Ballarat Health Services Research Symposium 2012

Thursday, September 13 – Education Resource Centre, Lecture Theatre, Base Hospital.

2 to 3pm Pre-Symposium Workshops (concurrent - limited numbers - registration only)
• An inside guide to research at the BHS Library: an overview of tools, databases and resources to assist researchers. Mrs Gemma Siemensma
• How NOT to make a research poster. Assoc Prof James Hurley
• Quality improvement projects: How to start on the research continuum. A/Prof Bev Phillips

3.15pm Registration and Afternoon Tea

3.30pm Welcome: Dr Susan Shea

Opening and keynote address: Associate Professor Philip Reasbeck, Executive Director Medical Services; Chair, Research Advisory Committee

3.50pm Session 1
Presentations
• Evaluation Of The Exercise Therapy Pre-Exercise Screening Assessment: Repeat Audit 2011 Jessica Seater, Megan Charity, Kerry Walsh, Bev Phillips
• Observation And Response Chart Project: Leanne Shea, Angie Spencer, Jason Wiseman

Snap Shots
• Implementing Supportive Care Screening For Newly Diagnosed Oncology Patients At BHS  Kerry Davidson, Angie Spencer
• An audit of B12 deficiency in the elderly ED population in Ballarat  Claude Fahrer
• The Taboo Topic – Nurse Practitioners In Regional Victoria  Regina Kendall

Presentations
• Radiation Dose Reduction In Coronary Angiography  Gerard Wheeler, Huy Nguyen
• Acute Postoperative Pain Review Leigh Macdonald, Sanjay Sharma, Fred Rosewarne, Louise Humble

5pm Poster viewing and refreshments

5.20pm Session 2
Presentations
• Collaborative Group and Investigator Initiated Oncology Trials: Feasible At A Regional Oncology Unit? Geoff Chong, Carmel Goss, Su-Ann Hampson, Rebecca Gurnett, Lee Na Teo, Kate Hamilton
• Physiotherapy Following Upper Abdominal Surgery: Repeat Audit Following Service Provision Change  Nick Halliburton, Bev Phillips, Georgie Kemp

Snap Shots
• Endotoxemia In Sepsis, An International Ballarat Based Collaboration  James Hurley, Bertrand Guidet, George Offenstadt, Eric Maury
• 6-Pack Falls Prevention  Denielle Beardmore

Presentations
• Grampians Region Cognitive Dementia And Memory Service(CDAMS) Clinic: Evaluation And Audit Mark Yates, Vaibhav Tyagi, Steve Muhi
• Evaluation Of The Effectiveness And Acceptability Of A Bed-Exit Sensor Alarm In A Sub-Acute Ward  Anna Wong Shee, Bev Phillips, Keith Hill, Karen Dodd

6.30pm Panel discussion
‘Demystifying Research’ Assoc Prof James Hurley

7pm Close
Welcome!
The Members of the Ballarat Health Services Research Advisory Committee, welcome all
delegates to the 2012 Ballarat Health Services Research Symposium.

The aim of the Research Symposium is to provide a forum for the presentation and discussion
on research conducted by staff and our partners at Ballarat Health Services.

Members of the Ballarat Health Services Research Advisory Committee:

- **Associate Professor Philip Reasbeck**
  Executive Director Medical Services and Chair, Research Advisory Committee
- **Dr Susan Joy Shea**
  Clinical & Research Governance Officer BHS
  Secretary BHSSJOGH Human Research Ethics Committee
- **Ms Leanne Shea**
  Executive Director Nursing Services and Midwifery
- **Adjunct Associate Professor Bev Phillips**
  Associate Professor of Allied Health
- **Associate Professor James Hurley**
  Professor of Medicine
- **Professor Joseph Ibrahim**
  Clinical Director – Subacute Services
- **Associate Professor Abdul Khalid**
  Mental Health Representative
- **Ms Carmel Goss**
  Clinical Trial Manager – Medical Services
- **Mrs Gemma Siemensma**
  BHS Library Manager
- **Ms Sue Gervasoni**
  Executive Director Residential Services

Acknowledgement:
The Ballarat Health Services Research Advisory Committee would like to acknowledge
that support was provided for the Research Symposium through an unconditional
education grant.

