

REALM project update

MRSA and KPC

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Rosie Lyles, MD MHA
Robert A. Weinstein, MD
on behalf of REALM co-investigators

Outline

1. MRSA and KPC point prevalence survey results
2. REALM, present and future

REALM update

Background

- REALM is a network of Chicago hospitals, originally created to evaluate MRSA rates following the 2007 mandated active surveillance law. It is supported by the CDC Prevention Epicenter in Chicago

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REALM: Aim 1

- Is the prevalence of MRSA colonization decreasing among ICU patients after the 2007 Illinois-mandated active surveillance law?

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Background (cont.)

- In 2010, REALM also began monitoring *Klebsiella pneumoniae* carbapenemase (KPC) bacteria when a region-wide outbreak was detected

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REALM: Aim 2

- What is the prevalence of KPC among ICUs and long term acute care hospitals (LTACHs)?

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Design

- Inclusion: all hospitals in city of Chicago with ≥ 10 ICU beds
 - Serial point prevalence survey, q6 months
 - MRSA colonization (2008 -)
 - KPC colonization (2010 -)
 - All ICUs (neonatal, pediatric, and adult)
 - City of Chicago hospitals – chosen for feasibility and to limit selection bias

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Design (cont.)

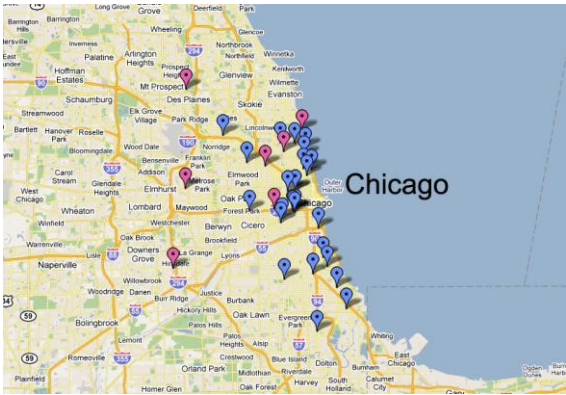
- MRSA testing
 - Peds/adults: swabbed in nose and groin
 - Neonates: nose and umbilicus
- KPC testing
 - Rectal swab (groin as alternative)
- All cultures processed in central laboratory

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Design (cont.)

- All eligible hospitals (26) in Chicago participating
- All LTACHs (7) in Cook County participating in KPC surveys
- Timeline: 6 surveys have been completed
- Outcomes of interest
 1. MRSA colonization rate
 2. KPC colonization rate

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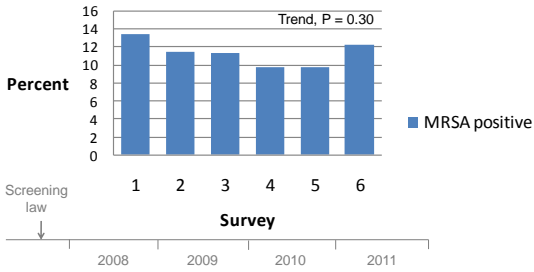
Results

- REALM total patients:
 - Neonates: 1,577
 - Pediatric: 485
 - Adult: 3,009

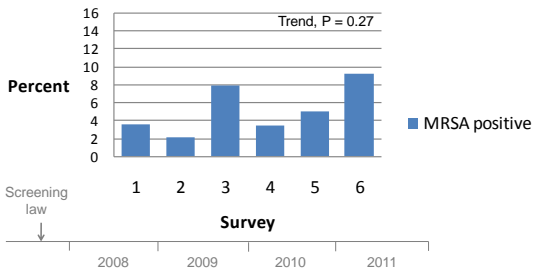
- LTACH total patients:
 - Adult: 386

MRSA results

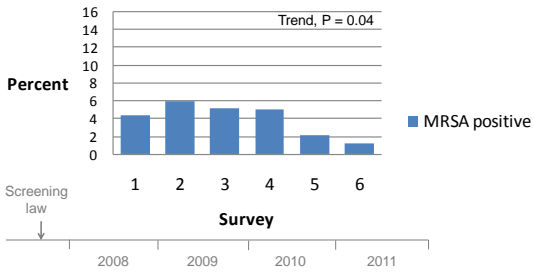
Prevalence of MRSA colonization among adult ICU patients



Prevalence of MRSA colonization among pediatric ICU patients

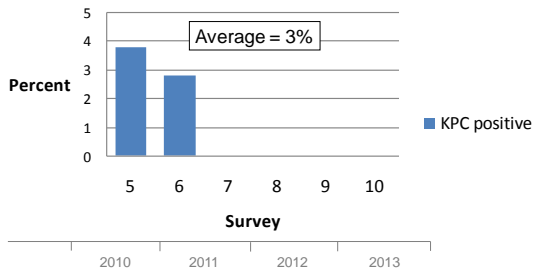


Prevalence of MRSA colonization among neonatal ICU patients

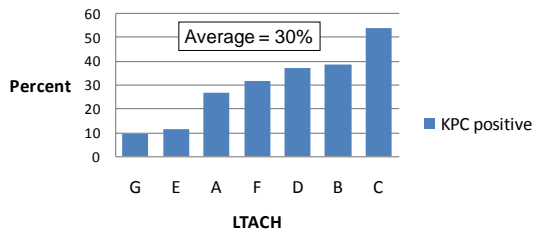


KPC results

Prevalence of KPC colonization among adult ICU patients



Prevalence of KPC colonization among LTACH patients



REALM, present and future

SOCO: REALM and your participation are important for MDRO surveillance and control in Chicago

- Interpretation of results: MRSA & KPC/CREs
- After 3 years, REALM has evolved into a unique and important MDRO surveillance network
- Thanks to your support, CDC has provided funding to continue REALM and MDRO control activities
- We propose performing MRSA surveys 1 day a year and KPC surveys 2 days per year. Feedback through APIC
- REALM is developing control interventions

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Thank you!

- Co-investigators
 - Michael Y. Lin, Rosie D. Lyles, Karen Lolans, Mary K. Hayden, Alexander J. Kallen, Stephen G. Weber, Robert A. Weinstein, and William E. Trick
- CDC
 - John Jernigan, Scott Fridkin, Alex Kallen
- Illinois Department of Public Health
 - Craig Conover
- Cook County Department of Public Health
 - Sue Gerber
- Chicago Department of Public Health
 - Stephanie Black
- Hospital epidemiologists and infection preventionists at all 26 hospitals

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