



HAWAII HAI AND ANTIMICROBIAL STEWARDSHIP UPDATE



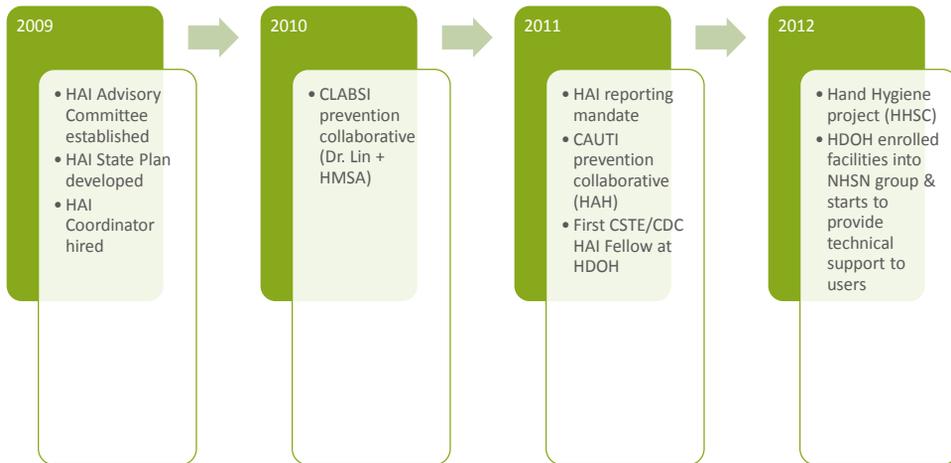
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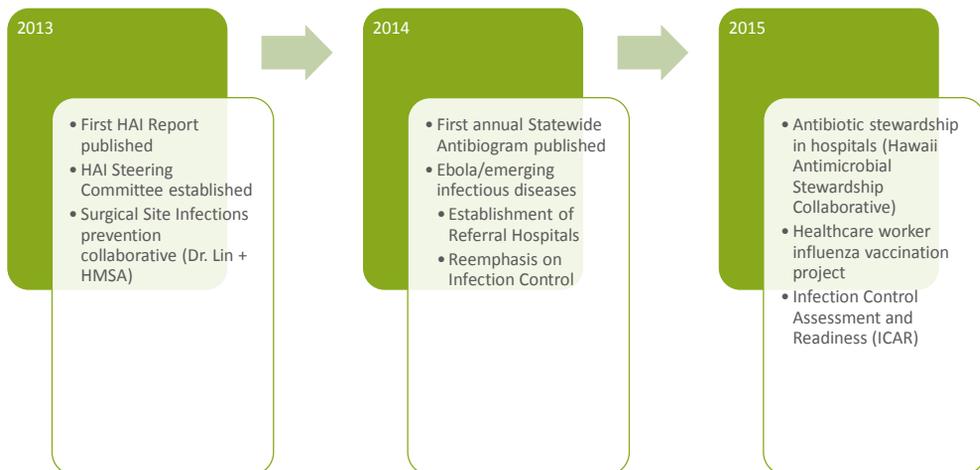
OBJECTIVES

1. Outline the progress made in HAI prevention over the last 12 months
2. Describe the activities and progress of the Hawaii Antimicrobial Stewardship Collaborative

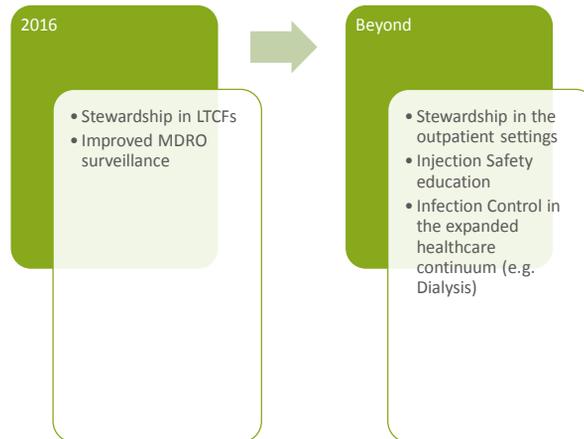
MAJOR HAI ACTIVITIES LEAD OR SUPPORTED BY DOH



