Institute of Trauma and Injury Management

Review of Education

Services 2013

1. Background

The Institute of Trauma and Injury Management (ITIM) has provided a range of education services over the last decade. Whilst these have varied slightly there has been a core component that has remained consistent over the period.

At the ITIM workshop in September 2012 there was strong support for ITIM to coordinate the development of an education plan and for the plan to be informed through a process of consultation with trauma services.

Other key points raised in the workshop included:

- The education role that major centres should have in supporting rural centres
- The need for ITIM to develop relationships with the tertiary sector so as to influence curriculum
- A better process for state guidelines was needed
- Trauma Team Training was important and valuable
- Trauma Assessment Resuscitation and Transport program should be increased in rural areas
- Provision of on-line requirements needs review

The restructure of ITIM with the move into the Agency for Clinical Innovation (ACI) has included creation of a specific sub-committee of the Research Committee to focus on education issues. The new ITIM Executive included a review of education as a priority within the ITIM work plan and as a precursor to the development of an education plan.

2. Approach

The methodology for the review involved four components:

1. *Understanding and assessment of what is currently invested in education services:* A pro forma was created to collect information from the last three financial years. Information collected included the frequency of the activity, the number of participants, the cost to ITIM and the revenue received. Additional information was provided via the Sydney Clinical Skills and Simulation Centre (SCSSC) report on the Australian Trauma Team Training (ATTT) program. The information gained from this assessment assisted in determining the focus of the questions for the survey and individual interviews

2. *Survey of trauma system clinicians:* A brief survey (Appendix 1) was developed and endorsed by the ITIM Executive. The sample group for the survey included the mailing lists of ITIM, The Emergency Care Institute (ECI), and the Intensive Care Coordination and Monitoring Unit (ICCMU). These mailing lists included pre hospital, hospital and post hospital personnel. Some further distribution occurred at a local level. The survey was sent to potential respondents via email with a link to Survey Monkey (the tool used for administration of the survey). Responses were not individually identified.

3. *Focus Groups:* Eight focus groups were held across the State with major centres inviting referring centres and others with an interest in contributing to the review. Details of those attending can be found in Appendix 2. The approach was endorsed by the ITIM Executive and included focus groups at Liverpool, Westmead, Royal North Shore, John Hunter Hospital (x2), Orange, Wagga Wagga and metropolitan central Sydney (x2). Structured questions for discussion at the focus groups were developed and an external consultant was engaged to co-facilitate with the ITIM Manager and document the outcomes from the focus groups.

4. *Individual interviews:* Interviews were held with members of the ITIM Executive (which included the Chairpersons of the Research Committee, the Data Committee and the Quality Review Committee), ITIM staff and other clinicians that specifically requested interviews. A structured set of questions was developed and used for all interviews which were conducted either by telephone or face to face by the consultant engaged to undertake the review.

3. Results

1. Investment and current activity assessment:

Activities: Six major ITIM education activities were identified over the last three years. These were: Australian Trauma Team Training (ATTT); Trauma Assessment Resuscitation and Transport (TART) Program; AIS Injury Scaling and Techniques course; trauma evening seminars; Clinical conference; head injury guideline development and Structured Trauma Education Program (STEP). All these activities required significant ITIM resource (human or fiscal) investment. There are other smaller education activities that ITIM supports on an ad hoc basis – eg financial support for local trauma activities.

i. ATTT Program – This program was conducted regularly during each of the years, with reduced frequency in 2012/13 because of lack of clarity about future priorities. ITIM

staff costs are detailed separately. The program cost is taken from the annual allocation to the SCSSC.

	2010/11	2011/12	2012/13
frequency	6 (5 adult, 1 paed)	6 (5 adult, 1 paed)	4 (3 adult, 1 paed)
participants	72	72	48
cost	$31,800	$31,800	$21,200
revenue	Nil	Nil	Nil

ii. TART Program – this program incorporates a skills day, trauma evening and ATTT program and is conducted in rural locations. ITIM staff costs are detailed separately. The program cost is taken from the annual allocation to the SCSSC.

	2010/11	2011/12	2012/13
frequency	1 (Lismore)	1 (Orange)	2 (Coffs, Wagga planned)
participants	70	70	70 + 70 expected
cost	$10,800	$10,800	$10,800 (to date)
revenue	Nil	Nil	Nil

iii. AIS Course - This course is conducted both as an initial and refresher course. It is the only course that currently generates income through some degree of subsidisation at a local level. ITIM is an international provider of this course. ITIM staff costs are detailed separately.

	2010/11	2011/12	2012/13
frequency	5 courses	3 courses	1 completed, 1 planned
participants	37	26	15 + 15 expected
cost	$6970	$3040	$5500
revenue	$12,150	$6500	$4550

iv. Trauma evenings - These evenings are sponsored and co-ordinated by ITIM and have very high attendance rates. ITIM staff currently undertake manual registration but this will be on-line via ACI in the future. ITIM staff costs are detailed separately.

	2010/11	2011/12	2012/13
frequency	2 (St G and Randwick)	1 (Rooty Hill)	1 (Hunter)
participants	300	229	108
cost	$6092	$7315	$2820
revenue	Nil	Nil	Nil

v. STEP - This development commenced in 2011 and the primary cost is ITIM staff time which is detailed separately.

	2010/11	2011/12	2012/13
frequency	n/a	1	1
participants		n/a	n/a

cost		$3000 (software)	n/a
revenue		n/a	n/a

vi. Clinical conference - This was a one off event which generated a small surplus.

	2010/11	2011/12	2012/13
frequency	1	n/a	n/a
participants	276		
cost	$65,600		
revenue	$69,200		

vii. Guideline development - This was a one off event relating to the second edition of the head injury guideline. Primary cost was ITIM staff time which is detailed separately.

	2010/11	2011/12	2012/13
frequency	1 (head injury)	1 (head injury)	n/a
participants	n/a	n/a	
cost	n/a	n/a	
revenue	n/a	n/a	

ITIM staff costs: approximate ITIM staff costs directly associated with the above activities was $32,000 in 2010/11; $45,000 in 2011/12 and $41,000 in 2012/13 (to end November 2012). This assumes staff member cost to be $400 per day. This does not take into account non-quantifiable support cost as there has been no record keeping that demonstrates the true cost of supporting education activities and it cannot be calculated retrospectively. The real cost would be much higher and was predominantly in the education position although both the data and quality positions were also involved in education.

