Mandatory Public Reporting of Hospital-Acquired Infections: Legislation and Rule Changes –Tennessee

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Key Decisions

- Study committee members
  - In TN: Key to implementation
- What to collect & report
- What definitions/methodology
- Timeline
  - Enrollment
  - Training
- Who has responsibility with the DOH?
  - Experience with data collection/analysis
- Preventing potential adverse consequences
- Validation protocols

Study Committee Members

- Infection control professionals (4 APIC chapters)
- Hospital epidemiologists
- Large and small hospitals
- Urban and rural hospitals
- Hospital administration
- State hospital association (THA)
- Department of Health
- Third party payors
- Consumers

What to Collect & Report

- Emphasis was placed on collection of actionable, verifiable data.

Outcome Measures

- Central line associated blood stream infection (CLABSI) rates in ICU patients
  - Report to public by ICU type and hospital
- Surgical site infection (SSI) rates for patients undergoing Coronary Artery Bypass Graft (CABG) surgery
  - Because of concerns wrt: post-discharge surveillance, difficulty in validation, suboptimal risk adjustment→ report aggregate data only to the public (i.e., not identify by hospital)
- NHSN definitions, methodology & software

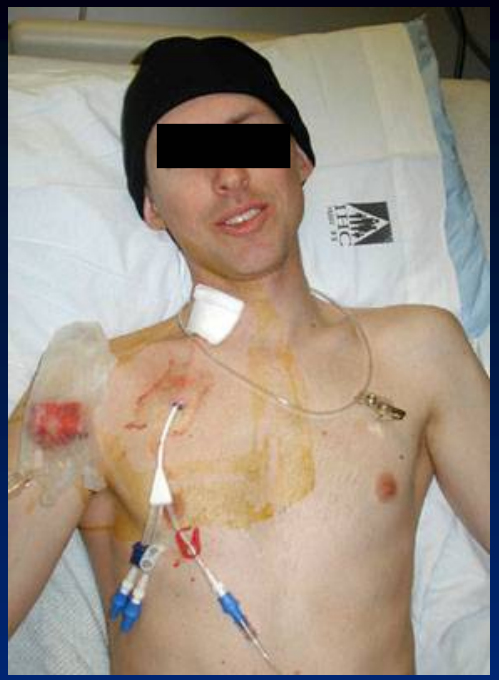
Process Measures

- Antibiotic timing for surgical procedures (pre and post surgery): CMS methodology and software

New Rules and Regulations (R&R)

- Influenza vaccination for all direct patient care personnel (or declination statement)*

* Not publicly reported, however the hospital can be cited



Process Measures

- Sterile insertion technique for central lines (check-list)*

- Hand hygiene*

* Not publicly reported, however the hospital can be cited

Why did TN Choose to Use NHSN Software?

- Using NNIS/NHSN definitions and methodology
- Not just a reporting tool to provide information to the DOH
- Provides USEFUL, ACTIONABLE data in REAL TIME to ICPs – meets LOCAL needs
  - Great analysis tools included

Why did TN Choose to Use NHSN?

- Good reports from users
  - one TN hospital was a beta tester
- Provides a great platform for additional surveillance needs
  - Multi-drug resistance organism (MDRO) reporting (e.g., Acinetobacter, KPC, MRSA)
  - Other adverse events
- $$$
  - No software/hardware costs
  - No maintenance fees

Implementation in TN

- 153 acute care hospitals
  - 79 reporting CLABSI
  - 26 reporting SSI following CABGs
  - Many small hospitals where ICPs have very limited computer experience
    - e.g., assistance in how to save a document
- 4 APIC chapters
  - 3 have at least one previous NNIS/NHSN hospital

Roll Out: Education Session 1

- *Morning:*

  Audience: broad, hospital leadership, quality, ICPs
  - Background on hospital acquired infections
  - Impact of infection control in (lives, LOS, $$$)
  - Overview of new legislation & rules & regulations
  - Implementation of new requirements
    - Required resources at hospital level (e.g., data entry, collection of central line-days)
    - IT assistance in obtaining denominator data for surgical cases)

- *Afternoon:*

  Audience: infection control professionals
  - NHSN definitions & methodology for CLABSI & SSI
  - Paper forms
  - CDC expert (Mary Andrus or Teresa Horan) on-call (phone)

Roll Out: Education Session 2

- ***Morning:***
  - **Enrolment review including joining TDH group**
  - **Patient Safety (PS) Protocol**
    - **CLABSI**
    - **SSI**
  - **Case studies (sent out 2 weeks ahead)**
    - **Clarify fine points in definitions, common mistakes**