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COORDINATE COMMITTEES & BUILD PARTNERSHIPS

- HAI Steering Committee
 - Interagency coordination:
 - HAI Prevention
 - HAI Surveillance
 - HAI Training
 - Reduce duplication
 - Revise State HAI Plan
- HAI Advisory Committee
 - Multidisciplinary committee
 - Provides guidance and feedback in regards to HDOH HAI activities e.g.:
 - State HAI Report
 - Antimicrobial Stewardship
 - Healthcare personnel influenza vaccination project
- Statewide Antibigram Workgroup
 - Composed of:
 - Clinical labs
 - Infectious disease physicians
 - DOH (DOCD + SLD)
 - DKICP
 - APIC
 - Provides guidance and feedback on statewide antibiogram
 - Expanding role to other antibiotic resistance issues



NATIONAL HEALTHCARE SAFETY NETWORK (NHSN)

- A web-based system that facilities use to report HAIs to CMS, maintained and operated by CDC
- We conduct quarterly data quality checks for our facilities and provide technical assistance



PUBLIC REPORTING

- Mandated that DOH produce a yearly public report of HAIs using data from NHSN
- Reportable HAIs include:
 - Central line-associated bloodstream infections (CLABSI)
 - Catheter associated urinary tract infections (CAUTI)
 - Surgical Site Infections (SSI)
 - *Clostridium difficile* infections (CDI)
 - Methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia events

STANDARDIZED INFECTION RATIO (SIR)

- NHSN's Standardized Infection Ratio (SIR) is a summary measure used to compare the HAIs among one or more groups of patients to that of a standard population (e.g. other NHSN hospitals or units with similar demographics)
- The SIR is a ratio of the HAIs observed divided by the number of HAIs predicted by the NHSN baseline
- An SIR value of 1 means the observed number of infections is equal to the number of expected infections.
 - SIR greater than 1.0 indicates more HAIs observed than predicted
 - SIR less than 1.0 indicates fewer HAIs observed than predicted
- SIR targets have been developed by US Department of Health & Human Services

Data Presented in the next few slides are preliminary.

Please do not share.

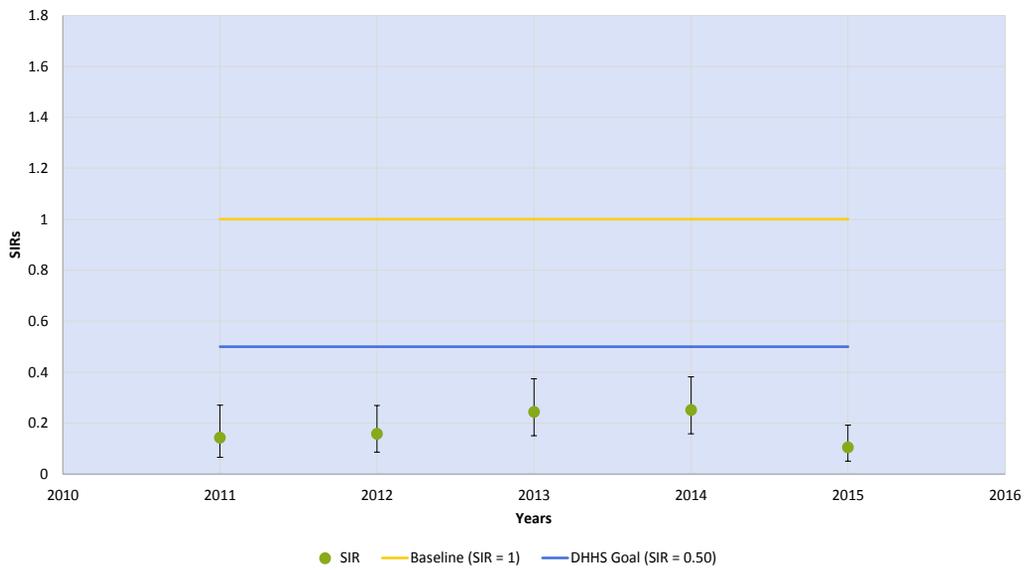
The 2015 Hawaii HAI Report will be released in August

CAVEATS WITH HAI DATA

- Data have not been validated, but have been assessed for completeness and quality
- Changes in NHSN definitions over time could effect SIRs (e.g. 2015 change in CAUTI definition)

