Georgia Department of Public Health

A Call for Action:
The Atlanta Regional CRE Continuum of Care Collaborative

Presented by: Jeanne Negley, MBA
Public Health Director Healthcare Associated Infections
Cindy Prosnak RN, BSN, CIC
Alliant GMCF Infection Prevention Consultant
Date: March 5, 2014

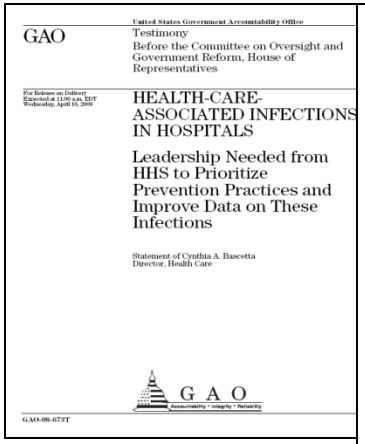
We Protect Lives.

Objectives

- Federal and State Initiatives to Address Healthcare Associated Infections (HAIs)
- Readmissions and HAIs
- Long-Term Care is a Vital Link in the Continuum of Care
- How the Regional approach benefits:
  - Hospitals
  - Long-Term Acute Care Hospitals
  - Nursing Homes

Federal Initiative to Address Infections

2009 HHS Action Plan in Response to GAO



United States Government Accountability Office

GAO

Testimony
Before the Committee on Oversight and Government Reform, House of Representatives

For Release on Delivery
Expected at 11:00 a.m. EDT
Wednesday, April 16, 2008

HEALTH-CARE-ASSOCIATED INFECTIONS IN HOSPITALS

Leadership Needed from HHS to Prioritize Prevention Practices and Improve Data on These Infections

Statement of Cynthia A. Bascetta
Director, Health Care

GAO

Accountability * Integrity * Reliability

GAO-08-673T

News Release

FOR IMMEDIATE RELEASE
Tuesday, January 6, 2009

Contact: OPHS Press Office
(202) 205-0143

HHS Issues Action Plan to Prevent Health Care-Associated Infections

The U.S. Department of Health and Human Services (HHS) unveiled a plan that establishes a set of five-year national prevention targets to reduce and possibly eliminate health care-associated infections (HAIs).

Health care-associated infections are infections that patients acquire while undergoing medical treatment or surgical procedures. These infections are largely preventable.

The Action Plan to Prevent Health Care-Associated Infections lists a number of areas in which HAIs can be prevented, such as surgical site infections. The plan also outlines cross-agency efforts to save lives and reduce health care costs through expanded HAI prevention efforts.

"This plan will serve as our roadmap on how the department addresses this important public health and patient safety issue," HHS Secretary Mike Leavitt said. "This collaborative interagency plan will help the nation build a safer, more affordable health care system."

The plan establishes national goals and outlines key actions for enhancing and coordinating HHS-supported efforts. These include development of national benchmarks prioritized recommended clinical practices, a coordinated research agenda, an integrated information systems strategy and a national messaging plan.

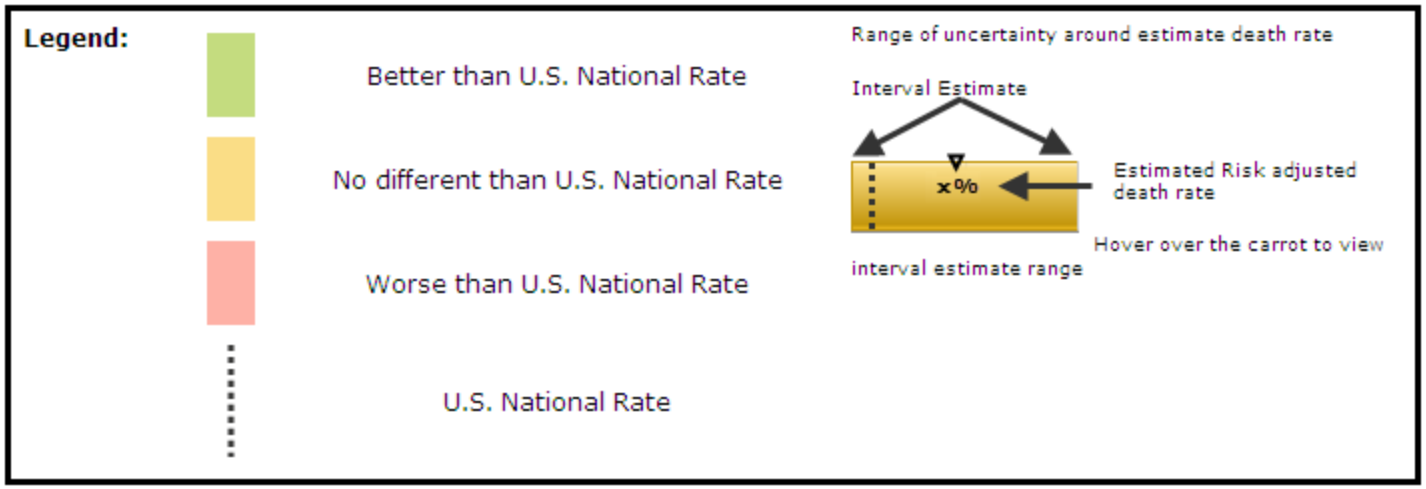
The plan also identifies opportunities for collaboration with national, state, tribal and local organizations.

HHS intends to update the plan in response to public input and new recommendations for infection prevention. The plan, and instructions for submitting comments on the plan, can be found online at http://www.hhs.gov/ophs.

HAI Event	Facility Type	Reporting Start Date
CLABSI	Acute Care Hospitals, Adult, Pediatric, and Neonatal ICUs	January 2011
CAUTI	Acute Care Hospitals Adult and Pediatric ICUs	January 2012
SSI (COLO, HYST)	Acute Care Hospitals	January 2012
Intravenous antimicrobial start	Dialysis Facilities	January 2012
Positive Blood Culture	Dialysis Facilities	January 2012
Signs of vascular access infection	Dialysis Facilities	January 2012
CLABSI	Long-Term Acute Care Hospitals	October 2012
CAUTI	Long-Term Acute Care Hospitals	October 2012
CAUTI	Inpatient Rehabilitation Facilities	October 2012
MRSA Bacteremia	Acute Care Hospitals	January 2013
C. Difficile Lab ID	Acute Care Hospitals	January 2013
Healthcare Worker Influenza Vaccination	Acute Care Hospitals	January 2013
Healthcare Worker Influenza Vaccination	Ambulatory Surgical Centers	October 2014

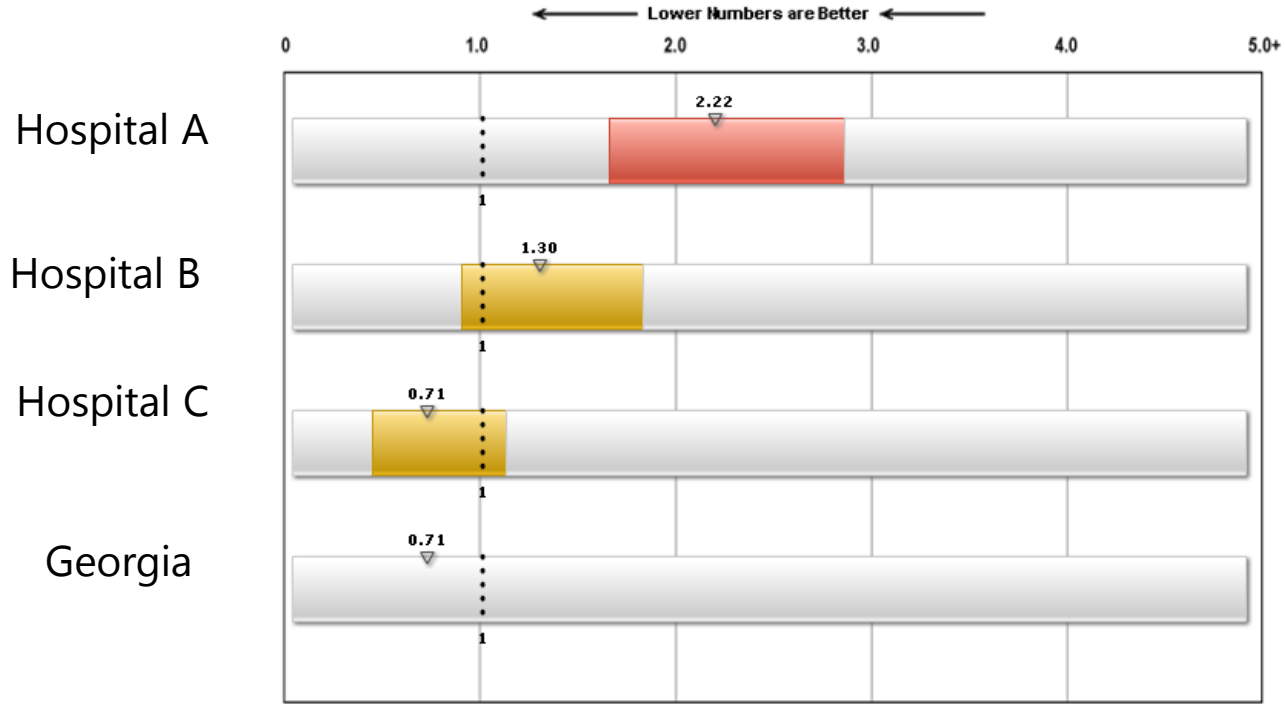
HHS Action Plan to Reduce HAIs

Priority Area	Georgia (2012)	National (2012)	2013 Targets
Reduce Central-line Associated Bloodstream Infections (ICU)	↓36%	↓46%	↓50%
Catheter Associated Urinary Tract Infections (ICU)	No Change	↑9%	↓25%
Surgical Site Infections - Colon	↓17%	↓20%	↓25%
Surgical Site Infections – Abdominal Hysterectomy	↓13%	↓11%	↓25%
MRSA Infections (invasive sites; population)	To be reported in 2014		50%
Clostridium difficile infections	To be reported in 2014		30%



Central-Line-Associated Blood Stream Infections (CLABSI)

Why is this important?



