



# Western Australia Trauma Training and Education Unit

## Training Needs Analysis Report



### **Author**

Hannah Solomon, Nurse Educator – Statewide Trauma

### **Contributors**

Julie Williamson, State Trauma Education and Development Manager

Shari Kidd, Nurse Educator – Statewide Trauma

### **Statistical Analysis**

Angela Jacques, Statistician

**23/02/2021**

## ABSTRACT

**Background:** Trauma is the leading cause of mortality in those <44 years of age (Australian Institute of Health and Welfare, 2015). The Western Australian Trauma Training and Education Unit (WATTEU) are responsible for delivering trauma training and education across Western Australia (WA). Research suggests that trauma training should be tailored to meet the specific needs of health care professionals involved in the management of trauma (Tarighi, Sherman, Mian, & Nathens, 2015) and a Training Needs Analysis (TNA) is an effective method to identify those training needs, as well as help guide trauma training initiatives aimed at improving trauma outcomes (Brown, 2002)

**Aims and objectives:**

- To measure the participation rates and staff satisfaction ratings for trauma training programmes
- To identify potential barriers and/or facilitators that may prevent and/or assist current health care professionals accessing trauma training
- To investigate the preferred methods of delivery for future trauma training and education
- To identify any gaps in the delivery of trauma training and education.

**Design:** The research project employed a quantitative descriptive design.

**Methods:** Twenty five hospitals were purposively or randomly sampled across WA for inclusion in the project. An online survey was distributed to all nursing, medical, and allied health staff at these hospitals via global email. Royal Flying Doctor Service (RFDS) staff were also invited to participate and emails were distributed via their respective managers. Recruitment was through voluntary participation and withdrawal was allowed at any time.

**Results:** The survey yielded 753 eligible responses across the whole of WA. The majority of respondents were from the metropolitan region (66.9%), working in clinical roles (85.5%) and were mainly from a nursing discipline (70%). Staff satisfaction of current trauma training and education programmes delivered in WA were high, however staff participation rates were much lower than the recommended guidelines by the Royal Australasian College of Surgeons (RACS) (2020). The majority of staff surveyed would like additional trauma training and education (79.1%), with a preference towards training courses, workplace learning and simulation training. The main barriers for attending trauma education included the cost of courses, workload, inability to access leave and the location and dates of courses. Several gaps in knowledge and confidence were seen across different areas of trauma management.

Metropolitan staffs self-rated responses were consistent with trauma presentations that were infrequently or inconsistently seen across WA; however, regional staffs knowledge and confidence was self-rated much lower in some of the key aspects of the primary survey and trauma management.

**Conclusion:** The results of the TNA will help guide trauma education and training across WA, as well as help facilitate the development of WATTEU's strategic plan. Revision of the specific training programmes offered and course logistics are essential to ensure the unit meets the developing needs of WA Health staff. A greater focus is required to address the deficits in regional WA, with exploration of alternative educational modalities including the use of Emergency Telehealth and online learning.

## Table of Contents

Introduction .....	1
Background.....	1
Literature review .....	2
Research aim.....	7
Objectives .....	7
Methodology .....	7
Setting.....	7
Participants/sample.....	10
Recruitment.....	10
Data collection .....	10
Ethical consideration.....	11
Data analysis .....	12
Findings .....	12
Nursing.....	14
Barriers to education.....	18
Sourcing education.....	19
Future trauma education.....	19
Course location, duration and structure .....	20
Telehealth .....	20
Online training.....	20
Social media .....	21
Knowledge and confidence.....	22
Medical.....	22
Barriers to education.....	25
Sourcing education .....	26
Future trauma education.....	26
Course location, duration and structure .....	27

Telehealth .....	28
Online training.....	28
Social media .....	28
Knowledge and confidence.....	29
Allied Health .....	29
Barriers to education.....	31
Sourcing education .....	32
Future trauma education.....	32
Course location, duration and structure .....	33
Telehealth .....	34
Online training.....	34
Social media .....	34
Knowledge and confidence.....	35
Metropolitan area .....	35
Fiona Stanley Hospital .....	37
Perth Children’s Hospital .....	39
Royal Perth Hospital .....	41
Sir Charles Gairdner Hospital .....	42
Royal Flying Doctor’s Service.....	44
Regional area .....	46
Discussion.....	49
Participation rates and staff satisfaction .....	50
Barriers and facilitators to accessing trauma training and education....	51
Future trauma training and education.....	53
Current gaps in the delivery of trauma training and education .....	56
Recommendations.....	57
Limitations.....	57

Conclusion .....	58
References.....	59

Appendix A - Participant information sheet

Appendix B - Questionnaire

Appendix C - HREC review letter

Appendix D - Investigator response letter

Appendix E - HREC approval letter

Appendix F - Research governance approval letters

Appendix G - Nursing course survey responses

Appendix H - Knowledge and Confidence of Trauma by Discipline

Appendix I - Medical course survey responses

Appendix J - Knowledge and Confidence of Trauma by Area

Appendix K - Knowledge and Confidence of Trauma by Region

Appendix L – Survey responses by region

## **Introduction**

The Western Australia Trauma Training and Education Unit (WATTEU) are responsible for the provision of state-wide trauma training and education for Western Australian (WA) health care professionals. Trauma is the leading cause of mortality among the most economically active section of the population (<44 years of age) (Australian Institute of Health and Welfare, 2015). Although the positive impact of established trauma training courses such as the Advanced Trauma Life Support (ATLS) on the care of trauma patients has been established (Mohammad, Branicki, & Abu-Zidan, 2014), there is evidence suggesting the need to tailor training to meet the specific needs of health care professionals involved in the management of trauma (Tarighi et al., 2015). Several factors such as preferred place and mode of delivery and barriers to attendance must all be considered when designing a trauma education programme. The trauma training needs of the various professionals involved in trauma care and management may differ. Different health care professionals located in different health facilities and geographical settings may encounter different barriers, and have different preferences as far as trauma training is concerned (Tarighi et al., 2015).

In order to explore trauma training needs and requirements, it was decided that a state-wide training needs analysis (TNA) would be conducted to identify specific knowledge/skill gaps, and training preferences of the various professionals involved in the management of trauma patients across WA. The results of the TNA will help guide the strategic plan of WATTEU, as well as allow for the implementation of well-informed trauma training and educational programmes, with the goal of enhancing trauma care and ultimately patient outcomes.

## **Background**

In 2014 the Western Australian State Trauma Committee (WATSC) identified that there were Trauma System issues relating to Clinical Coordination, Rehabilitation and Workforce planning, with education overlapping all three. The WA Trauma Training and Education Unit (WATTEU) were tasked with investigating trauma education delivery in WA, and in line with the development of the WATTEU strategic plan, this was incorporated into our Vision; to improve the health outcomes of trauma patients in Western Australia and our Mission; to develop, implement and

evaluate standardised trauma training and education to Western Australian Health Care Practitioners.

In order to achieve the strategic vision, WATTEU implemented a five year plan to identify the trauma training needs of WA Health staff and to support the development of the WA Injury and Trauma Education and Training Framework. As part of this commitment, it was agreed to develop and conduct a state-wide TNA to identify the provision, delivery and potential gaps in trauma training and education. The results of the TNA would guide the development of an operational plan for the delivery of trauma training and education in WA, as well as support the development of the WA Injury and Trauma Education and Training Framework. The primary goals of the TNA were to:

- Identify any deficiencies in educational programmes and/or appropriate education programmes relevant to the WA Trauma System
- Identify any specific barriers which need to be addressed before educational programmes can be effectively implemented
- Make recommendations for trauma training and education delivery
- Ensure a high performing workforce – one that has the skills and knowledge to continuously deliver innovative services
- Coordinate trauma training and education activities and continue to provide high quality teaching and training programmes
- Provide and implement a workforce engagement programme to ensure WA Health staff are involved in and have information on education programmes
- Optimise patient outcomes through education and training and develop ways of linking educational programmes to service delivery.

### **Literature review**

Training Needs Analysis (TNA) is an essential but often neglected part of the training cycle. It provides an opportunity to assess the current knowledge and skill levels of employees, and determines whether further training is required for successful completion of specified tasks. This TNA is particularly important for health care professionals involved in trauma care and management, because trauma is often a time critical situation, which requires caregivers to have the requisite

knowledge and skills to make correct decisions and carry out lifesaving procedures in a timely manner.

Globally, trauma is a leading cause of mortality, and a significant number of trauma deaths have been identified as preventable. The term trauma is used to describe a broad range of injuries caused by external force as a result of accidents, violence or self-harm (Carter, 2014). Trauma may thus be broadly classified as penetrating, blunt or a combination of these. Trauma is a major cause of mortality and morbidity globally (World Health Organization, 2016). It is in fact, the leading cause of death amongst people aged 44 years or younger, and the third most common cause of death among people of all ages in industrialised societies (Pfeifer, Tarkin, Rocos, & Pape, 2009). It is projected to be the leading cause of years of life lost by 2020. Trauma is further projected to be the third leading cause of mortality with over six million deaths by 2030 (WHO, 2016)

According to the Australian Institute of Health and Welfare (2015), during 2011-2012, 454,031 people were hospitalised for severe injuries. Most of these injuries were the result of falls and transport accidents. Land transport accidents were reported to be the ninth leading cause of premature death in Australia in 2010-2012, claiming over 1200 lives. A consultation paper compiled by the Australian Trauma Quality Improvement Program (AusTQIP) (2012) also confirmed that traumatic injury is a major public health problem in Australia. The annual social and economic cost (\$3.4 billion) is greater than the combined costs of cardiovascular disease (\$2.2 billion) and type II diabetes (\$989 million).

Over the years, there have been significant improvements in trauma related deaths. Premature deaths due to land transport accidents have reduced by 75% in the past three decades (Australian Trauma Quality Improvement Program (AusTQIP), 2012). However, death rates still remain significant with a population based study conducted at John Hunter Hospital in New South Wales estimating that 12.3 and 8.6 per 100,000 population died of high energy and low energy injuries respectively. The study further indicated that 27% of high energy deaths occurred within 48hrs of hospitalisation (Evans et al., 2010), with the leading causes of death being central nervous system (CNS) related injuries and exsanguinations (33%



each). Other Australian studies have also documented an association between remoteness and the likelihood of trauma death (Fatovich & Jacobs, 2009).

Although trauma care may be of a relatively high standard in developed countries such as Australia, to ensure continuity, staff must be trained and prepared for their role in the management of trauma (Carter, 2014). Indeed training does not finish once a trainee accomplishes the required training outcomes. Competence and performance must be demonstrated in the correct setting on a regular basis and staff must be re-trained to refresh their skills in the care of trauma patients (Carter, 2014).

A systematic review of the literature by Mohammad et al. (2014) established that although trauma training such as Advanced Trauma Life Support (ATLS) improves the knowledge, clinical skills, organisation and priority approaches of participants, the skills gained through ATLS participation diminishes after six months, with a complete decline after two years. In a US based study, Franklin, Carr, and Padden (2008) documented Army Family Nurse Practitioners' assessment of their own competence in providing trauma care using an adaptation of trauma competency outcomes from various courses. Although there was a consensus that the skills identified in their questionnaire were crucial to the management of trauma patients, participants considered themselves competent in only 50% of these skills. Remarkably, the study found that completion of a Trauma Nursing Core Course (TNCC) did not necessarily translate into self-reported competence in trauma management. For instance, it was revealed that participation in TNCC was not statistically significantly associated with self-perceived trauma competence. The study thus suggested the need for more hands-on trauma care training for the study population. The findings of this study accentuate the need for regular trauma training needs assessment for trauma care staff.

Other researchers such as Vioque et al. (2014) observed that globally, performance improvement initiatives have improved the management of trauma patients. The authors further argue that performance improvement initiatives are contingent upon the identification of avoidable errors in the management of trauma patients. However, for any performance improvement initiative to be effective, not only do we need to properly identify avoidable errors, but it is also imperative that training needs of personnel involved in the management of trauma are evaluated

periodically as part of the training cycle in order to avoid errors that could lead to fatalities.

A TNA, which involves the gathering of data to ascertain existing training needs (Brown, 2002) may provide a basis for effective trauma training and initiatives aimed at improving trauma outcomes. This is because training in itself does not guarantee optimal performance from employees. The adequacy of training is vital if organisational goals are to be accomplished. Too much training can diminish its effectiveness (Whiles, 1999). Over training can lead to frustration, which may in turn destroy the credibility of a training programme (Blair & Seo, 2007) and too little training may also impact negatively on the performance of employees (Brown, 2002). A TNA helps to identify whether training is the answer to a problem or is the panacea to meeting organisational targets. Essentially a TNA collects and analyses information so as to develop an effective training plan (Cekada, 2010). By conducting a TNA, an organisation is able to confirm whether training is the most appropriate solution to a problem, or to enhance performance. In this regard, Sorenson (2002) aptly postulates that training cannot address problems caused by poor systems, inadequate infrastructure/resources or understaffing.

The Cancer Council of NSW, Aboriginal Health and Medical Research Council, Cancer Institute and the government of New South Wales jointly commissioned an investigation into the training needs of health professionals in Aboriginal Community Controlled Health Services (ACCHS) and mainstream cancer services regarding delivery of appropriate cancer care. It was reported that although cancer is a priority concern for ACCHS, only a few staff had completed any cancer specific training. The study further reported that mainstream cancer staff also reported a need for further training in cultural awareness (Wood, 2014). This study confirmed the fact that although health professionals may be knowledgeable in their field of clinical practice, there may be other factors that prevent the delivery of optimal care. A TNA is therefore very crucial in identifying specific training needs of staff in order to make judicious use of resources and enhance performance.

A TNA also helps to identify barriers to undertaking training. For instance among health professionals, factors such as competing training interests among multi-skilled staff and non-release of staff for training due to inability to backfill their

positions have been identified as potential barriers to training (Wood, 2014). Through a TNA, a more appropriate and desirable medium for the delivery of training programmes may be able to be identified.

Although recent literature on TNAs is scant (Cekada, 2010), the existing literature suggests that there are several methods and models for conducting TNAs. However, the choice of a method and model depends on factors such as the organisation's size, ownership (private or public) and available resources for conducting the TNA (Cekada, 2010; Moseley & Heaney, 1994). For instance, one traditional method asks employees to rank desired training courses to rapidly assess the training requirements of a large number of employees (Cekada, 2010). Others have also employed a more elaborate questionnaire to ascertain the knowledge and confidence levels of employees in performing specified tasks (Gallagher, Cass, Black, & Norridge, 2012), and some have used qualitative methods to assess training needs of health care professionals (Denning & Verschelden, 1993; Wood, 2014).

A number of other approaches have also been put forward for carrying out a TNA. McGehee and Thayer (1961) proposed a three tier procedure beginning from organisational assessment, operations assessment, to individual assessment; Barbazette (2006) proposed TNAs should provide answers to questions such as why, who, what, and when and McClelland (1993) suggested that an 'open systems' model for carrying out a TNA, which involves:

- Determining the goals of the TNA
- Determining the assessment group
- Assessing available resources for the TNA
- Support from senior management
- Selection of assessment method and instrument
- Setting milestones
- Gathering data
- Analysis of data
- Drawing conclusions
- Making recommendations.

It is apparent from the literature that no one model or method can fit all situations, and that a combination of different models may be useful in conducting a TNA in the health sector, particularly those involved in trauma care. From the search of the literature, no research was identified specifically to trauma and TNA's. In view of this, the TNA was developed by combining and adapting existing approaches used in healthcare settings that were non trauma specific.

## **Research aim**

The aim of the research was to review the current provision of trauma training and education across the state of Western Australia, and to assess the staff desires for future trauma training and education.

## **Objectives**

The objectives of the research were to:

- Measure the participation rates of specific training programmes, as well as staff satisfaction ratings for these programmes
- Identify potential barriers and/or facilitators that may prevent and/or assist current health care professionals accessing trauma training and education
- Investigate the preferred methods of delivery for future trauma training and education
- Identify any gaps in the delivery of trauma training and education.

## **Methodology**

The research project employed a quantitative descriptive research design.

## **Setting**

Hospitals and other health facilities within WA are broadly classified into two categories; metropolitan and regional/country. The regional/country hospitals are further divided into rural and community hospitals/health centres. The first stage of the project was to select the hospitals to be invited to participate in the TNA. According to the WA Department of Health ([www.wadepartmentofhealth.gov.au](http://www.wadepartmentofhealth.gov.au)), there are 15 metropolitan hospitals in WA. Purposive sampling was used to select

the main tertiary facility in each of the Metropolitan Area Health Services; Sir Charles Gairdner Hospital from North Metro, Royal Perth Hospital from East Metro and Fiona Stanley Hospital from South Metro. Perth Children's Hospital has also been purposively selected to ensure the inclusion of paediatric trauma management. Royal Perth Hospital and The Perth Children's Hospital were essential for inclusion due to their designation as major trauma centres.

In regional/country WA, there are seven areas; Kimberley, Pilbara, Midwest, Wheatbelt, Goldfields, South West, and Great Southern. All hospital within the regions are ranked from 1-5 based on the WA Health Clinical Service Framework (CSF) except some community health centres and nursing posts which are not assigned any ranking. Ranking is based on the level of emergency service and availability of medical practitioners. All the main regional hospitals/centres are ranked four, with the exception of Bunbury hospital, which was ranked five. The main regional centres were purposively selected for inclusion within the project. From each of the seven regions a further two hospitals were randomly selected for participation in the project; one level three hospital and one level two hospital or level one/unranked hospital/health centre. However, in the Kimberley, no hospital fell under level two on the classification table; therefore two level three hospitals were randomly chosen. Random sampling of hospitals was performed by dividing each hospital in to their selective categories and regions and assigning them a number. A random number generator was then used to identify the hospitals for inclusion.

The rationale for selecting the country hospitals based on the classifications was to ensure that the selected hospitals were representative of hospitals which attend to trauma patients within the region. It was also to ensure comparability of the findings across the various hospital categories and across the regions. In all, 25 hospitals were involved in the study – 21 country hospitals and 4 metropolitan hospitals. These are outlined in Table 1.

Table 1: *Hospitals Included and Sampling Technique*

<b>Region</b>	<b>Site</b>	<b>WACHS Emergency Care Category</b>	<b>WA Health CSF Level of Emergency Service</b>	<b>Sampling</b>
Metropolitan	Sir Charles Gairdner			Purposive
	Royal Perth			Purposive
	Fiona Stanley			Purposive
	Perth Children's			Purposive
Great Southern	Albany	Emergency Department B	Level 4	Purposive
	Katanning	Emergency Service	Level 3	Random
	Ravensthorpe	Nurse Led Emergency Service	Level 2	Random
Kimberley	Broome	Emergency Department B	Level 4	Purposive
	Derby	Emergency Department A	Level 3	Random
	Halls Creek	Emergency Service	Level 3	Random
South West	Bunbury	Emergency Department B	Level 5	Purposive
	Margaret River	Emergency Service	Level 3	Random
	Boyup Brook	Nurse Led Emergency Service	Level 2	Random
Midwest	Geraldton	Emergency Department B	Level 4	Purposive
	Exmouth	Emergency Service	Level 3	Random
	Morawa	Nurse Led Emergency Service	Level 2	Random
Pilbara	Port Hedland	Emergency Department B	Level 4	Purposive
	Newman	Emergency Service	Level 3	Random
	Roebourne	Nurse Led Emergency Service	Level 2	Random
Goldfields	Kalgoorlie	Emergency Department B	Level 4	Purposive
	Esperance	Emergency Department A	Level 3	Random
	Laverton	Nurse Led Emergency Service	Level 2	Random
Wheatbelt	Northam	Emergency Department A	Level 4	Purposive
	Narrogin	Emergency Department A	Level 3	Random
	Southern Cross	Nurse Led Emergency Service	Level 2	Random

## **Participants/sample**

A convenience sample was used to identify participants for the project. A link to the questionnaire was sent to appropriate authorities in each of the selected hospitals/regions to be forwarded via WA Health email to all health care professionals. The Royal Flying Doctor's Service (RFDS) was also included in the survey, with emails being distributed by their respective managers. The project had wide inclusion criteria that targeted all medical, nursing and allied health staff within each hospital/area and included any staff that were a qualified/registered health care professional and were involved in the care of trauma patients. The wide inclusion criterion was to facilitate a large representative sample for the project. To ensure the survey only targeted trauma related staff, the first question of the survey asked how often the participant's current role involved the care or management of the trauma or injured patient. If the participant answered 'never' the survey ended and participants were not directed to the second part of the survey for data collection.

## **Recruitment**

Recruitment was through voluntary participation. An email was sent to all WA Health staff at the respective hospitals/areas via appropriate communication networks to invite staff to participate in the project. The email included information on the project, a link to the survey, a participant information sheet (see Appendix A) and a link for further information. A follow up email was sent after two weeks and a final reminder email was sent at four weeks. Information and advertising for the project was also made available on the WATTEU website, on hospital e-newsletters, hospital hub sites and email bulletins.

## **Data collection**

Data was collected using an online questionnaire survey. The data collection instrument was developed based on the objectives of the project and guided by the review of relevant literature. The survey was sent for review and recommendations from key stakeholders and underwent several revisions to ensure content and face validity, clarity and sensitivity of the instrument. The resultant instrument was made up of two broad parts. The first part contained items on the socio-demographic

characteristics of participants. The second part contained items on past trauma education, confidence and knowledge levels of participants regarding trauma and care of trauma patients as well as future training preferences of participants. The questions were designed to assess the current state of WA trauma training and education, determine barriers and facilitators to accessing trauma education, and to discover the preferred delivery methods for future trauma training. A mix of open and closed questions were included, based on questions delivered in previous training needs analysis delivered by WATTEU as well as present in the literature. The final instrument was sent for ethics approval and final adjustments were made before commencing the project (see Appendix B).

The survey was delivered online using SurveyMonkey. A pilot study was conducted prior to commencement of the main project to test the validity of the survey and subsequent data it produced. The pilot group included 20 key stakeholders from Nursing, Medical, Allied Health and Paramedical staff from a range of disciplines across WA Health. The pilot study returned a 40% response rate and did not highlight any significant changes required in the questionnaire design just minor adjustments in wording of questions. No ethical amendments were required to be submitted. A link to the questionnaire was sent to appropriate authorities in each of the selected hospitals/regions to be forwarded via WA Health email to all health care professionals.

### **Ethical consideration**

The research proposal and questionnaire was submitted to Sir Charles Gairdner and Osborne Park Health Care Group Human Research Ethics Committee (EC00271) and approval was received on 14/08/2018, PRN RGS0000000849. Minor amendments to some of the questioning within the survey were made as a result of ethics review. A letter outlining the required ethical changes, investigator response and final ethical approval is attached as per Appendix C, D & E respectively. Research Governance approval was received by each hospital site individually, and through WACHS for all country sites. Copies of these letters are provided in Appendix F. Due to the extended timeframe of the project, progress reports were submitted to all sites in August 2019 and permission was granted to continue access for the project.



To minimise bias, the survey was anonymous, thus reducing potential social desirability effect. Additionally, the survey instrument was devoid of leading questions. No risks were identified during the study. Due to the nature of an online survey, no specific withdrawal criterion was set and participants were able to withdraw from the survey at any point. The survey had a 15.2% (n=116) withdrawal rate at varying points throughout the survey, resulting in incomplete data collection for those participants.

## **Data analysis**

Quantitative data was coded using Excel by one researcher, crosschecked by another and analysed by a statistician using SPSS V.24.0. Descriptive statistics were obtained on frequency distributions for categorical data and with means, standard deviations, medians and interquartile ranges for continuous data. Group comparisons were made based on sites, regions, professional groups and other demographic data of relevance. Qualitative data underwent thematic analysis by two separate researchers and key themes were finalised by the Principal Investigator. In accordance to Krajcie and Morgan (1970), the survey needed to yield a sample of 360 responses in order to have a 95% confidence level (power) and a 5% margin of error (alpha). A total of 753 eligible responses were obtained, therefore exceeding this requirement.

## **Findings**

The survey yielded 759 responses from participants, of which 753 were eligible for inclusion in the final survey analysis; 6 participants did not continue the survey beyond the demographic details. The mean age of respondents was 41.1 years (SD = 11.7), 77.8% were females (n=586), 19.8% males (n=149) with 2.4% (n=18) preferring not to say.

Of the 753 responses, 527 were from nursing staff (70%), 143 were from medical staff (19%) and 83 were from Allied Health (11%) (see Figure 1). The majority of respondents worked predominantly in a clinical role (85.5%) with 8.1% working in managerial roles (n=61) and 6.1% in education (n=46) (see Figure 2). The majority of respondents, in all disciplines, had greater than ten years post-graduate experience (64.3%), speciality experience (44.6%) and direct trauma care

experience (42.2%). Further information regarding the breakdown of responses from disciplines will be given in their respective sections.

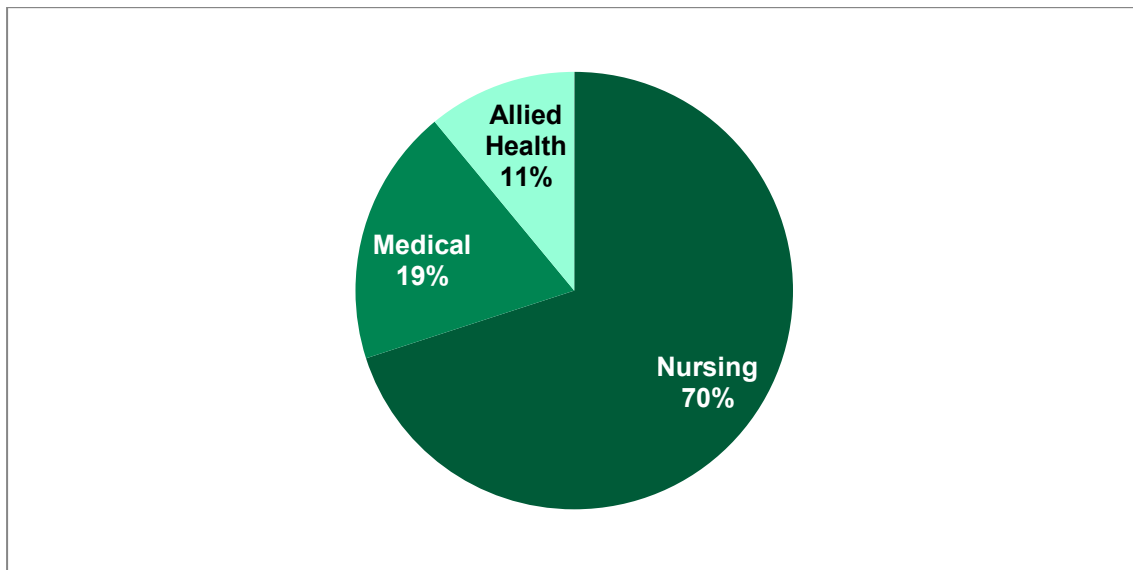


Figure 1: *Profession Distribution*

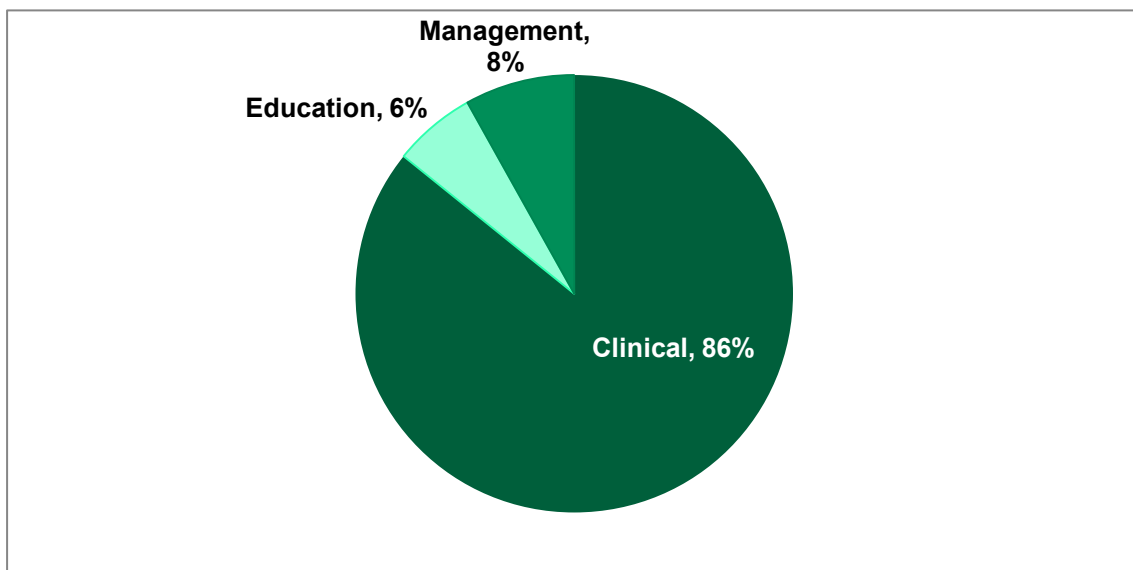


Figure 2: *Role Distribution*

The majority of participants were from the metropolitan area (66.9%) with responses predominantly coming from RPH (n=149), followed by PCH (n=140), FSH (n=129) then SCGH (n=79) (see Figure 3). Of the 31.1% of participants working predominantly in the regional areas, the majority worked in the Pilbara (n=56), followed by the Great Southern (n=50), Goldfields (n=49), Kimberley (n=23), South West (n=20), Midwest (n=12) and Wheatbelt (n=10). The remaining participants

worked across regions (see Figure 4). Further information regarding the breakdown of responses from regions will be given in their respective sections.

