Invited Speakers

Professor Pandharipande

Dr. Pratik Pandharipande MD, MSCI is Professor of Anesthesiology and Surgery, and the Chief of the Division of Anesthesiology Critical Care Medicine at Vanderbilt University Medical Center, Nashville, TN, USA, and President Elect of the American Delirium Society. His research focuses on ICU-associated brain injury (manifested acutely as delirium and chronically as cognitive impairment), and interventions aimed at reducing this burden on patients’ quality of life after critical illness. His papers have been published in NEJM, JAMA and BMJ.

Professor Agar

Dr Meera Agar is the Professor of Palliative Medicine, Faculty of Health, Centre for Cardiovascular and Chronic Care, University of Technology Sydney and Conjoint Associate Professor UNSW. She is the clinical trials director, Ingham Institute for Applied Medical Research. Her research includes clinical trials and health service evaluation in palliative care, and cognitive impairment in delirium, dementia and brain tumours.

Assistant Professor Khan

Dr Babar Khan is a Pulmonologist and Assistant Professor of Medicine at Regenstrief Institute, Inc and Indiana University Center for Aging Research (IUCAR), Indiana, USA. His focus is on the impact of illness on delirium, long term cognitive, physical and psychological morbidity. He is running two randomized trials on delirium.
Invited Speakers

Professor Arora

Dr Rakesh Arora is past President of the American Delirium Society. He is a Professor and Cardiothoracic Surgeon with a Fellowship in Critical Care Medicine, a PhD in neurocardiology, and Director of Research for the Section of Cardiac Surgery and Associate Director of Research for the Department Surgery at St. Boniface General Hospital, Winnipeg, Canada. He has specific interests understanding the impact of delirium, depression and frailty in cardiovascular patients.

Associate Professor Khan

Dr Ariba Khan is a Geriatrician at Wisconsin University and Director of Acute Care for Elders at Aurora Health Care in Milwaukee. Her research focus is on delirium markers, readmissions and mortality, with an emphasis on technology and economics.

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AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE
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| 09:10 | **Keynote:** Prof Pratik Pandharipandhe, Vanderbilt University  
‘Delirium in ICU’                                |
| 10:00 | **Plenary:** Prof Baber Khan, Indiana University  
‘Aging brain care to advanced brain care’           |
<p>| 10:45 | Morning Tea                                                                                 |
| 11:15 | <strong>Delirium: risk factors + recognition</strong>                                                      | <strong>The way forward</strong>                                                                 |
|       | Screening for delirium: a feasibility study of the 4A Test in an orthogeriatric ward       | An audit of melatonin prescribing for delirium treatment and prevention at a large tertiary care hospital |
|       | <em>Dr Jeffrey Chong</em>                                                                         | <em>Ruth Ella Colley</em>                                                                 |
|       | Care of patients with delirium: the Australian Clinical Practice Guidelines in Medical Settings | The Healthy Heart-Mind Trial                                                        |
|       | <em>Emily Tomlinson</em>                                                                          | <em>Dr Andrew Ford</em>                                                                   |
|       | Audit on the Care and Outcomes for Confused Older People in Acute Aged Care in a Tertiary Hospital | Changes in brain activity with delirium – a PET study of cerebral glucose metabolism |
|       | <em>Henry Yao</em>                                                                                | <em>Dr Julia Nelson</em>                                                                  |
|       | The 4AT Study: Validating the 4A’s Test in screening for delirium in an elderly hospital population | Reduced metabolism in the posterior cingulate cortex may underlie inattention during delirium |
|       | <em>Jayita De</em>                                                                               | <em>Lucy Haggstrom</em>                                                                  |
|       | How Registered Nurses recognise delirium in older people in hospital                       | Behavioural emergency in the elderly: the Aggression Response Team in an acute hospital |
|       | <em>Miriam Coyle</em>                                                                            | <em>Dr Daniel Simpkins</em>                                                              |
| 12:30 | Lunch                                                                                      |</p>
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<td><strong>2. Research</strong></td>
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<td>Gideon Caplan</td>
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<td><strong>3. Supportive care of the patient with delirium at the end of life</strong></td>
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<td>Meera Agar, Annmarie Hosie, Elizabeth Lobb and Jane Phillips</td>
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<td><strong>4. Evaluation of delirium for the researcher and clinician</strong></td>
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<td>16:00</td>
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<td>Orthogeriatrics and delirium services</td>
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<td>17:00</td>
<td><strong>Informal gathering at Royal Hotel</strong></td>
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Friday 15 July 2016

09:00 Welcome

09:00 Keynote: Prof Rakesh Arora, University of Manitoba
‘Delirium in the doorway to discharge’

09:45 Launch of Delirium Clinical Care Standards
Australian Commission on Safety + Quality in Health Care

10:45 Morning Tea

11:15 Plenary: Prof Meera Agar, University of Technology Sydney + UNSW
‘Delirium trials in palliative care’

11:45 Systems of Care

<table>
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<td>Delirium prevention strategy in elective surgical patients, at a regional base hospital.</td>
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<td>Dr Matthew Kinchington</td>
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<td>The PiTSTOP study: A feasibility cluster randomised trial of delirium prevention in care homes for older people</td>
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<td>Dr Najma Siddiqi</td>
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<td>Preventing delirium in hospitalised patients: Time to stop doing trials of multicomponent interventions?</td>
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<td>Dr Najma Siddiqi</td>
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<td>Postoperative Delirium: Type of Anaesthesia and Perioperative Medications as Causative Factors</td>
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<td>Blake Hickey</td>
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Caring for Cognitive Impairment
Anne Cumming

Testing of indicators and tools for the Delirium Clinical Care Standards
Sheila Matete-Owiti

Interdisciplinary practice, policy and research to improve delirium care of palliative care inpatients: results from the DePAC project
Dr Annmarie Hosie

Delirium education and practice: closing the doing-knowing practice gap
Dr Andrew Teodorczuk

Implementing a Delirium integrated care pathway: strengths, barriers and practicalities.
Ann Boland

13:00 Lunch
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<tr>
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<td></td>
<td>1. Setting up a model of care for delirium – Judy McCrow + Eammon Eales</td>
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<td>2. Patient videos</td>
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<td>3. Controversy Corner: Delirium – John Death</td>
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<td>Controversy Corner will be an opportunity to informally discuss with your colleagues controversial clinical and conceptual issues relating to delirium.</td>
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<td>4. Introduction to Care of Confused Hospitalised Older Persons (CHOPs) Program</td>
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<td>Catherine Bateman (ACI CHOPS Project Officer/Dementia Delirium CNC SNSWLHD) and Janine Masso (CNC Dementia / Delirium SESLHD)</td>
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<td>16:15</td>
<td><strong>Panel Discussion: Delirium for debate</strong></td>
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![Australian Commission on Safety and Quality in Health Care](image-url)
Screening for delirium: a feasibility study of the 4A Test in an orthogeriatric ward

Dr Jeffrey Chong, MBBS (Hons), Advanced Trainee in Geriatric Medicine, Department of Geriatric Medicine, Fiona Stanley Hospital

Supervisor: Dr Hannah Seymour, MBBS (Hons), MRCP, FRACP, Consultant Geriatrician, Department of Geriatric Medicine, Fiona Stanley Hospital

Aim

To assess current use of delirium screening tools on an orthogeriatric ward, and evaluate the feasibility of using the 4A test for nursing-led delirium screening.

Methods

Patients ≥65 years, admitted with a neck of femur fracture, in a tertiary hospital were eligible for this study. Existing protocols mandate the use of the 4-item Abbreviated Mental Test (AMT4) and Confusion Assessment Method (CAM); a retrospective audit of a 60-day period examined baseline practices of screening. Two interventions were introduced: i) intensive education for nursing staff on delirium, screening, and management, with ongoing feedback; and ii) routine use of the 4A Test. A prospective follow up audit was performed for a 45-day period, and statistical analysis examined impact on clinical practice.

