Highlights from Infection, Health & Disease 2015-16

Lyn Gilbert
ACIPC, Melbourne November 2016
Marie Bashir Institute, University of Sydney

Marie Bashir Institute
"tackling infections, locally and globally"

THE UNIVERSITY OF SYDNEY

CIDM centre for infectious diseases & microbiology Public Health

Contents overview:
Healthcare Infection/Infection, Health & Disease

- June 2015-November 2016 topics =30: (highlights)
  - Antimicrobial use and stewardship 5 (1)
  - Tropical diseases 4
  - Healthcare-associated urinary tract infection 4 (2)
  - Infection prevention and control practice 4
  - Hand hygiene 3 (1)
  - Environmental cleaning and decontamination 3
  - Immunisation 2
  - Surgical site infections; *S. aureus* BSI (1 *online*), venous access, *C. difficile*, screening 1 each

RESEARCH PAPER

Evaluating antimicrobial therapy: How reliable are remote assessors?

Menino Osbert Cotta [a,b,*], Tim Spelman [a], Caroline Chen [a], Rodney S. James [a], Danny Liew [b], Karin A. Thursky [a], Kirsty L. Buising [a], Caroline Marshall [a,b]

[a] *Victorian Infectious Disease Service, Royal Melbourne Hospital at the Peter Doherty Institute for Infection and Immunity, Melbourne, Australia*
[b] *Department of Medicine, University of Melbourne, Melbourne, Australia*

Received 20 October 2015; received in revised form 7 December 2015; accepted 12 December 2015
Available online 10 February 2016

Background

- Assessment of appropriate antibiotic use
  vs susceptibility, spectrum, dose, duration, clinical guidelines, “overall appropriateness”
- Needs expert judgment of AM management team
  at the bedside
- Not always available
- Question:
  How reliable are different types of (non-expert) assessor?

Infection, Disease & Health (2016) 21, 3–10

Evaluating antimicrobial therapy: Methods:

Osbert Cotta *et al*

- 180 varied prescriptions; 34 hospitals; 2013 NAPS survey
- Local assessors:
  - Access to medication chart, clinical notes, lab. results
  - A) AMT expert team: ID specialist + ID pharmacist
  - B) nonexperts: clinical pharmacist or ICP
- "Remote" assessors:
  - Online prescription data only
  - A) 3 AMT expert teams; 3 ID specialists; 3 ID pharmacists
  - B) 3 non ID pharmacists; 3 ICPs (no ID experience)

Results

- Inter-rater reliability:
  - concordance with guidelines > overall appropriateness
  - none optimal (inter-rate reliability κ >0.6)
  - moderate (κ 0.41-0.6) - local AMT experts (“gold standard”) vs :
    - remote AMT team (κ 0.53); for RTI (0.67) >
    - remote ID pharmacist (0.44) > non spec. pharmacist (0.41)
  - fair-slight agreement (κ 0.01-0.4)
    - remote ID specialist (0.23) > ICPs (0.21)
- Conclusions:
  - Additional training & tools needed for non specialist assessors

