Major Trauma
National Clinical Network

Trauma nursing

Professional development framework

April 2019

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Introduction

In 2018 a working group of trauma nurses was set up to guide the development of this professional development framework. The group comprised representation from hospitals across the country, from small to large hospitals, and a range of experience from new to role to experienced (Appendix A).

The group identified four key areas of focus which form the basis of the framework:

1. Current state
2. Core trauma nursing skills and training
3. Advanced trauma nurse career options
4. Future trauma nursing state

This framework does have limitations and in particular we note the need to build the capacity and capability of the Maori trauma nursing workforce, incorporating Te Tiriti o Waitangi to address the burden of trauma for Maori across all aspects of the trauma system, and providing guidance on the level of resourcing in line with caseload. Future revisions of this framework should incorporate these aspects. This is the first time a trauma nurse professional development framework has been developed in New Zealand. We envisage this framework will be amended in time as our understanding of the role evolves and our trauma system matures.

Notwithstanding these limitations, this early work is an important step to building a high-performing trauma nursing workforce in New Zealand.

About major trauma in New Zealand

Major trauma accommodates those patients that incur injuries which have a threat to life. There are approximately 2,000 major trauma events per year and include injuries ranging from serious injury such as pelvic fractures, through to catastrophic injuries such as traumatic brain injury or mangled limbs which require intensive life-long care.

The burden of trauma is distributed unequally across New Zealand, and between population groups. Some regions have a disproportionally high incidence of major trauma and variation in the causes of injury. The burden of major trauma for Maori ais nearly double that for non-Maori, and the high incidence rate for young Maori males is of concern.

The National Trauma Network (the "Network") was set up in 2012 to drive quality improvement across the trauma system and bring us into line with contemporary trauma systems internationally. Sponsored by ACC the Network has a strong clinical focus as the opportunity to improve outcomes for major trauma patient is largely in pre-hospital and hospital care. Best practice care results in fewer deaths and decreased life-long injury, and a more efficient health service.

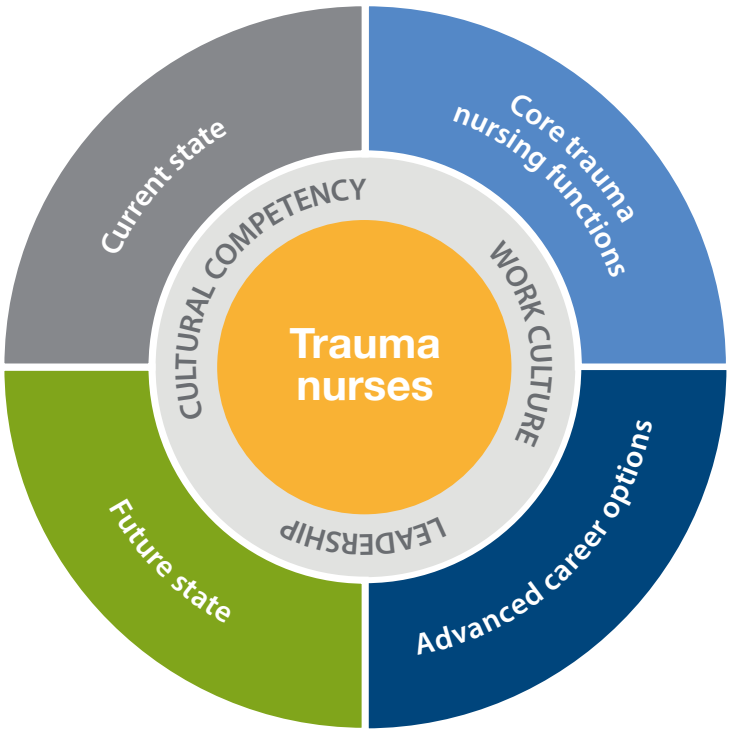
There are variable levels of maturity in the trauma systems across the country, and many nurses and doctors are relatively new to role. The intent of this framework is to support a common understanding and consistent implementation of the trauma nurse role.

The framework

Growing the trauma nursing workforce is key to achieving our goal of a high performing trauma system in New Zealand. It is our ambition to develop trauma nursing as its own speciality and achieve highly qualified specialist trauma nurses in each region.

The Professional Development Framework

The professional development framework describes the four areas of focus as shown in the diagram. Two additional elements; work culture and leadership skills are described and are relevant across all areas of the professional development framework.



CULTURAL SAFETY AND COMPETENCY

The burden of trauma for Maori is significantly higher than for other population groups. The trauma nurse's role is to provide the best care possible to support recovery, and this includes providing care which is culturally safe and competent.

Cultural competence training assists nurses to provide a more accessible and welcoming service and has been identified as a key skill to ensure nurses are consistently able to provide patients and their whānau with health information in a way they can understand

The New Zealand Council of Nursing has published an excellent guideline for nurses which covers cultural safety, the Treaty of Waitangi, and Maori Health and Nursing Practice. All District Health Boards provide cultural competency training and all trauma nurses are encouraged to undertake this and read the Council of Nursing publication (see references on page 14)

WORK CULTURE

A collaborative work culture is key to an effective trauma system. We want to foster a strong sense of collegiality as most trauma nurses are in sole positions in their hospital. We also want to build a workforce which is innovative and thinks critically. We will do this by:

- Providing mentoring to new trauma nurses
- Meeting annually
- Developing forums to share knowledge and experience so we become fast adapters of effective innovations
- Supporting trauma nurses to grow in their role
- Encouraging excellence

By working together we can promote trauma nursing as a career of choice and cultivate a positive environment in our trauma teams.

