Healthcare Acquired Infections

June 21st, 2011

Kevin T Kavanagh, MD, MS, FACS

Health Watch USA

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HEALTHCARE ACQUIRED INFECTIONS

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A Public Safety & Healthcare Issue
One of the Top 10 Causes of Death in the United States.
http://www.cdph.ca.gov/programs/hai/pages/default.aspx

Size of the Problem

- Hospital Acquired Infections affect approximately one in twenty patients.
- Cost: 30 Billion dollars
- Nearly 100,000 deaths in the United States each year.
- In Kentucky: 23,000 infections with almost 1,400 deaths at a cost of approximately $400,000,000.

Size of the Problem

- MRSA – 5% of patients in a Boston ER are carriers (Dr. Gupta, VA Hospital, May 2011). http://www.healthleadersmedia.com/content/QUA-261460/MRSA-Infects-5-of-ED-Patients
- In Kentucky over 60% of Staph Outpatient Isolates are MRSA. http://www.cddep.org/resistancemap/methicillin-saureus

Size of the Problem

- C. Diff. is also prevalent. It has been reported that Kentucky has the 6th highest rate of C. Diff. infections in the nation at 21.8 infections per 1000 patients. http://www.ama-assn.org/amednews/2009/images/gprca0601a.pdf

Thomas R. Frieden, MD, MPH Director of the CDC

"An important role of public health agencies is to define the unacceptable. This concept has particular relevance for healthcare-associated infections. Evidence indicates that, with focused efforts, these once formidable infections can be greatly reduced in number, leading to a new normal for healthcare-associated infections as rare, unacceptable events."

Frieden TR, Maximizing Infection Prevention in the Next Decade: Defining the Unacceptable. Infect Control Hosp Epidemiol. 2010 Oct;31:S1–S3.
http://www.journals.uchicago.edu/doi/full/10.1086/656002

Four Pillars of Control

The Four Pillars of Control - White Paper Released by the CDC, IDSA, APIC, SHEA, CSTE and ASTHO.

- Data for Action
- Align Incentives
- Adherence to Evidence Based Prevention Practices
- Innovation Research

Cardo D, Dennehy PH, Halverson P, et al. Moving toward elimination of healthcareassociated infections: A call to action. Infect Control Hosp Epidemiol. 2010 Oct;31:S42 to S44. http://www.apic.org/Content/NavigationMenu/GovernmentAdvocacy/RegulatoryIssues/CDC/AJIC_Elimin.pdf

Data: Importance of Data

"Lastly, tracking infections is key. These findings demonstrate the vital need to continue to monitor drug-resistant bacteria. If we want to stop resistant bacteria in their tracks, we have to know where to begin and how we are doing." – Dr. Arjun Srinvasan, MD, Division of Healthcare Quality Promotion, CDC

Medial Reports about Drug-Resistant Infections: May 29th, 2011
http:/blogs.cdc.gov/safehealthcare//?p=1450

Data: Why Data is Needed

- To design interventions you need to know what bugs to target and a baseline to compare
- the results to.
- To write grants.
- To know which bugs to target with antibiotic development.
- To motivate the community to change behavior.

-- Hand washing.
-- Cleaning public restrooms and facilities.

- For example: MRSA and C. Diff are handled differently.

Data: Kentucky is Not Adequately Reporting

- KY CDC Grant:
- Only outbreaks are reported
- No definition of an outbreak.
- Outbreaks could be from community or hospital
- Only four outbreaks reported from hospitals over a year's time.

Data: The "Burden" of Reporting

- However, the Hospital Industry is profitable.
- It is the strongest sector in our economy.
- The so called "Burden" is small compared to the community benefit.

Lexington hospitals building to be the best – 2009
(Lexington Herald Leader, Dec. 13, 2009)
Norton Healthcare profits withstand recession …
(Courier Journal, Jun. 26, 2010)
Note: Norton Very Profitable and 100% Transparent

Summary of hospital finances available at www.ahd.com

Incentives: Importance of Public Reporting

"CDC does believe that increased transparency, public reporting of healthcare-associated infections is an important part of a comprehensive effort to prevent healthcare-associated infections and eliminate these infections ..." -- Dr. Srinivasan, Director of CDC's HAI prevention program.