Results

A total of 146 patient records were available for analysis; 94 in baseline period and 52 in intervention period. The rate of incident delirium was 9.57% and 34.62% in baseline and intervention periods respectively. At baseline, nursing staff completed at least one AMT4 in 57.45% of patients. During the intervention period, nursing staff completed at least one AMT4 in 59.62% of patients; the 4A test was completed in the same proportion of patients (59.62%). No statistical association was found between the completion rate of either AMT4 or 4A test, and the presence of either delirium or dementia. Only one CAM was completed in the study period.

Conclusions

The introduction of the 4A test appears feasible, in the context of an intensive education and follow-up programme. Completion rates are comparable, but not superior, to existing use of screening tools.
ORAL PRESENTATION – THURSDAY 14 July

Care of patients with delirium: are the Australian Clinical Practice Guidelines being used in Medical Settings?

Emily J Tomlinson, RN ¹, Nicole M Phillips, Associate Professor ¹, ², Alison M Hutchinson, Professor of Nursing ¹, ², ³

1. Deakin University, Geelong, Australia, School of Nursing and Midwifery
2. Centre for Quality and Patient Safety Research, Faculty of Health, Deakin University
3. Centre for Nursing Research - Deakin University and Monash Health Partnership, Monash Health, Clayton, Australia

Background and Aim
Delirium is an acute disturbance of cognition that is commonly experienced by older people in hospital. Despite its clinical importance, delirium continues to be largely unrecognized by health professionals. There is limited evidence examining if and how the Clinical Practice Guidelines for the Management of Delirium in Older People have been implemented to recognize and care for patients with delirium in the acute medical setting. The aim of this study was to investigate if the Clinical Practice Guidelines have been implemented in acute medical settings in Melbourne, Australia.

Methods
This study involved two phases: (i) a retrospective case-control study examined medical records of patients with delirium admitted between 1st January 2012 and 31st December 2013 to acute medical units at three sites of a healthcare organisation. Data regarding recognition and diagnosis of delirium, cognitive impairment screening, prevention and management strategies, and administration of medications were collected. (ii) A survey of public and private healthcare organisations in metropolitan Melbourne was also undertaken to examine policies for the care of patients with delirium and if they aligned with the Clinical Practice Guidelines.

Results
(i) 161 patients were diagnosed with delirium (cases) and admitted to an acute medical ward. 46 additional patients were identified with possible, but undiagnosed, delirium. Patients were not screened on admission for delirium risk, and cognitive screening was seldom undertaken. Antipsychotic medications were administered frequently and almost half of patients with delirium were administered a benzodiazepine. (ii) Representatives from five private and seven public hospital organisations completed the survey. Of those, three private and four public organisations had a policy for delirium management that reflected the Clinical Practice Guidelines.

Conclusions
Overall management of patients with delirium did not follow established guidelines. The prescription of benzodiazepines was common, despite being contraindicated and the administration of antipsychotics was prevalent. There is significant room for improvements in caring for patients with delirium.
Audit on the Care and Outcomes for Confused Older People in an Acute Aged Care Unit of a Tertiary Hospital

Henry Yao, Mary Britton
Austin Health, Victoria, Australia

Introduction
Traditional hospital care of older people, especially those with confusion, needs improvement. Austin Health changed its model of acute aged care to reflect published guidelines but will soon have to meet standards set by The Australian Committee for Safety and Quality in Health Care (ACSQHC).

Aim
A baseline audit of the process and outcomes of care for confused older patients in an acute setting against published, and anticipated ACSQHC guidelines with benchmarking against reported outcomes.

Method
A retrospective review of the clinical records of 100 sequentially admitted patients.

Results
Mean age, 85(SD 7.4) years. Female:Male ratio, 2:1. Average length of stay, 8.2(SD 7.8) days. 30% of the cohort had a preadmission chronic cognitive impairment. Using the Confusion Assessment Method (CAM) at admission nurses assessed 90% of patients for delirium. Doctors assessed 86% on the post-admission ward round. 29 were identified as confused; 14 with delirium.

Comparing adverse events in confused vs non-confused patients: in-patient falls occurred in 3/29 (10.3%) vs 2/71 (2.8%), urgent medical reviews in 9/29(31% vs 9/71(12.7%) and wounds in 7/29(24.1%) vs 5/71(7.0%) Comparing outcomes: the one year mortality (17.2% vs 13.0%), representation at one week, month and year (0% vs 1.40%, 6.9% vs 12.7%, 44.8% vs 59.2%) were similar. One year readmission was lower for the confused (27.6% vs 56.3%) but the rate of aged care facility (RACF) placement (14% vs 4.2%) was higher.

The delirium subgroup had higher 1 year mortality (21.4% vs 13.0%) and RACF placement (28.6% vs 4.2%) but comparable one year representation (50% vs 59.2%) rates
Confusion was documented in the discharge summary of 16 patients, delirium in 11. Nine patients had confusion follow up plans None were referred to a specialised cognitive assessment service.

Conclusion
The frequency, timing of and tools used in confusion assessment audit well against guidelines. Adverse events, mortality and length of stay benchmark well against reports in the literature. The outcomes for the confused are not worse than for the non-confused. Overall the model and processes compare favourably but further improvements are required.
ORAL PRESENTATION – THURSDAY 14 July

The 4AT Study: Validating the 4A's Test in screening for delirium in an elderly hospital population

Jayita De 1,2, Anne PF Wand 2,3, Peter I Smerdely 1,2, Glenn E Hunt 4,5

1. Department of Aged Care, St George Hospital, South Eastern Sydney Local Health District
2. Faculty of Medicine, University of New South Wales, Australia
3. Older Persons Mental Health Service, St George Hospital, South Eastern Sydney Local Health District
4. Discipline of Psychiatry, Sydney Medical School, University of Sydney, Australia
5. Concord Centre for Mental Health, Concord Repatriation and General Hospital, Sydney Local Health District.

Aim
To evaluate the 4A’s Test (4AT) in screening for delirium in an elderly hospital population from diverse ethnic backgrounds. This novel tool is quick to administer and does not require dedicated training of operators.

Methods
A prospective study was conducted in consenting patients aged 65 years and over, admitted to an acute geriatrics and orthogeriatrics service of a university affiliated tertiary hospital. Participants were screened for delirium with the 4AT by registered nurses within 72 hours of admission. Within 30 minutes of the 4AT assessment, a reference standard diagnosis of delirium was made using the DSM-V criteria by a geriatrician in a clinical interview and the Confusion Assessment Method (CAM) was completed. The expert assessors were blinded to the 4AT score. The IQCODE was completed by carers/relatives to assess for dementia. Interpreters were used for non-English speaking patients.

Results
Two hundred and fifty-seven patients (mean age 85) were recruited over a five month period, of whom ninety nine (39%) did not speak English. Delirium was detected in 159 patients (62%) at the reference standard assessment and 205 (80%) patients had dementia. The sensitivity and specificity of the 4AT were 87% and 80%, respectively in detecting delirium overall, 86% and 71% in people with dementia, and 91% and 71% for non-English speaking patients. The area under the receiver operating characteristic curves for delirium diagnosis were 0.92 in the whole population, 0.89 in the dementia population and 0.90 in the non-English speaking population.

Conclusions
The 4AT is a sensitive and specific screening tool for delirium in older inpatients, including those with dementia or who do not speak English.
ORAL PRESENTATION – THURSDAY 14 July

How Registered Nurses recognise delirium in older people in hospital: Understanding the complexities

Miriam Coyle, Pippa Burns and Victoria Traynor

Aim
To explore how Registered Nurses recognise delirium in older people in hospital.