LEADERSHIP SKILLS

Trauma nurses are leaders in their field and there are skillsets which are useful for all trauma nurses in addition to clinical skills. These include:

These include:

- Leadership and critical thinking
- Presentation
- Business writing
- Analytics such as basic functions in Excel

Uptake of training in these areas is strongly encouraged as they will be enormously useful in promoting trauma care and the on-going investment in trauma nursing. Most DHBs provide training in these areas as part of in-house training.

Current state

In early 2019 we undertook a survey of trauma nurses to understand the current state and set a baseline. The detailed results are in Appendix C and summarised here.

The majority of the nursing workforce is in the
40-60 year age group, and are female.

There are
26 postgraduate qualifications
(some have more than one) and a
further seven are currently studying toward a postgraduate qualification.
Almost all have done the AIS course (93%).

Nearly 80% of the trauma nursing workforce is in a designated senior nursing role, such as Clinical Nurse Specialist.

There are no Nurse Practitioners in trauma roles.

The average FTE is 0.56, ranging from 0.1 to full time.

In some hospitals, and particularly the smaller centres, the trauma nurse role is focussed only on data collection. In other hospitals, there may be more than one trauma nurse in role. These factors have an influence on the FTE average.

A significant proportion
(68%) has been in their role less than 3 years
and reflects the start of data collection in all DHBs as required in the Ministry of Health Regional Service Planning guidance.

There is a good level of interest in presenting at conferences and in research.

The main support to encourage nurses in these areas includes training, mentoring, and time.

The results of this survey are in line with the expected result considering over half the country implemented trauma nursing in the past three years.

The results will form the baseline for future surveys to understand how the trauma workforce has evolved over time.

Core trauma nursing functions

There are four key functions which are core to all trauma nursing positions. While many trauma nurses are currently not sufficiently resourced to provide all these functions, by setting out a common expectation we can work towards increasing resourcing where needed. These skills are in addition to undergraduate training and clinical experience typically in Emergency Departments, Intensive Care, or surgical services.

Data collection and input

The minimum requirement is the collection of the NMDS for major trauma on all trauma patients with an Injury Severity Score (ISS) ≥13 or who died in hospital with an ISS ≤12. This data is uploaded to the New Zealand Major Trauma Registry (NZ-MTR) within 30 days of the patient discharge. Data collecting trauma nurses are also expected to fix any errors which are identified through the data quality assurance process. Some hospitals may decide to collect on all trauma patients and/or a wider dataset.

The process of data collection presents a good opportunity to assess the patient and review their care for missed injuries or processes. It also supports the understanding of local trends around the circumstances of the injury which can help inform trends such as a particular activity or location where injury occurs. This information can in turn be passed onto injury prevention initiatives.

Training

- *AIS course with refresher every three years*
- *Training on the use of the NZ-MTR*
- *Other requirements*
- *Signing of the NZ-MTR Data Access Policy*

Nursing case management

Trauma patients often require complex, coordinated care through their hospital stay. Nursing case management particularly of the polytrauma patient is an excellent approach to ensure patients receive optimal care tailored to their needs. Evidence shows that case management can be effective in reducing overall length of hospital stay, intensive care bed hours, and improved patient satisfaction.

Trauma case management is described as:

- Coordinating care to
  - take responsibility for overall patient management across a continuum of care and being the point of care coordinator for the patient/family/whanau/staff
  - arrange multi-disciplinary meetings to discuss patient progress, issues and goals.
  - ensuring trauma guidelines are followed
  - supportthe management of the complex trauma patient
  - initiate treatment care plans
- Reviewing the patient notes and radiology/ pathology results to
  - assess for missed injuries
  - check for pain control, adjuncts such as splints/ braces, pressure area care etc
  - assess for complications
  - ensure correct local, regional and national policies have been followed e.g. C-Spine management, blunt chest protocol, National Spinal Cord Injury policy.
  - ensure tertiary survey is done, or undertaking the tertiary survey if competent
  - engaging the patient and their whanau to ascertain the background of the incident, their social situation, and relevant clinical history and particularly psych history. It is also to discuss likely referrals, issues relevant to the patient and the clinical management plan
- Liaising with
  - clinical team(s) on clinical issues, intra-hospital and inter-hospital transfer requirements e.g. ward admission, single room for TBI management,
  - allied health for early rehabilitation assessment
  - appropriate teams such as psych support, drug and alcohol, orthotics, respiratory, etc. to provide holistic care
  - ACC for early cover
- Discharge and rehabilitation planning

Training

There is currently no formal training for trauma case management. Mentoring from colleagues is a good way to learn including visits to or from sites with experienced trauma case managers.

Performance improvement

Performance improvement in trauma describes the on-going critical analysis of clinical care and processes using structured methodology.

