

# Framing the Issues: Healthcare Associated Infections In Dialysis Facilities

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# Agenda

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- How important is the problem?
- Why should we spend our time at this session?
- What parts of the problem are most important?
- Which parts can we change?
- What are the gaps?

# Disclaimer

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- “The more serious the occasion, the more we are moved to philosophy, to seek a glimpse of the larger picture, where our feeble strivings can be seen in the context of the whole.”

-Arthur Bloch, Murphy's Law for Doctors

# How Important is the Problem?

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- Infections are a leading cause of:
  - death in Dialysis patients
  - hospitalizations in Dialysis patients
  - loss of vascular access (Catheter, AVG or AVF)

*United States Renal Data Systems (USRDS) 2009 report*

[http://www.usrds.org/2010/pdf/v2\\_01.pdf](http://www.usrds.org/2010/pdf/v2_01.pdf)

# How Important is the Problem?

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- ESRD incidence of sepsis can be 100 times higher than general population (*USRDS 2009 report*)
- Viral Hepatitis Infection - 27.3 % of facilities reported one or more patients with HBV infection (*CDC survey 2002*)
- HCV is 5 times greater than in General population (*AIM 2002*)

# But This is Old News

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- 1991 study by Mailloux showed that three most common causes of death in hemodialysis patients were:
  - Infection (36%)
  - Withdrawal from dialysis (21.2%)
  - Cardiac causes (14%)

Leahy's Law: If a thing is done wrong often enough, it becomes right.

# Why Is this Session Important

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- March 31, 2008 – GAO released report calling for HHS to prioritize HAI prevention and establish database to link information
- HHS steering committee created to prevent HAI's
- In late 2009 HHS began Tier 2 which targets HAI's in dialysis units (among other settings)
- March 23, 2010 – Patient Protection and Affordable Care Act charged Secretary of HHS to develop plan to improve patient safety
- Late 2010 state of Connecticut begins its planning process to monitor and reduce HAI's in dialysis

Mollison's Bureaucracy Hypothesis: If an idea can survive a bureaucratic review and be implemented, it wasn't worth doing.

# Why Choose Dialysis Units

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- Total ESRD spending in 2008 was \$39,500,000,000
- Medicare portion of ESRD spending was \$26,800,000,000
- ESRD spending was 5.9% of total Medicare budget, but ESRD represents only 0.7% of Medicare beneficiaries
- Medicare spent an average of \$77,506 per hemodialysis patient in 2008

USRDS 2010 Annual Report

The Golden Rule of Arts and Sciences: Whoever has the gold makes the rules.

# Infection Control Mandates

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- V110-CDC & CMS Infection Control requirements-medical records must reflect recognition of any potential infection, actions taken to decrease transmission
- V111-Dialysis must provide & monitor for sanitary conditions-Standard Precautions
- V112-follow all CDC recommendations for preventing transmission of infection in dialysis
- V113-Handwashing,gloves-MOST cited in CT-2009 & 2010
- V114-Sufficient sinks
- V115-PPE
- V116-Dedicated patient items-meds, tape, syringes etc-made top 10 areas deficient 2009
- V117-Clean area separated from "dirty" area-medication prep area separate from biohazard area-in top 10 areas cited 2009
- V118-Meds label for single use only
- V119-Supply cart if used to store supplies-separate to avoid contamination
- V120-Change wet transducers
- V121-Infectious waste disposal per state laws
- V122-Cleaning & disinfection of contaminated surfaces(bleach 1:100)-in top 10 of CT state survey citations in 2009
- V124-Routine testing for Hepatitis B
- V125-Routine testing for Hep. B sero-conversion
- V126- Hep. B vaccinations-patients & staff
- V127-Hep B screening-Pts & staff

# Infection Control Mandates

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- V128-Isolation Rm requirements
- V129-New facility must have isolation or be granted waiver
- V130- Isolation of HBV+ Pts.-dedicated machine, supplies etc
- V131-Staff member caring for Hep B + pts
- V132-Infection Control Training & documentation
- V142-Oversight, monitor & implement biohazard & infection control policies
- V143-Ensure clinic staff demonstrates compliance with P & P-aseptic technique for IV med draws
- V144-Require staff to report all infection control issues to Med. Dir. & QI committee
- V145-Report incidence of communicable disease as required by Federal, state & local regulations
- V146- Follow CDC guidelines for preventing catheter related infections
- V147-A. Healthcare worker training & education on infection control measures  
B. Surveillance-monitor cath. sites for s/s of infection  
C. catheter & cath. site care  
D. Investigate /document adverse events