Method
A qualitative study was undertaken at a regional referring hospital in NSW, Australia. The data were generated from semi-structured group interviews (n=8) with registered nurses (n=24). Participants worked in units that care for older people and self-identified as experienced in delirium recognition. Data were digitally recorded and transcribed verbatim. Concurrent data collection and data analysis was undertaken and thematic data analysis adopted to explain the findings.

Results
Four themes were generated to explain how registered nurses recognise delirium:

1. It’s My Job;
2. It’s Their Job;
3. The Role of the Organisation; and

Qualitative data from the thematic analysis revealed a dichotomy, with Registered Nurses explaining that current practice in delirium recognition was both within and not within their scope of practice. Delirium recognition was described as a complex process with overtones of stress and distress, not only for the person with delirium but for all those supporting them.

Conclusions
The findings demonstrated that there is potential to enhance practice by reinforcing the crucial role registered nurses contribute to delirium recognition, for example, by developing mastery in delirium screening and developing shared understandings about the meaning of delirium. The findings from this study have already been implemented within new educational interventions to develop the skills of registered nurses in delirium screening to increase delirium recognition for older people in hospitals.
An audit of melatonin prescribing for delirium treatment and prevention at a large tertiary care hospital

Ruth Ella Colley, Mary Britton and Rohan A Elliott
Austin Health, Victoria, Australia

Introduction
Melatonin, an endogenous hormone, is involved in regulation of the circadian sleep-wake cycle. Dysregulation of the sleep-wake cycle is a hypothesised contributing cause of delirium, as well as a cardinal symptom. Pharmacotherapeutic options targeted at restoring the sleep-wake cycle include synthetic melatonin and ramelteon, a melatonin receptor agonist. Clinical trials of these agents have yielded mixed results. Nevertheless, they appear to have a favourable side effect profile compared to antipsychotics, which are often used for delirium treatment. Our aim was to describe the prescribing of melatonin for delirium across three inpatient units at a large tertiary care hospital.

Methods
A retrospective audit was undertaken of patients prescribed melatonin whilst an inpatient of the Orthopaedic, General Medicine and Geriatric units between January 2014 and December 2015. Patients were identified through pharmacy dispensing records. Data regarding previous melatonin use, indication, sex, age, comorbidities and concurrent use of antipsychotic medication was collected from hospital medical records.

Results
The number of inpatients prescribed melatonin increased from 32 in 2014 to 144 in 2015. Melatonin was newly prescribed during hospitalisation for 106/176 (60%) patients. 42/106 (40%) of new melatonin prescriptions were for delirium treatment and 2/106 (2%) were for delirium prevention, with 93% of these prescriptions written in 2015. Patients prescribed melatonin for delirium treatment had a mean of 6 comorbidities and 8 regular medications; 55% were female and 50% had a history of cognitive impairment or dementia. 28/42 (67%) of patients prescribed melatonin for delirium treatment also received a prescription for new antipsychotic medication. The most common dose of melatonin for patients with delirium was 2mg at night. Doses >2mg were used in 21% of cases.

Conclusion
Delirium was a common and increasing indication for initiating melatonin therapy. Further investigation of the efficacy and appropriate dose range of this treatment is warranted.

Acknowledgements: Mr Stephen Cheung, Pharmacist and Pharmaceutical Analyst assisted with data extraction. Simone E Taylor assisted with the ethics application process.
ORAL PRESENTATION – THURSDAY 14 July

The Healthy Heart-Mind Trial

Dr Andrew Ford, UWA

Aims
Does the daily administration of 3mg of melatonin for seven days reduce the incidence of delirium after cardiac surgery as compared with placebo?

Secondary aims include the difference between groups in the severity and duration of delirious episodes, cognitive function, hospital length of stay and mood and anxiety symptoms.

Methods
The Healthy Heart-Mind trial is a randomised, double-blind, placebo-controlled clinical trial of 3mg of melatonin or matching placebo administered on 7 consecutive days (2 days before and 5 days after surgery) for the prevention of delirium following cardiac surgery. We will recruit 210 adult participants aged 50 and older undergoing elective or semi-elective cardiac surgery. Participants will undergo a daily clinical assessment that includes the Confusion assessment Method to determine the presence of delirium for up to 7 days post surgery. We will complete one final assessment 3 months after surgery to determine if there have been any cognitive changes. Pilot data (open label) collected in 2013 and 2014 in preparation for the trial will also be presented.

Results
The pilot trial recruited 18 participants (10 control and 8 intervention). Delirium developed in 2 of the control participants but none of the intervention group. The Healthy Heart-Mind Trial commenced recruitment in February this year and so far has recruited 6 participants. The author will discuss recruitment strategies and difficulties encountered along the way.

Conclusions
Delirium is common in surgical patients and associated with a number of adverse consequences. Current approaches to prevention and treatment are only modestly effective and sometimes carry unacceptable risks. Melatonin has been implicated in the development of delirium and this trial will test whether this is effective in reducing the risk of delirium in a high-risk population.
Changes in brain activity associated with delirium – a PET study of cerebral glucose metabolism in delirium

Author - J.A. Nelson, L. Haggstrom, G. Caplan

Department of Geriatrics, Prince of Wales Hospital Randwick

Aim
Delirium occurs commonly in the hospitalised older patient and increases the morbidity and mortality of those affected. Despite this the pathophysiology of delirium is poorly understood. One hypothesis suggests that hypometabolism and neuronal death are involved. Patterns of hypometabolism in dementia have been established using PET scans, however cerebral glucose metabolism during delirium has not yet be investigated using PET. The aim of this original study was to investigate changes in cerebral glucose metabolism during and following resolution of delirium using FDG PET.

Method
Participants included hospitalised patients over the age of 65 with a documented delirium. Thirteen patients underwent PET scanning during an episode of delirium, of these seven patients completed a follow-up scan following resolution. Scans were evaluated using visual analysis and semi-quantitatively using NeuroQ.

Results
Cortical hypometabolism was demonstrated during delirium with relative sparing of the sensorimotor area. Visual analysis demonstrated significant improvement in the areas of hypometabolism following resolution of delirium. This was confirmed with NeuroQ with improvements in the left frontal (1.39 v. 1.41, p=0.03) and right frontal (1.44 v. 1.46, p=0.03), left parietal (1.42 v. 1.47, p=0.03), left temporal (1.20 v. 1.22, p=0.03), left (1.35 to 1.41, p=0.046) and right (1.30 v. 1.35, p=0.03) occipital, and right cerebellum (1.33 v. 1.38, p=0.046).

Conclusion
The study demonstrates hypometabolism in cortical areas of the brain during delirium, which is at least partly reversible. This first of its kind study provides evidence of functional brain changes in delirium and contributes important insights into the underlying pathophysiology of delirium.
ORAL PRESENTATION – THURSDAY 14 July

Reduced Metabolism in the Posterior Cingulate Cortex may Underlie Inattention During Delirium.

Author: Lucy Haggstrom, A/Professor Gideon Caplan, Dr Julia Nelson.

Aim
The posterior cingulate cortex (PCC), located in the medial, inferior parietal lobe, may play an important role in delirium. The PCC is one of the most extensively anatomically connected regions in the brain, and has one of the highest resting cerebral metabolic rates in the brain. It is critical for regulating attention and arousal, clinical hallmarks of delirium. This pilot study therefore aimed to investigate whether cerebral glucose metabolism in the PCC related to inattention in participants with delirium, using 2-18F-fluoro-2-deoxyglucose (FDG) positron emission tomography (PET). It was hypothesised that lower metabolism would correspond with more impaired attention.

Method
FDG-PET was performed on 15 participants with delirium, and repeated after delirium resolution in seven of these participants. Data were analysed with NeuroQ, using pontine normalisation.

