

MELBOURNE HEALTH

Effective methods in reducing the number of occupational exposures in a health care setting

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Disclosure:

BD have sponsored me to attend this conference but did not have any influence regarding content in this presentation or product choices at Melbourne Health.

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- Melbourne Health (MH) is Victoria's second largest public health service, is a major trauma centre and teaching organisation. It employs approximately 8500 staff across its services and manages over 1400 beds.
- MH provides comprehensive acute, sub-acute and community-based health care programs to the culturally and linguistically diverse communities of northern and western metropolitan Melbourne.
- It also provides general and specialist services to regional and rural Victorians and state-wide services.
- In addition to providing clinical care, Melbourne Health has a key role in research and education to ensure world-class healthcare can continue to be delivered into the future. MH encompasses North Western Mental Health Services, RMH City Campus, RMH Royal Park Campus, Dialysis Satellite Centres and Aged Care Facilities.

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- The Infection prevention and Surveillance Service (IPSS) manage, follow up and refer all occupational exposures for MH. We benchmark our data with ViBES, commenced Jan 2016.
- The Victorian Blood Exposure Surveillance Group (ViBES) is committed to facilitating standardised methods for blood and body fluid exposure reporting. This enables Victorian hospitals to benchmark occupational exposure rates and to share information relating to post exposure management, high-risk activities, exposure prevention and use of safety devices.



Albury Wodonga Health
Austin Health
Barwon Health: University Hospital Geelong
Ballarat Health
Bendigo Hospital
Eastern Health
Goulburn Valley Health
Mercy Public Hospitals Incorporated
Monash Health
Northern Health
Northeast Health -- Wangaratta
Peninsula Health
Royal Children's Hospital
South West Health Care -- Warrnambool
St. Vincent's Hospital
The Alfred
The Women's Hospital
Western Health

ViBES Aggregate rates:

- Total incidents **0.57**
- Percutaneous incidents **0.43**
- Significant Risk incidents **0.10**
- Hep C +ve source **0.04**
- Rate calculated using x 1000 occupied beddays

Why the change in practice?

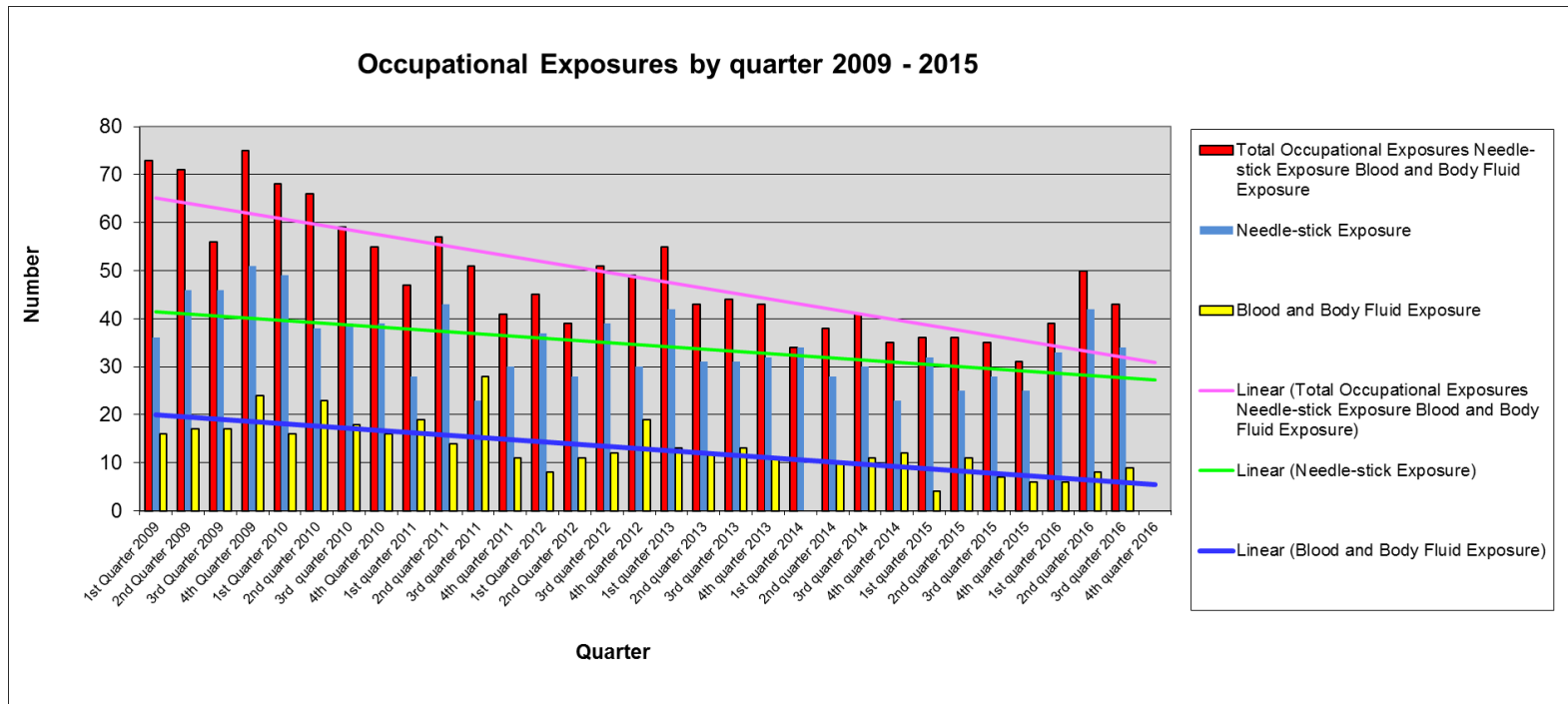
Standardise products, close gaps non safety products, reduce numbers occupational exposures and keep staff safe!!

