



Antimicrobial Stewardship in Post Acute Care

Houston Antimicrobial Stewardship Symposium, March 5, 2015

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Topics

- **Kindred/PharMerica Antimicrobial Stewardship Program**
- **Evolution of the Antimicrobial Stewardship Program**
- **Successes in Antimicrobial Stewardship**
- **Continued opportunities/ barriers to Antimicrobial Stewardship**
- **Transitions of Care and Antimicrobial Stewardship**

Kindred Healthcare/PharMerica

- **Kindred Healthcare is a multi-facility health-care corporation providing post-acute services.**
- **Service across the care continuum**
 - Transitional Care Hospitals (LTACH)
 - Sub Acute Units
 - Nursing and Rehab
 - Home Care and Hospice
- **PharMerica Hospital Division provides pharmacy management services to Kindred Hospital Division**
- **Partnership to provide Clinical, Operational and Regulatory support for Kindred both locally and nationally**

Kindred Antimicrobial Stewardship

- **In late 2009 a Hospital Division wide Antimicrobial Stewardship Program was initiated within Kindred Healthcare**
- **The initiative was developed within corporate Pharmacy Advisory Committee (PAC)**
- **Measures and Modalities used in the program have evolved since 2009.**
- **Multiple resources and tools have been created to assist hospitals with the initiative**
- **Early focus on education, with concurrent audit and feedback via an AS Team**

Antimicrobial Stewardship

“Awareness for all Clinical Staff”

2009



Pharmacy Standards Committee
Kindred/PharMerica



Kindred Antimicrobial Stewardship

- **August 2009 education for Directors of Pharmacy**
 - What is AS?
 - How to start an ASP
- **2010 began tracking AS metrics**
 - Patients receiving antibiotics >10 days
 - Patients receiving >3 antibiotics
 - Cost of antimicrobials per patient day

Kindred Antimicrobial Stewardship

- **2012 review of Antimicrobial Stewardship Program outcomes**
- **Survey to Directors of Pharmacy to assess status of AS in the hospitals**
 - **Barriers Identified**
 - Time to gather data (manual processes)
 - Lack of lab data
 - Physician leadership
 - Lack of staff knowledge
 - **Successes Identified**
 - Improved durations and documentation
 - Increased collaboration
 - Reduced costs
 - Improved susceptibilities
 - Improved lab results

Kindred Hospital Outcomes

- **Early Data**

- Operational Outcome- Antibiotic Spend ppd
- Quality Outcome- >3 Antibiotics, >10 days therapy
- Data collection challenges- manual process/inconsistent reporting

CALENDAR YEAR	>3 antibiotics	>10 days therapy	Total Antibiotic Spend ppd
Baseline data 3 rd qtr 2009	3.2	5.7	\$34.90
2010	3.38	4.97	\$32.78
2011	4.04	6.20	\$33.57

Kindred Antimicrobial Stewardship

- **Pharmacy Advisory Review of AS data**
 - Are we using the right metrics?
 - >3 drugs
 - > 10days
 - Cost
 - Are we using the right methods?
 - Education
 - Who should we target for education?
 - All providers
 - Have we been successful?
 - We can do more

Kindred Antimicrobial Stewardship

- **Metrics**

- Quality – current metric doesn't work, what should we be reporting?
 - Appropriate therapy is sometimes subjective
 - Protocol adherence- Did not have established protocols
 - Resistance patterns- varied lab reporting, lack of antibiogram data
 - Reduced HAI- data was not available at the time
- Operational outcomes cost- Improvement seen, but data collection was manual and inconsistent



**Kindred
Antimicrobial Stewardship
Subcommittee**

Antimicrobial Stewardship Subcommittee

- Subcommittee of our corporate Pharmacy Advisory Committee
- Formally established in late 2012
- Working group to develop training tools and resources for Antimicrobial Stewardship as well as review utilization and trends
- Membership includes- Kindred DOPs, Kindred Infectious Disease Physicians, Kindred Laboratory and Infection Control Leadership, Kindred Pharmacy Leadership, other Clinical Content experts- CDC, clinical pharmacy, IT, MedAssets

Education- March 2014

Introducing the Revised Antimicrobial Stewardship Manual

Kindred
Healthcare
**Antimicrobial
Stewardship
Manual**



Kindred Healthcare AS Manual

- Section 1- Overview of Antimicrobial Stewardship concepts
- Focus on the 6 D's
- Marketing Antimicrobial Stewardship at your hospital
- Enforcing sound infection control practices

Marketing the Antimicrobial Stewardship Initiative Will Focus on the 6 Ds to Remember When Prescribing Antibiotics:

Description	Ask Yourself
D agnosis	Where is the infection, or is the therapy empiric? Do the cultures represent infection or colonization?
D rug	Does the drug choice cover the most likely pathogens on the antibiogram?
D ose	Is the dose appropriate for the patient's age, weight, site of infection, and any renal or hepatic insufficiencies?
D uration	Antibiotics should be given for the appropriate period of time and not any longer.
D e-escalation/Device	Broad-spectrum antibiotics may be needed initially (empirically,) but should be narrowed once cultures return assuming the patient improves. Unneeded central lines and other devices should be removed as soon as possible and not left in for the convenience of access.
D ocumentation	Initial and continued progress notes should reflect all of the D's listed above. Many of the issues around antibiotic excess will resolve themselves if this disciplined prescriptive approach to the documentation is followed.