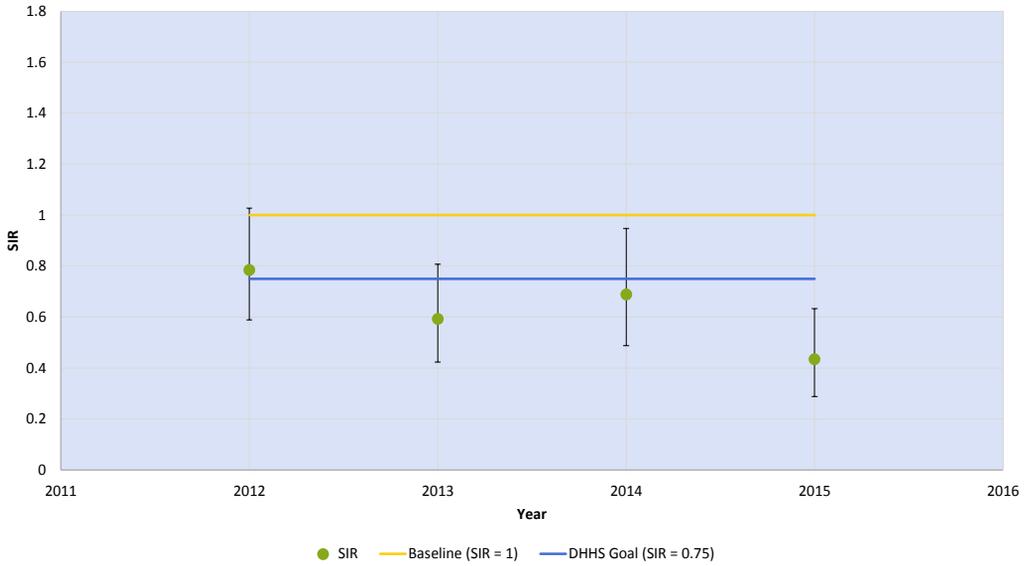
Preliminary Data, do not share

SIRs for CLABSIs in ICUs, Hawaii 2011-2015



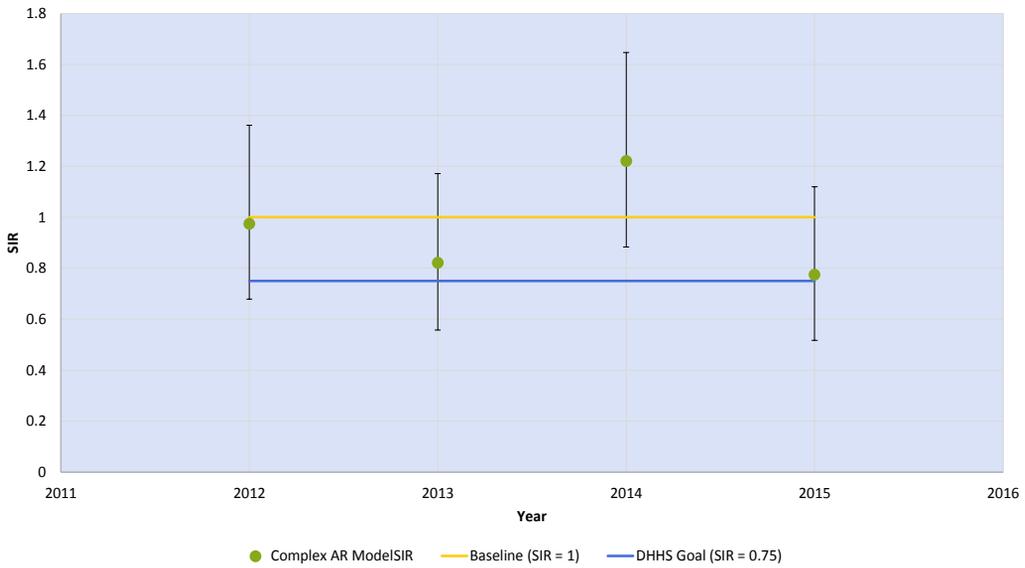
Preliminary Data, do not share

SIRs for CAUTIs in ICUs, Hawaii 2012-2015



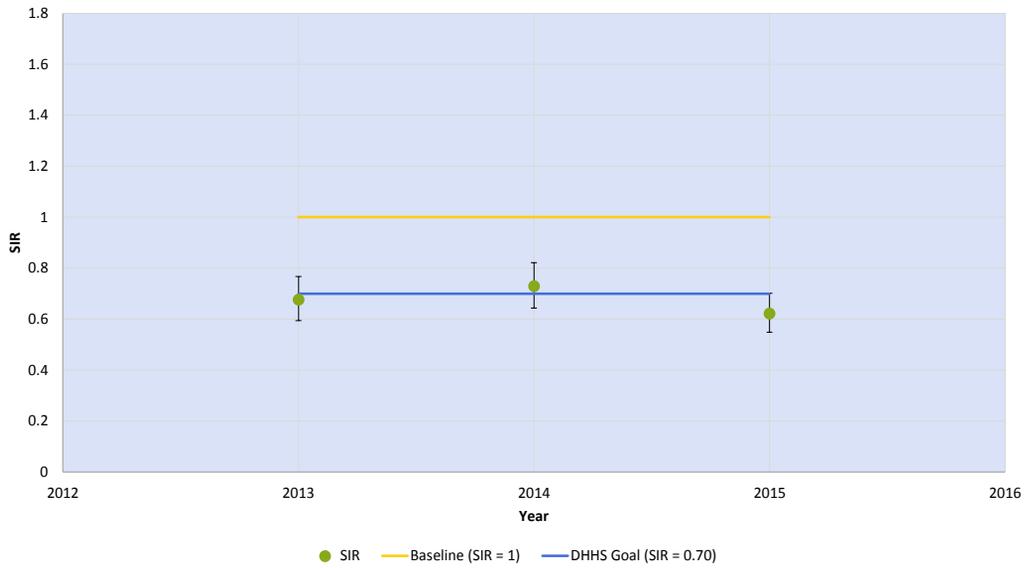
Preliminary Data, do not share

SIRs for Inpatient SSIs (COLO & HYST), Hawaii 2012-2015



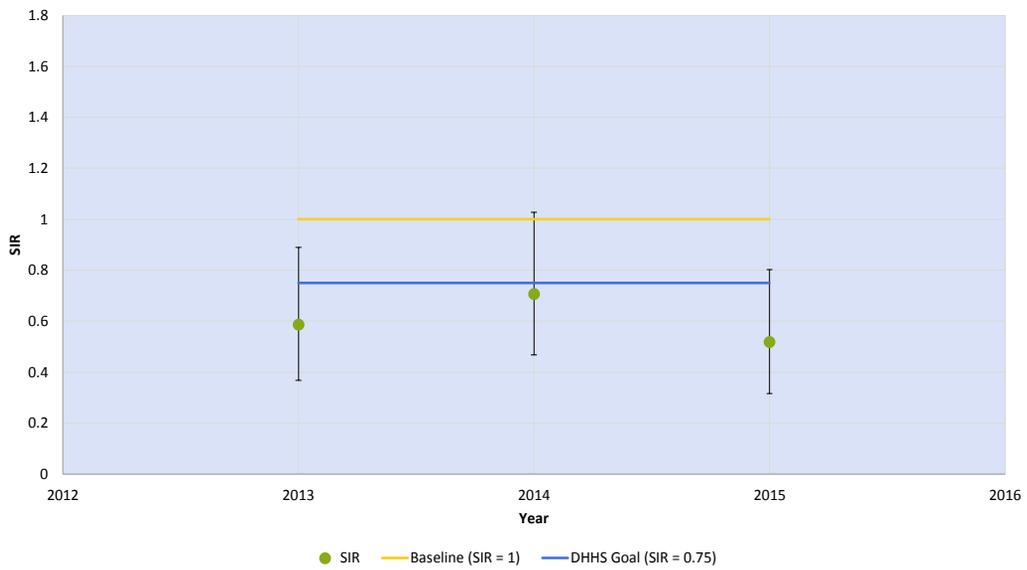
Preliminary Data, do not share

SIRs for Inpatient CDI, Hawaii 2013-2015



Preliminary Data, do not share

SIRs for Inpatient MRSA Bacteremia, Hawaii 2013-2015



PUBLIC REPORTING

Condition	2013 Target	Hawaii 2015 SIR	Target:
CLABSI	0.50 SIR or 50% reduction	0.11 SIR or 89% lower than predicted	Achieved
CAUTI	0.75 SIR or 25% reduction	0.44 SIR or 56% lower than predicted	Achieved
SSI (combined)	0.75 SIR or 25% reduction	0.78 SIR or 3 % higher than predicted	Not Achieved
CDI	0.70 SIR or 30% reduction	0.62 SIR or 38% lower than predicted	Achieved
MRSA	0.75 SIR or 25% reduction	0.71 SIR or 29% lower than predicted	Achieved