# Most Commonly Sited Deficiencies in CT

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- V113-Handwashing, gloves-MOST cited in CT-2009 & 2010
- V116-Dedicated patient items-meds, tape, syringes etc-made top 10 areas deficient 2009
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Irene's Law: There is no right way to do the wrong thing

# What to Look At

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## CDC Priorities

### 1. Prevention of Intravascular Infections

- *Priority Module 1 – Selection of Vascular Access*
- *Priority Module 2 – Recommendations for Aseptic Insertion of Vascular Catheters*
- *Priority Module 3 – Recommendations for Appropriate Maintenance of Vascular Catheters*
- *Priority Module 4 – Recommendations for Water and Dialysate Quality*

# What to Look At

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## CDC Priorities

### 2. Prevention of Blood-borne Pathogen Transmission

- *Priority Module 1 – Recommendations to Prevent Hepatitis B Virus and Hepatitis C Virus Infections*
- *Priority Module 2 – Recommendations for Safe Injection Practices*
- *Priority Module 3 – Recommendations for Cleaning and Disinfection*

# What to Look At

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## CDC Priorities

### 3. Prevention of Influenza and Pneumococcal Disease

- *Priority Module 1 – Recommendations to Prevent Influenza and Pneumococcal Disease*

# What to Look At

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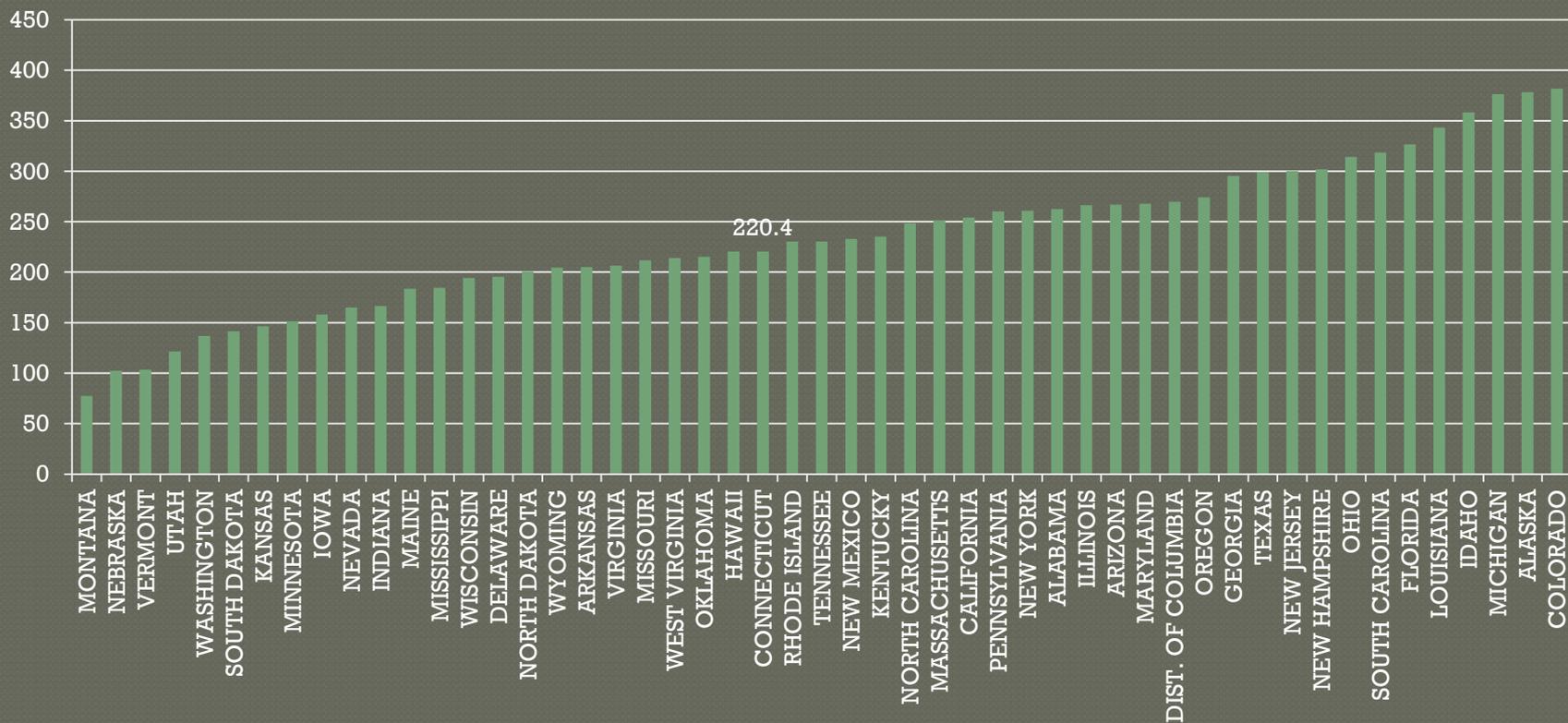
But,