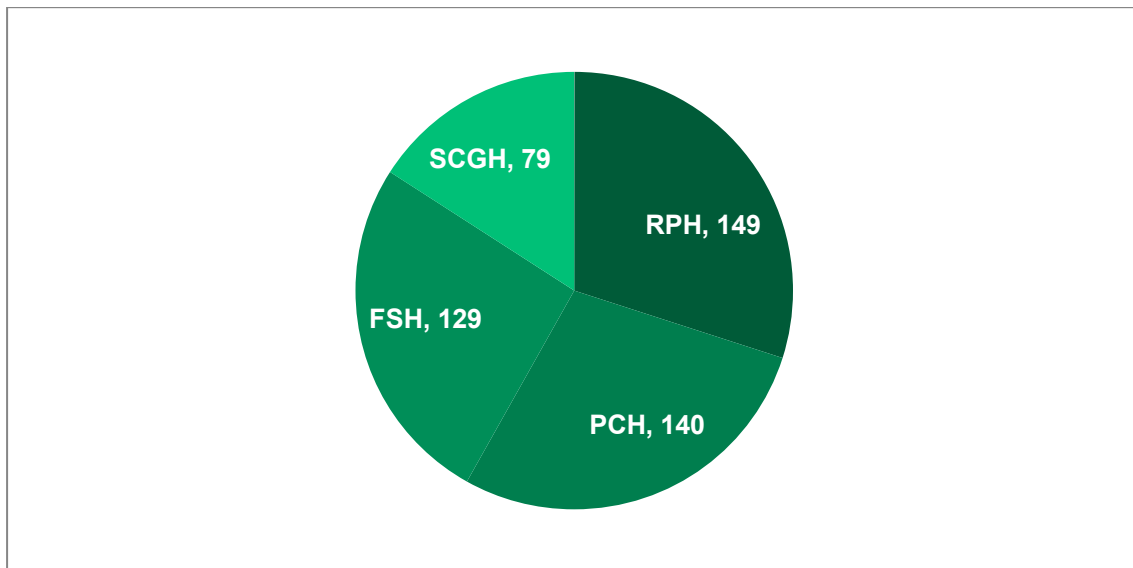


Figure 3: *Metropolitan Distribution*

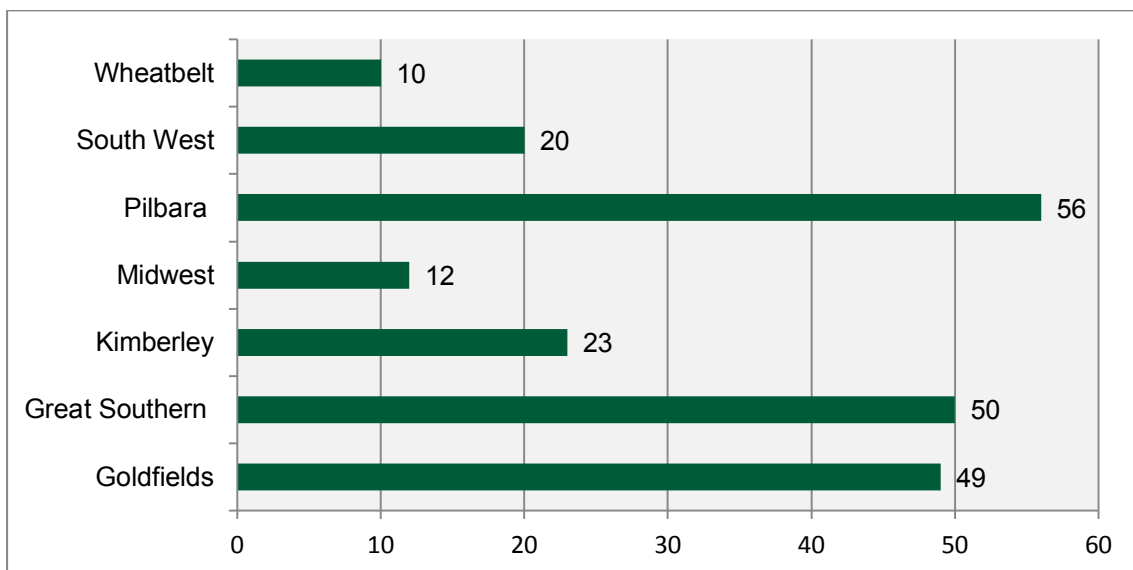


Figure 4: *Regional Distribution*

Of all participants surveyed 43.6% had heard of the Western Australian Trauma Training and Education Unit (WATTEU).

### **Nursing**

70% of the total responses were received from nursing staff (n=527). The mean age of nursing participants was 40.7 years (SD 12.0), the majority were female

(86.1%) and were registered nurses (48.1%). Figure 5 identifies the further breakdown of position titles. From those staff, 83.1% (n=438) worked predominantly in a clinical role, 8.3% (n=44) in an education role and 8.5% (n=45) in a managerial role. Table 2 identifies years of post-registration experience, years of practice in specialist area and years of practice in trauma care for nursing participants.

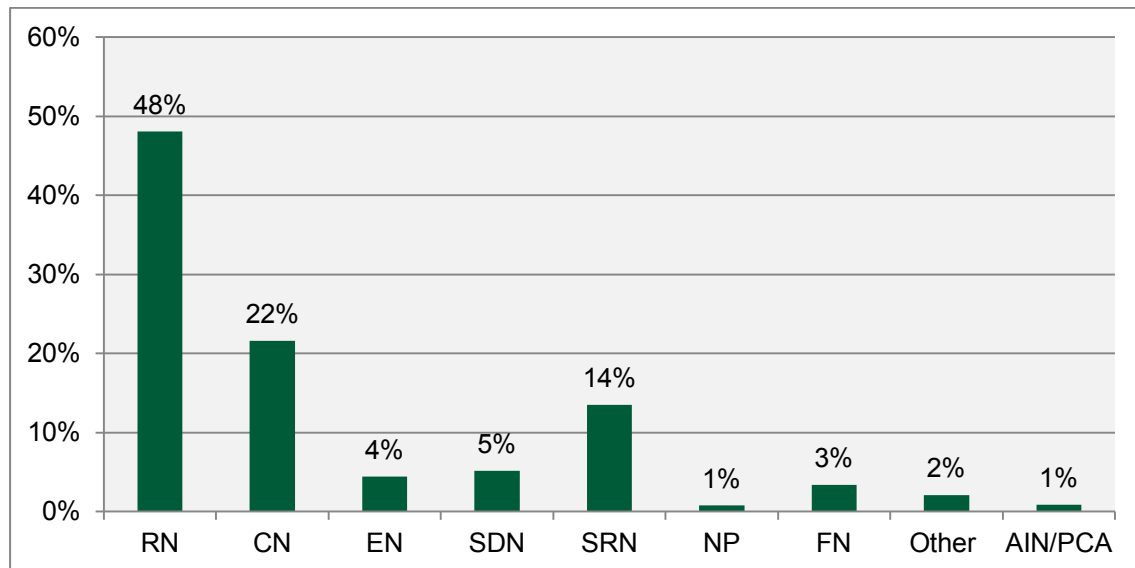


Figure 5: *Nursing Position Titles*

Table 2: *Years of Experience and Speciality Care for Nursing Participants*

Nursing participants (n=527)	Years post-registration experience n (%)	Years practice in specialist area n (%)	Years practice in trauma care n (%)
<1 year	13 (2.5%)	43 (8.3%)	88 (17.0%)
1-3 yrs	51 (9.7%)	86 (16.6%)	92 (17.8%)
4-6 yrs	66 (12.5%)	86 (16.6%)	72 (13.9%)
7-9 yrs	56 (10.6%)	67 (12.9%)	53 (10.2%)
10+ yrs	341 (64.7%)	236 (45.6%)	213 (41.1%)
Missing data	0	9	9

Nursing participants worked in a wide array of clinical areas, with the majority of nurses working in the emergency department (36.7%) followed by inpatient wards (27.9%) (Figure 6). A total of 36% of nursing staff had attended a trauma course in the last four years, 17.8% had attended a trauma course but greater than four years ago, 39.4% of nurses had never attended a trauma course and 6.9% were unsure.

Figure 7 provides a breakdown of what courses have been attended. An additional 38 courses were recorded in the 'other' section and are listed in Appendix G.

Of all nurses surveyed, 48.8% has heard of the Western Australian Trauma Training and Education Unit (WATTEU).

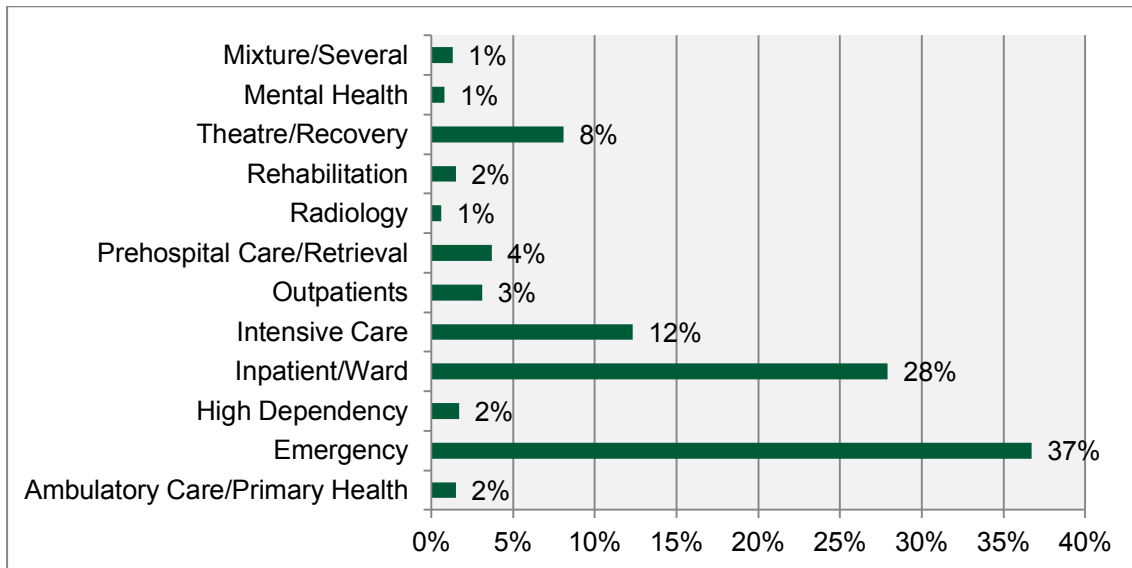
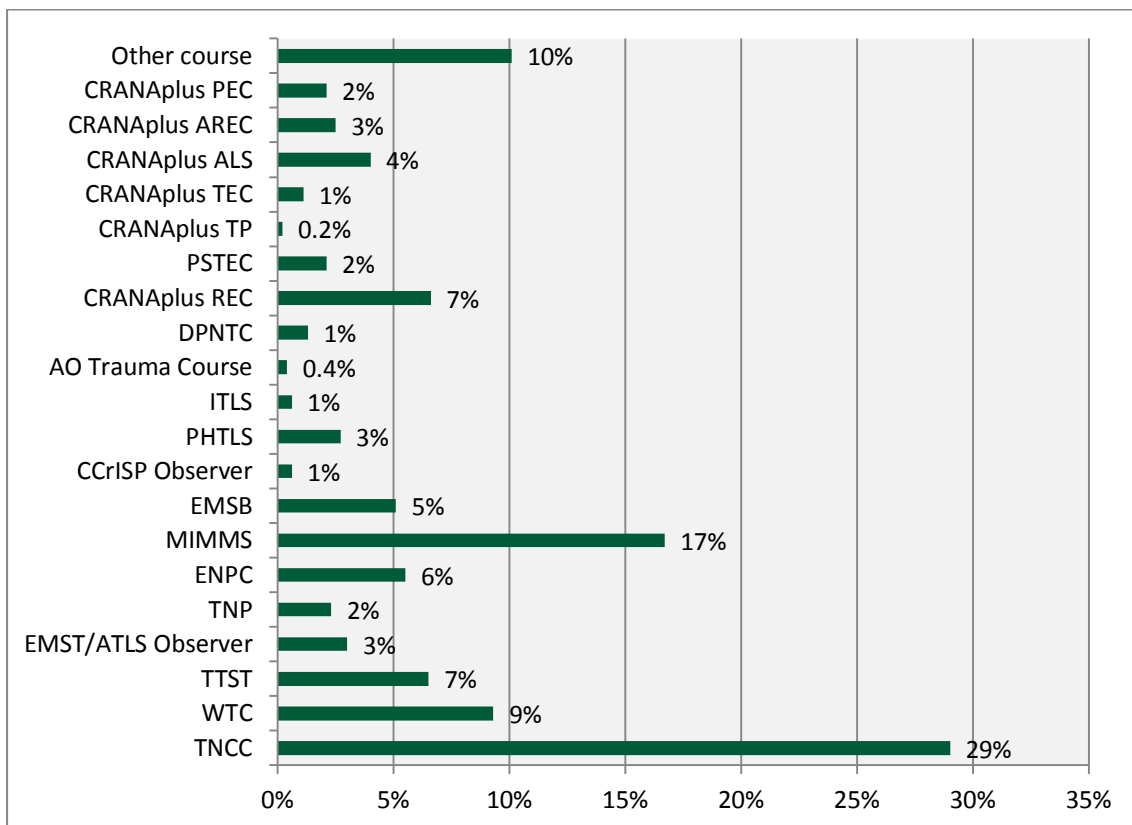


Figure 6: *Nursing Clinical Areas*



### Figure 7: *Nursing Courses Attended*

The most popular course attended was the TNCC (29%), followed by the MIMMS (16.7%), the WTC (9.3%) and the TTST (6.5%). Of participants who had attended the TNCC 95.9% thought that the course was relevant to their work area and 95.9% also agreed that they could apply what they had learnt. 90.5% agreed or strongly agreed the course met their needs and 91% of participants would recommend the course. 46.9% had attended the course < 2 years ago, 19% within the past 3-4years and 34% > 4 years ago.

A total of 28 comments were received from nursing participants regarding the TNCC; 3 people recommended the course as mandatory training for emergency nurses, 4 participants commented on the cost of the course with 2 people indicating the course is too expensive and 2 people stated that the course cost should be covered by their employer. 3 participants wanted more practical sessions and 2 participants wanted more depth in regards to content. 2 people would like to attend the TNCC prior to the 4 year verification period to keep knowledge current. 2 people wouldn't recommend the course due to potential for participants to fail the course testing component.

*"I paid for the TNCC out of my own pocket which included paying for my own accommodation. I strongly believe that the costs should be covered by WACHS if working in an ED environment."*

*"I resat the TNCC exam within the last 2 years, I feel it is a really good course for those new to resus and allows for incredible growth and expansion of knowledge whilst teaching a systematic approach - however I'd love something more in depth now that I have grown so much professionally."*

*"TNCC was the BEST trauma course I have ever attended. The lecturer team were incredible, inclusive and supportive."*

*"TNCC don't like how they fail people, feel it's a reflection of their teaching standards. Will not do it again."*

Although MIMMS is not typically considered a trauma course, it was included in the study due to the disaster component with principles such as triage and management of multiple casualties. 83% of participants agreed or strongly agree that the course met their needs and 72.7 % agreed they could apply what they had learnt. 81.8% of participant surveys found the course relevant to their work area.

86.4% would recommend the course. 35.2% of participants who had attended the MIMMS had done so < 2 years ago, 21.6% 3-4 years ago and 35.2% > 4years ago. A total 6 comments were received regarding MIMMS with 2 people stating that the MIMMS course is difficult to get into.

Of the participants who had attended the WTC, 85.7% thought the course was relevant to the work area and 72.7% agreed they could apply what they had learnt. 83% agreed or strongly agreed the course met their needs and 86.4% would recommend the course. The WTC received 5 comments with 2 participants stating the course was a good as revision or entry level. One person indicated the course was lacking in depth.

*"...the WTC was epic, absolutely enjoyed every minute!!"*

*"It held no guts."*

Appendix G provides a further breakdown into nursing course survey responses including their relevance to clinical practice, ability to meet learning needs, applicability to clinical practice and whether the course would be recommended to their colleagues.

### ***Barriers to education***

Table 3 highlights the percentage of nurses who had experienced barriers in attending a trauma training course, in order of most experienced.

Table 3: *Barriers to Attending a Trauma Course*

<b>Barrier</b>	<b>% Yes (n=530)</b>
Cost of course	59.8%
Location of course	37.4%
Workload	30.2%
Inability to access leave	28.1%
Dates of course	26.6%
Personal commitments	24.9%
Lack of support from employer	19.4%
Duration of course	15.1%
None of above	12.6%
Course anxiety	8.9%
Other	5.8%
Pre-course preparation	3.8%
Internet access	1.3%

Other reasons identified as barriers included staffing levels, being casual pool therefore not receiving paid leave, not knowing when courses are running and courses filling up with lack of availability on courses.

### ***Sourcing education***

Nurses were asked if they were to undertake a trauma course, where would they look for it, 54% stated they would look on the internet, 48.7% would look on workplace noticeboards, 45.1% would look on the intranet, 40.4% would ask their colleagues or check professional organisations, 37.9% would ask their employer and 9.2% of nursing staff would look on social media platforms.

### ***Future trauma education***

A total of 80.8% of nurses felt they require additional trauma training and education in the future.

Table 4 highlights how nurses would like to receive future trauma training and education.

Table 4: *Preferences to Receive Future Trauma Training*

<b>Education</b>	<b>% Yes (n=530)</b>
Attend a course/workshop	79.4%
Workplace learning/inservice	67.5%
Simulation training	62.8%
Skills training	59.1%
Self-directed learning	51.7%
Conferences	30.6%
Lectures	28.7%
Social media (Blogs, YouTube, etc.)	12.6%
No wish to receive future education	2.1%
Other	0.6%

Webinars were also suggested as another option for future trauma training and education.



When considering trauma training and education in the future 79.3% of nurses either agreed or strongly agreed that they would avoid courses that were too expensive, 68.1% would avoid courses that were not locally accessible, 62.1% would avoid courses that delivered limited practical/skills training, 37.9% would avoid course with a long duration, 20% would avoid courses with formal testing and only 10.4% would avoid courses that included pre-course preparation.

In comparison, 90.8% of nurses either agreed or strongly agreed that they valued courses that were endorsed by a professional body, 87.4% value courses that utilise simulation training, 87% value courses that support multidisciplinary training, 81.5% value courses that are peer endorsed and 76.9% value courses that are internationally endorsed.

### ***Course location, duration and structure***

57.5% of nurses agreed that they would prefer courses to be held at their workplace, 34.5% at a hospital, 28.3% within the clinical environment, 22.6% within an education setting, 20.2% at a conference centre and 8.9% agreed they would like courses to be conducted online. When asked their preferred duration of a course 34.3% preferred two days, 30% preferred one day and 28.3% had no preference. 63.2% would prefer consecutive weekdays as their preferred structure with 25.1% having no preference.

### ***Telehealth***

86.3% of nursing staff had not received trauma training and education via telehealth in the last two years, of those participants 46.1% would like to receive trauma training and education via telehealth in the future. Of the 11.6% who had received training via telehealth, 77.6% would like additional training. Due to the provision of telehealth in regional sites, this is further broken down in its respective section.

### ***Online training***

80.8% of nursing staff had not received online trauma training and education in the last two years and of these participants 73.2% stated they would like to receive online training in the future. 13.3% of nurse had received online trauma training and of those participants 80.3% would like additional online training.

### **Social media**

14.6 % (n=71) of nurses had used social media (SM) for trauma education in the past, with the majority of these nurses using SM to further their education and training (69%), search for conference or events (53.5%) or to access up to date evidence based practice (53.5%). Facebook (67.6%) and YouTube (62%) were the most common SM services used.

85.4% (n=416) of nurses had never used SM for trauma education, of which 36.4% felt they would use SM in the future to access or receive trauma training or education and 25.3% were unsure. Of those nurses, 60.2% would use SM to further their education and training, 57.2% to search for conference or events and 43.1% to access up to date evidence based practice. For those who would access SM, 56.6% would most likely access YouTube, 54.1% Facebook, 18.3% blogs, 8.3% LinkedIn and 6.1% Twitter. 20.8% of nurses were unsure what to access. Podcasts were also mentioned as another way to access training and education.

A total of 92 comments were received from nursing staff on SM. Common reasons stated for not accessing SM for trauma education included not using SM (n=22) or identifying SM as an inappropriate forum (n=39). Nurses also stated concerns regarding credibility and reliability of information available on SM (n=9). A small number of participants (n=5) indicated that SM was not their preferred way to receive trauma education and prefer face to face education.

*"I don't believe there is a place for formal education to be delivered on a platform that is based on casual interaction and often open to online misinformation and misuse."*

*"I personally keep social media and work separate."*

Some positive nursing comments were also received regarding SM use, with comments supporting SM as an appropriate forum to receive trauma education (n=10), as an adjunct to other training modalities (n=7) and for advertising events (n=3). The average age of nurses who would access SM for trauma education was 37.7 years compared to average age of all nurse participants 40.7 years.

*"I think it's the way of the future. It just needs to be accessible at work. E.g. a lot of sites are blocked by DoH and therefore are unable to be used. Social media is much more engaging and the younger generation are more likely to use it."*

*“If something is offered on SM it needs to be accessible in other ways as well.”*

### **Knowledge and confidence**

Nursing participants were asked to self-rate their knowledge and confidence in different aspects of trauma care using a Likert scale from 1-5. Knowledge was rated lowest (scale 1 or 2) in blast trauma (58.5%), ocular trauma (52.9%) and submersion injury (44.7%). Confidence was rated lowest for caring for the obstetric trauma patient (58%). X-ray and CT interpretations were also rated low for nursing staff; however these are not defined as essential trauma nursing skills

A table outlining the results of all areas of knowledge and confidence are included in Appendix H.

### **Medical**

A total of 19% of all responses for the TNA were received from medical staff (n=143). The mean age of medical participants was 43.5 years (SD 10.8), the majority were male (57.3%) and were consultants (40%). Figure 8 identifies the further breakdown of position titles. From those staff, 95.1% (n=136) worked predominantly in a clinical role, with the remaining 7 participants working in either a managerial role (n=6) or an education role (n=1). Table 5 identifies years of post-registration experience, years of practice in specialist area and years of practice in trauma care for medical participants.

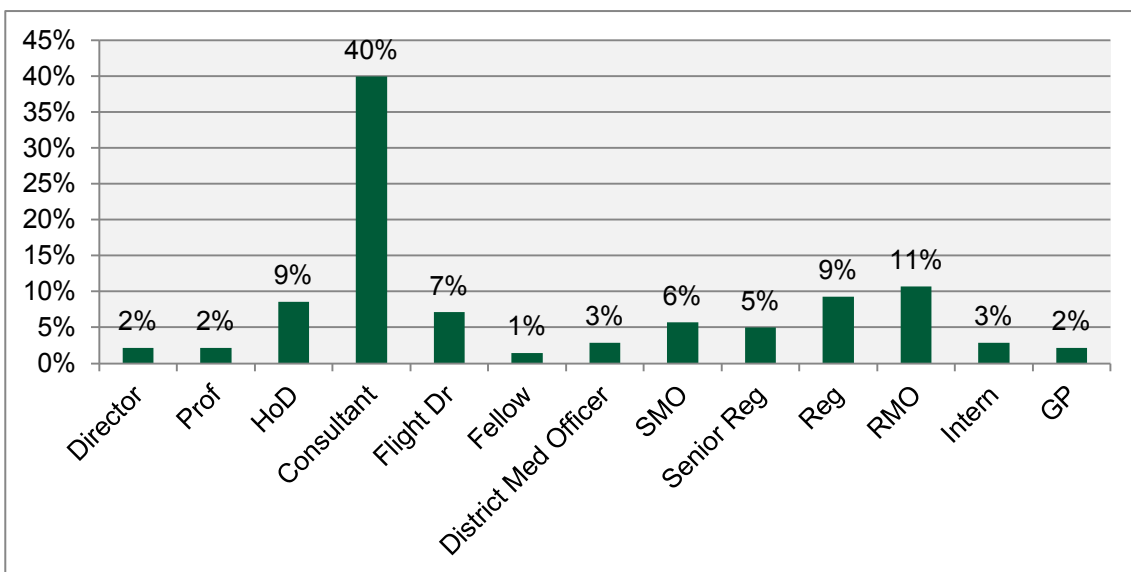


Figure 8: *Medical Position Titles*

Table 5: Years of Experience and Speciality Care for Medical Participants

Medical participants n=143)	Years post-registration experience n (%)	Years practice in specialist area n (%)	Years practice in trauma care n (%)
<1 year	6 (4.2%)	13 (9.2%)	13 (9.2%)
1-3 yrs	15 (10.5%)	24 (17.0%)	19 (13.5%)
4-6 yrs	10 (7.0%)	19 (13.5%)	15 (10.6%)
7-9 yrs	23 (16.1%)	20 (14.2%)	16 (11.3%)
10+ yrs	89 (62.2%)	65 (46.1%)	78 (55.3%)
Missing data	0	2	2

Medical participants worked in a wide array of clinical areas, with the majority of doctors working in the emergency department (33.6%) followed by inpatient wards (21%) (Figure 9). 55.4% of medical staff had attended a trauma course in the last four years, 21.3% had attended a trauma course but over four years ago, 17.7% had never attended a trauma course and 5.7% were unsure. Figure 10 provides a breakdown of what courses have been attended. An additional 10 courses were recorded in the 'other' section and are listed in Appendix I.

Of all doctors surveyed 42.6% has heard of the Western Australian Trauma Training and Education Unit.

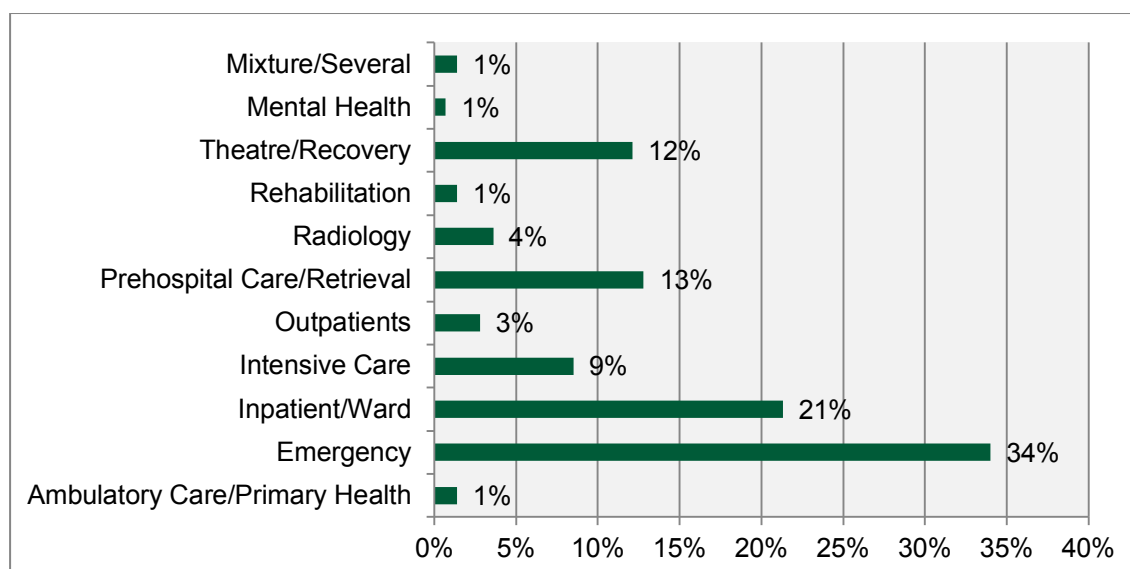


Figure 9: Medical Clinical Areas

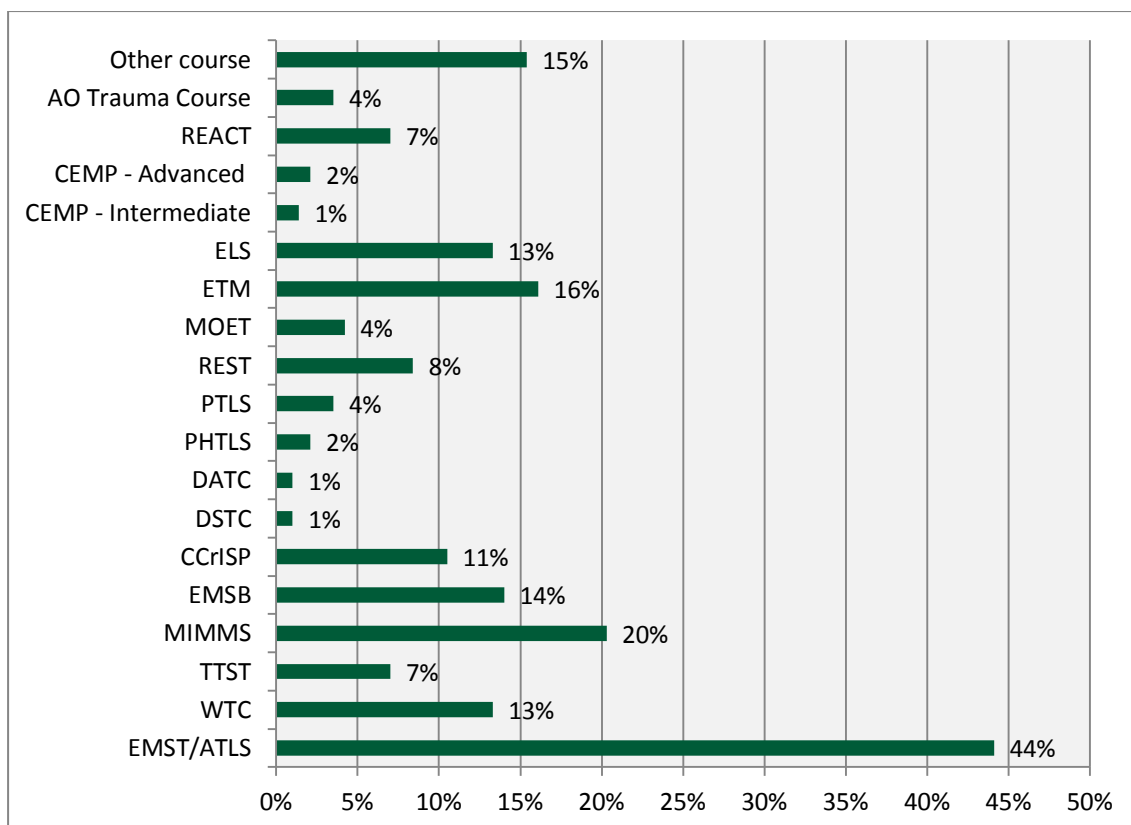


Figure 10: *Medical Courses Attended*

The most popular course attended by medical survey participants was the EMST or ATLS as it is known internationally (44.1%), followed by the MIMMS (20.3) and ETM at 16.1%. Of participants who had attended the EMST/ATLS 76.2% thought that the course was relevant to their work area and 82.5% agreed that they could apply what they had learnt. 76.2% agreed or strongly agreed the course met their needs and 66.7% of participants would recommend the course. 17.5% had attended the course < 2 years ago, 19% within the past 3-4years and 58.7% > 4 years ago.

16 comments were received regarding the EMST/ATLS; 4 participants stated that it was not relevant to their workplace, of which 1 of those participants worked in a tertiary institution, 4 participants stated the course was a good introduction, 3 participants commented on that the course lacked team training or inclusion of human factors.