Media Telebriefing on State Healthcare-Associated Infection Data, May 27, 2010
http://www.cdc.gov/media/transcripts/2010/t100527.htm

Incentives: Office of Healthcare Quality US Dept HHS

- "State initiatives on public reporting of healthcare-associated infections play an important role in the Federal effort to prevent healthcare-associated infections."
  Don Wright, MD, MPH Deputy Assistant Secretary for Healthcare Quality, Office of the Assistant Secretary for Health, U.S. Department of Health and Human Services.

Incentives: Public Reporting

- Dr. Dan Varga: "You manage what is measured and you really manage what you measure and publically report."
- Comparable Data – Use the CDC's NHSN Network.
  - Risk Adjusted for facility comparison and Value Purchasing.
  - Non-risk adjusted to track facilities over time and motivate community involvement. (Comparable to School Data).
- NO DUPLICATION WITH FEDERAL EFFORTS!!!

Incentives: CMS Data – Publically Released

- University of Kentucky
- Example of How Public Reporting Can Work

University of Kentucky			National Ave
Hospital Acquired Condition	**Number**	**per/1000**	**per/1000**
PRESSURE ULCER STAGES III AND IV	4	0.29	0.135
FALLS AND TRAUMA	17	1.233	0.564
VASCULAR CATHETER-ASSOCIATED INFECTION	11	0.798	0.367

Evidence Based Prevention Practices: These Should Be Close to Zero

- Central Line Infections -CLBSI – 82% Reduction. (1)
- Ventilator Associated Pneumonia -VAP – 70% Reduction.(2)
- MRSA – Heart Surgery, Almost Eliminated.(3)
- Patient Falls – Should be Zero.
- Pressure Ulcers – Stage III and IV should be almost zero.

(1) Pronovost P, Needham D, Berenholtz S, et al., An intervention to decrease catheterrelated bloodstream infections in the ICU. N Engl J Med. 2006 Dec. 28;355(26):2725-32. http://www.ncbi.nlm.nih.gov/pubmed/17192537
(2) AHRQ. Rates of Pneumonia Dramatically Reduced in Patients on Ventilators in Michigan Intensive Care Units http://www.ahrq.gov/news/press/pr2011/cuspvappr.htm
(3) Walsh EE, Greene L, Kirshner R. Sustained reduction in methicillin-resistant Staphylococcus aureus wound infections after cardiothoracic surgery. Arch Intern Med. 2011 Jan 10;171(1):68-73. Epub 2010 Sep 13. http://www.ncbi.nlm.nih.gov/pubmed/20837818

Evidence Based Prevention Practices: Veterans Administration - MRSA

- All Facilities should give the public the same protection from MRSA as the VA Hospitals.
- The rate of MRSA infections in the VA System was lowered 76% in the ICU setting to 0.39infections per 1000 bed care days and 28% in non-ICU settings to 0.33 infections per 1000bed care days.
- The VA national MRSA results involved 153 facilities and over 1 million patients (Dr. Martin Evans, Hospital Infection Control & Prevention. Vol7(48) Dec 2, 2010.)

Evidence Based Prevention Practices: Why We Can't Set Standards

- Two Underpowered Studies –
- In both, the Intervention Group had intervention less than half of the time.
  Swiss/Geneva Study JAMA 2008
  STAR*ICU Study NEJM 2011
- As any farmer will tell you, if you keep the insecticide in the barn and do not place it on the crops it will not kill the bugs.
- "Public Citizen" has referred the STAR study to the US OIG for review.

Evidence Based Prevention Practices:
Kentucky –What is an Infection ??
But healthcare systems treat and bill patients for infections.

Evidence Based Prevention Practices
VA System – Adverse Outcome Tracking
Evidence Based Prevention Practices.