What do the Dialysis Professionals  
in this Room think is Important

Hoffer's Law: When people are free to do as they please  
they usually intimidate each other

# Can HAI's be Reduced in Dialysis Facilities?

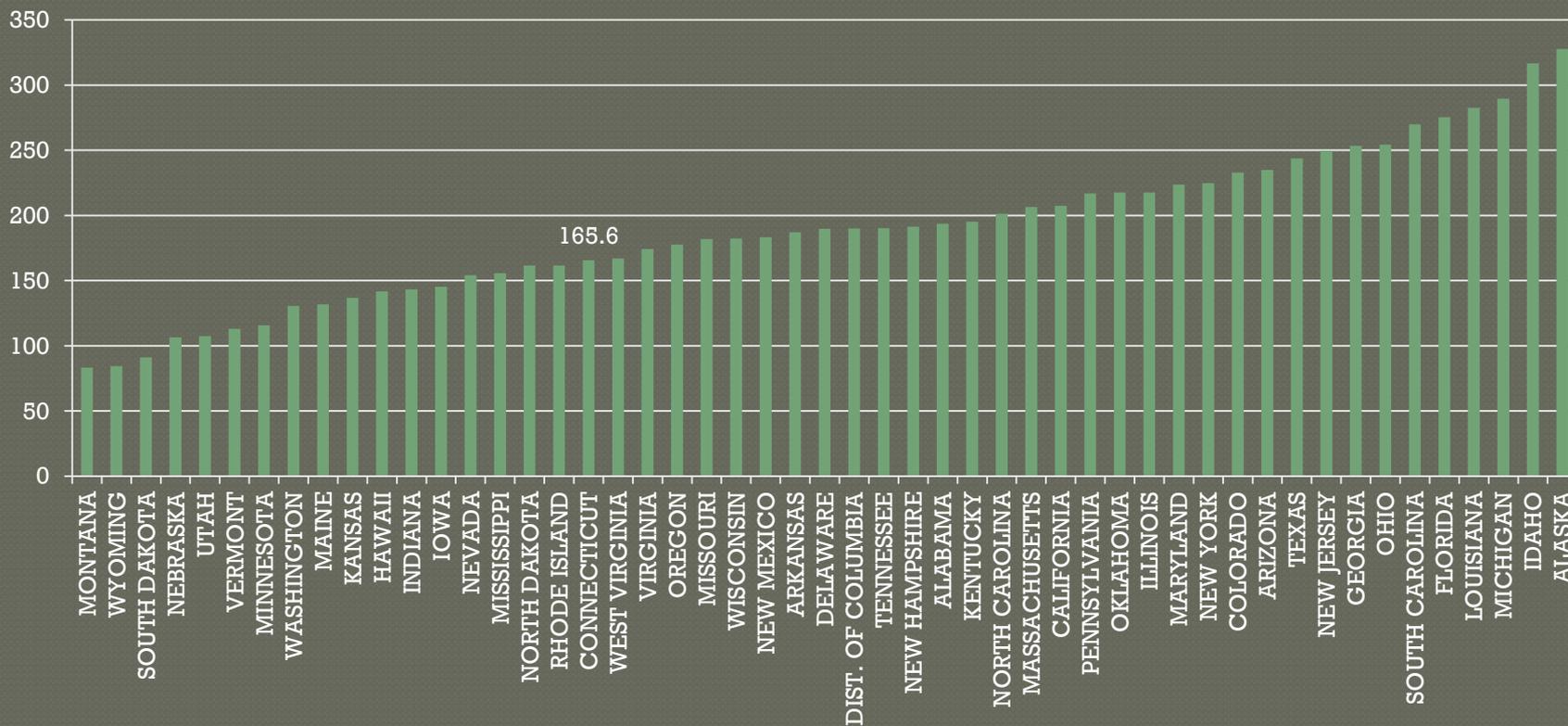
**Rates of admission for access infection with catheters  
First 6 months on dialysis (per 1000 Pt. yr.)**