Review of Occupational Exposure Data

- Not meeting ViBES target rate since 2009
- No safety engineered devices in place (except cannula & some needleless systems)
- High numbers of incidents (both NSI and BBF exposures)
- Looked at types of injuries and locations
- Key activities identified causing injuries were
 1. Blood taking
 2. Sub cut injections
 3. Point of disposal
 4. Human error
 5. No PPE



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Introduction of:

Sharps Caddy System (October 2012)

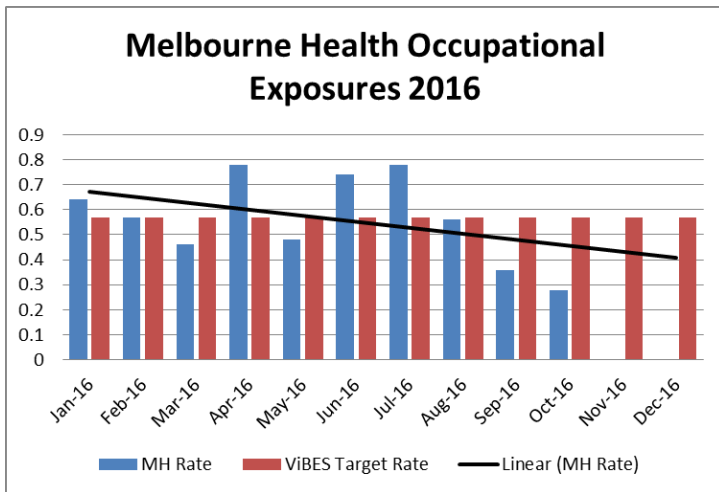
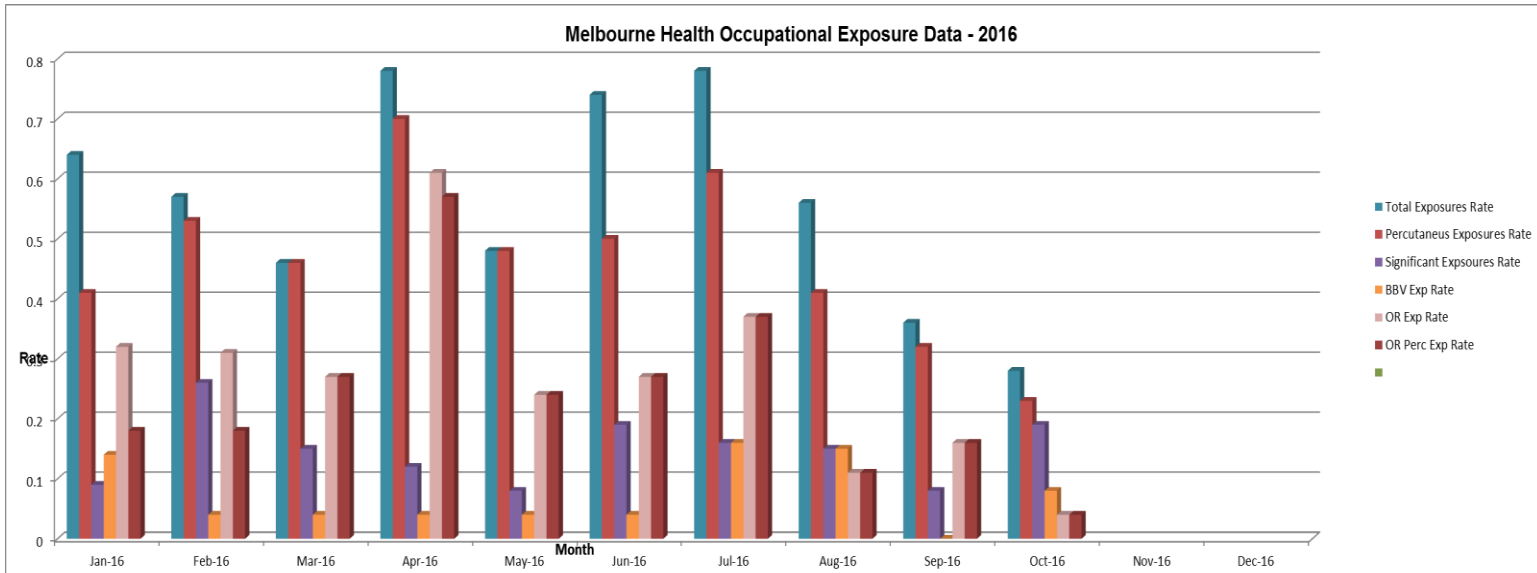
Safety Vacutainer Blood Collection System (March 2013)

Subcutaneous retractable needle and syringe (November 2014)

Safety Hypodermic needles (February 2016)

Review Process Form – Human Error Theory Factors

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2013	HCV 20
2014	HCV 10 HIV 4
2015	HCV 11 HIV 4
2016	HCV 18 to date HBV 2 to date

Introduction of Sharps Caddy System



- Staff using kidney dishes
- Flip lid wall mounted and mobile sharps containers
- NSI in relation to disposal at point of use accounted for **74** injuries in 2012
- Introducing the sharps caddy system Oct 2012, dropped this to an average of **2** incidents per year since



Wow

Introduction of Safety Vacutainer Blood Collection System



- Previous methods consisted of needle & syringe, all non safety engineered devices and non vacutainer blood collection system
- Issues of excessive NSI (needle through caps) and haemolysis of samples (popping caps)
- Vacutainer system implemented in March 2013.
- 2012 - 22 NSI's from venepuncture
- 2015 – down to 12
- 2016 – down to 6



Introduction of Subcutaneous Retractable Needle and Syringe



- Previous methods consisted of non safety subcutaneous needle and syringe
- Issues of excessive NSI post injection
- Implemented November 2014
- 2014 - 13
- 2015 - 6
- 2016 - 6



Introduction of Safety Hypodermic Needles



- Previously using non safety hypodermic needles (IM inj, L/A infiltration, FNA etc..)
- Introduced in Feb 2016
- 2013 – 12
- 2014 – 13
- 2015 – 22
- 2016 – 10 – issues OR



Education plays large part in roll out of any product – needs to be continuous and “just in time”

Introduction of Review Process (Human Error Theory Factors)