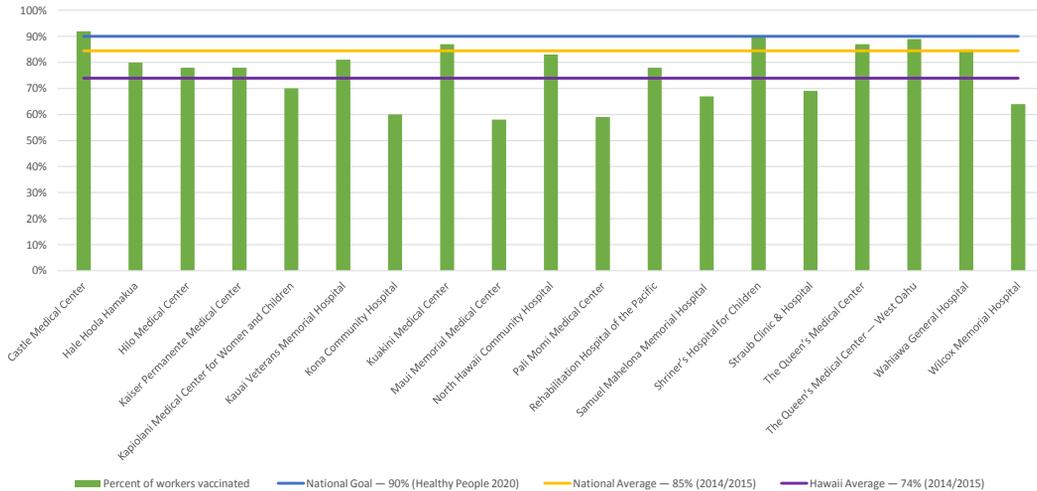
- 2015 Hawaii HAI Report will be published on the HDOH website in August

HEALTHCARE PERSONNEL INFLUENZA VACCINATION

- Hawaii is doing better or at national average for almost all HAI Prevention target measures, except healthcare personnel (HCP) influenza vaccination
- 2020 Healthy People Goal is vaccination of 90% of HCP against influenza

	Hawaii	National	Ranking
2013/2014 HCP vaccination coverage	66.6%	81.8%	3 rd worst
2014/2015 HCP vaccination coverage	73.9%	84.5%	5 th worst
2015/2016 HCP vaccination coverage	77.4%	Not published yet	N/A

HCP INFLUENZA VACCINATION (DRAFT), 2015/2016 INFLUENZA SEASON



HCP INFLUENZA ACTIVITIES

- We are working with our facilities in a unique way to improve their vaccination rates
 - Providing facilities with mini-grants to develop plans/activities to improve vaccination rates
 - Allowed facilities to creatively approach the problem:
 - Increased vaccination clinics/vaccination carts, advertisements, etc
 - Used funding to provide badges or stickers for vaccinated staff
 - Incentives for vaccination (prize drawings, goodie bags, etc)
 - Incentives for units with highest vaccination rates (e.g. pizza party)
- The 2015/2016 influenza season saw marked increase in some facilities
 - KVMH saw an 18% increase
 - Rehabilitation Hospital saw an 31% increase



STEWARDSHIP EFFORTS IN HAWAII

- Hawaii Healthcare-Associated Infections (HAIs) Advisory Committee identified ASPs as a priority
- Facility self-assessment of ASP activities: Nov 2013
 - Most facilities in various stages of implementing or planning an ASP
 - Many facilities had components of an ASP already in place
- HDOH has partnered with the Daniel K. Inouye College of Pharmacy (DKICP) to provide technical expertise



STEWARDSHIP EFFORTS IN HAWAII (2)

- July 2014 Conference: *Bug Off! Prevention is Game on!*
 - Co-sponsored by HDOH and the Hawaii chapter of APIC
 - Illinois experts shared experiences in building a statewide ASP collaborative
 - Workshop on AS: consensus from participants that Hawaii ASP collaborative should be formed



HAWAII ANTIMICROBIAL STEWARDSHIP COLLABORATIVE (HASC)

