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Sharps Including Needlestick Injuries in NSW Nurses

**N.S.W. Nurses' Association
The University of Newcastle**

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INTRODUCTION

- Nurses have been reported to incur between **40% -70% of all sharps including needlestick (SIN)** injuries sustained by health-care staff, particularly from devices that have been used on patients.
- Royal College of Nursing British study (2006) of 2813 nurses reported **7%** were injured by sharps or needles in last 12 months.
- A national study in Australia (2008) of 955 nurses (ANF) reported **11%** and a NSW Health study (2007) reported **7%** (n=259) SIN injuries and others in tertiary hospital settings.
- No previously reported rates for private sector, aged care, disability and community nursing or geographic regions using a state-wide approach.
- **Risk associated with SIN injury** includes the potential for transmission of blood borne viruses, exposure to toxic substances (eg Chemotherapy agents), physical injury, psychological effects and associated costs.



OBJECTIVES



- Determine nurse reported point **prevalence** of SIN injury in the past 12 months
- Compare the data between **workplace category** and **geographic region**
- Evaluate **reporting and follow-up** after SIN incidents have occurred
- Assess the provision of **safety engineered devices** in the workplace
- Identify the existence of **sharps safety programs** to prevent SIN injuries
- Assess the **perceptions of risk** associated with SIN injuries
- Evaluate nurses' **perceptions of sharps related risk control measures** at work

THE STUDY – METHOD and SAMPLE

- **Cross-sectional survey** of 7,423 NSWNA Nurses (November 2007) using a postal questionnaire.
- Participants from NSWNA membership representing:
5 major Workplace categories:
Public and private hospitals, aged-care facilities, disability services and community nurses

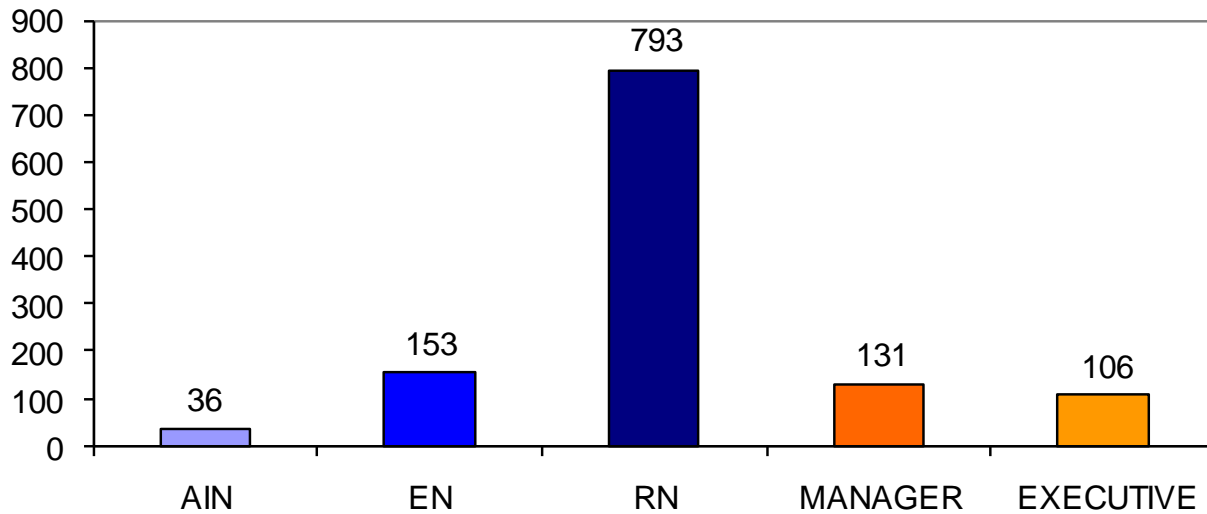
4 major Geographic regions defined by the ABS remoteness score:
Major city, inner regional, outer regional and remote areas

Nurse managers who may be involved in policy development



RESULTS n = 1301 participants (RR 18%)

Nursing Classification of Participants



NB. Managers may/may not have clinical responsibilities.
Executives likely to be involved in policy development.

