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Health Watch USA

HAI — CRE — MRSA

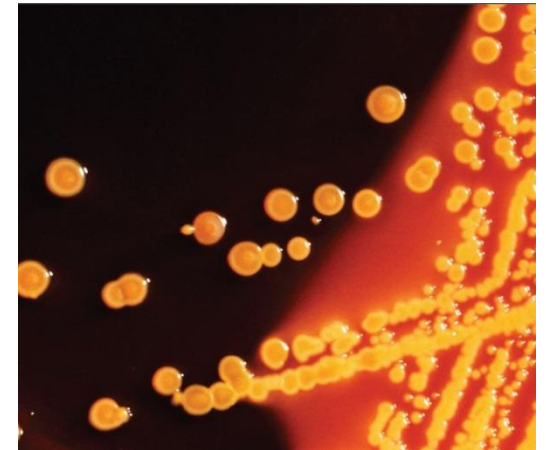


Stopping a Killer Epidemic – In The Post-Antibiotic Era

This presentation is the express opinion of Kevin T Kavanagh, MD, MS, FACS

Carbapenem-resistant Enterobacteriaceae

- ⌘ A group of 70 bacteria – Very deadly and virtually resistant to all antibiotics.
- ⌘ Most live in the gut – E. Coli & Klebsiella
- ⌘ Individuals can become carriers.
 - They can spread the bacteria.
 - They can become ill when their immunity drops.
- ⌘ Infections in the bloodstream have almost a 50% fatality rate.
- ⌘ First reported in a patient in North Carolina in 2001

