding a hospital presentation. This was similar to the Extended Care Paramedic programme that I observed in Halifax, and similar to the UCC programmes currently being run in New Zealand by both St John and Wellington Free Ambulance. From the early paramedic practitioner model, the role has slowly morphed into a new position called an Emergency Care Practitioner (ECP). The role is sometimes also referred to as an Advanced Clinical Practitioner (ACP) depending on the hospital.

The 2001 "*Reforming Emergency Care*" report in the UK also identified that breaking down professional and traditional barriers between staff groups was essential to modernising emergency care (Department of Health, 2001). In the UK there has been a definite attempt to move away from hierarchal statutes and the lines between the different health professions have blurred. In 2004 following on from the earlier "*Reforming Emergency Care*" report the UK Department of Health released a report

titled "*The ECP Report – Right Skill, Right Time, Right Place*" which discussed the ECP role that had evolved as part of move to change and improve emergency care (Department of Health, 2004). From its initial beginnings the use of ECPs has evolved from part of an ambulance extended care paramedic programme to being used alongside nurse practitioners within hospital emergency departments, minor injury and illness units, and general practitioner practices. Originally the UK Department of Health envisioned that the majority of ECPs would come from a paramedic or nursing background, but the role is open to any registered health professional. I was made aware of one instance where an ECP had come from a physiotherapy background (Chartered Society of Physiotherapists, 2007). ECPs maintain their primary registration, there is no independent register of ECPs. The UK Department of Health believes dual registration is unnecessary and could lead to increased expense, bureaucracy, and confusion.

Both the UK Department of Health and the Royal College of Emergency Medicine have published suggested curriculums for the training of ECPs (Department of Health, 2007; Royal College of Emergency Medicine, 2015). However, despite the recommended curriculum the training regime for ECPs varies around the UK from institution to institution. In some places it is a BHSc degree or a postgraduate certificate/diploma, in others it is a master's degree. The College of Paramedics, a professional body for paramedics in the UK, recommends a master's degree level education for ECPs (College of Paramedics, 2017). The Royal College of Emergency Medicine recommends an entrant to ECP training should be registered, be 5-years post-registration, and have a minimum of 3-years emergency care experience (Royal College of Emergency Medicine, 2015). In addition to possessing

a degree and being a registered health professional, some institutions insist that ECP candidates be working in the emergency field and have a mentor.

So what does a hospital or clinic based ECP do? I spent time with an ECP, who came from a paramedic background, and was employed by Croydon University Hospital in their Urgent Care Centre (UCC). Where possible the UCC aims to have patients seen within 4 hours of arrival. The ECP I observed saw a variety of minor illness cases, gained a history and assessed vital signs, and conducted an examination of the patients. None of cases I sat in on required referral to a doctor and were managed with some advice and a recommendation to obtain some over the counter (OTC) treatment from a pharmacy.

The extent and scope of the ECP role can vary from place to place but duties that ECPs undertake can include:

- Initial history taking and assessment.
- Performing a primary survey, vital signs, and able to initiate basic airway management.
- Wound management – including wound assessment, anaesthesia, irrigation, and closure (using sutures, steristrips, or Dermabond as required).
- Fracture management – including assessment of limb baselines and x-ray images, apply regional anaesthesia via a Biers block, reduction of the fracture, and application of a POP cast.
- Reduction of dislocated joints - including assessment of limb baselines and x-ray images, applies IV sedation, reduces the dislocation, immobilises joint afterwards.
- Otoscopy and ophthalmoscopy.
- Insertion of IV cannulas, and urinary catheters.

Some interventions require the ECP to consult with a senior doctor. Skill use is based on competency and the use of pharmacology will be governed by a Patient

Group Directive or PGD (where registered health professionals can supply or administer a medication to a group of patients who fit the criteria detailed in the PGD).

A typical ECP training programme would be one similar to that run by the University of the West of England in Bristol.

University of the West of England (UWE) – Bristol

Unfortunately, due to a schedule conflict I was unable to meet with the UWE ECP programme leader, Dr Rebecca Hoskins, in person. However, I was able to correspond with her and ask some questions.

The ECP training course run by UWE, known as their Emergency Practitioner Course, consists of 2 modules: *Clinical Examination Skills for Urgent & Emergency Care Practitioners* and *Clinical Reasoning for Urgent & Emergency Care Practitioners,* which are taken part-time over 6-7 months. As the module names suggest the focus of the UWE ECP training is to ensure that the ECP trainees have advanced clinical examination skills, and sound clinical judgement. See appendix F for a more detailed description of these modules.

Entry to the UWE Emergency Practitioner Course is open to any registered health professional. At present UWE have about 55 students completing their emergency practitioner course every year. About one-third of those students are paramedics, with two-thirds coming from a nursing background.

Physician Associate (PA)

The UK version of the US Physician Assistant role are called Physician Associates. They were not called Physician Assistants as that title is already in use within the UK National Health Service (NHS) and from what I understand is not unlike an Anaesthetic Technician in NZ.

UK PAs work under the supervision of physicians. Currently there are approximately 350 PAs in the UK, with another 550 in training programs. Approximately 20% of UK PAs work in primary care, mostly GP surgeries, and the balance work in hospital-based roles. The Department of Health and Health Education England, the UK organisation responsible for NHS workforce training, wants to see 1,000 physician associates working in primary care by 2020 (NHS, 2018).

PA training programs are currently offered by over 30 UK universities and consist of either a master's degree or postgraduate diploma. The title "Physician Associate" is not protected in the UK and currently the registration of UK PAs is voluntary through the Faculty of Physician Associates of the Royal College of Physicians. Entry into a UK PA training course requires a life science, biomedical science, or healthcare degree. Entry to many UK university PA programmes is competitive and in some cases healthcare experience is either insisted on or preferred. Once a UK PA has completed their university training they must pass a national examination before they can start working as a PA. Once qualified a UK PA must complete 50 hours of continuing professional development each year and sit a recertification exam every 6 years'.

Like their US equivalent UK PAs are trained in the medical model and fulfil a role that would traditionally have been undertaken by junior doctors, i.e. house officers or

senior house officers. However, the UK PA role has the potential to provide continuity, and maintain the institutional memory of their team, as trainee doctors rotate through different specialities. PA support can also provide cover for doctors to participate in training, clinics, and theatre.

The UK PA role includes:

- taking medical histories from patients
- performing physical examinations
- diagnosing illnesses
- seeing patients with long-term chronic conditions
- performing diagnostic and therapeutic procedures
- analysing test results
- developing management plans
- provide health promotion and disease prevention advice for patients.

Currently UK PAs are not able to prescribe or order diagnostic imaging (i.e. X-rays and CT scans). But it is anticipated that in the fullness of time the UK PA role will expand to include ordering and prescribing, however this will probably require regulation of the UK PA role.

The UK PA role has not been without controversy. Concerns have been raised regarding the lack of regulation, how UK PAs are to be supervised clinically, and the scope of practice of the UK PA role. Despite these reservations the UK PA is growing rapidly and is seen to provide a valuable contribution to the UK NHS as part of a multi-disciplined medical and nursing team provided they are well supported. Feedback from patients seen by UK PAs has been positive (Halter et al, 2017).

Paramedics in Prisons and Police Custody Suites

An additional role that paramedics are able to undertake outside of traditional ambulance services is providing emergency medical support and primary care for people being detained in police custody suites or held in prisons. As part of my Winston Churchill fellowship I spoke with people from three separate private companies, one Canadian and two British, who provided medical support in this area.

Praxes Medical Group is a Canadian company that provides remote medical services in 5 crucial areas:

1. Telemedicine – Canada's premiere telemedicine service for industry.
2. On site medical clinics.
3. Remote medical staffing.
4. Medical kits and supplies.
5. EMwerx operating software (for managing personnel and medical records).

At the local prison in Halifax medical support is provided during the day by nurses employed through the local health authority. After hours care is provided by paramedics from Praxes. The primary role of these paramedics is to undertake tasks such as acting as a watch for prisoners deemed to be at risk of self-harm and suicide, providing any urgent after hours medical support, and minimising the need for prisoners to be transferred off-site to local hospitals. To assist them in their decision making these paramedics have a doctor from the Praxes telemedicine support line available for clinical advice.