- HASC is a voluntary collaborative designed to help facilities develop, implement, and sustain ASPs
 - Facility efforts will be supported by project staff
 - Educational webinars and conference calls
 - Technical Assistance visits to the facility
- Support provided will be tailored to each individual facility
- Goals:
 - Assist facilities in implementing and sustaining AS programs
 - Reduce target antimicrobial use
 - Reduce healthcare-onset *C. difficile* infections
- HASC begin enrolling facilities in February
- 15 Facilities currently participating in HASC
- Currently in the data collection and implementation phase

HASC Tracking & Reporting

Hawaii Antimicrobial Stewardship Collaborative



In Hawaii Healthcare Facilities

HASC Quarterly Progress Report

Oct- Dec 2015

Currently there are 14 facilities participating in HASC

Core Elements of ASP

Leadership Commitment	Accountability	Drug Expertise	Action	Tracking	Reporting	Education
100% (14)	100% (14)	100% (14)	56%(9)	38% (6)	38% (6)	56% (9)

Quarterly Summary

I. Median Antimicrobial Utilization (DDD/ 1000 patient days)

	OCT 15(N= 7)	NOV 15 (N= 7)	DEC 15* (N= 7)
<i>Carbapenems (excluding Ertapenem)</i>	33.4 (Median: 27) (Range: 2.1-77.6)	23.2 (Median: 25) (Range: 4.7-41.7)	10.5 (Median: 8) (Range:1.3- 26.3)
<i>Linezolid</i>	5.0 (Median:2.27) (Range: 0-10.1)	4.9 (Median:4.8) (Range: 0.47-8.91)	5.8 (Median: 7.2) (Range: 1.3-26.3)

*Data is presented as the mean across 6 institutions who reported data on their inpatient antimicrobial utilization for the quarter (*exception: December data only includes data from 5 institutions)

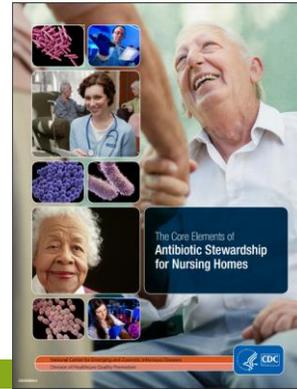
* Tripler Army Medical Center is not included in data

II. Common Pharmacist Interventions

	Oct-15	Nov-15	Dec-15
<i>IV to Oral Conversion</i>	61 (26.5%)	44 (6%)	15 (2.5%)
<i>Narrow empiric therapy</i>	43 (18.7%)	40 (5.5%)	37 (6.3%)
<i>Change based on culture-treatment mismatch</i>	36 (15.6%)	42 (5.7%)	21 (3.6%)
<i>Misc.</i>	27 (11.7%)	23 (3.1%)	13 (2.2%)
<i>Acceptance Rate</i>	89%	88%	98%

HASC – NEXT STAGES

- Continue to work with hospitals to augment and build their ASP programs and ensure that they are able to meet any ASP regulations
- There is a national push to extend ASP outside of hospitals to long-term care facilities and to the outpatient settings.