Results
The regional cerebral metabolic rate of glucose consumption was significantly higher post-delirium compared to during delirium (median percentage difference: right 2.6%, \( P=0.03 \); left 4.6%, \( P=0.03 \)). Furthermore, greater metabolism in the right and left PCC correlated with greater performance on a neuropsychological test of attention, the WAIS-IV Digit Span Test forwards (right Spearman’s Rho=0.65, \( p=0.02 \); left Rho=0.65, \( p=0.02 \)).

Conclusions
This novel preliminary research indicates reduced glucose metabolism in the PCC may underpin inattention, a clinical hallmark of delirium. Further research using FDG-PET in delirium may offer insights into the fundamental neural mechanisms underlying delirium.
ORAL PRESENTATION – THURSDAY 14 July

Behavioural emergency in the elderly: a descriptive study of patients referred to an Aggression Response Team in an acute hospital

Dr Daniel Simpkins, Prof Carmelle Peisah, Dr Irene Boyatzis

Aims
The management of severely agitated elderly patients is not easy, and limited guidelines are available to assist practitioners. At a Sydney hospital, an Aggression Response Team (ART), comprising clinical and security staff can be alerted when a staff member has safety concerns. Our aims were to describe the patient population referred for ART calls; reasons for and interventions during ART calls, and complications following them.

Methods
Patients 65 years and older referred for ART calls in the emergency department or wards during 2014 were identified using the Incident Information Management System database and medical records reviewed. Demographic and clinical data were collected.

Results
Of 43 elderly patients with ART calls, 30 had repeat ART calls. Thirty one patients (72%) had underlying dementia, and 22 (51%) were agitated at the time of admission. The main reasons for ART calls were wandering and physical aggression. Pharmacological sedation was used in 88% of ART calls, with a range of psychotropics, doses, and routes of administration, including IV (19%), and most commonly, midazolam (53%). Complications were documented in 16% of cases where sedation was used.

Conclusions
We demonstrated a high frequency of pharmacological sedation of severely agitated elderly, with significant variance in the choice and dose of sedation and a high rate of complications arising from sedation, which may be an underestimate given the lack of post sedation monitoring. We recommend the development of guidelines on the management of behavioural emergency in the elderly patient, including de-escalation strategies and standardised psychotropic guidelines.
WORKSHOPS 15th July

Building a Delirium Consult Service Workshop

Workshop facilitator: Dr Tomiko Barrett, Senior Staff Specialist Geriatrician, Wyong Hospital

This is an interactive workshop, beginning with a presentation summarising current literature and peak body recommendations regarding delirium management in hospital plus an overview of the most effective strategies in implementing cultural change and education of hospital staff. This will be followed by brainstorming, small group work and role play to work towards the following workshop goals:

- **Clarify** types of services participants hope to establish or build
- **Learn** about adult learning, engaging staff and promoting Delirium Services
- **Share** expertise and experience
- **Practice** teaching roles
- By the end of the workshop have 2-3 practical and innovative ideas to begin, progress or rejuvenate participants’ Delirium Consult Service

RESEARCH

Dr Gideon Caplan

Supportive care of the patient with delirium at the end of life

Prof Meera Agar, Dr Annmarie Hosie, Prof Elizabeth Lobb and Prof Jane Phillips

This interactive workshop will engage participants to discuss evidence-based delirium care of patients and families at the end of life, clinical and ethical decision making and the ways human dignity and personhood be maintained in the suffering of delirium and dying.

Evaluation of delirium for the researcher and clinician

Dr Ariba Khan

(Gideon to follow up regarding details)
Caring for Cognitive Impairment

**Cumming, A**\(^1\), **Allen, S**\(^2\)

\(^1\) Australian Commission on Safety and Quality in Health Care
\(^2\) Australian Commission on Safety and Quality in Health Care

**Aim**

The Australian Commission on Safety and Quality in Health Care has launched a campaign to drive improvements at a system and individual level in the provision of high-quality care for people with cognitive impairment in hospital, including the prevention, recognition and treatment of delirium. The campaign brings together and builds on the key initiatives of the Commission’s Cognitive Impairment Program.

**Methods**

The Commission has undertaken a four-step process. The first step was to collate evidence and best practice into resources. The next step was to prioritise the development a delirium clinical care standard to guide clinical practice. The third step has been the incorporation of delirium and other forms of cognitive impairment into the draft version 2 of the National Safety and Quality Health Service (NSQHS) Standards. Lastly, the Caring for Cognitive Impairment Campaign was launched at the end of January 2016 with a dedicated web site: [cognitivecare.gov.au](http://cognitivecare.gov.au) to support improvements in knowledge and care practices, better outcomes for patients, hospitals, staff and loved ones, and reducing the risk of harm in hospitals.

**Results**

A better way to care resources are online, in printable format and the clinicians’ version as an app. In 2015, the Commission also developed a Delirium Clinical Care Standard, due for release in 2016. The Commission has also incorporated cognitive impairment items into the draft version 2 of the NSQHS Standards, expected to be released in 2017, with implementation to commence in 2018/19.

In the first three months of the campaign, 90 hospitals, 586 individuals and 15 supporting organisations have joined the campaign. Early feedback indicates that the campaign is providing a platform for sharing good practice, prompting review of current practices and systems and giving further impetus to existing local initiatives.

**Conclusion**

The Commission’s approach is encouraging action to improve the identification and care of patients with cognitive impairment in hospitals.
ORAL PRESENTATION – FRIDAY 15 July

Pilot testing of indicators and tools to support the Australian Delirium Clinical Care Standard

Sheila Matete-Owiti and Catherine Katz

Aim
To outline the design of a pilot study to test the clarity of the Delirium Clinical Care Standard (CCS) Indicators, the feasibility of data collection, the usability of data collection tools and lessons learned.

Background
AUSTRALIA DOES NOT HAVE A NATIONAL APPROACH TO MEASURING THE APPROPRIATENESS OF CARE PROVIDED TO PATIENTS WITH OR AT RISK OF ACQUIRING DELIRIUM. THIS IS DUE TO THE LACK OF MECHANISMS TO ROUTINELY COLLECT DATA SUCH AS A DELIRIUM NATIONAL MINIMUM DATA SET (NMDS) OR A DELIRIUM CLINICAL REGISTRY, FROM WHICH TO ANALYSE DATA AND DRAW CONCLUSIONS ON QUALITY OF CARE. THE DELIRIUM CCS INDICATORS ARE AN INSTRUMENT TO MEASURE THE QUALITY OF CARE AT HOSPITAL OR LOCAL HOSPITAL NETWORK (LHN) LEVEL.

Although the Delirium CCS indicators contain some elements derived from the Care of Confused Hospitalised Older Persons (CHOPS) program and the Australian and New Zealand Hip Fracture Registry, most of the indicators are new TO THE AUSTRALIAN HEALTHCARE SYSTEM. The piloting of new indicators prior to implementation is a well-documented best practice approach to ensure indicators are clear, data collection is feasible and data collection tools are user-friendly.

Method
The pilot study involved prospective data collection, retrospective medical chart audit and data extraction from patient administration systems at three public hospitals in Australia.

Results
The Delirium Clinical Care Standard Indicators are easy to interpret with the support of a Guide for use and data dictionary. Some amount of data entry burden is evident particularly for hospitals that use the tools in paper format.

Conclusion
Local use of the indicators provides intelligence to service providers on their progress towards the implementation of the Standard.
ORAL PRESENTATION – FRIDAY 15 July

Recommendations for interdisciplinary practice, policy and research to improve future delirium care of palliative care inpatients: results from the DePAC project

Annmarie Hosie¹, Meera Agar¹, Elizabeth Lobb², Patricia Davidson³, Jane Phillips¹

1. University of Technology Sydney
2. Calvary Health Care Sydney
3. Johns Hopkins University

Aim
To identify strategies to strengthen palliative care nurses’ delirium recognition and assessment capabilities.