For further information on this Research Symposium or the BHS Research & Ethics Service, please
contact Dr Susan Shea, Conference Convenor researchethics@bhs.org.au
In the past year BHS Research and Ethics Service (R&ES) continued to manage on behalf of both BHS and St John of God Hospital Ballarat a busy and rapidly growing collaborative relationship overseeing and managing research conducted within our health services, community and the Grampians region. Research has more than doubled in the 2011-2012 year with 76 new projects registered compared to 35 in the previous year, and a current total of 172 active studies. The graph below shows ethical review of new research applications activity. Participation in multi-site clinical trials of drugs or devices under the Department of Health Victoria (DoH Vic) Centralised Ethical Review Process has also grown with another seven trials commenced this year adding to five from the previous year, for a total of 14 monitored by BHS R&ES in the region. New research was reviewed and processed by BHS R&ES for the following partners in the past year: East Wimmera Health Service, Stawell Regional Health, Beaufort and Skipton Health Service, Ballarat Hospice Care, Wimmera Healthcare Group, Maryborough District Health Service, Rural North West Health, Dunmunkle Health Services, Djerriwarrh Health Service, East Grampians Health Service, Hepburn Health, Ballarat Cancer Research Centre, Ballarat Oncology and Haematology Service, Ballarat Day Procedure Centre, and Ballarat and District Division of General Practice.

Key achievement
By January 2012 the separation between Research Ethics and Research Governance processes led by the National Health and Medical Research Council (NHMRC), DoH Vic and Victorian Managed Insurance Authority (VMIA) was implemented via the electronic Australian Research Ethics Database (AURED) web-portal.

Clarity and guidance from the NHMRC, DoH and VMIA has further defined the regional role of BHS as a single point of contact through which research is managed and supported so our patients and community have access to the latest evidence-based therapies and services.
Abstracts Session 1

Ballarat Health Services

Research Symposium 2012
Evaluation of the Exercise Therapy pre-exercise screening assessment: repeat audit 2011

Author  
*Jessica Seater¹, Megan Charity², Kerry Walsh³, Bev Phillips⁴

1, 2. Exercise Physiologist, Ballarat Health Services, jessicas@bhs.org.au
3. Clinical Manager Exercise Therapy, Ballarat Health Services
4. Adjunct Associate Professor Allied Health Ballarat Health Services and La Trobe University

Background
The results of an audit of pre-exercise screening assessment conducted by Exercise Therapy in 2009 found that risk assessment was not consistently performed by exercise physiologists, according to evidence-based practice guidelines. Specific assessment protocols for particular conditions were needed, in particular the mandatory recording of blood pressure (BP).

Objectives
To evaluate the changes made in ascertaining a patient’s risk status for exercise, including routine measurement of BP and specific tests for a more detailed assessment.

Methods
Data for 32 patients referred to the Exercise Therapy gym or hydrotherapy based programs during a 1 month period from June to July in 2011 were collected from the Physical Activity Readiness-Questionnaire (PAR-Q) and the Assessment Record completed as part of the initial assessment. An exercise physiology student used an audit tool to record information and assessment measures taken by four exercise physiologists. Data were entered into Microsoft Excel and analysed using SPSS software (v.18.0) to provide descriptive statistics.

Results
Completion rate of the PAR-Q improved from 69% at the baseline audit to 100%. In the repeat audit, Risk stratification was recorded for all 32 patients compared to the baseline audit, in which only one (4%) patient had their risk classified. Resting BP, heart rate (HR) and oxygen saturation was recorded in 90% of patients, compared to the baseline audit where resting BP, HR, and oxygen saturation were measured in 27%, 34% and 23% of patients respectively. The provision of a resource manual containing standardised assessment tools for a number of conditions enabled therapists to collect sufficient information during assessment to ensure appropriate risk assessment and provision of an exercise program.

Conclusions
The repeat audit demonstrated that the changes put in place after the baseline audit improved the content and recording of the exercise therapy assessment. Improvements made to the screening process ensured that therapists assess the patient’s risk for exercise more accurately and use informed clinical judgement for exercise prescription.