2014 STATEWIDE ANTIBIOGRAM: GRAM-POSITIVE ORGANISMS

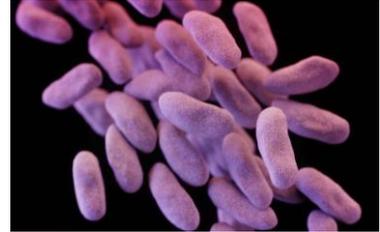
Gram-Positive Organisms

Percent Susceptible (Number of isolates tested)	# of all isolates from all sources	Penicillins			Cephalosporins		Quinolones		Other Antibiotics								
		Ampicillin	Oxacillin	Penicillin	Cefazolin	Ceftriaxone	Levofloxacin	Moxifloxacin	Clindamycin	Erythromycin	Linezolid	Nitrofurantoin	Rifampin	Tigecycline	Trimethoprim/Sulfamethoxazole	Vancomycin	
<i>Enterococcus</i> sp. (unspecified)	6,142 (6,133)	94 (6,133)		96 (4,058)			89 (4,058)				100 (6,002)	97 (3,192)		100 (4,059)		98 (6,134)	
<i>Enterococcus faecalis</i>	1,595 (1,595)	99 (1,595)		99 (1,595)			81 (1,291)				99 (824)	99 (1,455)	46 (824)	100 (467)		99 (1,595)	
<i>Enterococcus faecium</i>	218 (218)	21 (218)		19 (218)			16 (218)				99 (218)					33 (218)	
All <i>Staphylococcus aureus</i>	30,603 (28,464)	66 (28,464)			88 (10,667)	11 (4,296)	71 (19,656)	77 (24,088)	78 (30,164)	51 (30,288)	100 (30,592)			100 (13,674)	99 (17,759)	94 (30,603)	100 (30,598)
Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) [†]	11,184 (9,262)	0 (9,262)			3 (1,346)	0 (3,621)	41 (7,609)	50 (8,805)	69 (11,012)	17 (11,106)	100 (11,177)			99 (11,172)	98 (7,335)	86 (11,184)	100 (11,182)
Methicillin-susceptible <i>Staphylococcus aureus</i> (MSSA) ^{††}	18,330 (18,113)	100 (18,113)			100 (9,321)	100 (215)	92 (10,958)	94 (14,654)	83 (18,202)	72 (18,232)	100 (18,326)			100 (18,329)	100 (10,305)	98 (18,330)	100 (18,327)
<i>Streptococcus pneumoniae</i>	420 (420)			92 (420)	95 (376)		100 (230)	100 (86)	85 (225)	75 (299)						86 (365)	100 (355)

Note: data are presented for surveillance purposes only and are not intended for use in clinical decision making. This antibiogram should not take the place of individual clinical assessment and isolate susceptibility testing.

CARBAPENEM-RESISTANT ENTEROBACTERIACEAE

- Updated Case count: 6
 - 2013: 1 KPC
 - 2014: 1 KPC
 - 2015: 1 KPC & 1 OXA-48 like
 - 2016: 1 KPC & 1 NDM
- This year's KPC may be our first locally transmitted CP-CRE
- DOH will be updating reporting definition and working to improve reporting process
- Currently all possible CRE isolates must be sent to CDC for confirmation (takes 4-8 weeks)
- Rapid response and infection control critical to prevent further spread in the state
 - Must apply standard and contact precautions
 - Need for inter-facility communication
 - Report to DOH



INFECTION CONTROL TRAINING

- HDOH provides training covers basic infection control, hand hygiene, disease transmission, and environmental cleaning for multiple types of facilities
- Contact us if you would like to schedule a training!



INFECTION CONTROL ASSESSMENT READINESS PROGRAM (ICAR)

- CDC has provided HDOH with funding to bolster infection control practice and competency throughout the healthcare delivery system through on-site assessments, training, and policy changes
 1. Expand State HAI Plan and Advisory Group
 2. Inventory all facilities and identify HAI/infection control policy
 3. Assess readiness of Referral hospitals¹
 4. Assess and improve HAI outbreak reporting and response

¹ Referral Hospitals in the State of Hawaii are facilities with the capacity to provide 24/7 intensive primary and tertiary care required for an EVD-confirmed patient



REPORTING TO DOH

- Healthcare providers and facilities are mandated to report specific conditions, outbreaks, as well as unusual diseases to DOH.
- To support disease reporting, DIB has an officer of the day who is the single point of contact for reporting, for consultations on infectious diseases, and assistance with outbreaks.

Unless *YOU* report, we won't know!
Call 24 hours a day, 7 days a week,
365 days a year.

Report all Diseases except Tuberculosis, Hansen's Disease, Sexually Transmitted Infections, and HIV/AIDS to the Health Department Office in Your County



O'ahu (808) 586-4586
 Hilo (808) 933-0912
 Kona (808) 322-4877
 Kaua'i (808) 241-3563
 Maui (808) 984-8213

After hours: (808) 566-5049
 After hours: (800) 360-2575
 After hours: (800) 360-2575
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QUESTIONS?

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 808-587-6377



RESOURCES:

- HDOH Annual HAI reports: <http://health.hawaii.gov/docd/dib/healthcare-associated-infections-hais/>
 - HDOH Annual Antibigram: <http://health.hawaii.gov/docd/dib/antimicrobial-resistance/antibiogram/>
 - HASC: <http://health.hawaii.gov/docd/dib/hawaii-antimicrobial-stewardship-collaborative-hasc/>
 - EID presentations: <https://www.youtube.com/playlist?list=PLVi2X1rRJU6nosUy54gb06RqrhlqDfiyO>
 - CDC's Get Smart Campaign: <http://www.cdc.gov/getsmart/>
 - CDC's NHSN: <http://www.cdc.gov/nhsn/>
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