Mitie is a British company that provides a number of specialist services including custody and healthcare in justice. This sees Mitie provide forensic medical services to over 50 police custody facilities throughout England and Wales. Like Croydon

University Hospital Mitie does not differentiate between paramedics and nurses and simply uses the generic title of “health professional”. Mitie puts all new staff through a one-week training course, as shown in appendix G. This induction course is designed to prepare paramedics and nurses for the role, to give them an understanding of the structure of the police, the relevant law, and the type of patients that they might be presented with.

Care UK is a British company providing health and social care, which includes health services at no less than 42 separate prisons within the United Kingdom. Care UK aims to offer all the health services required by the prison population in one place whilst utilising a single team. This could range from regular health checks and GP services, to help with substance misuse, chronic or long-term conditions, podiatry, physiotherapy and optometry. To undertake these services Care UK works collaboratively with the prison authorities with an aim to improve the long-term health of offenders and lower the rates of emergency hospital admissions. Paramedics are an integral part of the Care UK team and their role is one of patient care, both some primary care and some emergency response, while working collaboratively with the other health professionals. An additional role for these prison paramedics was conducting training for corrections officers.

Key Learnings/Discussion

Scribe

The emergency doctors I spoke to praise the scribe role. They emphasized how it made their job easier and allowed them to focus on patient care. One emergency doctor I spoke to worked at a couple of different locations, one that had scribes and one that did not, and they said they missed the scribes terribly when working at the facility without them. Could the scribe role be performed by a paramedic? The answer is yes, although even an EMT or perhaps even Emergency Medical Assistant (EMA) could perform the role. If scribe roles were introduced to New Zealand there might be an occasional candidate that came from an EMS background, however if would be a relatively poor use of their qualifications and experience. Additionally, if the pay was set at a similar level to New York it would probably mean a pay cut for paramedics which would make the position less attractive. I suspect that if scribes were introduced to New Zealand the bulk would come from administration or clerical roles within the hospitals, although there might be a very occasional EMT or EMA that undertook the role. Other potential scribe candidates may be an occasional medical, nursing, or paramedic student.

ER Technician

Like scribes the role of an ER technician could be performed by a paramedic. The question is would they want to? It would require some adaptation from paramedics as their scope of practice and autonomy would be considerably less than they are used to, and presumedly also less remuneration. If we were to compare this role to New Zealand it would be part orderly, part health care assistant, and part phlebotomist.

Physician Assistant/Associate

When talking to Dr Janikas at Samaritan Hospital it was apparent the reliance they had on PAs within the emergency department. As he stated they simply would not have enough Drs to manage without PAs. A shortage of Drs is not unique to the USA and many other countries, including New Zealand, are also experiencing a doctor shortage which has the potential to worsen with time.

There has been a PA trial run in New Zealand. Part I of this trial involved the use of US PAs in a surgical setting in Auckland in 2010-11. Part II of this trial involved US PAs working in four NZ settings (one rural emergency department and three primary care sites). The evaluation of both parts of this trial was positive (Siggins-Miller, 2012; Synergia, 2015). However there was criticism of the NZ PA trial, the way it was conducted, the final conclusions, and even the need for PAs from the New Zealand Nurses Organisation (NZNO, 2012).

One of the criticisms of the PA role by the NZNO was their feeling the PA role overlapped with the nurse practitioner (NP) role. However, there are differences between the NP and PA roles including underlying philosophy, and their background and training. PAs work to the medical model which tends to focus on the physical and biological causes of diseases and medical conditions. Whereas NPs work to the nursing model which tends to emphasize a more holistic approach. PAs come from a variety of allied health backgrounds and NPs come from a nursing background but both complete advanced degrees to qualify in their respective profession. NPs however do practice more independently than PAs who always work under the supervision, directly or indirectly, of a doctor.

PAs and NPs have existed side by side within the US healthcare system for decades and both have their place within that system. Despite the NZNO's reservations I believe that PAs could play an important role in the future of NZ healthcare, particularly in a rural setting.

New Zealand paramedics are in an ideal position to be the future PAs of NZ. They possess an undergraduate degree and have considerable healthcare experience. Indeed, when Israel introduced PA training very recently the entire first class of 30 candidates that graduated in 2017 all came from a paramedic background (Siegel, 2017).

Paramedics in Hospitals

All the hospital-based paramedics I spoke to expressed enjoyment and satisfaction with their role. Specifically, they enjoyed being part of a multi-disciplined medical and nursing team, and the interaction the role had with the doctors and nurses. They also expressed satisfaction in being in a role that had a high level of clinical skill use. Hospital paramedics also stated that they enjoyed the fact that they got to see individual patients for a longer period and that they would follow the definitive diagnosis the medical staff would make, and the treatment plan for that patient. Whereas paramedics working in the prehospital environment may not receive any feedback on a patient they transported to hospital and they could be oblivious as to what the final diagnosis was, what definitive treatment the patient received, and whether they improved or continued to decline.

With time the hospital-based paramedic roles in both Canada and England have become valued by both the medical and nursing staff they work alongside. Although there were some issues in the inception of these roles, with the passage of time any tensions or difficulties between the different health professions has eased.

In New Zealand the pay rates for paramedics are very similar to nurses depending on grades and time in service. So, there is not the financial advantage to employing hospital-based paramedics that there is in North America where paramedics are paid less than nurses.

I personally believe that the Croydon ECNP model would be better suited to the bigger NZ emergency departments, such as Middlemore or Auckland City Hospital. The resuscitation area of the Croydon University Hospital also receives patients that in New Zealand emergency departments would go to a separate monitoring area. An

ECNP type position could be used in the bigger NZ emergency departments within the resuscitation and monitoring areas.

However outside of the larger NZ emergency departments I believe the Halifax ED paramedic model has some advantages. Because this ED paramedic is task orientated and does not have specific patients assigned to them they can “float” and utilize the skills they possess to best advantage. Additionally, because the ED paramedic has a different scope of practice and is performing a different role to the emergency nurses I believe the Halifax ED paramedic model may be more palatable to the nursing profession.

It is also my belief that ICPs are better suited for any NZ future ED paramedic roles than ILS paramedics. By the time a NZ paramedic has achieved their ICP qualification they have accumulated a significant bank of clinical experience. Also the wider scope of practice held by ICPs offers some advantages over that of an ILS paramedic.

The CEC model appears to work well and provides the means for some small rural communities to maintain an after-hours emergency facility that they otherwise would not have been able to keep operational. Most of the rural or provincial emergency centers in NZ still have 24/7 coverage by a Dr even if after hours it is more often a junior Dr/s with a senior colleague available on-call. While at present the idea of these facilities being run without a Dr after hours might seem an anathema but it is difficult to predict future trends and personnel shortages.

Hypothetical examples of where a CEC type model might be applied in NZ could be in small towns like Westport, Oamaru, Taumarunui, and Hawera. All these centers

currently have a small emergency department with limited facilities on site. However they all have bigger centers with larger, more capable, emergency departments within 70-160 kilometers. If, in the future, these smaller centers were unable to maintain 24/7 staffing with a Dr then perhaps the CEC model where after-hours care is provided by a paramedic and nurse with telemedicine support could be a realistic proposition. Any patients that required care beyond that able to be provided by the paramedic and nurse could then be transferred to the nearby larger center either by helicopter or road ambulance.

The feedback from the Canadian CEC review and study is that there is an advantage to the CEC paramedic being the equivalent of an NZ ICP. In smaller centers within NZ staffing with an ICP may prove difficult, and an ILS Paramedic may be a more likely option. While the scope of practice for ILS Paramedics is not as comprehensive as ICP's they would still be able to provide skills and experience that would complement the nurses. The St John UCC service has shown that ILS Paramedics can successfully be taught skills and procedures in addition to the normal ILS Paramedic scope of practice.

There is nothing to prevent NZ emergency departments establishing paramedic positions now, and paramedics could operate under clinical practice guidelines from the emergency department clinical director. However, I can see how NZ hospitals would feel more comfortable with paramedics who are registered health professionals, and thus any patients they treat would be protected under the HPCAA.

To ensure success in the establishment of a hospital-based paramedic role there are a number of factors that should considered (adapted from Bache, 2001);

1. Select suitable candidates.

   Bache (2001) identified five main qualities for emergency nurse practitioners which I believe would be equally pertinent for ED paramedics. Those qualities are experience, common sense, the ability to accept responsibility, the ability to recognise limitations, and the ability to ask for help.