Federal Initiatives for Nursing Homes

- HHS has also published a Long Term Care Chapter of the HAI Action Plan in April 2013.
- Does not currently require public reporting.
- One state (Pennsylvania) requires reporting.
- The entire document can be found at this link:
  - http://www.health.gov/hai/pdfs/hai-action-plan-ltcf.pdf

Federal Priorities for Nursing Homes

No.	Description	Goal
1	Enrollment in NHSN for Nursing Home Infection Surveillance Activity	5% certified nursing homes enroll in NHSN in 5 years
2	Clostridium difficile	Pilot NHSN to implement surveillance
3	*Vaccination for Residents (Influenza, Pneumococcal)*	*85% vaccination of LTCF residents for influenza and pneumococcus in 5 years.*
4	*Health Care Personnel Influenza Vaccination*	*75% of HCP in long-term care receive the seasonal influenza vaccination by 2015.*
5	*Urinary Tract Infections, Catheter-Associated Urinary Tract Infections, and Catheter Care Processes*	*Pilot reporting to NHSN, evaluate variability, and determine five-year goal.*

State Activities with Nursing Homes

- Piloting NHSN reporting with five nursing homes in the state
- Participating in training on infection prevention for nursing homes in May and October 2014
- Convening this meeting and initiating this regional program to effectively address healthcare-associated infections

Cost of Healthcare Associated Infections (HAIs)

- Every day: 1 out of 20 patients has an infection caused by healthcare
- Every year: 2 million people get an antibiotic resistant infection and 23,000 die
- The economic burden of HAIs is estimated as high as $45 billion per year in the US
  - Estimated 70% of these infections are preventable

http://www.cdcfoundation.org/businesspulse/safe-healthcare-infographic

Cost of Specific Types of HAIs

Infection Type	Average Cost Per Infection
Central Line Associated Bloodstream Infections	$45,814
Ventilator-Associated Pneumonia	$40,144
Surgical Site Infections	$20,785
Clostridium *difficile* (C. diff) infections	$11,285
Catheter-associated urinary tract infections	$896

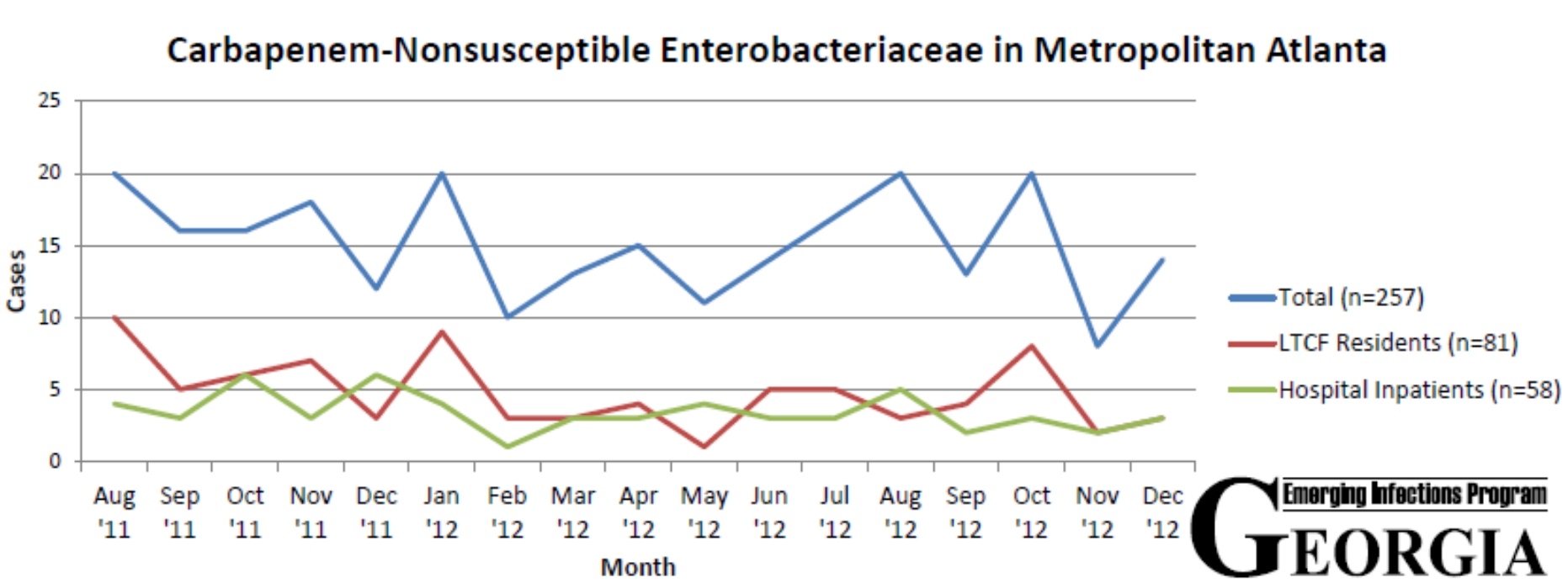
Zimlichman et al. JAMA Intern Med. 2013 Dc 9-23; 173(22); 2039-46

30-Day Readmissions

- Infections and cardiovascular disorders were the primary diagnosis for 63% of the hospital readmisssions from a skilled nursing facility (SNF)
- Common diagnosis for readmissions post-acute: heart failure, ***urinary tract infection***, ***pneumonia, septicemia***, nutritional and metabolic disorders, ***esophagitis, gastroenteritis,*** and digestive disorders

J Am Med Dir Assoc. 2011 Mar; 12(3): 195-203.
JAMA. 2014 Feb 12;311(6):604-14.

Georgia Emerging Infections Program



CRE Snapshot of Transfer Patterns

- Metro Atlanta
  - Jan – Jun 2013 data for CRE, Acinetobacter and C. difficile
  - Patterns of transfer indicate CRE in nursing home results in readmission/transfer
  - Lost revenue for nursing home
  - Increased burden on hospital related to 30-day readmission

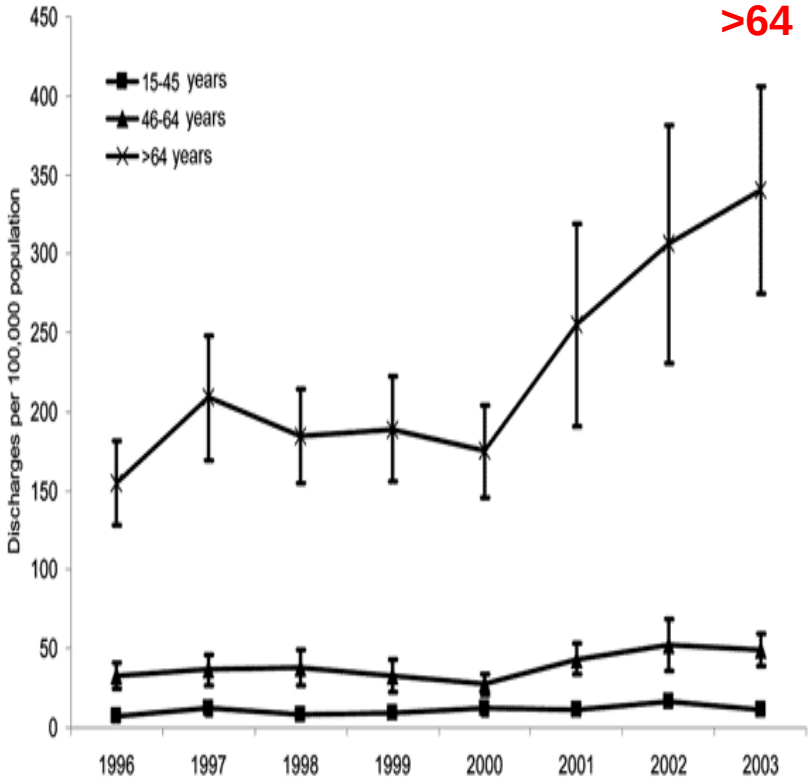
Long-Term Care Facilities in the Care Continuum

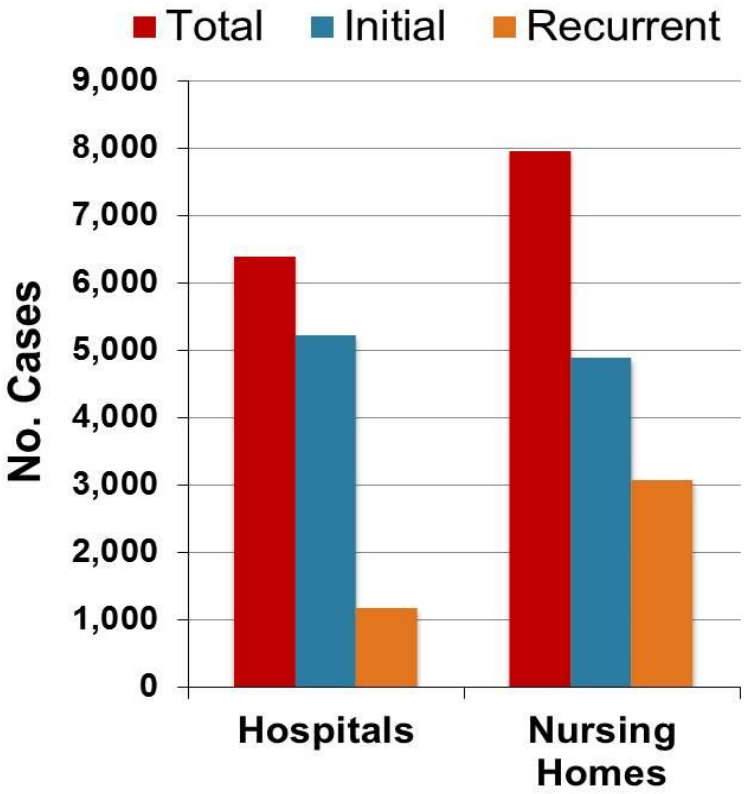
- The role of long-term care facilities has changed.
- Between 1999 and 2008, the number of long-term care residents increased 10%
- Shorter lengths of stay in hospitals
- Long-term care facilities have observed the increased use of devices

