Regional MDRO Prevention Collaborative
Working to protect patients, visitors, and staff from harm

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What & Why

• A project to bring together partners in communities of care bridging the continuum of care levels
  - Core acute care hospital
  - Surrounding Skilled Nursing Facilities, Assisted Living Facilities, Rehabilitation Facilities

• MDRO is an increasing public health threat
  - Transfers of patients and residents spreads the concern
  - Differences in precautionary practices erodes confidence
  - Resistant bacteria spread between people; their mechanisms of resistance also can spread to other bacterial species
Josh Nahum

• Healthy college student
• Sky-diving accident – fractured femur and skull
• Developed MRSA during 6-week ICU stay
• Treated with antibiotics & transferred to rehab facility
• Developed Enterobacter aerogenes in cerebral spinal fluid
• Pressure around brain pushed it into spinal column
• Permanent quadriplegic, ventilator dependent
• Died 2 weeks later

“The tragic, unnecessary, and lasting impact of the loss of our son continues to this day. ... We look forward to a time when these infections no longer threaten to cut short the lives of the ones we love so much.”

Source: http://www.idsociety.org/Content.aspx?id=17006
Multidrug-Resistant Organisms (MDROs) - An Important Public Health Problem

• About 70% of bacterial infections in US resistant to at least one drug

• MDRO infections
  • Cause human pain and suffering
  • Lead to higher health care costs
  • Cost U.S. ~$5 billion annually

Available at http://www.idsociety.org/10x20.htm
MDROs are a Regional Issue

• Transmission between people happens
  - Within healthcare facilities
  - Between healthcare facilities that share patients

• Long term care (LTC) settings likely play important role
  - Transmission high within LTCs by some reports
  - LTC residence a major risk factor in MDRO carriage
  - LTC residents may serve as important reservoir for transmission when transferred to another setting

Taken from Dr. John A. Jernigan Powerpoint presentation A Collaborative Approach to Preventing Spread of Multidrug Resistant Infections in Healthcare, 7/21/2010
Acute Care Also Plays Key Role

Inter-facility transfers associated with VRE spread

• LTC residents with VRE were significantly more likely than those without VRE to have been inpatients at an acute care facility.

• Of 40 VRE isolates, 34 (85%) were a related strain.

• VRE isolates spread from acute care to LTC via patient transfers.

Reality: Patients/Residents Move Across Settings

- MDRO infection outbreaks follow flow of colonized patients/residents
Example: MDR Salmonella enterica spread in Florida

**Hospital 1**
Index patient a 47-year-old
2nd patient case 2 rooms away from ..
Eventually 19 cases at the hospital

**Arrows** represent transfer of case patients to other facilities – 19 in total:

- 7 hospitals
- 9 nursing homes
- 2 extended care facilities
- 1 long term care acute care hospital

48 secondary cases occurred at 6 of these facilities

Key Changes in LTCs

• From 1999 – 2008
  - Shorter LOS
  - Post-acute care population growing
  - Custodial care shifting to ALFs or home-based options

• Increased device & antibiotic exposure in LTCs
• Increased risk of emergence & spread of MDROs

16% SNF beds per 1000 US pop.
10% LTC residents
Percentage people < 65 receiving care in LTCs

A Regional Approach to Control

- Establish communication between facilities sharing patient streams
  - Patient status/risk at transfer

- Create opportunities to share/learn
  - Best practices
  - Areas for improvement

- Facilitate shared resources/expertise
  - Government - Federal, State, County
  - Local Expertise: QIO, Infection Control Professionals & Regional Lab

- Put focus on patients/residents, not care silos
Promising Regional Efforts

Significant decrease in VRE prevalence achieved

- 32 facilities (4 acute care & 28 LTCs) participated in collaborative project
- Measurement
  - VRE prevalence
  - Infection control assessment survey
- Tailored Interventions
  - Based on survey
  - Patient risk
- Achieved reduced rates

Consensus on Consistent Practice

- Rhode Island ICP task force developed statewide, consistent infection control practices to reduce MRSA
  - Screening protocols
  - Periodic prevalence studies
  - Post-exposure follow-up
  - Isolation precautions/practices
  - Hand hygiene
  - Environmental cleaning
  - Antibiotic stewardship
  - Communication

- Disseminated to all CEOs of RI hospitals

MDRO Status on Continuity of Care Form

- Rhode Island Dept. of Health requires standard transform form be used between sending and receiving facilities

- To communicate critical patient/resident care information - like MDRO status/history

Vermont MDRO Prevention Collaborative

**Goal:** Acute care and LTC facilities work together to prevent MDRO infections

- 13 Cross-setting teams

- 1-year project (started 8/2010)
  - Share/Learn best practices
  - Implement process improvements
  - Network/Learn from participants

- 3 Learning Sessions/1 Outcomes Congress

- “What can we do by Tuesday” approach

- Prevention strategies
  - Hand hygiene
  - Contact precautions
  - Surveillance
  - Rapid reporting
  - Communication of MDRO/risk at time of transfer

Source: [http://vpqhc.org/interior.php/pid/13/sid/188](http://vpqhc.org/interior.php/pid/13/sid/188)
Lower LTC MRSA Rates Possible

In study of 10 Orange Co. LTCs:

• 31% of residents carried MRSA

• Rates varied between facilities, 7% - 52%

• MRSA carriage was not dependent on intake rate
  • Two SNFs had identical intake rates (12%), but different overall MRSA carriage rates (22% and 42%)
  • Researchers to look at difference in practices between facilities