Methods
A two-phase mixed methods study - the DePAC project - was undertaken to examine delirium epidemiology, recognition and assessment systems, and nursing practice in inpatient specialist palliative care settings. Phase one included a systematic review of delirium prevalence and incidence and cross sectional point-prevalence study; and an environmental scan of organisational systems. Phase two explored palliative care nurses’ delirium experiences, perceptions and capabilities using the Critical Incident Technique and focus groups. Integration of data at project conclusion generated a comprehensive understanding of the actions required to improve delirium systems and care in this setting.

Results
The systematic review identified delirium prevalence ranging from 26% to 62% during admission to a palliative care unit, and increasing to 88% in the last hours of life. The point-prevalence study identified that a third of Australian palliative care inpatients (n=47) screened positive for delirium in a 24-hour period, and one in five met DSM-5 diagnostic criteria for delirium. The environmental scan identified that most delirium guidelines exclude evidence and recommendations related to patients receiving end-of-life care, and evidence-based delirium care is absent from palliative care unit practice. The Critical Incident Technique interviews found that palliative care nurses’ poor understanding of delirium and use of ambiguous terminology contributes to under-recognition and inadequate assessment, and is a barrier to effective interdisciplinary communication. Focus groups identified that patient and family engagement, interdisciplinary collaboration, point-of-care guidance and tailored educational strategies are required to support routine delirium screening with low-burden tools. Data synthesis generated ten recommendations for interdisciplinary practice, policy and research to improve future delirium care of palliative care inpatients.

Conclusion
The DePAC project has provided greater insight into the many factors impacting on palliative care nurses’ delirium practice and areas for targeted action.
Delirium education and practice: closing the doing-knowing practice gap

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Stephen Billett, Professor, School of Education and Professional Studies, Griffith University, Australia

Aim
Growing evidence suggests complex delirium education interventions improve patient outcomes (Hshieh et al., 2015, Martinez et al., 2015). However, challenges remain with implementing findings into practice and a “pernicious” knowing-doing gap has been described (Greysen, 2015). Previous research has identified implementation barriers including negative attitudes and a lack of ownership of management of delirious patients (Teodorczuk et al., 2013). Furthermore fragmented interdisciplinary care processes may undermine sharing of key patient specific knowledge.

To overcome these barriers we developed the Delirium Early Monitoring System (DEMS), a practice tool that facilitates routine assessment of delirium by healthcare assistants and promotes inclusive interdisciplinary practice. The rationale for DEMS being that by use of the artifact, staff learn informally by doing and through mimesis improve their understanding of delirium. Within this study we report a feasibility evaluation of DEMS.

Method
Two versions of DEMS based on CAM and DOSS were piloted on a 20-bedded Psychogeriatric ward over 6 weeks (3 & 3 weeks). Training was administered to ward staff in use of each DEMS and data collected via electronic medical records and completed assessment sheets. Primary outcome was patterns of DEMS use and secondary outcomes were action triggers. Data between DEMS DOSS and DEMS CAMS was analyzed by Chi Squared tests.

Results
Completion rates for DEMS DOSS and DEMS CAM were 68% and 79% respectively. Non-medical staff were significantly more likely to use the DEMS-CAM as part of daily practice as opposed to the DEMS-DOSS (p<0.01). However, there was no difference between the use of the DEMS-CAM and DEMS-DOSS in triggering related actions.

Conclusions
This real world evaluation revealed that DEMS can be successfully embedded into practice. Further research is necessary to determine if this novel approach, focused on closing the “doing-knowing” gap, leads to improved delirium knowledge and alters ward cultural attitudes.
Implementing a Delirium integrated care pathway in an acute hospital: strengths, barriers and practicalities.

Ann Boland, Kate Scott  
CCDHB Delirium Pathway development group.

**Background**  
Delirium is alarmingly common in the increasing numbers of elderly admitted to all services. Prevalence is 50% in our older General Medicine admissions. It is poorly recognised, and the ramifications of not doing so are very wide for both the patients and the organisation. Evidence suggests that delirium may be reduced by about a third through a targeted multi-component intervention. Design and implementation of an intervention is complex and encounters many barriers, and within our organisation is further hampered by the primary location of the Older Adult service in a small community hospital 20 km from the tertiary and main inpatient Wellington hospital. In addition, an organisation-wide acute inpatient intervention for Delirium must be fit for widely varying populations and environments.

**Methods**  
We describe our process and experience in designing an integrated care pathway in Delirium. Scope of the project was established. Mixed methodology was used including Co-Design and PDSA cycles, as well as DMAIC process. We established a multidisciplinary Development Group led by medical and nursing clinical champions, supported by project managers, and including others with a potential role or interest in delirium prevention. Initial measurements included audit of pre-existing processes in delirium care, audit of prevalence of delirium, qualitative and quantitative appraisal of staff knowledge, qualitative one-on-one interviews, co-design appraisal of consumers’ views, focus groups with stakeholders, and observation of ward practices. Design process likewise has followed the multidisciplinary, collaborative and co-design principles. Risks and barriers to implementation have been identified and managed using PDSA processes.

**Results**  
NICE guidance underpins our pathway. Delirium screening using 4AT on admission and a locally-shaped nursing Delirium care bundle, and associated clinical documents, are currently under pilot on 7 of 12 inpatient wards. Additionally we are trialling use of co-designed Patient and Family Information brochure, a Delirium sticker for signalling response to new incident delirium in inpatients, and a range of re-orientation tools. Challenges to these and further planned changes include embedded staff cultures, perceived increase in work, very high occupancy rates, staff turnover, and spatial separation of lead clinical champions from main hospital site.

**Conclusion**  
A committed multidisciplinary development team with medical and nursing clinical champions, supported by project management, can achieve the implementation of an evidence-based delirium pathway. Strengths in our approach include early establishment of senior management support, strong project management, a long-view plan, and widely consultative processes.
Retrospective audit of a delirium prevention strategy in elective surgical patients, at a regional Base hospital. A pre and post intervention analysis.

Dr Matthew Kinchington (Geriatrician Port Macquarie Base Hospital)
Ms Colette Scott (Nurse Practitioner psychogeriatrics PMBH)

**Aims**
1. To describe the characteristics of a cohort of patients who developed delirium as in-patients after elective surgical admissions.
2. To analyse the effectiveness of a nurse lead intervention to reduce incident delirium, severity of delirium and length of stay (LOS).

**Methods**
A literature review was conducted looking at delirium, elective surgery, severity and regional hospitals. We reviewed data from assessments in a pre-admission clinic (PAC) by our transitional nurse practitioner (TNP), where patients were risk stratified into low, medium and high risk of post-operative delirium. When this cohort was admitted a delirium alert was placed into the clinical record and they were followed up by the TNP. Delirium prevention, assessment and management advice was initiated by the TNP with back up by the consultant geriatrician or psychogeriatrician as needed. The TNP also provided education for surgical ward staff. Outcome measures included incident delirium rates, severity, LOS and inpatient complications.

**Results**
In the pre intervention 12 months there were a total of 3105 elective admissions, with 197 patients attending the PAC (6.3%). A total of 25/197 were coded for incident delirium (13%). After the intervention in a 2 year period a total of 81/463 (17.5%) were coded for delirium. During this period out of 154 referrals in the PAC, 38 developed delirium (25%). These were broken down into 35 low risk, 98 moderate risk and 21 high risk with incident delirium rates of 4/35 (11%), 25/98 (26%) and 9/21 (43%) respectively for these groups. There was a reduction in av LOS in the delirium cohorts from 14.32 days in the pre intervention group to 11.95 days after initiation of this service.