- ***Afternoon:***
  - **Pop Quiz**
  - **Additional case studies**

Enrolment & Conferring Rights Process

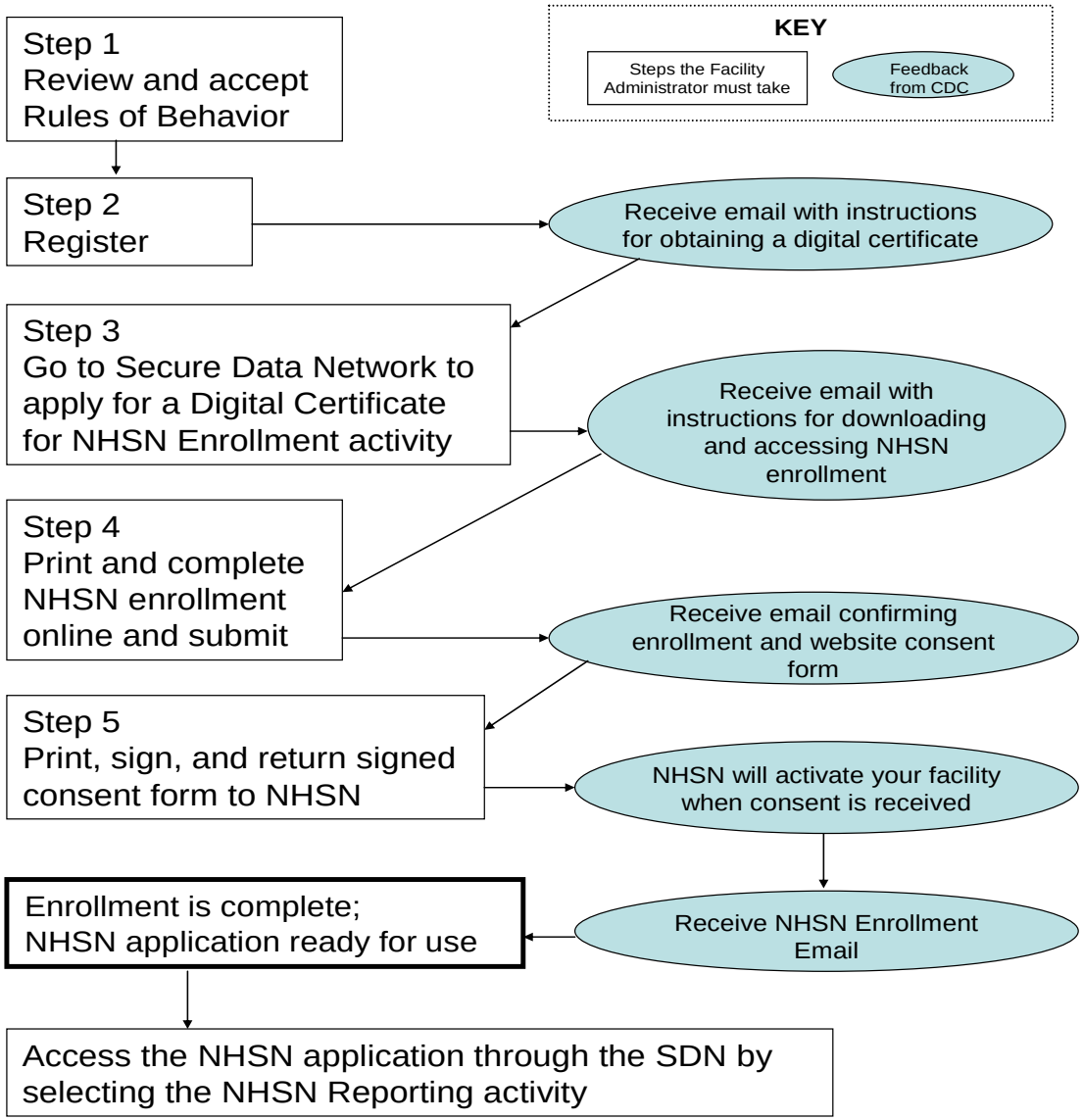
Like Giving Birth!

