RQHR Outbreak 2013/2014

Review & Lessons Learned

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6F VRE Timeline

- Pre-Outbreak:
  - March 21 – April 15, 2013 an increase in new VRE cases was seen on 6F
  - 8 new VRE colonized patients, 7 of which were documented to be negative earlier in the same admission

- In consultation with Public Health, outbreak declared April 17, 2013

- Outbreak definition:
  - A new VRE case was defined as a patient who was confirmed to be VRE negative upon admission to the unit, and subsequently found to be positive for VRE colonization/infection while admitted to the unit or within 7 days of discharge

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Initial Outbreak Measures

- Emphasis of routine precautions, adherence to isolation precautions, hand hygiene
- Enhanced cleaning of high touch surfaces, double-cleans of VRE rooms and equipment
- Physical separation on unit of VRE+/- patients and cohorting of nursing staff and VRE+/- patients
- Closure of overcapacity (hallway) beds
- Limit patient movement and transfers unless medically necessary, 6F patients put on contact precautions when off unit, patients to be scheduled at end of day for off-unit appointments
- Limited visiting hours, number of visitors, exclusion of children for routine visits, communal kitchen closed
- Medical teams asked to see VRE negative patients before VRE positive patients
- Admission screens for VRE & weekly screens for all admitted patients to eliminate undetected sources and monitor for transmission
- Patients transferred off unit placed on contact precautions x 7 days, then screened for VRE

Unit wide screens

- Unit wide screens:
  - April 22 – 5 new cases
  - April 29 – 3 new cases
  - May 6 – 3 new cases

- Issues identified:
  - Implementation of some recommendations was difficult
  - Question of whether equipment was reliably getting identified for double-cleans
  - Cohorting VRE+/- patients with nursing teams was resulting in challenges for balancing workload
  - Concern that patients on precautions receiving less hands-on care
  - Communication with all affected areas identified as inadequate

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Added Recommendations

- 'Safe Zones' implemented – taped out areas at entryways to facilitate compliance with PPE
- Labeling of equipment entering rooms with VRE to facilitate identification of things requiring double cleans
- Weekly Outbreak Updates created and distributed to unit and through Management Forum
- Environmental swabs taken – negative except for +VRE found on a Sat monitor finger probe

Unit wide screens

- Unit wide screens:
  - May 13 – 4 new cases
  - May 20 – 4 new cases

Added Steps

- As of May 23
  - All patients on unit placed on 'Contact Precautions'
  - 'Single Room' strategy implemented: as patients discharged, no patients were to be admitted until all were housed in private rooms
  - Resulted in closure of 12 beds

- Hand Hygiene & PPE education sessions on unit for staff and patients/families done during the week of May 27, 2013

- Patient Education about outbreak upon admission to unit
- Weekly outbreak meetings held & ICPs to attend bed meetings daily

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- Unit wide screens
  - May 27 – 3 new cases
  - June 3 – 0 new cases
  - June 10 – 0 new cases

- June 12 – discontinuation of 'Single Room' strategy
  - all patients remained on contact precautions
  - 4 beds remained closed due to increased work of universal contact precautions
  - cohorting was abandoned due to the staffing and workload difficulties it created

- Unit wide screen
  - June 17 – 4 new cases

- During this time Environmental swabs were taken again May 31
  - 1 positive swab from Pyxis machine
  - June 5th additional swabs taken and VRE found 'inside' as well as 'outside' Pyxis
  - Specialist brought in to perform complete clean of interior of both Pyxis machines
  - Drugs from both Pyxis thrown out

Added steps

- Repeated hand hygiene promotion on the unit
- Staff asked to assist patients with hand hygiene after using the toilet and prior to meals
- Discovered that despite kitchen being "closed", the door did not actually lock properly. Facilities asked to repair, and reminder to unit to try to keep patients out of shared kitchen
- Ongoing concerns about reliability of equipment being cleaned
  - Recommended that all equipment be dedicated for single patient use
  - All equipment and high-touch surfaces on unit should get a double clean between patients

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- Unit wide screens
  - June 24 – 1 new case
  - July 1 – 1 new case
  - July 8 – 2 new cases (1 from transferred patient)
  - July 15 – 2 new cases (+ 1 possible from transferred patient, but did not meet case definition)
  - July 22 – no new cases
  - July 29 – 1 new case
  - August 5 – no new cases

- July 4 – universal contact precautions abandoned

- Question: standard practice is to require a minimum of 3 weeks with no evidence of transmission before declaring outbreak over; what is this based on? Is this applicable to our setting?