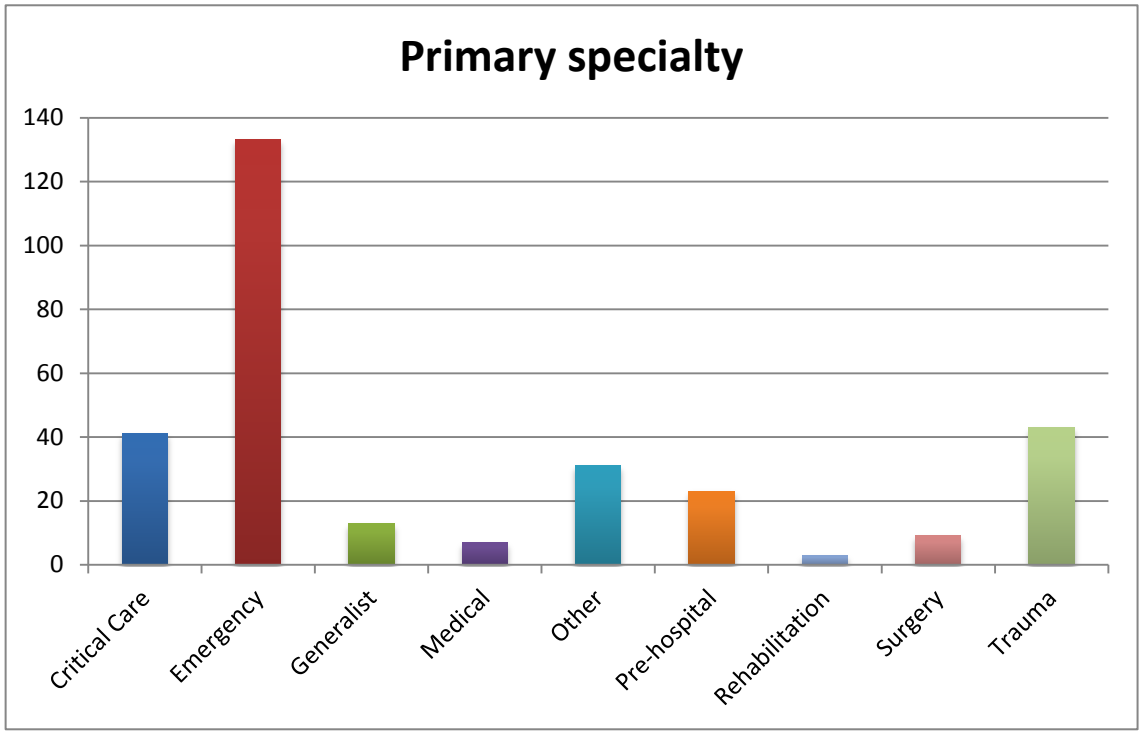
Total education costs: this includes the allocation to the SCSSC and ITIM staff costs although these are likely to be significantly understated. It would be reasonable to assume that 1FTE is associated with education activities currently, which suggests an underestimate of staff cost of around 50%.

	2010/11	2011/12	2012/13
SCSSC	$96,400	$146,400	TBD
TART and ATT	$42,600	$42,600	TBD
Other (minus revenue)	$2668 (-)	$6855	$3770
Staff	$31,200	$44,800	$40,800
Total	$167,532	$240,655	

2. Survey:

Demographics: The total sample number was approximately 2800 and 304 responses to the survey were received. Of these 9 respondents were from interstate or overseas. 61% (n=185) of respondents were nurses, 20% (n=60) medical staff and 16% paramedical or allied health professionals.

All respondents identified a primary specialty with the majority identifying emergency (43%), trauma (13%) and critical care (13%) as the next most common specialties.

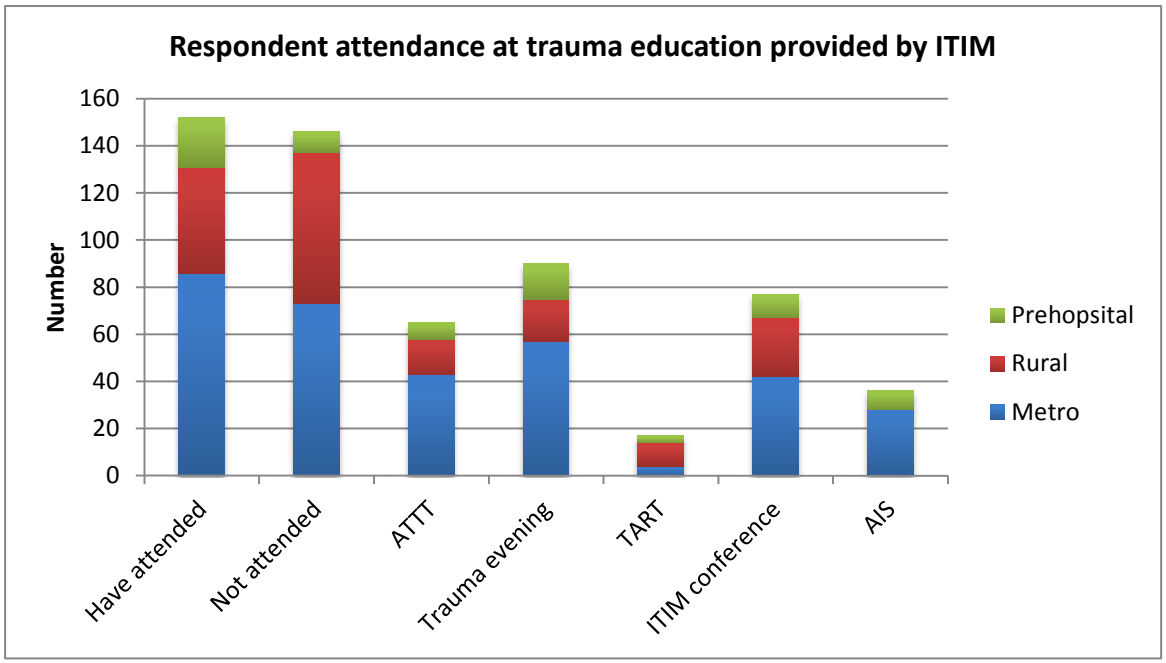


Most respondents had more than 10 years experience (n=191) with only 58 having 5 years or less. 64% (n=38) of medical staff had more than 10 years experience.