…..Painful,

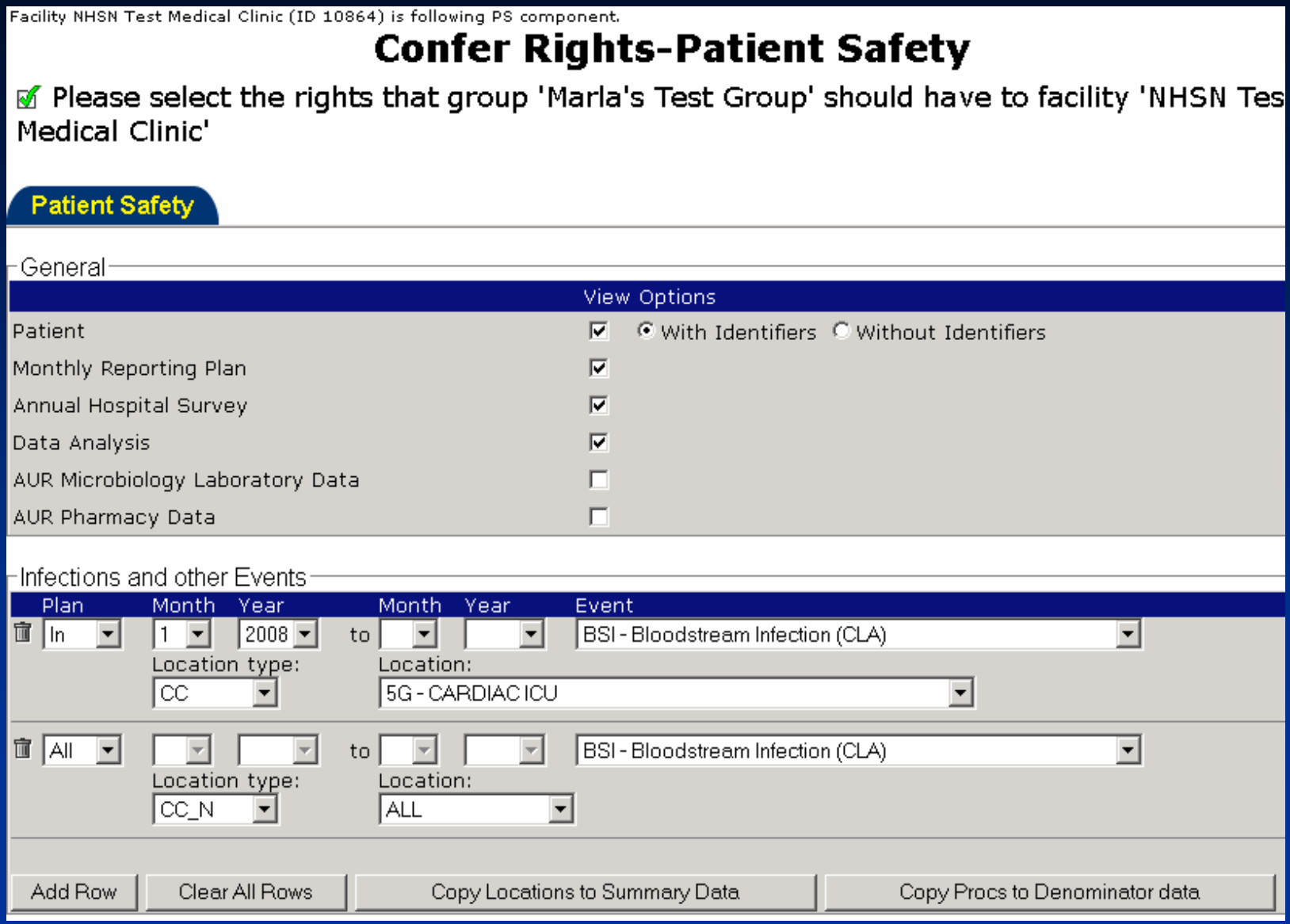
but worth it!

Enrolment into NHSN

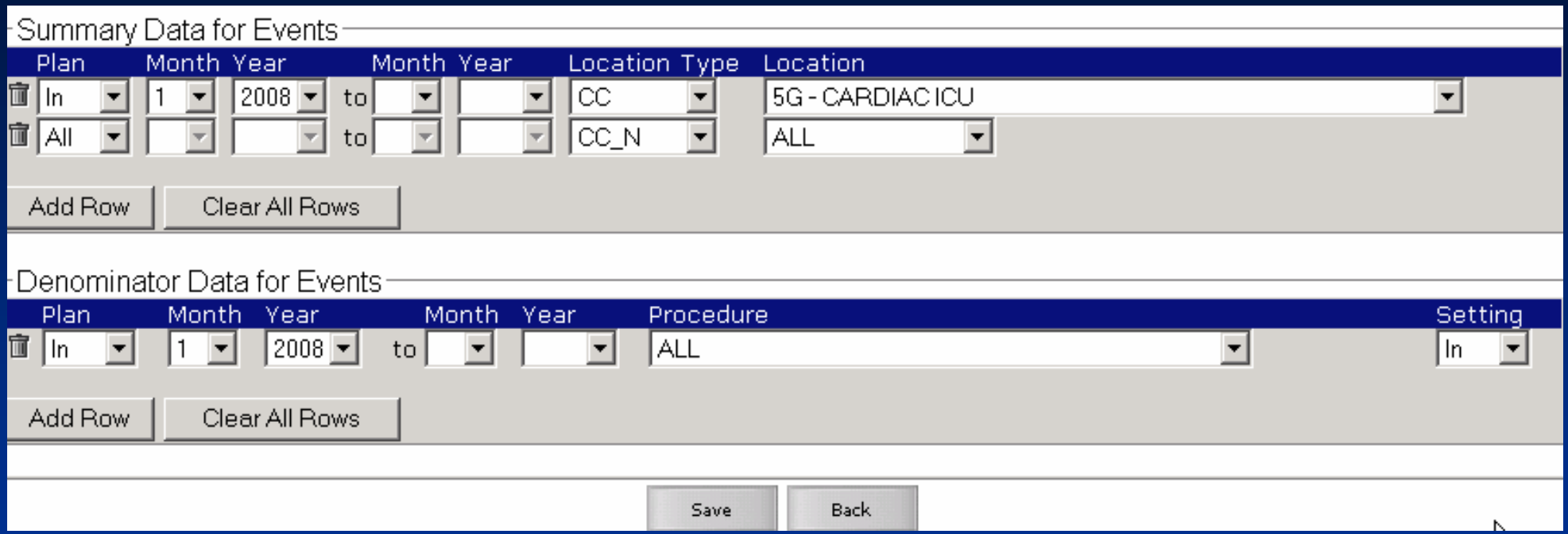
How do I get started in NHSN?