**Conclusions**
The intervention of pre-admission identification of at risk patients in a PAC was associated with a reduced length of stay. Incident delirium rates increased after initiation of this service, likely due to better recognition and coding for this in the medical record.
ORAL PRESENTATION – FRIDAY 15 July

The PiTSTOP study: A feasibility cluster randomised trial of delirium prevention in care homes for older people

Authors: Najma Siddiqi on behalf of the PiTSTOP research team

Background
Delirium is a distressing but potentially preventable condition, common in older people in long-term care. It is associated with increased morbidity, mortality, functional decline, hospitalisation, and significant healthcare costs. Multicomponent interventions, addressing delirium risk factors have been shown to reduce delirium by one-third in hospitals. It is not known whether this approach is also effective in long-term care. In previous work, we designed a bespoke delirium prevention intervention, called ‘Stop Delirium!’

Objectives
In preparation for a definitive trial of Stop Delirium, we sought to address key aspects of trial design for the particular circumstances of care homes.

Design
A cluster-randomised feasibility study with an embedded process evaluation.

Setting & participants
Residents of fourteen care homes for older people in one metropolitan district in the UK.

Intervention:
Stop Delirium!: A 16-month enhanced educational package to support care home staff to address key delirium risk factors. Control homes received usual care.

Measurements
We collected data to determine: recruitment and attrition; delirium rates and variability between homes; feasibility of measuring delirium, resource use, quality of life, hospital admissions and falls; and intervention implementation and adherence.

Results
Two-thirds (215) of eligible care home residents were recruited. One-month delirium prevalence was 4.0% in intervention, and 7.1% in control homes. Proposed outcome measurements were feasible, although our approach appeared to underestimate delirium. Health economic evaluation was feasible using routinely collected data.

Conclusion
Reliably measuring delirium within the practical and legislative constraints of a trial in care homes is challenging. Residents are often unable to be assessed for reasons that may be related to their delirium risk; and the high prevalence of dementia makes delirium diagnosis particularly complex in this setting. A definitive trial of delirium prevention in long-term care is needed but will require some further design modifications and pilot work to address this issue.
ORAL PRESENTATION – FRIDAY 15 July

Preventing delirium in hospitalised patients: Time to stop doing trials of multicomponent interventions?

Siddiqi N, Harrison JK, Clegg A, Teale E, Young J, Taylor J, Simpkins S

Background
Delirium is common, distressing and associated with serious adverse outcomes in hospitalised patients. Prevention of delirium is clearly desirable but there is uncertainty about which, if any interventions for preventing delirium are effective.

Objectives
To assess the effectiveness of interventions for preventing delirium in hospitalised patients.

Methods
We conducted a systematic review of the literature to identify randomised controlled trials of any (non-pharmacological and pharmacological) interventions for preventing delirium in hospitalised patients. We searched ALOIS, MEDLINE, EMBASE, PsycINFO, Central, CINAHL, LILACS, Web of Science core collection, ClinicalTrials.gov and ICTR on 04.12.2015. We excluded trials in intensive care settings. The primary outcome was incidence of delirium; secondary outcomes included duration and severity of delirium, institutional care at discharge, quality of life and healthcare costs.

Results
We identified 39 trials that recruited 16,082 participants, assessing 22 different multi-component interventions, medications or anaesthetic interventions. We found multi-component interventions reduced the incidence of delirium compared to usual care (RR 0.69, 95% CI 0.59 to 0.81; seven studies; 1950 participants) with similar effect sizes in medical and surgical settings, although in patients with pre-existing dementia, the effect was uncertain. We found no clear evidence that cholinesterase inhibitors, melatonin (or melatonin agonists) or antipsychotic medications as a group, were effective in preventing delirium compared to placebo. However, in one moderate-quality trial of an atypical antipsychotic (olanzapine), delirium incidence was reduced. There was moderate quality evidence that Bispectral Index (BIS)-guided anaesthesia reduces the incidence of delirium.

Conclusions
There is now strong evidence supporting multi-component interventions to prevent delirium in hospitalised patients, suggesting further trials are not warranted, unless to investigate effectiveness in subgroups (e.g. with dementia), or approaches to implementation. The role of drugs and anaesthetic techniques (other than BIS) to prevent delirium remains uncertain.
ORAL PRESENTATION – FRIDAY 15 July

Postoperative Delirium in Older Adults: Type of Anaesthesia and Perioperative Medications as Causative Factors

Blake Hickey, Research Assistant ¹
Victoria Traynor, Associate Professor ²
Dr Susan Sumskis, Lecturer ¹
Miriam Coyle, Clinical Nurse Consultant ²

¹. University of Wollongong
². Illawarra and Shoalhaven Local Health District

Aim
Evaluate the associations between general anaesthesia and perioperative medications with onset of postoperative delirium in older people who underwent a surgical procedure.

Methods
A medical record audit people aged over 65 who underwent a surgical procedure. The setting was a regional teaching hospital, NSW, Australia. The sample was medical records (n=200) randomly selected over nine months. Non-delirium cases (n = 100) were randomised, whereas postoperative delirium cases (n = 100) were selected if selection criteria was not violated. Medical record data were collected from the Electronic Medical Records (EMR). All randomly selected records were searched on screen and data entered into a survey database. Participants who received a general anaesthesia with a diagnosed episode of postoperative delirium was compared against other combinations of anaesthesia.

Results
Seventy five participants (37.5%) received general anaesthesia alone and 46 (61.3%) developed delirium. More received (n=125) received regional, local, sedative or mixture of anaesthesia (62.5%) and 54 (43.2%) developed delirium (p < 0.01). Polypharmacy was present in 80 of 100 participants (80%) who developed delirium compared with 20% who were not (p < 0.001). Delirium occurred less in individuals who received perioperative opioids (p < 0.01) and benzodiazepines (p < 0.01). Duration of anaesthesia had no significant association with postoperative delirium onset. No association was found for neuromuscular blocking drugs, anti-nausea drugs, local anaesthetic drugs and sympathomimetic drugs.

Conclusion
This study provides findings which can be considered by anaesthetists, anaesthetist assistants and registered nurses in the pre, peri and post-operative care of older people. The research are continuing this work with an international online survey of anaesthetists about their knowledge and practice around post-operative delirium among older people.
WORKSHOPS 16th July

1. Setting up a model of care for delirium
Judy McCrow + Eammon Eales

2. Patients videos

3. Controversy Corner: Delirium
John Death, Geriatrician, Royal Darwin Hospital
Controversy Corner will be an opportunity to informally discuss with your colleagues controversial clinical and conceptual issues relating to delirium. The list of topics below is an introduction. Bring your own issues. Anything you think is wrong about the way we conceptualise, screen for, diagnose, manage or research delirium is a valid topic. Bring some evidence to back you up if you can but we would still like to hear your opinion if you haven’t. We will first list the issues we will discuss, prioritise them and attempt a summary statement for each issue that’s discussed. We may not get through them all. Issues offered to those who attend the workshop to start it off are:
   1. Does DSM-5 description of delirium represent a useful advance for the clinician?
   2. Which profession would you prefer to manage your mum’s episode of delirium?
   3. What’s the best screening instrument for delirium?
   4. Are cognitive and behavioural changes the only features of delirium?
   5. Is delirium the best name for this syndrome?
   6. Why do we hear so little about rehabilitation of delirium?
   7. Are the Guidelines correct that tell us we should not use benzodiazepines in delirium?