Implications for Practice and Ballarat Health Services
Training of all staff in well defined protocols have ensured the use of standard screening and risk assessment methods, leading to safe and optimal patient care.
The Australian Commission on Safety and Quality in Health Care and the University of Technology of Sydney: Observation and Response Chart (ORC) National Research Project

Authors
Leanne Shea¹; Angie Spencer², Jason Wiseman³
1. Exec Sponsor, Director of Nursing, Ballarat Health Services
2. Clinical Lead, Ballarat Health Services
3. Site Project Officer, Ballarat Health Services

Background
The Australian Commission on Safety and Quality in Health Care implemented a program of work on Recognizing and Responding to Clinical Deterioration, which focuses on ensuring that hospital patients whose clinical condition deteriorates receive appropriate and timely care. The Observation and Response Chart (ORC) project formed an element of this program.

Objectives
The project objectives were to examine whether the ORC's:
1. Were suitable for observations of adult medical/surgical patients, and prompt a response for episodes of clinical deterioration
2. Had any sections that required modification
3. Could be introduced and applied in practice with minimal training

Method
Ten clinical sites were selected across all state jurisdictions. Site based project officers were seconded. Participating sites selected 1 of 5 ORC’s for trial, developed by the School of Psychology at University of QLD, using human factors research and heuristic analysis. There were 2 phases to the project in the selected clinical areas:
1. Usability Testing Phase and 2. Pilot Testing Phase

Results
1. Usability Testing Phase: Overall findings indicated the majority of participants found the ORC’s usable in clinical practice and suitable as a prompt for observed clinical deterioration; implemented with some specific information and training; some sections of the ORC required modification

2. Pilot Testing Phase: Whilst the Pilot Phase project report is not yet available, the overall feedback from participating BHS acute clinical wards related to the necessity to complete documentation on multiple other charts and the difficulty encountered with accessing medical staff for clinical patient reviews and documentation of modifications to physiological observations.

Conclusions
Whilst the evidence base regarding recognition and response systems for clinical deterioration is still developing, measurable physiological abnormalities occur prior to adverse events such as cardiac arrest, unanticipated admission to intensive care and unexpected death. These signs can occur both early and late in the deterioration process. Regular measurement and documentation of physiological observations is an essential requirement for recognising clinical deterioration. Observation charts should be designed according to human factors principles and include clinical parameters and other factors that trigger escalation of care.

Implications for Practice and Ballarat Health Services
The ORC selected for trial by BHS participating clinical areas as part of this project is still in use and requires further review through the establishment of a Deteriorating Patient governance group.
Implementing Supporting Care Screening for Newly Diagnosed Oncology Patients at BHS

Authors  *Kerry Davidson¹, Angie Spencer²

¹  Project Officer Supportive Care, Ballarat Health Services
²  DON Medical and Critical Care Services, Ballarat Health Services

Background
In 2008 the Victorian Department of Health (DoH) released the Victorian Cancer Action Plan (VCAP) which identified the need to create better experiences of cancer patients and their carers. It acknowledges that quality cancer care includes the delivery of both anti-cancer therapy and supportive care. As such, the Providing Optimal Cancer Care Supportive Care Policy for Victoria was released in 2009 stipulating the need to incorporate Supportive Care screening into routine practice for newly diagnosed cancer patients.

Objectives
To ensure 50% of newly diagnosed oncology patients are provided with the opportunity to participate in screening of their supportive care needs.

Method
A project officer was employed at BHS for an initial 2 year period to undertake scoping and develop a project brief that would result in the introduction of Supportive Care screening as routine practice for all newly diagnosed patients in selected roll out sites.

The creation of a Supportive Care Steering Committee and User Group provided forums to guide project implementation and to develop resources aimed at training and education and supporting staff in developing the required competencies to undertake Supportive care screening.

Results
Supportive Care Screening has successfully been rolled out and is now a feature of routine practice for newly diagnosed oncology patients when they present to Day Oncology for treatment or 4 South for inpatient stay.

Monthly audits are undertaken to track progress against the 50% target set by the DoH. To date, variation in screening numbers across respective months has been evident and further work is underway to understand the issues pertinent to screening activities in these settings.

A further phase of the project commenced in May 2012 will look to roll out screening more broadly across the health service. Scoping to explore the possibility of roll out in the outpatient setting is currently underway.

Conclusions
The introduction of Supportive Care screening for newly diagnosed patients has provided an opportunity to identify a range of factors that may negatively impact on the cancer patient during the course of their treatment. Through early detection and intervention, treatment compliance is increased leading to better outcomes for both the individual patient and the hospital.