Attendance at education events:

154 respondents advised that they had attended education provided by ITIM with 79 respondents advising that they had attended more than one event.

The trauma evenings (n=91) and the ITIM conference (n=79) were identified as the most popular. 66 respondents attended trauma team training (ATTT) and 17 respondents attended the trauma assessment, resuscitation and transport program (TART).

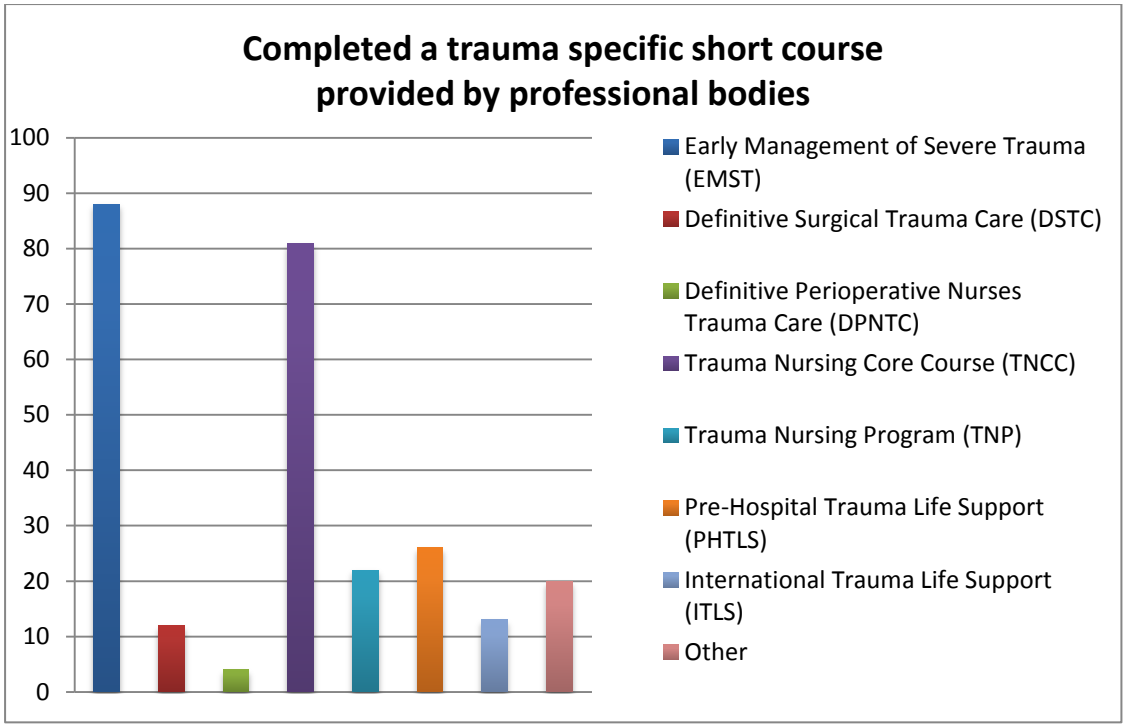


Most respondents (n=237) had attended a trauma related education event organised by their local organisation. 68respondents advised that they had not attended any local events. Of these respondents, 63 had not attended any ITIM organised events either.

Trauma related grand rounds, short courses and conferences were attended by more rural and pre-hospital respondents than by those from metropolitan areas. In-service lectures were the most popular local education with 186 respondents advising of their participation. Of these, 51 were rural, 24 pre-hospital and 108 metropolitan.

Trauma courses: 180 respondents advised that they had attended a trauma course delivered by a professional body or university. 50% of respondents were from rural or pre-hospital areas.

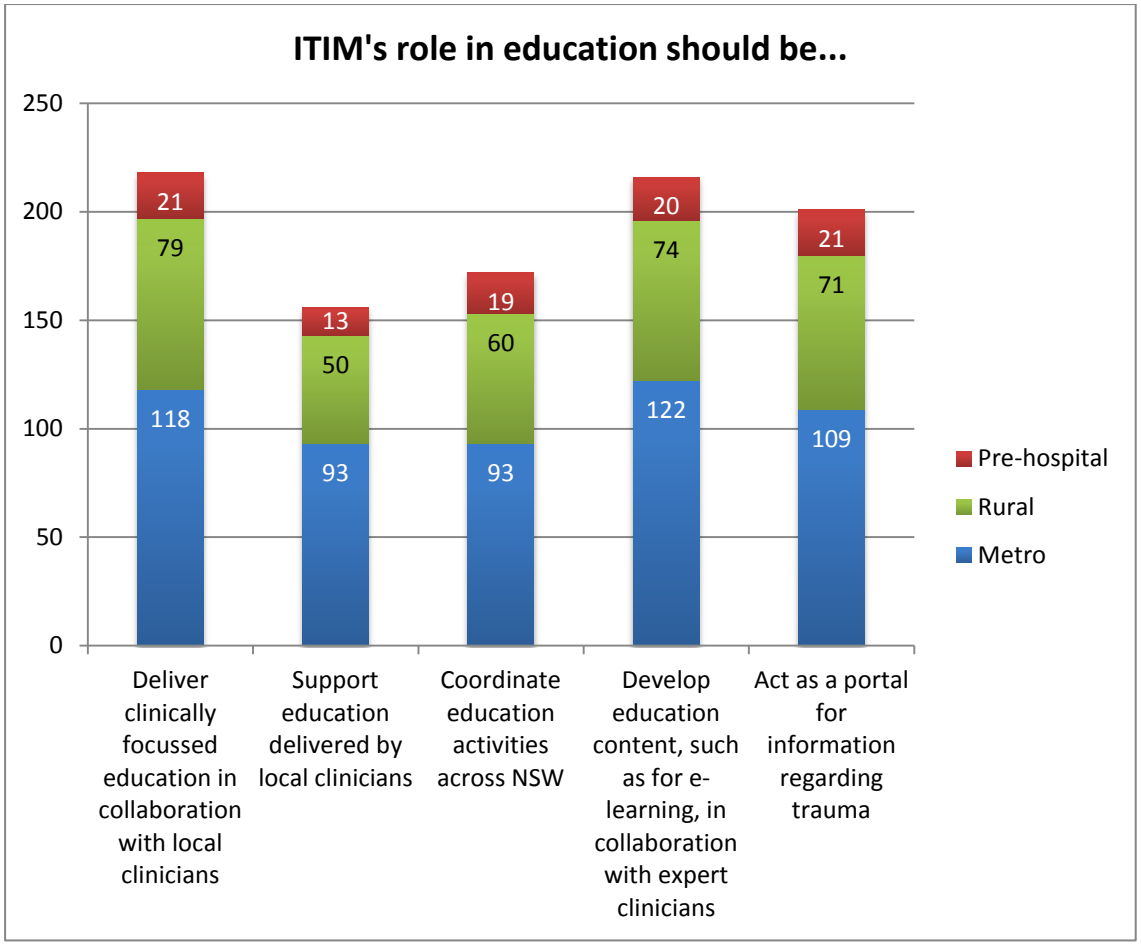
The most popular trauma specific short courses were Early Management of Severe Trauma (EMST) (n=85), and the Trauma Nursing Core Course (TNCC) (n=80).