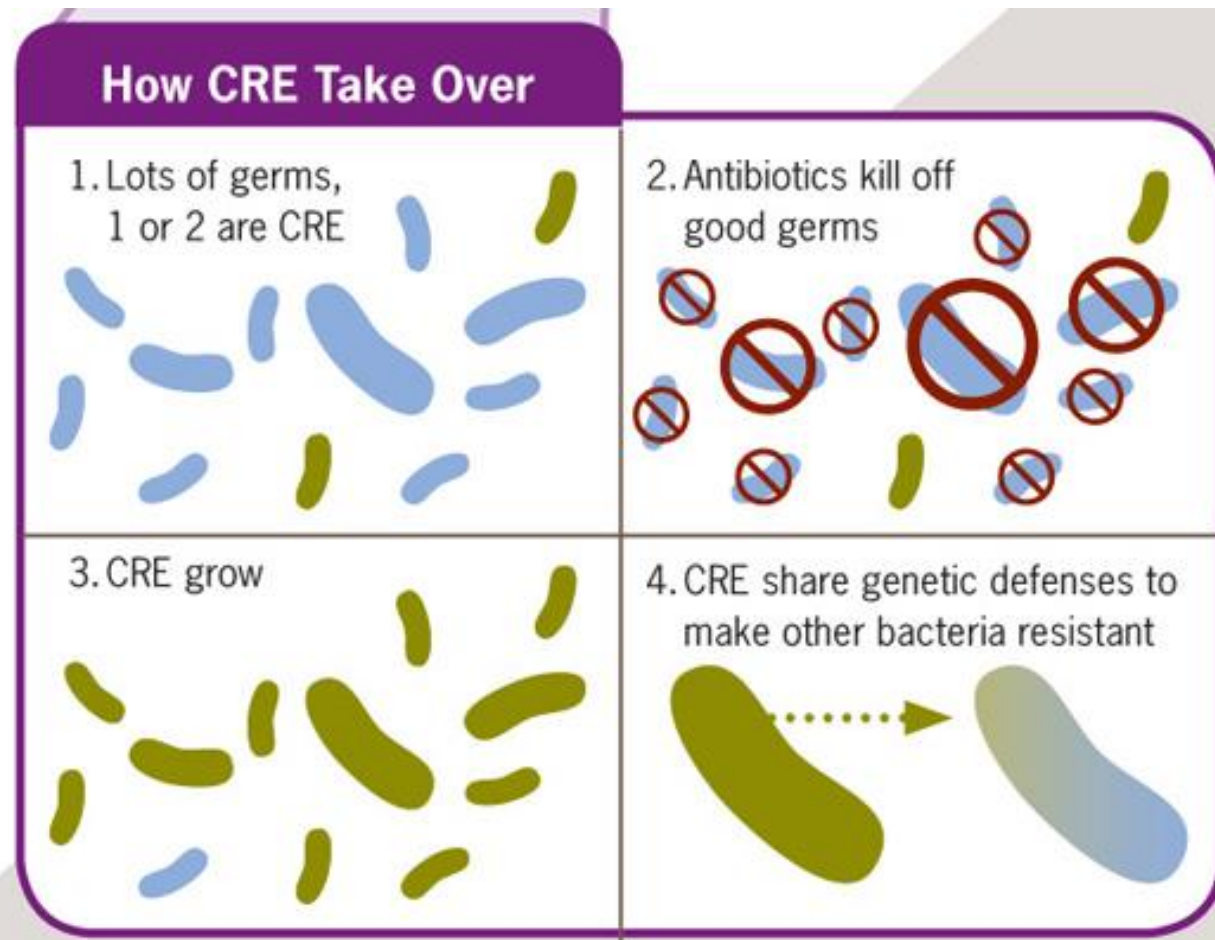


Nightmare Bacteria - CDC Director Dr. Tom Frieden

CRE is on the Rise. In the United States:

- ✎ 4% of US Hospitals and 18% of Long Term Care Facilities have reported at least one case of CRE.
- ✎ “CREs increased most for the worrisome *Klebsiella pneumoniae*, jumping from 1.6 percent to 10.4 percent between 2001 and 2011, a rise of 550 percent.”
-- JoNel Aleccia, More bad news about ‘nightmare bacteria, Mar. 5, 2013.
http://vitals.nbcnews.com/_news/2013/03/05/17195353-more-bad-news-about-nightmare-bacteria-cdc-says?lite

CRE A Deadly Group of Bacteria



Nightmare Bacteria - CRE

Reported Cases in Louisville

✎ *The Courier-Journal* reported that approximately 20 CRE cases have been treated in Louisville hospitals over the past two years. Yet, the Kentucky Department for Public Health has received only one report of an outbreak.

-- Melanie Wolkoff Wachsman, Medical News – May 2013

CRE CDC Control Recommendations

∞ Control of CRE includes (CDC Recommendations)

- Surveillance of close contacts (Stool Culture).
- Isolation of patients in dedicated rooms (if available).
- Dedicated staff taking care of patients (if available).

CRE - Spread

☞ Spread from Hospital to Nursing Home

☞ Spread from Nursing Home to Hospital

Infections, are unlike other patient safety events, if one facility in the referral region performs poorly, it places all facilities at risk.

“...the transmission dynamics of nosocomial pathogens, especially of multiple antibiotic-resistant bacteria, is not exclusively amenable to single-hospital infection prevention measures.” Int J Med Microbiol 2013
PMID: 23499307

<http://www.ncbi.nlm.nih.gov/pubmed/23499307>

“Our simulation demonstrated that each hospital's decision to test for MRSA and implement contact isolation procedures could affect the MRSA prevalence in all other hospitals.” Health Affairs 2012 PMID: 23048111

<http://www.ncbi.nlm.nih.gov/pubmed/23048111>

Places Infrastructure at Risk



Decontamination — NIH Experience

How Scientists Stopped Klebsiella Pneumoniae: Deadly Superbug Killed 6 At NIH Clinical Center

(Lauran Neergaard, Huffington Post Aug 22, 2012)

- ✂ A new wall was created to separate ICU to house CRE Patients.
- ✂ Dedicated Staff including janitors.
- ✂ Surveillance cultures of patients & staff.
- ✂ NIH adopted more complex and expensive decontamination, using robot-like machines to spray germ-killing hydrogen peroxide into the tiniest of crevices in all affected rooms and equipment.



http://www.huffingtonpost.com/2012/08/22/klebsiella-pneumoniae-superbug-nih-clinical-center-deadly_n_1822695.html

CRE Prevention - Israel

☞ “In some parts of the world, CRE appear to be more common, and evidence shows they can be controlled. Israel recently employed a coordinated effort in 27 hospitals and dropped CRE rates by more than 70 percent. Several facilities and states in the U.S. have also seen similar reduction.”

CDC News Release. Tuesday, March 5th, 2013.

