## NAHBC REPORT
## Tracheostomy Benchmarking Project

## 1. OUTLINE OF PROJECT

The management of tracheostomy patients was proposed as an area for benchmarking in December 2004 because of the high level of allied health utilisation, long episode of care and large variance involved in these patients. After discussion, a tracheostomy benchmarking project was formulated in December 2006 with the following five clinical questions.

1.  Who are the slow to wean ( STW) patients and what are their characteristics?
2.  What is the definition of slow to wean patients?
3.  Are there clinical indicators that determine if a patient is going to be slow to wean?
4.  What are the current management approaches for STW patients at the participating hospitals?
5.  What is best practice management for these patients?

Funding made available was $15512 for project management ( 144 hours ), data management ( 80 hours), writing guidelines ( 80 hours ), and other support (teleconference costs).
The project commenced early 2007 and extended until August 2008 within the projected time frame of 18 months. There were two allocated project officers from the Princess Alexandra Hospital – Brooke Duggan (until August 2007) and Kelly Read (2008). Six hospitals participated ( 2 in Qld, 2 in Victoria, 1 in NSW and 1 in Tasmania).

The project had three phases.
*   Phase 1 –the literature review and prospective chart audit. After the audit tool was developed, data collection extended from March –June 2007 (excluding ENT patients) and identified the demographics of this varied group of patients. General medical and surgical patients were found to have the longest wean times at . The most frequent group of patients were the neurosurgical/neurological/stroke population. ( mean ) The decision was made to study this population in detail.
*   Phase 2 – focus on new neurosurgical/neurological/stroke patients in the period July – October 2007 with data collection extending until January 2008 when the last patient was decannulated. Specific clinical indicators that were tracked included mobility, Glasgow Coma scale, respiratory status and use of speaking valves and other co-morbidities.
*   Phase 3 – feedback, clinical discussion/teleconferencing across participating sites, conference presentations and journal article (Jan – August 2008)

## 2. RESULTS

Q 1  The project did establish the number and type of patients with tracheostomy**.**

Q2  The definition of slow to wean patients was established as patients taking longer than the average across the whole group to wean ( 15 days)

Q3  None of the flagged clinical indicators were found to be reliable indicators.  This could be related back to the lack of uniformity of practice within and across the hospitals in the sample eg GCS was interpreted differently between wards in the same hospital as well as across hospitals; surgical procedures are different across hospitals resulting in different acuity of patients such as the decra group, the speaking valve indicator was confounded by different work practices across sites such as routine versus discretionary insertion  and in addition the data provided from sites was often incomplete.
Consequently the data collection phase of the project expanded to allow the project office to personally check data details with site clinicians**.** Although this process of data validation was time consuming it did raise useful clinical questions and information about the different patient management approaches.

Q4.  The project did allow for a sharing of protocols and procedures between hospitals which included a range of models of care from hospital wide trache teams to specific unit based teams.

Q5.  The project did not establish best practice management guidelines however it threw up unexpected and valuable questions at every site which need to be explored around
*   Differences in complexity of patients
*   differences in clinician experience and clinician exposure
*   differences in models of care and medical/allied health work practices within and across hospitals

Management guidelines range from strict adherence to more conservative protocols by less experienced staff to discretionary use of protocols by more experienced clinicians. Clinical protocols are not supported by research and evidence base.

The project did confirm this is an area of high allied health demand (mainly Speech Pathology and Physiotherapy) and role change where responsibility has been slowly shifting from medical and nursing staff over time to allied health staff for example in choice of trache tubes etc Associated with this has been high levels of stress as allied health staff struggle to provide patient and carer support, education, counselling and progress discharge planning with very complex brain injured patients.

## 3. OUTCOMES

- **Two platform presentations**
  - *Identifying slow to wean tracheostomy patients: A National Allied Health Benchmarking Consortium investigation of factors that delay or facilitate decannulation.* Brooke Duggan,  13th National Health Outcomes Conference, Canberra, April 2008
  - *Identifying slow to wean tracheostomy patients and the factors which facilitate decannulation: does speech pathology intervention make a difference?* Kelly Read, Speech Pathology Australia Conference , Auckland, May 2008

 - **One conference paper (** in process of finalisation) – to be submitted to a clinical journal

- **Follow up** f**unding proposals ( see below)**

## 4. WHERE TO FROM HERE – CLINICAL FOCUS

The trache benchmarking project demonstrated  clearly that  more work needs to be done to identify clinical indicators that could predict a patient's readiness to commence preparation for decannulation( ieQ3) As indicators can only be successfully tested if confounding variables can be controlled, it was decided to confine any follow up study to the one hospital . PAH was found to treat the largest number of trache patients amongst the participating hospitals.  Submissions were then made to other funding bodies to follow up this  project at the PAH.

A $2000 Clinician Research Grant from Speech Pathology Australia has been awarded to Kelly Beak ( Read) : *Optimising tracheostomy management: an investigation of speech pathology practice in the "pre-decannulation" phase*. This will fund a project officer in 2009 to complete a  retrospective chart audit from a 4 year period ( estimated to be 150 charts), statistical analysis and write-up based on Princess Alexandra Hospital patient data excluding ENT and Spinal Unit patients.  An existing multidisciplinary data tool ( the Trache Education and Management Service TEAMS data base)  will be used.

Another research proposal relating to the development of a clinical reasoning tool was unsuccessful but will be resubmitted in the future. It is envisaged that a further 1-2 clinical journal articles and additional platform presentations will result from the NAHBC funded work and that these will acknowledge NAHBC.

## 5. WHERE TO FROM HERE - NAHBC
The project does raise some other learnings and issues which are of  more generic nature

- Impact and value of multidisciplinary models of care
- Issue of  emerging extended scope of clinicians with these complex intensive  patients
- Practical issues relating to multi-site projects of this type  ? clinical question needs to be defined as specifically as possible and more time allowed for data  management - ? could we check back with results and learnings from other multi-centre NAHBC projects ( stroke, hip)
- Results  could be reported in a non discipline specific journal like Australian Health Review.