

The Core Elements for Antibiotic Stewardship in Action: Tracking, Reporting and Education

Compass, Telligen, IPRO and Alliant

Joint Hospital Quality Improvement Contract (HQIC) Learning and Action Network

October 24, 2023

We will get started shortly!

Collaborating to Support your Quality Improvement Efforts



MHA HEALTH, RESEARCH AND EDUCATIONAL FOUNDATION, INC.



- Healthcentric Advisors
- Qlarant
- Kentucky Hospital Association
- Q3 Health Innovation Partners
- Superior Health Quality Alliance



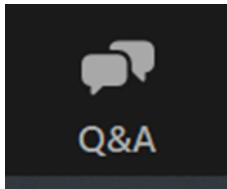
ALASKA STATE HOSPITAL & NURSING HOME ASSOCIATION



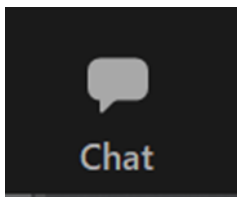
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Housekeeping

- Lines have been muted upon entry to reduce background noise
- We encourage you to ask questions for the presenter(s) throughout the event using the Q&A feature



- Please direct technical needs and questions to the Chat Box



- This event is being recorded

Agenda

- Review of Antibiotic Core Element 5 (Tracking)
- Review of Antibiotic Core Element 6 (Reporting)
- Review of Antibiotic Core Element 7 (Education)
- Case study: Newman Regional Hospital
- Case study: Avera
- Q&A

Tracking

- Monitoring of the antibiotics required
- Must look at patterns of antibiotic resistant bacteria
- Review performance of objective evaluation and analysis
- Collect and analyze data on antibiotics used at each hospital

Reporting

- Results of antibiotic stewardship program provided to prescribing physicians, pharmacists, nurses and others involved in antibiotic stewardship activities
- Review national and regional updates about antibiotic prescription, antibiotic resistant bacteria and treatment of infectious diseases
- Report on frequency of antibiotic use with assistance from infection control, lab and the state epidemiology department

Education

- Shows comprehensive efforts for improving antibiotic use in hospitals
- Could include lectures, posters, flyers, newsletters
- Immediate feedback during rounding
- Customized reports to prescribing physicians
- Effective patient education

NEWMAN REGIONAL HEALTH

Antibiotic Stewardship Program



Brenda Wellnitz, Pharm D
Antibiotic Stewardship
Lead Pharmacist

Jordan Kline, PharmD
Director of Pharmacy



WHO ARE WE?



25 BED CRITICAL ACCESS HOSPITAL
LEVEL IV TRAUMA CENTER
EMERGENCY DEPARTMENT
OBSERVATION UNIT
INPATIENT REHAB
OUTPATIENT/INPATIENT SURGERY



EMPORIA, KANSAS



PHARMACY OPEN DAILY
REMOTE PHARMACY
COVERAGE OVERNIGHT



ANTIBIOTIC STEWARDSHIP
COMMITTEE FORMED IN 2016

2021 - SOCIETY OF INFECTIOUS DISEASES PHARMACISTS

- Brenda enrolled in 2021 in Antimicrobial Stewardship Certificate Program
- Kansas Department of Health and Environment Reimbursement scholarship recipient
- Conducted in 3 phases
 - Part 1- Core Content
 - Part 2- Live Webinar Sessions
 - Part 3- Skills Component in the Practice Setting
 - Duplicate Anaerobic Antibiotic Coverage

To learn more can visit: <https://sidp.org/Stewardship-Certificate> (Link)

2022-DUPLICATE ANAEROBIC COVERAGE

- Goal – Decrease duplicate anaerobic antibiotic prescribing
 - Gathered data from previous year (January-September) – 73% received dual anaerobic coverage
 - Piperacillin/Tazobactam or Ertapenem and Metronidazole
- Interventions
 - Education was provided to surgeons
 - Education to all providers at medical staff meeting
 - Educational posters distributed
 - Pharmacist real-time interventions
 - Updated order sets within facility
 - Duplicate anaerobic coverage incorporated in Antimicrobial Stewardship goals and improvement initiatives for 2022
 - Monitor monthly and report at Infection Control/Antimicrobial Stewardship meeting bimonthly
- Results
 - Duplicate anaerobic prescribing went down to 1.4%

2023 -PENICILLIN ALLERGY INITIATIVE

- Goal-Evaluate patients with reported penicillin allergy, decrease use of alternative antibiotics, and update patient allergies in system if appropriate.
 - Gathered data from previous year (January-September)
 - 80% of patients could have received a cephalosporin based on mild allergy to penicillin.
- Interventions
 - Education to providers/nursing
 - Presentation at Nursing Hot Topics
 - Educational Posters distributed
 - Suppressed cross sensitivity alerts within Meditech for nursing
 - Daily penicillin allergy report
 - Real time pharmacist interventions
 - Monitor for adverse drug reactions
 - Penicillin Allergy initiative incorporated in Antimicrobial Stewardship goals and improvement initiatives for 2023
 - Monitor monthly and report at Infection Control/Antimicrobial Stewardship meeting bimonthly
- Results so far
 - 28% and no adverse drug reactions

