

PERSPECTIVE

New Zealand Emergency Medicine Network: A collaboration for acute care research in New Zealand

The New Zealand Emergency Medicine Network*

Abstract

The specialty of emergency medicine in Australasia is coming of age. As part of this maturation there is a need for high-quality evidence to inform practice. This article describes the development of the New Zealand Emergency Medicine Network, a collaboration of committed emergency care researchers who share the vision that New Zealand/Aotearoa will have a world-leading, patient-centred emergency care research network, which will improve emergency care for all, so that people coming to any ED in the country will have access to the same world-class emergency care.

Key words: *emergency medicine, network, New Zealand, research.*

Introduction

Since the first report of unscheduled care provided to approximately 500 outpatients free of charge in Wellington Hospital in 1872,¹ emergency medicine (EM) has come a long way in New Zealand. The Australasian College for Emergency Medicine (ACEM) was founded in 1983, and the first New Zealand Fellowship of the College was awarded in 1989. Six

years later EM was formally recognised as a specialty by the New Zealand Medical Council (NZMC),² and a quarter of a century later there are almost 200 EM specialists in New Zealand providing and supervising care to around one million patients per year. In parallel with the development of the medical workforce the nursing workforce has also embraced the specialty; the Emergency Nurses Section of the New Zealand Nursing Organisation started in 1993 and became the College of Emergency Nurses (New Zealand) in 2001. This has been growing in numbers and influence with the introduction of Emergency Nurse Practitioners over the past decade.

The initial focus of any new medical specialty is the establishment of adequate clinical capacity and associated training. However, knowledge generation, academic development and scholarship are the true hallmarks of specialty maturation; this is now the case with EM in New Zealand.

The first university-based academic post in EM was in Christchurch in 1990, and the first endowed Professorship and academic Chair of Emergency Medicine was conferred in 2000 at the University of Otago, Christchurch Clinical School. The second such position was subsequently established in 2011 at the University of Auckland, School of Medicine. Alongside formal teaching the develop-

ment of research in EM has been a relatively recent phenomenon. Seventeen years after the first publication of the *New Zealand Medical Journal* in 1951, the first article relevant to EM was published.³ Over the next 63 years, there has been a steady rise in the number of articles, from an average of one article per year in the 1970s to over four per year in 2000–2009 and since 2010 this has risen to 10 per year. Most of these articles have been opinion pieces, descriptive studies or non-randomised comparative studies. To date, only a handful of studies conducted in New Zealand's EDs have been randomised controlled trials (RCT), and most of these have been small, single-centre studies.^{4–8} Of the few multicentre RCTs conducted in New Zealand EDs, the vast majority originated outside of the specialty of EM.^{9,10} More recently, EM specialists have started to lead multicentre RCTs¹¹ and have been successful in obtaining major research grants from the Health Research Council and from the National Health and Medical Research Council (Australia) to conduct research either within New Zealand, or across EDs in Australia and New Zealand.¹²

There are a considerable number of unanswered, highly relevant clinical questions in emergency care. For example, what is the best anticonvulsant to use in status epilepticus?¹³ Such questions are not suited to being answered by single institutions due to one or all of: low prevalence of condition to be studied, inability to appropriately power trials for a clinically relevant primary end-point, generalisability of results and rarity of meaningful primary end-points, such as death. In order to answer such questions appropriately research needs to be conducted within multicentre studies.

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Although this has previously occurred within EDs in New Zealand,^{9,10} there is a considerable amount of efficiency in terms of both infrastructure and output, which can be gained by undertaking this within an established research network. Locally, other established critical care networks, such as the Australian and New Zealand Intensive Care Society (ANZICS) Clinical Trials Group, have been successful in answering important clinical questions with large appropriately powered clinical trials^{14,15} and EM specialists have had an increasing role in the management of such studies.¹⁶

It is now time for New Zealand's EM community to develop a high-quality evidence base for acute care through collaborative multicentre research in both the ED and the prehospital environment guided by a research network. With a critical mass of specialists, nurses and prehospital care providers with suitable academic credentials and a track record of successful major competitive grant applications, the skill base exists to create such a network. We believe this will help to overcome the recognised barriers to research and knowledge translation in emergency settings; such as the potential conflict between service delivery and research, consent, data quality and delays in translating the findings of research.¹⁷

Development of the New Zealand Emergency Medicine Network (NZEMN)

A core group of EM specialists with broad national representation (Box 1) with a shared vision convened the inaugural meeting of NZEMN on 6 November 2013. At this meeting the core principles of the network were adopted:

- To facilitate and grow high-quality investigator-initiated emergency care research relevant to people in New Zealand and worldwide
- To translate best evidence into real-world care of the acutely ill and injured
- To be collaborative and welcome other craft groups (prehospital, nursing, public health, other hospital specialists) with an interest in

BOX 1. *New Zealand Emergency Medicine Network founding member sites*

Auckland City Hospital	Auckland
Starship Hospital	Auckland
Middlemore Hospital	Auckland
North Shore Hospital	Auckland
Waitakere Hospital	Auckland
Waikato Hospital	Waikato
Tauranga Hospital	Bay of Plenty
Palmerston North Hospital	Palmerston North
Wellington Hospital	Wellington
Hutt Hospital	Wellington
Nelson Hospital	Nelson
Christchurch Hospital	Christchurch
Southland Hospital	Invercargill

emergency care to be part of the network, and to be open to contributing to international research. These ideas form the basis of the Vision and Values of the network (Box 2).