RESEARCH PAPER

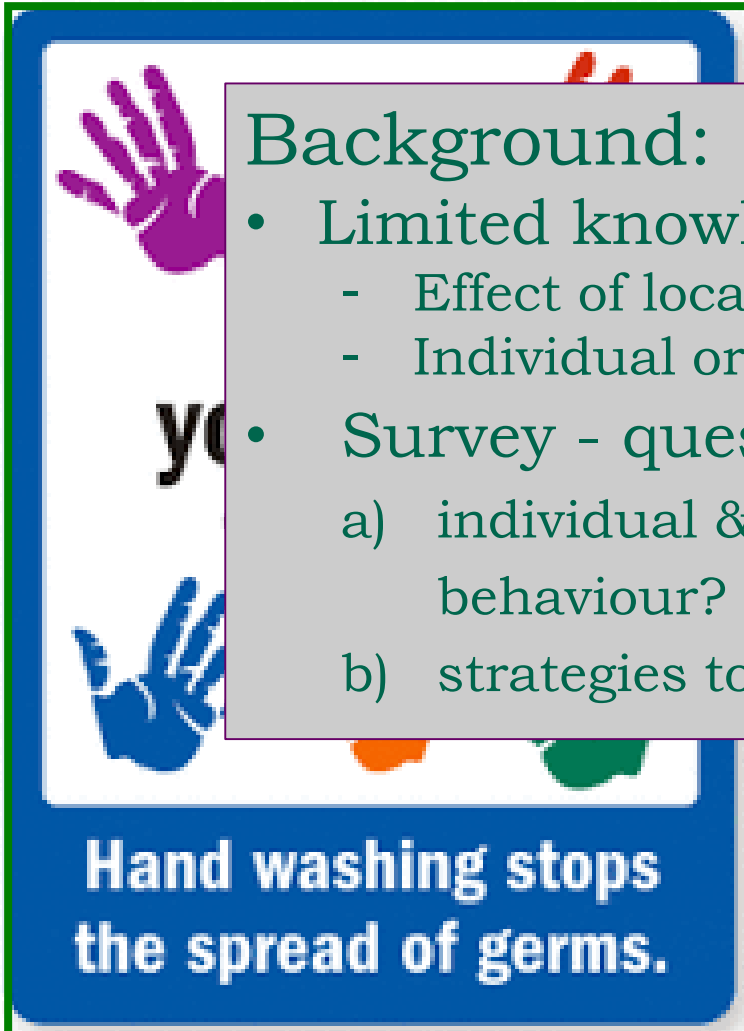
A survey of acute care clinicians' views on factors influencing hand hygiene practice and actions to improve hand hygiene compliance

Asmara Jammali-Blasi*, Elizabeth McInnes [1], Sandy Middleton [1]

Nursing Research Institute — Australian Catholic University & St Vincents Health Australia (Sydney), School of Nursing, Midwifery and Paramedicine, Australian Catholic University, Executive Suite, Level 5, deLacy Building, St Vincent's Hospital, Victoria Street, Darlinghurst NSW 2010, Australia

Received 28 January 2016; accepted 30 January 2016
Available online 2 April 2016

Infection, Disease & Health (2016) 21, 16–25



Background:

- Limited knowledge of local HCWs views on HH
  - Effect of local cultural values & expectation
  - Individual or system responsibility?
- Survey - questions:
  a) individual & cultural factors that influence HH behaviour?
  b) strategies to improve it?

Infection, Disease & Health (2016) 21, 16–25

Clinician survey on hand hygiene practice

Jammali-Blasi *et al*

- Participants:
  - random sample (300) of 1100 hospital clinical staff
    - nurses 179; doctors 93; allied health 28
    - 118 (39%) responded
- Methods:
  - 19 question survey:
    - demographics; knowledge of HH;
    - views on: current HH practice; strategies to improve;
    - whether noncompliance should incur penalty

Results

- Education & knowledge
  - >50% had received recent HH education & listed 5 moments correctly
    - doctors < nurses & allied health
  - >80%: workload or forgetting **no excuse** for noncompliance
  - 23% thought 5 moments difficult to apply (doctors>nurses)
  - ~1/3 would feel uncomfortable reminding others about HH
- Organisational strategies to improve HH:
  - ABHR at bedside; public display of compliance rates
  - feedback of audit data to staff;
  - modelling by senior staff; **noncompliance = healthcare error**

Results

- Clinician strategies:
  - 70% audit/feedback, reminders (doctors<nurses);
  - **53% support penalties for persistent non compliers**
- HH education: needs to target particular groups
  - (?Doctors miss out)
  - Organisational intervention to ensure reminders; role modelling

Infection, Disease & Health (2016) 21, 26–31

RESEARCH PAPER

A point prevalence study of healthcare associated urinary tract infections in Australian acute and aged care facilities

Brett G. Mitchell [a,b,*], Oyebola Fasugba [a], Wendy Beckingham [c], Noleen Bennett [d], Anne Gardner [a]

[a] *School of Nursing, Midwifery and Paramedicine, Australian Catholic University, P.O. Box 256 Dickson, Australian Capital Territory 2602, Australia*
[b] *Faculty of Nursing and Health, Avondale College, 185 Fox Valley Road, Wahroonga, New South Wales 2076, Australia*
[c] *Infection Prevention and Control, Canberra Hospital and Health Services, P.O. Box 11 Woden, Australian Capital Territory 2606, Australia*
[d] *Victorian Healthcare Associated Infection Surveillance System Coordinating Centre (VICNISS), 792 Elizabeth Street, Melbourne, Victoria 3000, Australia*
Available online 27 April 2016