4. Introduction to Care of Confused Hospitalised Older Persons (CHOPs) Program
Catherine Bateman (ACI CHOPS Project Officer/Dementia Delirium CNC SNSWLHD) and Janine Masso (CNC Dementia / Delirium SESLHD)
This workshop will introduce the NSW Agency for Clinical Innovations Care of Confused Hospitalised Older Persons (CHOPs) Program and guide participants through the process of implementing the Program in their own organisations.
The content of the workshop will include:
   • An overview of the CHOPs seven key principles of care and web site resources
   • Key considerations for sites wishing to implement CHOPs
   • A practical guide to project implementation of the CHOPs program
POSTER PRESENTATION

FiDel: Flight Induced Delirium

Dr Carmelo Aquilina, Consultant Old Age Psychiatrist, Liverpool Hospital, Sydney

Aim
To review of flight induced delirium (FiDel) in the literature

Method
Literature search

Result
Four published studies were found from 2002 to 2012 dealing specifically with FiDel but an internet search reveals other cases described in news reports and relatives. A review of psychiatric disturbances precipitated by flight reveals other cases of organic induced behavioural disturbances. Most cases seem to have pre-existing dementia but others do not seem to have any diagnosed impairment prior to the flight. The severity of in-flight delirium ranges from people who need restraint in mid-flight to those present with impairment and confusion after landing. There are no guidelines for airline staff on how to recognise and manage such patients and no guidance from airlines or Dementia NGOs on the possibility of such events.

Conclusion
Flight Induced Delirium is a seemingly rare condition which presents in older people during and after a flight. It often results in lingering cognitive impairment. The most likely mechanism is the low levels of oxygen in cabin air. Its, prevalence, aetiology in-flight management and prevention deserve further study.
POSTER PRESENTATION

Delirium, everybody’s business

Elaine Burn, Nurse Practitioner, Hutt Valley DHB
Vera Sullivan, Geriatric Liaison Speciality Nurse, Hutt Valley DHB

Background

Delirium is characterised by an acute onset, fluctuating change in mental status, with inattention, disorganised thinking and altered levels of consciousness. It is particularly prevalent in hospitalised elderly and has been linked to both short and long-term adverse outcomes. In addition to cost to the patient there is an associated cost for the hospital and clinical staff with non-identification of delirium.

Aim

Early assessment, identification and treatment of delirium

Our journey started with the identification of a gap in staff awareness of delirium and became evident from staff feedback. A staff questionnaire determined that staff believed they had good understanding of delirium but were unable identify relevant assessment tools used.

Method

Working group formed, identify gaps, literature review, A working group was formed, other DHB’s were consulted and consent gained to utilize e-learning packages and other resources. Initial audit of clinical notes completed. The Confusion Assessment Method, shortened version (CAM) for delirium screening was launched. Education was provided and a new pathway was developed and implemented. 6 weekly on-going audits to review progress.

Results

A snap-shot audit of clinical notes prior to implementation demonstrated a low awareness of delirium and a reliance on the term “confused patient” with little explanation or evidence of any formal screening or management plan. Further audits indicate an improvement in delirium screening, diagnosis and subsequent management plans.

Conclusion

Continues as a work in progress. On-going challenges are building and maintaining knowledge in the setting of continuous staff turn-over.
POSTER PRESENTATION

An Electronic Screening Tool for Delirium in the ICU setting- A work in progress

Hayley Gunn, Eamonn Eeles, Anna-Liisa Sutt, Kristan Kirwan, John Fraser

Aim
Delirium is common in the ICU setting and clinical screening remains a challenge. There is a call to develop simple, easy to administer and valid delirium screening tools that can be used in the ICU environment by a range of healthcare providers. Our group have developed and tested an electronic delirium screening tool for prospective use in the ICU setting.

Method
A series of sixty candidate questions, grounded upon DSM criteria for delirium of impaired attention and reduced awareness, that could be applied to the minimally communicative patient were developed. Questions were refined by a separate expert group through Delphi process. The final version, [DELirium Intensive Care iUniversal Screen- DEL-ICiUS], was converted to an app. In the test, questions are randomized to avoid test-retest duplication and require a categorical answer that the rater submits on behalf of the patient. An algorithm of responses tests to failure or a maximum of six questions and a diagnosis of delirium, potential delirium or no delirium is determined. The instrument has been tested in healthy controls. It is intended that the tool will be administered for validation purposes against reference delirium screening (CAM-ICU) in the ICU setting. Survey feedback on ease of use of DEL-ICiUS will be sought.

Result
Twenty healthy controls have been tested, all of whom screened negative for delirium.

Conclusion
Electronic tests have promise in the screening of delirium in the ICU setting and further results should be available soon
A mixed method multidisciplinary service improvement project in the early detection of delirium at Toowoomba Hospital.

Heather Hoey\textsuperscript{1}, Rebecca Brazier\textsuperscript{2}, Andrew Pearman\textsuperscript{3}, Mousumi Singh\textsuperscript{4}

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\textsuperscript{4} Psychologist Toowoomba Hospital, Toowoomba, Australia

Aim

In 2011 1.2\% of patients received a secondary diagnosis of delirium at Toowoomba Hospital (TH). Given that point prevalence studies around the world estimate that at any one time approximately 20\% of inpatients have delirium (Ryan et al 2013, Meagher 2012), this figure would suggest that delirium is under-reported or under-diagnosed at TH. The aims of the project were to improve local practice in the screening and early detection of delirium; reduce the associated morbidity and mortality; reduce the burden of delirium upon patients and their families; and to reduce the fiscal impact of delirium to TH and the broader community.

Methods

The service improvement initiative was geared towards early detection and intervention and incorporates a whole-of-hospital approach that introduced procedures and guidelines; screening (utilising the CAM & CAM-ICU), monitoring, and management tools; as well as information and educational resources for patients, families/carers, and staff.

Results and Lessons Learned

Hospital service reporting data has shown a sharp rise in the incidence of delirium being reported at TH and staff report greater confidence in the detection and management of delirium. Whilst it is too early to gauge the effectiveness of interventions to reduce the burden of delirium on patients and their families, the concurrent introduction of a co-location strategy incorporating a ‘Safe Haven Model of Care’, has indicated a reduction in the resources necessary to provide a therapeutic environment for this group of patients.

Implications

This project represents an approach to incorporating practice change into organisational culture that facilitates the early recognition and management of delirium in line with best practice recommendations. Adoption of the ‘Toowoomba Hospital Delirium Package’ by the Darling Downs Hospital Health Service is an important step in improving detection and management of delirium across the whole health service district.

Acknowledgement: The ‘Delirium’ project was funded by the Toowoomba Hospital and the Toowoomba Hospital Foundation.
POSTER PRESENTATION

‘Safe Haven’ Co-Location Model of Care

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² CNC Geriatrics Toowoomba Hospital, Toowoomba, Australia
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Introduction

The ‘Safe Haven’ Co-Location Model of Care at Toowoomba Hospital (TH) was a service implementation project developed to improve care and minimise adverse outcomes for patients with dementia or other cognitive impairments such as delirium, thereby decreasing the overall cost of care.

The primary goals of the ‘Safe Haven’ model of care are to:

- Minimize adverse events;
- Maintain cognitive and physical functioning of high-risk adults throughout hospitalization;
- Maximize independence at discharge;
- Assist with hospital/home transitions;
- Prevent unplanned readmissions;
- Reduce the need for ‘specials: one nurse: one patient’; and to
- Equip staff caring for this group of patients with the resources: environmental and intellectual, necessary to provide targeted care for patients with a cognitive impairment.

Methods

Evaluation of the service implementation consisted of a mixed method, pre/post evaluation incorporating an examination of the number of formally reported clinical incidents (using PRIME CI reporting vehicle 2014-2015) as well as anecdotal reports of near misses; satisfaction surveys from staff and relatives; and an examination of nursing resource allocation trends.

Results

Patients cared for in the ‘Safe Haven’ have been shown to have fewer ‘anecdotal-near-misses’ and formally reported clinical incidents when compared with patients who are ‘specialled’ in general ward areas.

Family and staff reported greater satisfaction with the care given to patients with a cognitive impairment.