Join Group & Confer Rights



Conferring Rights (cont'd)



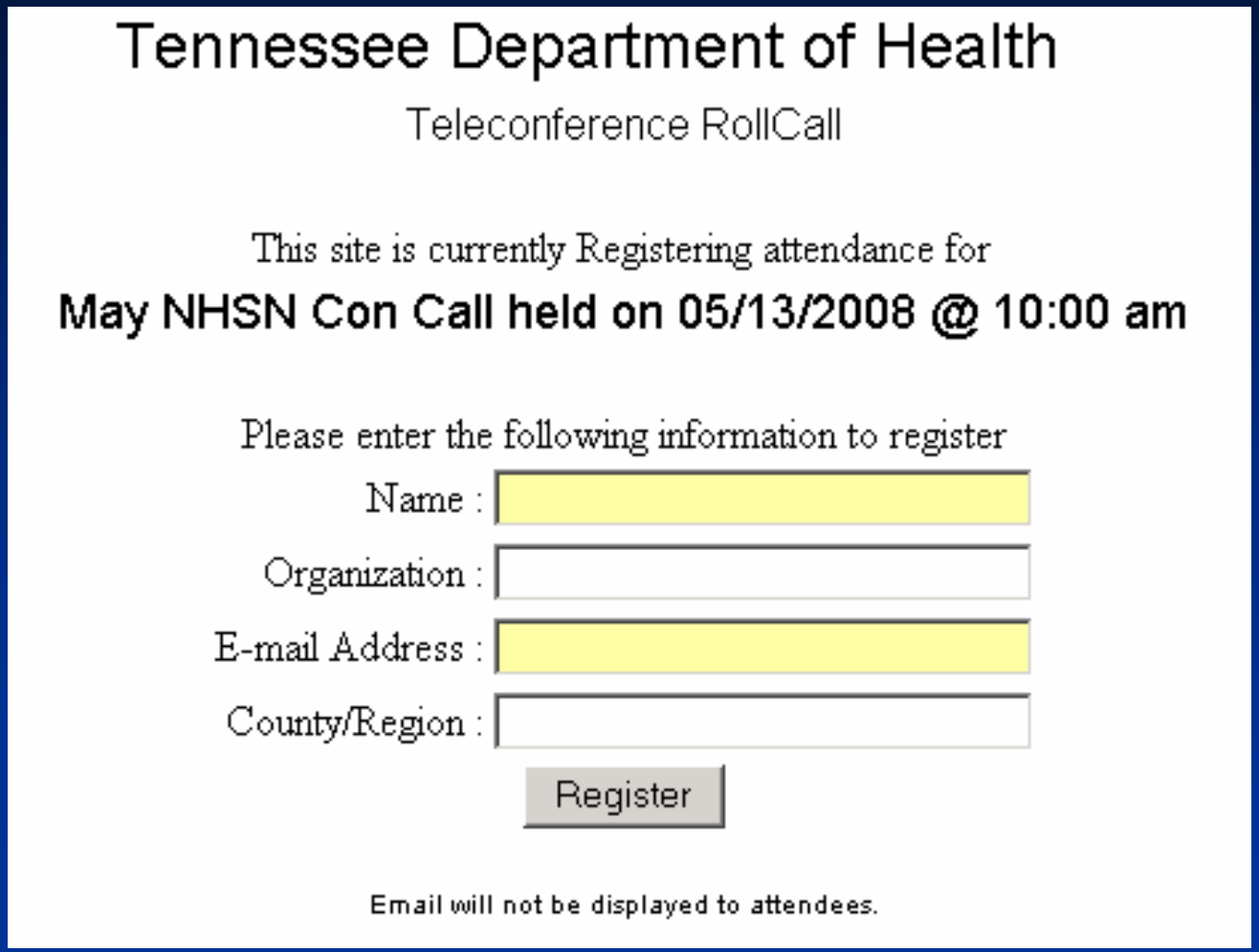
Support to Hospitals

- Initial conference calls every 2 weeks (assist in enrolment) [existing bridgeline]