Within the next five years we aim to implement a consistent approach to performance improvement in every hospital. At minimum it is envisaged to include but not be limited to:

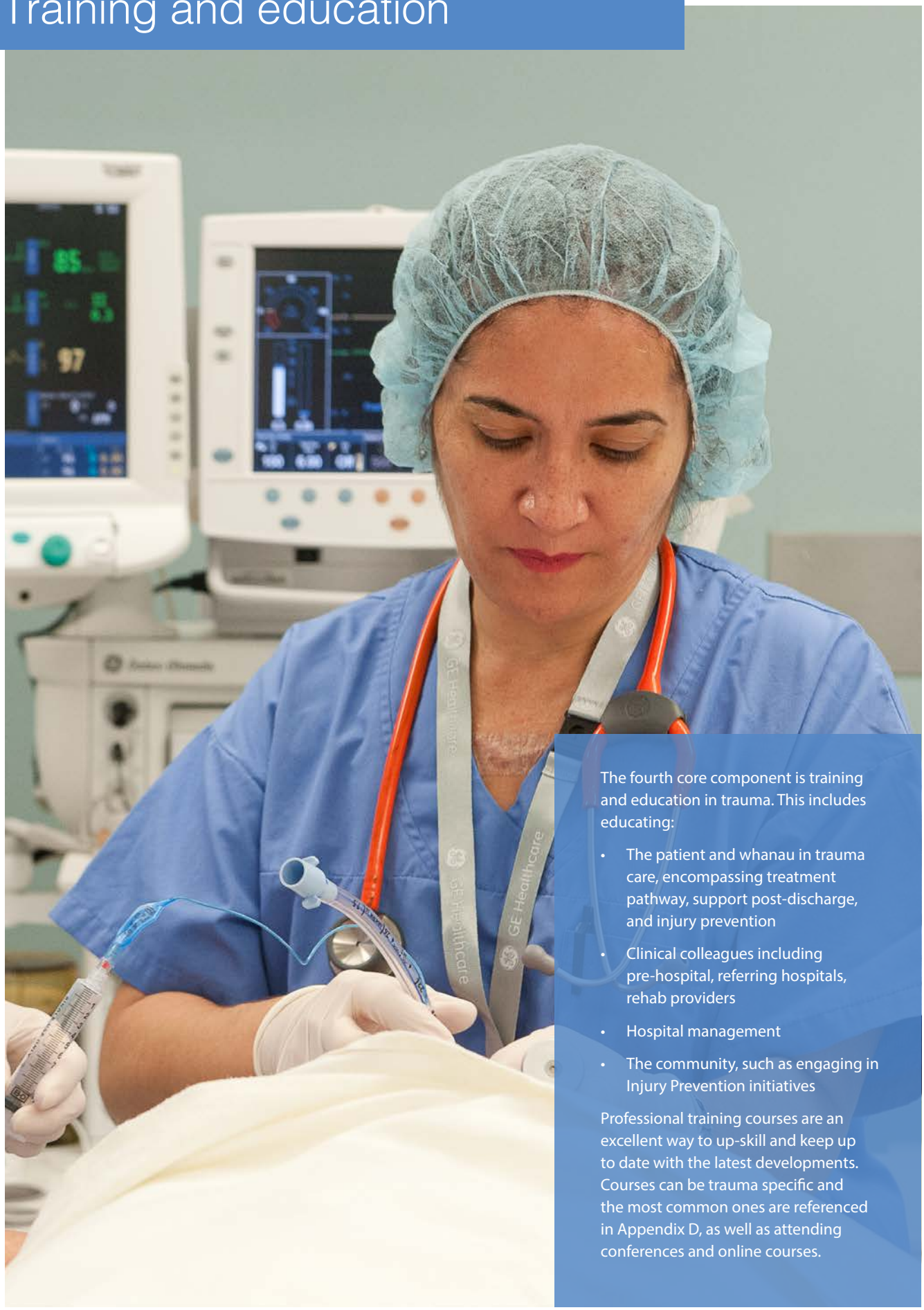
- Mortality review with a particular focus on death due to haemorrhage and multi organ failure as these are largely preventable
- Process indicators:
  - time from scene to first hospital
  - number of transfers to definitive care
  - time to index CT if GCS<9
  - EToH collection
- Performance improvement initiatives tailored to the local context
- Auditing the rate of under and over triage of trauma call activation

Performance Improvement is given a priority in trauma care because it is directly related to improving outcomes for patients. For example, good performance improvement is designed to identify and address complications. The overall intent is to achieve a system which consistently provides optimal outcomes for patients and supports their return to living and work as soon as possible.

Training

- *TOPIC training – the availability of this is to be determined*
- *Quality Improvement training available through HQSC*

Training and education



The fourth core component is training and education in trauma. This includes educating:

- The patient and whanau in trauma care, encompassing treatment pathway, support post-discharge, and injury prevention
- Clinical colleagues including pre-hospital, referring hospitals, rehab providers
- Hospital management
- The community, such as engaging in Injury Prevention initiatives

Professional training courses are an excellent way to up-skill and keep up to date with the latest developments. Courses can be trauma specific and the most common ones are referenced in Appendix D, as well as attending conferences and online courses.

Advanced trauma nursing options

Trauma nurses with advanced skills and training are recognised as subject matter experts in their field, and have a strong national and international reputation. Nurses wanting to develop their skills in trauma have options, which are not mutually exclusive of each other. A range of skills are usually required such as the ability to write clearly and concisely, negotiation skills, presentation skills, and basic analytical ability. Personal attributes are just as important to show leadership through example and influence, and to encourage continual development through training.

Advanced clinical practice – Nurse Practitioner (NP)

Becoming a NP is the recognised pathway to achieving advanced clinical practice and results in a recognised qualification and scope of practice. Advanced clinical skills could include FAST scanning, prescribing, tertiary survey, outpatient clinics, telehealth, etc.

There is good level of evidence which shows NPs (or equivalent) are effective at reducing length of stay in hospital and Intensive Care.