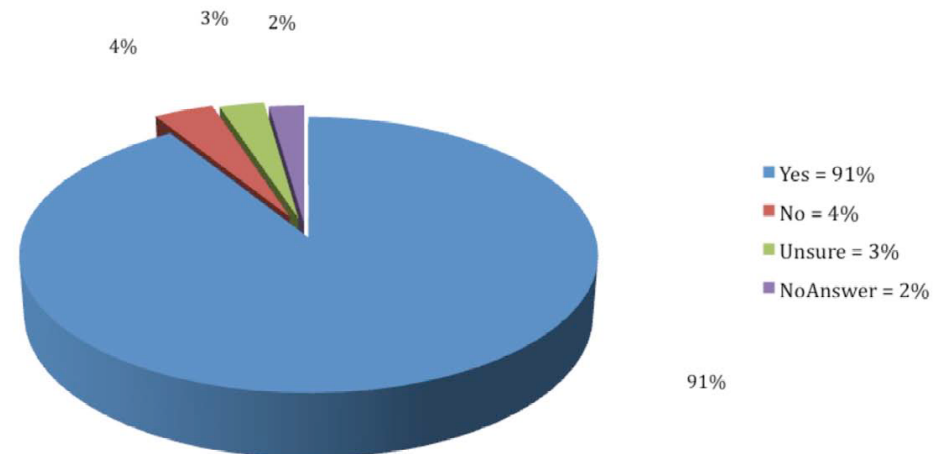
http://www.cdc.gov/media/releases/2013/p0305_deadly_bacteria.html

Current Federal HAI Reporting System

- ☞ Only a few bacteria are reported.
- ☞ Reporting of results has a significant delay.
- ☞ Only a few types of facilities are reporting. Critical Access Hospitals and Nursing Homes are not required to report.

**Health Department
Engagement is Key to Track
Down the Source.**

Do you support requiring hospitals to report all hospital-acquired infections to the State Health Department?



Poll: Senator Harper-Angel, Feb. 2010

If We Have a Cow Map, We Should Have A HAI Map

Beef cow density by county



© 2010 Feedstuffs.

This map plots the beef cow inventory per cropland acre by county based on data from the 2007 Census of Agriculture. For this map, county inventories of beef cows, excluding cattle on feed, were divided by the number of acres in cropland production for each county. The 10 most beef cow-dense counties included: Kenedy, Texas (10,469 beef cows per acre); Catron, N.M. (3,340 beef cows per acre); Grant, N.M. (1,953 beef cows per acre); Thomas, Neb. (1,717 beef cows per acre); Osceola, Fla. (1,686 beef cows per acre); Okeechobee, Fla. (1,528 beef cows per acre); Jim Hogg, Texas (1,421 beef cows per acre); Taylor, Fla. (1,368 beef cows per acre); Tuolumne, Cal. (1,225 beef cows per acre), and Gila, Ariz. (1,174 beef cows per acre).

Healthcare Associated Infections

Outbreaks in Healthcare Facilities -- Kentucky, 2012

Organism	Hospital	LTCF	Correctional Healthcare Facility	Total
B. pertussis	1	0	0	1
C. difficile	0	1	0	1
CRE (Klebsiella Pneumoniae)	1	0	0	1
GI illness, unspecified	1	33	0	34
Influenza	0	13	1	14
Legionella	0	1	0	1
MRSA	1	0	0	1
Norovirus	2	27	0	29
Norovirus, suspected (unconfirmed)	0	5	0	5
Respiratory Illness, unspecified	0	1	0	1
Unknown Cause	0	5	0	5

Definition of an outbreak is when the number of infections are above the facility's baseline. The definition of a baseline is up to the facility.

Healthcare Associated Infections

- 902 KAR 2:020 Section 5. Outbreaks or Unusual Public Health Occurrences. (1) **If, in the judgment of a health professional licensed under KRS Chapters 311 through 314, or a health facility licensed under KRS Chapter 216B,** an unexpected pattern of cases, suspected cases, or deaths which may indicate a newly-recognized infectious agent, an outbreak, epidemic, related public health hazard or an act of bioterrorism, such as smallpox, appears, a report shall be made immediately by telephone to the:

Definition of an outbreak is when the number of infections are above the facility's baseline. The definition of a baseline is up to the facility.