Discussion

The ‘Safe Haven’ model of care incorporates the principles of ‘person centered care’ whilst ensuring a patient’s safety by:

1. Ensuring that patients, staff and others are safe by engineering the environment;
2. Provision of appropriate staffing resources and consultation from specialties such as Geriatrics, Dietetics, Physiotherapy, and Pharmacology;
3. Provision of therapeutic care within the context of managing behaviours that are often associated with delirium or dementia;
4. Reduction in chemical and physical restraint;
5. Measuring and recording agitated behaviour to enable development of patient specific care plans; and
6. Identifying strategies to reduce adverse events.
POSTER PRESENTATION

Interactive Delirium Care Education Achieving Adherence to Best Practice: A knowledge translation study

Pamela McAllan, Lecturer1
Victoria Traynor, Associate Professor1
Alera Riley-Henderson, Nurse Educator2
Miriam Coyle, Clinical Nurse Consultant2
Anne French, Clinical Nurse Consultant2
1: University of Wollongong and 2: Illawarra and Shoalhaven Local Health District

Aim
Evaluate the effects of an interactive delirium care education intervention on delirium care for older people in acute healthcare settings

Background
There is much evidence about best practice delirium care but delirium remains undetected, mis-diagnosed and mis-managed. This study implemented an interactive educational intervention to improve the delirium care competence of practitioners working in in acute care hospitals.

Method
The study was undertaken in regional NSW, Australia, with healthcare staff from across the multi-disciplinary team. The intervention was a multi-modal education programme: a short interactive face-to-face session; an online module; Objective Structured Clinical Examinations (OSCEs); and a reflective activity reviewing documentation. Quantitative and qualitative data were generated to evaluate the intervention: pre and post-intervention knowledge surveys, clinical skills using OSCEs, incidence rates of delirium and focus groups with participants to review the feasibility of implementing the intervention.

Results
Staff (nursing, allied health and assistants in nursing) (n=60) from acute care hospitals (n=2) participated in this study. The most important finding was improvements in the diagnosis of delirium. In this presentation, the statistically significant findings from the surveys, OSCEs and delirium incidence rates will be reported using descriptive statistics and the themes generated from the focus will be used to explain the feasibility of implementing this intervention.

Conclusions
The innovative education programme implemented in this study enabled practitioners to improve clinical outcomes for older people with a delirium. The study demonstrated how the concept of adherence to best practice can be achieved in a knowledge translation study when a study goes beyond simply increasing awareness and knowledge about a clinical topic or acceptance of a policy. This study focused on enhancing the clinical competence of staff which is how adherence to best practice was achieved.
POSTER PRESENTATION

Eat Walk Engage: A systematic approach to implementing a delirium prevention program in older hospitalized patients

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Aim
To describe the implementation of Eat Walk Engage (EWE), an evidence-based multidisciplinary delirium prevention program which was piloted at Royal Brisbane and Women’s Hospital and subsequently implemented in eight wards (including medical, surgical and oncology).

Method
Implementation of EWE on each ward commenced with involvement of older inpatients to understand local practices and inform improvements in care processes. Trained facilitators have supported multidisciplinary teams to identify and implement practical strategies to support adequate nutrition and hydration, early mobilisation and cognitive stimulation for older inpatients. Allied health assistants have been trained to help with cares. Implementation has required executive leadership and support, engagement of key opinion leaders and clinical champions, identification of organisational and local barriers and solutions, cyclic measurement and feedback processes and multidisciplinary education and training. Data sources have included nursing documentation, patient report, observation, and routine reporting of falls, length of stay and discharge to sub-acute care.

Results
EWE has been incrementally implemented in 8 wards over the past 5 years. Sequential observational audits and patient reported feedback have shown improvements in nursing documentation, patient mobility levels, nutritional practices and the availability of cognitive activities. A promising trend to a reduction in falls, length of stay and sub-acute care requirements has been observed.

Conclusions
A coordinated and systematic approach was required to implement EWE in eight wards. Scaling up from a pilot ward to 8 wards required changes at an organisational level and ward level. Important elements have included a facilitation approach to implementation, use of the patient voice to inform change, strong multidisciplinary engagement and leadership, and explicit systems for task assignment and delegation to a trained assistant workforce.
POSTER PRESENTATION

Post-operative Delirium in Older People: What is the evidence for prevention and reduction?

Mohammed Mohammed 1 Master of Science, Student
Associate Professor Victoria Traynor 1
Dr Natalie Smith 1,2 Anaesthetist

1. University of Wollongong
2. Illawarra and Shoalhaven Local Health District

Aim
Undertake a systematic literature review of interventions to prevent and reduce post-operative delirium (elective and emergency surgery) among older people.

Method
This was a systematic literature review study. A range of academic databases was searched to locate relevant sources to review for this study. An initial search generated 3,654 papers on the topic of interventions to prevent and reduce post-operative delirium for older people. These papers were screened for their relevancy to the study and the quality of these studies was assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist.

Results
After screening for relevancy and assessing for quality, a total of 11 studies were reviewed. All studies reviewed evaluated the effects of interventions on post-operative delirium among older people. The studies international: Asia (n=3), Europe (n=3) and North America (n=5). The interventions were multi-modal, including increased monitoring of clinical outcomes, trialing medication and anaesthetic regimes, staff education, new pre-admission and discharge protocols, pain management strategies and implementing use of clinical screening tools for delirium. In this presentation the most effective interventions with statistically significant changes for preventing and reducing post-operative delirium for older people will be reported.

Conclusions
This systematic literature review identified how multi-modal interventions prevented or reduced post-operative delirium among older people. Findings from this systematic review could be used by anaesthetists, anaesthetist technicians or registered nurses to review their current practice and consider new ways of managing pre, peri and post-operative care to prevent and reduce post-operative delirium among older people. This study was part of a larger study exploring the knowledge and attitudes of anaesthetists about delirium among older. The work in this area continues to be progressed by the research team in other projects.
POSTER PRESENTATION

Risk Factors and Outcomes of Incident Delirium in Medical Patients: A Retrospective Case-Control Study

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Background
Incident delirium is one of the most common complications of hospitalisation and is associated with a number of poor outcomes. Determining the risk factors for delirium is important as it can identify patients that are most susceptible to delirium.

Objectives
To determine (i) possible predisposing and precipitating risk factors for incident delirium and (ii) outcomes experienced by medical patients during an acute hospital admission.

Method
An audit tool was used to review medical records of patients admitted to medical wards at three sites of a healthcare organisation in Melbourne between 1st January 2012 and 31st December 2013. Data were collected regarding potential risk factors for delirium and the outcomes experienced by patients during admission. Cases were 161 patients with incident delirium and controls were 321 patients without delirium randomly sampled from the acute medical population.

Results
Predisposing risk factors for incident delirium were: dementia (OR 3.12, 95% C.I 1.52 – 6.40), cognitive impairment (OR 3.12, 95% C.I 1.61 – 4.32) and previous delirium (OR 18.69, 95% C.I 4.07 – 85.79). Precipitating risk factors for incident delirium were: use of an indwelling catheter (OR 2.0, 95% C.I. 1.27 – 3.15), adding more than three medications (OR 3.58, 95% C.I. 2.36 – 5.41) and having an abnormal sodium level (OR 1.54, 95% C.I. 1.02 – 2.33). Mean length of stay for cases was 12 days (SD 7.1) compared to 9 days for controls (SD 6.1) (p < .00). Cases were more likely to experience functional decline (OR 4.61, 95% C.I. 2.56 – 8.26), be institutionalised (OR 2.44, 95% C.I. 1.36 – 4.37), have a fall (OR 3.24, 95% C.I. 1.35 – 7.77), and have an episode of incontinence (OR 18.87, 95% C.I. 8.40 – 41.67).

Conclusions
Multiple risk factors for incident delirium exist, including a history of delirium, dementia or cognitive impairment. Patients who develop incident delirium are also more likely to have worse outcomes.