2. Define the contents of the role.

   The scope of practice for the paramedics should be clearly defined. What patients they are to see, what drugs can they administer, what interventions can they perform, and clear reporting lines.

3. Define the limits of the role.

   As important as defining the contents of the role is defining the limits. What situations would it be considered inappropriate for treatment by a paramedic?

4. Communicate with other health professionals.

   Communication is essential to the introduction of hospital paramedics. All staff within the department should be kept informed and able to provide feedback.

5. Agree guidelines and protocols.

   Once the conditions have been decided upon then guidelines and protocols should be agreed.

6. Teach the appropriate skills.

   An education and training package would need to be introduced to prepare paramedics to work in a hospital environment, and to undertake the specific skills of their role.

7. Be approachable.

   It is essential that senior medical staff are available if the paramedic is unsure of the management of a patient.

8. Be supportive.

   Like doctors and nurses, paramedics can make mistakes. An open policy where mistakes are recognised, corrected, and regarded as learning opportunities is essential.

9. Audit progress.

   The work of the paramedics should be audited.

10. Review progress.

    The role of paramedics should be reviewed periodically; and it should be seen as a dynamic role, rather than static to meet the needs of the population and organisation.

11. Maintain knowledge.

    Training should be ongoing to ensure paramedics competence, and enable them to stay up-to-date with current trends and technologies.

12. Encourage discussion.

    Teamwork in the emergency department is essential. Paramedics have the potential to be invaluable members of the department and thus should contribute to future plans.

13. Seek new blood.

    Potential hospital paramedics should be sought, and they should be encouraged to apply for hospital paramedic roles at a suitable stage in their careers.

14. Consider the future.

    How hospital-based paramedic roles develop will be dependent on the individuals involved, and the ability of senior staff to influence change and progress. A nationally recognised hospital-based paramedic competence and

curriculum framework would ensure consistency and that paramedics have the required knowledge and skills for the role.

Emergency Care Practitioners

Following the example of overseas paramedic practitioner models both St John and Wellington Free Ambulance introduced Urgent Community Care models, which to a large extent are focused on reducing the number of patients transported to already busy emergency departments. Both models involve teaching paramedics extra assessment skills and some extra clinical interventions/tools. Feedback from both the St John and Wellington Free Ambulance programs has been positive, although some issues were noted (Swain et al, 2010; Moore et al, 2013).

In 2008 a NZ ICP completed her master's dissertation looking at the feasibility of emergency care practitioners in NZ. She surveyed NZ ICPs and found a high degree of support for an ECP role within NZ ambulance services. There were some reservations about how the ECP role would work in NZ both from a funding point of view, and how it would be regulated in the absence of paramedic registration (Clapperton, 2008).

The ECP role has grown tremendously in the UK. Williams (2017) identified barriers to the implementation, and expansion, of ECP type roles as being related to a lack of understanding of the role "*due to variations in titles, scope of practice, education, skills and competence*". The literature and evaluation studies of the ECP role is scarce due to its relative "newness" of the role. But there is evidence of high patient satisfaction, reduced waiting times, and increased cost effectiveness (Hoskins, 2010).

With the eventual registration of paramedics in NZ it is not beyond the realm of possibility that we will see a wider promulgation of ECP type roles outside of ambulance services and into primary care settings, as has been evidenced in the

UK. In the future you may see NZ registered paramedics completing postgraduate ECP modules prior to beginning employment in the minor injury section of hospital emergency departments or general practice surgeries, either seeing patients within the surgery or undertaking house calls on behalf of the general practitioner.

Paramedics in Prisons and Police Custody Suites

The provision of health services within the justice and corrections area is a challenging area. This cohort of patients often have low health literacy and therefore have often poorly managed their health. But the medical staff working in this area enjoy the challenge and the interesting diversity of patients they see. This includes patients they might not get to see in the community as often they don't present to primary care in the traditional way. Prisoners are a very vulnerable group of people.

Working as a paramedic in this area can be a role with a lot of variety. They can be working in the prison medical clinic one minute and responding to a medical emergency within the prison the next. The emphasis is that the prison medical service is a multi-disciplined team and that paramedics are an integral part of those teams, and whose skills and experience complements the other team members.

The skills and experience of paramedics working with people of all backgrounds, and the experience of paramedics working in uncontrolled and unpredictable environments make them particularly well suited to the prison environment.

Conclusions & Recommendations

1. Hospital Based Paramedics

Consideration could be given to running a trial, with the support of Health Workforce New Zealand (HWNZ), of hospital-based paramedics. Ideally this should be done over two sites – the first a busy large metropolitan emergency department and then the second at smaller provincial emergency department.

Once this trial has been undertaken the role of ED paramedics within New Zealand can be evaluated on how they contributed to productivity and efficiency, improved patient outcomes, and offered value for money.

Smaller rural hospitals may be faced with having difficulty maintaining coverage with Dr's in the future, consideration could be given to trialing the Canadian CEC model of coverage with a paramedic and RN providing emergency care after hours.

2. Physician Assistants (PA)

Further work could be done to introduce the PA role to New Zealand. Although the NZ PA trial was not without its controversy overseas experience has shown that the PA role is a valuable, and many would say an essential, role within healthcare. PAs have the ability to reduce the workload of physicians and to partly compensate for a shortage for physicians.

Work needs to be done to assuage the critics of the New Zealand PA trial and reinforce that PAs in New Zealand will fill a workplace gap; and will be well trained, regulated, and accountable.

3. Emergency Care Practitioners

There has been success in New Zealand with the existing urgent community care (UCC) programs run by St John and Wellington Free Ambulance (Swain et al, 2010; Moore et al, 2013). Like in Halifax this has demonstrated that paramedics can be taught extra assessment skills and interventions not normally practised in the prehospital environment.

The New Zealand use of ECPs outside of ambulance service utilisation would also likely require the registration of paramedics to be implemented. An additional barrier to the use of ECPs in NZ would likely come from the nursing sector who could argue the niche being addressed by ECP's could be undertaken by further investment of nurses working at the top of their scope of practice and/or nurse practitioners.

Like the PA role for the ECP role to be introduced into New Zealand further work would need to be done to assess the cost of establishing and maintaining ECP training, and how they would be utilised alongside existing roles.

4. Paramedics in Prisons and Police Custody Suites

The New Zealand Department of Corrections could consider the introduction of paramedics within its prison medical services. Paramedics have skills and experience that could complement the nurses and physicians already employed in this area and add to a multi-disciplined team. Additionally, New Zealand Department of Corrections could consider whether they continue to provide prison medical services in house or whether there might be an advantage to contracting private medical companies to undertake this service as is the case in some places overseas.

Plans for Dissemination of Information

- Completion of a written report for the Winston Churchill Memorial Trust.
- Distribution of the final report, and discussions with, pertinent people and organisations within the NZ Health System including:
    - The Clinical Directors and Nurse Managers at emergency departments throughout NZ.
    - Primary Health Organisations (PHOs)
    - Ambulance New Zealand.
    - The Order of St John.
    - Wellington Free Ambulance.
    - The paramedic faculties of AUT and Whitireia Polytechnic.
    - The NZ Chapter of Paramedics Australasia.
    - The Ministry of Health, including NASO (National Ambulance Sector Office) and Health Workforce NZ.
    - The Department of Corrections Health Service.
- Articles on the use of paramedics within hospitals are being submitted to *Kia Tiaki (*the journal of the NZ Nurses Organisation) and *Response* (the journal of Paramedics Australasia), and possibly also the New Zealand Medical Journal.

The Final Word:

The education and capabilities of paramedics has expanded tremendously in the last two decades. Paramedics have the potential to make a greater contribution to the wider NZ health system. However, the UK Royal College of Emergency Medicine has noted non-medical practitioners, which includes paramedics and ECPs, should "*be viewed as a medium- to long-term investment and not a 'quick fix' for service and/or performance measures*" (The Royal College of Emergency Medicine, 2015).

Appendix A – AIME (Airway Intervention & Management in Emergencies) Course

AIME (Advanced)

A One-Day, Hands-on, Skill-focused Advanced Airway Learning Experience Using Clinical Cadavers.

AIME Advanced Audience: This program is designed for experienced clinicians. Clinicians will benefit most from this program if they have had prior airway management training/experience (AIME, Residency trained, significant 'field' experience).