Factor Types	Contributory Influencing Factor
Patient Factors	<p>Condition (complexity and seriousness) Did the patient have medical/complex condition that caused any difficulty? i.e.: tremor due to Parkinson's/trauma patient embedded with glass etc...</p> <p>Was the patient known BBV positive that caused anxiety to staff member?</p> <p>Was the patient in critical condition requiring urgent medical attention?</p> <p>Was the patient aggressive/combative?</p> <p>Was the patient drug/alcohol affected?</p> <p>List any other patient factors that were complex/serious that could have contributed to the injury?</p>
Task and Technology Factors	<p>Task design and clarity of structure Availability and use of protocols Availability and accuracy of test results Decision making aids</p> <p>Were they educated appropriately on the task?</p> <p>Was policy and procedure followed?</p> <p>If a policy/procedure was available, is it easy to follow?</p> <p>Was there a breach in practice?</p> <p>Was PPE worn?</p> <p>Other factors relating to task and technology...</p>

- Previously looked at how incident occurred not WHY?
- Trial of Human Error Theory Factors Review forms in OR – condensed version
- Plan to use this tool for all occupational exposures



DESCRIPTION ERROR

A slip type error involving the right action applied to the wrong object. For example shutting down the good engine instead of the failed one

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<p>Individual (Staff) Factors</p>	<p>Knowledge and skills Competence Physical and mental health</p> <p>If the staff member a junior or senior member of staff?</p> <p>Have they been adequately trained to undertake the task at hand? If so, when was the education provided? If not, why?</p> <p>Is the staff member deemed competent?</p> <p>Does the staff member have any learning/physical difficulties that could have contributed?</p> <p>Was the staff member fatigued or stressed?</p> <p>Other individual factors.....</p>
<p>Team Factors</p>	<p>Verbal Communication Written communication Supervision and seeking help Team structure (congruence, consistency, leadership etc.,)</p> <p>Did the staff member feel the team environment could have contributed to the injury? i.e. rushed theatre case, unclear communication</p> <p>Did the staff member feel unable to ask for assistance if it was required?</p> <p>Other team factors.....</p>
<p>Work Environment Factors</p>	<p>Staffing levels and skill mix Workload and shift patterns Design, availability and maintenance of equipment Administrative and managerial support Environment Physical</p> <p>Were there enough staff working on the shift and was there an even skill mix?</p> <p>Was the staff member feeling <u>pressured/rushed</u>? If so, why?</p> <p>Was the appropriate equipment available for use?</p> <p>Is the environment an easy one to work in?</p> <p>Other work environment issues.....</p>

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<p>Organisational & Management Factors</p>	<p>Financial resources & constraints Organisational structure Policy, standards and goals Safety culture and priority</p> <p>Was another product available that could have prevented the injury but not purchased due to cost?</p> <p>Are the NHSQS up to date for your area?</p> <p>Have any goals been set to reduce occupational exposures?</p> <p>Is there a safety culture in your area that encourages use of only safety engineered devices?</p> <p>Is PPE available at point of used and mandated by management to prevent injury and encourage safety?</p> <p>Other organisational and management factors.....</p>
<p>Institutional Context Factors</p>	<p>Economic and regulatory context National health service and executive Links with external organisations</p> <p>Do other like organisations have any products/systems that could have prevented the injury?</p> <p>Other institutional context factors....</p>

- Preliminary results identify fatigue as being a common cause of incidents



- Suture needles main cause of incidents (42% of our total incidents)
- OR still av 5.9 incidents/month
- Peak of 15 in April 2016 (building works)

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Introduction of safety engineered devices and the sharps caddy system has reduced occupational exposures from **275** in 2009 to **138** in 2016 to date (less **137** incidents)

Next focus:

- OR – aim to reduce occupational exposures in this area
- Suture needles biggest issue for MH
- Looking at new sharps trays ? improve flow
- Further analysis of review process forms (implement change as a result)
- PPE at point of use in all areas – up on wall, every bedspace, cubicle etc., trolleys
- Aim for “0” incidents



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