

# Moving from a rules-based to a risk-based model for IPC: outbreak as opportunity

Dr Martin Wale, Lisa Young, Bev Dobbyn

# CME Disclosure

- ◆ Dr Martin Wale, Bev Dobbryn and Lisa Young are employees of Vancouver Island Health Authority (VIHA), in whose premises the work was conducted.
- ◆ No funding was received from external sources.

# Don't be afraid to try things out

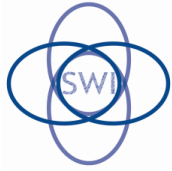
“You have to go down blind alleys. But every once in a while you go down an alley and it opens up into this huge, broad avenue. That makes all the blind alleys worthwhile.”

Jeffrey P Bezos, President & CEO, Amazon.com

# IPC “System-Wide Initiative”

- ◆ Antimicrobial resistant organism (ARO) screening & management protocols
- ◆ Hand hygiene
- ◆ Housekeeping
- ◆ Antimicrobial stewardship

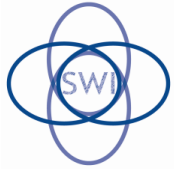
**Components work synergistically**



# Infection Prevention & Control “System Wide Initiative”

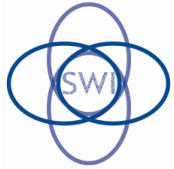
- ◆ Co-production methodology
  - ▶ for sustainability
- ◆ Test site at 104-bed district hospital
- ◆ Mini-studies validate or underpin
  - ▶ Ensuring that we don't miss or can mitigate risks when making changes

**Changing how we think about infection**



# ARO changes at CDH

- ◆ Screening questionnaire, or test everyone?
  - ▶ Test 462 pts over 2 weeks. 0/7 missed.
    - Questionnaire effective in this population
- ◆ Staff perceptions:
  - ▶ Time saved with screening tool
  - ▶ **Major improvement in patient dignity**
- ◆ Comparative costs
  - ▶ Screening questionnaire: \$109,680 p.a. + nurse costs
  - ▶ Universal swabbing: \$282,833 p.a. + nurse costs



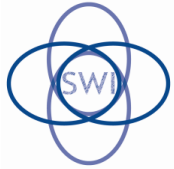
# VRE test cycles at CDH

Hypothesis:

**Routine infection prevention practices  
can control spread of VRE**

Mitigation:

- ◆ Patients with diarrhea on precautions
- ◆ Diarrhea specimens for C.diff continue to be tested for VRE



# VRE changes at CDH

- ◆ VRE screening discontinued
  - ▶ No precautions for VRE colonized pts
- ◆ Trial period
  - ▶ 528 pts
  - ▶ **no acquisition**
- ◆ **Annual cost avoidance (IPC model\*)**
  - ▶ **\$1,140,000 pa at CDH**



# OUTBREAK AS OPPORTUNITY

# Nanaimo C diff outbreak

- ◆ At 3<sup>rd</sup> August 2010:
  - ▶ Outbreak lasted 21 weeks
  - ▶ 48 cases, 4 attributed deaths
  - ▶ 38 patients on precautions in 248 bed facility
  - ▶ Comprehensive suite of IC measures
    - Top to bottom clean
  - ▶ Still getting cases
- ◆ What was going on?

# Observe & inquire

- ◆ People do not always do what they say they do
- ◆ People do not always do what they think they do
- ◆ People do not always do what you think they do
- ◆ People cannot always tell you what they need

From IDEO

“If you are not in the jungle,  
you are not going to know the tiger”

Tom Kelley

# NRGH outbreak observations

- ◆ Watch, listen, learn
- ◆ Findings
  - ▶ Case definition inconsistently applied
  - ▶ Specimens taken inappropriately
  - ▶ Inclusion of false positives
    - Colonization not infection.
- ◆ Epidemiological review
  - ▶ With strict application of case definition

# Actions taken

- ◆ **Reinforcement of CDI case definition**
- ◆ **Introduction of SWI policies**
  - ◆ Island-wide
  - ◆ Enhanced by co-production - local users
  - ◆ MRSA & VRE, as well as C diff.
  - ◆ Removed all the VRE flags

# Impact

- ◆ Reduction in precautions from 38 to 15
- ◆ Massively reduced burden on nursing and housekeeping.
- ◆ Changes went viral!
- ◆ Unlocked bed management gridlock

**Annual cost avoidance \$6,500,000**

# Risk-based model for IPC

- ◆ Use of precautions for infectious syndromes esp. diarrhea
- ◆ Better environmental cleanliness
  - ▶ Top-to-bottom clean during outbreak
  - ▶ SWI housekeeping changes
- ◆ **C diff is routinely containable**

Earlier detection of transmission

Earlier, more aggressive intervention

# QUESTIONS?