Mobile SimVan
Crossing boundaries to take Clinical Training to the Grampians Region

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Acknowledgement

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Background context: Features of the Grampians Region
The context of our regional workforce

- 3,500 nurses, 410 medical practitioners, 756 allied and oral health professionals
- The majority work in the public health system
- Average age of an RN is 47 years
- Average age of a midwife is 52 years
- Nursing placement days from our two major universities in the region in 2010=17,762 and 2013=31,807
Shared workforce experiences

- Ageing workforce
- Advanced medical technology
- Increased consumer expectations
- Women returning to the workforce part-time

- Recruitment and retention of health care workers
- Redefined work-life
- Increased options for school leavers
- Distance
Nationally, the health care system is experiencing major reform

Priority areas highlighted in the NHHRC 2009 report outlined the need for “modern learning” and “supported health workforce” encouraging “innovation and training”

Health workforce statistics coming published by HWA indicate that we may experience limitations in the delivery of high-quality health services as a consequence of workforce shortages

It is predicted that our shortfall may be as high as 109,000 nurses and 2,700 doctors by 2025

The mal-distribution of the health workforce resulting in less accessible services for Australians living in rural, remote and out metropolitan regions

The Health Workforce 2025 (HWA 2012) report also identifies the bottlenecks, inefficiency and insufficient capacity in the training system, especially for doctors; and nurses will contribute to less school leavers choosing health careers

What is clear is that continuing to use the same policy parameters and models to deliver health services and health practitioner undergraduate programs into the future may not be sustainable
Risk in care is real

- Working in a paradox system
- Optimise the relationship between humans and the systems with which they interact
- Error is not the useful target for intervention
- Enhance the capabilities of individuals, teams and the organisation
- Encourage a high standard of accountability

So what do we do with increased demand, rising expectations on capacity and a potential workforce that doesn’t match our needs?

- Make it accessible
- Make it real
- Link it to what we already do
- Use the talent we have
- Manage risk
- Use the Grampians CTN as a catalyst
- Build organisational resilience
What has contributed to our success in the GrCTN?

- Focused work with a strong link to quality, safety and health outcomes for regional people

- **Learner focused**: Learners are supported by teaching that is flexible, creative, non-judgemental and engaging in a high-challenge, high-support learning environment

- **Teamwork**: Training together in order to work together is fundamental to what we do

- **Integrity**: We are committed to ensuring that every educational experience is of the highest quality

- **Motivation**: We understand that authenticity in experiential learning and how it can contribute to behavioural change and enhanced practice

- Sector *engagement*
Coordinated approach leading to quality outcomes

- Learning together in order to work together
- Thinking outside the box
- Aligning funding opportunities
- Shared vision

- Temporal situation awareness
- Standardised procedures
- Optimised use of technology
History of SLE in the GrCTN

- In 2006, the Grampians reported that we spent 272 hours in SLE compared with 958 in Barwon and 926 in Gippsland regions.
- Most SLE equipment was used only half of the time it was available for use.
- Skills training for staff was the most nominated barrier to capacity and the second most nominated barrier to capability.
- The region needed access to scenario design.

Raven Report 2010
- Simulation can afford opportunities of exposure to clinical situations
- Encourage high-standard of accountability
- Performance consistent with values
- Repeat and rehearse in a safe environment
- Safeguard patient/client safety
- Requires alignment of national developments with regulation
- Build capability in staff
Learning together to work together

- Clinical placement in isolation
- Simulation creates the potential to learn interprofessionally
- IPL – “occasions when two or more professional learn with, from and about each other to improve collaboration and quality of care” (CAIPE 1997)
- Global enthusiasm for IPL approaches that directly relate to better outcomes for patients and the reduction in adverse outcomes (WHO 2010)
Consider...

- Developing trust, creating space to have honest conversations and dialogue cannot be underestimated
- We need to pay ongoing attention to relationships
- Partnerships between industry and education providers
- The degree to which learning in a simulated environment and its transference to practice is still under consideration
- Adoption of technology is considered contemporary however caution lies in the quality of its use
- How do we build resilience into what we do to prepare us for when the money runs out?
- What is the literacy level within our network in regard to our work as a committee?
“Innovation in delivery modality demands innovative use of technology.”
Setting up a control room without walls and wire

Features:

- Multi-camera video capture capability
- Lightweight
- Compact in design
- Wireless connectivity
- Simple to set up and operate
- Unobtrusive to learners

- Mobile simulation demands mobile AV capture/playback
- Current technology is designed primarily for flexible/embedded applications
- Adapting currently available AV technology to a mobile environment is problematic
- A clean sheet approach was adopted to solve these inherent problems
Why develop a control room?