Note: Potential attendees should be aware of the following
This course uses Clinical Cadavers that have been 'gifted' to the Human Body Donation program at Dalhousie. These bodies behave in a manner that is for the most part indistinguishable from live human tissue.

Course Highlights:

- High quality experienced and usually entertaining educators.
- 5-6:1 learner to instructor ratio.
- 5-6:1 Learner to clinical cadaver ratio.
- Hands-on skill-focused simulation.
- An opportunity to practice learned techniques using clinical grade cadavers.
- Exposure to advanced equipment including various video laryngoscopes and other indirect intubation equipment.

Program Objectives: Attendees will…

1. Build on their core airway skills to achieve positive patient outcomes in the acutely ill requiring airway management.
2. Reinforce best practice core skills using direct & indirect laryngoscopy.
3. Have an appreciation for airway topicalization in preparation for awake airway management.
4. Have multiple opportunities to perform and refine laryngoscopy (VL/DL) skills on clinical cadavers.
5. Have an opportunity to practice airway management decision-making and technical skills using clinical cadavers.
6. Perform various advanced airway management techniques including flexible bronchoscopic intubation, and cricothyrotomy.

Appendix B – Halifax Infirmary Procedural Sedation (PSA) form

Capital Health

Procedural Sedation and Analgesia Assessment and Monitoring Form

Date: _____ Allergies: _____

Written consent: Yes ☐ if No, reason: _____

Weight (kg): _____

Assisting healthcare professional: _____

Accompanying adult for discharge; Name: _____ Phone: _____

Indication for Procedure

- ☐ Orthopedic
- ☐ Incision and drainage
- ☐ Imaging/behavior control
- ☐ Wound care
- ☐ Lumbar puncture
- ☐ Chest tube placement
- ☐ Cardiac
- ☐ Endoscopy _____
- ☐ Dental Surgery
- ☐ Other _____

Intended Depth of Sedation

- ☐ Anxiolysis
- ☐ Procedural/Moderate sedation
- ☐ Deep sedation

Physician Discipline and Name

- ☐ Emergency _____
- ☐ Orthopedics _____
- ☐ Surgery _____
- ☐ Gastroenterology _____
- ☐ Plastics _____
- ☐ Anesthesia _____
- ☐ Oral Surgery _____
- ☐ Other _____

Last po intake (h)

Liquid: ☐ < 2 ☐ 2 - 6 ☐ > 6

Solid: ☐ < 2 ☐ 2 - 6 ☐ > 6

Bowel Prep ☐ Yes ☐ No

Pathologic Substance use: ☐ Alcohol ☐ Opioid

List: _____

ASA Classification (circle)

I	Healthy
II	Mild Systemic Disease; No functional limits
III	Severe Systemic Disease; Functional limitations
IV	Severe Systemic Disease; Constant threat to life
V	Moribund; Will not survive without procedure

Cardio/Respiratory Co-morbidities

No Unknown Yes

List: _____

Clinical Assessment I

Chest exam: Normal Abnormal

Specify: _____

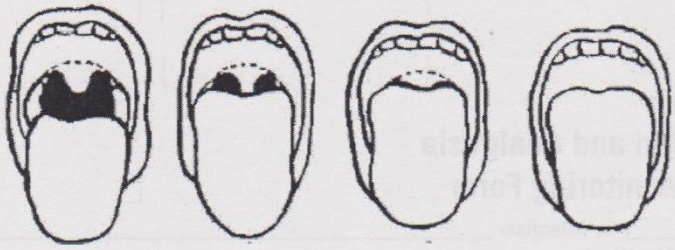
Clinical Assessment II Airway

Malampatti score	1 2	3 4
Hyomental distance	≥ 3	< 3 fingers
Mouth opening	≥ 3	< 3 fingers
Upper lip bite	able	unable
Neck ROM concern	N	Y
Neck pathology	N	Y
Beard	N	Y
Obese	N	Y
Edentulous	N	Y
Snoring history	N	Y

Medication Records

CD2560MR_01_2015

Malampatti scoring system



1 2 3 4

Relevant Medical History

_____
_____
_____
_____
_____
_____

Medications

_____
_____
_____
_____
_____
_____

Patient Condition Pre-Procedure

Vital Signs: BP_____ O_2Sat_____ HR_____ RR_____ T_____

RASS_____ Pain (0-10)_____ O_2 therapy initiated: _____h (time) at _____L/min NP or FM

IV Therapy

Time started	Volume	IV Solution	Rate (mL/h)	Site	Size	Time stopped	Amount absorbed	Initials

Procedural Sedation Medication Record - name/route on left, note dose under appropriate time

	Time										
Medication											
Initials											

Assessment Record During Procedure

Monitor every 5-10 minutes during procedure.

Time started: _____ Time finished: _____

RASS: Combative **+4** Drowsy **-1**			Very agitated **+3** Light sedation **-2**		Agitated **+2** Moderate sedation **-3**		Restless **+1** Deep sedation **-4**	Alert & calm **0** Unarousable **-5**
Time	BP	Pulse	RR	SaO_2	RASS	$ETCO_2$	Comments / Medications	

Post Procedure Assessment Record

Monitor every 10-15 min post procedure until return to baseline +/- 20%, then every 30-60 min until discharged.

RASS: Combative **+4** Drowsy **-1**			Very agitated **+3** Light sedation **-2**		Agitated **+2** Moderate sedation **-3**		Restless **+1** Deep sedation **-4**	Alert & calm **0** Unarousable **-5**
Time	BP	Pulse	RR	SaO_2	RASS	$ETCO_2$	Pain	Comments / Medications

Progress Notes

Date (YYYY/MM/DD)	**Time** (24 h)	**Progress Notes**

Adverse Events

- ☐ Hypoxia (SaO_2<90%)
- ☐ Apnea > 30 seconds
- ☐ Hypotension (SBP<100 or 85 if baseline <100 mm Hg)
- ☐ Arrhythmia; Specify _____
- ☐ Vomiting
- ☐ Other _____
- ☐ None

Intervention(s)

- ☐ Increase FiO_2
- ☐ Airway repositioning maneuver
- ☐ Oral/Nasal airway
- ☐ Assisted ventilation
- ☐ Endotracheal intubation
- ☐ Other rescue device
  Specify _____
- ☐ Rescue medication
- ☐ None

Patient Opinion of Procedure

- ☐ Unpleasant
- ☐ No recollection/Indifferent
- ☐ Satisfied

Maximum Depth of Sedation Achieved

- ☐ Anxiolysis
- ☐ Procedural/Moderate sedation
- ☐ Deep sedation
- ☐ General anesthesia

Patient Discharge Criteria - must score YES on all **bolded** criteria to be discharged

Airway patent and stable	☐ YES ☐ NO	Able to sit	☐ YES ☐ NO
Vital signs within 20% of baseline	☐ YES ☐ NO	Able to talk (age appropriate)	☐ YES ☐ NO ☐ N/A
Awake and oriented x 3	☐ YES ☐ NO	Tolerating oral fluids	☐ YES ☐ NO ☐ N/A
Pain management plan discussed	☐ YES ☐ NO	Able to mobilize	☐ YES ☐ NO ☐ N/A
Accompanied by responsible adult	☐ YES ☐ NO		

Comments: _____

_____

Discharge instructions reviewed	☐ YES ☐ NO ☐ Verbal ☐ Written material provided
Discharge home with	☐ Medications ☐ Dressing supplies ☐ Other _____
Prescriptions	☐ YES ☐ NO
☐ IV removed Time:_____	by: _____
Dentures returned	☐ YES ☐ NO ☐ Not applicable
Glasses/Other aids returned	☐ YES ☐ NO ☐ Not applicable
Surgical/Procedural site dressing checked	☐ YES ☐ Not applicable
Discharged ☐ Home	☐ Nursing Unit ☐ Other: _____
Discharged via ☐ Private vehicle	☐ Cab ☐ EHS ☐ Other: _____
Discharge time: _____	Discharged by: _____

Signature	Initial	Signature	Initial

Appendix C – Halifax Infirmary Post-RSI data form

___/___/___
Date Form Filled Out

Patient Sticker

Attending:_____
Resident: _____
Circle one (EM-RC EM-CFP Off service Medic Other_____)
PGY: I II III IV V *Circle one*