The SSWAHS Trauma Nursing Course, some paediatric specific courses and courses associated with aeromedical retrieval were also identified as well as some more generic intensive care courses.

77 respondents advised that they had completed post graduate level trauma courses with Masters of Critical Care Medicine / Nursing (n= 26) and Masters of Emergency Medicine / Nursing (n=30) being the most popular. 10 nursing staff advised that they had completed other relevant post graduate certificates.

ITIM's role in trauma education: 280 responses to this question were received with most respondents (96%) selecting more than one choice. Delivering clinically focussed education in collaboration with local clinicians, developing education content, such as e-learning, in collaboration with expert clinicians and acting as a portal for information regarding trauma were the strongest supported roles.



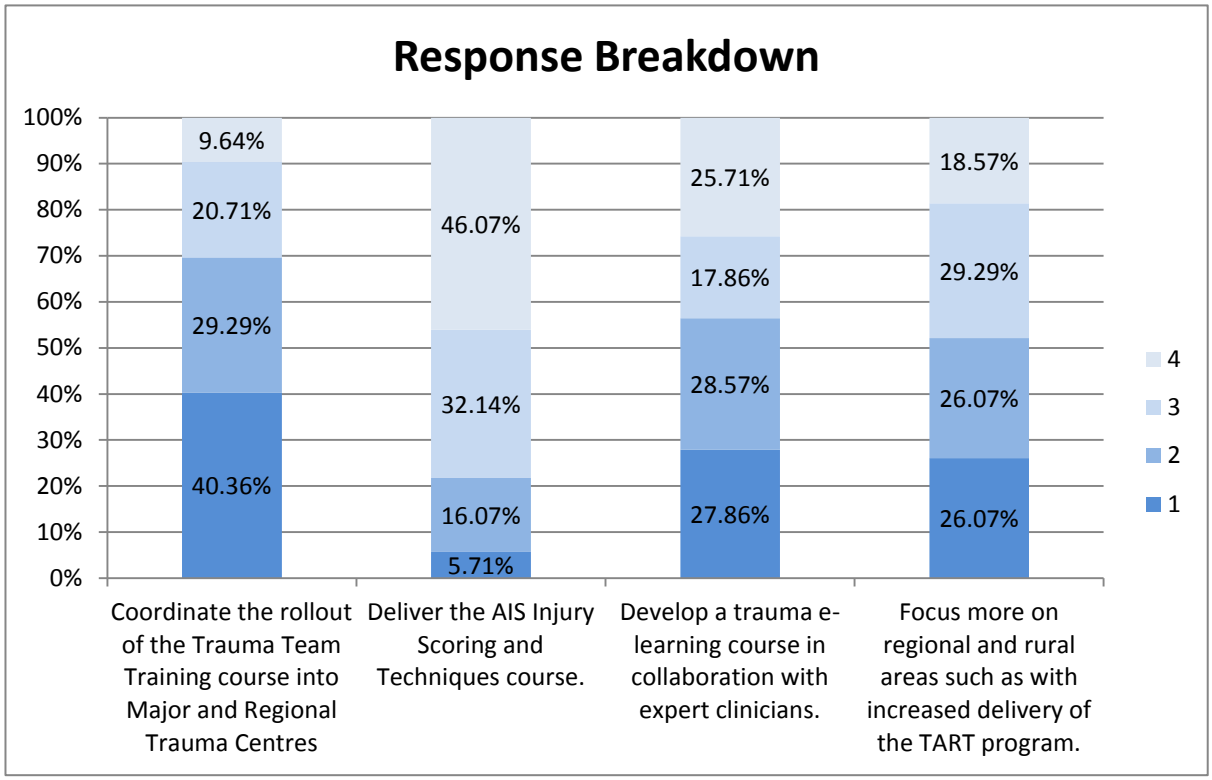
31 respondents provided comments and the focus of these was predominantly around ITIM being realistic about what it could provide as distinct from what education could be provided through expertise within the trauma system.

Some respondents suggested that ITIM should focus more on providing financial support for clinicians to attend courses rather than developing courses.

Specific suggestions included ITIM supporting more allied health input rather than solely focussing on medical and nursing requirements, supporting more education at the smaller sites and particularly those that are more remote and in which trauma is not a common event but needs skilled management when it occurs.