It is also suggested that NPs develop associated skills such as biostatistics, business writing, negotiation, and presentation skills as these are useful skills for any leader.

There are no Trauma NPs currently in New Zealand, and efforts to achieve one in each of the regions will be dependent on DHBs support for these roles.

Research

Trauma nursing research is an incredibly broad area, broadly divided into several topics:

- Injury prevention
- Pre-hospital care
- Acute care
- population groups including Maori, the elderly, and the young
- Trauma systems and health policy
- Trauma nursing education and administration

Expressing an interest in research is a good way to start, and this could initially include participating in a research study led by an experienced researcher and/or undertaking post graduate research work. In most instances trauma data will be used and this is an opportunity to offer participation to the coordinating researcher. More experienced researchers will initiate and lead research projects.

Building relationships with academic researchers from universities is an excellent way to undertake research particularly if relates to an area of interest to the academic. Doing background work on the researcher and their publications is useful before approaching them.

Publication in reputable journals is the gold standard for any researcher and some of the excellent journals include the New Zealand Medical Journal, the International Journal of Trauma Nursing, and Injury, and Nursing Praxis in New Zealand

At this stage there is a dearth of trauma nursing research specific to New Zealand.

Academic

Trauma nurses in academia enjoy a mix of teaching, clinical work, and research. This pathway typically requires a Master's degree at minimum.

A handful of nurses across Australasia have successful academic careers and are an excellent resource to trauma nurses wishing to enter this pathway.

Advanced Performance Improvement

Performance improvement is the cornerstone of any trauma programme. Advanced practitioners in performance improvement will be able to teach the methodology to trauma clinicians, provide technical and mentoring support, and demonstrate the benefits.

The Health Quality and Safety Commission offers a range of training. There is also the TOPIC Instructor programme which we are seeking clarity on for international faculty.

Education

Becoming a trainer is an excellent way to become an advanced practitioner, and again the range of topics is vast. Trauma nurses interested in developing in this area will need to do their homework as the requirements for each course differs.

Many hospitals also have clinical nurse educator roles which provide on the job training and guidance.

Management of trauma services

Progressing to be a manager in a trauma or related service is an effective way to influence optimal trauma care. Managers are typically involved in funding decisions and can influence the strategic direction of trauma services. They are also responsible for staff including professional development and training.

Most hospitals will provide some management support to new managers. It is also helpful to develop a range of skills such as leadership training, business writing, presentation skills, and analytical skills.

Further information on postgraduate training and funding sources can be found in Appendices D, E and G.

Future state

Over the next five years we hope to progressively introduce the four core functions of the trauma nurse into all hospitals across New Zealand. These functions may be applied differently depending on the caseload.

Over the same timeframe it is our aspiration to achieve:

- 4 Trauma NPs, one in each region
- 1 AIS trainer, who will support training in NZ and Australia
- 2 TOPIC and/or performance improvement trainers
- an increase in the Maori trauma nursing workforce

The option to develop Speciality Practice Nursing Standards for trauma nursing could be explored further. Specialty standards address what nurses providing care within this specialty area must know and be able to do in relation to the identified aspects of care beyond that expected of every competent registered nurse. The UK has established standards which could be used as a starting point. The decision to progress speciality standards should be made in conjunction with Australian colleagues, and consider the benefits against the time and effort required.

It is also our ambition that all acute hospitals will be staffed in line with the RACS guidelines for trauma hospitals. The RACS guidelines articulate the functions specified based on the capability and caseload of the hospital. The table below sets out the scope of practice and indicative resourcing requirements based on trauma caseload.

RACS trauma level hospital	Nursing scope of practice	Indicative resources
Level 1 and major trauma caseload >150 pa	• Case Management • Performance improvement • Patient management • Outpatient clinic • Research • Education • Protocol development • Service development • Regional support • National interests	• Nurse Practitioner • Trauma senior nurse • Trauma specialist nurse • Admin support
Level 2 and major trauma caseload 50-150 pa	• Case Management • Performance improvement • Research • Education • Service development including patient management, protocol development and national interests	• Trauma senior nurse • Trauma specialist nurse
Level 3 and caseload 0-50	• Case Management • Performance improvement • Research • Education • Patient management • Protocol development	• Trauma specialist nurse
Level 4 **Staging hospitals**	• Case Management • Resuscitation • Emergency Management	

Further information on the RACS guidance can be found in Appendix F.

Implementing this framework

The following recommendations are presented by the working group to progressively achieve the future state trauma nursing workforce.

	Recommendation	Lead
a	Update this document each 2-3 years including the workforce survey	National Trauma Network
b	Progressively integrate the core trauma nursing functions into job descriptions as appropriate to the size of hospital	All trauma teams All hospitals
c	Work with hospital management particularly in the major trauma hospitals to encourage the core functions to be adequately resourced	All levels of the trauma system
d	Promote mentoring for trauma nurses including: 1. case management to support a consistent approach across NZ 2. performance improvement initiatives 3. identifying nurses with potential to grow in role 4. research, presentations, and leadership skills	All levels of the trauma system
e	Advocate RACS to include nurses as participants in Early Management Severe Trauma courses	Everyone
f	Engage with Maori nursing leaders to develop strategies to improve the cultural competency and safety for the trauma nursing workforce, and to encourage Maori nurses to specialise in trauma nursing.	All trauma nurses
g	Test the appetite for establishing speciality standards for trauma nursing, in discussion with Australian colleagues.	National Trauma Network
h	Explore the opportunities for professional development in trauma, starting with the core skills and progressing to areas of special interest.	All trauma nurses
i	Develop nationally or regionally consistent guidelines for nurses such as a toolkit comprising: • Orientation checklists for new trauma nurses • Contact list for national trauma nurses • Examples of job descriptions	National Trauma Network All regions