Implications for Practice and Ballarat Health Services
Supportive Care Screening provides an avenue for a patient centred approach that enables the patient to be placed centrally in identifying the range of issues that are apparent for them at that time. Screening enables an opportunity to consider and plan for the holistic needs of the patient.
An audit of B12 deficiency in the elderly ED population in Ballarat

Authors
Dr Claude Fahrer
Emergency Department Registrar, Ballarat Base Hospital

Background
Primary hypothesis:
Vitamin B\textsubscript{12}, deficiency is associated with increased length of stay (LOS).
Secondary outcomes:
B\textsubscript{12} deficiency is associated with increased LOS in subgroup analysis (infective, atherosclerotic/thrombotic and CNS groups)
Correlation of B\textsubscript{12} vs. 30 day re-presentation rate, PPI, and mean cell volume (MCV).

Method
After ethical approval, consenting patients aged \geq 65 presenting to the BBH ED who had blood drawn as part of their care had B\textsubscript{12} and folate levels assayed. Levels were correlated with length of stay (LOS), 30 day readmissions, diagnostic group, MCV, medications thought to interfere with B\textsubscript{12} absorption (PPI, H\textsubscript{2} antagonists, metformin).

Results
There was a significant correlation between decreasing B\textsubscript{12} and increasing LOS (p=0.008). This was present for the subgroup with an infective focus (p=0.03).
30 day representation was 30.2% (98/324). Distribution was no different from the overall B\textsubscript{12} sample distribution. (p=0.30, 95% Cl:-160 - 49.5).
B\textsubscript{12}, levels and PPI ingestion correlate at nearly significant (p=0.07) levels; for men, it was highly significant (p=0.016, PPI 448 vs. no PPI 328, 95% CI 22-217), for women not (p=0.98). This contradicts NHMRC guidelines.

There was no correlation between macrocytosis (MCV) and B\textsubscript{12} (p=0.34).

Conclusions
Primary outcome measures:
Correlation between decreasing B\textsubscript{12} and increasing LOS was significant.
Secondary outcome measures:
Correlation between decreasing B\textsubscript{12} and increasing LOS in the sepsis subgroup was significant.
30 day representation rates mirrored population distribution of B\textsubscript{12} and were not significant.
PPI appears to have a protective rather than detrimental on B\textsubscript{12} levels as previously reported.
A comparison of B\textsubscript{12} vs. macrocytosis demonstrated no correlation.
Further study is recommended to investigate treatment of Vitamin B\textsubscript{12} deficiency and potential reduction in hospital LOS.
The Taboo Topic – Nurse Practitioners in regional Victoria

Author
Regina Kendall
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Background
The Grampians region covers 48,000 square kilometres in Victoria, Australia. With a population base of 225,000 people, the challenges of providing adequate specialist nursing are high. We undertook a model development project to define the role and responsibilities of a Palliative Care Nurse Practitioner within the Grampians region. This project included establishing systems to support the development and implementation of a Nurse Practitioner Service within the Grampians Regional Palliative Care Team. It was thought that the introduction of Nurse Practitioner’s would increase palliative provision to increase support for patients wishing to die in the place of their choice. The Grampians region did not have any Nurse Practitioner's in any field working in the region until this role, therefore approaching the introduction was fraught with hurdles and barriers.

Objectives
Four areas that the project addressed were:

1. Understanding local demand and opportunities
2. Shaping the service model for NP’s
3. Priming the organization for NP’s
4. Preparing the Nursing Workforce

Results
As a result of this project, A Palliative Care Nurse Practitioner has been implemented within the Grampians Regional Palliative Care Team in August 2011. The role, whilst new, has been widely accepted within the acute and community care settings and provides greater responsiveness and accessibility to palliative care services within the region.

Conclusion
The implementation of the first Nurse Practitioner position in the Grampians region has now engaged key stakeholders and begun conversations around model development and implementation of Nurse Practitioner's into other specialties of nursing in the region. Lessons learnt will be invaluable as we develop advanced practice models that focus on improved patient outcomes.

