Pilot Project
Resuscitation
Quality Improvement

By Claire Breeze in collaboration with Laerdal and Calvary Health Care
What I will cover

- The Resuscitation Quality Improvement System and what it is
- How this system has worked in our hospital
- The cost versus the return on investment
- The change in thinking for BLS training - changing culture
- The pros and cons
- Would we do it again and our plans for the future?
About our hospitals- St Vincent’s and St Luke's

- We are one hospitals spread over two sites- around 2 km’s apart
- We are situated in Launceston in rural Northern Tasmania
- We have 145 beds, 483 staff and our wards include;

  - Medical/palliative ward
  - Medical/ Rehab
  - Surgical- general, urology, plastics, gynaecology
  - Surgical- Orthopaedic, ENT and Dental
  - 7 Theatres
  - Cardiac Catheterisation laboratory
  - High Dependency Unit
  - Endoscopy
  - Calvary Clinic Mental Health
Past training for Basic Life Support (BLS)

Calvary Launceston implemented a very traditional model of instruction for Basic Life Support.

We had an annual e-learning theory with test.

Then we would complete a face-to-face session with one of the education team and a basic Resus Anne manikin every year.
McGaghie describes 7 features which training needs to obtain to foster mastery:

1. Baseline, or diagnostic testing
2. Clear learning objectives, sequenced as units usually in increasing difficulty
3. Engagement in educational activities (eg, deliberate skills practice, calculations, data interpretation, reading) focused on reaching the objectives
4. A set minimum passing standard (eg, test score) for each educational unit
5. Formative testing to gauge unit completion at a pre-set minimum passing standard for mastery
6. Advancement to the next educational unit given measured achievement at or above the mastery standard
7. Continued practice or study on an educational unit until the mastery standard is reached.
“We are powerless against the paralysis of the circulation”, quote from a physician in 1890

The evolution of resuscitation is a timeline which spans from the 16th century to the 21st century.

It makes sense that as resuscitation has evolved from whipping unconscious victims with stinging nettles to AED drone delivering in modern day cardiovascular pulmonary resuscitation that the training of CPR has also evolved.
The history of CPR training—how far we have come

1956: Dr Safar performs mouth to mouth resuscitation in Baltimore

1957: A Hopkins Closed Chest Defibrillator
History of CPR
1960 until now

1960: Resusci Anne is “born.” The life-size training manikin (a collaborative effort by Drs. Safar, Elam, and Gordon and Norwegian toymaker Åsmund Lærdal) goes on to teach CPR skills to more than 400 million people—and counting—worldwide.

1990: Public access defibrillation programs providing training and resources

2012: Hands-Only CPR Hits the Road to Save Lives

2018: AHA publishes “Resuscitation Education Science: Educational Strategies to Improve Outcomes from Cardiac Arrest”.

Common challenges for resuscitation training today

- Quality
- Compliance
- Cost
Clinicians’ skills decrease after three months and greatly reduce after 6 months. (Alspach, 2012)

Although the clinicians’ skills decreased their knowledge was still at a satisfactory standard.

Research has found that on average 66% of people could not pass a skills test just three months after instructor-led training. Approximately 90% failed after 12 months. The tests were based on national CPR and AED standards.
Adoption of low-dose high frequency training

Typical skill decay with conventional training once every two years

Improved competence with small and frequent learning activities
This project aims to deliver a sustainable BLS practical program, which can continue to deliver the training to the staff over a sustained period of time, with 24/7 access to practical training.

Then continue to provide an environment to facilitate “mock codes”.

Provide a regular and supported resuscitation program to foster a positive attitude in responding to medical emergencies and improved clinician's performance whilst conducting the code (Everett-Thomas et al 2015).
What is the RQI program?

• It is a system of basic life support training
• The training is completed on trollies, which have manikins connected to a lap-top
• The system is a simulated training which coaches' staff through different basic life support exercises
• The staff have access to these trollies 24/7
• The education team don’t need to have a physical presence to complete the training
• Staff receive feedback from the simulator in real time, objectively, and practice the skill of BLS every three months
• Data received from the simulators allows the education team to direct education sessions and training appropriately
Process of implementation

• We have placed a trolley in each hospital, one at St Luke’s and St Vincent’s

• The first few weeks we worked closely to Laerdal to get around the wards and introduce the staff to the concept

• The simulation has four separate exercises which advance each exercise

• Each exercise changes every three months, and takes 12 months to complete

• The exercise includes:
  • 60 seconds of compressions and BVM (bag, valve, mask) on both adult and infant
  • 2 minutes of compressions and BVM on adult and infant
  • Full CPR for 2 minutes on both adult and infant
  • Full CPR for 2 minutes on both adult and infant with AED
The progress of the project

• When we started our compliance was 64.9% across the two hospital

• The project was implemented in October 2018

• We had 92 staff who needed to complete a BLS practical assessment

Then in October—when the RQI program was first implemented:
From April 2019 until September 2019 with the RQI we were able to complete training for 90 staff, in addition to maintaining staff compliance who were already completed.

This took our compliance to 90% across both hospitals.

Staff were able to access the training 24/7, and learn independently from the Learning and Development team.
How effective was the project in our hospital?
What our staff have to say......

It’s fun and engaging

I learnt more in five minutes than I have in five years

I feel more confident knowing that I can perform high quality CPR in a code

The real time feedback allows me to improve and increase my confidence
When considering nursing hours to attend training off the ward, and the cost of training instructors the average cost for our hospital was $25,280.

If training was delivered as low dose high frequency without the RQI, and with face-to-face training $51,520.

The first year of RQI – including the implementation fee was $26,922.50, our second year will be cheaper at $16,980.00.
Would we do it again—what are our plans for the future

In short, yes..........but we have learnt some lessons

Overall in evaluating the program we have seen remarkable improvements in the quality of the staff to perform CPR. We have also been able to objectively analysis staff in the skill of completely basic life support

Through this process of assessment we have been able to identify staff who would find real-life CPR difficult. Examples of these difficulties have been; chronic injuries, disability or physical capability—this has allowed for intuitive rostering

The data integration isn’t automated from the Laerdal system to the Calvary LMS

This program is not stand alone—there is still a need for the program to be supported and driven through Nurse Unit Managers, and the educators.
Questions?