CUSP (Comprehensive Unit Based Safety Program)
National effort to prevent central line-associated bloodstream infections (CLABSIs) and catheter-associated urinary tract infections (CAUTIs).

- In Aug. 2010, WKYT reported that 39 Kentucky Hospitals were participating in CUSP.
  http://www.wkyt.com/news/headlines/101922173.html
- In April 2011, AHRQ Reported that 33 Kentucky Hospitals were participating in CUSP.
  http://www.ahrq.gov/qual/onthecusprpt/onthecusp.pdf

What is Needed

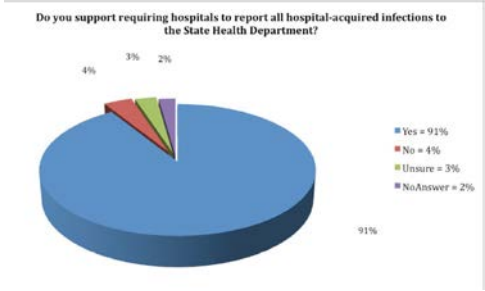
Hospital Boards & The Community Need to Be Involved

- Hospital Boards are the governing body of the Hospital.
- Hire and fire the CEO and Hospital staff
- Need to be engaged.
- In Non-Profits, over 50% of the Board cannot have a conflict of interest with the institution.
- Primary fiduciary responsibility (loyalty) of Non-Profit Boards is to charitable purposes.

Transparency

- To address problems in complex systems.
- Need complete transparency including with the community.
- 'Doug Leonard, President of the Indiana Hospital Association, said the industry needs to "embrace transparency. Sometimes we don't like the results of that, but I think transparency is good for us and good for the public." Even if the data are off by 50 percent or more, Leonard said, "it really doesn't matter, because one injury or one error is wrong," and hospitals should focus on preventing errors rather than disputing the numbers.'
  --Courier Journal June 12, 2011

HAI – Public Wants Reporting
Poll: Senator Harper-Angel, Feb. 2010



Action

- At the very, least KRS 211.180 gives the Governor broad authority to control communicable diseases.
- Regulations could be enacted to require reporting of all Healthcare Acquired Infections at Kentucky's facilities through the CDC's National Healthcare Safety Network.

Action

The University Hospitals, owned by the State, should have complete transparency with the public.

Steps for Introduction of New Ideas

"All truth passes through three stages.

- First, it is ridiculed.
- Second, it is violently opposed.
- Third, it is accepted as being self-evident."

Arthur Schopenhauer, 19th century German philosopher

Conclusion

- Kentuckians have the right to know what the MRSA rates are in their facilities.
- The benefit to society far outweighs the so-called "Burden" to the healthcare industry.
- Lift the Veil of Secrecy regarding hospital and healthcare acquired conditions.

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

Kevin Kavanagh <kavanagh.ent@gmail.com>

Requested statement from Dr. Wright

Bradley, Ann (HHS/OASH) <Ann.Bradley@hhs.gov> **Tue, Oct 12, 2010 at 1:05 PM**
To: "kavanagh.ent@gmail.com" <kavanagh.ent@gmail.com>

Dr. Kavanagh,

Dr. Wright offers the following statement for your presentation and potential other broadcast uses:

> "State initiatives on public reporting of healthcare-associated infections play an important role in the Federal effort to prevent healthcare-associated infections. The U.S. Department of Health and Human Services has a number of supporting programs, such as the Centers for Disease Control and Prevention's National Healthcare Safety Network and the Agency for Healthcare Research and Quality's Patient Safety Organization Network of Patient Safety Databases, which facilitate collecting and reporting standardized data on healthcare-associated infections. These systems are in increasingly common use by healthcare providers and facilities and by State health agencies."

Don Wright, MD, MPH

Deputy Assistant Secretary for Healthcare Quality

Office of the Assistant Secretary for Health

U.S. Department of health and Human Services

Please let me know any time that I can be of further assistance.

