



SCOTTISH PATIENT SAFETY RESEARCH NETWORK QUARTERLY NEWSLETTER

SPSRN

Scottish Patient Safety Research Network (SPSRN) is a collaboration between research teams from the Universities of Aberdeen, Dundee, and St Andrews. The aim of the Network is to enhance capacity in patient safety research in Scotland, building on two existing academic centres. In 2003, the [Patient Safety Research Group](#) was established at the University of Aberdeen. Research focuses on a wide range of issues related to patient safety (e.g. adverse event rates, non-technical skills, and safety climate) within acute as well as primary care medical environments. [The Social Dimensions of Health Institute \(SDHI\)](#), also established in 2003, is a collaborative venture between the Universities of St Andrews and Dundee. Their patient safety research focuses on clinician engagement in quality improvement; different models of quality improvement adopted in the UK, and the initiation, spread and sustainability of change. More information about the Network can be found at www.spsrn.ac.uk

May 2012

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This section provides details on select research projects that are currently being conducted by SPSRN staff or SPSRN members.

This week the topics featured are ventilator acquired pneumonia

and

The evaluation of a complex intervention to improve the management of hospital-acquired sepsis

SPOTLIGHT ON:

Continual improvement in ventilator acquired pneumonia bundle compliance: a retrospective case matched review.

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Objectives: This study aimed to describe the population of people who acquired ventilator acquired pneumonia and determine the feasibility of a larger scale study to assess the degree to which bundle compliance reduces or even eliminates, the risk of ventilator acquired pneumonia.

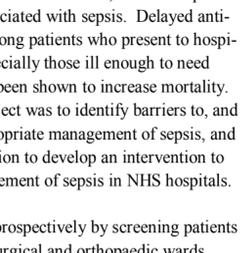
Research methodology/design: A retrospective matched case note review was conducted to scrutinise 10 VAP cases. Cases were matched with two controls for age, gender, APACHE score and number of ventilated days. Compliance with the VAP bundle was determined by extracting data on compliance from case notes. Binary logistic regression was used to calculate odds ratios with confidence intervals which were utilised to determine numbers needed for a larger study.

Setting: A general intensive care unit within a 750 bedded district general hospital, serving a population of approximately 270,000 people in Scotland.

Main outcome measure: The outcome variable of interest was ventilator acquired pneumonia and the independent variable was ventilator acquired pneumonia bundle compliance.

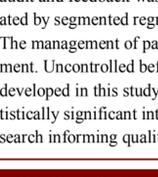
Results: Binary logistic regression suggested that cases which did not receive the bundle reliably were more likely to develop ventilator acquired pneumonia (OR 1.33, confidence interval (CI) 0.28-6.30). Statistical results should be interpreted with caution due to the small sample size, which is demonstrated with the wide ranging confidence intervals (CIs).

Conclusion: Wide confidence intervals enable only a cursory impression as to numbers that would be required for a full scale trial. Nonetheless, the effect size indicated in this paper contributes towards consideration as to numbers needed for future studies.



Design, implementation and primary evaluation of a complex intervention to improve the management of hospital-acquired sepsis

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Sepsis is the systemic response to infection by an individual. It has significant associated morbidity and mortality, with an estimated 10,000 deaths per year in the UK associated with sepsis. Delayed antibiotic treatment among patients who present to hospital with sepsis, especially those ill enough to need intensive care, has been shown to increase mortality. The aim of this project was to identify barriers to, and facilitators of, appropriate management of sepsis, and to use this information to develop an intervention to improve the management of sepsis in NHS hospitals.

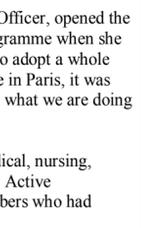
Patients developing sepsis were identified prospectively by screening patients who had blood cultures taken in medical, surgical and orthopaedic wards. The primary study outcome measure was the proportion of septic patients that received antibiotics within four hours of sepsis onset. Among the 241 baseline patients identified, only 91 received antibiotics within four hours.