USRDS 2009 report

# Can HAI's be Reduced in Dialysis Facilities?

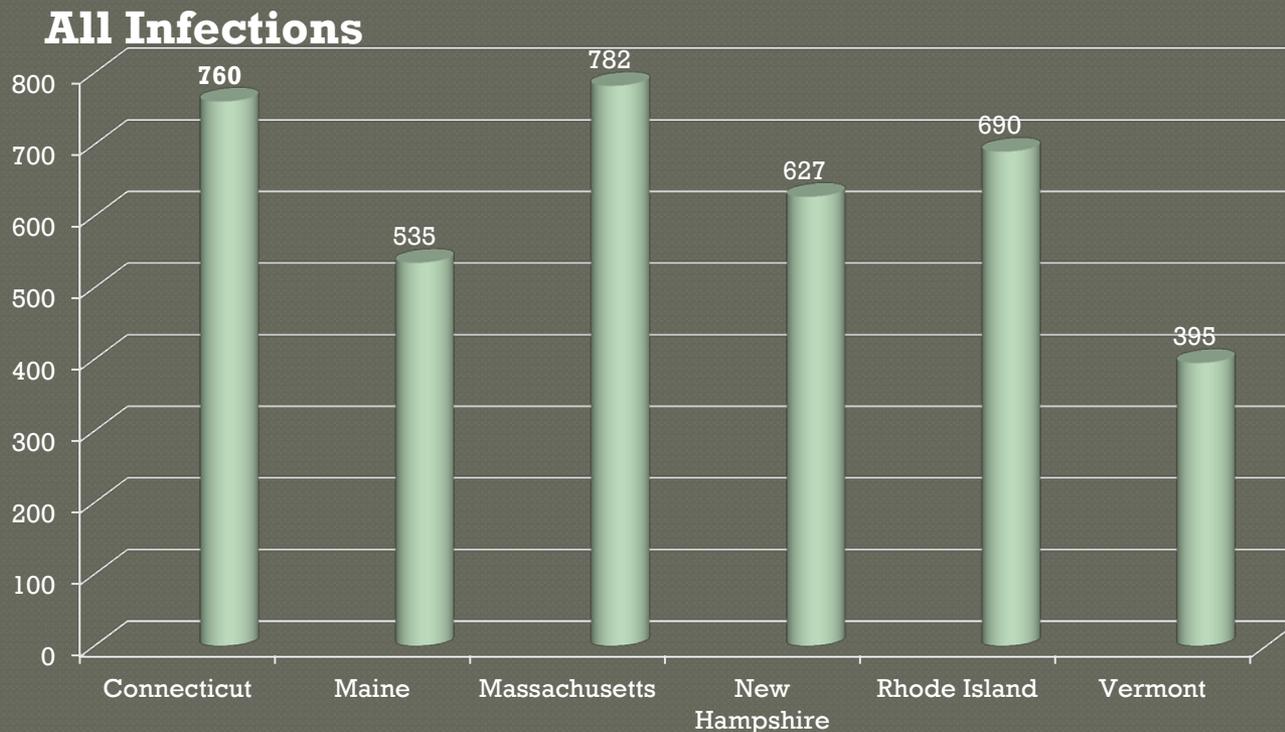
**Rates of admission for access infection, all patients  
First 6 months on dialysis (per 1000 Pt. yr.)**