*“ATLS limited, advancements in trauma management now and importance of team training and human factors well known.”*

*"I think that the EMST is an excellent introduction to trauma."*

8 comments were received regarding the ETM. Participants commented on the use of a team approach and human factors (n=3)

*"The ETM I found more useful in terms of developing a team based approach to managing trauma. ((compared to EMST))"*

*"Good for communication skills but less focus on procedural aspect, excellent online course manual."*

There were 6 comments relating to courses being too basic or more useful for lower grade staff including the WTC (n=2), EMST/ATLS (n=3) and CCrISP (n=1).

*"Very basic trauma course [EMST]. Doesn't really allow for much critical thinking of trauma cases."*

*"WTC is only a "taster" and is not appropriate for Tertiary Hospital doctors who need higher level training. WTC is good for paramedics, nursing, some GPs with little exposure to trauma."*

Appendix I provide a further breakdown into medical course survey responses including their relevance to clinical practice, ability to meet learning needs, applicability to clinical practice and whether the course would be recommended to their colleagues.

### ***Barriers to education***

Table 6 highlights the percentage of medical staff that have experienced barriers when attending a trauma training course, in order of most experienced.

Table 6: *Barriers to Attending a Trauma Course*

<b>Barrier</b>	<b>% Yes (n=145)</b>
Workload	43.4%
Cost of course	39.3%
Location of course	39.3%
Inability to access leave	33.8%
Personal commitments	31.7%
Dates of course	29.0%
None of above	18.6%
Duration of course	17.2%
Lack of support from employer	10.3%
Other	6.2%
Course anxiety	5.5%
Pre-course preparation	2.1%
Internet access	1.4%

Other reasons identified as barriers included lack of awareness on availability of courses, lack of courses specific to their area of speciality and difficulty/time getting leave approved prior to booking courses.

### ***Sourcing education***

Medical staff were asked if they were to undertake a trauma course, where would they look for it, 66.9% stated they would look on the internet, 48.3% would ask their colleagues, 44.8% would check professional organisations, 14.5% would look on the intranet or workplace noticeboards, 12.4% would ask their employer and 9.7% would look on social media platforms. Advertisement through work emails was also suggested as a recommended platform for sourcing education.

### ***Future trauma education***

A total of 75.2% of medical staff felt they require additional trauma training and education in the future.

Table 7 highlights how medical staff would like to receive future trauma training and education.

Table 7: *Preferences to Receiving Future Trauma Training*

<b>Education</b>	<b>% Yes (n=145)</b>
Attend a course/workshop	74.5%
Simulation training	60%
Workplace learning/inservice	53.1%
Skills training	53.1%
Conferences	37.2%
Self-directed learning	31.7%
Lectures	22.1%
Social media (Blogs, YouTube, etc.)	17.2%
Other	4.8%
No wish to receive future education	0.7%

Online learning and FOAMED resources (such as podcasts, Life in the Fast Lane, OrthoBullets etc.) were also suggested as other options for future trauma training and education.

When considering trauma training and education in the future 72.8% of medical staff either agreed or strongly agreed that they would avoid courses that delivered limited practical/skills training, 56% would avoid courses that were too expensive, 52% would avoid courses with a long duration, 38.4% would avoid courses that were not locally accessible, 15.2% would avoid courses with formal testing and 8.8% would avoid courses that included pre-course preparation.

In comparison, 90.4% of medical staff either agreed or strongly agreed that they valued courses that were endorsed by a professional body, 87.2% value courses that utilise simulation training, 87.2% value courses that are peer endorsed, 76% value courses that support multidisciplinary training, and 72% value courses that are internationally endorsed.

### ***Course location, duration and structure***

40.7% of medical staff agreed that they would prefer courses to be held at their workplace, 30.3% at a hospital, 21.4% within an education setting, 20.7% at a conference centre, 19.3% within the clinical environment and 9.7% agreed they would like courses to be conducted online. When asked their preferred duration of a



course 42.4% preferred two days and 34.8% preferred one day. Only 10% of participants preferred a three day course and no participants preferred greater than three days. 12.1% had no preference. 48.5% would prefer consecutive weekdays as their preferred structure with 19.5% preferring consecutive weekend days. 24.2% had no preference.

### ***Telehealth***

91% of medical staff had never received trauma training and education in the last two years via telehealth, of these participants 28% would like to receive trauma training and education via telehealth and 30.4% were unsure. Of the 6.7% who had received training via telehealth, 50% would like additional training. Due to the provision of telehealth in regional sites, this is further broken down in its respective section.

### ***Online training***

85% of medical staff had not received online trauma training and education in the last two years and of those participants 43.2% stated they would like to receive online training in the future. 11.3% of medical staff had received online trauma training and of those participants 53.3% would like additional online training.

### ***Social media***

20.5% (n=27) of medical staff had used social media (SM) for trauma education in the past, with the majority of medical staff using SM to further their education and training (74.1%), search for conference or events (55.6%) or to access up to date evidence based practice (51.9%). Blogs (55.6%) and YouTube (55.6%) were the most common SM services used.

79.5% (n=105) of medical staff had never used SM for trauma education, of which 31.9% felt they would use SM in the future to access or receive trauma training or education and 21.5% were unsure. Of these medical staff 58.4% would use SM to further their education and training, 54.2% to search for conference or events and 44.2% to access up to date evidence based practice. For those who would access SM, 54.5% would most likely access YouTube, 33.8% Facebook, 29.9% blogs, 26% Twitter and 9% LinkedIn. 16.9% of medical staff were unsure what to access.

A total of 14 comments were received from medical staff on SM. A common theme emerging from medical comments was that although participants view SM is useful for advertising or as a component of trauma education (n=3), there is a preference for face to face education (n=6).

*“Don't really like to engage in computers for learning - much better face to face!”*

*“I see it as only one component and not that useful. Skills development, team approaches are critical to successful care - social media does not do it for me in this regard.”*

Concerns were also raised about the credibility and validity of trauma information available on SM. Medical participants stated concerns about the professional standing of contributors and the lack of accountability for information disseminated on SM platforms.

*“Needs to be closed forum with members vetting (not open to public).”*

*“Eminence driven rather than expert driven... very little peer review or accountability. Useful for notification, but as a platform for comprehensive education, it is lacking.”*

### **Knowledge and confidence**

Medical participants were asked to self-rate their knowledge and confidence in different aspects of trauma care using a Likert scale from 1-5. Knowledge was rated lowest (scale 1 or 2) in blast trauma (40.9%), submersion injury (31%) and ocular trauma (29.6%). Confidence was rated lowest for nutritional assessment (39.5%), care of the obstetric trauma patient (37.6%) and care of the paediatric trauma patient (33.6%)

A table outlining the results of all areas of knowledge and confidence are included in Appendix H.

### **Allied Health**

A total of 11% of all responses were received from allied health (AH) staff (n=83). The mean age of AH participants was 39.1 years (SD 11.3) and the majority were female (88%). The majority of participants were physiotherapists, (n= 25), followed by social workers (n=15) and occupational therapists (n=14) . Figure 11 identifies the further breakdown of position titles. From those staff, 86.7% (n=72)

worked predominantly in a clinical role, 12.1% (n=10) in a managerial role and the final participant working in an education role (n=1). Table 8 identifies years of post-registration experience, years of practice in specialist area and years of practice in trauma care for allied health participants.

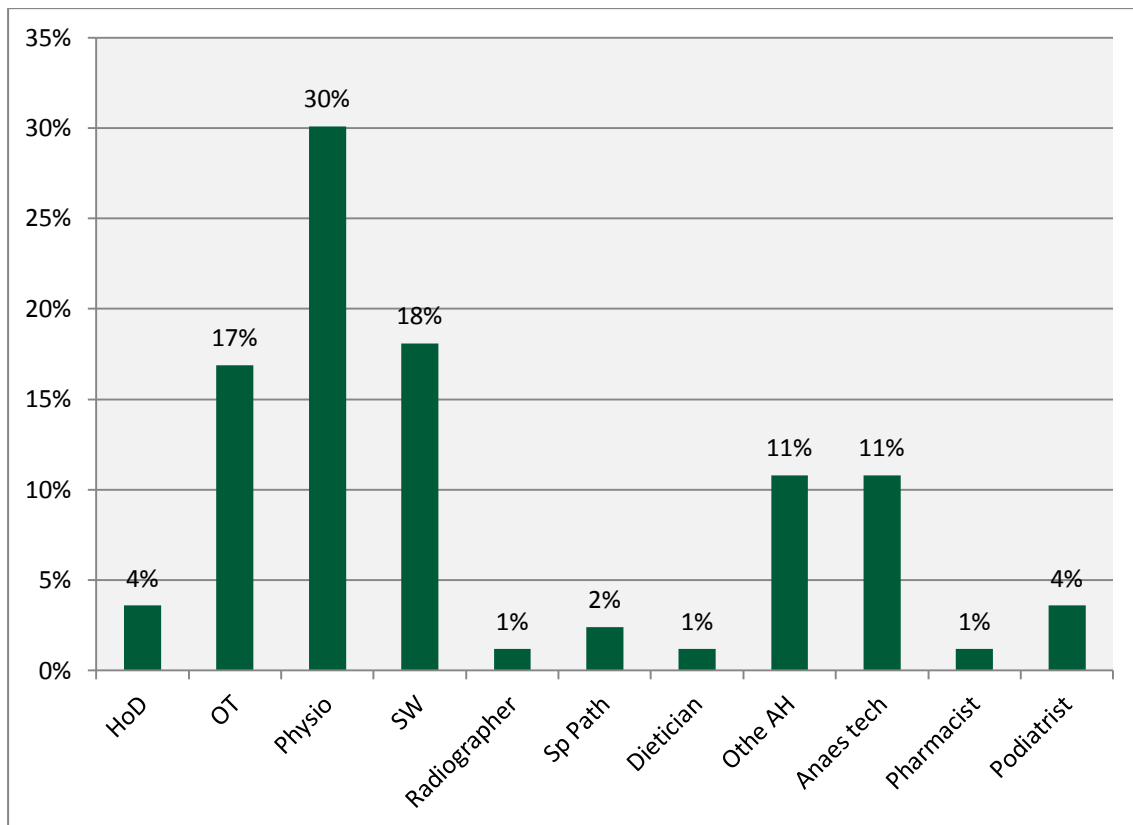


Figure 11: Allied Health Position Titles

Table 8: Years of Experience and Speciality Care for Allied Health Participants

Allied Health participants (n=83)	Years post-registration experience n (%)	Years practice in specialist area n (%)	Years practice in trauma care n (%)
<1 year	4 (4.8%)	7 (8.9%)	21 (26.6%)
1-3 yrs	13 (15.7%)	16 (20.3%)	13 (16.5%)
4-6 yrs	6 (7.2%)	12 (15.2%)	11 (13.9%)
7-9 yrs	6 (7.2%)	9 (11.4%)	7 (8.9%)
10+ yrs	54 (65.1%)	35 (44.3%)	27 (34.2%)
Missing data	0	4	4

Allied Health staff worked in a wide array of clinical areas, with the majority working in inpatient wards (27.8%), followed by outpatients (13.9%) (Figure 12). Only 16.5% (n= 13) of AH staff had attended a trauma course in the last four years, 7.6% (n=6) had attended a trauma course but greater than four years ago, 67.1% (n= 53) had never attended a trauma course and 8.9% (n=7) were unsure. None of the AH staff had attended any of the courses listed within the TNA. Under the 'other' section, 5 of the AH staff had attended the WA State Trauma Symposium, with the remaining 4 participants listing MIMMS, The Australian Hand Therapy Association, a can't intubate, can't oxygenate course and Trauma Informed Care and Practice. The remaining participants were unable to recall the course they attended.

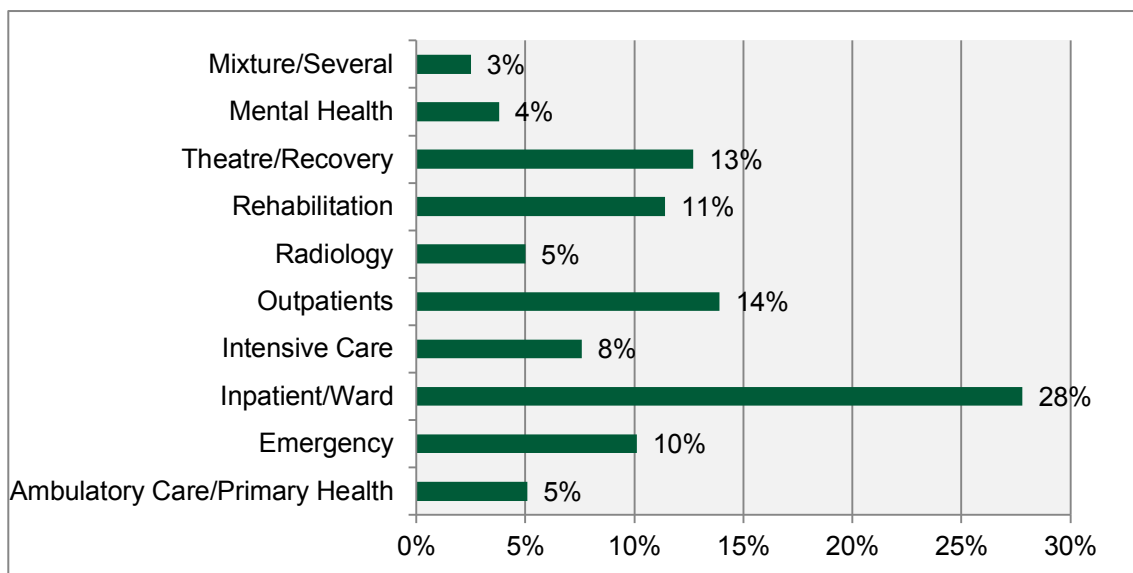


Figure 12: *Allied Health Clinical Areas*

Of all AH staff surveyed only 15% has heard of the Western Australian Trauma Training and Education Unit.

***Barriers to education***

Table 9 highlights the percentage of AH staff who had experienced barriers in attending a trauma training course, in order of most experienced.

Table 9: *Barriers to Attending a Trauma Course*

<b>Barrier</b>	<b>% Yes (n=83)</b>
Cost of course	51.8%
Workload	37.3%
Location of course	37.3%
Inability to access leave	37.3%
None of above	22.9%
Lack of support from employer	21.7%
Dates of course	21.7%
Duration of course	19.3%
Personal commitments	16.9%
Other	6%
Course anxiety	1.2%
Pre-course preparation	0%
Internet access	0%

Other reasons identified included lack of information and knowledge of appropriate trauma training and differing priorities for professional development

### ***Sourcing education***

Allied Health (AH) staff were asked if they were to undertake a trauma course, where would they look for it, 57.8% stated they would check professional organisations, 51.8% said they would look on the internet, 38.6% would look on the intranet, 34.9% would ask their colleagues, 26.5% would look on workplace noticeboards, 21.7% would ask their employer and 4.8% of AH staff would look on social media platforms. Global emails were another suggested way of sourcing education.

### ***Future trauma education***

A total of 81.3% of AH staff felt they require additional trauma training and education in the future.

Table 10 highlights how AH staff would like to receive future trauma training and education.

Table 10: *Preferences to Receiving Future Trauma Training*

Education	% Yes (n=83)
Attend a course/workshop	68.7%
Workplace learning/in-service	59%
Skills training	43.4%
Self-directed learning	41.7%
Simulation training	32.5%
Conferences	32.5%
Lectures	30.1%
Social media (Blogs, YouTube, etc.)	9.6%
No wish to receive future education	3.6%
Other	2.4%

Podcasts were also suggested as another option for future trauma training and education.

When considering trauma training and education in the future 84.3% of AH staff either agreed or strongly agreed that they would avoid courses that were too expensive, 78.1% would avoid courses that were not locally accessible, 67.2% would avoid courses that delivered limited practical/skills training, 59.4% would avoid courses with a long duration, 15.7% would avoid courses with formal testing and only 9.4% would avoid courses that included pre-course preparation.

In comparison, 93.8% of AH staff either agreed or strongly agreed that they value courses that support multidisciplinary training, 79.7% value courses that were endorsed by a professional body, 78.1% value courses that are peer endorsed, 71.9% value courses that utilise simulation training and 70.3% value courses that are internationally endorsed.

### ***Course location, duration and structure***

61.4% of AH staff agreed that they would prefer courses to be held at their workplace, 38.6% at a hospital, 28.9% within the clinical environment or an educational setting, 25.3% at a conference centre and 15.7% agreed they would like courses to be conducted online. When asked their preferred duration of a course 53.3% preferred a one day course, 20% preferred two days and 22.7% had no

preference. 45.3% chose consecutive weekdays as their preferred structure, 14.7% chose consecutive weekends and 29.3% had no preference.

### ***Telehealth***

89.7% of AH staff had not received trauma training and education via telehealth in the last two years, of those participants 53.9% would like to receive trauma training and education via telehealth in the future. Of the 2 participants who had received training via telehealth, both would like additional future training through telehealth. Due to the provision of telehealth in regional sites, this is further broken down in its respective section.

### ***Online training***

88.5% of AH staff had not received online trauma training and education in the last two years and of those participants 78.1% stated they would like to receive online training in the future. Of the 3 (3.8%) AH staff members that had received online trauma training, 2 (66.7%) of them would like additional online training.

### ***Social media***

10.7 % (n=8) of AH staff had used social media (SM) for trauma education in the past, with the majority of AH staff using SM to search for conference or events (75%) or to access up to date evidence based practice (37.5%). YouTube (37.5%) and Facebook (37.5%) were the most common SM services used.

89.3% (n=67) of AH staff had never used SM for trauma education, of which 27.7% of AH staff felt they would use SM in the future to access or receive trauma training or education and 36.1% were unsure. Of those AH staff 45.3% would use SM to further their education and training or to search for conference or events and 43.4% to access up to date evidence based practice. For those who would access SM, 41.5% would most likely access Facebook, 37.7% YouTube, 13.2% LinkedIn, 11.3% blogs, and 5.7% Twitter. 35.8% of AH staff were unsure what to access. Instagram was also mentioned as another way to access trauma training and education.

A total of 9 comments were received by AH staff on SM. Comments indicated that AH staff did not use SM (n=4) or did not think that SM was an appropriate forum

for trauma education (n=5). Concerns were raised over the ability to access SM on DoH sites and the credibility of information.

*“My initial thoughts are that social media might be useful for advertising an education course but otherwise I wouldn't refer to it for anything else as I'd find it unreliable.”*

### **Knowledge and confidence**

Allied Health staff were asked to self-rate their knowledge and confidence in different aspects of trauma care using a Likert scale form 1-5. The list used was the same as for medical and nursing staff and outlined the essential knowledge and skills required for trauma care. The list was not specific to AH speciality, therefore has not been assessed. However, a table outlining the results of all areas of knowledge and confidence are included in Appendix H.

### **Metropolitan area**

A total of 504 (66.9%) responses were received from WA Health staff who worked in the metropolitan region. Of those participants 149 were from RPH (29.6%), 140 from PCH (27.8%), 129 from FSH (25.6%) and 79 from SCGH (15.7%). The remaining participants worked across sites or for RFDS. The mean age of these participants was 39.9 years (SD 11.4), with the majority being female (76.6%). From those staff, 67.6% were nursing staff, 20.8% were medical staff and 11.6% were from allied health. From those staff, 85.9% (n=433) worked predominantly in a clinical role, 8.3% (n=42) worked in an education role and the remaining 5.8% (n=29) worked in a managerial role. Of all metropolitan staff surveyed, 62.1% had never heard of the Western Australian Trauma Training and Education Unit.

The majority of responses from nursing staff in the metropolitan region were received from registered nurses (47.9%), followed by clinical nurses (23.1%). The majority of responses from medical staff were received from consultants (50%), followed by resident medical officers (12.5%) and registrars (10%). Responses from AH staff included physiotherapists (34.5%), occupational therapists (19%), social workers (15.5%), anaesthetic technicians (15.5%), head of departments (5.2%), podiatrists (3.4%), pharmacists (1.7%) and other unspecified AH staff (5.2%).

Responses were received from multiple areas/specialities within the metropolitan region and are outlined in Table 11



Table 11: *Metropolitan Clinical Areas*

<b>Area</b>	<b>Number of staff responses (%) (n=504)</b>
Ambulatory Care/Primary Health	2 (0.4%)
Emergency Department	131 (26.6%)
High Dependency	2 (0.4%)
Inpatient/Ward	153 (31%)
Intensive Care	82 (16.6%)
Outpatients	27 (5.5%)
Prehospital/Retrieval	7 (1.4%)
Radiology	7 (1.4%)
Rehabilitation	16 (3.3%)
Theatre/Recovery	61 (12.4%)
Mental Health	2 (0.4%)
Mixture/Several	3 (0.6%)
Missing Data	11

Of all metropolitan staff surveyed, 31.8% had attended a trauma course in the last four years, 17.7% had attended a trauma course, but greater than four years ago, 43.1% had never attended a trauma course and 7.5% were unsure. A total of 75.7% of metropolitan staff felt they required further trauma training and education (n=320). Metropolitan staff would mainly look for trauma education on the internet (53.1%) or by seeking recommendations from their colleagues (42%). The most common barriers that metropolitan staff had to accessing trauma education was the cost of the course (53.3%), followed by their workload (32.9%) and then inability to access leave (26.4%).

Metropolitan staff would like to receive further education by attending a course (73.6%), receiving workplace education (62.1%) and/or simulation training (55%). The majority of staff would like to attend a one day course (40.7%), on weekdays (57.8%) and in their own workplace (57.6%). Metropolitan staff stated they would avoid courses that are too expensive (79.7%) and those that had limited practical training (63.6%) They valued courses that were endorsed by a professional body (87.9%) and encouraged multidisciplinary training (86.3%)

A total 85.1% of metropolitan staff had never received online training and of those participants 65.1% would like receive trauma training online in the future. In addition to this, 84.5% of metropolitan staff had not used SM to access trauma education and training and 40.3% stated they would not use it in the future, with 23.1% unsure. For the 36.6% of participants who would like to use SM, the majority would use it to further their education and training (39.4%) and to search for conferences and events (36.7%). YouTube (36.3%) and Facebook (33.6%) were the most common SM sites that would be accessed.

Metropolitan participants self-rated their knowledge lowest (scale 1 or 2) in blast trauma (58.6%), ocular trauma (52.5%) and submersion injury (47.5%). Confidence was rated lowest for care of the obstetric trauma patient (64.3%), disaster triage and management (53.4%) and care of the paediatric trauma patient (51.3%). Computed tomography (CT) interpretation was also rated low (62.5%), however this question was asked across disciplines and not relevant to all, therefore not included in the individual hospital assessments. A table outlining the results of the self-rated knowledge and confidence scores for each of the metropolitan sites is included in Appendix J.

### ***Fiona Stanley Hospital***

A total of 129 (25.6%) of metropolitan responses were received from WA Health staff who worked at FSH. The mean age of these participants was 43.1 years (SD 12.2), with the majority being female (69.8%). From those staff, 68.2% were nursing staff (n=88), 23.3% were medical staff (n=30) and 8.5% allied health staff (n=11). From those staff, 87.6% worked predominantly in a clinical role (n=113), 9.3% worked in an education role (n=12) and the remaining 3.1% worked in a managerial role (n=4). Of all staff surveyed at FSH, 60.2% had never heard of the Western Australian Trauma Training and Education Unit.

The majority of responses from nursing staff were received from registered nurses (48.3%), followed by clinical nurses (24.1%). The majority of responses from medical staff were received from consultants (50%), followed by registrars (20%). Responses from allied health staff were received from physiotherapists (45.5%), occupational therapists (36.4%) and social workers (18.2%).

The area that staff predominantly work in at FSH are outlined in Table 12

Table 12: *Fiona Stanley Hospital Clinical Areas*

<b>Area</b>	<b>Number of staff responses (n=129)</b>
Emergency Department	38 (29.5%)
Inpatient/Ward	36 (27.9%)
Intensive Care	37 (28.7%)
Outpatients	2 (1.6%)
Radiology	1 (0.8%)
Rehabilitation	9 (6.9%)
Theatre/Recovery	5 (3.9%)
Missing data	1 (0.8%)

Of all staff surveyed at FSH, 27.3% had attended a trauma course in the last four years, 21.1% had attended a trauma course but greater than four years ago, 45.3% had never attended a trauma course and 6.3% were unsure. A total of 79.1% of FSH staff felt they required further trauma training and education (n=91). FSH staff would mainly look for trauma education on the internet (57.4%) or by seeking recommendations from their colleagues (45.7%). The most common barriers that FSH staff had to accessing trauma education was the cost of the course (56.6%), followed by their workload (42.6%) and then inability to access leave (31%).

FSH staff would like to receive further education by either attending a course (75.2%), receiving workplace education (63.6%) and/or skills training (50.4%). The majority of staff would like to attend a one day course (44.9%), on weekdays (69.5%) and in their own workplace (62%). FSH staff stated they would avoid courses that are too expensive (80%) and those that had limited practical training (66.1%) They valued courses that were endorsed by a professional body (88.7%) and encouraged multidisciplinary training (85.3%)

A total of 90.2% of FSH staff had never received online training and of those participants 64% would like to receive trauma training online in the future. In addition, 82.2% of FSH staff had not used social media (SM) to access trauma education and training and 42.6% stated they would not use it in the future, with 20.9% unsure. For the 36.4% of participants who would like to use SM, the majority would use it to further their education and training (42.4%) and to search for conferences and

events (34.9%). YouTube (37.8%) and Facebook (31.7%) were the most common SM sites that would be accessed.

FSH participants self-rated their knowledge lowest (scale 1 or 2) in ocular trauma (59.4%), blast trauma (57.4%), and submersion injury (53.3%). Confidence was rated lowest for care of the paediatric trauma patient (61.7%), disaster triage and management (57.5%) and care of the obstetric trauma patient (55.2%). Full results of the knowledge and confidence results are outlined in Appendix J.

### ***Perth Children's Hospital***

A total of 140 (27.8%) of metropolitan responses were received from health staff who worked at PCH. The mean age of these participants was 36.9 years (SD 11.1), with the majority being female (89.3%). From those staff, 88.6% were nursing staff (n=124), 9.3% were medical staff (n=13) and 3% allied health staff (n=3). From those staff, 83.6% worked predominantly in a clinical role (n=117), 9.3% worked in an education role (n=13) and the remaining 7.1% worked in a managerial role (n=10). Of all staff surveyed at PCH, 72.3% had never heard of the Western Australian Trauma Training and Education Unit.

The majority of responses from nursing staff were received from registered nurses (49.2%), followed by clinical nurses (21%). The majority of responses from medical staff were received from consultants (38.5%). Responses from allied health staff were received from head of departments and physiotherapists.

The area that staff predominantly work in at PCH are outlined in Table 13.

Table 13: *Perth Children's Hospital Clinical Areas*

<b>Area</b>	<b>Number of staff responses (n=140)</b>
Ambulatory Care/Primary Health	2 (1.4%)
Emergency Department	26 (18.6%)
Inpatient/Ward	55 (39.3%)
Intensive Care	11 (7.9%)
Outpatients	16 (11.4%)
Prehospital	1 (0.7%)
Radiology	3 (2.1%)
Rehabilitation	3 (2.1%)
Theatre/Recovery	17 (12.1%)
Mixture/Several	3 (2.1%)
Missing Data	3 (2.1%)

Of all staff surveyed at PCH, 19.1% had attended a trauma course in the last four years, 16.1% had attended a trauma course but greater than four years ago, 53.3% had never attended a trauma course and 10.9% were unsure. A total of 77.9% of PCH staff felt they required further trauma training and education (n=88). PCH staff would mainly look for trauma education on the internet (46.1%) or by asking their employer (43.3%). The most common barriers that PCH staff had to accessing trauma education was the cost of the course (56%), followed by their workload (29.1%) and then inability to access leave (25.5%).

PCH staff would like to receive further education by attending a course (75.2%), receiving workplace education (67.4%) and/or simulation training (53.9%). The majority of staff would like to attend a one day course (38.6%), on weekdays (61.4%) and in their own workplace (59.6%). PCH staff stated they would avoid courses that are too expensive (84.1%) and those that had limited practical training (62%). They valued courses that were endorsed by a professional body (91.2%) and encouraged multidisciplinary training (87.6%).

A total of 79.1% of PCH staff had never received online training and of those participants 72.2% would like to receive trauma training online in the future. As well, 92.1% of PCH staff had not used SM to access trauma education and training, of which 46.8% stated they would not use it in the future, with 22% unsure. For the 31.2% of participants who would like to use SM, the majority would use it to search for conferences and events (31%) and to further their education and training (29.5%). Facebook (28.1%) and YouTube (27%) were the most common SM sites that would be accessed.

PCH participants self-rated their knowledge lowest (scale 1 or 2) in blast trauma (67.3%), ocular trauma (56.43%), and maxillofacial injury (51.9%). Confidence was rated lowest for care of the obstetric trauma patient (76.8%), bariatric trauma patient (72.2%) and elderly trauma patient (64.9%). Disaster triage and management (65%) and managing ventilatory complications and raised

intrathoracic pressure (59.8%) were also rated lowly. Full results of the knowledge and confidence results are outlined in Appendix J.

### ***Royal Perth Hospital***

A total of 149 (29.6%) of metropolitan responses were received from health staff who worked at RPH. The mean age of these participants was 39.2 years (SD 10.7), with the majority being female (72.5%). From those staff, 57.7% were nursing staff (n=86), 26.8% were medical staff (n=40) and 15.4% allied health staff (n=23). From those staff, 85.2% worked predominantly in a clinical role (n=127), 8.1% worked in an education role (n=12) and the remaining 6.7% worked in a managerial role (n=10). Of all staff surveyed at RPH, 59.7% had never heard of the Western Australian Trauma Training and Education Unit.

The majority of responses from nursing staff were received from registered nurses (52.9%), followed by clinical nurses (22.4%). The majority of responses from medical staff were received from consultants (38.5%), followed by resident medical officers (20.5%). Responses from AH staff were received from anaesthetic technicians (39.1%), occupational therapists (17.4%), social workers (17.2%), physiotherapists (13%) and three unidentified AH staff.

The areas that staff predominantly works in at RPH are outlined in Table 14.