O Trauma → Mechanism _____
Injuries _____
O Medical → Diagnosis_____

Weight____
Height____

Was there a FAILED intubation attempt *PREHOSPITAL*? O Yes O No
If **YES**, then: O NRB O BVM O King O Cric O Esophageal Intubation O Other

Did the patient **FAIL** BiPAP in the ED? O Yes O NA If **YES**, for how long? _____ min

PREOX - AP OX

Preox O Apox O **NRB Face Mask:** O 5L/min O 10L/min O 15L/min O >15L/min O Flush O Other_____
Preox O Apox O **Nasal Cannula:** O 5L/min O 10L/min O 15L/min O >15L/min O Other_____
Preox O Apox O **BVM (spontaneous):** O 5L/min O 10L/min O 15L/min O >15L/min O Flush PEEP Valve? O Y (____ cm)
Preox O Apox O **BVM (assisted):** O 5L/min O 10L/min O 15L/min O >15L/min O Flush PEEP Valve? O Y (____ cm)
Preox O Apox O **Vapotherm HFNC:** O 40L/min O Other _____
Preox O Apox O **BiPAP:**

PREOX Position: O **Supine**
O **Head Elevated:** O 30 degrees O 45 degrees O 60 degrees O 90 degrees O Ramp

PREOX Duration: O 1 min O 2 min O 3 min O 4 min O 5 min O >5 min ⇨ O Estimated *or* O Timed

PREOX Efficacy: ***BEFORE*** PREOX: SpO_2 _____% ⇨ ***AFTER*** PREOX: SpO_2 _____%

Blood Pressure: ***BEFORE*** _____ ***AFTER*** _____

Reason for Intubation:	**Intubation Technique**	**Intubation Drugs Used**
O Airway Protection	O RSI Cricoid Pressure: O Y O N	O Succinylcholine_____ O Etomidate_____
O Hypoxemic (Type I) Resp Failure	O DSI	O Rocuronium _____ O Ketamine _____
O Hypercarbic (Type II) Resp Failure	O Awake topical O **with sedation**	O Propofol _____ O Epi: Pre O Post O
O Patient Control	O Sedation only	O Phenylephrine_____ Pre O Post O
O Shock	O Arrest/Near Arrest, NO MEDS	O Norepinephrine_____ Pre O Post O
O Other	O Cric	O Lidocaine: 4%___ 5%___ 10%___
	O Awake / Switch to RSI	O Other_____

Difficult Airway Factors

A. Difficult Situational Factors (check **ALL** that apply):
O Patient Uncooperative O Right Equipment Not Available O Other_____ O None

B. Difficult Laryngoscopy/Intubation Factors (check **ALL** that apply):
O Cervical collar or Immobility O Small Mandible O Restricted ROM Neck/Collar O Blood in Airway
O Facial/Neck Trauma O Obesity O Restricted Mouth Opening O Vomit in Airway
O Airway Edema O Large Tongue O Other _____ O None

C. Difficult Physiologic Factors (check **ALL** that apply):
SEVERE: O Hypoxemia O Hemodynamic Instability O Metabolic Acidosis O RV Strain O Other _____ O None

D. Difficult Ventilation Factors (Face Mask & Supra Glottic Device) (check **ALL** that apply):
O Beard O Poor Mask Seal O Obesity O Age>55 O No Teeth
O Stiff Lungs O Restricted Mouth Opening O Sleep Apnea O Disrupted Airway Anatomy O Other_____ O None

E. Difficult Surgical Airway Factors (check **ALL** that apply):
O Neck Surgery/Mass/Radiation O Obesity O Limited Neck Access O Distorted Laryngeal Anatomy O Other_____ O None

Pre-Intubation Difficult Airway Assessment

A. Situational Difficulty: O Easy O Challenging O Difficult
B. Intubation Difficulty: O Easy O Challenging O Difficult
C. Physiologic Difficulty: O Easy O Challenging O Difficult
D. Ventilation Difficulty: O Easy O Challenging O Difficult
E. Surgical Airway Difficulty: O Easy O Challenging O Difficult
⇨ ***OVERALL DIFFICULTY:*** O Easy O Challenging O Difficult

Over ⇨

Outcome

Lowest SpO_2 ***DURING*** Intubation:_____%

Attempt #1	Attempt #2	Attempt #3	Complications:
Operator:_____	Operator:_____	Operator:_____	O NONE
Device: _____	Device: _____	Device: _____	O Hypoxia (<90)
Options: *circle size if applicable*	Options: *circle size if applicable*	Options: *circle size if applicable*	O Hypotension (<90mm)
O Mac: 3 / 4	O Mac: 3 / 4	O Mac: 3 / 4	O Aspiration
O Glidescope Mac: 3 / 4	O Glidescope Mac: 3 / 4	O Glidescope Mac: 3 / 4	O Dysrhythmia
O King Vision	O King Vision	O King Vision	O Dental Injury
O Hyperangulated 3 / 4	O Hyperangulated 3 / 4	O Hyperangulated 3 / 4	O Laryngospasm
O aScope	O aScope	O aScope	O Cuff Leak
O Other	O Other	O Other	O Esophageal Intubation
Stylet: O Standard O None	Stylet: O Standard O None	Stylet: O Standard O None	O Extubation
Bougie: O Yes O No	Bougie: O Yes O No	Bougie: O Yes O No	O Mainstem
Outcome (check **ONE**):	**Outcome** (check **ONE**):	**Outcome** (check **ONE**):	O Cardiac arrest
O **SUCCESS**	O **SUCCESS**	O **SUCCESS**	O Other_____
O **FAILED**	O **FAILED**	O **FAILED**	
Reason for Failure:	**Reason for Failure:**	**Reason for Failure:**	
O Can't See Cords	O Can't See Cords	O Can't See Cords	
O Can't Direct Tube	O Can't Direct Tube	O Can't Direct Tube	
O Tube Wouldn't Pass	O Tube Wouldn't Pass	O Tube Wouldn't Pass	
O Equipment Failure	O Equipment Failure	O Equipment Failure	
O Other_____	O Other_____	O Other_____	

Cormack-Lehane Grade of Laryngoscopic View

	Grade 1	Grade 2	Grade 3	Grade 4
				
	All Cords	Partial Cords	Epiglottis only	Tongue only
DL View (Attempt #):	_____	_____	_____	_____
VL View (Attempt #):	_____	_____	_____	_____

ELM Used? O Y O N

ELM Used? O Y O N

Tube Delivery Score (*DIRECTING* the tube to the glottis)	Tube Advancement Score (*ADVANCING* the tube down the trachea)	Stylet Withdrawal? (to *FACILITATE* tube passage)	Tube Rotation?
O I Very Easy O II Somewhat Difficult O III Moderately Difficult O IV Extremely Difficult	O I Very Easy O II Somewhat Difficult O III Moderately Difficult O IV Extremely Difficult	O **Yes** O **No**	O **Yes** O **No**

Video Laryngoscopy Section

If using Video Enabled MAC blade (C-MAC Mac/Miller, GlideScope-MAC or McGrath-MAC):

O **Used as DL Only** Attempt# _____ O **Used as VL Only** Attempt# _____ O **DL to VL Switch** Attempt# _____ O **VL to DL Switch** Attempt# _____

Lens Contamination (secretions, vomit, blood)	**Lens Fogging** (moisture)
O **None**	O **None**
O **Mild** (view minimally obscured)	O **Mild**
O **Moderate** (view partially obscured)	O **Moderate**
O **Severe** (view completely obscured)	O **Severe**

Please provide any important comments regarding the intubation:

_____

_____

_____

_____

Appendix D – Halifax Infirmary Guidelines for Sending Patients to Pod 5

Guidelines for Sending Patients to Pod 5

Ideal	Selected	Occasional	Rare	Disaster only
When ED flowing smoothly, liaise with Pod 1 to help out if they can	Pods 1-4 congested, filter by FLOW Physician or POD 3-5 Physician	ED very overcrowded. Discuss ways to serve selected lower CTAS at the expense of CTAS 4-5	ED very overcrowded. Discuss ways to serve lower CTAS. Abandon ability to manage CTAS 4-5 – declared in WR	System totally overwhelmed, disaster declared
• Sprains • Fractures • Cellulitis-stable • Lacerations ambulatory • ENT infections, stable • Med requests • Minor MSK injuries • Back pain ambulatory • Social concerns (minor, ambulatory) • Minor head injury • Dislocations • Suspected DVT • Chest pain <35, normal EKG	• UTI sx. • Asthma • Headaches • Cough fever, stable, < 60 • Back pain non-ambulatory • Major lacerations (stable) • Anxiety	• Occular/opthalmic* • Epistaxis* • Selected infective syndromes in older patient. • GYNE patients • Hip #'s *Discuss equipment needs with Pod 3-5 or Flow physician	• Orthopedic admits, • Stable gen surg, cardiology** ** *Consider monitoring requirements (limited capability in Pod 5 / no central monitor)*	• Dying patients • Major trauma • Cardiac type chest pain

Pt. placement is under the direction of the Clinical Lead. If pt. requires additional care, notify CL ASAP.