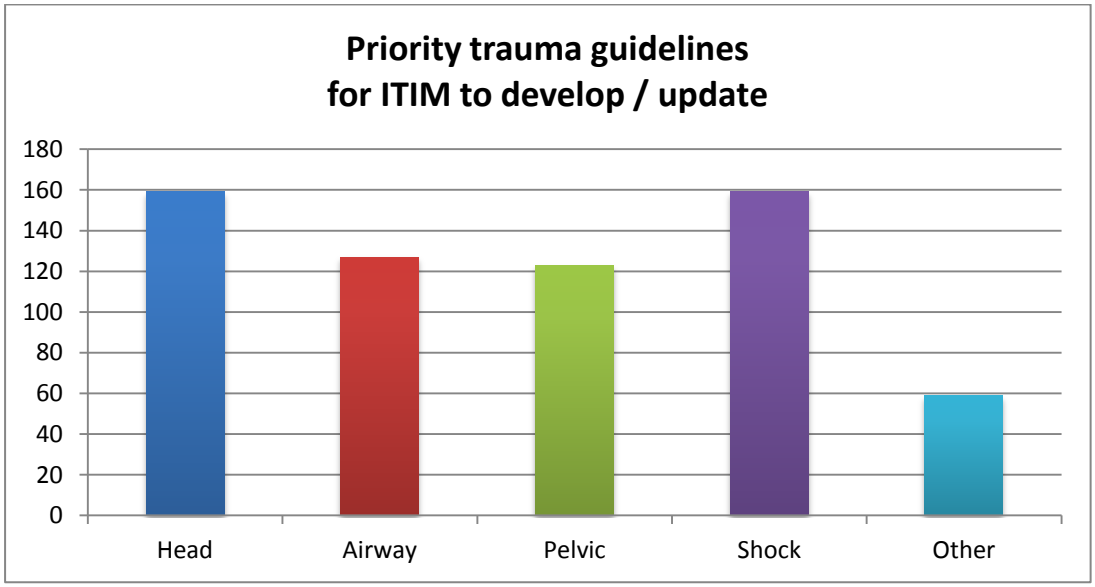
There were mixed views about the value of on-line education (there is already a lot of on-line resource)

The prioritisation of resource use is shown in the table below (1 = highest priority)



Clinical practice guidelines: 95% (n=263) of respondents considered that ITIM should be involved in updating or developing clinical practice guidelines for state-wide implementation.

The priority areas are shown in the table below.



Of those identified as other, spinal (n=10) and chest (n=9) were those most frequently suggested.

ITIM's role in meeting trauma education needs: 160 responses were received. The main themes were - provide education about what should be expected of facilities (n=5); provide more focus on rural/regional facilities (n=19); develop an e-learning platform and resources (n=39); provide state wide guidelines (n=10); provide /facilitate local education (n=20); ATTT (n=7); conferences (n=8) and provision of state wide leadership and governance (n=5).

Further suggestions: Most suggestions related to provision of guidelines, support for and engagement of clinicians and improved communication

3. Focus Groups

The focus group discussions followed a structured format and the outcomes are summarised in main response areas.

Locally provided education:

Locally based Trauma Team Training was being conducted in all the major trauma centres and some regional centres. The curriculum was based on the SCSSC model but has been customised locally and a number of the centres were keen to point out that their courses had a stronger inter-disciplinary focus.

Outreach education was being provided by some major centres and this included trauma days, road shows and regular visits to referring hospitals. Some centres did not provide outreach education services citing lack of resources as the primary reason. Some regional centres had established outreach education programs to the smaller rural facilities. In most centres the outreach education was supported by simulation.

A number of centres had established school and community programs, including public forums, which focussed on injury prevention.

All centres were involved in a variety of local facility programs either specifically for trauma or by contributing trauma input to other programs. These included departmental and in-service education, education contributions to medical and nursing under and post graduate training programs, trauma grand rounds, case presentations, journal clubs and research meetings.

Local trauma evenings were organised by some centres (a number of centres also conducted these at referring hospitals). These evenings were inter-disciplinary and in rural areas, in particular, included ambulance staff and general practitioners.

Local staff were supported to participate in a range of formal programs including, EMST, TNCC and TNP. Some rural centres ran specific programs (FLECC and TEARS).

Some major centres ran their own formal nursing courses. The three day trauma nursing course at RPA and the biannual ultrasound course at Liverpool were cited at a number of focus groups as of high value.

ITIM education:

All focus groups identified the trauma evenings as of value irrespective of whether they conducted their own locally or not.

ATTT was considered to be essential but most centres were confident they could conduct the ATTT program themselves. There was support for the SCSSC providing expert resource and to provide a train the trainer program. Some focus groups felt that ITIM did not provide enough sponsored places in ATTT programs and that there should be more support for developing the expertise locally within a state curriculum framework.

The TART program was identified as of value but the general view in focus groups was that there needed to be greater local faculty input – either through increased resource to build local capacity or through support to enable more local trauma clinician input to planning and delivery of the program.

AIS training was considered to be valuable. A number of focus groups suggested that the program would benefit from review so as to include some pre-participation content that could be undertaken on-line and a reduction in the face to face requirements. The face to face discussions re coding issues were considered to be important.

Education priorities for ITIM:

The key priorities identified through the focus groups were:

- Support the development and building of capacity locally to deliver the ATTT program
- Develop a trauma nursing course for the state based on the RPA model (reduce duplication of current programs)
- Have a more strategic role in prescribing education standards for trauma services
- Recommence the 2 day trauma course run by the coordinators in rotating locations – content should be based on data and highest education priority (ITIM should fund and support program)
- Use Sydney SCSSC to provide a train the trainer program
- Develop or endorse state based algorithms for trauma care
- Conduct an annual clinical conference

Areas for ITIM to assist trauma system with:

- Education program for coordinators and data base managers to generate a core user group for COLLECTOR
- Coordinate an annual clinical conference
- Develop the web site as the "go to" place for information – includes education resources, recommended / endorsed programs, links to conferences, guidelines etc
- Promote and market local trauma education across the system
- Provide financial support to enable more participation in education activities by clinicians

Specific areas:

Guidelines: there were mixed views within and between focus groups on the role that ITIM should have in guideline development and promulgation. Some participants used the ITIM guidelines as the basis for education and practice whilst others had not read them.

It was suggested that ITIM should take more responsibility for providing educational material to promote and support the consistent implementation of guidelines across the state.

Most major centres have developed their own guidelines and most were happy to share these with other centres, although there were mixed views about ITIM hosting all the facility guidelines (as per the ICCMU model). Some participants offered to work collaboratively with ITIM to develop state guidelines from the current centre based guidelines.