Nursing Homes are Reservoirs of MDROs

- **NH residents colonized with MDR-Gram Negative Rods (~20% prevalence)**
  - O'Fallon et al. *Infect Control Hosp Epidemiol* 2009; 30: 1172-1179
- **NH residents colonized with MRSA (40-50% prevalence)**
  - Mody et al. *Clin Infect Dis* 2008; 46(9): 1368-73
  - Stone et al. *Infect Control Hosp Epidemiol* 2012; 33(6): 551-7
- **NH residents colonized with VRE (5-10% prevalence)**
  - Pop-Vicas et al J Am Geriatr Soc. 2008 56(7):1276-80
  - Benenson et al. Infect Control Hosp Epidemiol. 2009 30:786-9

C.difficile infection (CDI) in NH





McDonald LC et al Emerg Infect Dis 2006;12
Campbell et al. ICHE 2009; 30(6): 526-33

Regional Efforts are Key

CONTROL OF VANCOMYCIN-RESISTANT ENTEROCOCCUS IN HEALTH CARE FACILITIES IN A REGION

BELINDA E. OSTROWSKY, M.D., M.P.H., WILLIAM E. TRICK, M.D., ANNETTE H. SOHN, M.D., STEPHEN B. QUIRK, M.P.P., STACEY HOLT, M.M.SC., LORETTA A. CARSON, M.S., BERTHA C. HILL, B.S., MATTHEW J. ARDUINO, PH.D., MATTHEW J. KUEHNERT, M.D., AND WILLIAM R. JARVIS, M.D.

- Siouxland project demonstrated that an outbreak of VRE could be controlled through collaboration between all of facilities in the area.

Ostrowsky et al. N Engl J Med 2001;344:1427

Emergence and Rapid Spread of KPC Enterobacteriaceae

- "We observed extensive transfer of KPC-positive patients throughout the exposure network of 14 acute care hospitals, 2 long-term acute hospitals, and 10 nursing homes. Although few cases were identified at most institutions, many facilities were affected. Successful control of KPC-producing Enterobacteriaceae will require a coordinated, regional effort among acute and long-term health care facilities and public health departments."

Clin Infect Dis. 2011 Sep; 53(6): 532-40.

A Call for Action

Healthcare CEOs and Chief Medical Officers:

Know your Infection Rates

- Use your data to identify "hot spots" in your facility and target prevention efforts.
- Invest in electronic health record systems that can connect to CDC's ***National Healthcare Safety Network.***

ENROLL YOUR FACILITY IN THE NHSN

Be Vigilant

- Insist that staff members consistently ***follow CDC infection prevention guidelines.***

VIEW CDC GUIDELINES

- ***Prescribe antibiotics correctly.*** Take a 48-hour "time out" and use lab cultures to modify prescriptions.
- Remove temporary medical devices ASAP.
- Use the right size medical vials and correct injection safety procedures.

Foster Collaboration

- Work with labs that accurately identify drug-resistant infections and ***alert clinical and infection prevention staff of findings.***
- Make it a policy to ***notify receiving facilities*** about infections when transferring patients.
- ***Join or start regional prevention efforts.*** Contact your state health department for more details.

FIND YOUR STATE HEALTH DEPARTMENT

Contact Information

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Healthcare Community Partnerships Across the Continuum

Denise M. Flook, RN, MPH, CIC
VP, Infection Prevention/Staff Engagement

Georgia Hospital Association
Research & Education Foundation
Hospital Engagement Network
40/20 by 2014

Partnership for Patients Knows No Boundaries

We are part of a national movement for the triple aim to Put Patients First and make patient care:

- safer
- more reliable
- less costly

The Partnership for Patients Challenge

- Making Care Safer. Reducing preventable hospital-acquired conditions by 40% compared to 2010.
- Improving Care Transitions

Community-based Care Transitions Program

- Reducing complications during transitions from one care setting to another. Safe, effective, and efficient care transitions require thoughtful collaboration among health care providers, hospitals, nursing homes and other facilities, social service providers, patient caregivers, and patients themselves.

- The goals of the Community-based Care Transitions Program are:
  - To improve transitions of beneficiaries from the inpatient hospital setting to other care settings
  - To improve quality of care
  - To reduce readmissions for high risk Medicare beneficiaries
  - To document measurable savings to the Medicare program

Hospital Success Depends on A Population Community Heath Approach

Payment for care is now based on quality not volume

- Value Based Purchasing
  - Medicare payment incentives/penalties to promote:
    - Achievement of high quality care
    - Improvement in care quality
    - Annual Market update increased or reduced beginning October 2102 up to 2% by 2017
  - Payment based on quality measures and Patient satisfaction (HCAPHS)
  - Better scores higher payments, low scores lower payments
- Nonpayment for Hospital Acquired Conditions
  - Higher payment withheld if condition not present on admission
- Payment penalties for
  - readmissions
  - HAC soon
- Public Reporting of Quality and Patient Satisfaction Scores

The Cost of Readmissions to Georgia Hospitals

It is estimated that Georgia hospitals will lose over $3.4 million due to the Readmission penalty

(Calculation time frame: July 1, 2009 – June 30, 2012)

HAI is a Community Health Challenge

- MRSA with > CO then Hospital acquired
- C. diff becoming a community HAI
- Sepsis – high morbidity and mortality that is across the community

Partnerships Are Key to Decreasing Harm

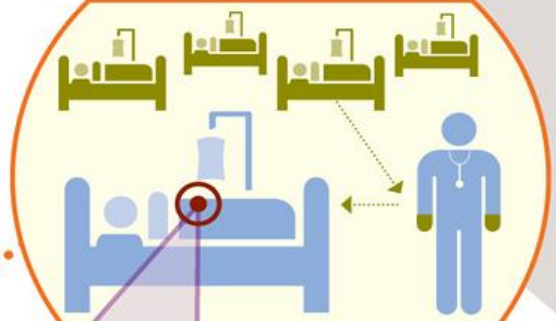
- No longer think inside of our 4 walls
- Hospitals are at the center of your community's health
- Hospitals can provide leadership for the partnerships that need to be forged to be successful
  - Patients
  - Providers
  - Home Health
  - Long term care
  - Assisted living
  - EMS
  - Local public health

Risk of CRE Infections

1. Local Short-Stay Hospital

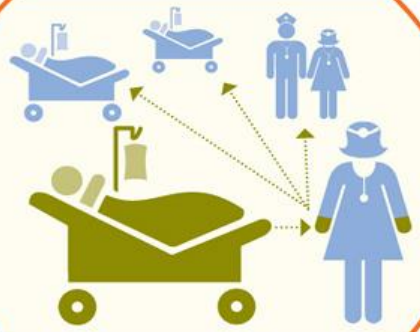
Jan has a stroke and is in the hospital. She is stable but needs long-term critical care at another facility.

2. Long-Term Acute Care Hospital



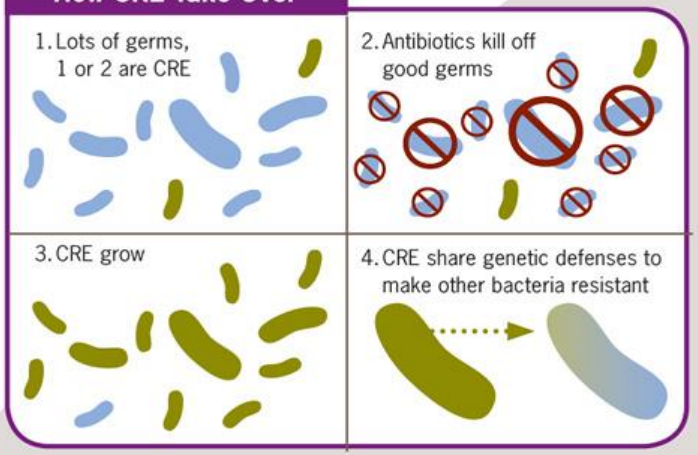
Other patients in this facility have CRE. A nurse doesn't wash his hands, and CRE are spread to Jan. She develops a fever and is put on antibiotics without proper testing.

3. Local Short-Stay Hospital



Jan becomes unstable and goes back to the hospital, but her new doctors don't know she has CRE. A doctor doesn't wash her hands after treating Jan. CRE is spread to other patients.

How CRE Take Over



SOURCE: CDC Vital Signs, 2013

Patient/Family Centered Safe Care Everyone Must:

Work Together to Promote:

- Patient/Family focus and engagement
- Boundarilessness, seamless care
- Unconditional team work
- Speed and agility of change
- Decreased cycle time to improvement
- Repetition, testing, and evolving in real time
- Reliability, standardization and spreading what works

If you're not working together, you're not doing your job!