Appendix A: Trauma nurse professional development working group

Working group member	Organisation
Melissa Evans	Canterbury DHB
Wendy Davie	Canterbury DHB
Katrina O'Leary	Midland Trauma System
Jaki Boyle	Tairawhiti DHB
Bronwyn Denize	Waikato DHB
Jennifer Dorrian	Waikato DHB
Matt Sawyer	Auckland DHB
Pamela Fitzpatrick	Auckland DHB
Siobhan Isles	National Trauma Network

Appendix B: References

Christmas, A. B. and Reynolds, J. and Hodges, S. and Franklin, G. A. and Miller, F. B. and Richardson, J. D. and Rodriguez, J. L. *Physician extenders impact trauma systems.* J Trauma, volume 58, number, 917-20. 2005

College of Nurses. *Principles and standards for electronic portfolio design and development.* 2017

Crouch, R. and McHale, H. and Palfrey, R. and Curtis, K. *The trauma nurse coordinator in England: a survey of demographics, roles and resources.* Int Emerg Nurs, Vol 23, No. 1. 2015,

Curtis, K. and Donoghue, J. *The trauma nurse coordinator in Australia and New Zealand: a progress survey of demographics, role function, and resources.* J Trauma Nurs Vol 15, No 2. 34-42. 2008.

Curtis, K. and Leonard, E. *The trauma nurse coordinator in Australia and New Zealand: demographics, role, and professional development.*
J Trauma Nurs Vol 19, No 4, 214-20. 2012

Leonard, E. and Curtis, K. *Are Australian and New Zealand trauma service resources reflective of the Australasian Trauma Verification Model Resource Criteria?* ANZ J Surg, Vol 84 No 7-8, 523-7. 2014

National Nursing Consortium. *Guidance for the Development of Specialty Practice Nursing Standards.* 2017

Nursing Council of New Zealand. *Guidelines for Cultural Safety, the Treaty of Waitangi and Maori Health in Nursing Education and Practice.* 2011

RACS Guidelines for a structured approach to the provision of optimal trauma care. https://www.surgeons.org/media/17053260/doc_2012-09-14_guidelines_for_a_structured_approach_to_the_provision_of_optimal_trauma_care.pdf

Appendix C: Results of trauma nurse survey 2019

A current state survey was undertaken in January 2019 and is envisaged to form the baseline for future survey's. The questions are based on a previous survey led by Kate Curtis in Australasia in 2013 and adapted as we wanted to explore the specific support trauma nurses needed to be more involved in research, education, and presenting at conferences etc.

The response rate was 100% with all 27 trauma nurses in New Zealand participating.

The results of the survey are as follows:

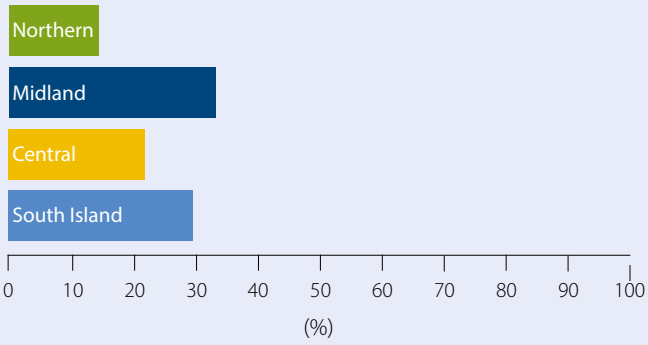
1. Age

- 45%: 40 – 50 years
- 32%: 50 – 60 years
- 23% either <40 or >60 years

2. Gender

- 90% female

3. Region

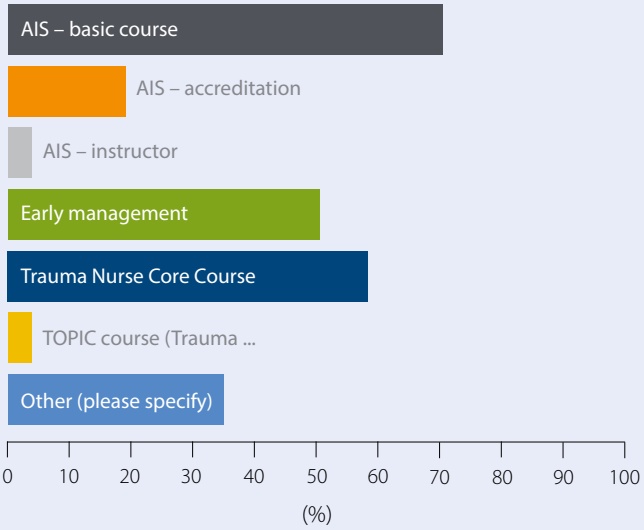


4. Postgraduate qualifications

Answer choices	Responses	
Graduate Certificate	29.63%	8
Diploma	33.33%	9
Masters	33.33%	9
Doctorate	0.00%	0
Other (please specify)	25.93%	7
Total Respondents: 27		

A further 7 are studying toward Diploma (4), Masters (2) and degree (1)