Precedents exist for the development of emergency care research networks worldwide, including the Paediatric Research in the UK and Ireland (PERUKI) in 2013,¹⁷ Emergency Medicine Education Research Network (EMERN) in 2012,¹⁸ the Paediatric Research in Emergency Departments International Collaborative (PREDICT) in 2006¹⁹ and the Emergency Medicine Network (EMNET) in 1998 (<http://www.emnet-usa.org/>). Consistent with our Vision and Values statement, NZEMN will initially follow structures suggested by the EMERN and PREDICT groups. These were based on a voluntary collaboration of committed people and local champions, working together in good faith to answer questions that would not have been possible without the co-operation and power of a multi-site research network.

Although such an egalitarian structure is perhaps less stable than a central coordinating centre run by permanent staff (favoured by EMNET and PECARN in the USA), it is more flexible financially and more nimble from a research content perspective.¹⁸

Furthermore this model has been successfully used in establishing the Australian and New Zealand inten-

sive care (ANZICS Clinical Trials Group) and paediatric EM research networks (PREDICT).

A steering committee with site representatives from participating institutions, consumer and Māori representatives will set the strategic agenda for the network and liaise with external stakeholders. Recognising that growing a research culture in emergency care is important to the development and continuity of the network, site representatives will also encourage involvement and enlist the co-operation of others in their institutions. The steering committee will have voting rights and will set the research agenda for the network including the number and type of studies that will be conducted. The steering committee will elect an executive committee comprising a Chair, Deputy Chair, Secretary, Treasurer and one other member. The role of the executive committee will be to develop the operating procedures for the network and coordinate the research agenda. Site representatives will be the primary investigator (PI) for each study conducted at their site and will assure site accountability and clear lines of communication back to the executive committee who will oversee day to day conduct of studies.

One of the first priorities of the executive committee has been to develop guidelines for authorship, which has special considerations for research networks when there are many people

BOX 2. New Zealand Emergency Medicine Network Vision and Values

Our Vision

‘One emergency department for New Zealand/Aotearoa’
New Zealand/Aotearoa will have a world-leading, patient-centred emergency care research network, which will improve emergency care for all, so that people coming to any emergency department in the country will have access to the same world-class emergency care.

Our Mission

To work with stakeholders at all levels to foster discovery and advance the art and science of emergency medicine. To achieve this mission we will pursue the aims of:

- Knowledge creation through high-quality research and innovation
- Knowledge translation through stakeholder involvement and networks, both local and international
- Stewardship and value for both patients and the general public

Our Values

Person-centred

By having the patient/consumer at the heart of everything we do, we support individual and family/whanau participation and decision-making about emergency care research at every level.

Practice-informing

By conducting research of a high standard and evaluating the effectiveness of interventions while maintaining a practical approach, we create strong evidence to inform best practice.

Partnership and Openness

By working alongside local and international stakeholders we improve the quality of emergency care knowledge translation in New Zealand/Aotearoa and globally. We value the views of other professionals and diversity of culture and opinion. We openly share ideas and knowledge among research network members while respecting individual contributions.

Transparency and Integrity

We share information with integrity and advocate for each other’s projects in a culture of support and collaboration. We are trustworthy and communicate in clear language for all to understand.

Leadership

By showing strong leadership we set the direction for emergency care research in New Zealand/Aotearoa and encourage innovation and change to achieve our shared vision.

contributing to a project.²⁰ The NZEMN will publish using individual author names and acknowledge ‘for the NZEMN’ when possible. If journal constraints do not allow all authors to be listed the NZEMN will be credited with authorship and authors listed in the acknowledge-

ments. Authors will meet standard authorship criteria.²¹

First projects

At the inaugural meeting steering committee members were asked to table ideas for projects that might be con-

sidered by the group. Twenty-one ideas were tabled, ranging from descriptive studies of the demographics and type of care provided in New Zealand EDs to quality and standardisation of care and studies. Subsequently the steering committee members were asked to outline the stage of development and feasibility of their ideas, the relevance to the Vision and Values and to commit to being the PI to coordinate a particular process. Finally, the steering committee independently graded the studies for which a PI was identified and by a consensus process decided which studies would be the first projects for the network. Participation in particular projects is not compulsory but members are expected to be open and magnanimous toward the research initiatives of others.

Project A: The New Zealand Emergency Department Airway Registry

Safe management of the airway is the essential first step in resuscitation of critically unwell patients and anecdotal evidence suggests wide variation in practice across New Zealand. This project will establish the current state of airway management in New Zealand’s EDs. The first pass success and adverse event rates will be reported and adherence to best practice for emergency intubations will be evaluated, with the aim of standardising care across the country.

Project B: The Pain Relief in New Zealand Emergency Departments Study (PRiZED 1)

Approximately half of people presenting to an ED have pain, and around one quarter of these have severe pain. The timely and adequate relief of pain has been identified as one of the most important facets quality of care in the ED.²² As a sub-study of the Shorter Stays in Emergency Departments National Research Project,²³ the PRiZED 1 study will explore the timeliness and adequacy of analgesia in New Zealand EDs from 2006 to 2012 and explore the influence on the Shorter Stays in Emergency Departments target on this aspect of quality of care.

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Competing interests

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