National Overview of Carbapenem-Resistant Enterobacteriaceae

Alex Kallen, MD, MPH

Division of Healthcare Quality Promotion

Centers for Disease Control and Prevention

The findings and conclusions in this report are those of the author and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Objectives

- Describe the epidemiology of carbapenem-resistant Enterobacteriaceae (CRE) in the United States
- Briefly review measures necessary to halt transmission
- Recognize the importance of a regional approach to CRE control

BACKGROUND

Enterobacteriaceae

- **Normal human gut flora & environmental organisms**
- **More than 70 species**
  - *E. coli*
  - *Klebsiella*
- **Range of human infections: UTI, wound infections, pneumonia, bacteremia**
- **Important cause of healthcare- and community-associated infections**
  - Some of the most common organisms encountered in clinical laboratories

Pathogens Reported to NHSN 2009-2010

	Overall percentage	CLABSI	CAUTI	VAP	SSI
E.					
K.					
P. aeruginosa	8% (5)	4%	11%	17%	6%
Enterobacter spp.	5% (8)	5%	4%	9%	4%

These three groups of organisms make up about 25% of organisms reported to NHSN Device and Procedure module

Sievert D, et al. Infect Control Hosp Epidemiol 2013; 34: 1-14

Antimicrobial Resistance in Enterobacteriaceae

- **Resistance to β-lactams has been a concern for decades**
  - β-lactamases
  - Extended-spectrum β-lactamases (ESBLs)
- **Carbapenems – "last resort" antibiotics**
  - Imipenem, meropenem, doripenem, ertapenem

Carbapenemases – Enzymes that break down carbapenems and β-lactam antibiotics (generally)

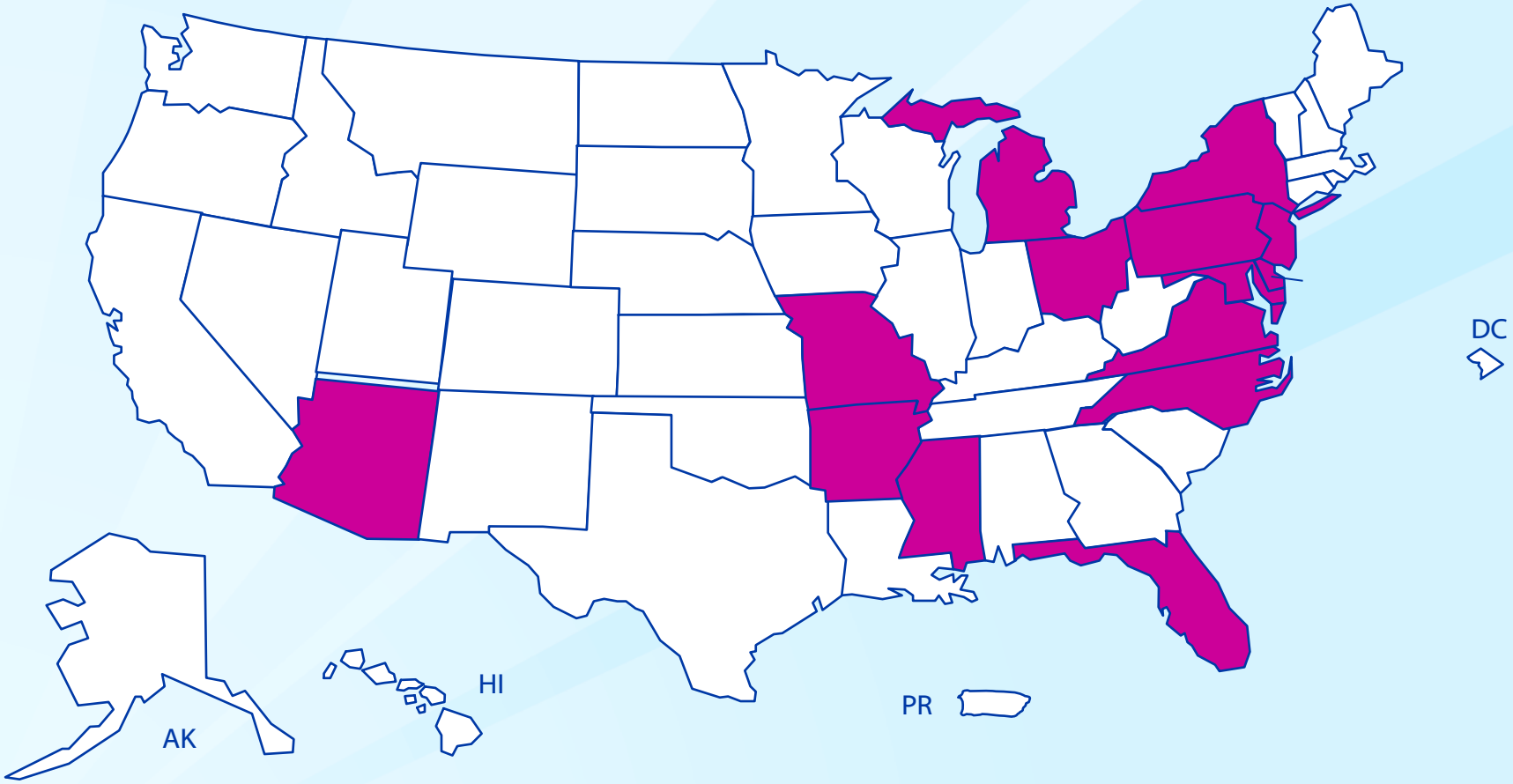
ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, Apr. 2001, p. 1151–1161 Vol. 45, No. 4
0066-4804/01/$04.00+0 DOI: 10.1128/AAC.45.4.1151–1161.2001

Novel Carbapenem-Hydrolyzing β-Lactamase, KPC-1, from a Carbapenem-Resistant Strain of *Klebsiella pneumoniae*

HESNA YIGIT,[1] ANNE MARIE QUEENAN,[2] GREGORY J. ANDERSON,[1]
ANTONIO DOMENECH-SANCHEZ,[3] JAMES W. BIDDLE,[1] CHRISTINE D. STEWARD,[1]
SEBASTIAN ALBERTI,[4] KAREN BUSH,[2] AND FRED C. TENOVER[1]*

Carbapenemase-producing CRE in the United States

November 2006

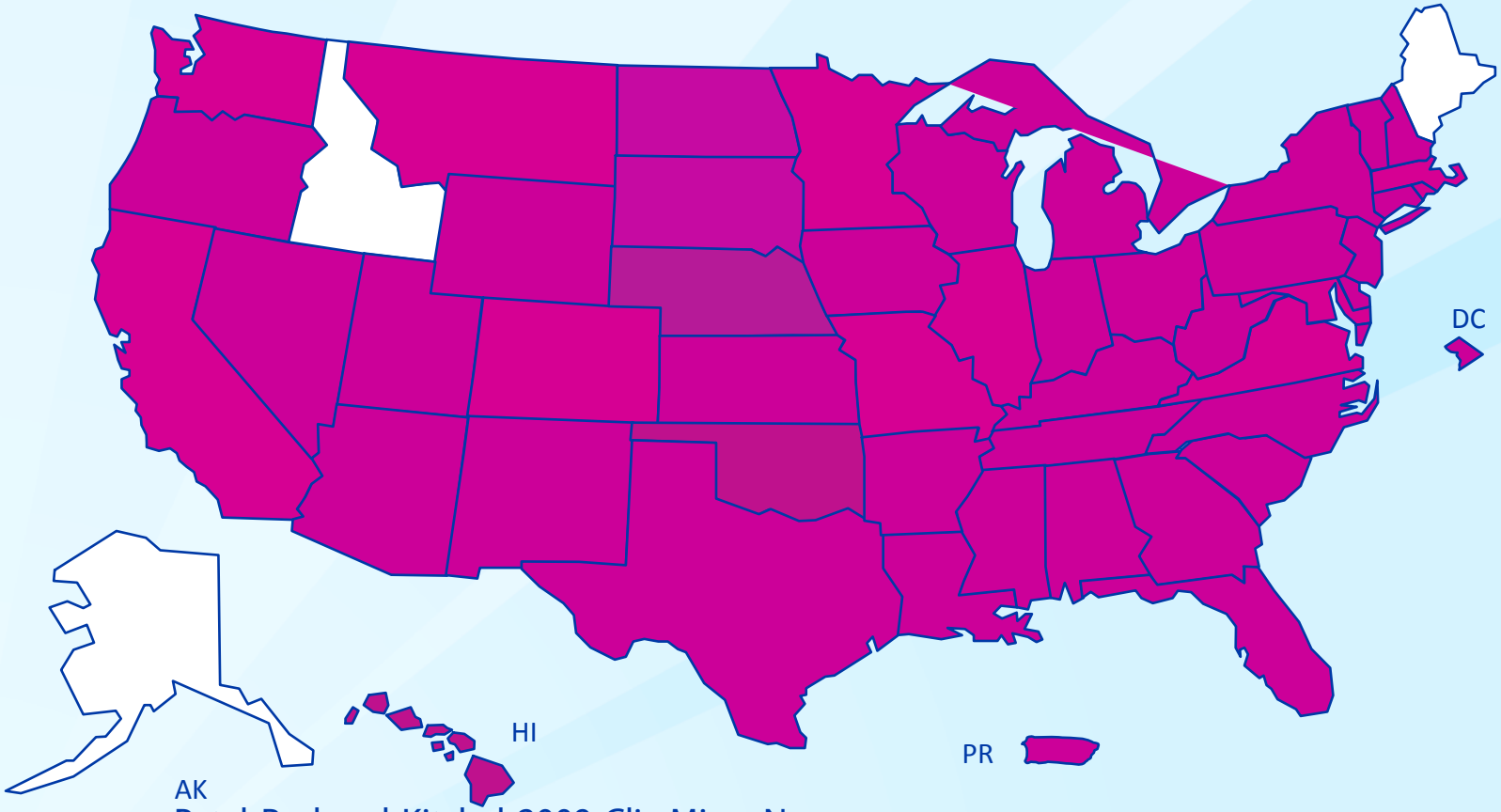


Patel, Rasheed, Kitchel. 2009. Clin Micro News

CDC, unpublished data

KPC-producing CRE in the United States

February 2014



Patel, Rasheed, Kitchel. 2009. Clin Micro News

MMWR MMWR Morb Mortal Wkly Rep. 2010 Jun 25;59(24):750.

MMWR Morb Mortal Wkly Rep. 2010 Sep 24;59(37):1212.