USRDS 2009 report

# New England Comparison

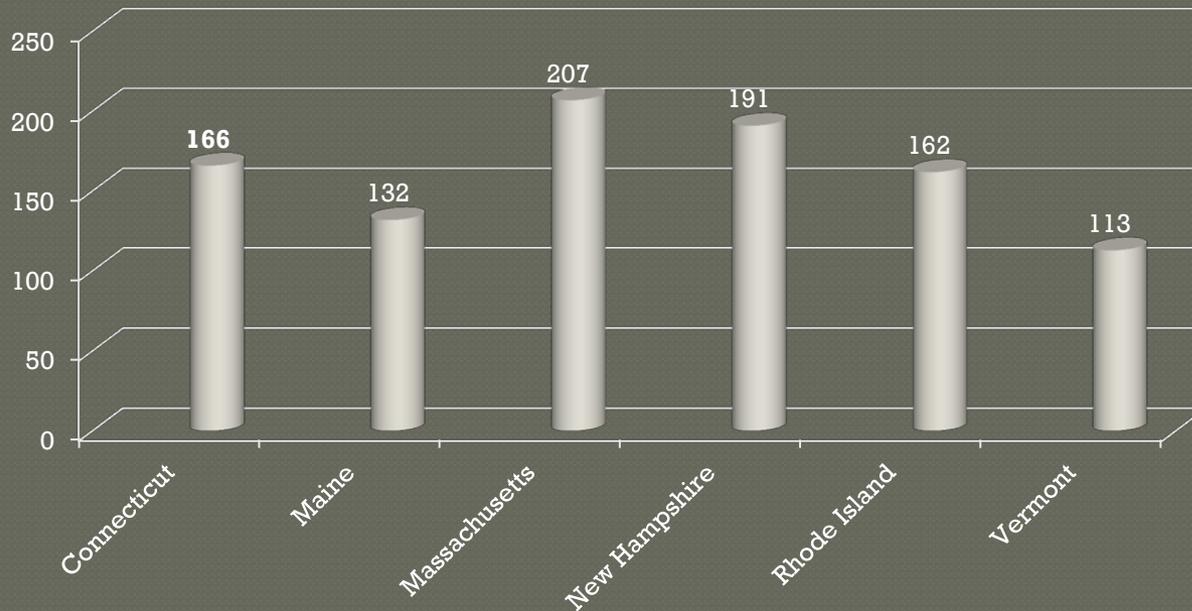
Rates of admissions for All Infections - first 6 months of dialysis (per 1000 patient years)



# New England Comparison

Rates of admissions for Access Infections - first 6 months of dialysis (per 1000 patient years)

## Access Infections



Gerhard's Observation: We're making progress; things are getting worse at a slower rate

# Approach to Improvement

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## ● First Steps

- **Surveillance** (of what?)
- **Reporting** (can we minimize staff time to collect and input data?)
- **Tracking** (who does tracking, who analyzes data?)

# Gaps in Metrics

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- ◉ Need better process measures?  
*(KDOQI Guidelines)*
- ◉ Need better outcomes measures?  
*(CDC State Specific HAI Report-Standardized Infection Ratio)*
- ◉ Other Needs?

Harvard's Law: Under the most rigorously controlled conditions of pressure, temperature, volume, humidity, and other variables, the organism will do as it damn well pleases.

# Gaps in Data

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- ◉ Need claims data as well as facility data
- ◉ Need individual data
- ◉ Need more up to date data
- ◉ Data needs to be validated

Williams and Holland's Law: If enough data is collected, anything may be proven by statistical methods

# Keep in Mind

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- What is practical
  - From available data
  - How much additional data can be obtained?
  - With limited funding
- What is achievable
  - Within time constraints
  - Within constraints of limited resources
  - Where is the biggest “bang for the buck”?

Horowitz's Rule: Wisdom consists of knowing when to avoid perfection

# Additional Laws

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## Lerman's Law of Technology:

Any Technical Problem can be overcome given enough time and money

### Corollary:

You are never given enough time or money

## Schopenhauer's Law of Entropy:

If you put a spoonful of wine in a barrel full of sewage, you get sewage.

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