Table 14: *Royal Perth Hospital Clinical Areas*

<b>Area</b>	<b>Number of staff responses (n=149)</b>
Emergency Department	41 (27.5%)
High Dependency	1 (0.7%)
Inpatient/Ward	45 (30.2%)
Intensive Care	21 (14.1%)
Outpatients	4 (2.7%)
Radiology	1 (0.7%)
Rehabilitation	1 (0.7%)
Theatre/Recovery	33 (22.1%)
Mental Health	1 (0.7%)
Missing Data	1 (0.7%)

Of all staff surveyed at RPH, 46.3% had attended a trauma course in the last four years, 12.1% had attended a trauma course but greater than four years ago, 34.9% had never attended a trauma course and 6.7% were unsure. A total of 71.4% of RPH staff felt they required further trauma training and education. RPH staff would mainly look for trauma education on the internet (53.3%) or by checking hospital noticeboards (47.3%). The most common barriers that RPH staff had to accessing trauma education was the cost of the course (54%), followed by their workload (30.7%) and inability to access leave (29.3%).

RPH staff would like to receive further education by attending a course (78.7%), receiving workplace education (62.7%) and/or simulation training (62.7%). The majority of staff would like to attend a one day course (34%), on weekdays (46.8%) and in their own workplace (58%). RPH staff stated they would avoid courses that are too expensive (75.4%) and those that had limited practical training (54.8%). They valued courses that encouraged multidisciplinary training (86.5%) and utilised simulation training (85.7%).

A total 85.9% of RPH staff had never received online training and of those participants 69.5% would like to receive trauma training online in the future. In addition, 82.3% of RPH staff had not used SM to access trauma education and training and 31.5% stated they would not use it in the future, with 23.5% unsure. Of the 45% of participants who would like to use SM, the majority would use it to further their education and training (48.1%) and to search for conferences and events (46%). YouTube (44.5%) and Facebook (43.3%) were the most common SM sites that would be accessed.

RPH participants self-rated their knowledge lowest (scale 1 or 2) in blast trauma (57.5%), submersion injury (56.6%) and ocular trauma (46.1%). Confidence was rated lowest for care of the paediatric trauma patient (79.8%), care of the obstetric trauma patient (68.2%), burn management (50.4%) and disaster triage and management (49.1%). Full results of the knowledge and confidence results are outlined in Appendix J.

### ***Sir Charles Gairdner Hospital***

A total of 79 (15.7%) of metropolitan responses were received from health staff who worked at SCGH. The mean age of these participants was 41.3 years (SD

10.5), with the majority being female (74.7%). From those staff, 49.4% were nursing staff (n=39), 25.3% were medical staff (n=20) and 25.3% allied health staff (n=20). From those staff, 88.6% worked predominantly in a clinical role (n=70), 6.3% worked in an education role (n=5) and the remaining 5.1% worked in a managerial role (n=4). Of all staff surveyed at SCGH, 55.4% had never heard of the Western Australian Trauma Training and Education Unit.

The majority of responses from nursing staff were received from registered nurses (35.9%), followed by clinical nurses (30.8%). The majority of responses from medical staff were received from consultants (78.9%), followed by heads of department (15.8%). Responses from allied health staff were received from physiotherapists (55%), occupational therapists (15%), social workers (10%), podiatrists (10%), pharmacists (5%) and head of departments (5%).

The areas that staff predominantly works in at SCGH are outlined in Table 15.

Table 15: *Sir Charles Gairdner Hospital Clinical Areas*

<b>Area</b>	<b>Number of staff responses (n=79)</b>
Emergency Department	26 (32.9%)
High Dependency	1 (1.3%)
Inpatient/Ward	17 (21.5%)
Intensive Care	13 (16.5%)
Outpatients	5 (6.3%)
Radiology	2 (2.5%)
Rehabilitation	3 (3.8%)
Theatre/Recovery	6 (7.6%)
Mental Health	1 (1.3%)
Missing Date	5 (6.3%)

Of all staff surveyed at SCGH, 27% had attended a trauma course in the last four years, 27% had attended a trauma course but greater than four years ago, 40.5% had never attended a trauma course and 5.4% were unsure. A total of 73.4% of SCGH staff felt they required further trauma training and education. SCGH staff would mainly look for trauma education on the internet (56.3%) or check professional organisations (46.3%). The most common barriers that SCGH staff had to accessing



trauma education was the cost of the course (42.5%), followed by their workload (30%) and personal commitments (26.3%).

SCGH staff would like to receive further education by attending a course (58.8%), receiving workplace education (50%) and/or simulation training (50%). The majority of staff would like to attend a one day course (52.1%), on weekdays (53.5%) and in their own workplace (48.8%). SCGH staff stated they would avoid courses that are too expensive (81.2%) and those that had limited practical training (78.1%) They valued courses that were endorsed by a professional body (86%) and encouraged multidisciplinary training (86%).

A total 84.9% of SCGH staff had never received online training and of those participants 56.5% would like receive trauma training online in the future. In addition, 83.1% of SCGH staff had not used SM to access trauma education and training and 38.8% stated they would not use it in the future, with 30% unsure. For the 31.3% of participants who would like to use SM, the majority would use it to further their education and training (37.3%) and to search for conferences and events (35.2%). YouTube (36.5%) and Facebook (30.4%) were the most common SM sites that would be accessed.

SCGH participants self-rated their knowledge lowest (scale 1 or 2) in blast trauma (51.9%), ocular trauma (48.1%), and penetrating trauma (39.3%). Confidence was rated lowest for care of the paediatric trauma patient (68.6%), care of the obstetric trauma patient (58.2%), nutritional assessment in trauma (47.3%) and burn management (44.4%). Full results of the knowledge and confidence results are outlined in Appendix J.

### **Royal Flying Doctor's Service**

A total of 26 responses were received from the Royal Flying Doctor's Service (RFDS) staff. The mean age of these participants was 48.7 years (SD 10.9), with 61.5% being female (n=16) and 38.5% being male (n=10). From those staff, 69.2% were nursing staff (n=18), and 30.8% were medical staff (n=8), of which 84.6% worked predominantly in a clinical role (n=22), and 15.4% in management (n=4). Of all RFDS responses, 23.1% were based predominantly in the metropolitan region (n=6), 50% predominantly in the metropolitan region (n=13) and the remaining 26.9% stated they worked across regions (n=13). Table 16 identifies years of post-

registration experience, years of practice in specialist area and years of practice in trauma care for all RFDS participants. Of all RFDS staff surveyed, 80.8% had heard of the Western Australian Trauma Training and Education Unit.

Table 16: *Years of Experience and Speciality Care for RFDS Participants*

<b>RFDS participants (n=26)</b>	<b>Years post-registration experience n (%)</b>	<b>Years practice in specialist area n (%)</b>	<b>Years practice in trauma care n (%)</b>
<b>&lt;1 year</b>	0 (0%)	4 (15.4%)	0 (0%)
<b>1-3 yrs</b>	0 (0%)	2 (7.7%)	0 (0%)
<b>4-6 yrs</b>	0 (0%)	4 (15.4%)	6 (23.1%)
<b>7-9 yrs</b>	4 (15.4%)	1 (3.8%)	1 (3.8%)
<b>10+ yrs</b>	22 (8.6%)	15 (7.7%)	19 (73.1%)

Of all RFDS staff surveyed, 92.3% had attended a trauma course in the last four years (n=24), the remaining 7.7% had attended a trauma course but greater than four years ago. However, 73.9% of RFDS staff still felt they required further trauma training and education. RFDS staff would mainly look for trauma education on the internet (76.9%) or seek recommendations from their colleagues (46.2%). The most common barriers that RFDS staff had to accessing trauma education was the cost of the course (53.8%), the location of the course (53.8%) and inability to access leave (46.2%).

RFDS staff stated they would like to receive further education by attending an additional course (84.6%), attend simulation training (84.6%) and/or skills training (69.2%) The majority of staff would like to attend a two day course (73.9%), on consecutive weekdays (60.9%) and in a conference centre (38.5%) or educational setting (30.8%). RFDS staff stated they would avoid courses that had limited practical training (73.9%) or were too expensive (60.8%). They valued courses that encouraged simulation training (91.3%) and were endorsed by professional bodies (91.3%).

A total of 82.6% of RFDS staff had never received online training and of those participants 66.7% would like to receive trauma training online in the future. In addition, 78.3% of RFDS staff had never SM to access trauma education and training and 65.4% stated they would not use it in the future, with 15.4% unsure.

From the 19.2% of participants who would like to use SM, the majority would use it to search for conferences and events (26.1%) or to further their education and training (25%). Facebook (26.1%) and YouTube (20.8%) and were the most common SM sites that would be accessed.

RFDS participants self-rated their knowledge lowest (scale 1 or 2) in blast trauma (17.4%), ocular trauma (13%), and submersion injury (13%). Confidence was rated lowest for disaster triage and management (17.4%) and care of the paediatric trauma patient (4.3%). CT interpretation (45.5%) and X-ray interpretation (31.8%) were also rated lowly, however may be beyond scope of some RFDS staff. In comparison to other areas, RFDS staff rated their knowledge and confidence in trauma skills quite highly; full results of the knowledge and confidence results are outlined in Appendix J.

### **Regional area**

A total of 234 (31.1%) responses were received from health staff who worked in the rural and regional areas of WA. Of those participants 56 worked in the Pilbara, 50 worked in the Great Southern, 49 in the Goldfields, 23 in the Kimberley, 20 in the South West, 12 in the Midwest, 10 in the Wheatbelt, 3 across all regions and 11 were undisclosed. The mean age of these participants was 43.3 years (SD 12.1), with the majority being female (81.6%). From those staff, 76.5% were nursing staff (n=179), 12.4% were medical staff (n=23) and 9.8% were from allied health (n=24). From those staff, 85.9% worked predominantly in a clinical role, 1.7% worked in an education role and 12.4% worked in a managerial role. Of all regional staff surveyed, 62.1% had never heard of the Western Australian Trauma Training and Education Unit.

The majority of responses from nursing staff in the rural and regional areas were received from registered nurses (49.7%), followed by clinical nurses (19.6%). The majority of responses from medical staff were received from senior medical officers (24.1%), followed by district medical officers. Responses from allied health staff included social workers (25%), physiotherapists (20.8%), occupational therapists (8.3%), speech pathologists (8.3%), radiographers (4.2%), dieticians (4.2%), podiatrists (4.2%) and other unspecified staff (25%).

Table 17 identifies years of post-registration experience, years of practice in specialist area and years of practice in trauma care for all regional participants

Table 17: *Years of Experience and Speciality Care for Regional Participants*

Regional participants (n=234)	Years post-registration experience n (%)	Years practice in specialist area n (%)	Years practice in trauma care n (%)
<1 year	9 (3.8%)	26 (11.4%)	35 (15.3%)
1-3 yrs	25 (10.7%)	42 (18.3%)	46 (20.1%)
4-6 yrs	20 (8.5%)	28 (12.2%)	18 (7.9%)
7-9 yrs	22 (9.4%)	32 (14%)	28 (12.2%)
10+ yrs	158 (67.5%)	101 (44.1%)	102 (44.5%)
Missing data	0	5	5

Figure 13 represents the area regional participants predominantly work in and Table 18 highlights the specific areas/specialities of regional participants

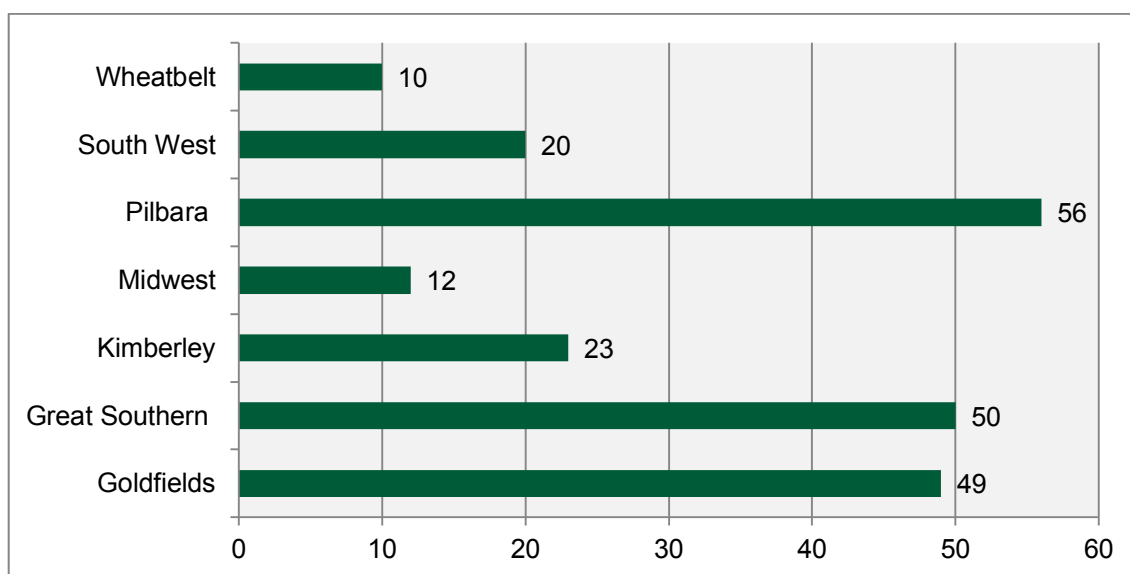


Figure 13: *Regional Distribution*

Table 18: *Regional Clinical Areas*

Area	Number of staff responses (%) (n=234)
Ambulatory Care/Primary Health	12 (5.3%)
Emergency Department	114 (50%)

High Dependency	7 (3.1%)
Inpatient/Ward	42 (18.4%)
Outpatients	3 (1.3%)
Prehospital/Retrieval	21 (9.2%)
Radiology	5 (2.2%)
Rehabilitation	3 (1.3%)
Theatre/Recovery	7 (3.1%)
Mental Health	6 (2.6%)
Mixture/Several	8 (3.6%)
Missing Data	6

Of all regional staff surveyed, 47.6% had attended a trauma course in the last four years, 17% had attended a trauma course, but greater than four years ago, 29.3% had never attended a trauma course and 6.1% were unsure. A total of 87.8% of regional staff felt they required further trauma training and education. Regional staff would mainly look for trauma education on the internet (61.2%) or by accessing professional organisations (47.3%). The most common barriers that regional staff had to accessing trauma education was the location of the course (67.5%), the cost of the course (59.1%), the dates of the course (34.2%) and inability to access leave (33.3%).

Regional staff would like to receive further education by attending a course (83.5%), receiving workplace education (67.1%), skills training (67.1%) and/or simulation training (66.2%). The majority of staff would like to attend a two day course (43.8%), on consecutive weekdays (61.3%) and in their local region (51.1%) within their workplace (48.9%). Regional staff stated they would avoid courses that are too expensive (67.4%) and those that had limited practical training (65.8%) They valued courses that were endorsed by a professional body (92.6%) and encouraged simulation training (88.7%).

Regional participants were asked about their experience with telehealth education and training. 73.9% of participants had not received trauma training or education via telehealth in the last two years and of those participants 61.8% would like to receive telehealth trauma training, 20% would not and 18.2% were unsure. Of the 22.5% who had received trauma training, 76% would like additional training, 12% would not and 12% were unsure.

Regional participants were asked about their experience with online trauma training and education. A total 76.4% of regional staff had not received online training in the last two years and of those participants 69.8% would like receive trauma training online in the future, 17.9% would not and 12.3% were unsure. For the 17.7% who had received online training in the last two years, 84.6% would like further training online, 7.7% would not and 7.7% were unsure.

Regional participants were also asked about their experience using SM for trauma training and education. 84.8% of regional staff had not used SM to access trauma education and training and 37.1% stated they would not want to use it in the future, with 31.6% unsure. For the 31.2% of participants who would like to use SM, the majority would use it to search for conferences and events (40.5%) and to further their education and training (36.7%). YouTube (38.6%) and Facebook (35.4%) were the most common SM sites that would be accessed.

Regional participants self-rated their knowledge lowest (scale 1 or 2) in blast trauma (55.7%), ocular trauma (49.7%) and submersion injury (42%). confidence was rated lowest for management of raised intracranial pressure (46.3%), managing ventilatory complications and raised intrathoracic pressure (46.2%) and haemodynamic stabilisation and damage control resuscitation (45.5%). CT and X-ray interpretation were also rated low (70.2% and 51.9% respectively), however due to the large volume of nursing responses within the regions, this may be beyond the scope for some participants. A table outlining the results of the self-rated knowledge and confidence scores for each of the regional sites is included in Appendix K.

Due to the small number of responses within the regions, individual analysis of each specific region has not been performed. However, the results of all the responses separated by region is presented in Appendix L

## **Discussion**

The results of the TNA will be discussed in regards to the original aims and objectives of the project and will help guide the strategic plan for WATTEU in delivering well-informed trauma training and educational programmes and provide recommendations for future delivery, with the ultimate goal of enhancing trauma care and patient outcomes.

The TNA received a significant number of responses from health professionals across WA. The majority of these responses were from the metropolitan region, from staff working in an emergency department and were from a nursing discipline. The majority of responses came from Royal Perth Hospital (RPH), which also yielded the most number of medical responses. These results may be representative of RPH as the state's Major Trauma Service and where the majority of trauma patients are seen in WA. Limited responses were also seen from AH state-wide, potentially due to the vast amount of specialities within AH and the lack of specific trauma education available to them. The results were also a reflection of a significantly experienced group of participants, with the majority of respondents, in all disciplines, having greater than ten years' post-graduate, speciality and direct trauma care experience.

Of all participants surveyed only 43.6% had heard of the Western Australian Trauma Training and Education Unit (WATTEU). The WATTEU was originally formed in July 1996, and although has undergone several name changes (State Trauma Education Committee (STEC) and Western Australian Trauma Education Committee (WATEC)), it became an operation unit and named WATTEU in 2018. Despite WATTEU significantly increasing its portfolio and courses delivered over the past 25 years, it appears that there remains a lack of awareness of the unit and the services it provides.

### **Participation rates and staff satisfaction**

Overall staff satisfaction of the trauma courses offered in WA was positive. Whilst there was a definite need for the basic entry level trauma education courses, there seems a desire for more in depth and advanced training, as well as an interest in simulation and human factors training. Comments regarding courses were reflective of other results from the survey, highlighting a concern with course costs, as well as requesting more practical components and skills training. Whilst a reduction in course cost has not currently been obtained, the launch of the 10<sup>th</sup> edition of EMST in 2018 and the 8<sup>th</sup> edition of TNCC in 2020 will hopefully meet the need of WA Health staff, as both courses include a more practical and hands on approach to trauma education. The WTC has also been updated this year with a greater focus on simulation based learning. Future review of participant evaluations and course feedback will further identify whether this need is being met.

Despite staff satisfactions rating highly, overall participation rates of surveyed participants for trauma courses across WA seemed low. The Royal Australasian College of Surgeons (RACS) (2020) trauma verification criteria note that it is essential that all nurses who receive trauma patients to attend either the TNCC or CENA TNP training, regardless of the level of trauma service they work in. A total of 29.8% of nurses surveyed met these guidelines, considerably lower than the recommendation. In regards to medical participants, RACS state that it is essential that all surgeons involved with trauma reception should have attended the DSTC and EMST training and all medical staff involved in trauma care should have attended the EMST or equivalent including emergency physicians, anaesthetists and intensivists, regardless of the level of trauma service they work in. A total of 55.4% of medical staff stated they had attended a trauma course within the last four years, with 46% of medical participants stating they had specifically attended the EMST or DSTC. Whilst RACS also acknowledge that further studies such as masters programs or group training may be included in this criterion, only one of the surveyed participants indicated they had attended in house education, although this wasn't directly asked. It was also impossible to identify from the data specifically how many surgeons completed the survey; therefore comment cannot be made in regards to meeting surgical trauma verification educational recommendations.

### **Barriers and facilitators to accessing trauma training and education**

There were four main barriers/themes identified that were experienced by WA Health staff in accessing trauma training and education. These themes were reflective across all disciplines and within both metropolitan and regional areas and included cost, workload, inability to access leave and location. These themes were consistent with an integrative review by Santos (2012) who explored barriers to nurses' learning and identified time constraints, financial constraints, workplace culture and access as the key barriers that affected participation in educational activities.

The most common barrier identified by the TNA was that of the cost of the trauma training and education courses. Whilst WATTEU continually reviews course prices and attempts to limit costs, trauma training course registration costs have continued to gradually rise over the years. Consideration will need to be given to providing sustainable trauma education that is cost effective and accessible for all



WA Health staff. Concerns would be raised if course costs continue to rise, therefore limiting those staff that can access and attend training, which may ultimately impact the ultimate goal of enhancing trauma care.

Workload and inability to access leave were the second two most commonly experienced barriers in accessing trauma training and education; with workload being the main barrier experienced by medical staff. Whilst WATTEU has no control over individual departments and sites, it is essential that WATTEU secure course dates and advertise courses well in advance, ensuring staff have ample opportunity to liaise with their employers and apply for leave.

Lastly, the fourth most common barrier experienced was location of courses, which was the primary barrier experienced by regional staff. Due to the vast land area of WA, it is unsurprising that this continues to be a difficulty experienced by WA health staff. Studies in the rural and remote areas of the United States and Canada have also identified similar results with poor accessibility, lengthy travel times and limited staffing all being raised as major barriers to attending courses (Jukkala, Henly, & Lindeke, 2008; Penz et al., 2007). The WATTEU delivers the Western Trauma Course (WTC) across regional WA, offering a course in each region every 18 months, and rotates the Trauma Nursing Core Course (TNCC) to two different regions per year. Both courses were originally offered more frequently within regional WA; however, difficulties filling course registrations resulted in course cancellations. The Emergency Management of Severe Trauma (EMST), Definitive Anaesthetic Trauma Course (DATC)/Definitive Surgical Trauma Course (DSTC)/Definitive Perioperative Nursing Trauma Course (DPNTC) and Trauma Team Simulation Training (TTST) are currently not held in regional WA, although places are offered to regional staff on metropolitan course. However, consideration that the barriers of cost, workload and access to leave experienced by staff, travelling from the regions to metropolitan Perth for trauma training is likely to be unattainable for all. Access for regional staff to local training will need to be further explored.

An additional barrier was also raised in regards to location and access to courses, which was a lack of awareness of when courses were being held. In an attempt to review advertising strategies, participants were asked where they would look to source trauma education. The internet was the most common response, with

nurses also favouring the hospital intranet and workplace noticeboards, and medical staff asking their colleagues and checking professional organisations. The WATTEU internet site provides all details for trauma training and education that it provides in WA, however considering a lack of awareness of WATTEU highlighted by the TNA, participants may not know to access this site. Date posters are also printed and distributed for display in each site annually and global emails are distributed to key stakeholders advertising each course. Whilst many WATTEU courses are accredited with professional organisations, individual course dates are not routinely advertised through the organisations, and could be explored as a way of expanding advertising channels.

When looking at facilitators for trauma training and education, medical and nursing disciplines state they primarily value courses that were endorsed by professional bodies, followed by those that supported simulation training. All WATTEU's training courses are endorsed through different professional bodies and utilise some form of simulation training. Multidisciplinary training (MDT) was also valued highly, being of primary importance to AH staff, and rated third for nursing staff and fourth for medical staff. The TNCC, WTC and the TTST supports MDT training, with TTST also offering medium to high-fidelity simulation. The EMST course allows for nurse observers, however, formal trauma training is currently delivered separately for nursing and doctors.

### **Future trauma training and education**

The majority of staff, across all disciplines and areas felt they would like additional trauma training and education, with attending a course or workshop as the top preference for all disciplines. Workplace learning and in-service was second preference for nursing and allied health, with simulation training ranking second for medical staff. Skills training also rated highly. As part of the WATTEU strategic plan each metropolitan hospital should receive at least one workplace in-service education session per year, although since the onset of the COVID pandemic this has been unachievable. In-service education, however, is generally only provided to nursing staff and limited medical or allied health education has been provided by WATTEU within the workplace. In-situ simulation has been provided in collaboration with post-graduate medical education, however, has currently only been provided at the SCGH site.

The majority of WATTEU education is delivered via a course or workshop as per respondent's preference. All disciplines and areas stated they would prefer courses at their workplace or at their own hospital and prefer weekdays over weekends. Most metropolitan WATTEU courses are currently held at the Clinical Training Education Centre at the University of Western Australia, however only 24.3% of respondents would prefer courses to be in an educational setting. Historically courses were conducted at hospital sites however with the repurposing of training facilities, accessing the space required at the hospitals became more and more difficult with clinical need taking precedence over training needs. Re-exploring alternative venues as individual hospitals may help meet this preference, as well as potentially decrease costs and fees. However, running courses at hospitals during weekdays during normal daily operations may pose difficulties. Regional courses are usually held at hospital venues as per regional preference, however are conducted on weekends due to availability and space. Exploring options for weekday courses may increase attendance and suitability.

In regards to duration of trauma courses, participants were asked whether they would prefer one, two, three or more days, as well as whether they would prefer them on consecutive or staggered days. The majority of nursing staff requested two days; however, one day was a close preference, AH preferred one day and medical preferred two days, however, was the only option that considered three days (10%). Consecutive weekdays were an overwhelming preference for all. The results are consistent with the current WATTEU course timetables and are likely a reflection of the amount of content required to be delivered within each discipline. The TNCC has recently reduced its days to one and a half days and EMST is currently two and a half days; although this does branch out over a weekend. There is no formal AH trauma course to date, however, a one day option should be considered.

All participants were asked about their experience with online trauma training and education. Overwhelmingly, nursing and AH staff had not received online trauma training and would like to receive online training in the future, however, the results were inconsistent with previous responses asking the preference for future trauma training and education, where online training ranked very lowly compared to other available options. Medical staff viewed online training less favourably, with fewer than 50% of respondents wanting this option. The lack of preference for online

trauma training is consistent with the prior results where participants favour simulation and skill based trauma training, with the potential that this may be difficult to achieve on an online platform.

The WATTEU currently provide some elements of online training in combination with the TNCC and WTC course as prior learning to the course; however, no standalone online training is currently available. The lack of online training was problematic during the recent pandemic with the cancellation of face-to-face learning. Consideration for providing an online course through eLearning and videoconferencing is vital for preplanning and sustainability due to potential future outbreaks. Regional participants also had a great preference for this option, compared to their metropolitan counterparts, therefore the development of an online training platform may also facilitate with reducing the barriers of cost, location and access issues in regional sites. The use of telehealth for trauma training and education was also explored, which has great applicability to regional staff. Despite the increase in telehealth services in WA over the past few years. The significant majority of participants had not received trauma education this way and would like receive trauma education via telehealth in the future. To date, WATTEU had not provided any training or education via telehealth to regional or rural sites.

Participant responses were less favourable regarding the use of SM for trauma training and education. Statistics indicate that Australians are one of the largest users of SM globally with Facebook being the most popular site (64% of the population having an active account), closely followed by YouTube and Instagram (Cowling, 2021). International figures are also suggestive that healthcare providers are utilising these platforms for professional development (Alsobayel, 2016; Markham, Gentile, & Graham, 2017; Ventola, 2014). However, the indication and desire to use SM for trauma education was not evident from the results of this study. Twitter is cited as one of the most popular SM forums world-wide and is utilised as a platform to rapidly and widely disseminate medical information, advancements and research (Markham et al., 2017; Ventola, 2014). Although, statistics indicate that it is not as popular within Australia, ranking it 8th on the list of most active users (Cowling, 2021). This appeared evident throughout the results of the survey, with minimal participants preferring this platform, and indicating that Facebook would be the SM of choice if trauma training and education was to be delivered this way.

Although survey participants stated they would use SM in the future to access advertising and event information, the majority indicated that SM was not a preferred modality to receive trauma training. Concerns regarding credibility and validity were frequently cited, along with credibility of members and maintaining confidentiality in public forums. These trepidations are reflective of the literature where there are strong recommendations regarding the need for policies and guidelines to assist professionals utilising SM in order to protect reputation (personal, patient and workplace), maintain confidentiality and ensure accountability of information (Hennessy, Smith, Greener, & Ferns; Surani et al., 2017; Ventola, 2014). Whilst WATTEU may find some benefits to utilising SM, particularly FB, to increase advertising and awareness, caution should be used in using SM in any other way, considering the amount of negative comments identified from the results. This may be a topic to revisit in the future as generational norms change and SM platforms develop.

### **Current gaps in the delivery of trauma training and education**

Participants were asked to self-rate their knowledge and confidence amongst some key elements and aspects of trauma care. The list was reviewed and developed by key stakeholders on what was perceived to be essential components of trauma management, however, were not tailored to specific AH specialities, therefore no conclusions were drawn on this discipline. Consistently the same topics came up amongst medical and nursing staff and were self-rated the lowest. Gaps in knowledge were identified in blast trauma, ocular trauma and submersion injury and confidence was rated lowest in obstetric trauma, paediatric trauma and disaster triage and management. A data request has been submitted to the State Trauma Service to identify whether this decrease in self-rated knowledge and confidence is consistent with a reduced number of trauma presentations in WA therefore are infrequently or inconsistently seen across WA

Overall regional staff rated their knowledge and confidence much lower than metropolitan staff, specifically in areas such as management of raised intracranial pressure, managing ventilatory complications with raised intrathoracic pressure and haemodynamic stabilisation and damage control resuscitation. The initial assessment of trauma management combining airway, breathing, circulation and disability are essential components of the trauma framework, a significant lack of

confidence amongst rural and regional staff in these vital areas are concerning, especially as major trauma admissions have continued to increase in our country regions over the last five years from 27.9% to 32.3% (Royal Perth Hospital, 2021). This lack of confidence combined with increasing presentations highlight the importance of improving trauma education and training to our rural staff who work with limited resources, limited speciality support and increased transfer time to the Major Trauma Service.

## **Recommendations**

1. Perform a more detailed review of Allied Health specialities and identify specific trauma training and education requirements for individual specialities.
2. Explore avenues to increase awareness of the WATTEU and the trauma education and training it provides state-wide.
3. Review course costs and registration fees to ensure sustainable trauma education that is accessible to all health care professionals.
4. Explore further advertising options for trauma training courses including using Facebook as a Social Media platform and contacting professional organisations to expand advertising options.
5. Explore options for workplace education/in-service including simulation and skills training across all disciplines and all regions in WA, including the use of Emergency Telehealth to access additional sites.
6. Review course logistics including location, duration and days conducted.
7. Explore options for an online learning training package/course combining eLearning and video conferencing.

## **Limitations**

There are specific limitations of this research that have been identified. Generalisability of the data across the whole of WA poses difficulties, with the results yielding a predominantly metropolitan, clinical and nursing sample group. Limited responses were received from certain regions within WA and medical staff were underrepresented. The survey was also specifically aimed at medical and nursing staff, and whilst the survey was distributed to allied health teams, the large diversity

of these disciplines and scope of their practice made it difficult to draw conclusions from the data.