- Central office PH nurse on phone to assist individual hospitals in conferring the correct “rights” to the TDH group

Teleconference: “Roll Call” Website

“Roll Call” used to take ~20-25 minutes



Roll-Call: Lists Attendees, Organization & Time Joined

Tennessee Department of Health

Teleconference Enrollment for

May NHSN Con Call held on 05/13/2008 @ 10:00 am

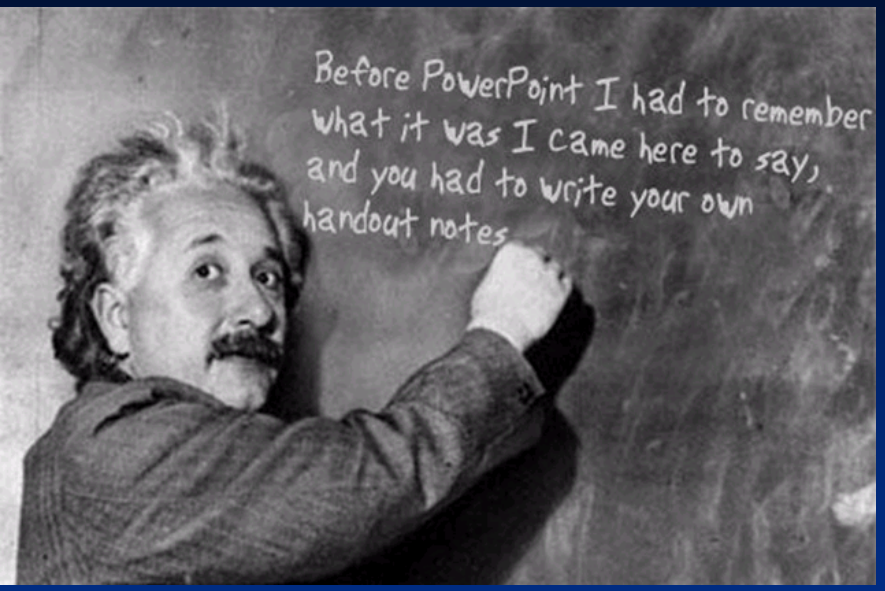
Screen will refresh every minute

Name	Organization	County/Region	Date	Time
Beth Collier	TDOH	Central Office	05-13-2008	08:49:39
[redacted]	Maury Regional Hospital	Maury	05-13-2008	09:47:19
	Nashville General Hospital	Williamson	05-13-2008	09:51:44
	River Park Hospital		05-13-2008	09:51:55
	Blount Memorial	Blount	05-13-2008	09:52:16
	Cumberland Medical Center	Cumberland	05-13-2008	09:52:27
	Livingston Regional Hospital	UCR	05-13-2008	09:52:43
	Fort Loudoun Medical Center	Loudon	05-13-2008	09:52:49
	Centennial Medical Center	Davidson/Nashville	05-13-2008	09:53:07
	Johnson City Medical Center	Washington	05-13-2008	09:53:30
	Baptist Memorial Hospital - Unin City		05-13-2008	09:54:09
	Parkridge Medical Center, Inc.	Hamilton	05-13-2008	09:54:21
	SSH- MSHA	Carter	05-13-2008	09:54:31
	MSHA/North Side Hospital	Washington	05-13-2008	09:54:32
	Cookeville Regional Medical Center	Putnam	05-13-2008	09:54:40
	Centennial Medical Center	Davidson	05-13-2008	09:54:56
	Baptist Memorial Hospital Memphis	Shelby	05-13-2008	09:55:43
	Skyline Medical Center	Davidson	05-13-2008	09:56:40
	Skyline Medical Ctr	Davidson	05-13-2008	09:56:44
	Fort Sanders Regional Medical Center	Knox/ East TN	05-13-2008	09:57:38
	Laughlin Memorial Hospital	Greene/Northeast	05-13-2008	09:57:54

Support to Hospitals:

- **Monthly conference calls**
- **Clarify questions on protocols, definitions**
  - **Discuss questions sent in from the field since the last call (caller/hospital remains anonymous)**
- **Share ideas on implementation: e.g., collection of denominator data (central line days)**

Requests from Hospitals



More training!!!