Mechanisms of resistant not previously seen in the USA are arriving in our own Washington communities.
Opportunity

We invited facilities to join in a Regional MDRO Prevention Collaborative

Goal of the Collaborative
Establish a regional, cross-setting team comprised of acute and long-term care facilities that works together to foster best practices and effective communications, resulting in better control of MDROs

Objectives
• Protect patients, staff, and visitors from harm
• Build infection control knowledge and skills within participating facilities
• Identify common infection control challenges faced by participating facilities
• Address common challenges with small tests of change
• Improve communication between participating facilities regarding MDROs
Receive

- Infection control best practice education and guidance
- Assistance with
  - infection control needs assessment, gap analysis, goal-setting, and process improvement strategies
- Facilitated sharing/learning during Collaborative meetings
- Resources, training, and technical assistance matched to your improvement goals
Potential Impact

• Reduce pain and suffering caused by MDRO infections
• Improve resident satisfaction by reducing spread of infections while maintaining quality of life
• Ensure effective communication between acute and LTC facilities
• Improve their ability to safely and quickly place patients/residents in the region
Their Commitment

• Identify a team of individuals from each of their facilities to attend Collaborative meetings in your community

• Complete a quick infection control assessment survey

• Attend and participate in the all meetings

• Pursue small tests of change to address improvement goals in between meetings

• Report out during meetings on progress made or barriers encountered
Our Commitment

• Organize and facilitate Collaborative meetings to take place in their community

• Match resources, technical assistance, and training to group’s improvement goals

• Provide support and assistance throughout the Collaborative
Pilot Project Schedule

Meeting #1
February 2011

Meeting #2
March 2011

Meeting #3
May 2011

Meeting #4
July 2011
PDSA

Plan

- Learn about current situation
- Research best practices
- Prioritize/select improvements to test
- Plan how to test
- Collect baseline data

Do

- Try the improvements
- Document problems, observations
- Collect data as planned

Act

- Decide what should happen in next cycle
  - Modify test(s)
  - Expand pilot
  - Share findings
  - How to sustain any gain made

Study

- Analyze data
- Discuss what was learned
- Summarize findings
More Detail

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<thead>
<tr>
<th>When</th>
<th>What</th>
<th>Detail</th>
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<tbody>
<tr>
<td>February</td>
<td>Meeting #1</td>
<td>• Overview of Collaborative and PDSA mini-training</td>
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<td>• Sign MOU and submit to QH</td>
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<td>• Complete Team Roster Form and submit to QH</td>
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<td>• Complete assessment survey and submit to QH</td>
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<td>March</td>
<td>Meeting #2</td>
<td>• Review assessment &amp; facilitate gap analysis</td>
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<td>• Reach agreement on goals most valuable to team</td>
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<td>• Identify tools/resources needed based on goals</td>
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<td>April</td>
<td>Support &amp; PDSA</td>
<td>• QH/DOH coach &amp; provide tools/resources</td>
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<td>• Team uses PDSA to work on goals</td>
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<td>• Team members submit “report out” worksheets</td>
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<td>May</td>
<td>Meeting #3</td>
<td>• Report out on efforts since Meeting #1</td>
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<td>• Expert speaker/content to match team needs</td>
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<td>June</td>
<td>Support &amp; PDSA</td>
<td>• QH/DOH coach &amp; provide tools/resources</td>
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<td>• Team members submit “report out” worksheets</td>
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<td>July</td>
<td>Meeting #4</td>
<td>• Report out &amp; summarize successes</td>
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<td>• Expert speaker/content to match team needs</td>
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<td>• Discuss next steps (Continue? Share? etc.)</td>
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<td>• LTC quick re-measurement survey</td>
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Example Resources

• IHI MRSA Getting Started Kit
  • Hand hygiene observation form
  • Living with MRSA handbook
  • Compliance measurement

• CDC - LTC Baseline Prevention Practices Assessment Tool

• CDC - Options for Environmental Cleaning

• CDC - Environmental Checklist for Monitoring Terminal Cleaning

• CDC - 12 Steps to Prevent Antimicrobial Resistance – LTC Residents & Hospitalized Adults
Core Team

State Department of Health

- David Birnbaum, PhD, MPH*
- Dr. Anthony Marfin, MD, MPH, MA
- M. Jeanne Cummings, RN, CIC

Qualis Health

- Tina Schwien, MN, MPH*
- Jennifer Palagi, MPH, BSN, CIC
- Sharon Eloranta, MD, George W. Merck/IHI Fellow

*Denotes key contacts
Progress to date

• Both communities were immediately receptive.
• The CDC self-assessment survey form proved useful in profiling similarities & differences between facilities
  - Infection control resources
  - Policies & practices
  - Perceived greatest challenges
• Both quickly generated over a dozen ideas for potential projects
• Each community chose two projects (which differed from each other) that best fit their own sense of needs and priorities
  - Education & Communication (for staff; for residents & families)
  - Policy development and compliance assessment
  - Hand hygiene (for staff; for residents & families)
  - Antimicrobial stewardship
  - Environmental cleaning & disinfection
Progress to date (cont.) – Typical comments from participants – They liked:

- “Seeing everybody from different healthcare facilities communicating and working together”
- “It ran pretty fluidly. I was concerned it would be dry and drag out”
- “Hearing from other facilities. Interaction and open format”
- “The openness and informality and, of course, the exchange of ideas”
- “The discussions that can benefit my facility”
- “The reminder of why we do what we do. We tend to get caught up in the day to day and we need to look at the big picture”
Questions

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