Whilst the survey yielded a representative sample, the exact response rate was not able to be calculated. The amount of staff invited to partake in the survey was unknown and invitations were limited to those who check and access their health emails. Surveys are also frequently distributed across WA Health; therefore those choosing to participate may have a particular interest or passion for trauma care, creating a potentially bias sample. Acknowledgement is also made that the survey was developed primarily for the purpose of the TNA, whilst the survey underwent pilot testing, the validity and reliability of the instrument to meet the research objectives could be questioned.

## **Conclusion**

The results of the TNA will help guide trauma education and training across WA, as well as help facilitate the development of WATTEU's strategic plan. Whilst staff satisfaction of current trauma training and education programmes delivered in WA is high, staff participation rates are much lower than the recommended RACS guidelines. The need for additional trauma training and education across all disciplines was well identified; however, barriers such as course costs, increasing workload, difficulty accessing leave and location of courses will need to be addressed in order to facilitate access to trauma education and training for all. A revision of specific trauma training programmes offered, as well as a review of course logistics is essential to ensure the unit continues to meet the developing needs of WA Health staff and a greater focus is required to address the deficits in regional WA, including the exploration of alternative educational modalities such as Emergency Telehealth and online learning.

## References

- Alsobayel, H. (2016). Use of social media for professional development by health care professionals: A cross-sectional web-based survey. *Journal of Medical Internet Research: Medical Education*, 2(2), e15. doi:10.2196/mededu.6232
- Australian Institute of Health and Welfare. (2015). *Leading cause of premature mortality in Australia fact sheet: Land transport accidents*. Retrieved from <https://www.aihw.gov.au/getmedia/6e196da1-4176-4f9e-9b9d-64cf7af2a8f5/phe198-landtransport.pdf.aspx>:
- Australian Trauma Quality Improvement Program (AusTQIP). (2012). *Response to the Australian Commission for Safety and Quality in Health Care on the 'Australian Safety and Quality Goals for Health Care—Consultation Paper'*. Retrieved from AU: <http://www.safetyandquality.gov.au/wp-content/uploads/2012/01/National-Goals-consultation-Submission-53-National-Trauma-Research-Institute-10-Feb-2012.pdf>
- Barbazette, J. (2006). *Training needs assessment: Methods, tools, and techniques*. San Francisco: Pfeiffer.
- Blair, E., & Seo, D.-C. (2007). Safety training. *Professional Safety*, 52(10), 42.
- Brown, J. (2002). Training needs assessment: A must for developing an effective training program. *Public Personnel Management*, 31(4), 569-578.
- Carter, C., & Cumming, J. (2014). Training critical care nurses in trauma care. *Nursing times*, 110(22), 16-18.
- Cekada, T. L. (2010). Training needs assessment: Understanding what employees need to know. *Professional Safety*, 55(03), 28-33.
- Cowling, D. (2021). Social media statistics Australia - January 2021. Retrieved from <https://www.socialmedianews.com.au/>
- Denning, J. D., & Verschelden, C. (1993). Using the focus group in assessing training needs: Empowering child welfare workers. *Child Welfare: Journal of Policy, Practice, and Program*. 72(6), 569–579.
- Evans, J. A., van Wessel, K. J., McDougall, D., Lee, K. A., Lyons, T., & Balogh, Z. J. (2010). Epidemiology of traumatic deaths: Comprehensive population-based assessment. *World Journal of Surgery*, 34(1), 158-163.
- Fatovich, D. M., & Jacobs, I. G. (2009). The relationship between remoteness and trauma deaths in Western Australia. *Journal of Trauma and Acute Care Surgery*, 67(5), 910-914.
- Franklin, B. E., Carr, K. V., & Padden, D. L. (2008). Self-assessment of trauma competencies among Army family nurse practitioners. *Military medicine*, 173(8), 759-764.



- Gallagher, K., Cass, H., Black, R., & Norridge, M. (2012). A training needs analysis of neonatal and paediatric health-care staff in a tertiary children's hospital. *International journal of palliative nursing*, 18(4), 197.
- Hennessy, C. M., Smith, C. F., Greener, S., & Ferns, G. Social media guidelines: A review for health professionals and faculty members. *The Clinical Teacher*, 16(5), 442-447. doi:10.1111/tct.13033
- Jukkala, A. M., Henly, S. J., & Lindeke, L. L. (2008). Rural perceptions of continuing professional education. *Journal of Continuing Education in Nursing* 39(12), 555-563.
- Markham, M. J., Gentile, D., & Graham, D. L. (2017). Social media for networking, professional development, and patient engagement. *American Society of Clinical Oncology Education Book*, 37, 782-787. doi:10.1200/EDBK\_180077.
- McClelland, S. B. (1993). Training needs assessment: an 'open-systems' application. *Journal of European Industrial Training*, 17(1).
- McGehee, W., & Thayer, P. (1961). *Training in business and industry*. New York: Wiley.
- Mohammad, A., Branicki, F., & Abu-Zidan, F. M. (2014). Educational and clinical impact of Advanced Trauma Life Support (ATLS) courses: A systematic review. *World Journal of Surgery*, 38(2), 322-329.
- Moseley, J. L., & Heaney, M. J. (1994). Needs assessment across disciplines. *Performance Improvement Quarterly*, 7(1), 60-79.
- Penz, K., D'Arcy, C., Stewart, C., Kosteniuk, J., Morgan, D., & Smith, B. (2007). Barriers to participation in continuing education activities among rural and remote nurses *Journal of Continuing Education in Nursing*, 38(2), 58-68.
- Pfeifer, R., Tarkin, I. S., Rocos, B., & Pape, H.-C. (2009). Patterns of mortality and causes of death in polytrauma patients—has anything changed? *Injury*, 40(9), 907-911.
- Royal Australasian College of Surgeons (RACS). (2020). Australian and New Zealand trauma verification program: Model resource for criteria for trauma services. . Retrieved from <https://www.surgeons.org/-/media/Project/RACS/surgeons-org/files/trauma-verification/model-resource-criteria.pdf?rev=5ce435e72b9643d29c30d7504f054d02&hash=DE0A1E91450CF4DA087512BA9F690660>
- Royal Perth Hospital. (2021). *Royal Perth Hospital: Trauma Registry Report 2016-2017*. Perth: Western Australia: Royal Perth Hospital
- Santos, M. C. (2012). Nurses' barriers to Learning: An integrative review. *Journal for Nurses in Staff Development* 28(4), 182-185.

- Sorenson, S. (2002). Training for the long run. *Engineered Systems*, 32.
- Surani, Z., Hirani, R., Elias, A., Quisenberry, L., Varon, J., Surani, S., & Surani, S. (2017). Social media usage among health care providers. *BioMed Central Research Notes*, 10, 654. doi:10.1186/s13104-017-2993-y
- Tarighi, P., Sherman, J. E., Mian, O., & Nathens, A. B. (2015). The importance of tailoring physicians' trauma care training needs in rural environments. *Canadian Journal of Surgery*, 58(6), 423.
- Ventola, C. L. (2014). Social media and health care professionals: Benefits, risks, and best practices. *Pharmacy & Therapeutics*, 39(7), 491-520.
- Vioque, S. M., Kim, P. K., McMaster, J., Gallagher, J., Allen, S. R., Holena, D. N., . . . Pascual, J. L. (2014). Classifying errors in preventable and potentially preventable trauma deaths: A 9-year review using the Joint Commission's standardized methodology. *The American Journal of Surgery*, 208(2), 187-194.
- Whiles, A. (1999). Workplace training: The learning curve. *Occupational Health and Training*, 10.
- Wood, C. (2014). *Aboriginal cancer partnership project training needs analysis: Snapshot report*. Retrieved from NSW:  
<https://www.ahmrc.org.au/publication/training-needs-analysis-snapshot-report/>
- World Health Organization. (2016). *Projections of mortality and causes of death, 2015 and 2030*. Retrieved from  
[https://www.who.int/healthinfo/global\\_burden\\_disease/projections/en/](https://www.who.int/healthinfo/global_burden_disease/projections/en/)



## WA Trauma Training and Education Unit – Training Needs Analysis 2019

### Participant Information Form

#### This research is being conducted by:

Role:	Name:
<b>Chief Principal Investigator</b>	Hannah Solomon
<b>Associate Investigators</b>	Julie Williamson
	Sharolyn Kidd

#### **What is this study about?**

We are inviting all staff who are involved in the care and management of trauma and injured patients to participate in a *Training Needs Analysis* being conducted by the WA Trauma Training and Education Unit (WATTEU), which seeks to assess trauma education programs across the WA Health Service.

This participation information form provides information about the project, and what your participant involves. Please read this information carefully, and forward any questions you might have to [WATTEU@health.wa.gov.au](mailto:WATTEU@health.wa.gov.au).

Participation in this research is voluntary. If you do not wish to continue the study, you can withdraw at any time by closing the web page; however, demographic information provided may be used for statistical analysis.

The purpose of the study is to complete a training needs analysis for trauma training and education across WA. The training needs analysis is designed to identify any gaps in the delivery of trauma education. This involves understanding what trauma education you may have completed, how you rate trauma education programs, and any barriers that might prevent you from accessing additional trauma education. On completion, the study will establish the present state of trauma education in WA, and guide the delivery of future trauma education training programs.

#### **Do I have to complete the study?**

This participant information sheet will explain the procedures, details and potential risks involved in completing the study.

It is important that you read this information carefully before deciding whether to take part in the study.

Your participation will be completely anonymous, and there will be no way for your employer, the Department of Health or the WATTEU to know whether you have completed the survey.

## **What does participation in the study involve?**

The Training Needs Analysis is a 5 to 9 minute online survey delivered by SurveyMonkey. The survey will explore your experiences with trauma education in the past, and how you would like trauma education to be delivered in the future.

If you would like to take the survey, please follow the link provided in the recruitment email. Your completion of the survey will be taken as implied consent to use the collected data in the study.

We do not expect any harm or discomfort from completing the survey beyond the inconvenience of the 5 to 9 minutes completion time.

## **What are the benefits to completing the study?**

Trauma continues to be a major cause of mortality and morbidity globally. The provision of effective trauma education can directly reduce preventable deaths throughout Western Australia's Health System. However, without a systematic training needs analysis, there is no way to identify possible gaps in trauma education, or to know what training programs you might have accessed, how you might rate these programs, or how you would like to access trauma education in the future. This training needs analysis provides a way for you to let the WATTEU know your thoughts on trauma education, and as a way of identifying possible gaps in the provision of training.

## **What happens to my personal information?**

By participating in the study, you consent to the WATTEU collecting data on your opinions on trauma education, and using that information to complete the study.

The data collection is done by a SurveyMonkey survey, and your results will be stored on an off-site SurveyMonkey owned servers in a secure format. On completion of the study, the data will be moved by an encrypted link to secure computers located at the WATTEU premises. Your data may be stored on the SurveyMonkey servers for up to a year before it is deleted.

This information is completely anonymous, and will never be reported in an identifiable or re-identifiable way. Your survey responses may be kept permanently, to allow future training needs analysis to compare with past results.

If you consent to being contacted for a follow up interview, you will be taken to a separate SurveyMonkey survey to submit these details. This ensures that there will be no link between your survey answers and your contact details. Your contact details will be kept confidential, and removed from the SurveyMonkey servers as soon as the survey is complete. Your contact details will only be used by the WATTEU staff to contact you for a follow up interview if you have consented to that contact. Any follow-up interviews will be conducted as part of a separate research project which will require additional ethical approval. These details will be stored on WATTEU computers for only as long as it takes to receive ethical approval and recruit consenting participants for the follow up study, after which they will be deleted.

If the results of this study are disseminated in Department of Health reports, published or presented in any way, the information will not contain any individually identifiable data.

**Will I find out about the results of the study?**

If you would like to receive information about the complete study, you may contact the Chief Principal Investigator shown below. Any feedback on the complete study will only be provided after the study has been completed.

**Who do I contact about the study?**

If you any further questions about the study, you may contact the Chief Principal Investigator, Hannah Solomon at: [Hannah.Solomon@health.wa.gov.au](mailto:Hannah.Solomon@health.wa.gov.au)



## WATTEU TNA

### 1. Western Australian Trauma Training and Education Unit: Training Needs Analysis

We would like all staff involved in the care and management of trauma and injured patients to complete this survey. This survey is part of a Training Needs Analysis (TNA) being conducted by the Western Australian Trauma Training and Education Unit (WATTEU), formerly known as the Western Australian Trauma Education Committee (WATEC), to assess the current delivery of trauma education in Western Australia (WA). We would appreciate your attention even if you are not directly involved in the WA Trauma System.

The survey should take approximately 5-9 minutes to complete and the responses to this survey are completely anonymous. Your participation in this research is voluntary, and throughout the survey you can withdraw at any time by closing your browser.

The term 'trauma' refers to any type of physical injury caused to patients as a result of accidents, falls, violence or self harm. Trauma is a major, but often preventable, cause of injury and remains the leading cause of death in Australia for those between the ages of 1-44. The need for education of those involved in trauma care is well recognised and it is the goal of WATTEU, through this survey, to identify the trauma training needs and requirements of staff across WA Health.

If you have any questions or comments regarding this survey, please contact Hannah Solomon via global email or by phone 08 6457 3699.

This research is being conducted in accordance with the Human Research Ethics Committee, in accordance with the National Statement on Ethical Conduct in Human Research and Good Clinical Practice. [Ethics PRN RGS000000849].

**PLEASE NOTE – when completing the survey in Survey Monkey DO NOT use your browser navigation buttons to progress or return to any questions please use the previous and next buttons at the bottom of the survey.**

Survey version 1.0 pilot : Dated 30 MAR 2016



## WATTEU TNA

### 2. Trauma Experience

**This section covers your trauma experience.**

1. How often does your current role involve the care or management of the trauma or injured patient?

- Frequently (weekly)
- Occasionally (monthly)
- Sometimes (annually or less)
- Never



## WATTEU TNA

### 3. Demographics

**This section covers demographics and your occupational status within the WA Health Service.**

#### 2. Age (optional)?

#### 3. Gender?

- Female
- Male
- Rather not say
- Other (please specify)

#### 4. What is your job title? (Please use scroll bar to view other disciplines. Please select only ONE)

Nursing Job Titles

Medical Job Titles

Allied Health Job Titles

Job title:

Other (please specify)

#### 5. What is your predominant role?

- Clinical
- Education
- Management

#### 6. How many years of post-registration/qualification experience do you have?

- Less than one year
- 1 - 3 years
- 4 - 6 years
- 7 - 9 years
- 10+ years



7. What region do you work in?

- Metropolitan
- Rural
- Other (please specify)



## WATTEU TNA

### 4. Demographics

8. Which organisation do you predominantly work in?

- Fiona Stanley Hospital
- Perth Children's Hospital
- Royal Perth Hospital
- Sir Charles Gairdner Hospital
- Royal Flying Doctor Service
- Other (please specify)



## WATTEU TNA

### 5. Demographics

9. Which region do you predominantly work in?

- Goldfields
- Great Southern
- Kimberley
- Midwest
- Pilbara
- South West
- Wheatbelt
- Other (please specify)

10. Where are you predominantly employed?

- Hospital
- Nursing post
- Community service
- Prehospital service
- Other (please specify)



## WATTEU TNA

### 6. Demographics

11. In what speciality do you predominantly work?

- Prehospital Care
- Emergency
- Intensive Care
- High Dependency
- Theatre/Recovery
- Inpatient/Ward
- Outpatients
- Radiology
- Rehabilitation
- Ambulatory Care/Primary Health
- Other - please specify

12. How long have you been practising in your specialist area?

- Less than 1 year
- 1 - 3 years
- 4 - 6 years
- 7 - 10 years
- More than 10 years

13. If you manage trauma, how long have you been involved in trauma related care?

- Less than one year
- 1 - 3 years
- 4 - 6 years
- 7 - 9 years
- 10+ years

14. Have you heard of the Western Australian Trauma Training and Education Unit (WATTEU), formerly known as the Western Australian Trauma Education Committee (WATEC)?

- Yes
- No



## WATTEU TNA

### 7. Survey Complete

**Thank you for completing the survey.**

**As you indicated that you are not involved in the care or management of the trauma or injured patient, we do not require any further information from you for the TNA.**

**Thank you.**



## WATTEU TNA

### 8. Past trauma training experiences

**This section relates to past trauma education that you may have attended.**

15. When was the last time you attended a trauma course?

- Less than 1 year ago
- 1 - 2 years ago
- 3 - 4 years ago
- 4+ years ago
- Unsure
- I have never attended a trauma course

16. To view the appropriate training courses, please select your discipline:

- Nursing
- Medical
- Allied Health



## WATTEU TNA

### 9. Medical

#### 17. What trauma courses have you attended? (Select all that apply)

- Early Management of Severe Trauma (EMST/ATLS)
- Western Trauma Course (WTC)
- Trauma Team Simulation Training (TTST)
- Major Incident Medical Management System (MIMMS)
- Emergency Management of Severe Burns (EMSB)
- Care of the Critically Ill Surgical Patient (CCriSP)
- Definitive Surgical Trauma Care Course (DSTC)
- Definitive Anaesthetic Trauma Care Course (DATC)
- Prehospital Trauma Life Support (PHTLS)
- Paediatric Trauma Life Support (PTLS)
- Rural Emergency Skills Training (REST)
- Managing Obstetric Emergencies and Trauma (MOET)
- Emergency Trauma Management Course (ETM)
- Emergency Life Support (ELS)
- Clinical Emergency Management Programme - Intermediate Workshop
- Clinical Emergency Management Programme - Advanced Workshop
- Rural Emergency Assessment, Credentialing and Training course (REACT)
- AO Trauma Course
- Unable to recall
- Other (please specify)



## WATTEU TNA

### 10. Medical: Trauma courses

We would like to know the following information regarding trauma course(s) you have attended.

18. When did you attend this course?

	Less than two years ago	3 - 4 years ago	More than 4 years ago
Early Management of Severe Trauma (EMST/ATLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Incident Medical Management System (MIMMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Burns (EMSB)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Critically Ill Surgical Patient (CCriSP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Surgical Trauma Care Course (DSTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Anaesthetic Trauma Care Course (DATC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paediatric Trauma Life Support (PTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural Emergency Skills Training (REST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Obstetric Emergencies and Trauma (MOET)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Trauma Management Course (ETM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Life Support (ELS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical Emergency Management Programme - Intermediate Workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Less than two years ago	3 - 4 years ago	More than 4 years ago
Clinical Emergency Management Programme - Advanced Workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural Emergency Assessment, Credentialing and Training course (REACT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AO Trauma Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. This course was relevant to my current practice

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Early Management of Severe Trauma (EMST/ATLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Incident Medical Management System (MIMMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Burns (EMSB)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Critically Ill Surgical Patient (CCrISP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Surgical Trauma Care Course (DSTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Anaesthetic Trauma Care Course (DATC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paediatric Trauma Life Support (PTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural Emergency Skills Training (REST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Obstetric Emergencies and Trauma (MOET)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Trauma Management Course (ETM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Life Support (ELS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Clinical Emergency Management Programme - Intermediate Workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical Emergency Management Programme - Advanced Workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural Emergency Assessment, Credentialing and Training course (REACT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AO Trauma Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. This course met my needs and expectations

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Early Management of Severe Trauma (EMST/ATLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Incident Medical Management System (MIMMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Burns (EMSB)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Critically Ill Surgical Patient (CCrISP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Surgical Trauma Care Course (DSTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Anaesthetic Trauma Care Course (DATC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paediatric Trauma Life Support (PTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural Emergency Skills Training (REST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Obstetric Emergencies and Trauma (MOET)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Emergency Trauma Management Course (ETM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Life Support (ELS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical Emergency Management Programme - Intermediate Workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical Emergency Management Programme - Advanced Workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural Emergency Assessment, Credentialing and Training course (REACT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AO Trauma Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. I am able to apply the knowledge or skills gained on this course

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Early Management of Severe Trauma (EMST/ATLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Incident Medical Management System (MIMMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Burns (EMSB)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Critically Ill Surgical Patient (CCrISP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Surgical Trauma Care Course (DSTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Anaesthetic Trauma Care Course (DATC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paediatric Trauma Life Support (PTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Rural Emergency Skills Training (REST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Obstetric Emergencies and Trauma (MOET)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Trauma Management Course (ETM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Life Support (ELS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical Emergency Management Programme - Intermediate Workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical Emergency Management Programme - Advanced Workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural Emergency Assessment, Credentialing and Training course (REACT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AO Trauma Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. I would recommend this course to my colleagues

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Early Management of Severe Trauma (EMST/ATLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Incident Medical Management System (MIMMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Burns (EMSB)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Critically Ill Surgical Patient (CCrISP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Surgical Trauma Care Course (DSTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Anaesthetic Trauma Care Course (DATC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paediatric Trauma Life Support (PTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural Emergency Skills Training (REST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Obstetric Emergencies and Trauma (MOET)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Trauma Management Course (ETM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Life Support (ELS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical Emergency Management Programme - Intermediate Workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical Emergency Management Programme - Advanced Workshop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rural Emergency Assessment, Credentialing and Training course (REACT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AO Trauma Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. If you disagreed to any of the above, please explain why:

24. Do you have any comments on these courses, or any other trauma related courses you have attended?



## WATTEU TNA

### 11. Nursing

#### 25. What trauma courses have you attended? (Select all that apply)

- Trauma Nursing Core Course (TNCC)
- Western Trauma Course (WTC)
- Trauma Team Simulation Training (TTST)
- Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER
- Trauma Nursing Process (TNP)
- Emergency Nursing Paediatric Course (ENPC)
- Major Incident Medical Management System (MIMMS)
- Emergency Management of Severe Burns (EMSB)
- Care of the Critically Ill Surgical Patient (CCrISP) OBSERVER
- Prehospital Trauma Life Support (PHTLS)
- International Trauma Life Support (ITLS)
- AO Trauma Course
- Definitive Perioperative Nurses Trauma Care Course (DPNTC)
- CRANaplus Remote Emergency Care (REC)
- CRANaplus Practical Skills Triage Emergency Care Course
- CRANaplus Trauma Preparedness Course
- CRANaplus Trauma Emergency Care Course
- CRANaplus Advanced Life Support Course
- CRANaplus Advanced Remote Emergency Care Course
- CRANaplus Paediatric Emergency Care Course
- Unable to recall
- Other (please specify)



## WATTEU TNA

### 12. Nursing: Trauma courses

We would like to know the following information regarding trauma course(s) you have attended.

26. When did you attend this course?

	Less than two years ago	3 - 4 years ago	More than 4 years ago
Trauma Nursing Core Course (TNCC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Process (TNP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Nursing Paediatric Course (ENPC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Incident Medical Management System (MIMMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Burns (EMSB)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Critically Ill Surgical Patient (CCriSP) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
International Trauma Life Support (ITLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AO Trauma Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Perioperative Nurses Trauma Care Course (DPNTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Remote Emergency Care (REC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Practical Skills Triage Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Less than two years ago	3 - 4 years ago	More than 4 years ago
CRANaplus Trauma Preparedness Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Trauma Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Advanced Life Support Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Advanced Remote Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I haven't attended any trauma related courses in the last four years	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. This course was relevant to my current practice

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Trauma Nursing Core Course (TNCC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Process (TNP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Nursing Paediatric Course (ENPC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Incident Medical Management System (MIMMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Burns (EMSB)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Critically Ill Surgical Patient (CCrISP) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
International Trauma Life Support (ITLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AO Trauma Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Definitive Perioperative Nurses Trauma Care Course (DPNTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Remote Emergency Care (REC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Practical Skills Triage Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Trauma Preparedness Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Trauma Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Advanced Life Support Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Advanced Remote Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. This course met my needs and expectations

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Trauma Nursing Core Course (TNCC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Process (TNP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Nursing Paediatric Course (ENPC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Incident Medical Management System (MIMMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Burns (EMSB)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Care of the Critically Ill Surgical Patient (CCrISP) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
International Trauma Life Support (ITLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AO Trauma Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Perioperative Nurses Trauma Care Course (DPNTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Remote Emergency Care (REC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Practical Skills Triage Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Trauma Preparedness Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Trauma Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Advanced Life Support Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Advanced Remote Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. I am able to apply the knowledge or skills gained on this course

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Trauma Nursing Core Course (TNCC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Process (TNP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Emergency Nursing Paediatric Course (ENPC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Incident Medical Management System (MIMMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Burns (EMSB)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Critically Ill Surgical Patient (CCrISP) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
International Trauma Life Support (ITLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AO Trauma Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Perioperative Nurses Trauma Care Course (DPNTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Remote Emergency Care (REC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Practical Skills Triage Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Trauma Preparedness Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Trauma Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Advanced Life Support Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Advanced Remote Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. I would recommend this course to my colleagues

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Trauma Nursing Core Course (TNCC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Process (TNP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Nursing Paediatric Course (ENPC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major Incident Medical Management System (MIMMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Burns (EMSB)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Critically Ill Surgical Patient (CCrISP) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
International Trauma Life Support (ITLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AO Trauma Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Definitive Perioperative Nurses Trauma Care Course (DPNTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Remote Emergency Care (REC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Practical Skills Triage Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Trauma Preparedness Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Trauma Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Advanced Life Support Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Advanced Remote Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. If you disagreed to any of the above, please explain why:

32. Do you have any comments on these courses, or any other trauma related courses you have attended?



## WATTEU TNA

### 13. Paramedic

33. What trauma courses have you attended? (Select all that apply)

- Western Trauma Course (WTC)
- Trauma Team Simulation Training (TTST)
- Prehospital Trauma Life Support (PHTLS)
- Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER
- Trauma Nursing Core Course (TNCC) OBSERVER
- CRANApplus Maternity Emergency Care
- CRANApplus Practical Skills Triage Emergency Care Course
- CRANApplus Advanced Life Support Course
- CRANApplus Paediatric Emergency Care Course
- Unable to recall
- Other (please specify)



WATTEU TNA

14. Paramedic: Trauma courses

We would like to know the following information regarding trauma course(s) you have attended.

34. When did you attend this course?

	Less than two years ago	3 - 4 years ago	More than 4 years ago
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Practical Skills Triage Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Core Course (TNCC) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Advanced Life Support Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I haven't attended any trauma related courses in the last four years	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. This course was relevant to my current practice

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Practical Skills Triage Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Core Course (TNCC) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Advanced Life Support Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANAplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



36. This course met my needs and expectations

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Practical Skills Triage Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Core Course (TNCC) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Advanced Life Support Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

37. I am able to apply the knowledge or skills gained on this course

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Practical Skills Triage Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Core Course (TNCC) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Advanced Life Support Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

38. I would recommend this course to my colleagues

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Team Simulation Training (TTST)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency Management of Severe Trauma (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Practical Skills Triage Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Core Course (TNCC) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Advanced Life Support Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

39. If you disagreed to any of the above, please explain why:

40. Do you have any comments on these courses, or any other trauma related courses you have attended?



## WATTEU TNA

### 15. Allied Health

41. What trauma courses have you attended? (Select all that apply)

- Western Trauma Course (WTC)
- Trauma Nursing Core Course (TNCC) OBSERVER
- Early Management of Severe Trauma Course (EMST/ATLS) OBSERVER
- Unable to recall
- Other (please specify)



## WATTEU TNA

### 16. Allied Health: Trauma courses

We would like to know the following information regarding trauma course(s) you have attended.

42. When did you attend this course?

	Less than two years ago	3 - 4 years ago	More than 4 years ago
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANApplus Remote Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Core Course (TNCC) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANApplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANApplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I haven't attended any trauma related courses in the last four years	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Early Management of Severe Trauma Course (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

43. This course was relevant to my current practice

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Remote Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Core Course (TNCC) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Early Management of Severe Trauma Course (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

44. This course met my needs and expectations

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Remote Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Core Course (TNCC) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Early Management of Severe Trauma Course (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

45. I am able to apply the knowledge or skills gained on this course

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Unsure
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Remote Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Core Course (TNCC) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Early Management of Severe Trauma Course (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

46. I would recommend this course to my colleagues

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Unsure
Prehospital Trauma Life Support (PHTLS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Western Trauma Course (WTC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Remote Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trauma Nursing Core Course (TNCC) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Maternity Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unable to recall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CRANaplus Paediatric Emergency Care Course	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Early Management of Severe Trauma Course (EMST/ATLS) OBSERVER	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

47. If you disagreed to any of the above, please explain why:

48. Do you have any comments on these courses, or any other trauma related courses you have attended?





## WATTEU TNA

### 17. Training experience and needs

**This section covers accessing trauma education and training.**

49. Have you received any trauma training or education via telehealth or video conferencing in the last two years?

- Yes
- No
- Unsure

If yes, please specify what training you received.



## WATTEU TNA

### 18. Training experience and needs

50. Would you like additional trauma training and education via telehealth or video conferencing?

- Yes
- No
- No preference



## WATTEU TNA

### 19. Training experience and needs

51. Would you like trauma training and education via telehealth or video conferencing?

- Yes  
 No  
 No preference

52. Have you received any online trauma training or education in the last two years?

- Yes  
 No  
 Unsure

If yes, please specify what training you received.



## WATTEU TNA

### 20. Training experience and needs

53. Would you like additional online trauma training and education?

- Yes
- No
- No preference



## WATTEU TNA

### 21. Training experience and needs

54. Would you like to receive online trauma training and education?

- Yes  
 No  
 No preference

55. How else would you like to receive future trauma training and education? (Select all that apply)

- Attend a course/workshop  
 Social media (Blogs, YouTube, etc.)  
 Workplace learning/in-service  
 Lectures  
 Self-directed learning  
 Simulation training  
 Skills training  
 Conferences  
 I do not wish to receive future trauma education  
 Other (please specify)

56. If you wanted to undertake a trauma course, where would you look for it? (Select all that apply)

- On the internet  
 On the intranet  
 Ask my employer  
 Ask my colleagues  
 On social media  
 Professional organisations  
 On workplace noticeboards  
 Other (please specify)

57. Have any of the following ever been a barrier to you attending a trauma training course? (Select all that apply)

Lack of support from employer

Inability to access leave

Workload

Personal commitments

Cost of course

Location of course

Length of course

Dates of course

Course anxiety

Pre-course preparation

Internet access

None of the above

Other (please specify)



## WATTEU TNA

### 22. Attending a course for trauma training

**On this page we would like to know more about your priorities when attending a course for trauma training.**

58. Where do you prefer courses to be held? (Select all that apply)

- At your workplace
- At a hospital
- In your clinical environment
- In an educational setting (universities, etc)
- At a conference centre
- In your local region
- I prefer online courses
- No preference
- Other (please specify)

59. What is your preferred duration of a trauma course?

- 1 day
- 2 days
- 3 days
- More than 3 days
- No preference

60. What is your preferred structure for a trauma course?

- Consecutive days during the week
- Consecutive days on the weekend
- Staggered sessions during the week
- Staggered sessions on the weekend
- No preference

61. Do you have any comments on attending trauma training courses?



## WATTEU TNA

### 23. Social media in trauma education

**On this page we would like to know if you would use social media to access or receive for trauma training and education.**

62. Have you used social media to access or receive trauma education in the past?

Yes

No





## WATTEU TNA

### 24. Social media in trauma education

63. How have you used social media to access or receive trauma training and education?

- To further my education and training
- To seek referrals or recommendations
- To search for conferences or events
- To access up to date and evidence based practice
- Unsure
- Other (please specify)

64. What social media service/s have you used? (Select all that apply)

- YouTube
- Facebook
- Twitter
- LinkedIn
- Blogs
- Unsure
- Other (please specify)

65. In the future, would you use social media to access or receive trauma training and education?

- Yes
- No
- Unsure



## WATTEU TNA

### 25. Social media in trauma education

66. How would you use social media to access or receive trauma training and education?

- To further my education and training
- To seek referrals or recommendations
- To search for conferences or events
- To access up to date and evidence based practice
- Unsure
- Other (please specify)

67. What social media services would you like to use for trauma training and education? (Select all that apply)

- Youtube
- Facebook
- Twitter
- LinkedIn
- Blogs
- Unsure
- Other (please specify)

68. Do you have any comments on the use of social media for trauma education?



WATTEU TNA

26. Future training

In this section we would like to know more about your opinions on the delivery of trauma education in the future.