Dr. Sam Campbell
Site Chief
Charles V. Keating Trauma and Emergency Centre

Updated: September 2016

Appendix E – Croydon Hospital Emergency Care Nurse/Paramedic (ECNP) – Job Description

Croydon Health Services NHS
NHS Trust

Job Description

JOB TITLE:	**Emergency Care Nurse/Paramedic**
DIRECTORATE:	**Hospital Based Pathways**
DEPARTMENT:	**Emergency Department**
BAND:	**Band 6**
RESPONSIBLE TO:	**Lead Practitioner for Resuscitation Specialists**
ACCOUNTABLE TO:	**Emergency Department Matron**
PROFESSIONALLY ACCOUNTABLE TO:	**Director of Nursing, Midwifery and AHP**

Job Summary

- To work primarily in the resuscitation room to provide, develop and co-ordinate high quality nursing care to patients attending with emergency care needs
- To participate in the support and professional development of all staff with specific relation to resuscitation and emergency care
- To ensure that care provided in the resuscitation room is evidence based and that such care follows agreed specialist pathways (e.g. sepsis bundle, therapeutic hypothermia)
- To maintain a safe and efficient resuscitation room through efficient resource utilisation and quality assurance mechanisms

Key Relationships

- Emergency Department Staff
- London Ambulance Service
- 24/7 Team and Resuscitation Services
- Multi-disciplinary team

Main duties and responsibilities

Clinical Practice

1. To work in all areas of the department if required, in line with need and own scope of competence
2. To demonstrate specialist emergency care expertise underpinned by theory and incorporating evidence-based practice
3. To maintain accountability and demonstrate skills in undertaking assessment, planning, implementation and evaluation of patients presenting with emergency care needs without supervision
4. To take responsibility of the accurate assimilation, interpretation and reporting of clinical data in relation to emergency care patients and take appropriate action
5. To review and modify planned interventions in response to the needs of emergency care patients acting independently where appropriate and seeking advice where required.
6. To order appropriate diagnostic investigations, such as x-rays and laboratory tests
7. To prioritise own work and that of others to ensure the resuscitation room is managed effectively
8. To ensure the provision and correct utilisation of specialist equipment for use in emergency care including modern resuscitation devices such as adult intraosseous, mechanical CPR and EtCo2
9. To promote standards of care with the Lead Practitioner and in conjunction with senior colleagues develop these, incorporating current professional recommendations and evidence based pathways
10. To promote a multidisciplinary approach to care, recognising, utilising and valuing the expertise of other disciplines
11. To act as a positive role model and resource for health professionals
12. To provide leadership for the nursing team to ensure a high standard of patient care in the resuscitation room, providing support and supervision as required (including post-event debrief)
13. To maintain personal contact with patients, relatives and carers; being sensitive to their needs for courtesy, dignity and privacy
14. To maintain accurate and up to date nursing documentation and ensuring that confidentiality is respected
15. To contribute to the local resolution, investigation and follow up action of any informal or formal complaints
16. To ensure that in the enactment of HMIMMS protocol that the action cards for the resuscitation room are deployed effectively and in line with good communication

Organisational

1. To co-ordinate the admission / reception of new patients and arrange care of their property in accordance with Trust policy.
2. To liaise with the Clinical Site Practitioner +/- ED shift leader to co-ordinate the allocation of in-patient beds
3. To communicate and co-operate with other wards and departments giving accurate information as required, particularly with regard to notification of incidents and accidents to staff, patients and visitors
4. To maintain and monitor a safe and clean resuscitation room in accordance with the Trust policy
5. To represent the resuscitation practitioners at meetings and actively participating in projects relevant to this area
6. To maintain and monitor adequate stock levels and ensuring economic use of resources within budgetary constraints
7. To be familiar with CERNER or any other computerised system integral to the running of the department

Educational and Research

1. Take a role in the education and assessment of all pre and post registration students in accordance with University, Trust and NMC/GMC/HPC requirements
2. To provide clinical and educational support as needed to ensure staff caring for emergency care patients develop and maintain the necessary level of competence
3. To be responsible for own personal and professional development and practice, recognising own limitations and the needs for continuing education
4. To work with the Emergency Care Matrons and the Practice Development Nurse to deliver skills based education programmes for ED staff in emergency/resuscitation care
5. To work with the Emergency Care Matrons to participate in quality and audit and research initiatives to promote excellent standards of nursing care

GENERAL

1. To work in accordance with the Trust's Here for You standards to consistently demonstrate the behaviours required to fulfil the promises we have made to the people of Croydon. These promises, developed with our patients, carers and staff help us deliver the pledges in the NHS Constitution and our own corporate objectives.

   The post holder is required to carry out his/her role in accordance with the organisation "here for you" promises, standards and behaviours, ensuring that colleagues and the people we serve feel **cared for**, feel **in safe hands**, feel **confident** in their treatment, feel we **value their time**, and feel that our service continues to **improve** all the time

2. To ensure that Croydon Healthcare Services Trust's policies and procedures are adhered to.

3. To have responsibility for the Health, Safety and Welfare of self and others and to comply at all times with the requirements of the Health and Safety Regulations and the Trust's Health and Safety policies and procedures.

4. To ensure confidentiality at all times, only releasing confidential information obtained during the course of employment to those acting in an official capacity in accordance with the provisions of the Data Protection Act and its amendments.

5. To work in accordance with the Trust's policies to eliminate unlawful discrimination and promote equality and diversity in the workplace. To positively promote at all times equality of opportunity in service delivery and employment in accordance with Trust policies, regardless of age, disability, race, nationality, ethnic or national origin, gender, religion, belief, sexual orientation or domestic circumstances.

6. To adhere to the Trust Infection Control Policy, procedures and guidelines, and in particular practice strict hand hygiene at all times while carrying out clinical duties, in line with the responsibilities placed on employees by the Health Act 2006: Code of Practice

   for the prevention and control of healthcare associated infections (HCAIs). The prevention and control of HCAIs must be embedded into everyday clinical practice and applied consistently.

7. All clinical staff hold responsibility for ensuring they have sound knowledge of standard infection control precautions and that no omission on their part or within the sphere of their responsibility is detrimental to the interests or safety of their patients, visitors and colleagues. Clinical staff must keep their infection control knowledge and skills up to date by attending the Trust's mandatory infection control training, a record of which will be kept and information provided to line managers as required.

8. To comply with the Trust's Safe Guarding Children and Vulnerable Adults policies, procedures and protocols. All individual members of staff (paid or unpaid) have a duty to safeguard and promote the welfare of children, young people and vulnerable adults This will require you to:

- Ensure you are familiar with and comply with the London Child Protection Procedures and protocols for promoting and safeguarding the welfare of children and young people.
- Ensure you are familiar and comply with the Croydon Multi Agency Safeguarding Vulnerable Adults Pan London Procedures.
- Ensure you are familiar and comply with local protocols and systems for information sharing.
- Know the appropriate contact numbers and required reporting lines.
- Participate in required training and supervision.
- Comply with required professional boundaries and codes of conduct

NOTE:

- A child is someone under the age of 18 (this would include unborn children).
- A vulnerable adult is 'someone who is or may be in need of community care services by reason of mental or other disability, age or illness; and who is or may be unable to take care of him or herself, or unable to protect him or herself against significant harm or exploitation' (this includes carers).

Copies of the Protocols and Procedures are available on the Trust Intranet under Child Protection. Staff are advised on how to access the appropriate contact numbers and the Protocols and Procedures when attending Safeguarding training. Updates and revisions are notified to all staff via 'What's New'.