All the focus groups identified algorithms and flow charts as the most useful practical resource and a number of centres had 30 or more of these. There was some evidence of sharing between centres but mostly these were developed locally.

There was general consensus that ITIM could endorse already developed overseas guidelines but concern by some that they would still need local customisation. There was little support for ITIM developing the evidence base for guidelines given that it was available elsewhere.

Some focus groups considered that the role of ITIM should be more focussed on the provision of guidelines and standards for education that was required of trauma centres rather than putting resources into clinical guideline development.

Simulation:

The general view in the focus groups was that there was not equitable access to the SCSSC via ITIM support and that in most cases local simulation centres were capable of undertaking equivalent work.

There was recognition of the expertise developed at the SCSSC and the role that it could play in conducting a state wide train the trainer program as well as being a source of expert resource (human and equipment).

A number of centres believed that ITIM should be providing resource to enable them to build capacity and faculty locally and support the wider involvement of simulation within trauma education.

On-line education:

There was general concern that ITIM appeared to have invested resources in on-line learning development but that there was no tangible outcome. There was some support for the STEP concept but recognition that a different approach was needed.

The focus groups identified a number of criteria that should apply to on-line learning development including building on what already existed, making it simple and accessible and recognising different skill levels and education needs relevant to the level of trauma centre.

Focus groups identified a number of existing on-line resources that they considered could be appropriate for ITIM to endorse or could be used within on-line trauma education programs.

The role of ITIM should be to endorse/ recommend / make available the content. If development was required it was suggested that this should be project based and that ITIM should seconde an appropriate person from within the trauma services to lead the project.

All focus groups identified that whilst on-line learning is important it is only one part of mixed modality education and needs to be linked with other modalities.

4. Interviews:

The individual interviews, including ITIM Executive members and ITIM staff, were structured to understand the key directions that those involved in the ITIM governance arrangements were considering for future education services. The results have been summarised as four main themes:

1. *Strategic relationships:* there was a recurrent theme that ITIM did not have a strong profile in terms of research and education and that there needed to be a clear strategy for engagement with the University sector and the wider trauma community.

ITIM should be influencing medical and nursing curricula to ensure that trauma was incorporated earlier in training, developing a strategic partnership with the Health Education and Training Institute (HETI) for the delivery on on-line learning and building stronger relationships with professional organisations providing trauma education.

2. *Supporting rural and regional areas:* this included support for development of local capability through enhancing faculty and equipment resources. It was recognised that building capacity in rural centres is primarily about enhancing the local capability in a sustainable way and leveraging off the local knowledge and contextual understanding. This would then facilitate local ATTT and outreach education within the rural area.
   ITIM should host educational resource content centrally so that it was available and accessible to rural areas. Most metropolitan centres have extensive, guidelines, algorithms and other resources that could be shared. These need to be easily accessible at the point of care.
   Other suggestions included funding backfill to enable local clinicians to provide more education, investing in portable simulation resources that can be set up in various locations and enable more rural sites to have access to this type of education resource.

3. *Innovative education:* This should include new approaches to education including podcasts, Masterclass webinars, and an interactive education site that could be set up through an ITIM portal or web page.
   Using a combination of simulation and ipad technology to generate virtual reality scenarios and recognising that all simulation does not need to be high tech but context relevant.

4. *Utilising what is already available:* There are already credible evidence based guidelines available and accessible. ITIM should focus on endorsing and /or making these easily available to the trauma system rather than developing them. Similarly there are both distance education and on-line education programs already available and ITIM should be recommending these and providing easy access to them. One suggestion was to use the Australian HEMS on-line trauma education resources that are already being used by some medical staff within the NSW trauma system. Other suggestions included various overseas education programs. The overarching message was that ITIM should be setting the expectations for education and being the “go to” place for locating and understanding what the best resources are.

4. Discussion

There was strong agreement across the consultation that the role that ITIM should have in respect of education should be far more strategic. This role extends across relationships with professional colleges, universities, other non-NSW Health trauma service providers, the Ministry and the Local Health Districts themselves.

ITIM is well placed to fulfil a more strategic role and the new structure will provide the vehicle to best leverage the expertise of the wider trauma system in this process. There is considerable expertise across the trauma system and ITIM needs to develop strategies for harnessing this to strengthen the "whole of system" approach to education.

At a system level developing partnerships with HETI, Colleges and the University sector will enable ITIM to focus more on the prescribing of standards and expectations for education rather than the "doing". At all levels of the consultation there was an expectation that ITIM should be recommending and/or endorsing education programs and/or resources and that this approach would help in developing system-wide consistency.

There was a willingness from trauma clinicians and educators to contribute to a state-wide approach to education and in particular the development of guidelines and on-line learning. It was clear from the consultation that there is much duplication across the system, in the absence of clear state direction, in respect of development of guidelines and on-line learning.

There is an interest and preparedness to work through ITIM to produce consistent guidelines but the process needs to be different to that previously used and the focus more on producing practical guidelines that can be adapted for use within different levels of trauma. Whilst there were mixed views about which were the best evidence resources there was agreement that ITIM should not be investing in replicating evidence studies when the evidence was already available but rather using the education sub-committee to endorse the best evidence and then focus on the associated guideline development.

The use of the ITIM guidelines was very varied with some centres referring only to their own guidelines. Most major centres have developed algorithms locally and the suggestion that ITIM consider investing in a process to agree and share these across the system had merit as it both promotes consistency and also obviates the need for multiple concurrent local development activities. The sharing of locally developed resource centrally has been used successfully by other networks and also warrants consideration.

The optimal approach to a development process would be the time limited secondment of an appropriately skilled trauma clinician / educator to lead a specific education project (eg development of a guideline). The process would then involve a wider but specific working group from across the system. This process has been used successfully for educational resource development in other areas and with good governance would deliver outcomes within the agreed timelines. The secondary benefit for ITIM is that there is no need to have a specific education resource centrally but rather select the appropriate resource depending on the education project requirements.

In relation to the on-line learning there was evidence of varying levels of local development of materials across the trauma system but no evidence of a shared system-wide vision or indeed awareness of what others were developing. There was support for ITIM to have a lead role in the process and a preparedness to work together to establish common core learning resources, however there was also strong support for utilising resources that already existed and making these available, with appropriate endorsement from ITIM, to the wider trauma system.