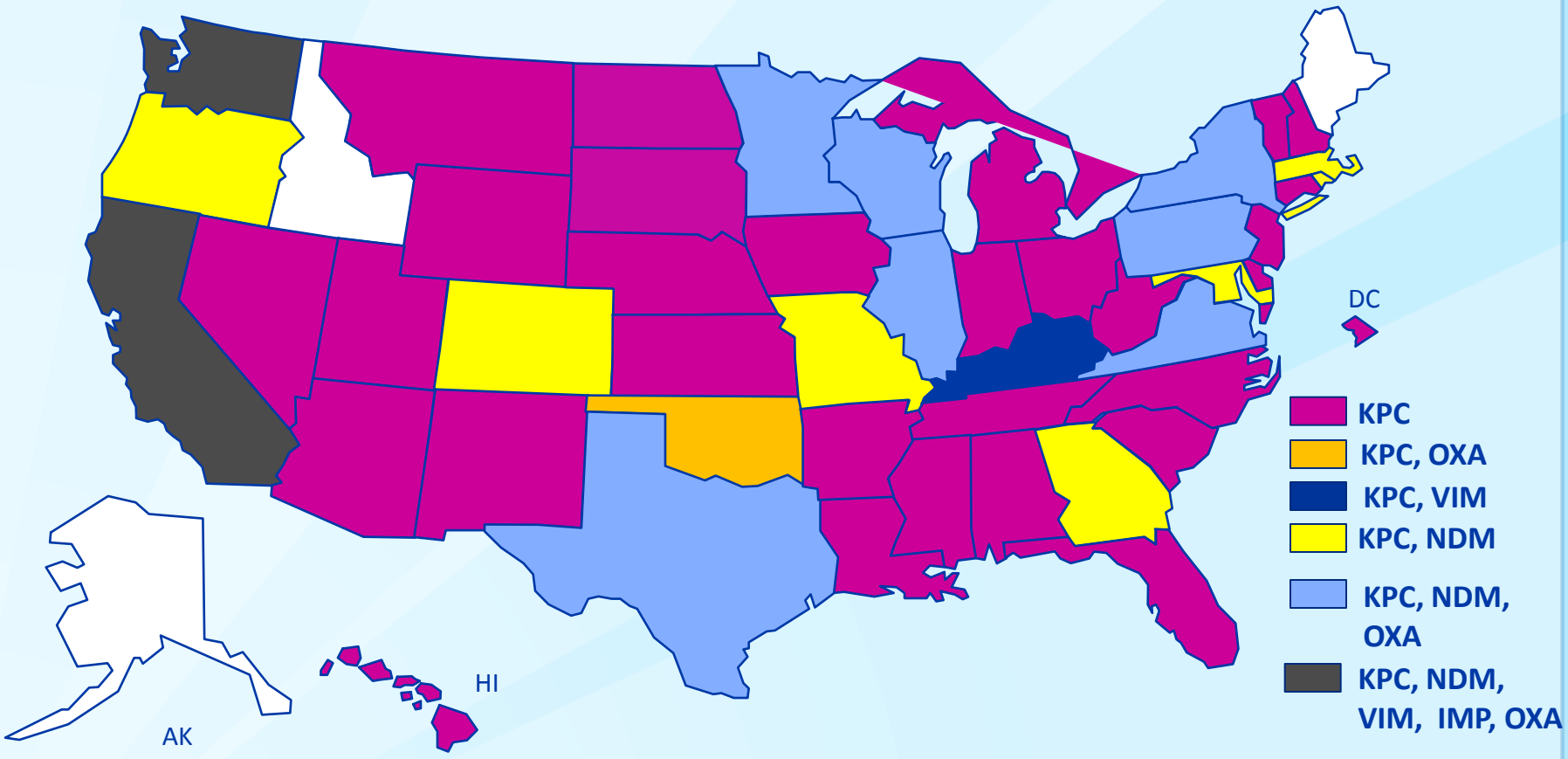
CDC, unpublished data

Carbapenemases (January 2014)

Enzyme	Number (number of states) identified to date in US
KPC	(47 states)
NDM	97 (15 states)
IMP	4 (2 states)
VIM	5 (3 states)
OXA	16 (9 states)

Carbapenemase-producing CRE in the United States

December, 2013



CRE INCIDENCE

Change in CRE Incidence, 2001-2011

	National Nosocomial infection Surveillance system, Number (%) of isolates			National Healthcare Safety Network, Number (%) of isolates		
	2001			2011		
Organism	Isolates	Tested	Non-susceptible	Isolates	Tested	Non-susceptible
Klebsiella pneumoniae* and *oxytoca	654	253 (38.7)	4 (1.6)	1,902	1,312 (70.0)	136 (10.4)
E. coli	1,424	421 (29.6)	4 (1.0)	3,626	2,348 (64.8)	24 (1.0)
Enterobacter aerogenes* and *cloacae	553	288 (52.1)	4 (1.4)	1,045	728 (69.7)	26 (3.6)
Total	2,631	962 (36.6)	12 (1.2)	6,573	4,388 (66.8)	186 (4.2)

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Facilities Reporting at least One CRE (CAUTI or CLABSI) to NHSN, First Half of 2012

Facility characteristic	Number of facilities with CRE from a CAUTI or CLABSI (2012)	Total facilities performing CAUTI or CLABSI surveillance (2012)	(%)
All acute care hospitals	181	3,918	(4.6)
Short-stay acute hospital			
Long-term acute care hospital			

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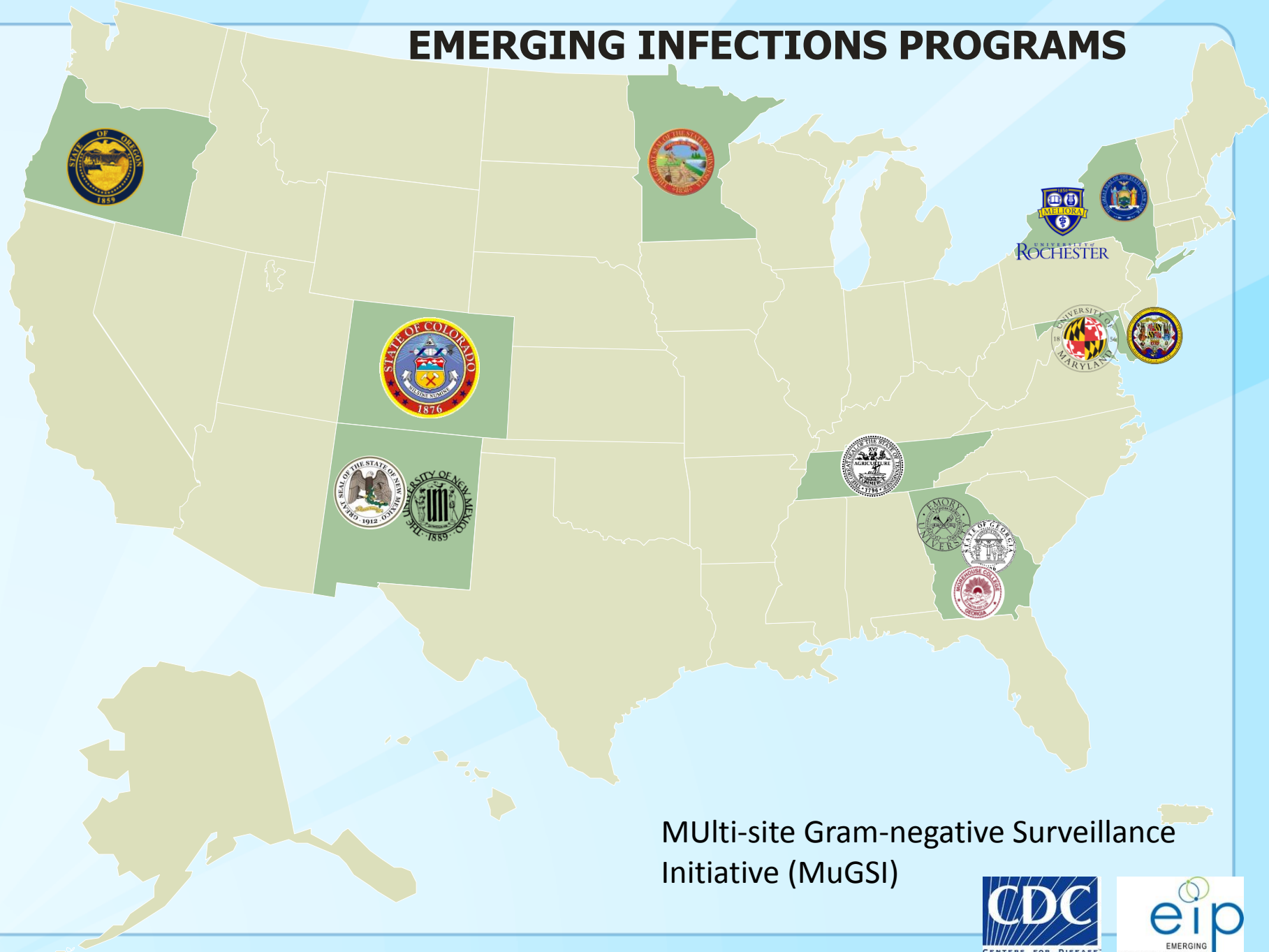
All acute care hospitals	181	3,918	(4.6)
Short-stay acute hospital	145	3,716	(3.9)
Long-term acute care hospital	36	202	(17.8)

CRE EPIDEMIOLOGY

EMERGING INFECTIONS PROGRAMS



MUlti-site Gram-negative Surveillance Initiative (MuGSI)

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

eip
EMERGING INFECTIONS PROGRAMS

CRE Organisms by Site (2012*-2013, n=729)

Site	*E. coli*	*Enterobacter spp.*	*Klebsiella spp.*	*Total CRE*
CO	2	16	7	***25***
GA	42 (14%)	43 (14%)	223 (72%)	***308***
MD	5	10	33	***48***
MN	9	43	14	***66***
NY	3	4	12	***19***
OR	3	11	5	***19***
Total	64 (13%)	127 (26%)	294 (61%)	***485***

- *2012 cases reported for GA, MN and OR only

Initial Culture Source (2012-2013, n=729)

Culture Source	CR *Enterobacteriaceae* (n=485)
Blood	55 (11%)
Pleural Fluid	2 (0.4%)
Peritoneal Fluid	7 (1%)
Joint/Synovial Fluid	1 (0.2%)
Bone	0 (0%)
Urine	419 (86%)
Other normally sterile site~	6 (1%)

- 2012 cases reported for GA, MN and OR
- Culture sites are not mutually exclusive