PREVALENCE – involved in an incident ...during contact with ...sharps that have been used on a patient

- Nurse reported point prevalence of one or more SIN injuries 84 (**6.5%**, 95% CI: 5.2, 7.8)
- Incidence of SIN injuries for nurses who normally handle sharps 80/1004 (8.0%, 95% CI: 6.3, 9.7)
- No significant differences found when results were compared by **principal area of practice** or **workplace sector**.
- Incidence in **remote areas** significantly higher (**16.4%**, 95% CI: 8.8, 27.0) (p=0.002)

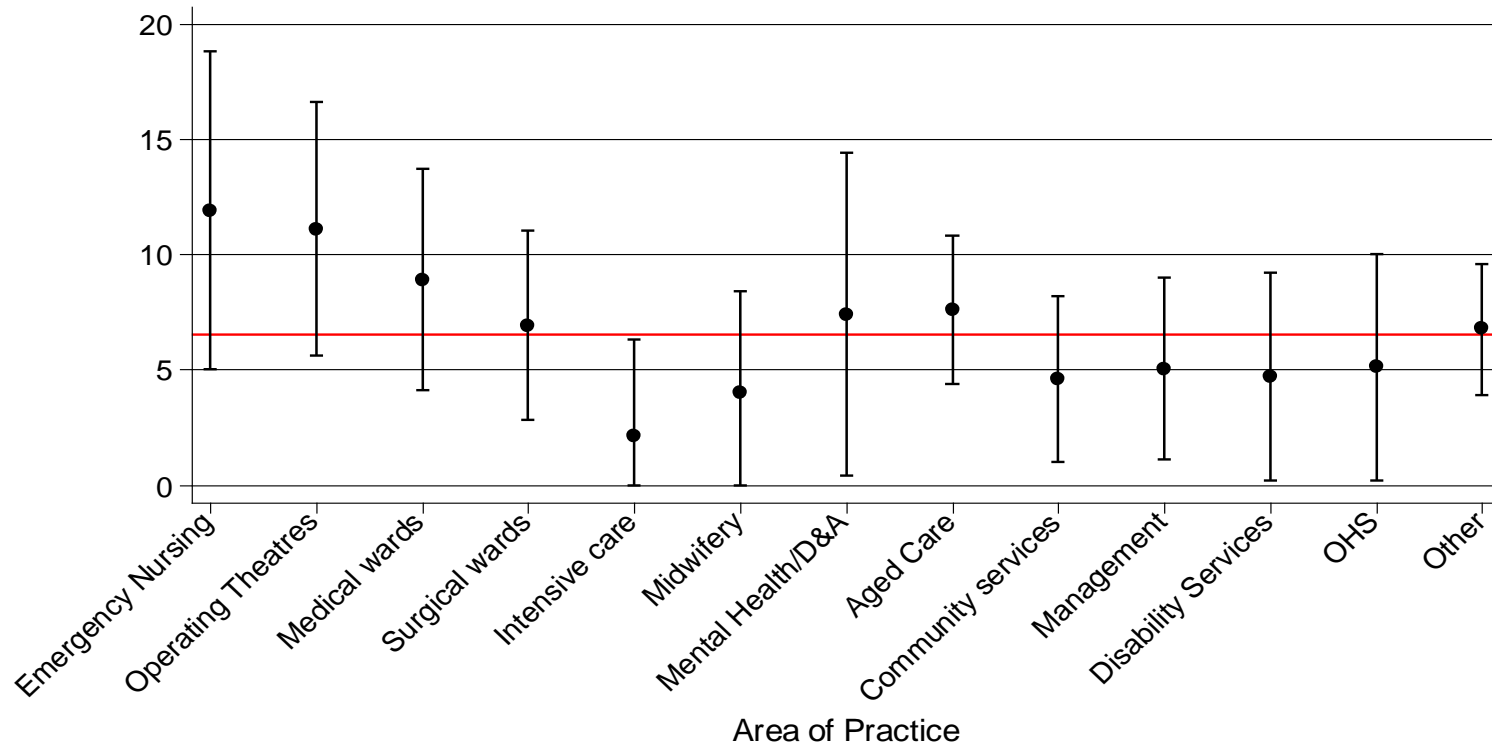


Principal Area of Practice

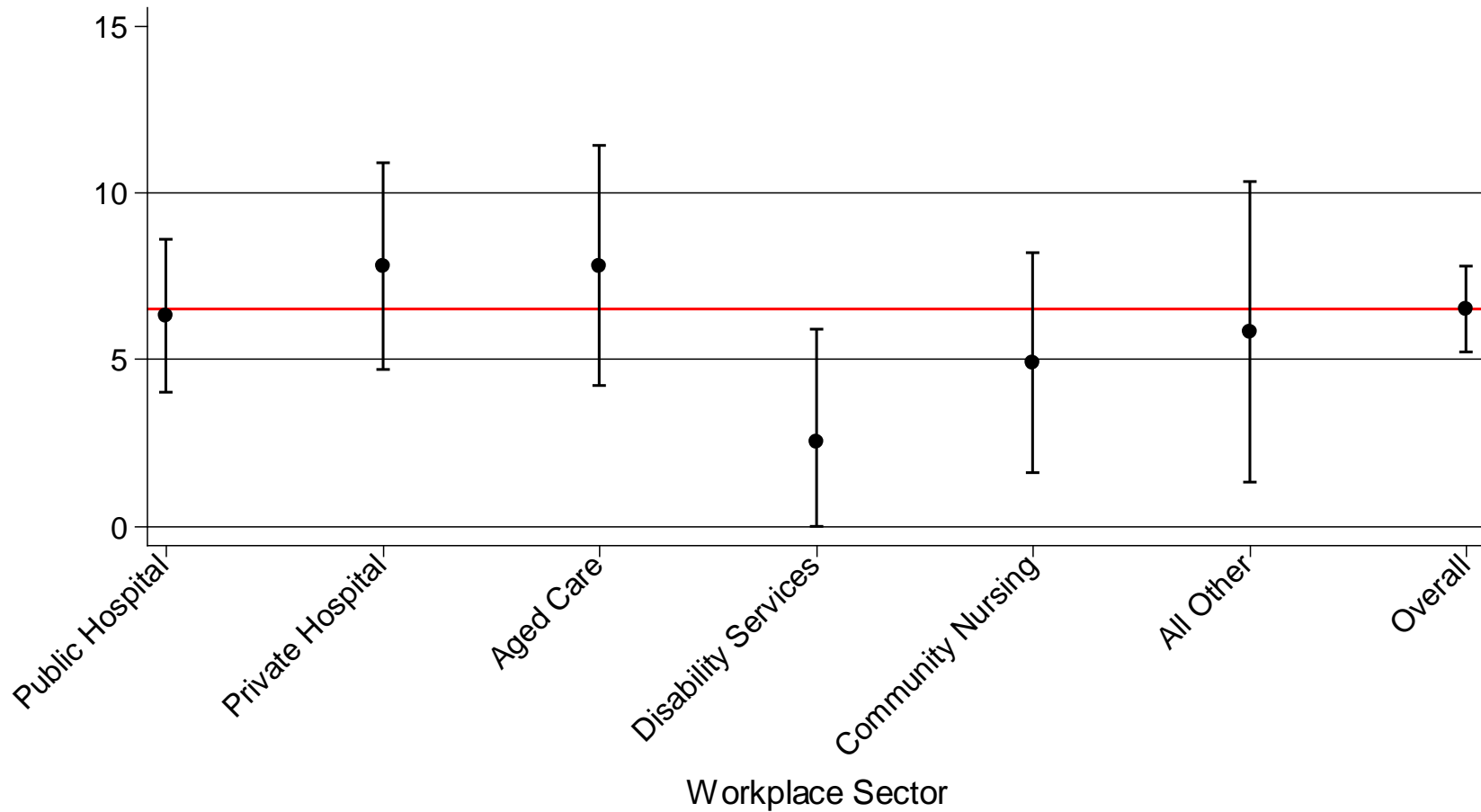
Injury Rates

No significant differences between areas.