9. To work within the NMC's Code of Professional Conduct and Scope of Professional Practice.

10. Budget Holders are responsible for adherence to Standing Financial Instructions

11. Managers are responsible for adherence of maintaining expenditure within budget and addressing deviations from budget

12. To undertake such other duties as may be reasonably required from time to time as are consistent with the responsibilities of the post.

This job description is not an exhaustive document, but is a reflection of the current position. The job holder may from time to time be asked to undertake other reasonable duties. Any change will be made in discussion with the job holder in light of service needs.

Job Description Agreement

This job description can be updated annually as part of the personal development plan.
This job description has been updated and agreed by:

Current post holder : ……..

Date: ……..

Line Manager: ……..
Date ……..

Croydon Health Services NHS
NHS Trust

Person Specification - (6) Resuscitation Nurse Specialist

Criteria	Essential	Desirable	Assessment
Education and Qualifications	Registered General Nurse or Paramedic (NMC/HCP registration as appropriate) 3 years post reg experience: minimum 2 years in acute setting Mentoring Qualification Post-graduate BSc (hons) or working towards Immediate Life Support Paediatric Immediate Life Support Trauma course qualification	HMIMMS Advanced Life Support European Paediatric Life Support Advanced Assessment Course	AP/I
Skills and Abilities	Efficient leadership skills Ability to promote and maintain Trust policy in the acute setting Excellent communication skills Evidence of audit Ability to balance and prioritise workload Compassionate and a positive role model with a robust approach to problem solving	Evidence of project management	AP/I/T
Experience	Significant experience of working within an acute setting such as pre-hospital, emergency or intensive care Knowledge of Trust policy and procedures especially clinical and HR policy Evidence of sound managerial principle Knowledge of risk management issues	Previous experience in a critical care environment	AP

Croydon Health Services NHS
NHS Trust

VALUES BASED PERSON SPECIFICATION
ESSENTIAL CRITERIA

Values based recruitment (VBR) is a national initiative to help attract and select employees whose personal values and behaviours align with the NHS values as outlined in the NHS Constitution.

As part of the initiative, Trusts have each established and defined their own organisational values, and the behaviours associated with them. Croydon Health Service has a well-established set of values in our five 'Here for you' patient promises:

- You feel cared for
- You feel in safe hands
- You feel we value your time
- You feel it's getting better
- You feel confident in your treatment

If you are shortlisted for interview you will be asked questions to demonstrate when you have displayed one or all of these values. We would encourage you to consider some examples so that you are prepared for your interview.

VALUE	CRITERIA
You feel cared for	I treat my colleagues with respect ensuring that I am polite, courteous and helpful at all times I treat my colleagues with dignity and fairness and value diversity I respect the beliefs of others I consistently display a good attitude and behaviour I consistently deliver high quality care (N/C) My care is compassionate and based on empathy, kindness, respect and dignity (N/C)
You feel in safe hands	I always ensure that the working environment is safe I accept responsibility for my actions, performance and behaviours in the workplace I speak up and I am an advocate for safety and always challenge poor attitude and behaviours I innovate and seek to improve local systems and processes to improve safety and the environment I have the knowledge and skills to deliver the highest standards of care based on research and evidence (N/C)

VALUE	CRITERIA
You feel confident	I always act professionally with my colleagues I communicate regularly and effectively with colleagues I work as an effective team member I share skills and expertise for the benefit of colleagues I listen to patients and involve them in decision making – 'no decision about me without me' (N/C) My commitment is visible to both colleagues and to the patients (N/C)
You feel we value your time	I arrive on time and keep to time I am committed to improvement I keep up to date with best practice I can prioritise work and adapt to changing circumstances
You feel it's getting better	I strive for and encourage improvement, innovations and excellence I learn from my experiences and mistakes to simplify processes and eliminate waste I use best practice examples to influence others I am driven to achieving the Trust's objectives

Appendix F – University of the West of England (UWE) - Bristol – Emergency Care Practitioner (ECP) Training

The Emergency Care Practitioner training course run by UWE consists of 2 modules: *Clinical Examination Skills for Urgent & Emergency Care Practitioners* and *Clinical Reasoning for Urgent & Emergency Care Practitioners*. Completion of these two modules takes six and a half months (part-time) and has course fees of £2,674. The prerequisite for entry into the UWE ECP training courses is applicants must be a registered health professional.

Clinical Examination Skills for Urgent and Emergency Care Practitioners

- History taking e.g. using a focused systematic approach, presenting complaint, past medical history, medications.
- Review of systems e.g. neurological, musculoskeletal.
- Note taking and documentation skills e.g. recording contemporaneous, accurate notes of examination, diagnosis, treatment and management options that are evidenced based.
- Clinical examination skills and techniques in a variety of body systems, with an additional focus on musculoskeletal trauma diagnosis and management.,
- Minor injury and major illness management in emergency and urgent care settings.
- Evidenced based management of injury and illness, including patients with mental health presentations.
- X-ray interpretation.
- Managing risk and uncertainty safely in emergency and urgent care settings.
- Managing a variety of presentations in emergency and urgent care across a broad age span, children, adults and older adults.

Clinical Reasoning for Urgent and Emergency Care Practitioners

- Main decision-making theories, managing uncertainty and risk in emergency and urgent care settings and strategies to reduce clinical risk for patients and practitioners.
- Clinical judgement strategies to develop skills and the ability to objectively articulate clinical findings.
- Evidenced based management of illness and injury presentations in emergency and urgent care setting.
- Legal and ethical issues concerning autonomous practice in emergency and urgent care settings.
- Professional issues related to and drivers to role expansion in relation to autonomous practice.
- The national policy and context of autonomous practice in emergency and urgent care settings.
- Making safe and appropriate referrals, health education, the use of clinical decision rules.

Appendix G – Mitie Induction Training Programme for Health Professionals working in custodial roles

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9am - 10am	INTRODUCTION TO COURSE	**FITNESS FOR DETENTION**	**ROAD TRAFFIC SECTIONS and OFFENCES PROCEDURES**	**AFTER TASER CARE** **CS and PAVA**	Course Questions/Revision
10am - 11am	FORENSIC PRACTICE OVERVIEW	**SUBSTANCE MISUSE**			Death in Custody
11.15am - 11.30am	BREAK	BREAK	BREAK	BREAK	BREAK
11.30am - 12md	ORGANISATIONAL AND POLICE STRUCTURE OVERVIEW	**MENTAL HEALTH**	**ROAD TRAFFIC PRACTICAL**	**CHILD PROTECTION And ADULT SAFEGUARDING**	DEATH In CUSTODY
12md - 13.00	THE ROLE OF PACE AND AUTHORISED PROFESSIONAL PRACTICE				SCENE OF DEATH CORONER
13.00 - 13.30	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
13.30 - 14.00	PERSONAL SAFETY	**APPROPRIATE ADULT**	**INJURIES**	**FFR**	**MCQ TEST**

<table>
<tr><th></th><th>MONDAY</th><th>TUESDAY</th><th>WEDNESDAY</th><th>THURSDAY</th><th>FRIDAY</th></tr>
<tr><td>14.00
-
14.30</td><td rowspan="2">CONSENT and
CONFIDENTIALITY
and
MEDICAL RECORDS</td><td>FITNESS FOR
INTERVIEW</td><td rowspan="2">BODY MAPPING and
MORE INJURIES
And
INJURY QUIZ</td><td>Review of Assessments
feedback</td><td>MCQ TEST</td></tr>
<tr><td>14.30
-
15.15</td><td>MEDICATION
MANAGEMENT</td><td>COURTS</td><td>COURT</td></tr>
<tr><td>15.15
-
15.30</td><td>BREAK</td><td>BREAK</td><td>BREAK</td><td>BREAK</td><td>COURT</td></tr>
<tr><td>15.30
-
16.00</td><td>Assessment Forms and
completion</td><td rowspan="2">SCHEDULE 2/3
DRUGS
and
DRUG
CONCEALMENT</td><td rowspan="2">PGDs
and
PGD
OPEN BOOK TEST</td><td>FORENSIC SAMPLING
FFLM Guidance</td><td>COURT</td></tr>
<tr><td>16.00
-
17.00</td><td>STATEMENT WRITING</td><td>PRACTICAL SESSION
On SAMPLING</td><td>COURT</td></tr>
</table>