Barriers to antibiotic treatment included delays in the recognition of sepsis and in clinical decision-making.

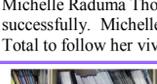
The design of the intervention was informed by the baseline clinical data and the findings of a questionnaire and interview survey of junior medical staff. A multifaceted intervention consisting of education, a care pathway, and audit and feedback was developed. The effect of the intervention was evaluated by segmented regression analysis of interrupted time series (ITS) data. The management of patients with sepsis in hospital leaves room for improvement. Uncontrolled before and after analysis indicated that the intervention developed in this study had some effect, but this was not confirmed as a statistically significant intervention effect in ITS analysis. Further rigorous research informing quality improvement in this area is required.

A SELECTION OF SPSRN NEW AND 'IN PRESS' PUBLICATIONS

- Fernando B, Kalra D, Morrison Z, Byrne E, Sheikh A. (*in press*) Benefits and risks of structuring and/or coding the presenting patient history in the electronic health record: systematic review. *BMJ Qual & Safety*.
- Rutherford, J., Rhona, F. & Mitchell, L. (*in press*). The non-technical skills of anaesthetic assistants in the peri-operative period: a literature review. *British Journal of Anaesthesia*
- Kesselheim AS, Cresswell KM, Phansalkar S, Bates DW, Sheikh A. (2011) Clinical decision support systems could be modified to reduce 'alert fatigue' while still minimizing the risk of litigation. *Health Affairs*, 30(12), 2310-17.
- Beattie, M, Shepherd A, Maher S, Grant J (2012) Continual improvement in ventilator acquired pneumonia bundle compliance: A retrospective case matched review. *Intensive and Critical Care Nursing*.



SPSRN NEWS



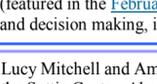
An SPSRN member, Michelle Beattie, attended the Reducing Harm Improving Care Conference in Inverness on 27th April. The event, which was a joint venture between NHS Highland, University of Stirling and University of Aberdeen, was aimed at undergraduate healthcare workers from across the country. The main aim of the conference was to enable students to provide solutions and take ownership of their roles in relation to increasing the reliability and safety of healthcare.



Dr Aileen Keel, NHS Scotland's Deputy Chief Medical Officer, opened the conference and stressed the importance of the SPSP programme when she told attendees 'Scotland is the only country world-wide to adopt a whole country approach. At the recent International Conference in Paris, it was clear that people across the world are paying attention to what we are doing in terms of improving patient safety and quality.'



Attendees included undergraduate and postgraduate medical, nursing, physician assistants and allied health care professionals. Active participants also included patients and other public members who had experienced episodes of health care.



Michelle Raduma Thomas defended her thesis on hospital handovers successfully. Michelle has already secured a position with the oil company Total to follow her viva success.



The University of Aberdeen is hosting a Plexus Industrial Safety Lecture on June 13th, 2012. Professor Neville Stanton will be discussing forensic human factors, specifically focusing on the Ladbroke Grove Rail crash. If you are interested in attending please contact Wendy Booth (w.booth@abdn.ac.uk) for more information.

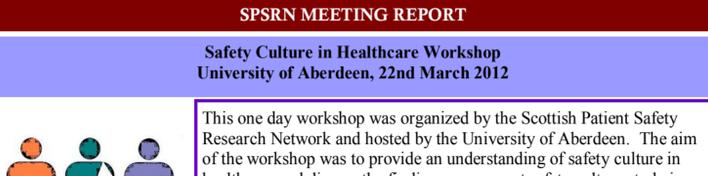
Lucy Mitchell attended the 2012 International Surgical Congress of the Association of Surgeons of Great Britain and Ireland in Liverpool from 9th to 11th May. She presented the interview study (featured in the [February](#) newsletter) which is investigating surgical intraoperative risk management and decision making, in the Education, Training, Simulation and Technology short papers session.