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Lab Audit of VRE screens

- How many new VREs do we expect?
- Not a good question, because it depends how hard we look (increased screening → increased finding)
- Instead look at 'Case Detection Rate' = #screens +VRE on 'new' patients / #screens performed
- Reasons swabs are performed:
  - Everywhere: admission screens of unknown/negative individuals who have risk factors for VRE
  - 6F: weekly screens of negative individuals to look for acquisition
- Findings

	All RQHR	6F	Excluding 6F
2012-13	1.39%	4.71%	0.78%
2011-12	0.40%	0.22%	0.41%
2010-11	0.28%	0.38%	0.27%

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- August 8 – Hospital Acquired C.difficile case
  - Entire unit switched to Clorox cleaning product
  - Education about hand hygiene
  - Realized inadequate sink availability on unit

- Unit wide screens
  - August 12 – 1 new case
  - August 19 – 3 new cases (including 1 transferred patient)
  - August 26 – 6 new cases (including 1 transferred patient)
  - September 2 – 4 new cases

Added steps

- Housekeeping switched to using Clorox wipes for entire unit
- Chlorhexidine wipes used for daily patient bathing
- Environmental swabs repeated Sept 3 …
  - Preliminary lab results available Sept 4 (Thurs):
    20 out of 28 swabs positive for VRE

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- **Negative control swab**
- **Pyxis machines** (screen, keyboard, finger pad)
- **Sink - clean service room** (handles)
- **Patient charts**
- **Chart boxes** (handles)
- **Isagel dispensers** (top spout)
- **Hand rails** (around the unit)
- **Nursing station counter**
- **Nursing station equipment** (keyboards, addressograph, phones, fax)
- **Nursing station** (chairs-back & arm rests)
- **Nursing medication carts** (under drawer handles)
- **Storage room** (IV poles, BP machines, warm blanket handle, bards)
- **Treatment room** (commodes)
- **Kitchen** (ice & water buttons, sink, soap dispensers, kettle, countertop, toaster, microwave buttons, fridge handles, light switch, door handles, key pad)
- **Dirty service room** - clean side (top cupboards, countertop)
- **Dirty service room** -dirty side (sink, bottom cupboards, soap dispenser, top cupboards, countertops)
- **Staff lunch room** (door handles, fridge door handles, table top, laptop/keyboard, microwave, keureg)
- **MTU room** (keyboards, pagers, microwave buttons, chairs, table tops)

- **Room 9 (close to patient); VRE+ pt** (bedrails, call light, BP calf, bed side table, TV)
- **Room 9 (far from pt); VRE+ pt** (chairs, blinds, closet door handle, light switch, door handle, sharp containers, wheelchair)
- **Room 9 bathroom; VRE+ pt** (door hanles, light switch, soap dispenser, tap handles, sink, toilet flusher, toilet seat)
- **Room 16 (close to patient);** VRE+ pt (bedside table, call bell, bed railing, phone, BP calf, IV pole)
- **Room 16 (far from pt); VRE+ pt** (curtains, isagel, stethoscope, soap dispenser)
- **Room 16 bathroom; VRE+ pt** (door handle, tap, sink, soap dispenser, toilet, call bell, railings, light switch)
- **Room 5 (close to patient); VRE- pt** (bed rails, cords, tV, IV pole)
- **Room 5 (far from pt); VRE- pt** (chair, walker, table top, commode, blinds, sharp containers)
- **Room 5 bathroom; VRE- pt** (toilet seat, door handle, soap dispenser, tap, toilet flusher, call bell, railing)
- **Room 19-2 (close to bed); terminal clean prior to swab** (railings, call bell, BP calf, table, night stand)
- **Room 19-2 (bathroom); terminal clean prior to swab** (tap, sink, countertop, soap dispenser, toilet seat, call bell, call light, doorknobs-both sides)

- **RED = POSITIVE**

- Sept 4 (Thurs) – decision to close unit as of 1pm

- Sept 5 (Fri) – unit decanted, patients discharged/transferred out.
  - Friday night applied GlowGerm to surfaces to help identify areas missed with cleaning.
- Sept 6/7 (Sat/Sun) – massive cleaning, repairing & decluttering
  - Staff diverted to other units or helped to clean and declutter
  - Anything that could not be properly cleaned was thrown out
  - Learned that we have a lot of stuff that either CAN NOT be cleaned or can not be EASILY cleaned properly
  - Sunday night more environmental swabs taken

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- Unit wide screens
  - September 16 – no new cases
  - September 23 – 2 new cases
  - September 30 – 2 new cases
  - October 7 – 3 new cases
  - October 14 – 4 new cases (including 1 identified in transfer)
  - October 21 – no new cases
  - October 28 – 1 new case
  - November 4 – no new cases
  - November 11 – 5 new cases (including 3 identified on transfers)
  - November 18 – no new cases
  - November 25 – 2 new cases
  - December 2 – no new cases
  - December 9 – no new cases
  - December 16 – no new cases!!
- Detection rate:

- Hand hygiene Standard Work initiative
- Daily management on unit emphasizing hand hygiene
- Exclusive use of AHP cleaners
- Housekeeping switched to microfibre cloths
- Color-coding of cleaning cloths for different areas of patient rooms
- Every patient provided with Isagel and taught hand hygiene on admission
- Nutrition and Food Services placed hand wipes on every meal tray