Appendix H – Locations visited

Date	Institution/Facility/Programme	Location
23/05/18	Samaritan Hospital	Troy, New York
23/05/18	Hudson Valley Community College	Troy, New York
29/05/18	Pod 5, Halifax Infirmary, QEII Hospital	Halifax, Nova Scotia
29/05/18	Sim Center, Halifax Infirmary, QEII Hospital	Halifax, Nova Scotia
30/05/18	EHS HQ	Halifax, Nova Scotia
30/05/18	Pod 2, Halifax Infirmary, QEII Hospital	Halifax, Nova Scotia
31/05/18	Dartmouth General Hospital	Halifax, Nova Scotia
01/06/18	Sim Center, Halifax Infirmary, QEII Hospital	Halifax, Nova Scotia
01/06/18	Centre for Collaborative Clinical Learning and Research, Dalhousie University	Halifax, Nova Scotia
03/06/18	Pod 2 & 5, Halifax Infirmary, QEII Hospital	Halifax, Nova Scotia
04/06/18	College of Paramedics of Nova Scotia	Halifax, Nova Scotia
05/06/18	EMC Inc	Halifax, Nova Scotia
07/06/18	EHS Lifeflight	Halifax, Nova Scotia
12/06/18	Croydon University Hospital	London, England
13/06/18	Croydon University Hospital	London, England

Appendix I - Interviewees

Date	Name	Organisation	Description
23/05/18	Dr John Janikas	Samaritan Hospital	Emergency Dr/Clinical Director
23/05/18	Prof. Michael Daily	Albany Medical College	Emergency Dr/ Director Pre-Hospital Care Services & Education
23/05/18	Craig McMillan	Hudson Valley Community College	Paramedic tutor
23/05/18	Dr Jackie Weaver	Samaritan Hospital	Emergency Dr
24/11/18	Robert Philip	Hudson Valley Community College	Paramedic Program Coordinator
29/05/18	Pat Froese	Halifax Infirmary	Critical Care Paramedic
29/05/18	Mark Priest	Halifax Infirmary/Praxes	Primary Care Paramedic
29/05/18	Alan Lapierre	Halifax Infirmary	Critical Care Paramedic
29/05/18	Donna Warren	Halifax Infirmary	Simulation Coordinator
29/05/18	Dr Ron Stewart	Dalhousie University	Professor of Emergency Medicine
29/05/18	Rob MacKinley	Halifax Infirmary	Health Services Manager
30/05/18	Dr Andrew Travers	Emergency Health Services	Emergency Dr/Provincial Medical Director
31/05/18	Lori Sanderson	Dartmouth General Hospital	Health Services Manager
31/05/18	Daryl Chickness	Dartmouth General Hospital	Advanced Care Paramedic
31/05/18	Nikki Kelly	Halifax Infirmary	Nurse Practitioner

NB. – Some people were interviewed on more than one occasion. For the purpose of this record only the first instance is recorded.

Appendix I – Interviewees continued

Date	Name	Organisation	Description
31/05/18	Dr Sam Campbell	Halifax Infirmary/Praxes	Emergency Dr/ Chief Halifax Infirmary Emergency Department/ Professor, Dalhousie University Department of Emergency Medicine
31/05/18	Peter MacDougall	Halifax Infirmary	Health Services Director
31/05/18	Kelly Conrod	Halifax Infirmary	Primary Care Paramedic
31/05/18	Peter Hico	Halifax Infirmary	Advanced Care Paramedic
31/05/18	Mark Macpherson	Halifax Infirmary	Critical Care Paramedic
31/05/18	Ryan Fitzpatrick	Halifax Infirmary	Advanced Care Paramedic
01/06/18	Laurie Thomas	Dalhousie University	Clinical Skills Coordinator
04/06/18	Karl	College of Paramedics of Nova Scotia	Executive Director
05/06/18	Mike Comeau	EHS	Extended Care Paramedic
05/06/18	Rob Groom	EHS/CEC Twin Oaks	Advanced Care Paramedic
07/06/18	Dana Fidgen	EHS LifeFlight	Clinical Supervisor
12/06/18	Connor Bond	Croydon University Hospital	Emergency Care Nurse/Paramedic (Nurse)
12/06/18	Dr Oliver Spencer	Croydon University Hospital	Emergency Doctor
12/06/18	Emma Page	St Georges University	Student Physician Associate
12/06/18	Amanda Weeks	Croydon University Hospital	Emergency Care Nurse/Paramedic (Nurse)

NB. – Some people were interviewed on more than one occasion. For the purpose of this record only the first instance is recorded.

Appendix I – Interviewees continued

Date	Name	Organisation	Description
13/06/18	Helen Gleave	Croydon University Hospital	Emergency Care Nurse/Paramedic (Nurse)
13/06/18	Fleur Mosley	Croydon University Hospital	Lead Emergency Care Nurse/Paramedic (Paramedic)
13/06/18	Robin Ibbott	Croydon University Hospital	Emergency Care Practitioner

NB. – Some people were interviewed on more than one occasion. For the purpose of this record only the first instance is recorded.

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Abbreviations/Glossary

ACP (Canada)	Advanced Care Paramedic. Canadian equivalent of an ICP.
ACP (UK)	Advanced Care Practitioner. Alternate name for an ECP.
A & E	Accident and Emergency Department
CEC	Collaborative Emergency Centre. A Canadian model of a smaller rural emergency department that has a doctor present during the day and at night is manned by a nurse and paramedic with a dotor available via telemedicine.
CCP	Critical Care Paramedic. Canadian advanced life support paramedic. Higher than ACP's, CCP's undertake critical care and ICU level skills; and are familiar with equipment such as medication infusion pumps, mechanical ventilators, and arterial line monitoring.
COPR	Canadian Organisation of Paramedic Regulators. The national body that represents the various provincial paramedic regulators.
CPNS	College of Paramedics of Nova Scotia. The regulatory body for paramedics in Nova Scotia.
DVT	Deep vein thrombosis.
ECNP	Emergency Care Nurse/Paramedic. A band 6 position, either held by a nurse or paramedic, within Croydon Hospital Emergency Department.
ECP	Emergency Care Practitioner. In the United Kingdom an ECP is a health professional with postgraduate qualifications and enhanced clinical and assessment skills. ECP's often come from a paramedic background; but may also have originally trained as nurses, sonographers, radiographers, physiotherapists, or pharmacists.
ED	Emergency Department. Sometimes referred to as the "ER" - emergency room in the USA.
EHS	Emergency Health Services. The government body that organises ambulance services in Nova Scotia.
ER	Emergency Room.
EMA	Emergency Medical Assistant. A new position within St John NZ working on frontline ambulances, usually at first responder level.

EMC	The private company contracted by EHS to provide emergency medical services in Nova Scotia.
EMT	Emergency Medical Technician. The basic life support level qualification amongst New Zealand ambulance staff.
EMS	Emergency Medical Services. North American term for ambulance services.
HPCAA	The Health Practitioners Competence Assurance Act 2003. The piece of NZ legislation that provides a framework for the regulation of health practitioners in order to protect the public where there is a risk of harm from professional practice.
HWNZ	Health Workforce New Zealand. The team within the NZ Ministry of Health that takes leadership of health workforce issues.
ICP	Intensive Care Paramedic. The advanced life support level qualification amongst New Zealand ambulance staff.
ILS Paramedic	The intermediate life support level qualification amongst New Zealand ambulance staff. Often referred to simply as paramedic.
NHS	National Health Service. The public health service of the United Kingdom.
PA	Physician's Assistant (US/Canada), Physicians Associate (UK). A healthcare professional trained in the medical model. Their scope of practice varies, and they generally work under the supervision of a medical doctor.
PCP	Primary Care Paramedic. Canadian intermediate life support level.
POP	Plaster of Paris.
PSA	Procedural sedation and analgesia.
RN	Registered Nurse.
STEMI	ST-Elevation Myocardial Infarction. A serious type of heart attack during which one of the heart's major arteries is blocked causing abnormality in the patient's electrocardiogram.
UCC (NZ)	Urgent Community Care. In New Zealand UCC is an extended care paramedic programme run by both St John and Wellington Free Ambulance.

UCC (Croydon, UK)	Urgent Care Centre. The part of the hospital that deals with urgent, but not life threatening, illness or injury. An alternative to seeing your GP is to present to the UCC.