69. When considering trauma training and education, I would **AVOID** programs that:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Have high cost/fees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Include pre-course preparation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are of a long duration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Include formal testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are not locally accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have limited practical/skills training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

70. When considering trauma training and education, I **VALUE** programs that:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Are internationally recognised	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support multidisciplinary training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilise simulation training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are endorsed by a professional body	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Are peer endorsed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

71. Do you feel that you require further trauma training and education?

- Yes
- No

72. If yes, please specify what areas you would like training in:

73. On a scale of 1 (*low*) to 5 (*high*), how would you rate your KNOWLEDGE on the following aspects of trauma? Please mark NA if not relevant to your field of practice.

	1	2	3	4	5	N/A
Mechanism of Injury	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initial Assessment Framework	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Airway and Ventilatory Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shock Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brain and Cranial Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maxillofacial Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ocular Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thoracic Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neck Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abdominal Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pelvic Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spinal Cord and Vertebral Column Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Musculoskeletal Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surface Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burn Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Penetrating Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Submersion Injury	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blast Trauma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Post Resuscitative Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pharmacology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

74. On a scale of 1 (*low*) to 5 (*high*), how would you rate your CONFIDENCE in the following areas/skills in trauma management?

	1	2	3	4	5	N/A
Performing an Initial Assessment including a Primary and Secondary Survey	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing a Compromised or Difficult Airway	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing Ventilatory Complications and Raised Intrathoracic Pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Damage Control Resuscitation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Management of Raised Intracranial Pressure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spinal Immobilisation and Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Burn Assessment and Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pain Management Strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disaster Triage and Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transport and Transfer of the Trauma Patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
X-ray Interpretation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CT Interpretation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Paediatric Patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Obstetric Patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Bariatric Patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Care of the Older Adult	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nutritional Assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performing as a Member of a Trauma Team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Effective Communication Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Psychosocial Aspects of Trauma Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Post Resuscitative Airway and Ventilatory Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

75. Do you have any further comments on trauma training and education?



## WATTEU TNA

### 27. Survey complete

**Thank you for completing the survey. Your answers have been recorded anonymously.**

**In the future, WATTEU may choose to conduct detailed interviews. Any follow up interviews will be conducted as part of a separate research project that will require additional ethical approval. Your details will be stored for only as long as it takes to receive ethical approval and conduct the study, after which they will be deleted.**

**If you would be interested in participating in these interviews then please click on the following link. Your answers to the survey will not be connected to your contact details in any way.**

**[Click here to go to the contact details page](#)**



SCGOPHCG - ARC  
2nd Floor A Block  
Hospital Avenue  
NEDLANDS Western Australia 6009

22 May 2018

Mrs Hannah Solomon  
WA Trauma Training and Education Unit 3rd Floor, A Block, Hospital Avenue  
NEDLANDS Western Australia 6009

Dear Mrs Solomon

**PRN:** RGS0000000849  
**Project Title:** WA Trauma Training and Education Unit - Training Needs  
Analysis 2018

Thank you for submitting the above research project for ethical review. This project was considered by under the alternative review stream for low or negligible risk projects.

In order to determine the ethical and scientific acceptability of your project please provide the additional information, clarification or modification as described below and in any possible attachments:

#### **WAHEAF**

1. This study seems as though it may benefit from input from a psychologist. Have the research team sought this input or considered doing so? This is a suggestion only.
2. Section 4.4.1 unfinished sentence.

#### **Sample size**

1. The WAHEAF states the expected sample size is 5000 participants. The protocol goes on to state that of the "[...] 5000 recruited, only the respondents who indicate that they routinely work with trauma care will be included in the final analysable dataset and subsequent reports. These respondents will yield an expected sample of approximately 360 [...]". How was the number of participants in the latter sample size arrived at?
2. How is 'routinely' quantified? The questionnaire provides four options (weekly, monthly, annually or less and never). The application states that only those who select 'Never' will be excluded.
3. The study appears to be canvassing a significant portion of those involved in health care provision in the state but less than 10% of those invited to take part will actually be eligible to do so (assuming all those invited take part). Are there other, more targeted, recruitment strategies that could be utilised to specifically recruit those involved in trauma care and avoid inviting health employees ineligible for participation?
4. The protocol also states that all those taking part will initially complete a sociodemographic questionnaire prior to being asked whether they work in trauma. Those who do not are then thanked for their participation and the survey ends. What is the rationale for asking a very large number of participants, many of whom will not be eligible to take part, to take the time to complete a demographic questionnaire? Doing so does not appear to work towards achieving any of the stated aims of the project.



5. Related to point 1, if a more targeted recruitment process is not possible, participants should be advised at the outset that only those involved in trauma care will be eligible to take part.

### **Questionnaire**

1. The questionnaire includes a number of items on the use of social media and trauma education. However there does not appear to be any questions (beyond one item under question 49) relating to the desire for trauma education to be provided online and/or via video conference. As this study involves a number of WA Country Health Service populations, online training may be something that may be desirable to those working in rural and remote locations. Is there a reason that preferences around online education have not been explored in more detail?
2. Question 2 does not provide a 'Rather not say' option.
3. Is it likely that a participant would be able to accurately recall the name of a trauma training course they have attended more than 4 years ago and whether they felt the content was relevant to their current practice? It may be worthwhile including guidance and/or an option participant can select in the event they are unable to recall.
4. Question 50, typo "whenattending" should read "when attending". This may be an error introduced when converted to PDF. If so, please disregard.
5. Question 51, the lower bound is 1 day. Is the rationale for this that there is no ability to provide a training course of sufficient quality in <1 day?
6. Section 15: the questions in this section are a little ambiguous. For example, "Have you used social media for trauma education in the past?" Is this seeking to identify whether a participant has sought to become more educated on trauma care from social media or sought referrals to trauma education from social
7. Bold text above question 58, typo "thefuture" should read "the future". This may be an error introduced when converted to PDF. If so, please disregard.

### **PICF**

The final question on the survey takes a participant to a separate page where they are asked to provide their contact information if they are interested in being contacted for participation in a future study. While this is discussed in the information sheet it should be stated that the follow up interviews will be a component of a separate research project which will have its own ethical approval. This should also be stated on the contact information questionnaire.

### **Contact Information Questionnaire**

There is reference to eligibility for a '[prize]' for providing contact information. The details of this prize have not been included for review - please provide this. Please be aware that the HREC is unlikely to approve any offer of a prize that could be considered an inducement to participate.

To find the original letter and any possible attachments, click [here](#) when logged into RGS.

In order to facilitate the reviewer's consideration of your project, please provide the requested information as soon as possible. Your response should include a covering letter addressing the issues mentioned above, along with any revised forms and documents. A template investigator response letter is available from the Research Governance Service (RGS) website document template tab.

If no response is received within four months from the date of this letter, the project will be considered withdrawn and you will be required to resubmit the project with full documentation.

Should you require further information, please contact the Ethics Office at [HREC.SCGH@health.wa.gov.au](mailto:HREC.SCGH@health.wa.gov.au) or on 08 6457 2999.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Sean Howarth', with a long horizontal line extending to the right.

Sean Howarth  
Delegate of the Chair  
Sir Charles Gairdner and Osborne Park Health Care Group  
Human Research Ethics Committee  
22/05/2018 15:45

Hannah Solomon  
Sir Charles Gairdner Hospital  
3<sup>rd</sup> Floor A Block  
Hospital Avenue  
Nedlands WA 6009

22/06/2019

SCGOPHCG- ARC  
2<sup>nd</sup> Floor A Block  
Hospital Avenue  
Nedlands WA 6009

Dear Committee Chair

**PRN:** RGS0000000849

**Project Title:** WA Trauma Training and Education Unit – Training Needs Analysis 2018

Thank you for the review of the above project. The response to the issues raised by your committee is detailed below.

#### WAHEAF

1. Thank you for your recommendation regarding the input of a psychologist. After deliberation of the research team it has been decided not to consult a psychologist at this time, specifically as the research does not explore psychological trauma nor collect data on individual experience of trauma or traumatic event. However, if the research identifies data that would benefit from psychological consultation then this will be further considered.
2. We believe this comment reflected section 4.1.1. Sentence deleted and corrected to include Allied Health Staff.

#### Sample Size

1. The sample size was calculated using the Krejcie and Morgan's (1970) sample size calculation formula for required sample sizes.  
Where:  
 $X^2$  = the value of chi-square for 1 degree of freedom at 95% confidence level ( $1.96^2=3.841$ ).  
 $N$  = the population size=5000.  
 $P$  = the population proportion (assumed to be .50 to provide the maximum sample size).  
 $d$  = the degree of accuracy expressed as a proportion (.05).  
 $s = X^2 NP(1- P) / \{d^2 (N-1) + X^2 P(1- P)\}$   
 $s=356.68 \Rightarrow s=360$   
A paper outlining the formula has been included in the ethics submission for further clarification.
2. The word routinely has been deleted from the research protocol (section 6.1). Only participants who state they never care for or manage the trauma or injured patient will be excluded. The definitions of weekly, monthly, annually (or less) and never, are specified in the survey.
3. The care and management of trauma patients occur across all areas of the hospital system. The research team believed that we would fail to capture a significant portion of staff involved in trauma care/management if we chose to target individualised areas such as emergency or trauma wards. Whilst we acknowledge that potentially in the Metropolitan region we may be inviting more health employees

who are ineligible for participation, in Rural and Regional hospitals staff are more likely to work across different areas and exposed to trauma patients. By distributing the survey through global email to all medical, nursing and allied health professionals, the research team believe it will capture all staff involved in trauma care and not influence bias by targeting only specific areas or departments.

4. The research team agrees with this point. The question asking the frequency of how often their current role is involved in the care of management of the trauma patient has been moved to question one. If the participant answers 'never' the survey ends and participants are thanked for their response but not directed on to part two of the survey. The socio-demographic questions are then captured in part two. The questionnaire and research protocol has been updated to reflect these changes. Question 11 on the questionnaire has also been edited to remove the 'not applicable' option as only participants who are involved in trauma care will now be answering this question.
5. The Recruitment Email, Information Sheet and SurveyMonkey introduction have been edited to address this. We have included a statement inviting staff who are involved in the care and management of trauma and injured patients to participate in the survey and highlighted that the survey is restricted to individuals who work in the provision of care or management of the trauma or injured patient.

#### Questionnaire

1. Good point. Additional questions have been added to explore whether participants have accessed trauma education and training via telehealth/video conferencing or accessed online trauma education. If they have previously accessed trauma education via these platforms, they are asked if they would like additional training and education this way. If they have not received training via these methods they are asked if this is a platform they would like to receive future trauma training and education. Internet access barriers have been added to Question 55 and a preference for online learning has been added to Question 56
2. The word optional has been added next to the question (Age (optional)). The question is no longer a mandatory field, allowing the question to be left blank if desired
3. Four years is used as a timeframe as both the medical and nursing trauma courses provide a four year verification before renewal is required. In the event they are unable to recall the course or content of the course we have added an 'unsure' response to Question 13 and an 'unable to recall' response to Question 15, 23, 31 & 39. 'Unsure' has also been added as a response to all questions regarding each course's relevance to practice, meeting needs and expectations, application of the knowledge and skills gained and recommendations.
4. This was an error when converting to PDF. Survey is correct.
5. Less than one day would be insufficient to run a trauma course. Trauma training and education can be conducted through individual sessions and in-service education, which is explored in Question 53, however a trauma course could not be run in less than a day.
6. Additional questions added to Section 15 to reduce ambiguity and explore how participants use social media to access and receive trauma education. Questions added to identify if participants have and would use social media as well as exploring how they would use it i.e. for education and training, recommendations and referrals, to search for conferences and events etc.
7. This was an error when converting to PDF. Survey is correct.

#### PICF

1. Confirmation that any follow-up interviews will be conducted as part of a separate research project that will require additional ethical approval has been added to the

participant information sheet, the end of survey information (section 17) and the contact information questionnaire.

#### Contact Information Questionnaire

1. This is an error. In the preliminary planning the provision of a prize was discussed as a method to improve response rates. On review this was removed and is no longer included in our contact information questionnaire. The PDF link sent for submission was linked to the old questionnaire and has been updated for resubmission.

#### Additional Information

1. Julie Williamson has been added as an Associate Investigator for the project
2. An addition course Definitive Anaesthetic Trauma Care (DATC) has been added to the Questionnaire Section 5 Question 15

I hope the above reply and the updated forms/documents addresses the issues raised.

Yours sincerely

A handwritten signature in black ink, appearing to read 'H Solomon', written in a cursive style.

Hannah Solomon  
Coordinating Principal Investigator



Government of **Western Australia**  
**North Metropolitan Health Service**  
**Sir Charles Gairdner Osborne Park Health Care Group**



Sir Charles  
Gairdner Hospital

SCGOPHCG - ARC  
2nd Floor A Block  
Hospital Avenue  
NEDLANDS Western Australia 6009

14 August 2018

Mrs Hannah Solomon  
WA Trauma Training and Education Unit  
3rd Floor, A Block, Hospital Avenue  
NEDLANDS Western Australia 6009

Dear Mrs Solomon

**PRN:** RGS0000000849  
**Project Title:** WA Trauma Training and Education Unit - Training Needs  
Analysis 2018

Thank you for submitting the above research project for ethical review. The project was considered under the Alternative Review process in accordance with the Committee's Terms of Reference and Standard Operating Procedures.

I am pleased to advise you that the above research project meets the requirements of the *National Statement on Ethical Conduct in Human Research (2007)* and ethical approval for this research project has been granted. The Sir Charles Gairdner and Osborne Park Health Care Group Human Research Ethics Committee at its meeting to be held on 23 August 2018 will be notified that this project was approved on their behalf.

To find the original letter and any possible attachments, click [here](#) when logged into RGS.

The nominated participating site(s) in this project is/are:

Albany Hospital, Boyup Brook Soldiers Memorial Hospital, Broome Health Campus, Bunbury Hospital, Derby Hospital, Esperance Hospital, Exmouth Health Service, Fiona Stanley Hospital, Geraldton Hospital, Halls Creek Hospital, Hedland Health Campus, Kalgoorlie Health Campus, Katanning Hospital, Laverton Hospital, Margaret River Hospital, Morawa District Hospital and Health Service, Narrogin Health Service, Newman Hospital, Northam Health Service, Perth Children's Hospital, Ravensthorpe District Health Centre, Roebourne Hospital, Royal Perth Hospital, Sir Charles Gairdner Hospital, Southern Cross Health Service

[Note: If additional sites are recruited prior to the commencement of, or during the research project, the Coordinating Principal Investigator is required to notify the Human Research Ethics Committee (HREC). Notification of withdrawn sites should also be provided to the HREC in a timely fashion.]

The approved documents include:

Document	Version	Version Date
WATTEU - TNA Research Protocol	2	31/07/2018

Document	Version	Version Date
WATTEU - TNA	3.0	10/08/2018

Ethical approval of this project from SCGOPHCG - ARC is valid from 14 August 2018 to 14 August 2023 subject to compliance with the 'Conditions of Ethics Approval for a Research Project' (Appendix A).

A copy of this ethical approval letter must be submitted by all site Principal Investigators to the Research Governance Office or equivalent body or individual at each participating institution in a timely manner to enable the institution to authorise the commencement of the project at its site/s.

**This letter constitutes ethical approval only.** This project cannot proceed at any site until separate site authorisation has been obtained from the Chief Executive or Delegate of the site under whose auspices the research will be conducted at that site.

Should you have any queries about the SCGOPHCG - ARC's consideration of your project, please contact the Ethics Office at HREC.SCGH@health.wa.gov.au or on 08 6457 2999. The HREC's Terms of Reference, Standard Operating Procedures and membership are available from the Ethics Office or from <http://www.scgh.health.wa.gov.au/Research/>.

The HREC wishes you every success in your research.

Yours sincerely



Sean Howarth  
Delegate of the Chair  
Sir Charles Gairdner and Osborne Park Health Care Group  
Human Research Ethics Committee  
14/08/2018 17:01

## **CONDITIONS OF ETHICS APPROVAL FOR A RESEARCH PROJECT**

The following general conditions apply to the research project approved by the Human Research Ethics Committee (HREC) and acceptance of ethical approval will be deemed to be an acceptance of these conditions by all project investigators:

1. The responsibility for the conduct of this project lies with the Coordinating Principal Investigator (CPI).
2. The investigators recognise the reviewing HREC is registered with the National Health and Medical Research Council and that it complies with the current version of the National Statement on Ethical Conduct in Human Research.
3. A list of HREC member attendance at a specific meeting is available on request, but no voting records will be provided.
4. The CPI will immediately report anything that might warrant review of ethical approval of the project.
5. The CPI will notify the HREC of any event that requires a modification to the protocol or other project documents and submit any required amendments to approved documents, or any new documents, for ethics approval. Amendments cannot be implemented at any participating site until ethics approval is given.
6. The CPI will submit any necessary reports related to the safety of research participants in accordance with the WA Health Research Governance Standard Operating Procedures.
7. Where a project requires a Data Safety Monitoring Board (DSMB), the CPI's will ensure this is in place before the commencement of the project and notify the HREC. All relevant reports from the DSMB should be submitted to HREC.
8. For investigator-initiated and collaborative research group projects the CPI may take on the role of the sponsor. In this case, the CPI is responsible for reporting to the Therapeutic Goods Administration (TGA) any unexpected serious drug or device adverse reactions, and significant safety issues in accordance with the TGA guidelines.
9. If the project involves the use of an implantable device, the CPI will ensure a properly monitored and up to date system for tracking participants is maintained for the life of the device.
10. The CPI will submit a progress report to the HREC annually from the ethics approval date and notify the HREC when the project is completed at all sites. The HREC can request additional reporting requirements as a special condition of a research project. Ethics approvals are subject to the receipt of these reports and approval may be suspended if the report is not received.
11. The CPI will notify the HREC of his or her inability to continue as CPI and will provide the name and contact information of their replacement. Failure to notify the HREC can result approval for the project being suspended or withdrawn.
12. The CPI will notify the HREC of any changes in investigators and/or new sites that will utilise the ethics approval.
13. The HREC has the authority to audit the conduct of any project without notice if some irregularity has occurred, a complaint is received from a third party or the HREC decides to undertake an audit for quality improvement purposes.
14. The HREC may conduct random monitoring of any project. The CPI will be notified if their project has been selected. The CPI will be given a copy of the



monitor's report along with the HREC and Research Governance (RG) Office at the site/s.

15. Complaints relating to the conduct of a project should be directed to the HREC Chair and will be promptly investigated according to the WA Health's complaints procedures.
16. The CPI should ensure participant information and consent forms are stored within the participant's medical record in accordance with the WA Health's Record Keeping Plan.
17. The CPI will notify the HREC of any plan to extend the duration of the project past the expiry date listed above and will submit any associated required documentation. A request for an extension should be submitted prior to the expiry date. One extension of 5 years may be granted but approval beyond this time period may necessitate further review by the HREC.
18. Once the approval period has expired or the project is closed, the CPI will submit a final report. If the report is not received within 30 days the project will be closed and archived.
19. Projects that do not commence within 12 months of the approval date may have their approval withdrawn and the project closed. The CPI must outline why the project approval should remain.
20. The CPI will notify the HREC if the project is temporarily halted or prematurely terminated at a participating site before the expected completion date, with reasons provided. Such notification should include information as to what procedures are in place to safeguard participants.
21. If a project fails to meet these conditions the HREC will contact the CPI to address the identified issues. If, after being contacted by the HREC, the issues are not addressed, the ethics approval will be withdrawn. The HREC will notify the RG Office at each site within WA Health that the project procedures must discontinue, except for those directly related to participant's safety.



Our Ref: 00849 - approval SCGOPHCG

10 December 2018

Mrs Hannah Solomon  
 Clinical Nurse Educator - Trauma Nurse Coordinator  
 Sir Charles Gairdner Hospital  
 WA Trauma Training and Education Unit  
 3rd Floor, A Block, Hospital Avenue  
 NEDLANDS WA 6009

Dear Mrs Solomon

**PRN:** RGS0000000849  
**Project Title:** WA Trauma Training and Education Unit - Training Needs Analysis 2018  
**Protocol No:** Version 1 Feb2018

Thank you for submitting the above research project for governance review. I am pleased to advise you that North Metropolitan Health Service has granted authorisation for this research project to be conducted at the following participating site(s):

Sir Charles Gairdner Hospital

In addition to those approved by the Human Research Ethics Committee (HREC), the approved site specific documents include:

Document	Version	Version Date
Access Request - Email of Support	1	02/11/2018
Site Support - SCGH Tony Dolan	1	16/05/2018

Site authorisation of this project is valid from 29 November 2018 subject to continued ethical approval from Sir Charles Gairdner and Osborne Park Health Care Group Human Research Ethics Committee and compliance with the 'Conditions of Site Authorisation for a Research Project', see following page.

Should you have any queries about Sir Charles Gairdner Hospital's consideration of your project, please contact the Research Governance Office by telephone 6457 4531 or email SCGH.RGO@health.wa.gov.au. The Research Governance Office's Standard Operating Procedures are available from the Research Governance Office or from our website: <http://www.scgh.health.wa.gov.au/Research/index.html>.

I wish you every success in your research.

Yours sincerely

**Geraldine Carlton**  
**A/EXECUTIVE DIRECTOR**  
**SIR CHARLES GAIRDNER AND**  
**OSBORNE PARK HEALTH CARE GROUP**



15 October 2018

Mrs Hannah Solomon  
WA Trauma Training and Education Unit  
Sir Charles Gairdner Hospital  
3<sup>rd</sup> Floor, A Block, Hospital Avenue  
NEDLANDS WA 6009

Dear Hannah

PRN: RGS0000000849

Project Title: WA Trauma Training and Education Unit - Training Needs Analysis 2018

Thank you for submitting the above research project for governance review (Access Request). I am pleased to advise you that East Metropolitan Health Service Executive has granted authorisation for this research project to be conducted at the following participating site:

Royal Perth Hospital

The approved documents are as outlined in the Sir Charles Gairdner Osborne Park Health Care Group (SCGOPHCG) Human Research Ethics Committee (HREC) approval letter dated 14 August 2018.

Site authorisation of this project is valid from 15 October 2018, subject to continued ethical approval from the SCGOPHCG HREC and compliance with the 'Conditions of Site Authorisation for a Research Project'

Should you have any queries about East Metropolitan Health Service Executive's consideration of your project, please contact the Research Governance Office at [EMHS.REG@health.wa.gov.au](mailto:EMHS.REG@health.wa.gov.au) or on 08 9224 2260. The Research Governance Office's Standard Operating Procedures are available from the Research Governance Office or from <http://ww2.health.wa.gov.au/About-us/East-Metropolitan-Health-Service/About/Human-Research-Ethics-and-Governance>.

I wish you every success in your research.

Yours sincerely

Dr Lesley Bennett  
A/EXECUTIVE DIRECTOR

cc: Julie Williamson

**Research Ethics & Governance**

Level 2 Kirkman House, Royal Perth Hospital, GPO Box X2213 Perth WA 6847

Telephone: (08) 9224 2260 / (08) 9224 2292

Email: [EMHS.REG@health.wa.gov.au](mailto:EMHS.REG@health.wa.gov.au)



Government of Western Australia  
Department of Health

Child and Adolescent Health Service

15 August 2018

Mrs Hannah Solomon  
WA Trauma Training and Education Unit  
Sir Charles Gairdner Hospital  
3rd Floor, A Block, Hospital Avenue  
NEDLANDS WA 6009

Dear Mrs Solomon

**PRN:** RGS0000000849  
**Project Title:** WA Trauma Training and Education Unit - Training Needs Analysis 2018  
**Protocol Number:** Version 1 Feb2018

Thank you for submitting the above research project for governance review. I am pleased to advise you that the Child and Adolescent Health Service has granted authorisation for this research project to be conducted at the following participating site(s):

Perth Children's Hospital

Site authorisation of this project is valid from 14 August 2018 subject to continued ethical approval from the Sir Charles Gairdner and Osborne Park Health Care Group Human Research Ethics Committee and compliance with the 'Conditions of Site Authorisation for a Research Project' (Appendix A). To find the original letter and any possible attachments, click here when logged into RGS.

Should you have any queries about the Child and Adolescent Health Service's consideration of your project, please contact the Research Governance Office at [pmh.rgo@health.wa.gov.au](mailto:pmh.rgo@health.wa.gov.au) or on (08) 6456 0517. The Research Governance Office's Standard Operating Procedures are available from the Research Governance Office or from .

I wish you every success in your research.

Yours sincerely

Dr Ajitha Nair  
Deputy Executive Director Medical Services



## Research Governance Service

Home   Research Information   Meeting Calendar   Document Templates   Contacts   Help Wiki

PROJECT | WA Trauma Training and Education Unit - Training Needs Analysis 2018

[Click on the arrows below to get step by step guidance.](#)

Feasibility Assessment   Document Preparation   Submission & Review   Approval & Authorisation   Monitoring   Publications & Archiving

PRN: RGS000000849

**Project status:** Active

**Project ethics approval status:** Approved

Short title: WATTEU TNA 2018

External HREC ref: None

**Risk type:** Low risk

**CPI:** [Hannah Solomon](#)

My Role(s): CPI, PI

**Lead HREC:** Sir Charles Gairdner and Osborne Park Health Care Group Human Research Ethics Committee (EC00271)

<a href="#">Sites</a>	<a href="#">Members</a>	<a href="#">Project Details</a>	<a href="#">Applications</a>	<a href="#">Monitoring</a>	<a href="#">Declarations</a>
<a href="#">Comments</a>	<a href="#">Letters</a>	<a href="#">Publications</a>	<a href="#">Summary</a>	<a href="#">Timeline</a>	

### Governance Authorised



Mrs Melanie Wright  
Level 2, Administration Building, 14 Barry Marshall Parade  
MURDOCH Western Australia 6150

27 August 2018

Mrs Hannah Solomon  
WA Trauma Training and Education Unit 3rd Floor, A Block, Hospital Avenue  
NEDLANDS Western Australia 6009

Dear Mrs Solomon

**PRN:** RGS000000849  
**Project Title:** WA Trauma Training and Education Unit - Training Needs Analysis 2018  
**Protocol Number:** Version 1 Feb2018

Thank you for submitting the above research project for governance review. I am pleased to advise you that South Metropolitan Health Service Executive has granted authorisation for this research project to be conducted at the following participating site(s):

#### Fiona Stanley Hospital

Site authorisation of this project is valid from 27 August 2018 subject to continued ethical approval from the Sir Charles Gairdner and Osborne Park Health Care Group Human Research Ethics Committee and compliance with the 'Conditions of Site Authorisation for a Research Project' (Appendix A). To find the original letter and any possible attachments, click [here](#) when logged into RGS.

The following site specific conditions must also be met for this project:

#### Nil

Should you have any queries about South Metropolitan Health Service Executive's consideration of your project, please contact the Research Governance Office at SMHS.RGO@health.wa.gov.au or on 08 6152 2646. The Research Governance Office's Standard Operating Procedures are available from the Research Governance Office or from <http://ww2.health.wa.gov.au/About-us/South-Metropolitan-Health-Service/Involving-our-community/Human-Research-Ethics-and-Governance>.

I wish you every success in your research.

Yours sincerely

Melanie Wright  
Manager Research Support & Development Unit  
as delegated by the Executive Director, FSFHG





Our Ref: ED-CO-18-71137

12 October 2018

Mrs Hannah Solomon  
 WA Trauma Training and Education Unit  
 A Block, Hospital Avenue  
 NEDLANDS WA 6009

Dear Mrs Solomon

**PRN: RGS 849**

**Project Title:** WA Trauma Training and Education Unit – Training Needs Analysis 2018

**Protocol Number: V2**

Thank you for submitting the above research project for governance review. I am pleased to advise you that WA Country Health Service has granted authorisation for this research project to be conducted with the following participating site(s):

- **WACHS Great Southern** – Albany Hospital, Katanning Hospital, Ravensthorpe District Health Centre,
- **WACHS South West** - Boyup Brooke Soldiers Memorial Hospital, Bunbury Hospital, Margaret River Hospital,
- **WACHS Midwest** – Exmouth Health Service, Geraldton Hospital, Morawa District Hospital and Health Service
- **WACHS Wheatbelt** – Narrogin Health Service, Northam Health Service and Southern Cross Health Service.
- **WACHS Goldfields** – Esperance Hospital, Kalgoorlie Health Campus and Laverton Hospital
- **WACHS Pilbara** – Hedland Health Campus, Newman Hospital and Roebourne Hospital
- **WACHS Kimberley** – Broome Health Campus, Derby Hospital and Halls Creek Hospital

In addition to those approved by the Human Research Ethics Committee (HREC), the approved site specific documents include:

<b>Document</b>	<b>Version</b>	<b>Version Date</b>
Email with WACHS Executive Support	1	31/07/2018
Background for TNA	1	14/09/2018

Site authorisation of this project is valid from 12 October 2018 subject to continued ethical approval from the Sir Charles Gairdner and Osborne Park Health Care Group HREC and compliance with the 'Conditions of Authorisation to Conduct a Research Project within WACHS' (Appendix A)

The following site specific conditions must also be met for this project:

*This access request is authorising remote access to sites only.*



Our Ref: ED-CO-18-71137

Should you have any queries about WA Country Health Service's consideration of your project, please contact the Research Governance Office at [WACHS.ResearchGovernance@health.wa.gov.au](mailto:WACHS.ResearchGovernance@health.wa.gov.au) or on 6553 0887. The Research Governance Office's Standard Operating Procedures are available from the Research Governance Office or from the Research Governance Service system website <https://rgs.health.wa.gov.au/Pages/Home.aspx>.