- **Analysis**
- **Non-required modules!**
  - **Ventilator associated pneumonia (VAP)**
  - **Catheter-associated UTI (CAUTI)**
  - **MDRO module**
  - **CLIP module**

- **Comparison to State peers preferably within the NHSN analysis module**

Preventing Potential Adverse Consequences

- Ensure sufficient resources allocated to infection control at hospital level
  - Training session # 1 (C' suite/ IT support)
    - 50% of hospitals are uploading denominator data
  - Involvement of the TN Hospital Association
  - TN Center for Patient Safety
    - "Boards on board"
    - Infection initiatives
      - SCIP
      - CLABSI reduction
      - MRSA

THA
TENNESSEE HOSPITAL ASSOCIATION

TENNESSEE CENTER FOR
Patient Safety

Be Involved:
The Train has Left the Station!

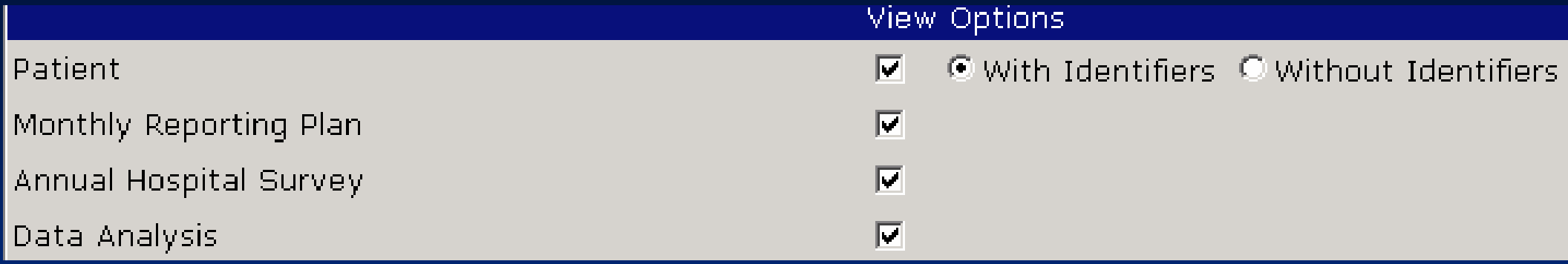
Lessons Learned

- **Offer assistance to the legislature to amend the bill (use model legislation)**
- **Ensure that you have RESOURCES for the implementation:**
  - **Provide TRAINING for users**
  - **Assist in ENROLMENT, CONFERRING OF RIGHTS**
  - **WEBSITE for public**
  - **Health department HEALTHCARE EPI EXPERTISE**
  - **VALIDATION**

Check Local Terminology for Levels of Neonatal Intensive Care Units (NICUs)

- There may be differences in the terminology wrt how NICUs are classified.
- CDC/NHSN uses the American Academy of Pediatrics (AAP) definitions for level of neonatal care
  - CDC/AAP Level III = TN Perinatal care system: III
  - CDC/AAP Level II/III = TN Perinatal care system: IIb
  - CDC/AAP Level II = TN Perinatal care system: IIa
  - CDC/AAP Level I = TN Perinatal care system: I

Patient Identifiers: Why hospitals should provide them to the health department "group":



- **Validation**
- **Match CLIP (process) to CLABSI (outcome events)**
- **For NICUs, will get false "zero" rate of infection (currently birth-weight is classified as personal identifier information), even if there are CLABSI events**

The Future: Electronic Data Exchange

- **Support and Enhance NHSN**
  - **Collect data in a smarter & more effective manner**
    - **Microbiology data**
    - **Pharmacy data**
    - **Admission/Discharge/Transfer (ADT) data**
  - **Vendor developed systems**