- Simplicity and portability
- Uses unique, bespoke software
- Secure WIFI communication
- Allows for multi-camera, real-time editing
- Snapshot and note taking facility
- Enables rapid record/playback
WIFI: The weakest link?

- While the system operates well in some environments, it fails to deliver in others
- Image freezing, audio dropout, cam/phone dropout, variable data transfer rate
- AV quality/reliability dependant on WIFI environment
Control room: Version 2

- Eliminate reliance on WIFI streaming
- Replace smart phone devices with SD card-based mini cameras (GoPro) x 4

**Advantages:** Reliable data capture/transfer

**Disadvantages:** Cams must be hardwired to Mac Mini for download
Control room: Version 2

- Reliable AV capture/playback
- Superior vision/sound quality
- Stable SD card data source
- Same portability
- Sync’d playback editing
- Choice of up to 4 separate audio sources
The things that are most valued are the ones we place value on.

(Anonymous)
Why use simulation training?

Simulation allows learners to learn in a high-fidelity, low risk environment which allows them to make errors without endangering patients. The aim is to simulate as close to reality as possible.
Impact of project

- Increase in the utilisation of SBET in the Grampians Region, specifically outside of the Ballarat area
- Commencement of interprofessional learning
- Enhanced inter-agency cooperation in clinical education
- Reduced ‘lost staff time’ associated with clinical training

- Improved quality of staff and student clinical skills and competence, resulting in:
  - Improved patient outcomes
  - Improved clinical efficacy
  - Higher levels of student and clinical self-confidence
  - Potential for improved retention of health professional staff
Creation of the SimVan website

- Provides booking system for SimVan
- SimVan staff can generate reports based on data received from facilities upon bookings

www.simvan.org.au
Simulation hours delivered across the Grampians Region

- **July to December 2013**
  - **Student simulation hours**: 3,000
  - **Other training recipient simulation hours**: 5,000

- **January to June 2014**
  - **Student simulation hours**: 4,000
  - **Other training recipient simulation hours**: 9,000
Simulation hours delivered by the SimVan

July to December 2013
- Student simulation hours: X
- Other training recipient hours: Y

January to June 2014
- Student simulation hours: Z
- Other training recipient hours: W
Interprofessional learning hours across the Grampians Region

- July to December 2013
- January to June 2014

GrCTN interprofessional simulation hours
More project outcomes

- Increased use of simulated learning modalities for clinical training for entry-level health professionals
- Enabled clinicians across the Grampians to have the capacity to deliver future SBET to entry-to-practice learners
- SBET activities have contributed to 79.1% increase in nursing clinical placement capacity in three years across the region
- Expanded access to low-medium and high-fidelity simulation technology combined with the specialist teaching of clinical skills by the simulation team
- Improved the quality and consistency of SBET
SimVan evaluation

- 84.06% of participants rated the SimVan ‘excellent’ overall
- 97.22% of participants indicated that they would be interested in future SimVan visits at their facility
- “Very worthwhile education method, very realistic and hands-on, great for refreshing and learning.” East Grampians Health Services participant
- “I found this very valuable and enjoyable. Being a student, this experience is a great refresher and opportunity.” Hepburn Health Services, student on placement
- “Fantastic and worthwhile SimVan visit whereby we received it at our own facility. Educators were very approachable and presented information very well.” East Wimmera Health Services participant
www.simvan.org.au
(SimVan)

www.health.vic.gov.au
(Department of Health, Victoria)
Limitations

- 48,000 km² region serviced by one SimVan
- Bookings outstripping availability
- Inherent with the style of delivery comes times spent travelling at the expense of delivery time
Conclusions

- Simulation-based learning can work effectively in a mobile environment.
- SimVan brings a new learning experience to rural/remote clinicians which was previously inaccessible to them.
- All key components of immersive simulated learning can be packaged in a mobile format.
- There is a need to expand this type of service.
Outcomes

- Inform future programs
- Increase geographical access
- Potential to reduce strain on health care settings
- Creative use of technology
- Further work required on the extent of application
- Fewer errors
- Job satisfaction

- Inclusiveness, collaboration and sharing resources for the benefit of the region are paramount
- Programs delivered are relevant across disciplines and organisations and include interprofessional learning where possible
- Learning from other CTNs and working with them, not in competition with them
Future sustainability

Blueprint - 5 targeted approaches:

- **Initiative 1**: Onsite skills checks (competencies)
- **Initiative 2**: Promotional SimVan open days
- **Initiative 3**: Sponsorship
- **Initiative 4**: Student accommodation utilisation
- **Initiative 5**: Aged Care & National Standards learning packages
“If we are to achieve results never before accomplished, we must employ methods never before attempted.”

(Francis Bacon)