I wish you every success for your research project.

Yours sincerely

A handwritten signature in black ink, appearing to read 'TR', with a small mark to the right.

Dr Tony Robins  
Executive Director of Medical Services  
WA Country Health Service

## Nursing Course Survey Responses

	How recently attended (years ago)				Agree/strongly agree			
	Attended	<=2	3-4	>4	Relevant	Met needs	Can apply	Recommend
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
TNCC	153 (29.0)	69 (46.9)	28 (19.0)	50 (34.0)	141 (95.9)	133 (90.5)	141 (95.9)	132 (91.0)
WTC	49 (9.3)	9 (18.4)	10 (20.4)	26 (53.1)	42 (85.7)	41 (83.7)	42 (85.7)	40 (81.6)
TTST	34 (6.5)	15 (44.1)	12 (35.3)	2 (5.9)	27 (79.4)	28 (82.4)	28 (82.4)	26 (76.5)
EMST/ATLS	16 (3.0)	3 (18.8)	-	11 (68.8)	14 (87.5)	15 (93.8)	14 (87.5)	15 (93.8)
TNP	12 (2.3)	5 (41.7)	4 (33.3)	2 (16.7)	10 (83.3)	10 (83.3)	10 (83.3)	10 (83.3)
ENPC	29 (5.5)	9 (31.0)	8 (27.6)	11 (37.9)	26 (89.7)	25 (86.2)	24 (82.8)	25 (86.2)
MIMMS	88 (16.7)	31 (35.2)	19 (21.6)	31 (35.2)	72 (81.8)	73 (83.0)	64 (72.7)	76 (86.4)
EMSB	27 (5.1)	6 (22.2)	5 (18.5)	14 (51.9)	23 (85.2)	25 (92.6)	25 (92.6)	25 (92.6)
CCrISP OBSERVER	3 (0.6)	-	1 (33.3)	1 (33.3)	1 (33.3)	1 (33.3)	2 (66.7)	1 (33.3)
PHTLS	14 (2.7)	5 (35.7)	2 (14.3)	7 (50.0)	11 (78.6)	11 (78.6)	12 (85.7)	10 (71.4)
ITLS	3 (0.6)	-	-	2 (66.7)	2 (66.7)	2 (66.7)	2 (66.7)	2 (66.7)
AO Trauma Course	2 (0.4)	-	-	2 (100.0)	2 (100.0)	2 (100.0)	2 (100.0)	2 (100.0)
DPNTC	7 (1.3)	1 (14.3)	4 (57.1)	2 (28.6)	7 (100.0)	7 (100.0)	7 (100.0)	7 (100.0)
CRANAplus REC	35 (6.6)	8 (22.9)	8 (22.9)	15 (42.9)	31 (88.6)	30 (85.7)	30 (85.7)	31 (88.6)
PSTEC	11 (2.1)	6 (54.5)	3 (27.3)	1 (9.1)	11 (100.0)	11 (100.0)	11 (100.0)	11 (100.0)
CRANAplus TP	1 (0.2)	-	-	1 (100.0)	1 (100.0)	1 (100.0)	1 (100.0)	1 (100.0)
CRANAplus TEC	6 (1.1)	-	-	5 (83.3)	5 (83.3)	5 (83.3)	5 (83.3)	5 (83.3)
CRANAplus ALS	21 (4.0)	8 (38.1)	6 (28.6)	6 (28.6)	20 (95.2)	20 (95.2)	20 (95.2)	18 (85.7)
CRANAplus	13 (2.5)	3 (23.1)	3 (23.1)	6 (46.2)	12 (92.3)	11 (84.6)	12 (92.3)	11 (84.6)



### Nursing Course Survey Responses

	Attended n (%)	How recently attended (years ago)			Agree/strongly agree			
		<=2 n (%)	3-4 n (%)	>4 n (%)	Relevant n (%)	Met needs n (%)	Can apply n (%)	Recommend n (%)
AREC								
CRANaplus PEC	11 (2.1)	4 (36.4)	4 (36.4)	3 (27.3)	10 (90.9)	10 (90.9)	10 (90.9)	10 (90.9)
Other course	53 (10.1)	26 (49.1)	4 (7.5)	16 (30.2)	45 (84.9)	45 (84.9)	43 (81.1)	40 (75.5)

#### Additional Nursing Trauma Courses Listed

Type of Course	Name of Course	Number of Participants Attended
<b>Emergency Courses</b>	Adult critical care program	1
	ACREM emergency medicine	1
	Australian College of Emergency Nursing	1
	CIER	1
	CRANA practical skills course	1
	Crisis Resource Management 1	1
	Emergency Medical Technician-Basic	1
	FLECC	1
	Remote emergency medicine (REM)(Rural Health West)	1
	Trauma Management Course	7
	UK based	1
	ATLS observer	1
	<b>Hospital based study day/in-service</b>	Post graduate trauma study day and department 1
Trauma informed care, run by SDN		1
In house trauma course		2

### Nursing Course Survey Responses

	Hospital Based Training - Metro site	1
	State-wide Burns Education Programme via Videoconference. WA Burns Management Programme.	1
	Hospital Based Trauma Simulation	1
<b>Post Graduate Courses/Tertiary</b>	Post grad cert in crit care - trauma module	
	Post grad studies in crit care nursing	1
	Course at RPH/Curtin	2
	Critical care course SCGH	1
	Tertiary Institution Advanced Surgical Clinical Course	1
<b>Maternity</b>	MEC	3
<b>Conference</b>	Trauma Symposium	2
<b>Disaster</b>	CBR EMERGENCIAS	1
	EMERGO	1
	Bombs Blast Bullets	1
	Battlefield advanced trauma life support	1
	Combat trauma nursing course in USA	1
<b>Mental Health</b>	Mental health (trauma informed care)	1
	Trauma Informed Care (WAAMH) and ACF Neurobiology of Developmental Trauma	1
	Therapeutic Crisis Intervention	2
<b>NON Trauma Courses</b>		
<b>ALS/BLS/APLS</b>	FONT foetal, obstetric and neonatal resuscitation training	1
	ALS 2	1
	APLS	8
	Paediatric Life Support	1
	ACCCN PLS	1

**Knowledge and Confidence of Trauma (self-rated) by Discipline**

Likert scale – 1-5 (low to high)

Low knowledge/confidence – score 1 or 2 Moderate knowledge/  
confidence – score 3 High knowledge/confidence – score 4 or 5

<b>Knowledge_</b>	<b>Nursing (N = 530)</b>	<b>Medical (N = 145)</b>	<b>AH (N = 83)</b>	<b>p-value</b>
<b>Mechanism of Injury</b>				<0.001
Low	78 (17.8%)	6 (5.0%)	17 (29.8%)	
Moderate	119 (27.2%)	34 (28.1%)	14 (24.6%)	
High	240 (54.9%)	81 (66.9%)	26 (45.6%)	
<b>Initial Assessment Framework</b>				<0.001
Low	99 (23.3%)	7 (5.8%)	24 (42.9%)	
Moderate	124 (29.2%)	25 (20.8%)	22 (39.3%)	
High	202 (47.5%)	88 (73.3%)	10 (17.9%)	
<b>Airway and Ventilatory Management</b>				<0.001
Low	87 (19.8%)	7 (6.0%)	31 (60.8%)	
Moderate	97 (22.0%)	22 (18.8%)	6 (11.8%)	
High	256 (58.2%)	88 (75.2%)	14 (27.5%)	
<b>Shock Management</b>				<0.001
Low	102 (23.3%)	6 (5.0%)	36 (75.0%)	
Moderate	113 (25.9%)	21 (17.5%)	8 (16.7%)	
High	222 (50.8%)	93 (77.5%)	4 (8.3%)	
<b>Brain and Cranial Trauma</b>				<0.001
Low	154 (35.9%)	19 (16.1%)	31 (59.6%)	
Moderate	130 (30.3%)	22 (18.6%)	10 (19.2%)	
High	145 (33.8%)	77 (65.3%)	11 (21.2%)	
<b>Maxillofacial Trauma</b>				<0.001
Low	173 (40.5%)	19 (16.4%)	35 (67.3%)	
Moderate	133 (31.1%)	43 (37.1%)	12 (23.1%)	
High	121 (28.3%)	54 (46.6%)	5 (9.6%)	
<b>Ocular Trauma</b>				<0.001
Low	225 (52.9%)	34 (29.6%)	41 (83.7%)	
Moderate	131 (30.8%)	41 (35.7%)	7 (14.3%)	
High	69 (16.2%)	40 (34.8%)	1 (2.0%)	
<b>Thoracic Trauma</b>				<0.001
Low	144 (33.9%)	15 (12.6%)	33 (62.3%)	
Moderate	120 (28.2%)	39 (32.8%)	11 (20.8%)	
High	161 (37.9%)	65 (54.6%)	9 (17.0%)	
<b>Neck Trauma</b>				<0.001
Low	147 (34.1%)	14 (12.0%)	27 (49.1%)	
Moderate	104 (24.1%)	37 (31.6%)	15 (27.3%)	
High	180 (41.8%)	66 (56.4%)	13 (23.6%)	
<b>Abdominal Trauma</b>				<0.001
Low	124 (28.7%)	17 (14.5%)	32 (61.5%)	
Moderate	121 (28.0%)	19 (16.2%)	13 (25.0%)	
High	187 (43.3%)	81 (69.2%)	7 (13.5%)	
<b>Pelvic Trauma</b>				<0.001
Low	145 (33.6%)	16 (13.8%)	27 (50.9%)	
Moderate	120 (27.8%)	25 (21.6%)	12 (22.6%)	
High	167 (38.7%)	75 (64.7%)	14 (26.4%)	
<b>Spinal Cord and Vertebral Column Trauma</b>				<0.001
Low	147 (34.2%)	18 (15.1%)	26 (47.3%)	
Moderate	119 (27.7%)	36 (30.3%)	13 (23.6%)	

High	164 (38.1%)	65 (54.6%)	16 (29.1%)	0.003
<b>Musculoskeletal Trauma</b>				
Low	96 (22.0%)	11 (9.0%)	17 (29.8%)	
Moderate	125 (28.7%)	33 (27.0%)	15 (26.3%)	
High	215 (49.3%)	78 (63.9%)	25 (43.9%)	
<b>Surface Trauma</b>				<0.001
Low	116 (26.9%)	13 (11.1%)	34 (65.4%)	
Moderate	133 (30.8%)	32 (27.4%)	12 (23.1%)	
High	183 (42.4%)	72 (61.5%)	6 (11.5%)	
<b>Burn Trauma</b>				<0.001
Low	131 (30.4%)	24 (20.3%)	36 (66.7%)	
Moderate	116 (26.9%)	35 (29.7%)	15 (27.8%)	
High	184 (42.7%)	59 (50.0%)	3 (5.6%)	
<b>Penetrating Trauma</b>				<0.001
Low	138 (32.1%)	16 (13.7%)	37 (69.8%)	
Moderate	148 (34.4%)	35 (29.9%)	13 (24.5%)	
High	144 (33.5%)	66 (56.4%)	3 (5.7%)	
<b>Submersion Injury</b>				<0.001
Low	189 (44.7%)	35 (31.0%)	43 (84.3%)	
Moderate	117 (27.7%)	30 (26.5%)	5 (9.8%)	
High	117 (27.7%)	48 (42.5%)	3 (5.9%)	
<b>Blast Trauma</b>				<0.001
Low	250 (58.8%)	47 (40.9%)	42 (82.4%)	
Moderate	98 (23.1%)	35 (30.4%)	9 (17.6%)	
High	77 (18.1%)	33 (28.7%)	0 (0.0%)	
<b>Post Resuscitative Care</b>				<0.001
Low	99 (23.0%)	12 (10.0%)	34 (73.9%)	
Moderate	95 (22.1%)	25 (20.8%)	8 (17.4%)	
High	236 (54.9%)	83 (69.2%)	4 (8.7%)	
<b>Pharmacology</b>				<0.001
Low	113 (26.2%)	21 (17.5%)	38 (82.6%)	
Moderate	152 (35.2%)	26 (21.7%)	5 (10.9%)	
High	167 (38.7%)	73 (60.8%)	3 (6.5%)	

---

Confidence	Nursing (N = 530)	Medical (N = 145)	AH (N = 83)	p-value
<b>Performing an Initial Assessment including a Primary and Secondary Survey</b>				<0.001
Low	125 (29.5%)	7 (5.9%)	36 (73.5%)	
Moderate	101 (23.8%)	16 (13.6%)	7 (14.3%)	
High	198 (46.7%)	95 (80.5%)	6 (12.2%)	
<b>Managing a Compromised or Difficult Airway</b>				<0.001
Low	130 (30.1%)	24 (20.5%)	31 (66.0%)	
Moderate	109 (25.2%)	19 (16.2%)	9 (19.1%)	
High	193 (44.7%)	74 (63.2%)	7 (14.9%)	
<b>Managing Ventilatory Complications and Raised Intrathoracic Pressure</b>				<0.001
Low	190 (45.5%)	31 (26.7%)	31 (68.9%)	
Moderate	113 (27.0%)	14 (12.1%)	7 (15.6%)	
High	115 (27.5%)	71 (61.2%)	7 (15.6%)	
<b>Damage Control Resuscitation</b>				<0.001
Low	197 (47.0%)	26 (22.2%)	38 (88.4%)	
Moderate	121 (28.9%)	21 (17.9%)	5 (11.6%)	
High	101 (24.1%)	70 (59.8%)	0 (0.0%)	
<b>Management of Raised Intracranial Pressure</b>				<0.001
Low	200 (47.4%)	30 (25.6%)	38 (86.4%)	
Moderate	112 (26.5%)	21 (17.9%)	4 (9.1%)	
High	110 (26.1%)	66 (56.4%)	2 (4.5%)	
<b>Spinal Immobilisation and Management</b>				<0.001
Low	108 (25.3%)	11 (9.3%)	27 (51.9%)	
Moderate	88 (20.6%)	20 (16.9%)	13 (25.0%)	
High	231 (54.1%)	87 (73.7%)	12 (23.1%)	
<b>Burn Assessment and Management</b>				<0.001
Low	153 (35.8%)	23 (19.5%)	40 (80.0%)	
Moderate	122 (28.6%)	34 (28.8%)	9 (18.0%)	
High	152 (35.6%)	61 (51.7%)	1 (2.0%)	
<b>Pain Management Strategies</b>				<0.001
Low	69 (16.0%)	8 (6.7%)	26 (51.0%)	
Moderate	91 (21.1%)	20 (16.7%)	17 (33.3%)	
High	271 (62.9%)	92 (76.7%)	8 (15.7%)	
<b>Disaster Triage and Management</b>				<0.001
Low	207 (49.6%)	35 (29.9%)	37 (84.1%)	
Moderate	95 (22.8%)	37 (31.6%)	5 (11.4%)	
High	115 (27.6%)	45 (38.5%)	2 (4.5%)	
<b>Transport and Transfer of the Trauma Patient</b>				<0.001
Low	140 (33.3%)	24 (20.5%)	34 (73.9%)	
Moderate	93 (22.1%)	22 (18.8%)	5 (10.9%)	
High	188 (44.7%)	71 (60.7%)	7 (15.2%)	
<b>X-ray Interpretation</b>				<0.001
Low	252 (62.1%)	8 (6.6%)	28 (50.9%)	
Moderate	109 (26.8%)	29 (24.0%)	14 (25.5%)	
High	45 (11.1%)	84 (69.4%)	13 (23.6%)	
<b>CT Interpretation</b>				<0.001
Low	304 (76.4%)	23 (19.0%)	40 (75.5%)	
Moderate	70 (17.6%)	38 (31.4%)	8 (15.1%)	

High	24 (6.0%)	60 (49.6%)	5 (9.4%)	<0.001
<b>Care of the Paediatric Patient</b>				
Low	186 (44.3%)	39 (33.6%)	39 (81.3%)	
Moderate	74 (17.6%)	31 (26.7%)	7 (14.6%)	
High	160 (38.1%)	46 (39.7%)	2 (4.2%)	<0.001
<b>Care of the Obstetric Patient</b>				
Low	239 (58.0%)	44 (37.6%)	37 (80.4%)	
Moderate	80 (19.4%)	33 (28.2%)	9 (19.6%)	
High	93 (22.6%)	40 (34.2%)	0 (0.0%)	0.096
<b>Care of the Bariatric Patient</b>				
Low	154 (39.8%)	60 (31.6%)	3 (20.0%)	
Moderate	105 (27.1%)	56 (29.5%)	3 (20.0%)	
High	128 (33.1%)	74 (38.9%)	9 (60.0%)	0.005
<b>Care of the Older Adult</b>				
Low	124 (32.0%)	37 (18.8%)	2 (13.3%)	
Moderate	86 (22.2%)	50 (25.4%)	2 (13.3%)	
High	178 (45.9%)	110 (55.8%)	11 (73.3%)	0.294
<b>Nutritional Assessment</b>				
Low	165 (43.3%)	65 (33.9%)	6 (42.9%)	
Moderate	106 (27.8%)	65 (33.9%)	4 (28.6%)	
High	110 (28.9%)	62 (32.3%)	4 (28.6%)	0.001
<b>Performing as a Member of a Trauma Team</b>				
Low	131 (33.5%)	49 (24.9%)	0 (0.0%)	
Moderate	81 (20.7%)	43 (21.8%)	0 (0.0%)	
High	179 (45.8%)	105 (53.3%)	14 (100.0%)	0.088
<b>Effective Communication Skills</b>				
Low	28 (6.9%)	21 (10.5%)	0 (0.0%)	
Moderate	74 (18.2%)	40 (20.0%)	0 (0.0%)	
High	305 (74.9%)	139 (69.5%)	14 (100.0%)	0.209
<b>Psychosocial Aspects of Trauma Care</b>				
Low	109 (27.3%)	47 (24.1%)	3 (20.0%)	
Moderate	115 (28.8%)	43 (22.1%)	4 (26.7%)	
High	175 (43.9%)	105 (53.8%)	8 (53.3%)	0.654
<b>Post Resuscitative Airway and Ventilatory Management</b>				
Low	121 (31.7%)	67 (34.5%)	3 (21.4%)	
Moderate	83 (21.7%)	42 (21.6%)	2 (14.3%)	
High	178 (46.6%)	85 (43.8%)	9 (64.3%)	

## Medical Course Survey Responses

	Attended	How recently attended (years ago)			Agree/strongly agree			
		<=2	3-4	>4	Relevant	Met needs	Can apply	Recommend
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
EMST/ATLS	63 (44.1)	11 (17.5)	12 (19.0)	37 (58.7)	48 (76.2)	48 (76.2)	52 (82.5)	42 (66.7)
WTC	19 (13.3)	11 (57.9)	2 (10.5)	6 (31.6)	15 (78.9)	15 (78.9)	18 (94.7)	14 (73.3)
TTST	10 (7.0)	7 (70.0)	-	1 (10.0)	7 (70.0)	8 (80.0)	7 (70.0)	8 (80.0)
MIMMS	29 (20.3)	8 (27.6)	7 (24.1)	12 (41.4)	23 (79.3)	22 (75.9)	20 (69.0)	21 (72.4)
EMSB	20 (14.0)	7 (35.0)	6 (30.0)	5 (25.0)	17 (85.0)	17 (85.0)	17 (85.0)	17 (85.0)
CCrISP	15 (10.5)	5 (33.3)	-	7 (46.7)	9 (60.0)	8 (53.3)	10 (66.7)	9 (60.0)
DSTC	1 (0.7)			1 (100.0)	1 (100.0)	1 (100.0)	1 (100.0)	1 (100.0)
DATC	2 (1.4)	2 (100.0)	-	-	2 (100.0)	2 (100.0)	2 (100.0)	1 (50.0)
PHTLS	3 (2.1)	-	1 (33.3)	2 (66.7)	3 (100.0)	2 (66.7)	1 (33.3)	2 (66.7)
PTLS	5 (3.5)	1 (20.0)	3 (60.0)	1 (20.0)	4 (80.0)	4 (80.0)	4 (80.0)	4 (80.0)
REST	12 (8.4)	7 (58.3)	4 (33.3)	1 (8.3)	12 (100.0)	12 (100.0)	11 (91.7)	11 (91.7)
MOET	6 (4.2)	1 (16.7)	-	5 (66.7)	6 (100.0)	6 (100.0)	5 (83.3)	6 (100.0)
ETM	23 (16.1)	11 (47.8)	10 (43.5)	2 (8.7)	22 (95.7)	22 (95.7)	22 (95.7)	22 (95.7)
ELS	19 (13.3)	8 (42.1)	2 (10.5)	6 (31.6)	14 (73.7)	14 (73.7)	14 (73.7)	14 (73.7)
CEMP - int	2 (1.4)	-	-	2 (100.0)	2 (100.0)	2 (100.0)	2 (100.0)	2 (100.0)
CEMP - Advanced	3 (2.1)	-	1 (33.3)	2 (66.7)	3 (100.0)	3 (100.0)	3 (100.0)	3 (100.0)
REACT	10 (7.0)	6 (60.0)	2 (20.0)	2 (20.0)	10 (100.0)	10 (100.0)	10 (100.0)	10 (100.0)
AO Trauma Course	5 (3.5)	-	-	3 (60.0)	3 (60.0)	2 (40.0)	3 (60.0)	3 (60.0)
Other course*	22 (15.4)	13 (59.1)	2 (9.1)	5 (22.7)	20 (90.9)	18 (81.8)	18 (81.8)	18 (81.8)

**Medical Course Survey Responses**

## Additional Medical Trauma Courses Listed

<b>Name of Course</b>	<b>Number of Participants Attended</b>
ACME	1
Airway course (ACWA)	1
ATLS (UK/USA/Aus) ##EMST	5
Alfred trauma course (VIC)	1
EMAC	1
State Trauma Conference	2
State Trauma Unit education sessions on ED trauma management	1
The Procedure Course- Alfred Hospital	1
Trauma skills refresher course	2
Ultrasound guided procedures in trauma	1



**Knowledge and Confidence of Trauma (self-rated) by Area**

Likert scale – 1-5 (low to high)

Low knowledge/confidence – score 1 or 2

Moderate knowledge/confidence – score 3

High knowledge/confidence – score 4 or 5

<b>Knowledge</b>	<b>FSH (N = 129)</b>	<b>PCH (N = 141)</b>	<b>RPH (N = 150)</b>	<b>SCGH (N = 80)</b>	<b>RFDS (N = 26)</b>	<b>Missing (N = 6)</b>
<b>Mechanism of Injury</b>						
Low	27 (23.9%)	23 (21.3%)	9 (7.6%)	7 (11.7%)	0 (0.0%)	1 (16.7%)
Moderate	24 (21.2%)	36 (33.3%)	32 (26.9%)	19 (31.7%)	4 (17.4%)	2 (33.3%)
High	62 (54.9%)	49 (45.4%)	78 (65.5%)	34 (56.7%)	19 (82.6%)	3 (50.0%)
<b>Initial Assessment Framework</b>						
Low	33 (30.8%)	34 (33.0%)	20 (17.4%)	9 (14.8%)	0 (0.0%)	2 (33.3%)
Moderate	29 (27.1%)	30 (29.1%)	37 (32.2%)	18 (29.5%)	1 (4.3%)	0 (0.0%)
High	45 (42.1%)	39 (37.9%)	58 (50.4%)	34 (55.7%)	22 (95.7%)	4 (66.7%)
<b>Airway and Ventilatory Management</b>						
Low	25 (23.1%)	23 (20.9%)	21 (18.1%)	6 (10.7%)	0 (0.0%)	1 (16.7%)
Moderate	23 (21.3%)	27 (24.5%)	21 (18.1%)	10 (17.9%)	1 (4.3%)	2 (33.3%)
High	60 (55.6%)	60 (54.5%)	74 (63.8%)	40 (71.4%)	22 (95.7%)	3 (50.0%)
<b>Shock Management</b>						
Low	25 (23.4%)	33 (30.6%)	32 (27.6%)	10 (17.5%)	0 (0.0%)	1 (16.7%)
Moderate	23 (21.5%)	32 (29.6%)	28 (24.1%)	11 (19.3%)	1 (4.3%)	1 (16.7%)
High	59 (55.1%)	43 (39.8%)	56 (48.3%)	36 (63.2%)	22 (95.7%)	4 (66.7%)
<b>Brain and Cranial Trauma</b>						
Low	45 (42.5%)	46 (43.4%)	29 (24.8%)	13 (22.8%)	0 (0.0%)	2 (33.3%)
Moderate	21 (19.8%)	26 (24.5%)	31 (26.5%)	17 (29.8%)	9 (39.1%)	2 (33.3%)
High	40 (37.7%)	34 (32.1%)	57 (48.7%)	27 (47.4%)	14 (60.9%)	2 (33.3%)
<b>Maxillofacial Trauma</b>						
Low	45 (42.1%)	54 (51.9%)	30 (25.6%)	21 (38.2%)	1 (4.3%)	3 (50.0%)
Moderate	33 (30.8%)	30 (28.8%)	29 (24.8%)	19 (34.5%)	11 (47.8%)	3 (50.0%)
High	29 (27.1%)	20 (19.2%)	58 (49.6%)	15 (27.3%)	11 (47.8%)	0 (0.0%)
<b>Ocular Trauma</b>						
Low	63 (59.4%)	58 (56.3%)	53 (46.1%)	25 (48.1%)	3 (13.0%)	3 (50.0%)
Moderate	25 (23.6%)	26 (25.2%)	38 (33.0%)	19 (36.5%)	15 (65.2%)	1 (16.7%)
High	18 (17.0%)	19 (18.4%)	24 (20.9%)	8 (15.4%)	5 (21.7%)	2 (33.3%)
<b>Thoracic Trauma</b>						
Low	44 (41.1%)	46 (44.2%)	25 (21.4%)	14 (24.1%)	1 (4.3%)	3 (50.0%)
Moderate	30 (28.0%)	30 (28.8%)	35 (29.9%)	18 (31.0%)	4 (17.4%)	1 (16.7%)
High	33 (30.8%)	28 (26.9%)	57 (48.7%)	26 (44.8%)	18 (78.3%)	2 (33.3%)
<b>Neck Trauma</b>						
Low	41 (38.3%)	45 (42.5%)	24 (20.5%)	15 (26.3%)	1 (4.3%)	2 (33.3%)
Moderate	28 (26.2%)	22 (20.8%)	35 (29.9%)	14 (24.6%)	2 (8.7%)	3 (50.0%)
High	38 (35.5%)	39 (36.8%)	58 (49.6%)	28 (49.1%)	20 (87.0%)	1 (16.7%)
<b>Abdominal Trauma</b>						
Low	39 (36.4%)	40 (37.7%)	25 (21.6%)	15 (26.3%)	1 (4.3%)	2 (33.3%)
Moderate	26 (24.3%)	25 (23.6%)	29 (25.0%)	15 (26.3%)	2 (8.7%)	1 (16.7%)
High	42 (39.3%)	41 (38.7%)	62 (53.4%)	27 (47.4%)	20 (87.0%)	3 (50.0%)
<b>Pelvic Trauma</b>						
Low	43 (40.2%)	50 (47.2%)	24 (20.7%)	12 (21.1%)	0 (0.0%)	2 (33.3%)
Moderate	26 (24.3%)	29 (27.4%)	30 (25.9%)	16 (28.1%)	4 (17.4%)	1 (16.7%)
High	38 (35.5%)	27 (25.5%)	62 (53.4%)	29 (50.9%)	19 (82.6%)	3 (50.0%)

**Spinal Cord and Vertebral Column Trauma**

Low	43 (40.2%)	46 (43.0%)	25 (21.4%)	17 (29.3%)	0 (0.0%)	3 (50.0%)
Moderate	27 (25.2%)	26 (24.3%)	33 (28.2%)	15 (25.9%)	3 (13.0%)	1 (16.7%)
High	37 (34.6%)	35 (32.7%)	59 (50.4%)	26 (44.8%)	20 (87.0%)	2 (33.3%)

**Musculoskeletal Trauma**

Low	32 (29.6%)	32 (29.4%)	15 (12.7%)	10 (16.4%)	0 (0.0%)	1 (16.7%)
Moderate	23 (21.3%)	31 (28.4%)	34 (28.8%)	20 (32.8%)	2 (8.7%)	3 (50.0%)
High	53 (49.1%)	46 (42.2%)	69 (58.5%)	31 (50.8%)	21 (91.3%)	2 (33.3%)

**Surface Trauma**

Low	38 (35.2%)	37 (34.3%)	24 (21.1%)	16 (29.1%)	0 (0.0%)	3 (50.0%)
Moderate	31 (28.7%)	34 (31.5%)	32 (28.1%)	17 (30.9%)	5 (21.7%)	1 (16.7%)
High	39 (36.1%)	37 (34.3%)	58 (50.9%)	22 (40.0%)	18 (78.3%)	2 (33.3%)

**Burn Trauma**

Low	33 (30.6%)	36 (34.0%)	50 (43.1%)	19 (35.2%)	2 (8.7%)	1 (16.7%)
Moderate	20 (18.5%)	29 (27.4%)	34 (29.3%)	19 (35.2%)	6 (26.1%)	3 (50.0%)
High	55 (50.9%)	41 (38.7%)	32 (27.6%)	16 (29.6%)	15 (65.2%)	2 (33.3%)

**Penetrating Trauma**

Low	43 (39.8%)	40 (38.1%)	28 (24.3%)	22 (39.3%)	0 (0.0%)	3 (50.0%)
Moderate	31 (28.7%)	36 (34.3%)	40 (34.8%)	12 (21.4%)	8 (34.8%)	0 (0.0%)
High	34 (31.5%)	29 (27.6%)	47 (40.9%)	22 (39.3%)	15 (65.2%)	3 (50.0%)

**Submersion Injury**

Low	56 (53.3%)	42 (40.8%)	64 (56.6%)	18 (34.0%)	3 (13.0%)	3 (50.0%)
Moderate	17 (16.2%)	26 (25.2%)	25 (22.1%)	18 (34.0%)	4 (17.4%)	2 (33.3%)
High	32 (30.5%)	35 (34.0%)	24 (21.2%)	17 (32.1%)	16 (69.6%)	1 (16.7%)