Kindred Healthcare AS Manual

- **Section 2 Treatment Guides**
 - Designed to provide specific guidance and recommendations regarding common infections seen in the transitional care environment
- **Section 3 Antimicrobials with Indications and Restrictions Defined**
 - Carbapenems, Tigecycline, etc...
- **Section 4 Important Pharmacokinetic Principles**
 - Education around basics of Pharmacokinetics and renal dosing
 - Extended infusion guidance
- **Section 5 Infection Control Principles**
 - Review of infection principles related to antimicrobial stewardship
 - Evidence based bundles for management of Central lines, urinary catheters, and mechanical ventilation

Kindred Healthcare AS Manual

- **Section 6 Laboratory Recommendations**
 - CDC based guidance on ordering of cultures
- **Section 7 Antibiograms**
 - How to read and use
- **Section 8 Antimicrobial Stewardship Resources**
- **Section 9 Case Studies and Post Test**
 - Physicians, pharmacists, nurses

Improving Antimicrobial Therapy, Providing Tools & Resources:

The Antimicrobial Stewardship Manual Ask the I.D. Experts webcast

Dialogues on Contemporary ID Issues in Transitional Care

Presenters:

David Hines, M.D. FACP

Diane Rhee, Pharm D.

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Antimicrobial Stewardship Successes

Kindred Hospital Outcomes

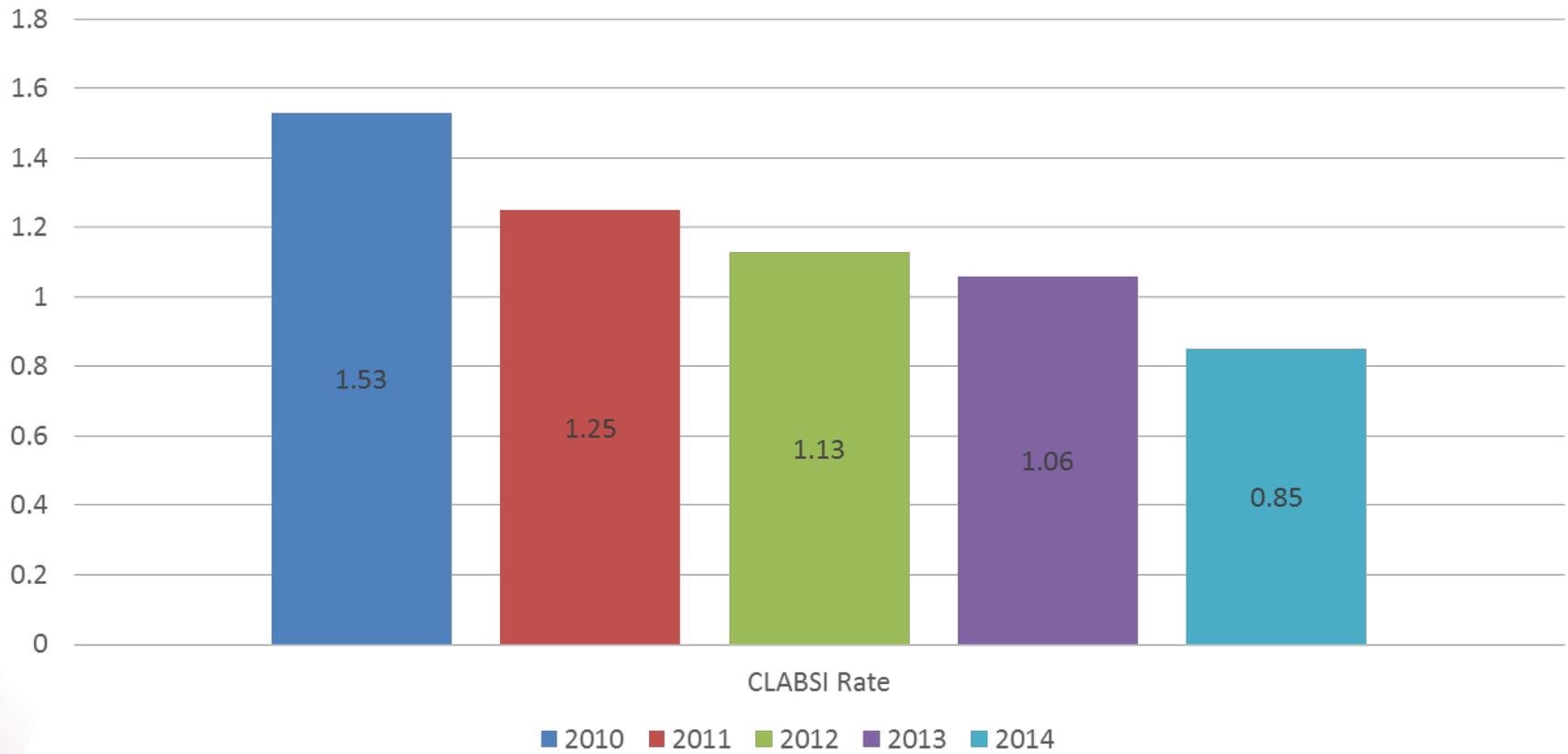
•Operational Measure- Antibiotic Costs Per Patient Day(PPD)