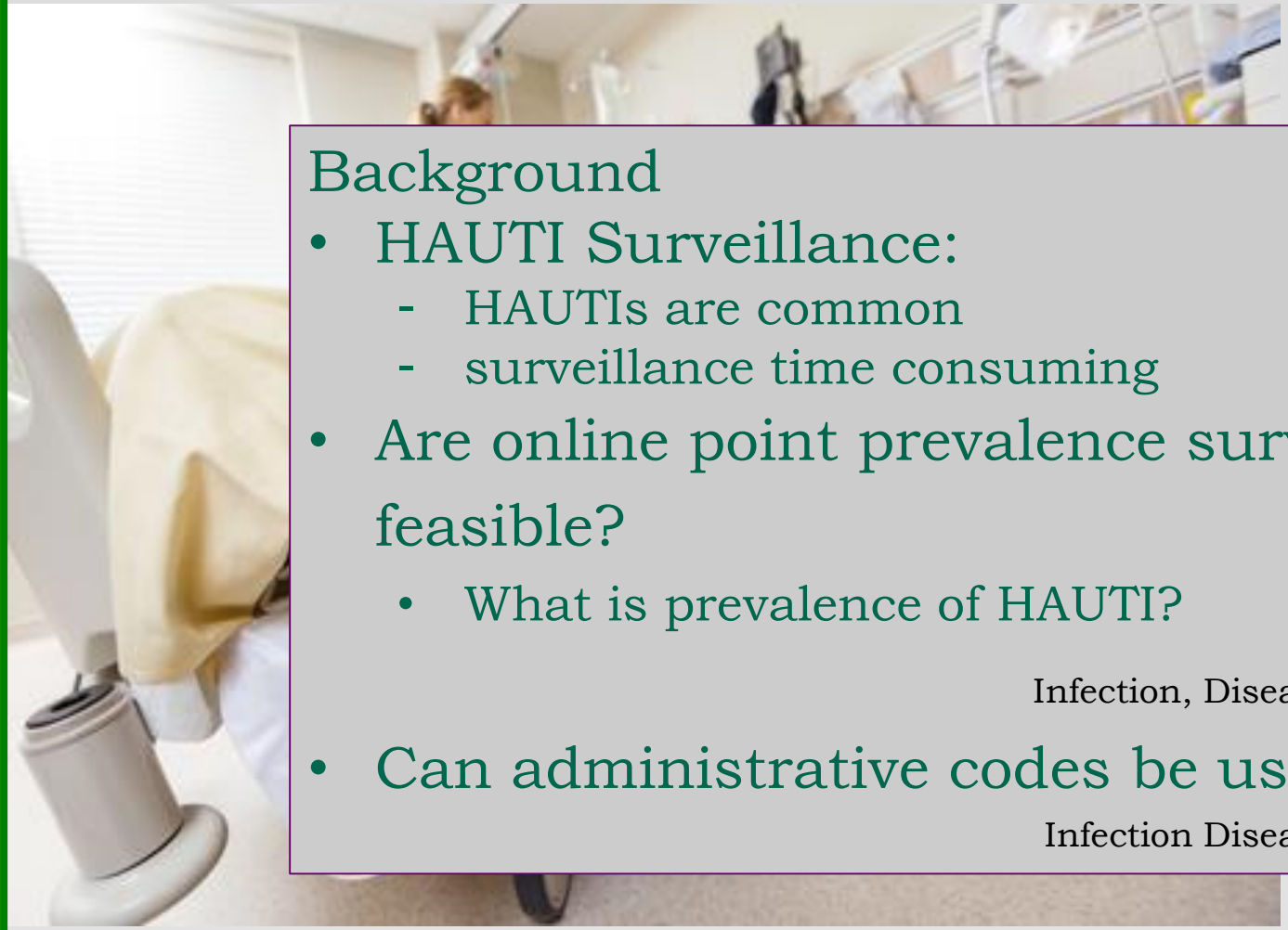
Infection, Disease & Health (2016) 21, 32–35

RESEARCH PAPER

The use of clinical coding data for the surveillance of healthcare-associated urinary tract infections in Australia

Brett G. Mitchell [a,b,*], John K. Ferguson [c]

[a] *Faculty of Arts, Nursing and Theology, Avondale College of Higher Education, Wahroonga, NSW, Australia*
[b] *School of Nursing, Midwifery and Paramedicine, Australian Catholic University, Dickson, ACT, Australia*
[c] *Infection Prevention and Control Service, John Hunter Hospital, NSW, Australia*
Available online 2 May 2016



Background

- HAUTI Surveillance:
  - HAUTIs are common
  - surveillance time consuming
- Are online point prevalence surveys feasible?
  - What is prevalence of HAUTI?