There are already a range of education resources – some reflect true on-line education whilst others are more like distance learning materials. In any event there is a need to establish a process to review and recommend the best of these rather than develop new materials. There may be some merit in providing core resources to support ITIM programs, where these do not already exist, and making these available across the system to support consistency in education.

A good example of the need for consistent resource material to support education is for the ATTT program. The strong view from the consultation was that this should be conducted locally with access to expert resource from SCSSC if required but that there should be available educational resource material to support a consistent approach across the state. The resources could be adapted at a local level but the majority of the content would be consistent. Some centres are better resourced than others to provide the ATTT locally and this is another area where ITIM could provide guidance or expectations for what would be required.

It was clear that the SCSSC has been a valuable resource for the state and that the support through ITIM has been pivotal in ensuring that ATTT can be accessed by all trauma staff irrespective of LHD. Notwithstanding this contribution, for the future there needs to be a new model that recognises the local simulation capacity and educational capability and a refocus of ITIM resource to enhance this. The strong support for the SCSSC continuing as an expert training resource for the state needs to be incorporated into the future plan.

Whilst there was some concern that ITIM did not have an education strategy or plan and that resource investment was somewhat lacking in direction there was acknowledgement that ITIM had supported a range of activities consistently over the years .The challenge now for ITIM is to take advantage of current technology and communication developments and embed these into the future education strategy.

The role that ITIM has undertaken in respect of the Abbreviated Injury Scale (AIS) training, organising trauma evenings, coordinating the arrangements for various programs and supporting local activities are all areas that should continue within an education plan. They provide a profile for ITIM, substitute for marketing activities that do not occur currently, are well supported and provide a recognisable education contribution. What should perhaps be more evident is some strategic thinking and planning about content that would ensure that both priority issues for the state and local areas of identified need are addressed within the activities.

The need for a high quality web site (or portal) to support access by the trauma system to educational resource is another area for consideration. The current web site could be greatly enhanced to make it more user friendly and easier to navigate. In any rebuild there should be incorporation of an education portal through which trauma staff can access links to ITIM recommended educational resources worldwide, have access to, or participate in, on-line education, find information about 'up coming' education activities and download educational support materials to assist in delivery of state programs (eg ATTT). Engagement through this type of web site will encourage a stronger networking culture across the trauma system.

One goal for the review was to identify gaps in trauma education and thus identify opportunities for ITIM to consider investing resource in, in the future. The greatest areas of need appeared to be outside the main metropolitan centres (which in most cases have well established education programs). Support for the major centres to undertake education activities with their referring centres or for staff from referring centres to be supported to undertake education activities at major centres are both models that could be considered. Currently outreach education is very variable depending on local commitment. Some statement of expected standards of education from ITIM to major and regional centres would assist in ensuring a more consistent approach.

Rural centres have particular challenges due to the difficulty in recruiting and retaining staff and this is often further compounded by less than optimal information technology access to on-line education resource. Capacity to undertake education and training locally is important and investment in local simulation capability as well as local faculty for rural areas may well deliver benefits system-wide given the amount of trauma that occurs outside the major metropolitan area and importance of initial management. Whilst the review did not involve an audit of resources it was

apparent that there is great variability in terms of resources (human and equipment) for provision of education particularly in rural areas.

5. Summary:

The review collected useful information about what education was being undertaken at the various centres and identified a number of key focus areas that warrant further consideration by ITIM in the development of an education plan. The most consistent and main messages for trauma education from all aspects of the review were:

- for ITIM to take a more strategic role in providing guidance for state wide education standards and expectations
- to recognise and support the education needs of rural and referring centres across the state
- to work together as a system to enhance consistency in education through leveraging existing resources and expertise

Key considerations include:

- Establishing the education sub-committee to oversight development and implementation of the education plan
- Developing an education plan, including timelines and accountability for implementation, for the key focus areas identified in the review report
- Determining the priorities for investment of the ITIM education resources for 2013/14

Appendix 1

The survey questions were:

1. What is the name of your organisation? *(free text field)*

2. Indicate your profession *(tick box)*

    a. Medical
    b. Nursing
    c. Allied Health
    d. Paramedical
    e. Other *(free text field)*

3. Indicate your primary specialty *(tick box)*

    a. Trauma
    b. Pre-hospital
    c. Emergency
    d. Critical Care
    e. Surgery
    f. Medical
    g. Rehabilitation
    h. Other *(free text field)*

4. Indicate your years of trauma experience: *(tick box)*

    a. 0-2 yrs
    b. 3-5yrs
    c. 5-10yrs
    d. >10yrs

5. Have you attended any ITIM education events?

    Select one or more of the following or leave blank if not applicable: *(tick box, multiselect)*

    a. Trauma Team Training
    b. Trauma Evening seminar
    c. Trauma Assessment Resuscitation and Transport (TART) program
    d. ITIM Trauma Conference (eg. Trauma on the Coast)
    e. AIS Injury Scoring and Techniques course

6. Have you attended any local trauma education delivered by your organisation?

   Select one or more of the following or leave blank if not applicable: *(tick box, multiselect)*

   a. Trauma in-service/lectures
   b. Trauma grand rounds
   c. Trauma related short courses
   d. Conferences
   e. Other *(free text field)*

7. Have you attended any trauma courses delivered by professional bodies or universities? *(tick box)*

   a. Yes
   b. No

8. Indicate which trauma specific short courses delivered by professional bodies you have completed. *(Only available if answered yes to Q7, tick box, multiselect).*

   a. Emergency Management of Severe Trauma (EMST)
   b. Definitive Surgical Trauma Course (DSTC)
   c. Definitive Perioperative Nurses Trauma Care Course (DPNTC)
   d. Trauma Nursing Core Course (TNCC)
   e. Trauma Nursing Program (TNP)
   f. Prehospital Trauma Life Support (PHTLS)
   g. International Trauma Life Support (ITLS)
   h. Other (please specify)

9. Indicate which long (post graduate level) trauma related courses you have completed. *(Only available if answered yes to Q7, tick box, multiselect).*