CALENDAR YEAR	>3 antibiotics	>10 days therapy	Total Antibiotic Spend ppd
2010	3.38	4.97	\$32.78
2011	4.04	6.20	\$33.57

CALENDAR YEAR	TOP 3 Antibiotics spend ppd	Total Antibiotic Spend ppd
2012	18.42	30.53
2013	17.71	30.52
2014	16.64	26.53
Estimated Savings with AS in 2014		\$4,972,401

Kindred Hospital Outcomes 2010 – 2014 CLABSI Rate

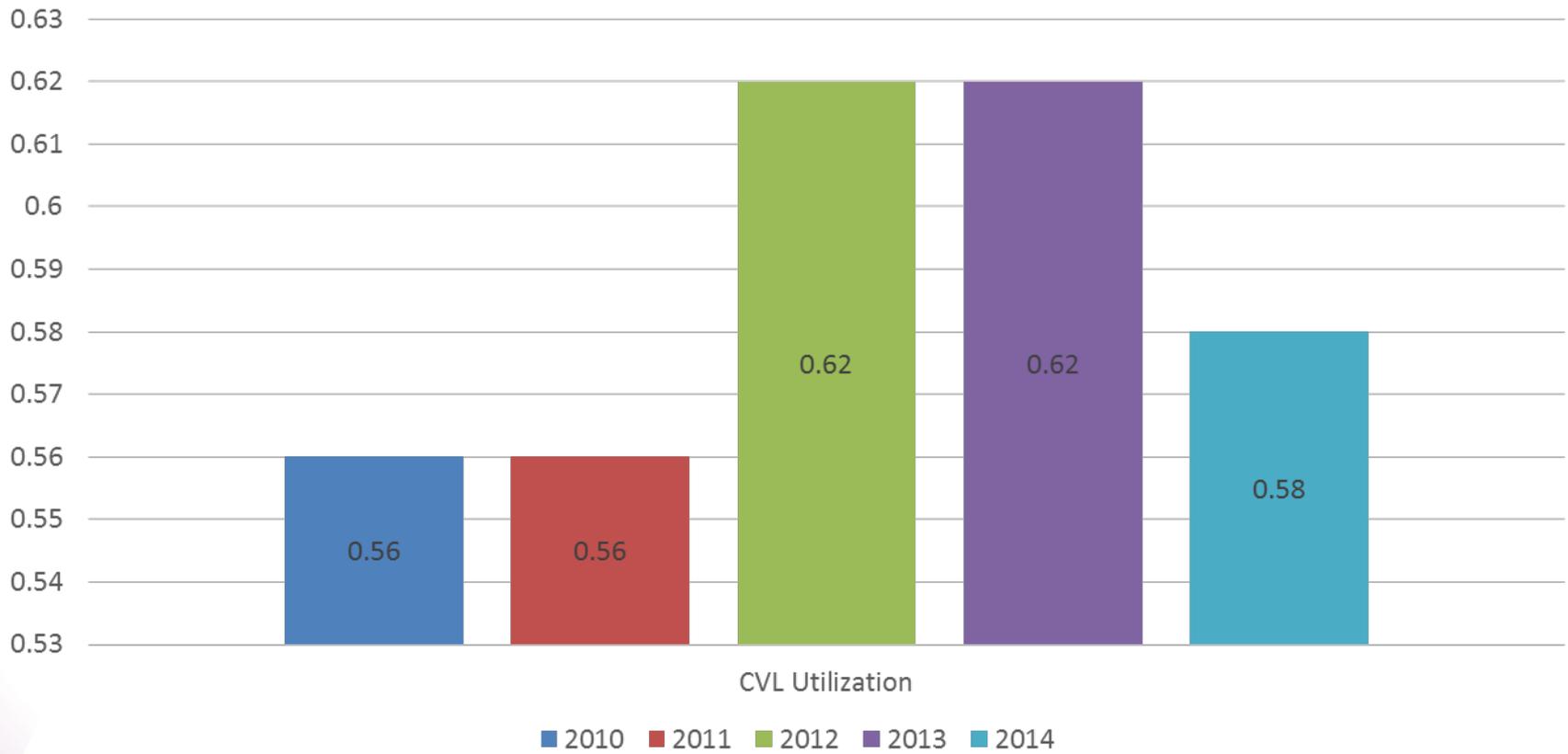
Central Line Bloodstream Infection Rate



Kindred Hospital Outcomes

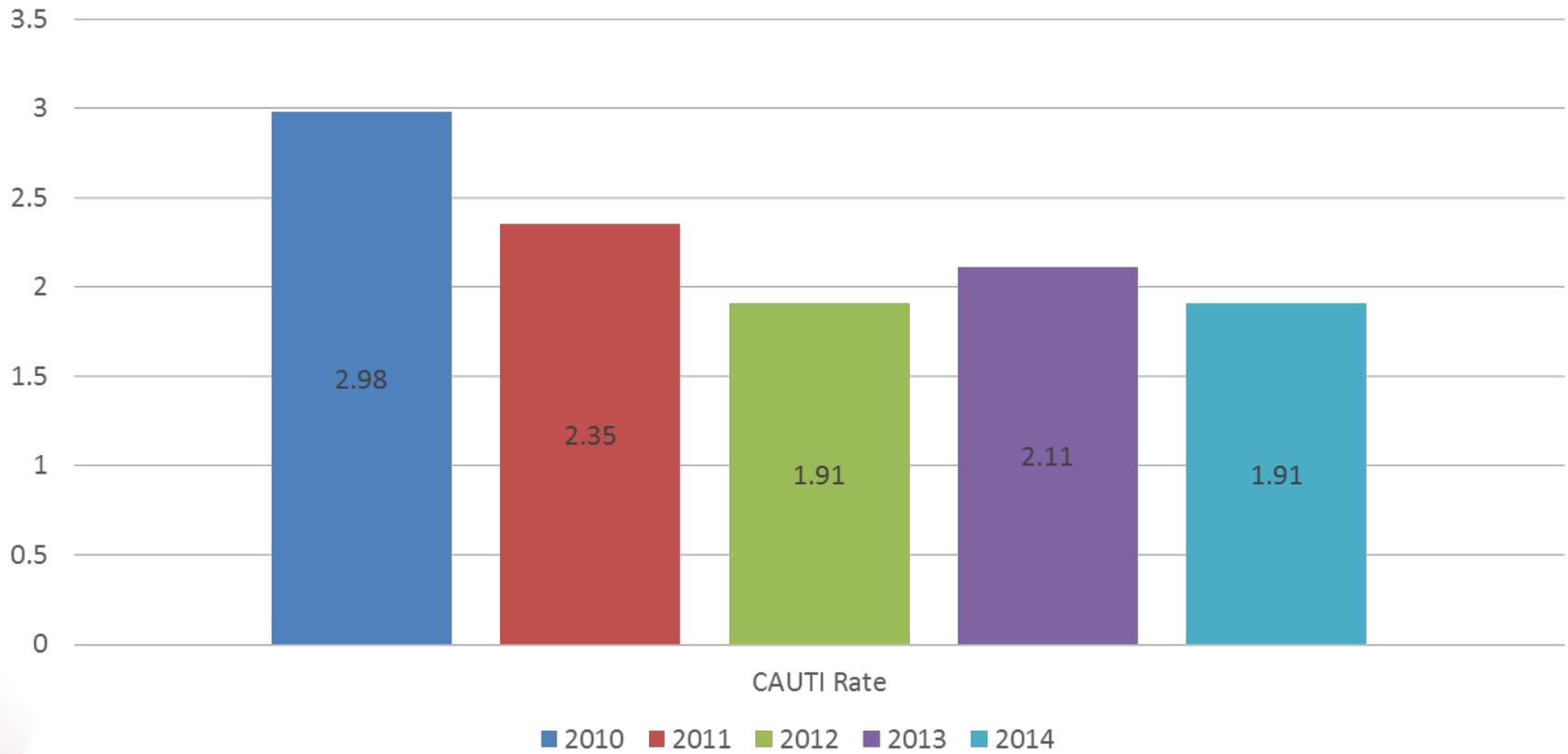