5. Trauma courses



6. Level of practice

- 6 Staff nurse
- 19 Trauma Nurse Coordinator / nurse specialist
- 0 nurse practitioner
- 2 other

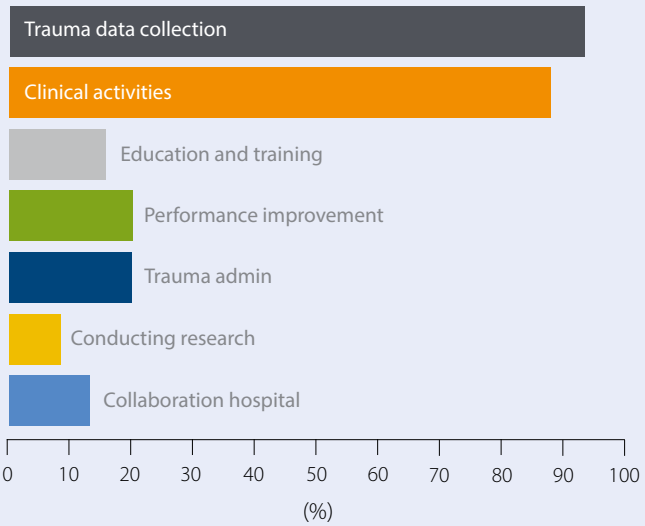
7. How many years in role

- Average 3.15
- Range <1 year to 13 years
- 65% in role 2 years or less

8. FTE in trauma role

- Average .56 FTE
- Range .1 to 1 FTE

9. Hours per week are spent on:



10. Number of conferences per year

- 85% 1- 2 per year
- 1 % 3 or more
- 14% none

11. Role at conferences

- 5 presented
- 22 delegate

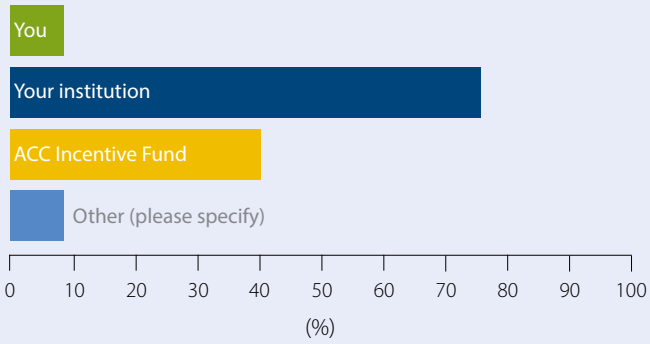
12. Study leave?

- 85% received study leave

13. Days study leave

- 86 days in total
- Average 3.4 days

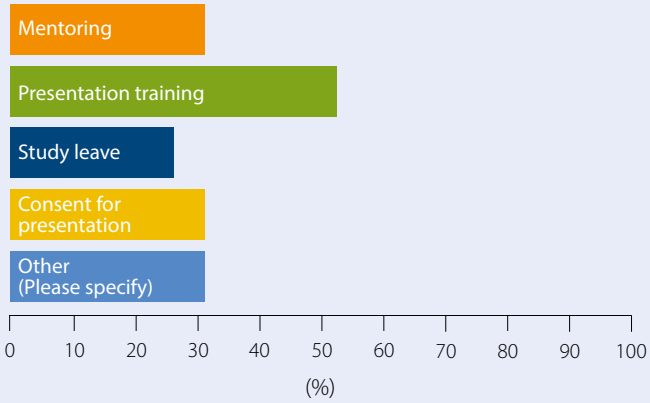
14. Who paid?



15. Have you ever presented at a conference?

- 8 yes

16. What would encourage you to present?



17. Are you involved in research?

64% NO

34% YES

18. Have you ever published?

80% No publications

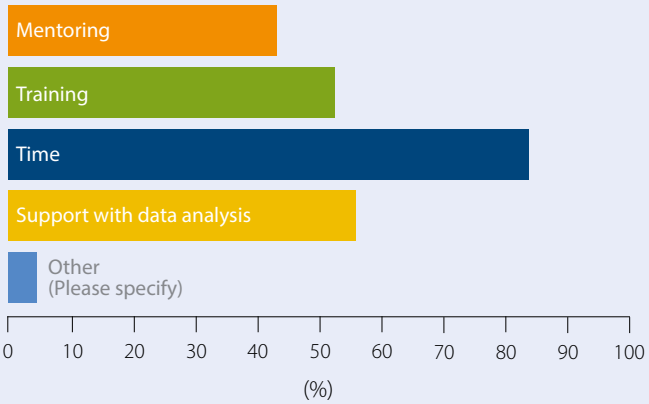
16% 1 – 2 publications

4% >3 publications

19. Are you interested in becoming involved in research?

- 96% yes or maybe

20. What would help you become involved in research?



It is envisaged this survey will be repeated at various intervals to demonstrate the change in the trauma nursing workforce over time. The same parameters should be applied in future surveys. Additional parameters should be considered such as ethnicity to demonstrate changes in the 'by Maori, for Maori' trauma nursing workforce.

Appendix D: Trauma courses

Links to most of the courses below are available on the website www.majortrauma.nz/events.

