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

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CME Disclosure

- Dr Martin Wale, Bev Dobbyn and Lisa Young are employees of Vancouver Island Health Authority (VIHA), in whose premises the work was conducted.
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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 3rd 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?