2010 – 2014 Central Line Utilization

Central Line Utilization/1000 Patient Days



Kindred Hospital Outcomes 2010 – 2014 CAUTI Rate

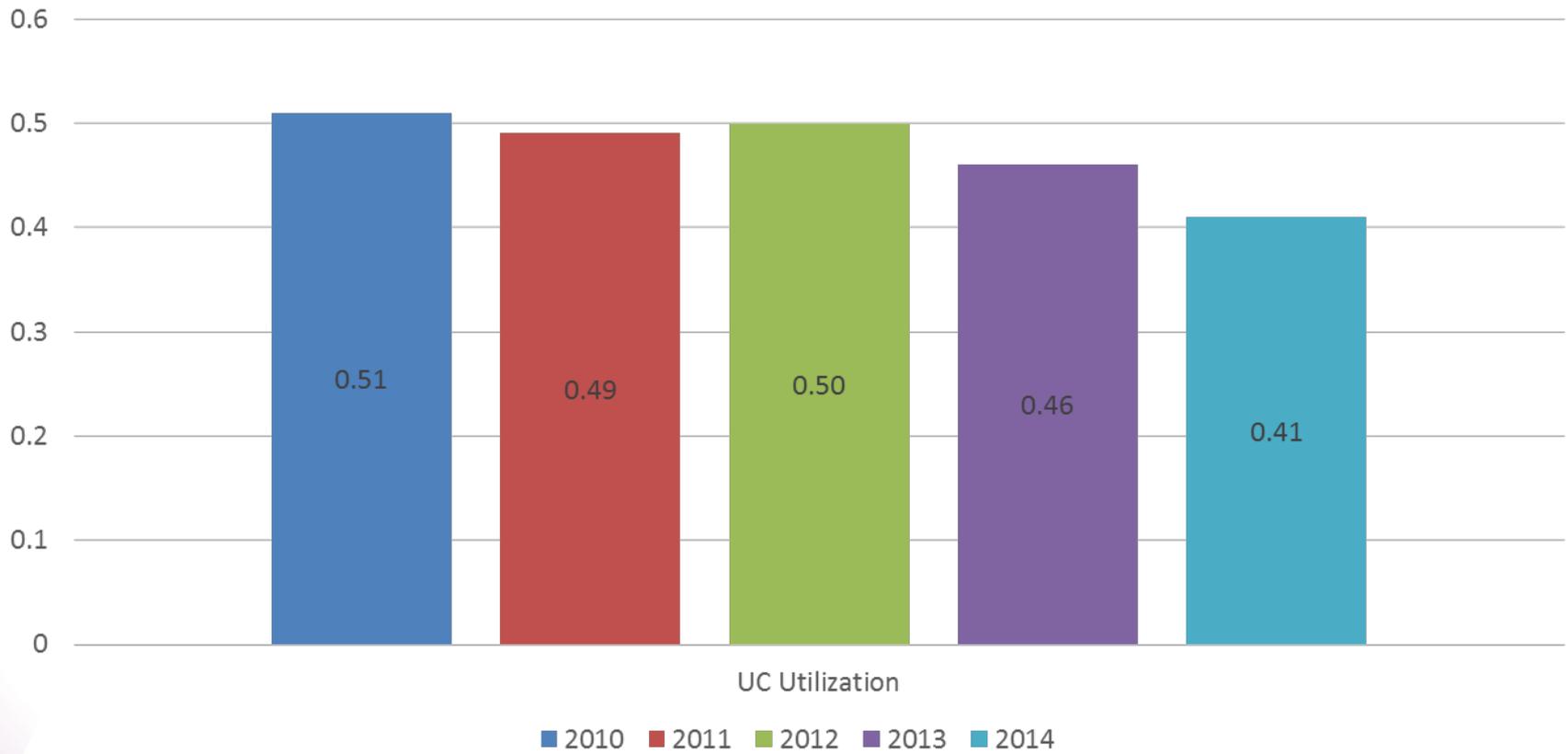
Catheter Associated Urinary Tract Infections