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- Summary:
  - Total duration 36 weeks (April 17 – December 19)
  - 79 total attributable cases of colonization
  - 2 known infections while on unit (1 blood, 1 urine)
  - Did not track discharged patients for infections, however, noticeable change in RQHR antibiogram:
    - 2012: 69 E. faecium clinical isolates (i.e. infections)

    → 91% were Susceptible to vancomycin (6 VRE infections)
    - 2013: 74 E.faecium clinical isolates (i.e. infections)

    → 60% were Susceptible to vancomyin (34 VRE infections)
  - 36 roommates exposed to VRE (before VRE colonization detected)
    - 27 were screened (others were discharged), 10 became VRE positive
    - 37% transmission rate between roommates

Lessons Learned/Go Forward Items

HOW DID THIS AFFECT YOUR DEPARTMENT?	**Unit 6F**	**- physical and emotional impact, resulting in high turnover rate of the staff** **- financial impact (supplies, Pyxis contamination, unit closure and terminal cleaning)** **- difficulty managing and policing everyone on the unit** **- patients' and staff's safety due to contamination** **- impact on patient flow**
	Housekeeping Department	**- financial impact; needed to bring in extra staff to help with daily cleaning, using different cleaning products** **- physical impact; all rooms on isolation, terminal clean of the unit…** **- emotional impact; burn out of the staff**

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Lessons Learned/Go Forward Items

WHAT WAS WELL DONE?	**Unit 6F**	**- Standard Work teaching/implementation** **- realizing the importance of hand hygiene (hand hygiene rates going up compared to the previous audits)** **- hand washing posters for patients and evidence of increased patient compliance** **- placing the sticky notes" VRE Was Here" throughout the unit raised awareness among the staff that VRE could be on multiple surface and /or equipment** **- various departments understood the outbreak situation and collaborated with unit 6F** **- senior leadership became highly engaged and even participated with the hand hygiene standard work** **- continuous assessment of the outbreak- screening patients and patients' environment**
	Housekeeping Department	**- even with increased workload, housekeeping managed to follow outbreak measures** **- getting wipe-able curtains which helped to decrease the work load** **- using microfiber cloths** **- changing cleaning products** **- staff's determination to do the their best**
	Nutrition and Food Service	**- appreciated being part of the outbreak management team** **- hand wipes that were trailed with patients had a high uptake percentage** **- leaving dietary trays carts outside the unit and taking smaller carts inside the unit was beneficial**
	Pharmacy	**- raising awareness about the Pyxis machines and the importance of each unit determining who is responsible for the cleaning of this machine**

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Lessons Learned/Go Forward Items

WHAT CAN BE DONE BETTER?	**Unit 6F**	**- finding better way to communicate within the unit; 90 staff on 6F- hard to communicate with everyone** **- developing protocol to improve communication between the unit on outbreak and other departments/ health care facilities** **- improving hand hygiene compliance of all health care workers as well as patients and visitors; it takes only one person to be non compliant.** **- better planning for the future outbreaks (not allowing supplies to run out- gloves, gowns, etc.)** **- having formalized response plan for entire system** **- having formal process to support Hemo patients on the outbreak unit.** **- being able to know who exactly cleans what (not sure what supplies/ equipment are being cleaned by service aids and what by housekeeping staff)** **- getting a person who specializes in communication involved with future outbreaks, in order to approve overall communication** **- better wall walk communication** **- focusing on #1 thing- hand hygiene- getting everyone on board**
	Housekeeping Department	**- having standardized cleaning product** **- decreasing patient movement within the unit unless absolutely necessary** **- improving communication**
	Nutrition and Food Services	**- consistently including Nutrition and Food Service in outbreak communication** **- continuing to work with the company who supplies the patient hand wipes in order to hopefully decrease the time period where the hand wipes are back ordered**
	Pharmacy	**- coming up with protocol for Pyxis machine cleaning**

- What was the biggest difference????
  - **Engagement of SLT/Managers**
- Communication
- Staff
- Hand Hygiene
- Environmental Services

- Communication between key partners
- Contact tracing
- Notifications
- Multiple sites affected from one patient

- Multiple patients in 4 units.
- 5 positives within 3 weeks
- Engagement of management
- Clorox
- Confusion between USW/housekeeping/nursing staff

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Questions ?????

The biggest change overall was the units owning the Outbreak!

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Dr. Claude LaFlamme, October

Safer Health Care Now

Surgical Site Infection Getting Started Kit Updates!

- Presentation and Q&A session.
- Recent changes to SHCN SSI bundle & what that means to hospital staff
- Normothermia: Temperature as the lost vital sign and the importance of preventing hypothermia in the OR
- Blood Glucose: A integral component to reducing the risk of SSI's
- Dr Laflamme will share stories of learnings from the team at Sunnybrook hospital

Wednesday, October 8th
10:00 a.m.—12:30 p.m.
Rooms 7 & 8 Regina General Hospital (Registration not required)
*Available via Telehealth