Implications for Practice and Ballarat Health Services
Future model development of Nurse Practitioner roles will be explored with a view to implementation where gaps in service are identified.
Radiation Dose Reduction in Coronary Angiography

Authors  Gerard Wheeler*¹ and Huy Nguyen²
1,2   Senior radiographers, Cardio-vascular suite, Ballarat Health Services

Objectives
To examine various methods of radiation dose reduction during coronary angiography, in particular, the role of x-ray image frame rates and, automated contrast injections versus a two operator, manual injection technique.

Method
A literature search of commonly used dose reduction techniques was undertaken and in addition, quantitative measurements of total image numbers acquired at our site, both with and without visible contrast enhancement, were compared between the two injection techniques. Images acquired without contrast enhancement were deemed not of diagnostic value and thus an unnecessary contribution to total dose.

Results
Data collated from studies at our centre showed that whilst the manual injection technique could approach the efficiency of the automatic method on occasions, it was far less consistent and more prone to communication breakdowns, especially in pressure situations or with trainee personnel. These inefficiencies are compounded the greater the frame rate (frames per second -f/s) utilised.

Conclusions
In the implementation of the ALARA (As Low As Reasonably Achievable) principle, we should be cognizant of the need to minimise as much as possible the number of x-ray exposures acquired and thus reduce the dose received by both patients and operators alike. Thus, the use of the lowest diagnostically acceptable frame rates, in conjunction with other dose saving measures such as automated injection techniques can lead to substantial dose and cost savings and be relatively easily implemented.

Implications for Practice and Ballarat Health Services
A reduction in radiation doses to both patients and operators consistent with the implementation of the ALARA principle, related cost savings, infection control and productivity improvements.
Acute Postoperative Pain (APOP): quality improvement initiative

Authors

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4. CNC, Pain Management Ballarat Health Services

Background

This study was conducted in response to patient reported post-operative pain levels and limited previous research conducted in the areas of post-operative pain management.

Objectives

1. To measure patients pain regularly
2. Ensure all postoperative patients receive safe and effective analgesia
3. Monitor effects and side effects of pain treatment
4. Communicate effectively to both patients and primary healthcare professionals at discharge to continue appropriate evidence-based treatment of patient pain levels.
5. Pain assessment, Analgesic prescribing, Communication at point of discharge

Method - Quality improvement initiative

- Ethics approval was obtained from the Hospital Ethics Committee.
  - Data was collected from General Surgery patients.
  - Patients admitted for >48 hours post surgery excluded.
- Intervention/education regarding pain management provided to treating staff.
- Patients reports of pain were monitored and treatment was modified to ensure maximum effect with minimal side effects.

Results

- Drug name, dose and frequencies were documented. A large percentage of patients were discharged with simple analgesics. Minimal usage of sustained release opioids was obtained due to increased monitoring and increased collaboration between treating staff.

Areas for future research:

- Continued documentation of pre-operative pain education.
- To decreasing patients discharged with opioids that the patient has not taken prior to discharge.
- Increased monitoring of usage of PRN medications for side effects.

Conclusions

The current level of communication at discharge is the bare minimum legally. Communication of analgesic regimes to GP and other treating staff is poor and no further patient documentation apart from scripts is currently common practice.

Further evaluation using remaining sections of APOP assessment is required including a review of inpatient medications, pain scores and post discharge interview.

Continued research in the area of post-operative pain management will continue to improve patient pain outcomes and ensure best-practice management throughout inter-disciplinary teams.

Implications for Practice and Ballarat Health Services

Decreased pain reported from post-operative patients leading to improved patient recovery reports. Continuing feedback on audit of current practice, ongoing education and ongoing monitoring will continue to improve patient pain outcomes and professionals knowledge of best-practice pain management.
Abstracts Session 2

Ballarat Health Services
Research Symposium 2012
Collaborative group and investigator initiated oncology trials: feasible at a regional oncology unit?

Authors

Geoff Chong¹, Carmel Goss², Su-Ann Hampson³, Rebecca Gurnett⁴, Lee Na Teo⁵, Kate Hamilton⁶

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² Clinical Trials Manager, Ballarat Health Services
³ Oncology Clinical Trial Co-ordinator, Ballarat Health Services
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⁵ Medical Oncologist, Internal Medicine, Ballarat Health Services
⁶ Medical Oncologist, Internal Medicine, Ballarat Health Services

Background

Collaborative group and investigator initiated clinical trials are critical to oncology research in order to answer important questions independently of industry sponsorship. This type of research, however, is poorly funded and relies largely on the goodwill of investigators and research sites. Patients living in rural/regional areas have poorer access to such trials due to their distance from metropolitan centres.