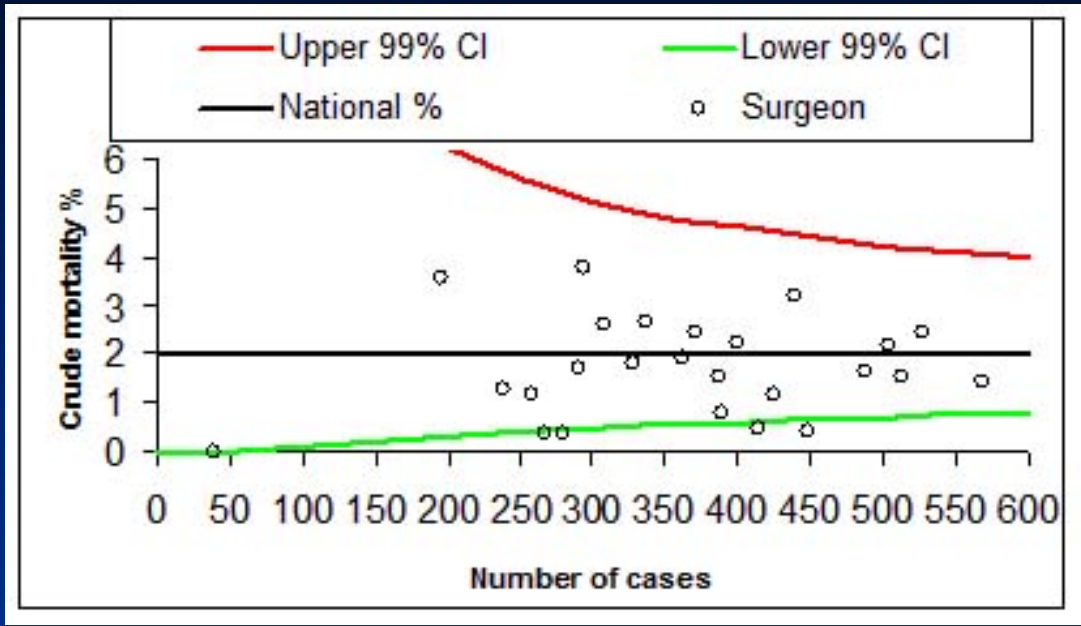
08-ID-07

Committee: Infectious Diseases

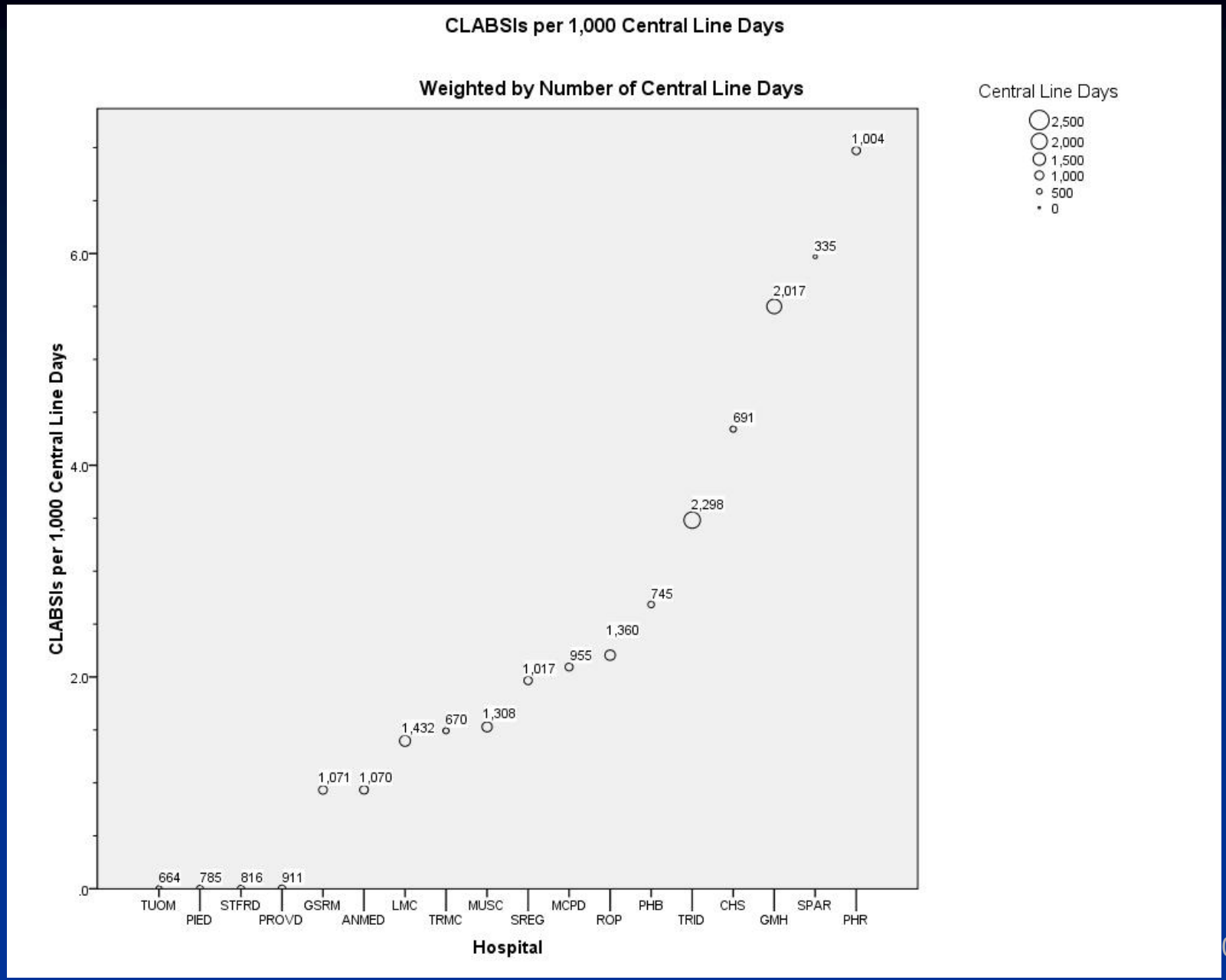
Title: Support of and Enhancement of the National Healthcare Safety Network (NHSN)

R&D: Visual Display to the Public

- **What is the best method to display information?**
  - **Funnel plots?**



Trends over time within an institution?
Cumulative or defined time-periods
6 months or one year?