Abbreviated Injury Scoring (AIS)

AIS and Injury Scoring: Uses and Techniques course objectives are to:

- Understand the structure, organization and contents of the Abbreviated Injury Scale
- Abstract injury data from medical charts
- Rule out information that is not codeable
- Distinguish between injuries and outcomes
- Apply injury coding rules and guidelines specific to each body region
- Apply rules for calculating the Injury Severity Score (ISS) for multiple body region injuries

Courses are run on ad hoc in New Zealand and Australia. It is expected each data collector will do an AIS refresher every 3 years

https://www.aaam.org/abbreviated-injury-scale-ais/training-courses/

NZ contact: info@majortrauma.nz

AIS certification

Certification is part of a credentialing process and is an indication of current competence in a specialized area of practice. Board Certification provides formal recognition of AIS coding knowledge and application. Experienced AIS coders are encouraged to obtain certification. Once certified, individuals must retest every 5 years to maintain their CAISS certification.

AIS trainer and member of AAAM Faculty

The pathway to be a trainer and faculty member includes passing the basic AIS course, becoming certified, and delivering two training sessions under supervision. Admission to the faculty is then assessed based on teaching ability and content knowledge. Trainers are required to teach on minimum two courses every two years.

In NZ we are aiming to have one trainer admitted by 2019. We do not expect to have sufficient courses to warrant more than one trainer.

Trauma Outcomes Performance Improvement Course – TOPIC

The TOPIC course is taught to all members of the trauma system team who participate in the ongoing assessment, evaluation and improvement of trauma care. The Society of Trauma Nurses (US) has developed the *Trauma Outcomes and Performance Improvement Course* in response to the need for education and better understanding of the Performance Improvement process in trauma care. TOPIC focuses on the ongoing assessment of the continuum of trauma care with a structured review of process and discussions of strategies to monitor trauma patient outcomes.

The TOPIC course is taught in a one day interactive modular format, customized to best meet the needs of the individual trauma care provider participants who have varying levels of experience with trauma performance improvement. The course offers practical application for all Levels of trauma centres, from entry level to mature phase of program development. The modules are taught with a focus on didactic, operational definitions, sample tools, case study examples and take home points.

https: //www.traumanurses.org/topic

NZ contact: info@majortrauma.nz

Trauma Nursing Core Course - TNCC

The optimal care of the trauma patient is best accomplished within a framework in which all members of the trauma team use a systematic, standardized approach to the care of the injured patient. Emergency and trauma nurses are essential members of the trauma team. Morbidity and mortality of trauma patients can be significantly reduced by educating nurses to provide competent trauma care.

Trauma nursing as a discipline refers to the process and content of all the different roles nurses have in the care of the trauma patient. Knowledge is the core of any discipline. The purpose of TNCC is to present core-level knowledge, refine skills, and build a firm foundation in trauma nursing. This is an internationally recognised program for registered nurses.

The focus of this course is on the immediate period following injury.

https://acen.com.au/tncc/

Early Management Severe Trauma - EMST

After completing the EMST course, a participant will be able to:

- demonstrate the concepts and principles of primary and secondary patient assessment
- establish management priorities in the initial management of a trauma patient
- initiate primary and secondary management of a simulated trauma patient in a timely manner
- in a given trauma situation, demonstrate skills that are often required in the initial assessment and treatment of patients with multiple injuries

At this stage nurses are included on EMST as 'observers' however in the future we hope nurses will be able to fully participate.

https://www.surgeons.org/for-health-professionals/register-courses-events/skills-training-courses/emst/

Masters of Clinical Medicine: Trauma Management, Monash University

Taught through Monash University, Victoria Australia, the Masters of Clinical Medicine – Trauma Management explores the importance of and develop skills in the practice of evidence based medicine, undertaking research, leadership and system/ service development, and obtain advanced specialised clinical skills.

https://alfredetc-professional-development.cvent.com/events/master-of-clinical-medicine-emergency-trauma/event-summary-dfad2a4a047840a7a3ece73594773c52.aspx

Master of Science – Trauma Science, Queen Mary University, London

Taught by Queen Mary University of London, this course provides a broad and critical understanding of the most up-to-date science and practice of trauma care. Entry requirements for nurses include nursing BSc Honours degree (2:1 or equivalent).

A summer school incorporating simulated scenario training (consistent with your scope of practice) will complement the didactic learning to provide practical knowledge and experience of decision-making and the safe, professional delivery of core clinical functions in the management of seriously injured patients.

This programme covers:

- A thorough grounding in the principles underlying the disease of trauma
- Hands-on training at a summer school consistent with your scope of practice
- A broad and critical understanding of developments in trauma care.

https://www.qmul.ac.uk/postgraduate/taught/coursefinder/courses/121561.html

Other courses

- Emergency Management Severe Burn **http://anzba.org.au/education/emsb/**
- Paediatric Trauma Life Support, Emergency Nurse Paediatric Course, other emergency courses **https://www.nzno.org.nz/groups/colleges_sections/colleges/college_of_emergency_nurses/courses**
- Violence and trauma studies, Auckland University of Technology **https://www.aut.ac.nz/study/study-options/health-sciences/courses/master-of-health-practice/violence-and-trauma-studies**
- NSW e-Learning Module for Ward Nurses **www to be advised**

Online courses

Online training is an excellent way to upskill in areas of interest in your own time. Many highly rated universities offer on-line training courses in trauma related fields. Check out **https://www.coursera.org/** which provides a portal to most courses.