CRE — First Steps

- ☞ **“To prevent the emergence and further spread of CRE, a coordinated regional control effort among healthcare facilities is recommended.”**

Guidance for Control of Carbapenem-resistant Enterobacteriaceae (CRE)
2012 CRE Toolkit. CDC. CS231672-A
<http://www.cdc.gov/hai/pdfs/cre/CRE-guidance-508.pdf>

Transparency & CRE

☞ **“Transparency is the right thing to do in matters of public health,” said Linda Hummel, Director of clinical quality and patient safety, University of Louisville Hospital (ULH). Hummel said ULH had two cases of CRE over the past year.**

– Melanie Wolkoff Wachsman, Medical News – May 2013

Transparency & CRE

✧ Dana M. Stephens, Director of Infection Prevention and Control at Saint Joseph Hospital, Lexington, part of KentuckyOne Health, said that Saint Joseph East/Saint Joseph Hospital (SJE/SJH) believes in transparency. “Transparency is the right thing to do in matters of public health,” she said. “We support the reporting of cases and continue to partner with the state’s public health department.”

– Melanie Wolkoff Wachsman, Medical News – May 2013

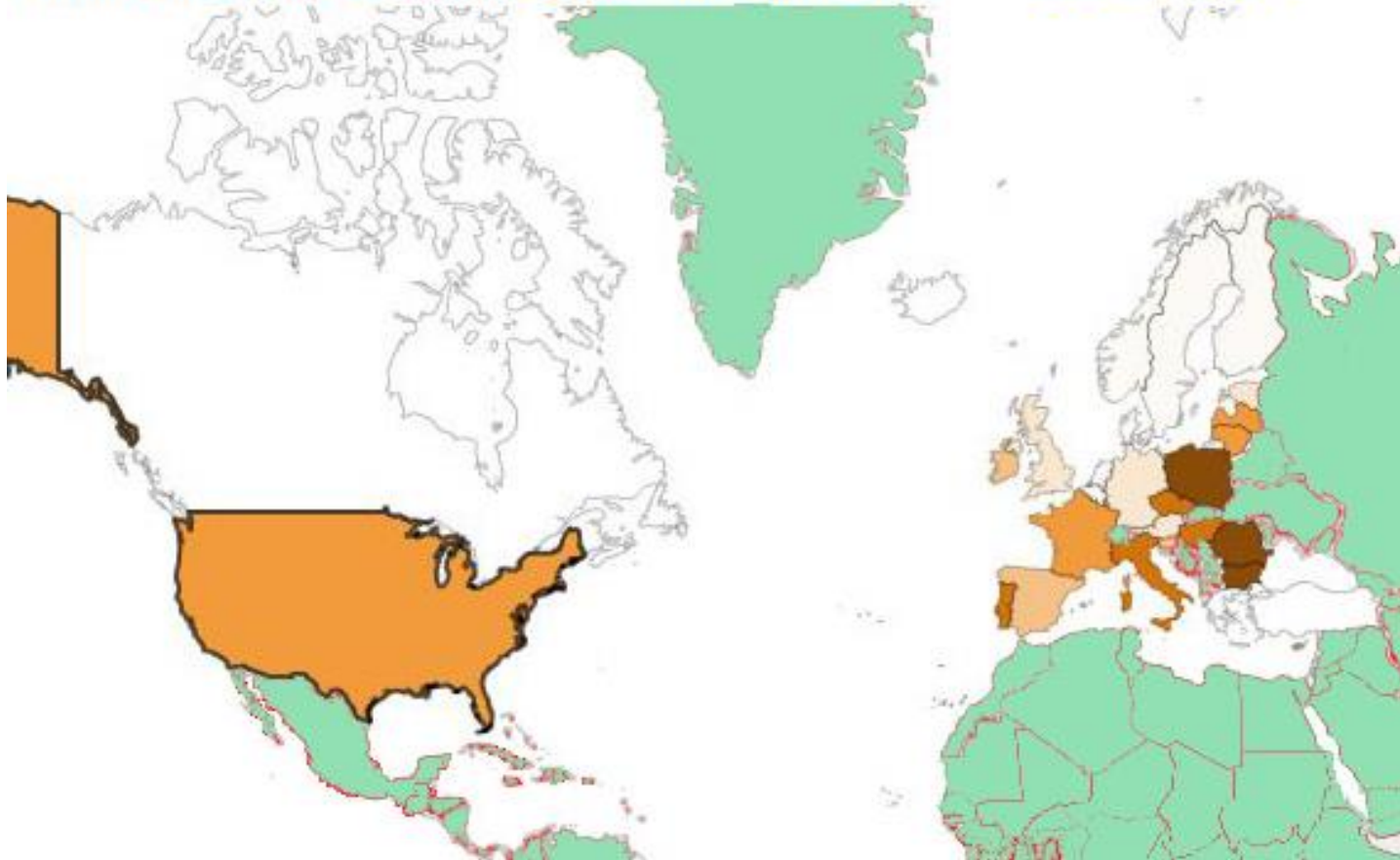
Public Reporting

∞ There is no excuse for not reporting this kind of infection. It should be required. Shame on the lack of oversight and responsibility for this total lack of concern for the population in general. – Facebook Posting Regarding the CRE Medical News Article May 11, 2013