Objectives

To demonstrate the ability of a regional oncology unit to accrue to collaborative group and investigator initiated oncology trials.

Method

All oncology trials open at BHS from 2006-2012 were reviewed and collaborative group and investigator initiated trials identified. Accrual figures for each trial were confirmed.

Results

Since 2006, 10 non-pharma sponsored oncology trials have been approved by HREC and commenced accrual at BHS. 9 were collaborative group (AGITG, ANZBCTG, TROG) and 1 was investigator initiated. 9 trials were randomised phase II or III trials, one was a non-randomised phase II trial. Eligible tumour types included colorectal cancer (36 patients accrued), breast cancer (5 patients) and lymphoma (1 patient). Total accrual to date is 42 patients. 4 trials have been completed and reported to date; 3 in high-impact peer-reviewed journals (J Clin Oncol, Eur J Cancer) and one in abstract form (ASCO 2012). 3 trials have closed to accrual and are in follow-up. 3 trials remain open to accrual.

Conclusions

Accrual to collaborative group and investigator initiated oncology trials is feasible at a regional centre, allowing the participation of patients who otherwise would not have had local access to these trials.

Implications for Practice and Ballarat Health Services

We intend to continue and expand the portfolio of collaborative group and investigator initiated trials in order to broaden patient access and contribute to improving cancer treatment outcomes.
Physiotherapy following upper abdominal surgery: Repeat audit following service provision change

Author
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2. Adjunct Associate Professor of Allied Health and La Trobe University
3. Physiotherapist, Ballarat Health Services

Background
Patients who undergo upper abdominal surgery (UAS) are at risk of developing a post-operative pulmonary complication (PPC). Evidence supports post-operative physiotherapy for high risk patients, however, there is strong evidence showing no significant benefit of routine prophylactic physiotherapy following UAS in the prevention of PPC.

Objectives
To determine any change in incidence of PPC following the physiotherapy service provision change recommended from the original audit in 2007.
To identify whether pre-operative assessment was effective and determine any trends to predict those at risk of developing PPC.

Method
All patients planned for open or laparoscopic UAS were seen pre-operatively by physiotherapists. A clinical audit was completed, initially looking at all open UAS procedures in keeping with the audit in 2007. However, due to a significant decrease in the use of open procedures, laparoscopic and emergency procedures were included.

Results
Nine of 39 patients audited, met the inclusion/exclusion criteria, compared to 39 patients in the 2007 audit. This was due to significantly fewer laparotomies being performed. The incidence of PPC from the re-audit was 33%, however due to cohort differences, no clear comparisons could be made with 15% incidence in the initial audit. In the re-audit there were no differences in PPC rates regardless of whether patients had pre-operative physiotherapy or not. The laparoscopic group had fewer PPCs (5.9%) and were mobilised earlier (Day 2) compared to the laparotomy group (32%) and after Day 3 respectively.

Conclusions
The small sample size and different cohort of patients in the re-audit limits the comparison with the results of the 2007 audit. For all upper abdominal surgery patients, early mobilisation needs to remain a priority for all staff.

Implications for Practice and Ballarat Health Services
A checklist is being used at Pre-admission Clinic to identify high risk patients and provide pre-operative education. This checklist will be adapted to identify high risk patients post-operatively. Regular education to ward staff on identifying signs of PPC and importance of early mobilisation is to be provided by physiotherapists. All UAS patients admitted to ICU/HDU will be screened by physiotherapists and treated accordingly.
Endotoxemia in sepsis, an international Ballarat based collaboration

Author
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Bertrand Guidet, Georges Offenstadt, Eric Maury, Intensive Care Unit, Saint-Antoine Hôpital, Paris, France

Background
There are conflicting conclusions regarding the prognostic value of endotoxemia detection in patients with sepsis among over thirty studies in various ICU and non-ICU settings and less than two thirds of patients with gram negative (GN) bacteremia have endotoxemia detected and vice versa.