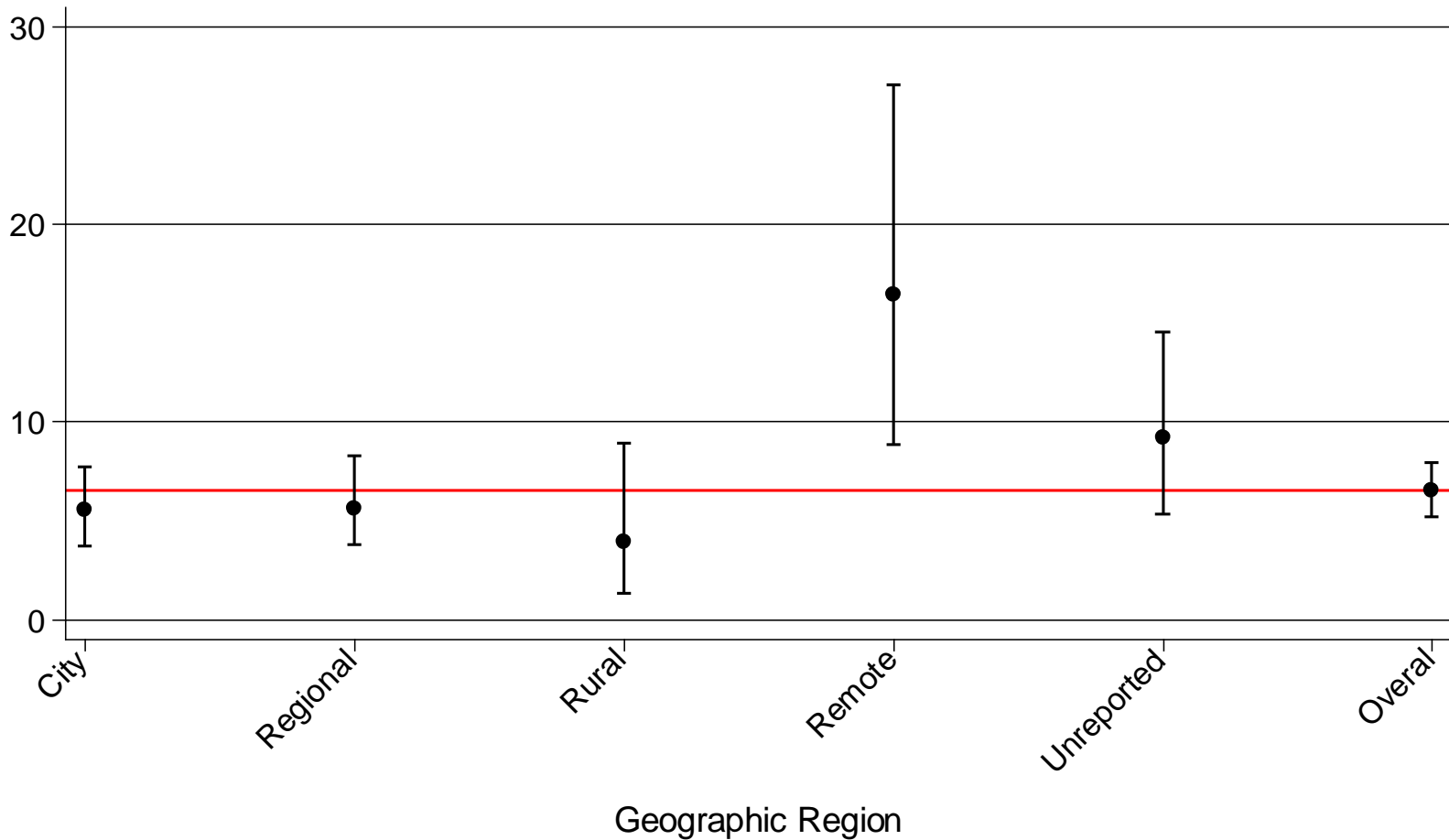
NB ICU rate affected by low numbers



Workplace Sector Injury Rates



Geographic Region Injury Rates



RESULTS – Injured Nurses (n=84)

Reporting SIN injuries and perceived risk

- **86%** of participants reported all SIN injuries and 4% reported some.
- 3 main reasons for reporting by injured nurses:
 - To register the hazard (66%),
 - Have the injury assessed (58%) and
 - Fear of acquiring blood borne disease (54%).
- **65%** of nurses perceived that they were **not at risk** of contracting a blood borne disease (95% CI: 54, 75).