World Resistance — All Pathogens

WORLD RESISTANCE AT A GLANCE: ALL PATHOGENS

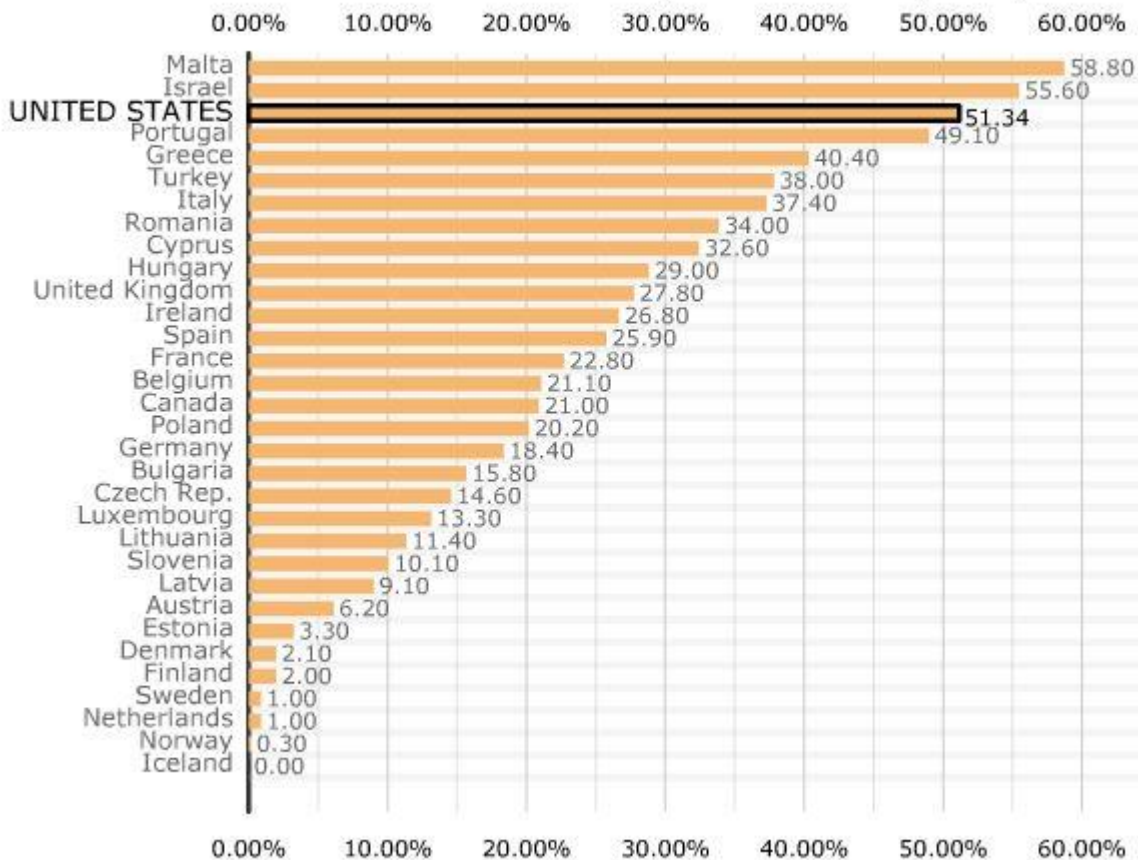
CDDEP 2009



Dark Brown: Worse; White: Best; Green: No Data

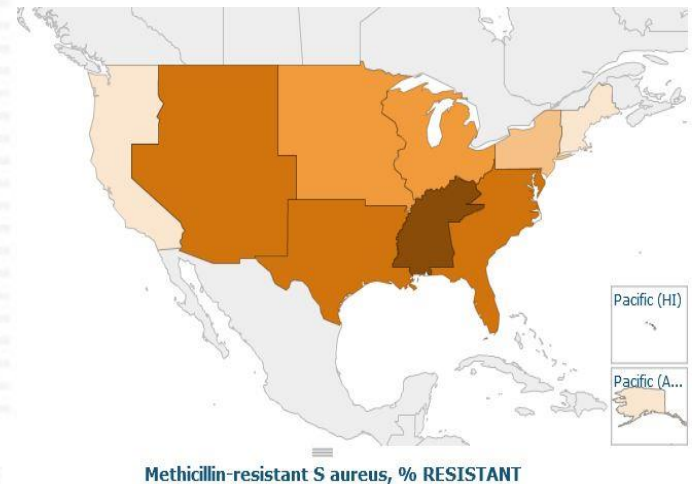
MRSA Resistance

Methicillin-resistant *S aureus*, % RESISTANT (2009)



The Percentage of Staph Cultures Which Are MRSA Positive in the United States are one of the Highest in the World.

In the Region Where Kentucky Resides 68.97% of Staff Cultures are Positive for MRSA.



We Need a Different Plan

☞ **Insanity: doing the same thing over and over again and expecting different results.**

– Albert Einstein

☞ In Northern Europe – Less than 5% of Staph Cultures are MRSA Positive.

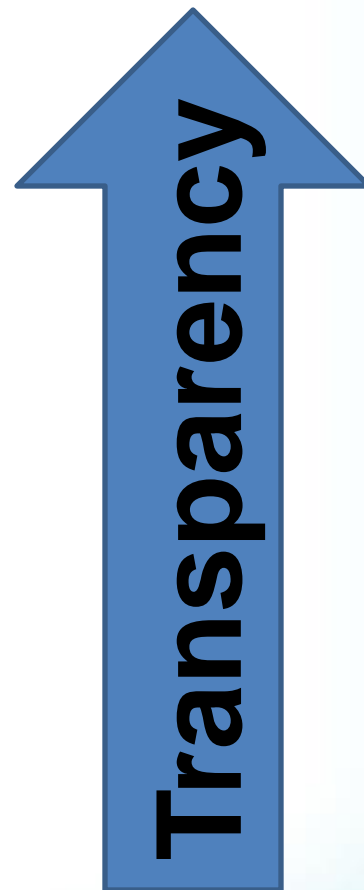
☞ In the United States – 50% of Staff Cultures are MRSA Positive.

☞ In the Region Kentucky Resides – Almost 70% of Staph Cultures are MRSA Positive.



Cost Effectiveness

- ∞ For Society
- ∞ For Patient
- ∞ For Payer
- ∞ For Institution



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References

- ☞ Guidance for Control of Carbapenem-resistant Enterobacteriaceae (CRE) 2012 CRE Toolkit. CDC. CS231672-A <http://www.cdc.gov/hai/pdfs/cre/CRE-guidance-508.pdf>
- ☞ Vital Signs: Carbapenem-Resistant Enterobacteriaceae. MMWR Morbidity and Mortality Weekly Report. March 5, 2013. Vol. 62
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6209a3.htm?s_cid=mm6209a3_w
- ☞ CDC News Release. Tuesday, March 5th, 2013.
http://www.cdc.gov/media/releases/2013/p0305_deadly_bacteria.html
- ☞ Braykov NP, Eber MR, Klein EY, Morgan DJ, Laxminarayan R. Trends in resistance to carbapenems and third-generation cephalosporins among clinical isolates of *Klebsiella pneumoniae* in the United States, 1999-2010. Infect Control Hosp Epidemiol. 2013 Mar;34(3):259-68. doi: 10.1086/669523. Epub 2013 Jan 23. <http://www.ncbi.nlm.nih.gov/pubmed/23388360>