**Blast Trauma**

Low	62 (57.4%)	70 (67.3%)	65 (57.5%)	28 (51.9%)	4 (17.4%)	3 (50.0%)
Moderate	22 (20.4%)	22 (21.2%)	23 (20.4%)	17 (31.5%)	12 (52.2%)	2 (33.3%)
High	24 (22.2%)	12 (11.5%)	25 (22.1%)	9 (16.7%)	7 (30.4%)	1 (16.7%)

**Post Resuscitative Care**

Low	26 (24.3%)	36 (34.0%)	31 (26.5%)	10 (18.5%)	0 (0.0%)	1 (16.7%)
Moderate	19 (17.8%)	27 (25.5%)	29 (24.8%)	9 (16.7%)	3 (13.6%)	1 (16.7%)
High	62 (57.9%)	43 (40.6%)	57 (48.7%)	35 (64.8%)	19 (86.4%)	4 (66.7%)

**Pharmacology**

Low	36 (32.7%)	38 (35.5%)	39 (33.9%)	11 (19.6%)	1 (4.3%)	2 (33.3%)
Moderate	30 (27.3%)	29 (27.1%)	32 (27.8%)	15 (26.8%)	5 (21.7%)	2 (33.3%)
High	44 (40.0%)	40 (37.4%)	44 (38.3%)	30 (53.6%)	17 (73.9%)	2 (33.3%)

---

<b>Confidence</b>	<b>FSH (N = 129)</b>	<b>PCH (N = 141)</b>	<b>RPH (N = 150)</b>	<b>SCGH (N = 80)</b>	<b>RFDS (N = 26)</b>	<b>Missing (N = 6)</b>
<b>Performing an Initial Assessment including a Primary and Secondary Survey</b>						
Low	35 (32.7%)	49 (48.0%)	28 (25.0%)	16 (28.1%)	0 (0.0%)	1 (16.7%)
Moderate	26 (24.3%)	24 (23.5%)	25 (22.3%)	10 (17.5%)	1 (4.3%)	1 (16.7%)
High	46 (43.0%)	29 (28.4%)	59 (52.7%)	31 (54.4%)	22 (95.7%)	4 (66.7%)
<b>Managing a Compromised or Difficult Airway</b>						
Low	38 (34.9%)	44 (41.1%)	33 (29.7%)	14 (25.0%)	0 (0.0%)	1 (16.7%)
Moderate	23 (21.1%)	23 (21.5%)	25 (22.5%)	11 (19.6%)	4 (17.4%)	3 (50.0%)
High	48 (44.0%)	40 (37.4%)	53 (47.7%)	31 (55.4%)	19 (82.6%)	2 (33.3%)
<b>Managing Ventilatory Complications and Raised Intrathoracic Pressure</b>						
Low	48 (45.3%)	61 (59.8%)	41 (36.9%)	14 (25.5%)	0 (0.0%)	2 (33.3%)
Moderate	17 (16.0%)	18 (17.6%)	30 (27.0%)	16 (29.1%)	6 (26.1%)	2 (33.3%)
High	41 (38.7%)	23 (22.5%)	40 (36.0%)	25 (45.5%)	17 (73.9%)	2 (33.3%)
<b>Damage Control Resuscitation</b>						
Low	49 (47.1%)	62 (59.6%)	43 (38.7%)	20 (37.0%)	0 (0.0%)	2 (33.3%)
Moderate	25 (24.0%)	18 (17.3%)	32 (28.8%)	12 (22.2%)	8 (34.8%)	1 (16.7%)
High	30 (28.8%)	24 (23.1%)	36 (32.4%)	22 (40.7%)	15 (65.2%)	3 (50.0%)
<b>Management of Raised Intracranial Pressure</b>						
Low	56 (54.4%)	61 (57.5%)	47 (42.3%)	16 (28.6%)	0 (0.0%)	1 (16.7%)
Moderate	15 (14.6%)	19 (17.9%)	24 (21.6%)	15 (26.8%)	6 (26.1%)	2 (33.3%)
High	32 (31.1%)	26 (24.5%)	40 (36.0%)	25 (44.6%)	17 (73.9%)	3 (50.0%)
<b>Spinal Immobilisation and Management</b>						
Low	33 (31.4%)	34 (31.5%)	21 (18.4%)	12 (20.3%)	0 (0.0%)	0 (0.0%)
Moderate	20 (19.0%)	25 (23.1%)	19 (16.7%)	14 (23.7%)	1 (4.3%)	2 (33.3%)
High	52 (49.5%)	49 (45.4%)	74 (64.9%)	33 (55.9%)	22 (95.7%)	4 (66.7%)
<b>Burn Assessment and Management</b>						
Low	37 (34.6%)	45 (41.7%)	57 (50.4%)	24 (44.4%)	0 (0.0%)	1 (16.7%)
Moderate	24 (22.4%)	26 (24.1%)	30 (26.5%)	19 (35.2%)	9 (39.1%)	2 (33.3%)
High	46 (43.0%)	37 (34.3%)	26 (23.0%)	11 (20.4%)	14 (60.9%)	3 (50.0%)
<b>Pain Management Strategies</b>						
Low	22 (20.0%)	17 (15.6%)	20 (18.0%)	10 (16.4%)	0 (0.0%)	0 (0.0%)
Moderate	27 (24.5%)	25 (22.9%)	24 (21.6%)	11 (18.0%)	1 (4.3%)	2 (33.3%)
High	61 (55.5%)	67 (61.5%)	67 (60.4%)	40 (65.6%)	22 (95.7%)	4 (66.7%)
<b>Disaster Triage and Management</b>						
Low	61 (57.5%)	65 (65.0%)	54 (49.1%)	19 (36.5%)	4 (17.4%)	3 (50.0%)
Moderate	17 (16.0%)	22 (22.0%)	22 (20.0%)	14 (26.9%)	8 (34.8%)	2 (33.3%)
High	28 (26.4%)	13 (13.0%)	34 (30.9%)	19 (36.5%)	11 (47.8%)	1 (16.7%)
<b>Transport and Transfer of the Trauma Patient</b>						
Low	44 (41.5%)	55 (53.4%)	32 (28.8%)	21 (39.6%)	0 (0.0%)	1 (16.7%)
Moderate	25 (23.6%)	15 (14.6%)	23 (20.7%)	10 (18.9%)	0 (0.0%)	2 (33.3%)
High	37 (34.9%)	33 (32.0%)	56 (50.5%)	22 (41.5%)	23 (100.0%)	3 (50.0%)
<b>X-ray Interpretation</b>						
Low	54 (48.6%)	60 (60.0%)	58 (53.2%)	17 (27.9%)	7 (31.8%)	0 (0.0%)
Moderate	31 (27.9%)	21 (21.0%)	25 (22.9%)	20 (32.8%)	3 (13.6%)	2 (40.0%)
High	26 (23.4%)	19 (19.0%)	26 (23.9%)	24 (39.3%)	12 (54.5%)	3 (60.0%)

<b>CT Interpretation</b>							
Low	69 (62.2%)	73 (73.7%)	65 (60.7%)	30 (50.8%)	10 (45.5%)	1 (20.0%)	
Moderate	23 (20.7%)	13 (13.1%)	24 (22.4%)	14 (23.7%)	6 (27.3%)	1 (20.0%)	
High	19 (17.1%)	13 (13.1%)	18 (16.8%)	15 (25.4%)	6 (27.3%)	3 (60.0%)	
<b>Care of the Paediatric Patient</b>							
Low	66 (61.7%)	9 (8.3%)	83 (79.8%)	35 (68.6%)	1 (4.3%)	1 (16.7%)	
Moderate	13 (12.1%)	19 (17.4%)	13 (12.5%)	10 (19.6%)	6 (26.1%)	2 (33.3%)	
High	28 (26.2%)	81 (74.3%)	8 (7.7%)	6 (11.8%)	16 (69.6%)	3 (50.0%)	
<b>Care of the Obstetric Patient</b>							
Low	58 (55.2%)	73 (76.8%)	73 (68.2%)	32 (58.2%)	0 (0.0%)	3 (50.0%)	
Moderate	23 (21.9%)	12 (12.6%)	19 (17.8%)	14 (25.5%)	3 (13.0%)	1 (16.7%)	
High	24 (22.9%)	10 (10.5%)	15 (14.0%)	9 (16.4%)	20 (87.0%)	2 (33.3%)	
<b>Care of the Bariatric Patient</b>							
Low	34 (30.9%)	70 (72.2%)	34 (29.6%)	16 (26.7%)	0 (0.0%)	2 (33.3%)	
Moderate	32 (29.1%)	17 (17.5%)	37 (32.2%)	18 (30.0%)	6 (26.1%)	1 (16.7%)	
High	44 (40.0%)	10 (10.3%)	44 (38.3%)	26 (43.3%)	17 (73.9%)	3 (50.0%)	
<b>Care of the Older Adult</b>							
Low	30 (27.3%)	63 (64.9%)	20 (17.2%)	11 (18.3%)	0 (0.0%)	2 (33.3%)	
Moderate	26 (23.6%)	21 (21.6%)	28 (24.1%)	10 (16.7%)	3 (13.0%)	0 (0.0%)	
High	54 (49.1%)	13 (13.4%)	68 (58.6%)	39 (65.0%)	20 (87.0%)	4 (66.7%)	
<b>Nutritional Assessment</b>							
Low	40 (37.0%)	51 (49.0%)	48 (44.0%)	26 (47.3%)	5 (21.7%)	3 (50.0%)	
Moderate	35 (32.4%)	25 (24.0%)	30 (27.5%)	14 (25.5%)	11 (47.8%)	2 (33.3%)	
High	33 (30.6%)	28 (26.9%)	31 (28.4%)	15 (27.3%)	7 (30.4%)	1 (16.7%)	
<b>Performing as a Member of a Trauma Team</b>							
Low	41 (38.7%)	55 (51.4%)	18 (15.3%)	17 (30.9%)	0 (0.0%)	0 (0.0%)	
Moderate	22 (20.8%)	22 (20.6%)	24 (20.3%)	12 (21.8%)	3 (13.0%)	0 (0.0%)	
High	43 (40.6%)	30 (28.0%)	76 (64.4%)	26 (47.3%)	20 (87.0%)	6 (100.0%)	
<b>Effective Communication Skills</b>							
Low	12 (10.6%)	8 (7.3%)	4 (3.4%)	4 (6.6%)	0 (0.0%)	0 (0.0%)	
Moderate	21 (18.6%)	25 (22.7%)	20 (16.9%)	8 (13.1%)	0 (0.0%)	0 (0.0%)	
High	80 (70.8%)	77 (70.0%)	94 (79.7%)	49 (80.3%)	23 (100.0%)	6 (100.0%)	
<b>Psychosocial Aspects of Trauma Care</b>							
Low	33 (29.7%)	44 (40.0%)	17 (14.9%)	15 (25.4%)	1 (4.3%)	1 (16.7%)	
Moderate	33 (29.7%)	24 (21.8%)	37 (32.5%)	19 (32.2%)	7 (30.4%)	1 (16.7%)	
High	45 (40.5%)	42 (38.2%)	60 (52.6%)	25 (42.4%)	15 (65.2%)	4 (66.7%)	
<b>Post Resuscitative Airway and Ventilatory Management</b>							
Low	38 (35.2%)	43 (41.7%)	30 (26.8%)	10 (18.5%)	1 (4.3%)	2 (33.3%)	
Moderate	19 (17.6%)	23 (22.3%)	29 (25.9%)	11 (20.4%)	4 (17.4%)	1 (16.7%)	
High	51 (47.2%)	37 (35.9%)	53 (47.3%)	33 (61.1%)	18 (78.3%)	3 (50.0%)	

**Knowledge and Confidence of Trauma (self-rated) by Region**

Likert scale – 1-5 (low to high)

Low knowledge/confidence – score 1 or 2

Moderate knowledge/confidence – score 3

High knowledge/confidence – score 4 or 5

<b>Knowledge</b>	GF (N = 49)	GS (N = 51)	Kimb (N = 23)	MW (N = 12)	Pilbara (N = 56)	SW (N = 20)	WB (N = 10)
<b>Mechanism of Injury</b>							
Low	6 (17.6%)	11 (24.4%)	1 (5.6%)	0 (0.0%)	9 (18.0%)	4 (23.5%)	1 (12.5%)
Moderate	10 (29.4%)	10 (22.2%)	3 (16.7%)	5 (41.7%)	17 (34.0%)	4 (23.5%)	1 (12.5%)
High	18 (52.9%)	24 (53.3%)	14 (77.8%)	7 (58.3%)	24 (48.0%)	9 (52.9%)	6 (75.0%)
<b>Initial Assessment Framework</b>							
Low	8 (22.9%)	10 (23.3%)	1 (5.6%)	0 (0.0%)	9 (18.0%)	1 (5.9%)	1 (12.5%)
Moderate	10 (28.6%)	9 (20.9%)	4 (22.2%)	4 (33.3%)	13 (26.0%)	9 (52.9%)	2 (25.0%)
High	17 (48.6%)	24 (55.8%)	13 (72.2%)	8 (66.7%)	28 (56.0%)	7 (41.2%)	5 (62.5%)
<b>Airway and Ventilatory Management</b>							
Low	14 (38.9%)	14 (31.1%)	1 (5.6%)	0 (0.0%)	15 (29.4%)	4 (22.2%)	0 (0.0%)
Moderate	7 (19.4%)	8 (17.8%)	2 (11.1%)	4 (33.3%)	8 (15.7%)	5 (27.8%)	3 (42.9%)
High	15 (41.7%)	23 (51.1%)	15 (83.3%)	8 (66.7%)	28 (54.9%)	9 (50.0%)	4 (57.1%)
<b>Shock Management</b>							
Low	11 (30.6%)	10 (22.7%)	1 (5.6%)	0 (0.0%)	15 (29.4%)	3 (16.7%)	1 (14.3%)
Moderate	8 (22.2%)	9 (20.5%)	4 (22.2%)	4 (33.3%)	11 (21.6%)	7 (38.9%)	1 (14.3%)
High	17 (47.2%)	25 (56.8%)	13 (72.2%)	8 (66.7%)	25 (49.0%)	8 (44.4%)	5 (71.4%)
<b>Brain and Cranial Trauma</b>							
Low	15 (44.1%)	24 (53.3%)	0 (0.0%)	4 (33.3%)	16 (32.7%)	6 (35.3%)	3 (37.5%)
Moderate	10 (29.4%)	10 (22.2%)	5 (29.4%)	3 (25.0%)	15 (30.6%)	8 (47.1%)	2 (25.0%)
High	9 (26.5%)	11 (24.4%)	12 (70.6%)	5 (41.7%)	18 (36.7%)	3 (17.6%)	3 (37.5%)
<b>Maxillofacial Trauma</b>							
Low	14 (41.2%)	24 (53.3%)	1 (5.9%)	3 (25.0%)	20 (40.8%)	6 (35.3%)	3 (42.9%)
Moderate	13 (38.2%)	11 (24.4%)	8 (47.1%)	5 (41.7%)	13 (26.5%)	9 (52.9%)	3 (42.9%)
High	7 (20.6%)	10 (22.2%)	8 (47.1%)	4 (33.3%)	16 (32.7%)	2 (11.8%)	1 (14.3%)
<b>Ocular Trauma</b>							
Low	19 (54.3%)	29 (64.4%)	3 (17.6%)	4 (33.3%)	29 (59.2%)	9 (52.9%)	1 (14.3%)
Moderate	10 (28.6%)	8 (17.8%)	8 (47.1%)	5 (41.7%)	11 (22.4%)	7 (41.2%)	4 (57.1%)
High	6 (17.1%)	8 (17.8%)	6 (35.3%)	3 (25.0%)	9 (18.4%)	1 (5.9%)	2 (28.6%)
<b>Thoracic Trauma</b>							
Low	14 (42.4%)	17 (37.8%)	2 (11.1%)	1 (8.3%)	17 (34.7%)	7 (41.2%)	1 (14.3%)
Moderate	8 (24.2%)	11 (24.4%)	5 (27.8%)	6 (50.0%)	10 (20.4%)	6 (35.3%)	3 (42.9%)
High	11 (33.3%)	17 (37.8%)	11 (61.1%)	5 (41.7%)	22 (44.9%)	4 (23.5%)	3 (42.9%)
<b>Neck Trauma</b>							
Low	14 (41.2%)	18 (40.0%)	1 (5.6%)	1 (8.3%)	17 (33.3%)	7 (38.9%)	1 (14.3%)
Moderate	7 (20.6%)	13 (28.9%)	3 (16.7%)	6 (50.0%)	11 (21.6%)	7 (38.9%)	2 (28.6%)
High	13 (38.2%)	14 (31.1%)	14 (77.8%)	5 (41.7%)	23 (45.1%)	4 (22.2%)	4 (57.1%)
<b>Abdominal Trauma</b>							
Low	13 (37.1%)	15 (33.3%)	0 (0.0%)	1 (8.3%)	14 (28.0%)	6 (33.3%)	1 (14.3%)
Moderate	11 (31.4%)	13 (28.9%)	4 (22.2%)	4 (33.3%)	11 (22.0%)	7 (38.9%)	2 (28.6%)
High	11 (31.4%)	17 (37.8%)	14 (77.8%)	7 (58.3%)	25 (50.0%)	5 (27.8%)	4 (57.1%)
<b>Pelvic Trauma</b>							
Low	15 (42.9%)	17 (37.8%)	0 (0.0%)	1 (8.3%)	16 (32.0%)	5 (27.8%)	1 (14.3%)
Moderate	6 (17.1%)	14 (31.1%)	3 (16.7%)	5 (41.7%)	12 (24.0%)	8 (44.4%)	2 (28.6%)
High	14 (40.0%)	14 (31.1%)	15 (83.3%)	6 (50.0%)	22 (44.0%)	5 (27.8%)	4 (57.1%)

**Spinal Cord and  
Vertebral Column****Trauma**

Low	9 (27.3%)	21 (46.7%)	0 (0.0%)	2 (16.7%)	15 (29.4%)	3 (17.6%)	3 (37.5%)
Moderate	8 (24.2%)	15 (33.3%)	5 (27.8%)	6 (50.0%)	17 (33.3%)	8 (47.1%)	2 (25.0%)
High	16 (48.5%)	9 (20.0%)	13 (72.2%)	4 (33.3%)	19 (37.3%)	6 (35.3%)	3 (37.5%)

**Musculoskeletal****Trauma**

Low	5 (14.3%)	10 (22.2%)	0 (0.0%)	0 (0.0%)	12 (23.5%)	3 (17.6%)	2 (22.2%)
Moderate	10 (28.6%)	16 (35.6%)	5 (27.8%)	6 (50.0%)	13 (25.5%)	6 (35.3%)	2 (22.2%)
High	20 (57.1%)	19 (42.2%)	13 (72.2%)	6 (50.0%)	26 (51.0%)	8 (47.1%)	5 (55.6%)

**Surface Trauma**

Low	11 (31.4%)	13 (29.5%)	1 (5.6%)	0 (0.0%)	13 (25.5%)	3 (17.6%)	2 (25.0%)
Moderate	9 (25.7%)	8 (18.2%)	6 (33.3%)	6 (54.5%)	13 (25.5%)	9 (52.9%)	2 (25.0%)
High	15 (42.9%)	23 (52.3%)	11 (61.1%)	5 (45.5%)	25 (49.0%)	5 (29.4%)	4 (50.0%)

**Burn Trauma**

Low	9 (25.0%)	16 (35.6%)	2 (11.1%)	0 (0.0%)	17 (33.3%)	2 (11.1%)	3 (37.5%)
Moderate	11 (30.6%)	10 (22.2%)	4 (22.2%)	6 (50.0%)	13 (25.5%)	9 (50.0%)	2 (25.0%)
High	16 (44.4%)	19 (42.2%)	12 (66.7%)	6 (50.0%)	21 (41.2%)	7 (38.9%)	3 (37.5%)

**Penetrating Trauma**

Low	13 (38.2%)	17 (37.8%)	0 (0.0%)	2 (16.7%)	16 (31.4%)	5 (29.4%)	1 (14.3%)
Moderate	10 (29.4%)	15 (33.3%)	7 (38.9%)	5 (41.7%)	18 (35.3%)	9 (52.9%)	3 (42.9%)
High	11 (32.4%)	13 (28.9%)	11 (61.1%)	5 (41.7%)	17 (33.3%)	3 (17.6%)	3 (42.9%)

**Submersion Injury**

Low	17 (51.5%)	24 (53.3%)	4 (22.2%)	3 (25.0%)	23 (46.0%)	6 (35.3%)	3 (42.9%)
Moderate	10 (30.3%)	14 (31.1%)	4 (22.2%)	5 (41.7%)	14 (28.0%)	8 (47.1%)	2 (28.6%)
High	6 (18.2%)	7 (15.6%)	10 (55.6%)	4 (33.3%)	13 (26.0%)	3 (17.6%)	2 (28.6%)

**Blast Trauma**

Low	20 (58.8%)	29 (65.9%)	7 (41.2%)	5 (41.7%)	29 (58.0%)	10 (58.8%)	4 (57.1%)
Moderate	10 (29.4%)	7 (15.9%)	4 (23.5%)	5 (41.7%)	12 (24.0%)	5 (29.4%)	2 (28.6%)
High	4 (11.8%)	8 (18.2%)	6 (35.3%)	2 (16.7%)	9 (18.0%)	2 (11.8%)	1 (14.3%)

**Post Resuscitative****Care**

Low	11 (32.4%)	11 (24.4%)	0 (0.0%)	1 (8.3%)	14 (28.0%)	3 (16.7%)	0 (0.0%)
Moderate	5 (14.7%)	10 (22.2%)	1 (6.3%)	6 (50.0%)	7 (14.0%)	7 (38.9%)	2 (28.6%)
High	18 (52.9%)	24 (53.3%)	15 (93.8%)	5 (41.7%)	29 (58.0%)	8 (44.4%)	5 (71.4%)

**Pharmacology**

Low	11 (32.4%)	12 (27.3%)	0 (0.0%)	1 (8.3%)	15 (30.0%)	2 (11.8%)	1 (14.3%)
Moderate	9 (26.5%)	18 (40.9%)	6 (37.5%)	7 (58.3%)	17 (34.0%)	12 (70.6%)	2 (28.6%)
High	14 (41.2%)	14 (31.8%)	10 (62.5%)	4 (33.3%)	18 (36.0%)	3 (17.6%)	4 (57.1%)

---

	GF	GS	Kimberley	MW	Pilbara	SW	WB
<b>Confidence</b>	(N = 49)	(N = 51)	(N = 23)	(N = 12)	(N = 56)	(N = 20)	(N = 10)
<b>Performing an Initial Assessment</b>							
Low	11 (31.4%)	11 (25.6%)	2 (11.8%)	1 (8.3%)	9 (18.0%)	2 (11.8%)	1 (12.5%)
Moderate	8 (22.9%)	10 (23.3%)	1 (5.9%)	2 (16.7%)	8 (16.0%)	2 (11.8%)	2 (25.0%)
High	16 (45.7%)	22 (51.2%)	14 (82.4%)	9 (75.0%)	33 (66.0%)	13 (76.5%)	5 (62.5%)
<b>Managing a Difficult Airway</b>							
Low	15 (42.9%)	14 (31.8%)	1 (5.9%)	2 (16.7%)	18 (35.3%)	3 (17.6%)	1 (14.3%)
Moderate	6 (17.1%)	12 (27.3%)	5 (29.4%)	3 (25.0%)	10 (19.6%)	6 (35.3%)	4 (57.1%)
High	14 (40.0%)	18 (40.9%)	11 (64.7%)	7 (58.3%)	23 (45.1%)	8 (47.1%)	2 (28.6%)
<b>Managing Ventilatory Complications</b>							
Low	18 (54.5%)	23 (54.8%)	3 (18.8%)	5 (41.7%)	23 (46.9%)	10 (62.5%)	3 (42.9%)
Moderate	9 (27.3%)	8 (19.0%)	2 (12.5%)	3 (25.0%)	13 (26.5%)	4 (25.0%)	3 (42.9%)
High	6 (18.2%)	11 (26.2%)	11 (68.8%)	4 (33.3%)	13 (26.5%)	2 (12.5%)	1 (14.3%)
<b>Damage Control Resuscitation</b>							
Low	17 (51.5%)	25 (58.1%)	2 (12.5%)	4 (33.3%)	23 (47.9%)	8 (47.1%)	4 (57.1%)
Moderate	8 (24.2%)	10 (23.3%)	5 (31.3%)	4 (33.3%)	14 (29.2%)	7 (41.2%)	2 (28.6%)
High	8 (24.2%)	8 (18.6%)	9 (56.3%)	4 (33.3%)	11 (22.9%)	2 (11.8%)	1 (14.3%)
<b>Management of Raised Intracranial Pressure</b>							
Low	16 (48.5%)	27 (62.8%)	2 (12.5%)	6 (50.0%)	23 (46.9%)	7 (41.2%)	4 (57.1%)
Moderate	10 (30.3%)	11 (25.6%)	4 (25.0%)	2 (16.7%)	16 (32.7%)	7 (41.2%)	2 (28.6%)
High	7 (21.2%)	5 (11.6%)	10 (62.5%)	4 (33.3%)	10 (20.4%)	3 (17.6%)	1 (14.3%)
<b>Spinal Immobilisation and Management</b>							
Low	10 (28.6%)	16 (38.1%)	0 (0.0%)	2 (16.7%)	13 (26.0%)	2 (11.8%)	2 (25.0%)
Moderate	5 (14.3%)	10 (23.8%)	3 (17.6%)	3 (25.0%)	11 (22.0%)	4 (23.5%)	1 (12.5%)
High	20 (57.1%)	16 (38.1%)	14 (82.4%)	7 (58.3%)	26 (52.0%)	11 (64.7%)	5 (62.5%)
<b>Burn Assessment and Management</b>							
Low	9 (25.7%)	18 (41.9%)	1 (5.9%)	1 (8.3%)	18 (36.0%)	2 (11.1%)	3 (37.5%)
Moderate	13 (37.1%)	8 (18.6%)	7 (41.2%)	4 (33.3%)	12 (24.0%)	9 (50.0%)	2 (25.0%)
High	13 (37.1%)	17 (39.5%)	9 (52.9%)	7 (58.3%)	20 (40.0%)	7 (38.9%)	3 (37.5%)
<b>Pain Management Strategies</b>							
Low	8 (22.9%)	9 (21.4%)	0 (0.0%)	0 (0.0%)	13 (26.0%)	1 (5.6%)	1 (12.5%)
Moderate	8 (22.9%)	8 (19.0%)	1 (6.3%)	4 (33.3%)	7 (14.0%)	7 (38.9%)	1 (12.5%)
High	19 (54.3%)	25 (59.5%)	15 (93.8%)	8 (66.7%)	30 (60.0%)	10 (55.6%)	6 (75.0%)
<b>Disaster Triage and Management</b>							
Low	14 (40.0%)	22 (52.4%)	3 (17.6%)	4 (33.3%)	26 (52.0%)	3 (17.6%)	2 (28.6%)
Moderate	10 (28.6%)	8 (19.0%)	8 (47.1%)	1 (8.3%)	11 (22.0%)	9 (52.9%)	3 (42.9%)
High	11 (31.4%)	12 (28.6%)	6 (35.3%)	7 (58.3%)	13 (26.0%)	5 (29.4%)	2 (28.6%)
<b>Transport and Transfer</b>							
Low	8 (22.9%)	14 (33.3%)	1 (5.9%)	1 (8.3%)	17 (33.3%)	2 (11.8%)	0 (0.0%)
Moderate	10 (28.6%)	13 (31.0%)	1 (5.9%)	2 (16.7%)	9 (17.6%)	5 (29.4%)	3 (42.9%)
High	17 (48.6%)	15 (35.7%)	15 (88.2%)	9 (75.0%)	25 (49.0%)	10 (58.8%)	4 (57.1%)
<b>X-ray Interpretation</b>							
Low	14 (43.8%)	26 (63.4%)	6 (33.3%)	7 (58.3%)	28 (58.3%)	10 (62.5%)	2 (28.6%)
Moderate	14 (43.8%)	7 (17.1%)	5 (27.8%)	3 (25.0%)	13 (27.1%)	3 (18.8%)	2 (28.6%)

High	4 (12.5%)	8 (19.5%)	7 (38.9%)	2 (16.7%)	7 (14.6%)	3 (18.8%)	3 (42.9%)
<b>CT Interpretation</b>							
Low	24 (75.0%)	31 (81.6%)	7 (38.9%)	9 (81.8%)	34 (70.8%)	13 (81.3%)	3 (42.9%)
Moderate	6 (18.8%)	5 (13.2%)	8 (44.4%)	0 (0.0%)	9 (18.8%)	2 (12.5%)	3 (42.9%)
High	2 (6.3%)	2 (5.3%)	3 (16.7%)	2 (18.2%)	5 (10.4%)	1 (6.3%)	1 (14.3%)
<b>Care of the Paediatric Patient</b>							
Low	11 (31.4%)	27 (60.0%)	3 (17.6%)	2 (16.7%)	17 (33.3%)	6 (35.3%)	2 (28.6%)
Moderate	13 (37.1%)	6 (13.3%)	4 (23.5%)	4 (33.3%)	16 (31.4%)	4 (23.5%)	2 (28.6%)
High	11 (31.4%)	12 (26.7%)	10 (58.8%)	6 (50.0%)	18 (35.3%)	7 (41.2%)	3 (42.9%)
<b>Care of the Obstetric Patient</b>							
Low	13 (36.1%)	29 (65.9%)	1 (5.9%)	3 (25.0%)	24 (48.0%)	6 (35.3%)	3 (42.9%)
Moderate	13 (36.1%)	8 (18.2%)	6 (35.3%)	6 (50.0%)	11 (22.0%)	3 (17.6%)	1 (14.3%)
High	10 (27.8%)	7 (15.9%)	10 (58.8%)	3 (25.0%)	15 (30.0%)	8 (47.1%)	3 (42.9%)

---





Government of **Western Australia**  
Department of **Health**  
**Western Australian Trauma Training and Education Unit**

**This document can be made available in alternative formats  
on request for a person with a disability.**

© Department of Health 2022

Copyright to this material is vested in the State of Western Australia unless otherwise indicated. Apart from any fair dealing for the purposes of private study, research, criticism or review, as permitted under the provisions of the *Copyright Act 1968*, no part may be reproduced or re-used for any purposes whatsoever without written permission of the State of Western Australia.