Objectives
To evaluate the GN bacteremia species type and underlying patient risk as possible confounding factors of the prognostic value of endotoxemia as detected using the limulus assay in published clinical studies.

Method
Meta-analysis of published studies with ≥10 patients, endotoxemia detection by limulus assay, reporting mortality proportions and ≥1 GN bacteremia. Authors from ten different international centers provided additional data to enable inclusion. The results are presented as summary odds ratios together with forrest and L’Abbé plots.

Results
The mortality risk in association with the detection of endotoxemia or GN bacteremia either alone or together versus the detection of neither is generally either non-significant or borderline (OR <2) when derived from only the 8 studies in an ICU setting. The co-detection of GN bacteremia and endotoxemia is most predictive of increased mortality risk versus the detection of neither but only in studies undertaken outside of an ICU setting.

Conclusions
Variation in GN bacteremia species types and underlying risk are likely unrecognized confounders in the individual studies.

Implications for Practice and Ballarat Health Services
International collaborative research can be initiated and undertaken at Ballarat.
6-Pack Falls Prevention Program

Authors
Denielle Beardmore¹
¹. Director Nursing, Education and Practice Development, Ballarat Health Services

Background
The 6-Pack program is a targeted nurse delivered program whereby the nurse assesses the patient’s falls risk using a simple tool and six nurse delivered interventions for high falls risk patients.

Twenty-four wards from six acute hospitals in Victoria, New South Wales and Queensland have been recruited to participate in the program

Objectives
The aim of the study is to compare an evidenced based falls prevention program- the 6-Pack- to current standard falls prevention practice in acute hospitals.

Method
The project will take 2.5 years to complete and conducted in 3 main phases.

- Phase 1 (Sept-Dec 2011)
  Base line data collection. Data collected to gain an understanding of what the current problem of falls looks like on participating wards.

- Phase 2 (Jan-Dec 2012)
  Random Controlled Trial (RCT) data collection. At the start of this phase wards were randomised to the 6-Pack ‘intervention’ or ‘control’ wards. During this time ‘intervention’ wards will implement the 6-Pack program while the ‘control’ wards will continue with standard care.

- Phase 3 (Jan-Dec 2013)
  Sustainability phase. Researchers continue to monitor what happens to the falls and fall injury rates after the RCT has ended.

Results
Outcomes to be measured include impact on falls and fall injuries, safety climate, hospitalisation costs, staff satisfaction and sustainability.

Conclusion
There will be the potential to roll out the program hospital wide at the end of the trial if shown to be effective.

The findings could have a significant impact on the design, implementation and management of falls prevention programs in Australia and internationally.

Implications for Practice and Ballarat Health Services

- It is expected patient falls injuries will reduce by 30% in the year following the implementation. As such, positives for the health and well-being of patients.
- Staff will gain skills in effective falls prevention through partnering with some of Australia’s top falls prevention researchers and clinicians.
- Hospitals gain detailed insight into their current falls prevention practice that can be benchmarked against other hospitals participating in the project.
- Ongoing support by an experienced team throughout the project.
Grampians Region Cognitive Dementia And Memory Service (CDAMS) Clinic: Evaluation And Audit

Authors  Mark Yates¹, Vaibhav Tyagi², Steve Muhi³

1. Associate Professor Ballarat Health Services, Deakin University and Melbourne University
2. Senior Medical Registrar, Ballarat Health Services
3. Medical Student, Deakin Medical School, Grampians Clinical School

Background
CDAMS is a Victorian government initiative; It is the only public service available for people with memory and thinking problems. It involves multidisciplinary approach and interventions including early diagnosis of dementia. Grampians CDAMS clinic has been audited thrice in the last 12 years since its commencement in 1998.

Objectives
To collect information related to demographic and clinical client profile, carer characteristics and the carer burden, the key performance indicators set by the DHS (Department of Human Services), and the quality and usefulness of service provided. The aim is to use this information for improving the services and identifying areas of unmet needs.

Method
A retrospective study of 100 dyads of carer and clients chronologically, analysing demographic, clinical profile, key performance indicators as per Department of Human Services. Carer burden score (Zarits burden interview), scope of care planning as per family meeting data sheet.