Appendix E: Nursing Council of NZ Postgraduate training

The Nursing Council of New Zealand website contains important information and links to post-graduate training for all nurses. These established courses are generic for all fields of nursing and allow a focus on speciality areas such as trauma.

http://www.nursingcouncil.org.nz/Education/Postgraduate-programmes

Appendix F: RACS guidance on nursing roles

RACS Trauma Verification reviews hospitals based on pre-defined criteria and identifies the trauma capability of that hospital against this criteria. Not all hospitals within NZ have been through the Trauma Verification process and accordingly, do not have an official verification level allocated. Therefore, the following levels identified by RACS should also be applied to those NZ hospitals according to caseload and capability.

RACS Trauma Verification aims to:

- Improve trauma service delivery
- Improve patient outcomes
- Improve trauma data and promote trauma quality and educational activities
- Impacts on patient outcomes positively

That being said, how should this affect the NZ Trauma Nurse pathways and opportunities? The following is a suggestion for how this could be interpreted to NZ hospitals.

Level I

Full spectrum of care for the most critically injured patient; major referral hospital; 24/7 operational services; full capability of specialised services; rehabilitation options. The expectations from RACS is that this type of service will provide

- Research
- Education
- Data and Quality activities
- Prevention and outreach programs
- Leadership role to other hospitals within a specified region and contribute to the broader national trauma community

Therefore, the opportunities that could exist within such a hospital could include:

- Trauma Nurse Practitioner.
  - patient management
  - outpatient clinics
  - research
  - education
  - quality improvement
  - outreach programs
  - regional support
  - service development
  - National interests
- Trauma Senior Nurse
  - case management
  - data collection
  - protocol development
  - education
  - quality improvement
  - regional support
- Trauma Specialty Nurse
  - Data Collection
  - Case Management
  - Quality Improvement
- Trauma Educator
  - Education (at DHB and regional level)
  - Research
  - Quality improvement
- Trauma Research Nurse (at DHB and regional level)
  - Research
  - Education
  - quality improvement
- Trauma Quality Improvement/Performance Improvement Nurse (at DHB and regional level)
  - Quality/Performance Improvement
  - Research
  - Education

Level II

Clinical aspects of care are identical as Level 1 hospitals with exception of some specialties such as Cardiothoracic/ Neurosurgical injuries

The expectation from RACS is that this type of hospital might provide:

- Data and quality activities
- Case management
- Outreach programs
- Education

Therefore, the opportunities that could exist within such a hospital might be:

- Trauma Senior Nurse
  - Case Management
  - Education
  - Protocol development
  - Quality Improvement
  - Research
- Trauma Specialty Nurse
  - Data collection
  - Case management
  - Quality Improvement

Level III

Prompt assessment, resuscitation, emergency surgery and stabilisation of major trauma patients prior to transfer and some definitive care to limited major trauma patients

RACS expectations are that these hospitals provide high quality care to major trauma patients whilst arranging transfer to Level 1 or 2 hospitals.

- Data and quality activities
- Limited case management
- Education

Therefore, the opportunities that could exist within such a hospital might be:

- Trauma Senior Nurse or Trauma Specialty Nurse
  - Data collection
  - Case management (limited)
  - Quality improvement
  - Education

Level IV

Resuscitation and early stabilisation of major trauma patients prior to transfer where patients have self presented or where staging needs to occur.

RACS expectations are that these hospitals are supported by regional specific guidelines for management of major trauma patients including transfer processes. Therefore, the opportunities that could exist within such a hospital might be:

- Trauma Specialty Nurse
  - Data collection
  - Quality Improvement
  - Education

The specified activity within each Level will differ depending on hospital capacity. For example, educational activities by the Nursing team at a Level 1 hospital will vastly differ to nursing staff at a Level 4 hospital. Some educational activities may focus solely on facilitation of education, or community outreach programs compared to others who will design and run local, regional, national and international trauma courses, study days, etc.

Appendix G: Funding sources

Potential funding sources are outlined below, noting this is not a comprehensive list

Employer funding: DHBs have workforce development funds available, and the key source of contact is usually your manager, or alternatively the Director of Nursing

ACC Incentive Fund: This is money paid pro rata to each region based on the number of entries to the NZ-MR. The regional leads can advise on how to access these funds.

Scholarships: some courses have scholarships available

NZNO: The NZNO has a wide range of scholarships available https://www.nzno.org.nz/support/scholarships_and_grants

Self-funded: if self-funding is the only option, note that the fees are usually tax deductible.

Appendix H: Professional organisations

NZ Nursing council
http://www.nursingcouncil.org.nz/

Australasian Trauma Society
http://www.traumasociety.com.au/

NZNO
https://www.nzno.org.nz/

New Zealand College of Critical Care Nurses:
criticalcarenurses@gmail.com

Society of Trauma Nurses
https://www.traumanurses.org/

National major trauma working group (UK)
http://www.nmtng.co.uk/

Glossary

AAAM	Association for the Advancement of Automotive Medicine
ACC	Accident Compensation Corporation
AIS	Abbreviated Injury Score
C-Spine	Cervical spine
CT	Computed Tomography
DHB	District Health Board
EMST	Early Management of Severe Trauma
EToH	Ethanol
FAST	Focussed Assessment with Sonography for Trauma
FTE	Full Time Equivalent
HQSC	Health Quality and Safety Commission
NP	Nurse practitioner
NTN	National Trauma Network
NZ-MTR	New Zealand Major trauma Registry
RACS	Royal Australasian College of Surgeons
RN	Registered Nurse
TBI	Traumatic Brain Injury
TNCC	Trauma Nursing Core Course
TOPIC	Trauma Outcomes Performance Improvement Course

Major Trauma
National Clinical Network

www.majortrauma.nz