   Select one or more of the following or leave blank if not applicable.

   a. Trauma Course (eg. Masters of Trauma)
   b. Critical Care Course (eg. Masters of Critical Care Medicine/Nursing)
   c. Emergency Course (eg. Masters of Emergency Medicine/Nursing)
   d. Other (please specify)

10. ITIM's role in trauma education should be to: *(tick box, multiselect)*

    a. Deliver clinically focussed education in collaboration with local clinicians
    b. Support education delivered by local clinicians
    c. Coordinate education activities across NSW
    d. Develop education content, such as for e-learning, in collaboration with expert clinicians
    e. Act as a portal for information regarding trauma
    f. Other *(free text field)*

11. Rank the following in order of priority for the use of ITIM education resources: *(rank from 1-4)*

    a. Coordinate the rollout of the Trauma Team Training course into Major and Regional Trauma Centres
    b. Deliver the AIS Injury Scoring and Techniques course.
    c. Focus more on regional and rural areas such as with increased delivery of the TART program.
    d. Develop a trauma e-learning course in collaboration with expert clinicians.

12. Should ITIM develop / update trauma clinical practice guidelines for state-wide implementation? *(tick box)*

    a. Yes
    b. No

13. Which trauma guidelines should be the priority for ITIM to be developing / updating? *(Only available if answered yes to Q12, tick box, multiselect)*

    Select one or more of the following choices.

    a. Head injuries
    b. Pelvic injuries
    c. Airway management
    d. Shock management
    e. Other (please specify)

14. How could ITIM best assist you in meeting your trauma education needs? *(free text field)*

15. Please provide any further comments / suggestions *(free text field)*

Appendix 2

The following were involved through either individual interviews or focus groups in the consultation associated with this report:

First name	Last Name	Role
Louise	Alderson	Paramedic Trauma Advisor
Christine	Allsopp	Trauma System Monitoring Manager, ITIM
Zsolt	Balogh	Trauma Director
Cino	Bendinelli	Deputy Director Trauma
Angela	Berry	CNC ICU
Kay	Best	Paediatric Trauma CNC
Erica	Caldwell	Trauma CNC
Peter	Clark	Director, ITIM
Anthony	Cook	Area Trauma CNC
Shane	Curran	ED Director
Scott	D'Amours	Trauma Director
Melissa	Davis	CNE Orthopaedics
Joanne	Dungey	CNC ED
Natalie	Enninghorst	Trauma Consultant
Julie	Evans	Trauma CNC
Kim	Fletcher	CNC ED
Nevenka	Francis	Area Trauma CNC
Sonia	Gagliard	Trauma Dept
Alison	Galbraith	CNE Orthopaedics
Julie	Gawthorne	CNC ED
Con	Glezos	Director, Trauma Surgery
Linda	Gutierrez	Trauma Data Manager
Kathleen	Hain	NP, ED
Benjamin	Hall	Rural Trauma CNC
Benjamin	Hardy	Research Assistant
Anne	Hawkins	CNC ED/Critical Care
Rose	Hills	NUM Orthopaedics
Jeremy	Hsu	Trauma Director
Dushyant	Iyer	Trauma Dept
Alicia	Jackson	Trauma CNC
Tommy	Jadlouich	Medical Admin Registrar
Emma	Jarvis	Trauma CNC
Tony	Joseph	Trauma Director
Sherryn	Kieltyka	CNE, ED
Kate	King	Trauma CNC
Penny	Kooyman	CNC Trauma

Nimmi	Kumar	Trauma Data Manager
Mary	Langcake	Trauma Director
Christine	Lassen	Manager, ITIM
Cherylene	Lee	Trauma SRMO
Natalie	Lott	Trauma RN
Chris	Maclaine	CNE, ED
Donald	MacLellan	Director SACC Portfolio, ACI
Renae	McCarthy	Trauma Case Corrdinator
Karon	McDonell	CNC Trauma
Debra	McDougall	Area Trauma CNC
Simone	Meakes	Trauma CNC
Mathew	Moore	Paramedic Educator
Mary	Morgan	Retrieval & ED
Marek	Nalos	Trauma Director
Kristy	O'Brien	Nurse Manager, ED
Nicki	Pereira	CNE Neurosurgery
Kylie	Pleming	Clinical Skills Coordinator
Elwyn	Poynter	CareFlight
Kerry	Quinn	Trauma CNC
Graeme	Richardson	Director Post Grad Training
Oran	Rigby	Trauma Director
Patricia	Saccasan-Whelan	Director Critical Care
Katherine	Schraffarczyk	Nurse Educator
Julie	Seggie	Trauma CNC
Maryanne	Sewell	Rural Trauma CNC
Glenn	Sisson	Education Manager, ITIM
Carolyn	Sommer	CNE Neuro & Trauma
Mena	Stietiata	Surgical Superintendent
Julie	Thring	Trauma Dept
Sharon	Tutton	RN, ED
Lauren	VanGramberg	A/Paediatric Trauma CNC
Ben	Watt	RN
Dieter	Weber	Trauma Fellow
Cathy	Whiteman	CNE, ED
Taneal	Wiseman	Trauma CNC
Stephanie	Wilson	Area Trauma CNC
Steve	Wood	ED Consultant

Appendix 3

Acronyms used in report:

ACI	Agency for Clinical Innovation
AIS	Abbreviated Injury Scale
ATTT	Australian Trauma Team Training
ECI	Emergency Care Institute
EMST	Early Management of Severe Trauma
FLECC	First Line Emergency Care Course
FTE	Full time equivalent
HEMS	Helicopter Emergency Medical Service
HETI	Health Education and Training Institute
ICCMU	Intensive Care Coordination and Monitoring Unit
ITIM	Institute of Trauma and Injury Management
LHD	Local Health District
RPA	Royal Prince Alfred
SCSSC	Sydney Clinical Skills and Simulation Centre
SSWAHS	Sydney South West Area Health Service
STEP	Structured Trauma Education Program
TART	Trauma Assessment Resuscitation and Transport
TEARS	Trauma Education Aimed at Rural Staff
TNCC	Trauma Nursing Core Course
TNP	Trauma Nursing Program