A prospective analysis of 50 carers of clients who have completed CDAMS evaluation in previous 6 weeks selected chronologically from the date of initiation of the study. The analysis would consist of carer burden, satisfaction survey, assessment of care plan utility and access to service. A written informed consent would be obtained as per the prevailing guidelines and according to ethics and institution policy from the client of the carer participating in the study.

Results
The study is ongoing and the preliminary information points towards the following:
1. Diagnosis of dementia at higher MMSE scores than in the past 10 years.
2. Variance in carer burden.
3. Need for more resources.

Conclusions
This audit would evaluate the client characteristics, study the carer profile and carer burden which would be valuable given paucity of national data regarding above.

Implications for Practice and Ballarat Health Services
It would help in determining efficiency, effectiveness of our service and would try to explore areas which need improvement and areas of unmet need all of which would improve clinical care and decrease the morbidity aiming to improve dementia care and impacting positively on trying to reduce the community burden of care. It would also be helpful in using the available time and resources for maximal outcomes.
Evaluation of the effectiveness and acceptability of a bed-exit sensor alarm in a sub-acute ward

Authors
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2. Adjunct Associate Professor Allied Health Ballarat Health Services and La Trobe University
3. Curtin University, Perth, WA
4. Latrobe University c/o Ballarat Health Services, 102 Ascot St South, Ballarat

Background
Bed-exit alarm devices are commonly used in health care facilities, however their overall effectiveness has not been well established.

Objectives
This study aimed to evaluate the effect of an electronic sensor alarm system on fall incidence rates in a sub-acute ward, and to evaluate nursing staff satisfaction with the system.

Method
This study was conducted in Inpatient Complex Care (ICC) ward at Ballarat Health Services. Inclusion criteria were: cognitive impairment (Mini Mental State Examination score <25); high falls risk (THN-STRATIFY score ≥3); sustained ≥1 falls in current ICC admission or in previous 21 days during a consecutive hospital admission; required frequent toileting or was incontinent; and required supervision/assistance for mobility. Fall data were collected for three 21 day periods, pre-intervention, intervention (use of electronic sensor alarm) and post-intervention. Fall rate comparisons utilized incident rate density (ID) calculations. Nurse satisfaction data were analysed with thematic analysis.

Results
Thirty-four participants (9 single fallers, 25 recurrent fallers), average age 85 years, were included. There was a significant decrease in the fall ID from 2.92 falls/21 bed days in the pre-intervention period to 1.86 falls/21 bed days for the intervention period using the electronic sensor alarm system (z=2.239, p=0.025). Most falls (n=150; 98%) resulted in minor or no injury. Most staff (91.7%) found the bed sensor alarms useful for monitoring patients who were getting out of bed. Differentiating the electronic sensor alarm from other call bell events was a limitation.

Conclusions
Study findings indicate the electronic sensor alarm system may be effective in reducing the fall incidence rate in high fall-risk, cognitively impaired, patients in the sub-acute setting. This finding is important as there is limited previous research into fall prevention strategies for cognitively impaired patients.

Implications for Practice and Ballarat Health Services
The electronic sensor alarm system was effective at preventing falls and staff reported several advantages of this system over the existing floor sensor mats. Widespread implementation of this electronic sensor alarm system involves substantial cost. Cost-benefit analysis of the electronic sensor alarm system should take into consideration the cost of patient falls due to increased length of stay, mortality, morbidity and associated medical costs.
Ballarat Health Services Digital Repository

What is a digital repository?

The digital repository seeks to capture the intellectual output and preserve the historical material of Ballarat Health Services. It is a way of managing, storing and providing access to the organisation’s digital content.

What will it include?

**Research Output**
- Published journals
- Book chapters
- Conference papers
- Thesis and dissertations
- Reports

**Historical Archive**
- Images
- Internal newsletters (eg. Health Matters)
- Annual Reports
- Newspaper clippings
- Sound clips (podcasts)
- Recordings (eg. Documentaries, tv interviews)
- Internal reports (eg. Governance Doc Reports)
- Slides

**Why?**
- Increased access to resources
- Professional visibility
- Better preservation
- Supports research, learning and teaching

This supports the NHMRC push for researchers to consider the benefits of depositing their data and any publications arising from a research project. It has also been endorsed by the BHS Board of Management.

For more information please contact the Library Manager, Gemma Siemensma gemmas@bhs.org.au or x94008.