Lucy Mitchell and Amy Irwin attended the Quality and Safety in Healthcare Event on 21st May at the Suttie Centre, Aberdeen Royal Infirmary. Dr Mitchell presented in the 'Safe' outbreak session on non-technical skills in the operating theatre. Dr Irwin also presented in the 'Safe' outbreak session on non-technical skills in pharmacy.

UPCOMING SPSRN MEETINGS

Making healthcare safer: learning from social and organisational research

University of St Andrews, Scotland
25th—26th June 2012



This two day conference for researchers, practitioners and policy makers will consider how social and organisational research can contribute to safer health care. Plenary and parallel sessions and posters will cover a wide range of topics from research to practice and there will be plenty of opportunities for networking and debate. Topics include:

- Involving the patient in patient safety
- Constructing and controlling risk in discharge from hospital
- What can we learn from large scale safety programmes?
- How do leadership walk rounds improve patient safety?

Book by **Tuesday 5 June** at <http://sdhipsconf2012.wordpress.com/>
For further information please see the website or contact Alison Powell aep2@st-and.ac.uk

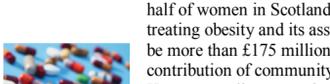
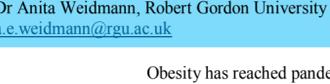
SPSRN MEETING REPORT

Safety Culture in Healthcare Workshop

University of Aberdeen, 22nd March 2012



This one day workshop was organized by the Scottish Patient Safety Research Network and hosted by the University of Aberdeen. The aim of the workshop was to provide an understanding of safety culture in healthcare and discuss the findings on a recent safety culture study in Scottish acute hospitals. Attendees included NHS healthcare practitioners and academic staff. The day consisted of several key presentations focused on safety culture in both healthcare and industry. There was also an interactive group session which centered on safety culture in NHS hospitals.



Dr Cakil Sarac opened the workshop with a presentation which explained safety culture and its importance in healthcare. She then presented an overview of her safety culture project in Scottish acute hospitals. This was followed by a lively question and answer session. Dr Sarac began the afternoon session with an examination of current techniques used to assess safety culture. This was followed by a presentation from Prof. Rhona Flin on how to improve safety culture in the delegates' own organizations. Dr Kathryn Mearns closed with a discussion about safety culture in air traffic management.

PATIENT BASED RESEARCH (SPSRN ASSOCIATE)

Weight management services in community pharmacy: a Scottish perspective

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Obesity has reached pandemic levels with two-thirds of men and more than half of women in Scotland either being overweight or obese. The cost of treating obesity and its associated co-morbidities in Scotland was reported to be more than £175 million in 2007. Thus, there is increasing interest in the contribution of community pharmacies to weight management services. However earlier research strongly suggests that the general public don't consider community pharmacy as a source of help when it comes to weight related issues. Consequently the aim of the study was to describe the views of the Scottish general public on the provision of weight management services via community pharmacies. 6000 randomly selected members of the general public (aged 18 years and over) were surveyed using a postal questionnaire with 1,236 taking part in the study. Despite agreeing that it would be more convenient to obtain weight management services through pharmacies than their GP most respondents would not feel comfortable speaking to a pharmacist or medicines counter assistant about weight related issues. Concerns over privacy and perceived lack of pharmacists' specialist knowledge were identified as potential barriers. In addition most respondents also lacked a fundamental awareness of the types of public health services available to them through community pharmacy. These barriers may explain the reluctance in the uptake of such services to date. Only once the general public is accepting of the pharmacies' role can community pharmacy be empowered to tackle obesity. This is vital since [research](#) indicates that patient obesity can have an adverse effect on patient safety, with adverse events linked to obesity reported during anaesthesia, critical care and surgery.



Weidmann AE, Cunningham S, Gray G, Hansford D, Bermanno G, Stewart D. (2012) Views of the Scottish general public on community pharmacy weight management services: international implications. *Int J Clin Pharm* 34:389-397.

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