Epidemiological Classification, by EIP Site (2012-2013, n=710)

EIP Site	Community-Associated	Healthcare-Associated Community-Onset	Hospital Onset	Total
CO	5	17	3	25
GA	18 (6%)	223 (73%)	63 (21%)	304
MD	0	34	13	47
MN	15	40	9	64
NY	6	8	2	16
OR	4	5	4	13
Total	***48 (10%)***	***327 (70%)***	***94 (20%)***	***469***

- 2012 data included for GA, MN and OR only

Preliminary Unadjusted Population Rates of CRE by Site (2013) per 100,000 population

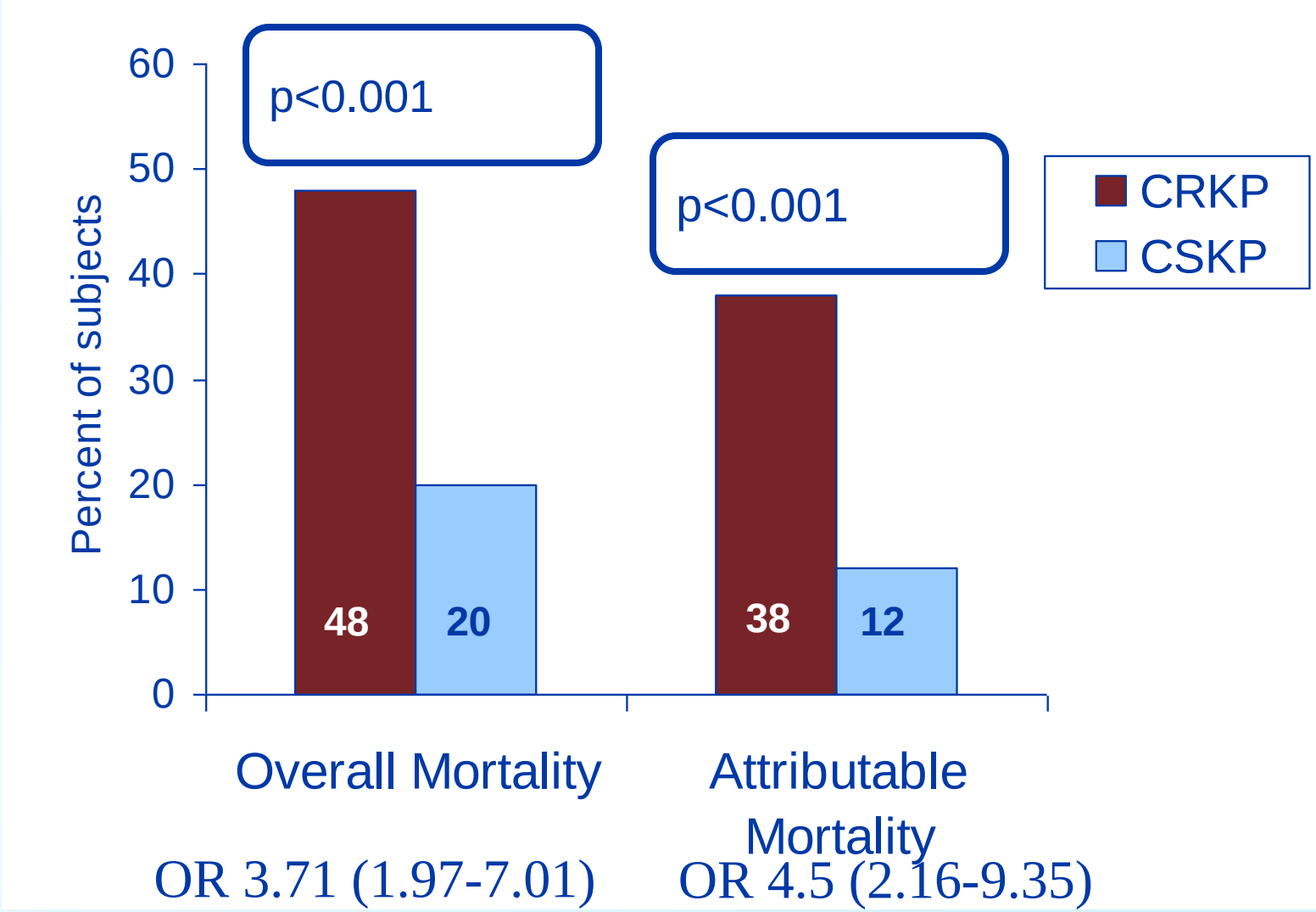
Site	Population (2012)*	CR *Enterobacteriaceae* (n=272)
CO	2,532,982	0.99
GA	3,821,534	3.48
MD	1,905,444	2.52
MN	1,704,728	1.99
NY	747,813	2.54
OR	1,690,785	0.77
Total	**12,403,286**	**2.19**

WHY ARE CRE CLINICALLY AND EPIDEMIOLOGICALLY IMPORTANT?

Why are CRE Clinically and Epidemiologically Important?

- Cause infections associated with high mortality rates

Mortality



Patel et al. Infect Control Hosp Epidemiol 2008;29:1099-1106

Why are CRE Clinically and Epidemiologically Important?

- **Cause infections associated with high mortality rates**
- **Resistance is highly transmissible**
  - Between organisms – plasmids
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MDR GNRs in the Community

- **NDM**
  - Identified in *K. pneumoniae* in river in Hanoi, Viet Nam
  - Cause of community-onset infections in India
    - In one survey, isolates from 2 sites often from community acquired UTIs
  - Gene for NDM detected in 2/50 drinking water samples and 51/171 water seepage samples from New Delhi

Isozumi R et al. EID 2012: 1383-4

Kumarasamy K Lancet ID 2010;

Walsh TR Lancet ID 2011:355-362

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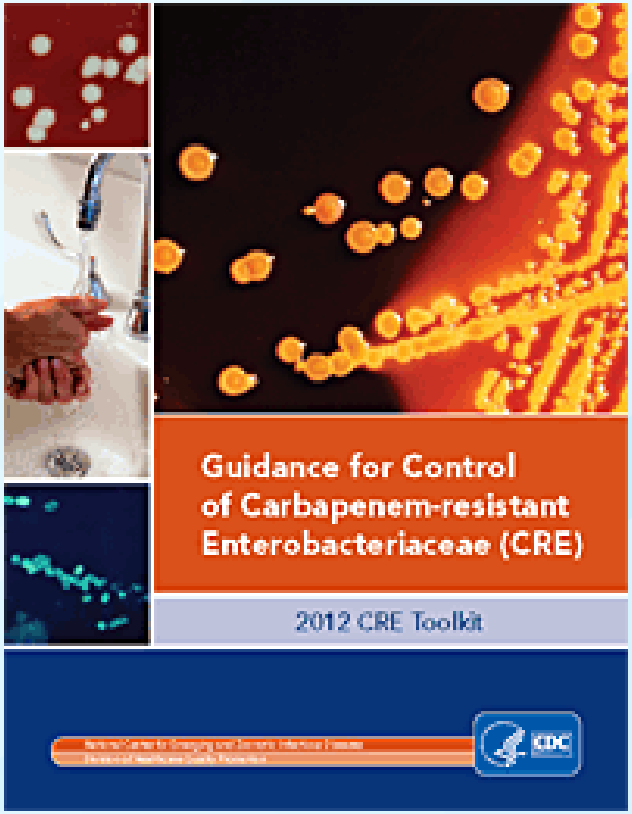
  - *E. coli* common cause of community infection
- **In most areas in the United States this organism appears to infrequently identified**

PREVENTION

Prevention



http://www.cdc.gov/hai/organisms/cre/cre-toolkit/

Interventions

- **Core**
  - Hand hygiene
  - Contact Precautions
  - HCP education
  - Minimizing device use
  - Patient and Staff cohorting
  - Laboratory notification
  - Antimicrobial stewardship
  - CRE Screening
  - Communication of MDRO status at discharge
- **Supplemental**
  - Active surveillance cultures
  - Chlorhexidine bathing

Surveillance

- **First step in Prevention**
- **Facilities should have an awareness of the prevalence of CRE in their Facility**
  - Lab look backs
    - How often are CRE identified?
  - Prospective evaluation
    - Point prevalence surveys
  - Understanding basic epidemiology of CRE in your facility
    - Units these patients are coming from
    - Present at admission?

Basic CRE Prevention Strategy

- **"Detect and Protect"**
  - Identify patients colonized or infected with CRE
  - Prevent transmission through use of hand hygiene, Contact Precautions, and environmental cleaning
- **Basic infection control**
  - Antimicrobial stewardship
  - Minimizing device use
- **Notifying accepting facilities at transfer**
- **Application of interventions can vary by setting**

REGIONAL APPROACH TO CRE PREVENTION

Inter-Facility Transmission of MDROs (Including CRE)

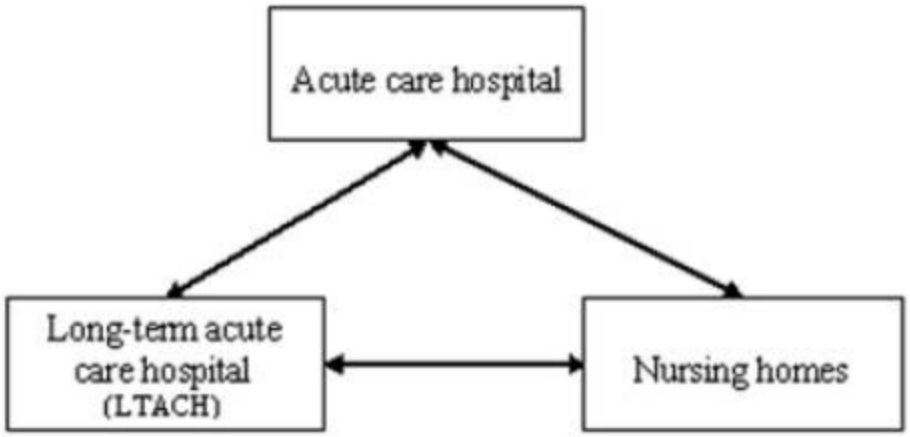


Figure 3. Patient flow among regional health care facilities. Outbreaks of infection with multidrug-resistant organisms have been found to follow the flow of colonized patients across institutions.