Consumer: South Carolina advisory group

Hospital Name	Hospital Infection Rate Compared with Similar Size Hospitals in Missouri	Hospital Infection Rate Compared with All Missouri Hospitals	Hospital Infection Rate Compared with Hospitals in U.S.	Hospital-Specific Information
Audrain Medical Center	◒	◒	◒	Data Comments
Bothwell Regional Health Center	◒	◒	◒	Data Comments
Capital Region Medical Center	◒	◒	◒	Data Comments
Columbia Regional Hospital	◒	◒	◒	Data Comments
Fitzgibbon Hospital	◒	◒	◒	Data Comments
Hannibal Regional Hospital	◒	◒	◒	Data Comments
Lake Regional Health System	◒	◒	◒	Data Comments
Moberly Regional Medical Center	◒	◒	◒	Data Comments
Northeast Regional Medical Center	◒	◒	◒	Data Comments
Phelps County Regional Medical Center	◒	◒	◒	Data Comments
St. Mary's Health Center - Jefferson City	◒	◒	◒	Data Comments
University of MO Hospital & Clinics	◒	◒	◒	Data Comments

● = Infection rate lower than other hospitals in the comparison group

◒ = Infection rate similar to other hospitals in the comparison group

○ = Infection rate higher than other hospitals in the comparison group

http://www.dhss.mo.gov/HAI/main.php

R&D: Validation of Outcome Measures

- **Validation is essential**
  - ensure a level playing field
  - to have confidence in the data
- **HOW ?**
  - If have on a shoe-string budget
  - Low frequency adverse events e.g., SSI post CABG

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May 6, 2008

I respectfully request that you provide the Committee with the following information:

1. If known, what are the median and overall rates of central line-associated bloodstream infections in the intensive care units in hospitals in your state, using standard definitions of CLABSIs as provided by the Centers for Disease Control (CDC) and prevention for the purpose of the National Healthcare Safety Network?[4]

2. If the rates are unknown or if the median rate is above zero, do you have plans to replicate the Michigan Hospital Association program in your state? If so, when do you anticipate initiating the program?

3. What other activities are your member hospitals taking to address healthcare-associated infections? Which infections are you targeting? What is your evidence of success?

Table 1: Rates of central line associated blood-stream infections (CLABSI) reported to the National Healthcare Safety Network (NHSN), Tennessee, Jan-Mar 2008

	Pooled (mean) CLABSI rate (per 1,000 catheter-days)	Median CLABSI rate (per 1,000 catheter-days)
OVERALL (ADULT, PEDIATRIC, NEONATAL)[1]	1.93	0.00
ADULT CRITICAL CARE UNITS [2]	1.65	0.00
PEDIATRIC CRITICAL CARE UNITS	3.09	1.40
NEONATAL CRITICAL CARE UNITS	2.95	0.00
ADULT CRITICAL CARE UNITS		
Medical Cardiac Critical Care	2.30	1.45
Surgical Cardiothoracic Critical Care	1.32	0.00
Medical Critical Care	1.20	0.00
Medical/Surgical Critical Care	1.21	0.00
Medical/Surgical Critical Care- Major teaching hospital	1.96	2.20
Neurologic Critical Care	5.42	5.42
Neurosurgical Critical Care	2.44	2.53
Surgical Critical Care	2.81	2.47
Trauma Critical Care [3]	0.00	0.00
PEDIATRIC CRITICAL CARE UNITS		
Pediatric Medical/Surgical Critical Care	3.09	1.40
NEONATAL CRITICAL CARE UNITS [4]		
Neonatal Critical Care (Level III & II/III) combined		
Birth-weight: ≤750 g	5.10	0.00
Birth-weight: 751-1,000 g	4.44	0.00
Birth-weight: 1,001-1,500 g	2.49	0.00
Birth-weight: 1,501- 2,500 g	1.09	0.00
Birth-weight: >2,500 g	1.38	0.00

Resources

- APIC chapters
- NHSN website: http://www.cdc.gov/ncidod/dhqp/nhsn.html
- Monthly NHSN conference calls- CDC, States
- NSHN state user web-board (Sitescape)
  - States sharing training materials etc…
- Model legislation:
  - http://www.shea-online.org/Assets/files/Model_Legislation_-_APIC__IDSA__SHEA.pdf

Acknowledgements

- APIC chapters
- Beth Collier (TDH)
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