Kindred Hospital Outcomes

2010 – 2014 Urinary Catheter Utilization

Urinary Catheter Utilization/1000 Patient Days

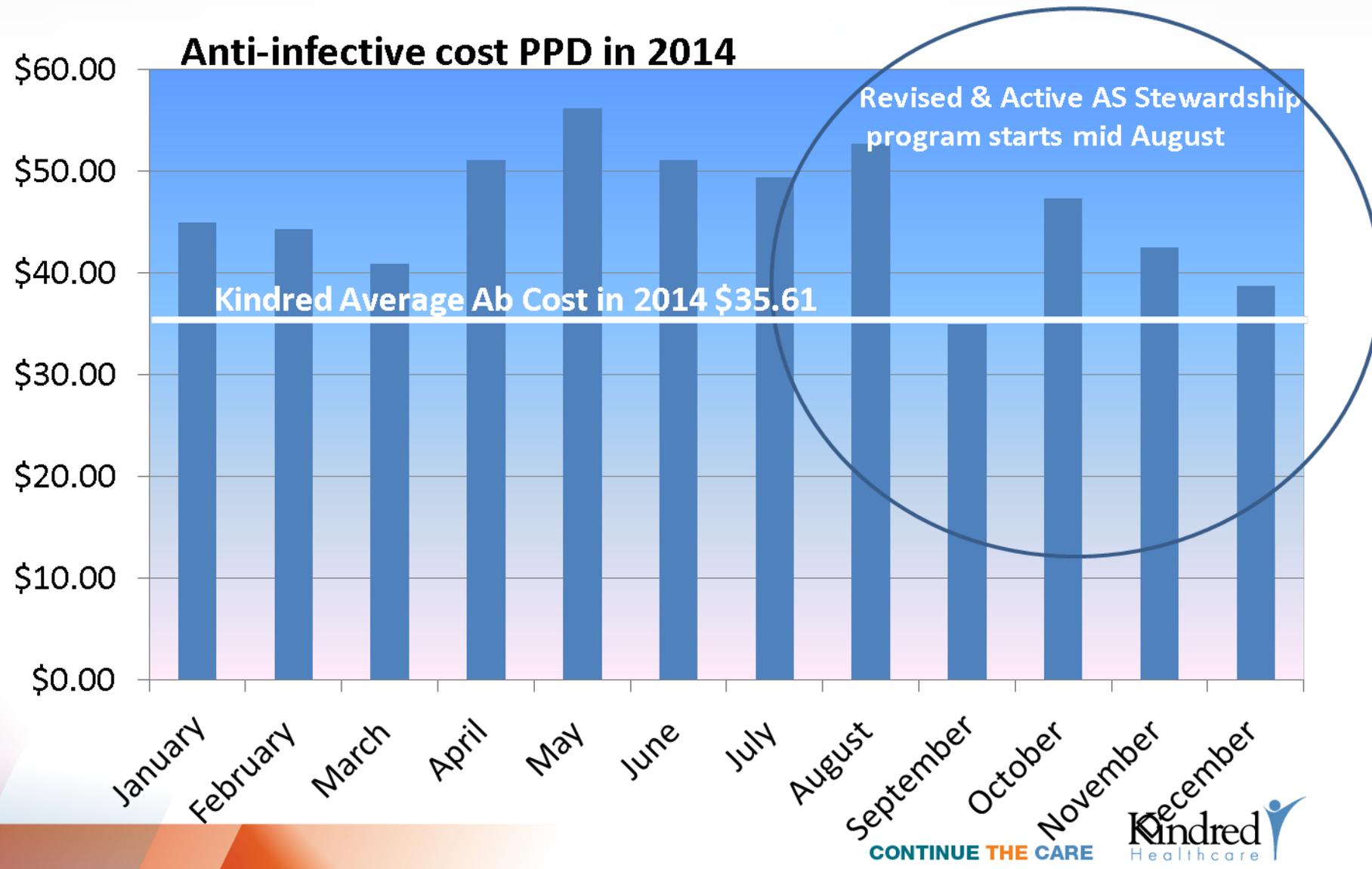


Kindred Success Hospital Case Study

- Hospital System in Southern California
- History of high anti-infective costs
- Clinical pharmacy coordinator hired in early summer
- Boots on the ground
- Primary focus on anti-infectives
- Antimicrobial Stewardship program re-launch Mid August
- Concurrent audit and feedback