Follow-up after reporting SIN Injuries n=70

- 50 received **information (70%)**
- 42 offered **counselling (60%)**
- 33 advised about prophylactic treatment (47%)
- 41 advised how to prevent transmission to secondary contacts (58%)
- Overall, 51 (**73%**) reported they were provided with **adequate information, support and follow-up**
- 59 reported **blood testing (84%)**:
 - 56 (**95%**) **nurses tested**
 - 45 (**79%**) **repeat testing of nurses**
 - 41 (70%) patients tested



Organisational practices and sharps safety (n=1301)

- **84%** (95% CI: 83, 86) of respondents reported their workplaces have a sharps **safety culture**.
- 93% of respondents reported sharps injury prevention programs in their workplaces and **90%** thought these **programs were effective**.
- 1203/1273 (**95%**) reported they had received **hepatitis B vaccination** and 1086/1266 (**86%**) had been tested to **confirm their immune status**
- 1172 (**90%**) of respondents reported provision of **sharps containers at point-of-use locations**.



Sharps policies and practices (n-1301)

- 1252 of 1289 (**97%**, 95% CI: 96, 98) reported policies in their organisations for responding to sharps incidents; and 1115/1233 (**90%**, 95% CI: 89, 92) reported that their **sharps-related incident policies were followed**.
- The 3 most frequently practiced sharps safety strategies (n=2452) were reported by 878 respondents:
 1. Correct disposal of sharps in sharps disposal containers (25%),
 2. Availability and use of safety engineered devices (17%),
 3. Receiving sharps safety education and training (11%).



Organisational practices and sharps safety

- 416/1289 nurses reported **attendance at sharps injury prevention training** during the last 12 months (**32%**, 95% CI: 29.7, 34.8).
- 241 of all respondents (**19%**, 95% CI: 16, 21) reported that **no training** sessions were provided by their workplace.
- 485 of 1253 nurses (**39%**) reported that **sharps injury data** were provided to staff in their organisation.



Safety Engineered Devices (SEDs)

- **92%** of respondents reported that SEDs were **available** in their organisation.
- The availability of SED's in **acute (public and private) employment sectors (59%)** compared with all others (42%) was **significantly different (p=<0.001)**
- SEDs were **perceived to be effective** in reducing the risk of SIN injury by **90%** of 1183 participants (95% CI: 88, 92); however almost 50% still consider there is a risk with SEDs.
- **95%** of 1169 participants **preferred to use SEDs** (95% CI: 94, 97).
- **55%** of 1160 participants reported **nurses were involved in selecting and evaluating SEDs**



Why nurses report SIN incidents (n=1301)

The 3 most important reasons identified by participants that would influence them to **report** sharps incidents were:

1. Fear of acquiring hepatitis B,C or HIV 903 (69%)
2. The need to have the risk assessed 866 (67%)
3. Being informed about blood test results 556 (43%)



RECAPPING

- 812 (**62%**) of 1301 respondents reported that they **never recap** needles.
- 431 (**33%**) reported recapping **after drawing up medications**
- 71 (**5%**) reported recapping **after administering medications and/or obtaining blood samples**



CONCLUSIONS – Encouraging results

- Overall, nurses' reported practices are consistent with NSW Health policy directives for: hepatitis B vaccination, provision of sharps disposal containers, use of SEDs and reporting and follow up of SIN injury.
- Compliance with hepatitis B vaccination (95%) and point-of-use sharps containers (90%) is high.
- Nurses prefer to use SEDs (95%).
- Reporting of SIN incidents is good (86%) but less than desired.
- Follow up of SIN injuries is high (73%), but could be improved.



CONCLUSIONS – Scope to improve

- Recapping remains a high risk activity and compliance is only 62%.
- 55% of nurses were involved in selecting and evaluating SEDs
- 39% reported that sharps injury data were provided to staff in their organisation.
- Attendance at sharps training is low (32%) and 19% of nurses reported no sharps training sessions were provided.
- SIN injury remains a significant OH&S issue for nurses (6.5% - 8%) and some clinical areas may have a higher risk (12%) however, the risk is higher in remote areas (16.4%).



Thank you

- **Contact details:** Dr Ashley Kable
Ashley.kable@newcastle.edu.au
- **Full report available:** Kable A, Guest M, McLeod M, Butrej T. Study Report: A Cross Sectional Study of Sharps Including Needlestick (SIN) Injuries among NSW Nurses in 2007. (October 2010). NSW Nurses' Association Website.
<http://www.nswnurses.asn.au/news/29697.html>
- **Publication:** Guest M, Kable A, McLeod M.
A survey of sharps including needlestick injuries in Nurses in New South Wales. Healthcare Infection. 2010; 15 (3): 77-83