Ann

Ann M. Bradley

Public Affairs Specialist

CABINET FOR HEALTH AND FAMILY SERVICES
DEPARTMENT FOR PUBLIC HEALTH
Division of Epidemiology and Health Planning

Steven L. Beshear
Governor

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Janie Miller
Secretary

November 1, 2010

Kevin T. Kavanagh, MD
3396 Woodhaven Dr.
Somerset, KY 42503

Dear Dr. Kavanagh:

In response to your request, dated and received on October 21, 2010, for "aggregate data on healthcare acquired infection and multidrug resistant outbreaks" reported by healthcare facilities, the Kentucky Department for Public Health is able to supply the following information.

During the period from October 1, 2009 to September 30, 2010, fifty-one total outbreaks were reported in healthcare facilities in Kentucky. Of these, four were reported by hospitals (in two, the cause was confirmed as norovirus; in one, it was confirmed as a multidrug resistant organism, and in one, the causative agent remained unconfirmed). Forty-six outbreaks, all associated with gastrointestinal symptoms, were reported by nursing homes or long-term care facilities (in twenty, the cause was confirmed as norovirus; in one, it was confirmed to be *C. difficile;* and in twenty-five the causative agent remained unconfirmed). Finally, one outbreak was reported in another type of healthcare facility, and the cause of this outbreak was not determined.

Because in most instances outbreaks are the result of a mixture of affected staff and patients, we do not distinguish between those which may be primarily the result of introduction of an organism into a facility and those mainly due to transmission within a facility.

If you have any questions, please contact me at (502)564-3418 ext 3570.

Sincerely,

Kraig E. Humbaugh, M.D., M.P.H.
Director, Division of Epidemiology and Health Planning

cc: Dr. William Hacker
Dr. Steve Davis
Dr. Stephanie Mayfield
Dr. Fontaine Sands
Dr. Robert Brawley
Mr. Charles Kendell
Mr. Guy Delius

Date: 5/18/2010

Source: Senator McConnell

Inquiry from: (redacted)

Context of inquiry: (redacted) contacted our office seeking the results of a MRSA study (a study regarding staph infections found in VA hospitals).

Response:

PURPOSE: This Veterans Health Administration (VHA) Directive establishes policy for the implementation of a standardized initiative to reduce methicillin-resistant Staphylococcus aureus (MRSA) transmissions and infections in populations served by VHA.

BACKGROUND:

a. MRSA is a bacterium that is resistant to multiple antibiotics, causes serious disease, and is often difficult to treat. It is the cause of healthcare-associated infections (HAIs) in a variety of settings and can be cultured from the nares and other sites of patients who are colonized or infected with this organism. It can be transmitted by the hands of patients, health care workers, or by contact with inanimate objects contaminated with MRSA. Such transmission amplifies the number of patients who may become colonized and are then at risk for clinical infection.

b. Increased lengths of stay, morbidity, mortality, and costs have been associated with multidrug-resistant organisms (MDROs), including MRSA. When patients with MRSA have been compared to patients with methicillin-susceptible Staphylococcus aureus, MRSA-colonized patients more frequently develop systemic infections, including bacteremia and surgical site infections.

c. MRSA mitigation efforts have been attempted with varying degrees of success. Data supports the use of “bundles” of interventions to achieve successful reduction in HAIs. This same concept is being applied in an attempt to reduce MRSA transmissions and infections despite some difficulties in identifying which components of the bundle are most efficacious.

RESULTS:

The most recent Veteran Health Administration (VHA) evaluation of the data for Methicillin-Resistant Staphylococcus Aureus (MRSA) Healthcare Associated Infections (HAI's) shows the following:

• MRSA HAI rates in the Intensive Care Unit (ICU) setting declined 76% (from 1.62/1,000 Bed Days of Care (BDOC) in October 2007 to 0.39/1,000 BDOC in June 2009)

• MRSA HAI rates in the non-ICU setting declined 28% (from 0.46/1,000 BDOC in October 2007 to 0.33/1,000 BDOC in June 2009)

Program Office: Frank Miles (11)