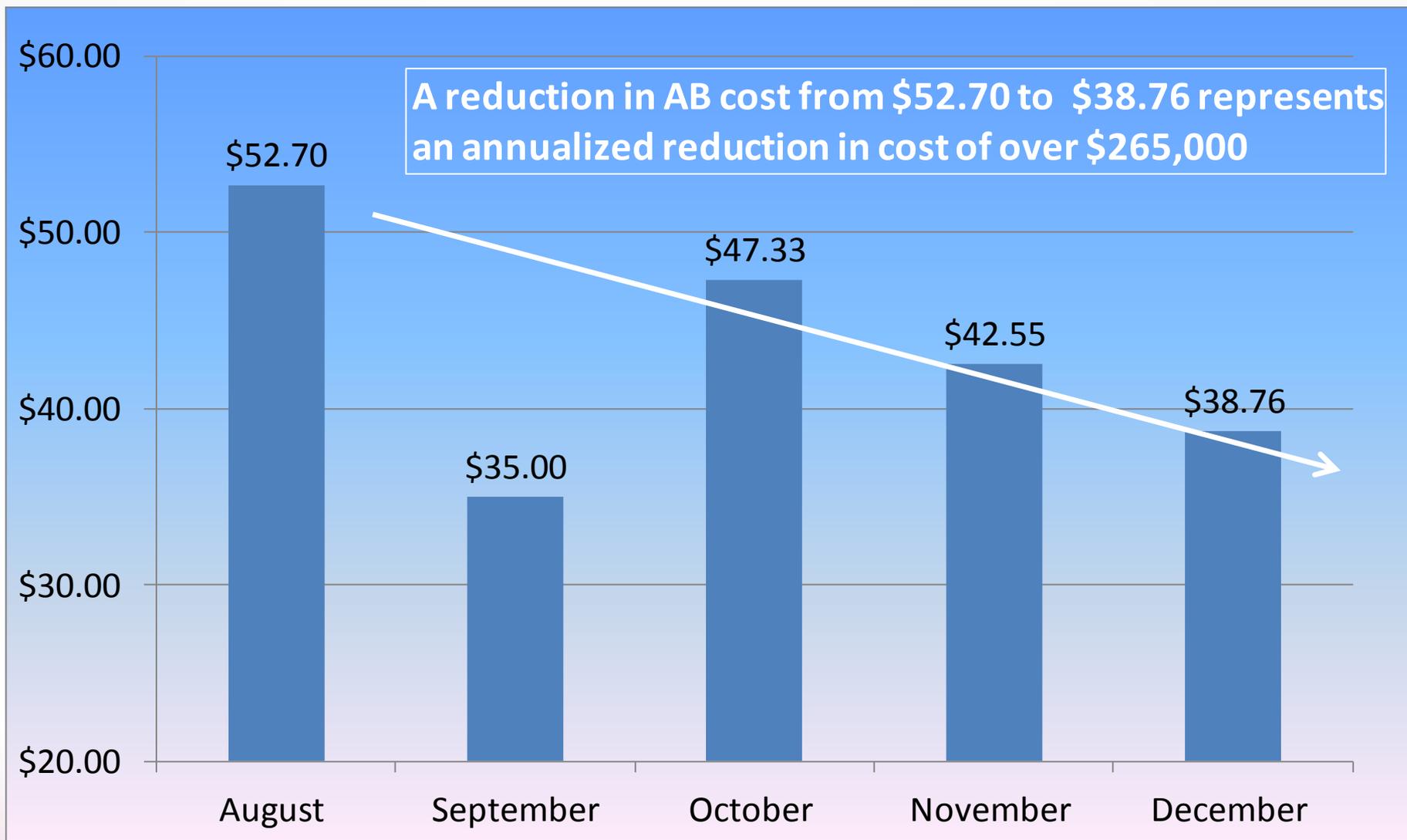
Case Study: Anti-infective Cost PPD 2014

Impact of Clinical Pharmacist and Active AS Program



Anti-infective Cost PPD 2014

Impact of Clinical Pharmacist and Active AS Program



TARxGET Rx data, (ABC): Graphs do not reflect contract increases in 2014; savings is understated