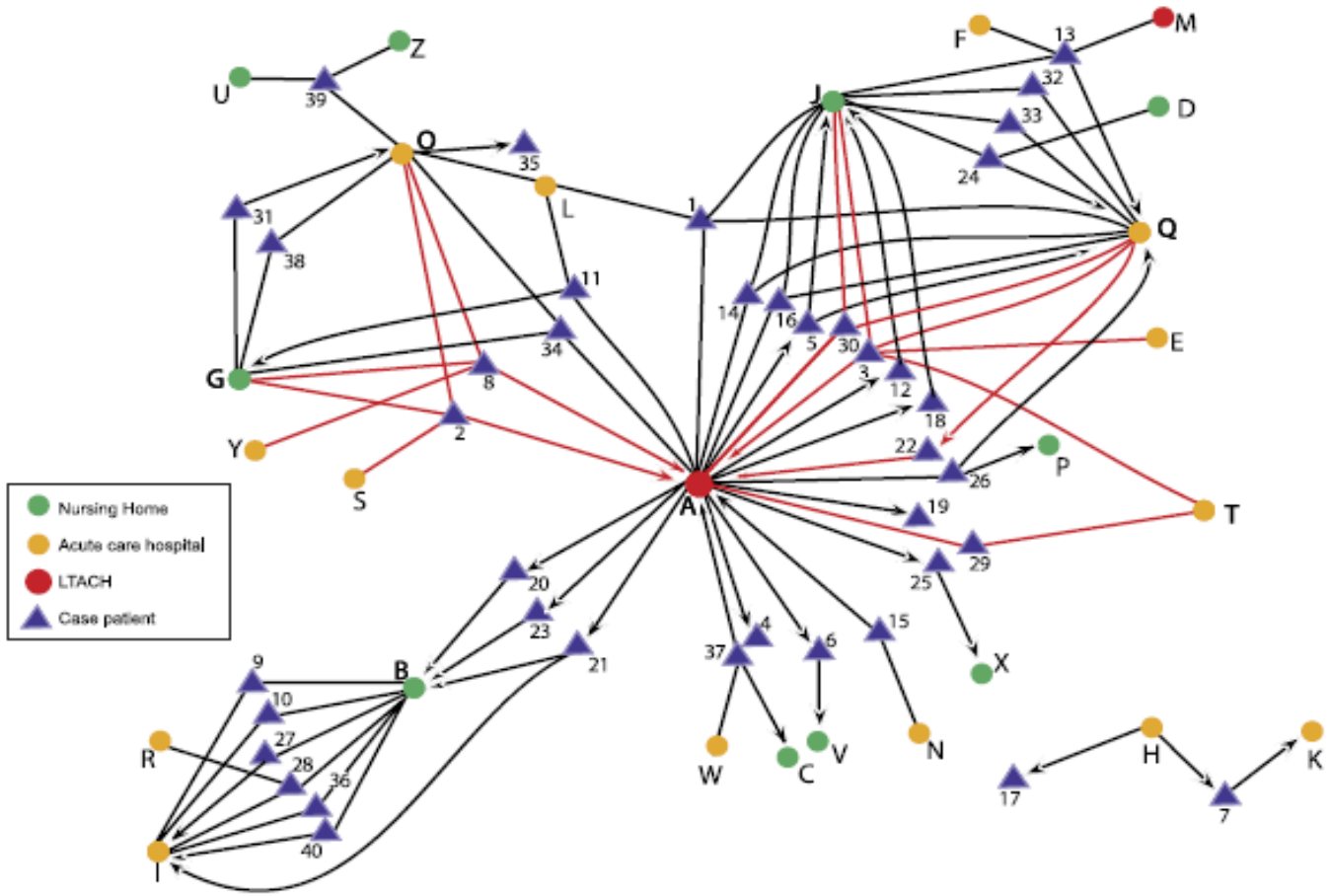
Munoz-Price SL. Clin Infect Dis 2009;49:438-43

Regional Approach to MDRO Prevention is Essential

- **Rationale for regional approach**
  - What happens in one facility will impact surrounding facilities
  - Individual facilities can reduce MDRO prevalence only to a certain point

Sohn AH et al. Am J Infect Control 2001;29:53-7

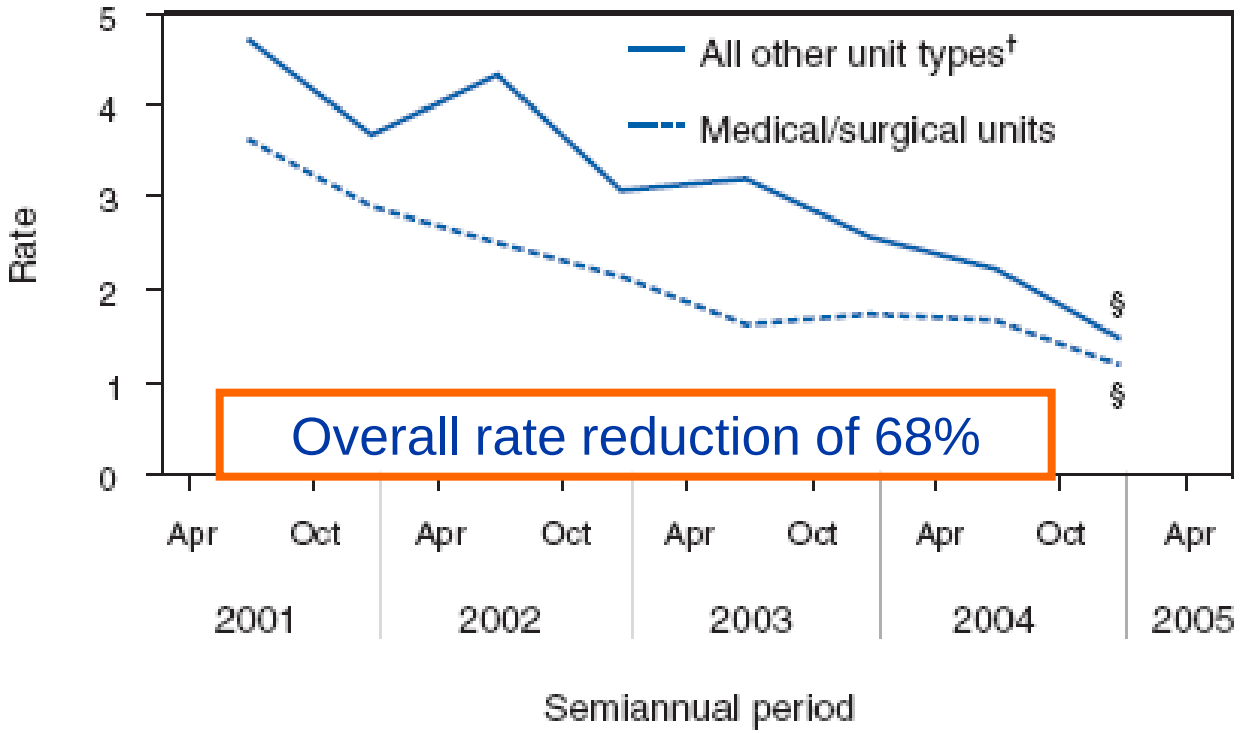
Schwaber MJ et al. Clin Infect Dis 2011;52:848-55



KPC outbreak in Chicago, 2008

Won et al. Clin Infect Dis 2011;53:532-540

FIGURE. Central line–associated bloodstream infection rate* in 66 intensive care units (ICUs), by ICU type and semiannual period — southwestern Pennsylvania, April 2001–March 2005



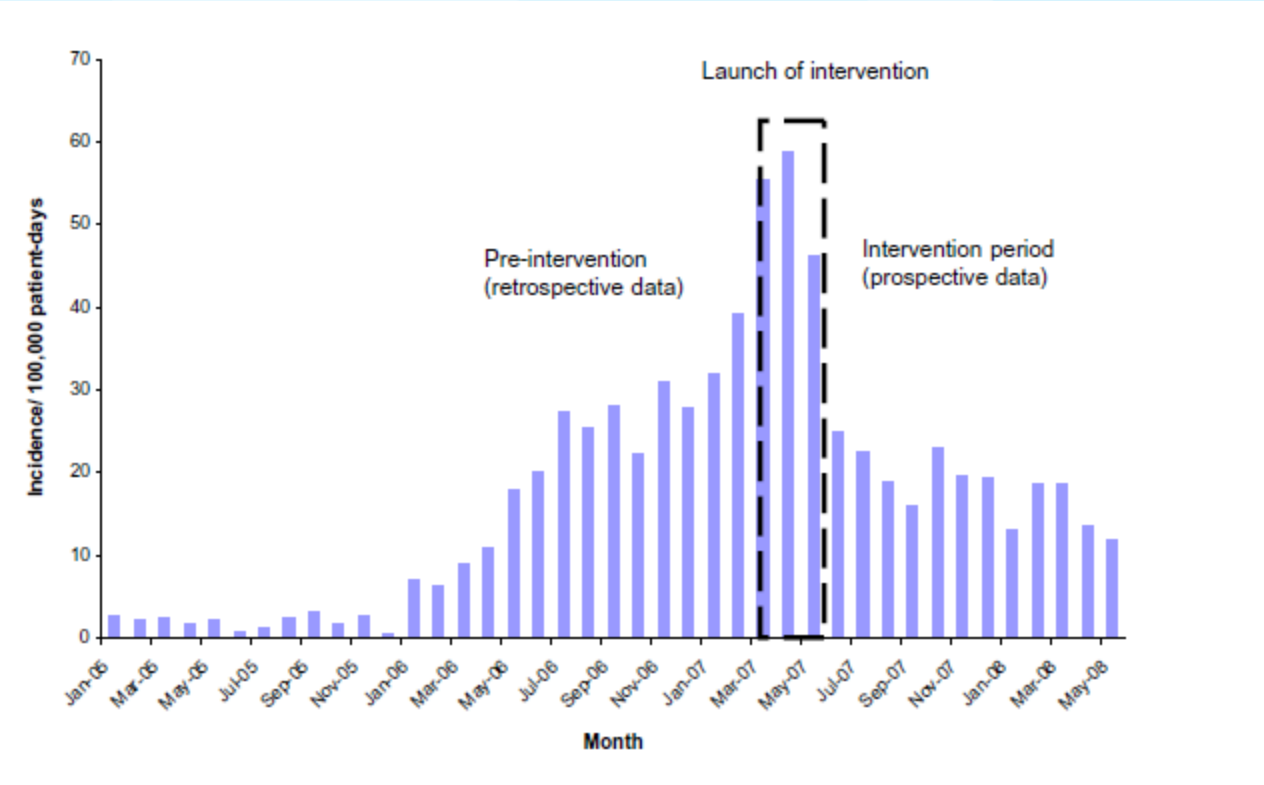
* Pooled mean rate per 1,000 central line days.
† Includes cardiothoracic, coronary, surgical, neurosurgical, trauma, medical, burn, and pediatric ICUs.
§ $p<0.001$.