Infection, Disease & Health 21:26-31

- Can administrative codes be used?

Infection Disease & Health 21:32-35

PPS of HAUTIs

Mitchell *et al*

- Methods:
  - PPS in 82 acute and 17 longterm care facilities
  - Online survey; data collector training (July/August 2015)
  - Standard definitions
- Results:
  - ACF: 1320 patients (med. age 74); 9.3% catheters;
    - 19 (1.5%) HAUTI; 68% receiving antibiotics
  - LTCF: 663 residents (med. age 86); 3.3% catheters;
    - 10 (1.4%) HAUT; 80% receiving antibiotics
- Conclusions:
  - periodic on-line HAUTI PPS feasible
  - rates lower than or comparable with previous studies

Using coding data for HAUTI surveillance

Mitchell & Ferguson

- Methods:
  - Patients in hospital >2 days; 8 hospitals/1 LHD (2010-14)
  - ICD-10 codes UTI/post delivery/neonatal vs
  - Urine culture: Enterobacteriacae >10^5/mL (89% pyuria)
- Results: 162,503 admissions;
  - 2821 lab. diagnosed HA UTI; only 29.3% coded as UTI
  - 6958 coded as UTI; no Enterobacteriacae isolated in 45.8%
    - Codes include community cases and nonEnterobacteriacae causes
- Conclusion: coding data alone inadequate for surveillance

Research

Administrative data has poor accuracy for surveillance of *Staphylococcus aureus* bacteraemia

Anindita Das [a,b,*], Karina Kennedy [a,b,c], Gloria Spyropoulos [b], Peter Collignon [a,b,c]

[a] *ACT Pathology, Australia*
[b] *Canberra Hospital and Health Services, Canberra, Australia*
[c] *Medical School, Australian National University, Canberra, Australia*

Received 2 August 2016; received in revised form 28 September 2016; accepted 2 October 2016

Background:

- *S. aureus* bacteraemia– important; significant mortality
  - HA SAB – marker of healthcare quality
- SAB diagnosis – objective; straightforward
  - *S. aureus* isolated from blood culture significant
- Current mandatory reporting of SAB in Australia
  - manual review of records
  - can administrative data be used instead?
- ICD-10 codes require MO documentation in notes

Using coding data for SAB surveillance

Das *et al*

- Question:
  - ?accuracy of ICD-10 (A41.0) code – "*S. aureus* sepsis" vs *S. aureus* isolated from blood culture
- Methods: retrospective, 2002-11, Canberra Hospital & LIS
  - Codes exclude ED patients not admitted
- Results: 567,338 admissions
  - 740 SAB in LIS (439 HA); 408 (55%) coded
  - 565 coded SABs: (408 [72%] blood culture +ve); 157 blood culture –ve
    - 51 *S. aureus* culture +ve other sites; 106 no positive culture
    - Wrong diagnosis; misinterpretation of CoNS; focal *S. aureus* infection

Using coding data for SAB surveillance

Das *et al*

- Results (cont.)
  - 332 laboratory diagnosed SAB not coded; 11 only in ED
  - 321 - +ve blood culture not documented in notes; other sepsis codes used
    - 227 another staphylococcus code; 37 generalised sepsis code; 46 no infection code
  - Sensitivity of ICD-10 (A41.0) for detecting SAB: 55% (56% ex ED cases)
    - PPV = 72% (81% incl. cases diagnosed elsewhere)
  - New code for HA-SAB, 2010 (few cases) sens. 12%; PPV 32%
- Conclusions:
  - ICD-10 coding inaccurate esp. for HA-SAB.
    - Most missed by prioritising focal *S. aureus* infection >SAB ("sepsis" ambiguous)
  - Accurate surveillance needs laboratory data (*S. aureus* nearly always significant)

Disclosure
Member Editorial Board Infection, Disease & Health
support IDH your ACIPC journal

Home › Journals › Infection, Disease & Health

Infection, Disease & Health

Formerly *Healthcare Infection*

Editor-in-Chief: Associate Prof. Brett Mitchell

View Editorial Board

Supports Open Access

ISSN: 2468-0451