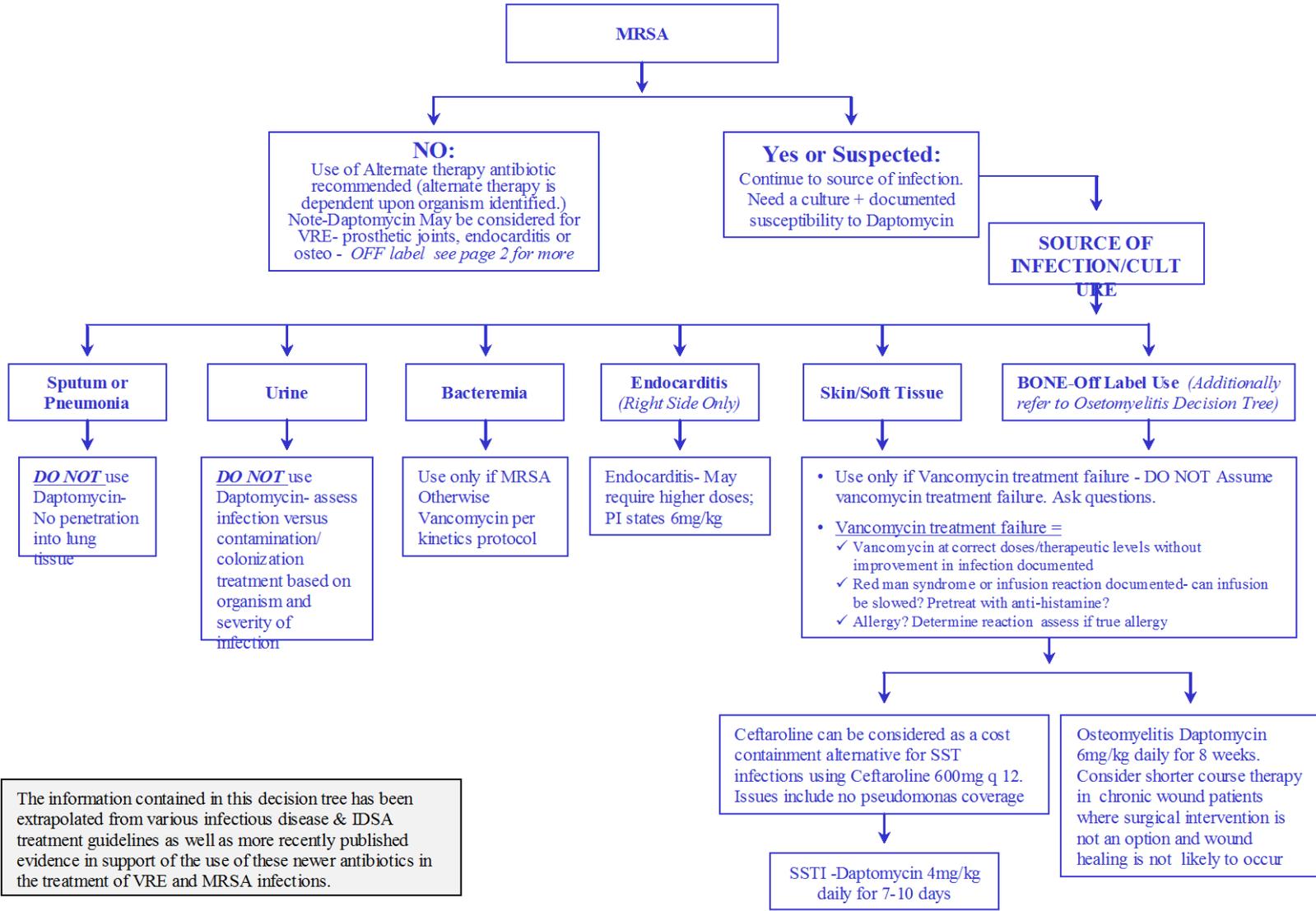
Antimicrobial Stewardship Opportunities

Continued Opportunities

- **AS Implementation varies across our hospitals.**
 - Varied implementation of formal AS teams
 - We see success in hospitals with physician, pharmacist, ICP rounds/meetings at least weekly
 - Need to continue to share Best Practice/Processes

Continued Opportunities

- **Pharmacist and Provider Education is needed**
 - Decision trees in development
 - AS manual updates on-going
 - Kinetics protocols established
 - Boots on the ground model expansion
- **Physician Champion identification is key**
- **Guideline and protocol adherence as a Quality metric**
 - P&T Dashboard 2015- micafungin
 - Scorecards- guideline adherence-daptomycin
- **Restriction is used in some hospitals with success**



The information contained in this decision tree has been extrapolated from various infectious disease & IDSA treatment guidelines as well as more recently published evidence in support of the use of these newer antibiotics in the treatment of VRE and MRSA infections.

Continued Opportunities

- **Lab**
 - Microbiology Interventions varies based on lab provider
 - Antibigram availability underway
 - Appropriate ordering of cultures
 - Reflex orders for cultures and sensitivities
- **Infection Control**
 - Chlorhexidine bathing
 - Cohorting patients and staff assignments based on local prevalence
 - Screening on admission (CRE) based on local rates.
- **Clinical Decision Support**
 - Auto-stop/ review process for all antimicrobials

Continued Opportunities/Transition of Care and Antimicrobial Stewardship

- **Applies to the entire Post Acute space- LTACH, SAU, etc..**
- **Communication and Collaboration are Critical to appropriate continuation of therapy.**
- **We need to know**
 - Diagnosis
 - Plan for continuation of therapy
 - Anticipated duration
 - Cultures
 - Antibiotic therapy history

Continued Opportunities/Transition of Care and Antimicrobial Stewardship

- **Vancomycin treatment failure?**
 - LTACH are able to continue vancomycin therapy if that is the appropriate therapy
 - Labs are evaluated routinely
 - Kinetics protocols are in place
- **Osteomyelitis**
 - What is the intended duration of therapy?
 - Acute versus chronic infection
 - Is surgical intervention a consideration?

Conclusion

- **Kindred has identified local and national AS successes in both operational and quality metrics.**
- **There are some unique challenges to AS in the post acute space but many of the barriers to AS are the same across the healthcare continuum.**
- **Collaboration and effective communication are critical components to provision of quality care.**

Questions?



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