MMWR 2005;54:1013-6

Israel Experience

- **KPCs likely originally from US identified in Israel beginning in late 2005**
- **By early 2006, increase in cases**
- **Initiated National effort to control CRE (initial response) in acute care hospitals**
  - Mandatory reporting of patients with CRE
  - Mandatory isolation (CP) of CRE patients
    - Staff and patient cohorting
  - Task Force developed with authority to collect data and intervene

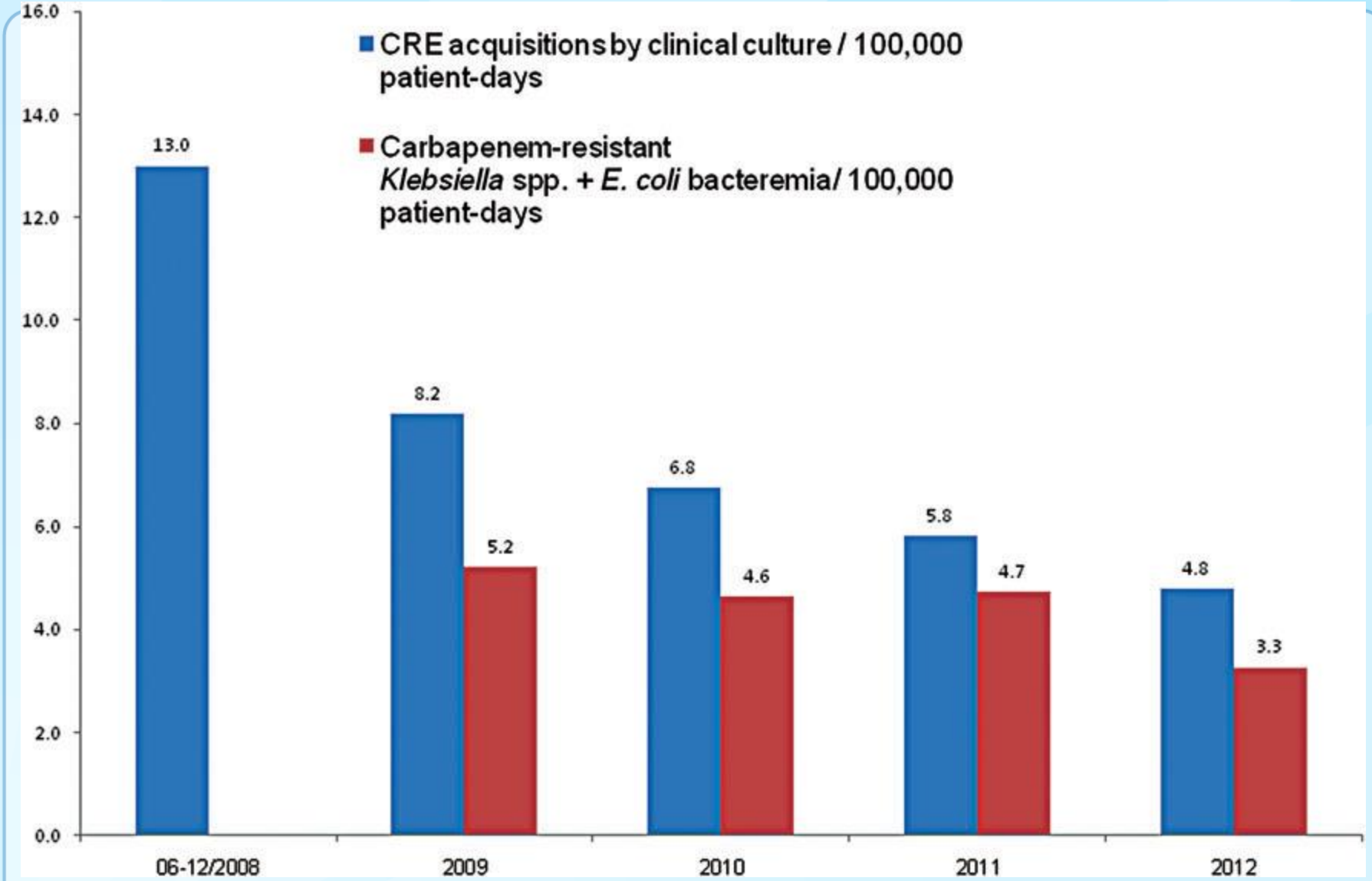
79% decrease from highest and last month



Schwaber et al. CID 2011; 848-855

Israel Experience

- **Beyond the first year**
  - Active surveillance for high-risk patients
  - Added long-term care facilities
    - Targeted interventions in facilities from which CRE-patients had been transferred
    - Intervened at 13 high-risk facilities (1/10th of LTCF beds in country)
      - Determine CRE prevalence among sample
      - Map infection control infrastructure and policies
      - Developed CRE control measures by ward type
        - Similar to acute care without cohorting or strict CP
      - Visited facilities to ensure implementation



Schwaber MJ et al. Clin Infect Dis 2014: epub

CDC. Antimicrobial Resistance Threats in the United States, 2013
Available at: www.cdc.gov/drugresistance/threat-report-2013/

What Can Healthcare Facility Leaders do?

- **Healthcare CEOs, Medical Officers, and Other Healthcare Facility Leaders Can:**
  - Require and strictly enforce CDC guidance for CRE detection, prevention, tracking, and reporting.
  - Make sure your lab can accurately identify CRE and alert clinical and infection prevention staff when these bacteria are present.
  - Know CRE trends in your facility and in the facilities around you.
  - When transferring a patient, require staff to notify the other facility about infections, including CRE.
  - Join or start regional CRE prevention efforts, and promote wise antibiotic use

Summary

- **Carbapenem-resistance among Enterobacteriaceae appears to be increasing**
  - Appears to be driven primarily by the emergence of carbapenemases
- **Heterogeneously distributed within and across regions**
- **Has the potential to spread widely**
  - Healthcare and community settings
- **Most areas in a position to act to slow emergence**
- **Prevention will require facility-level and regional interventions**

Thanks for your attention.

Akallen@cdc.gov

Georgia Department of Public Health

Atlanta Regional

Carbapenem-Resistant Enterobacteriaceae Continuum of Care Collaborative

Presentation to: Hospitals, Long Term Acute Care and Long Term Care

Presented by: Michelle Nelson, RN, MSN, CCP

Date: March 5, 2014

We Protect Lives.

Objectives

- State benefits of regional collaborative
- List collaborative areas of concentration
- Identify staff to attend learning sessions
- Sign commitment and authorization documents

Why Participate

Regional Collaborative

- Establish effective patient transfer communication process across the care continuum
- Enhance consistent and standardized practice
- Create a learning continuum of care community

Improved Outcomes

- Improve patient satisfaction
- Improved collaboration between facilities
- Reduce spread of antibiotic resistance
- Reduce readmission rate

Collaborative Benefits

Areas of Concentration

- Education
  - Train-the-Trainer
  - Infection control and prevention
  - Quality Improvement
- Communication
  - Transfers
  - Infection control and prevention
  - Antibiotic Stewardship
  - Laboratory
- Prevention and practice
  - Surveillance
  - Policy and Procedure
  - Standardization
  - Process and Outcome measurement
- Laboratory Reporting

Tools and Resources

We will provide your staff

- Education
  - Learning sessions and webinars
  - Train-the-Trainer toolkit
  - Access to SME training
  - Technical support
- Communication
  - Transfer form developed through continuum of care collaboration
  - Quality and quantity transfer audit tool

Tools and Resources

We will provide your staff

- Prevention and practice
  - Hand hygiene observation audit tool
- Laboratory Reporting
  - Talking points
  - Audit tool

Collaborative Commitment

Participating staff will

- Education
  - Attend learning sessions and webinars
  - Train facility staff utilizing the Train-the-Trainer resources.
    - Hospitals train case management/care coordinator staff
- Communication
  - Implement a transfer form developed in collaboration with transferring partners
  - Implement a standardized communication process with laboratory

Collaborative Commitment

Participating staff will

- Prevention and practice
  - Implement quality improvement activities using PDSA cycles
  - Perform surveillance activities
  - Assess and revise infection control (IC) policy and procedures as needed.
  - Standardization of IC practices and processes with continuum of care when possible
  - Track process and outcome measurements
- Laboratory Reporting
  - Assess current practices

Who, What and When…

Collaborative Meetings

- ***Who Should Attend***
  - Director of Nursing
  - Infection Preventionist
  - Case/Care Coordinator staff
  - Other front line staff facility elects to attend
- ***What***
  - 3 learning sessions
  - Webinars
- ***When***
  - Collaborative ends July 31, 2014
  - 1st Learning Session March 20, 2014

The Atlanta Regional CRE Continuum of Care Collaborative work is important to patients and their loved ones in the metro area.

Thank you!