2024 – ANTIMICROBIAL USE REPORTING

- Submit antimicrobial use and resistance to the National Healthcare Safety Network
- Data gathered will assist in guiding clinical and public health action
- Build within Meditech will begin November 2023

Becky Evans, BS RT(R)(CT)

Director of Radiology/Cardiology

Quality Coordinator, Infection Preventionist,
& Emergency Preparedness Coordinator

Secretary - South Dakota Association
Healthcare Quality

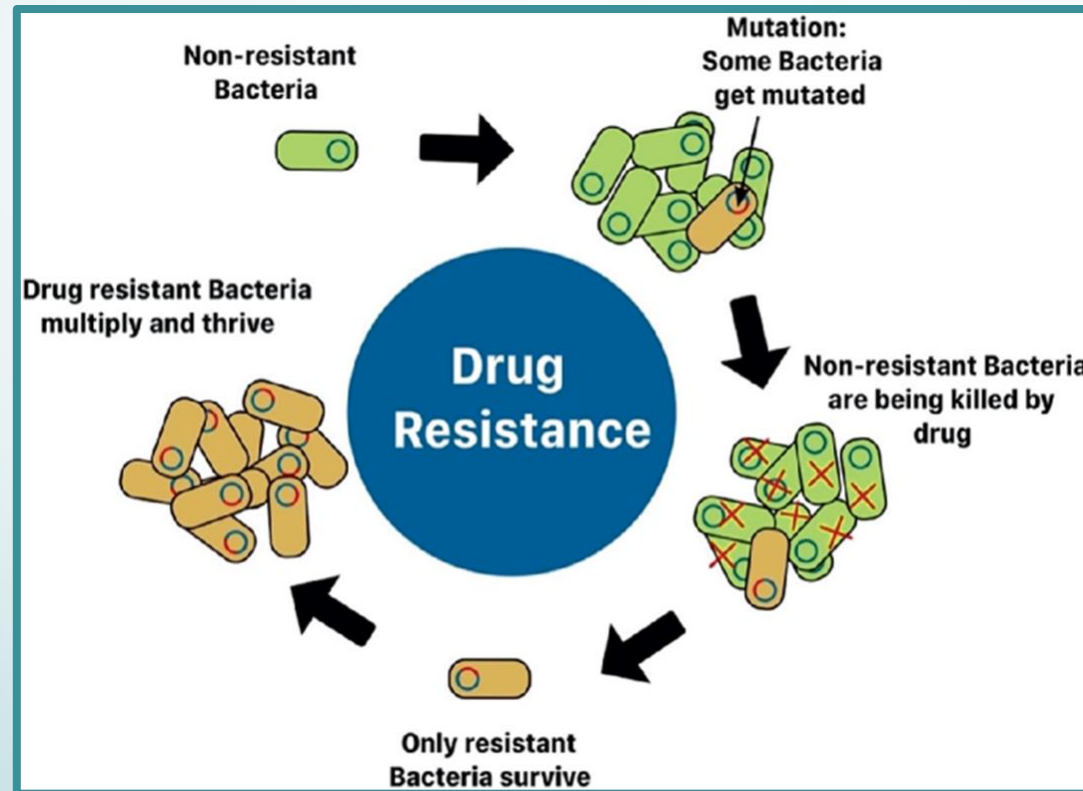
Secretary - South Dakota Association
Healthcare Coalition (Emergency Preparedness)



Critical Access Hospital Scotland, SD

Antimicrobial Stewardship In Action

What to Initiate?



ASP Research

- Pharmacy Collaboration
- Microbiogram Reports
- Susceptibility Reports
- Medication Audits

Microbiogram Reports

Theradoc

URINE, CLEAN		Reported by:	LAB_MEDITECH
Urine Culture: Escherichia coli Colony Count: >100,000			
Susceptibility Results			
MIC (Ordered: 09/15/2023 10:40)			
Tested	Interpretation		
Ampicillin	S		
Ampicillin/Sulbactam	S		
Cefazolin	S		
Cefepime	S		
Ceftazidime	S		
Ceftriaxone	S		
Ciprofloxacin	S		
Gentamicin	S		
Levofloxacin	S		
Meropenem	S		
Nitrofurantoin	S		
Piperacillin/Tazobactam	S		
Tobramycin	S		
Trimethoprim/Sulfamethoxazole	S		

EMR (Meditech)

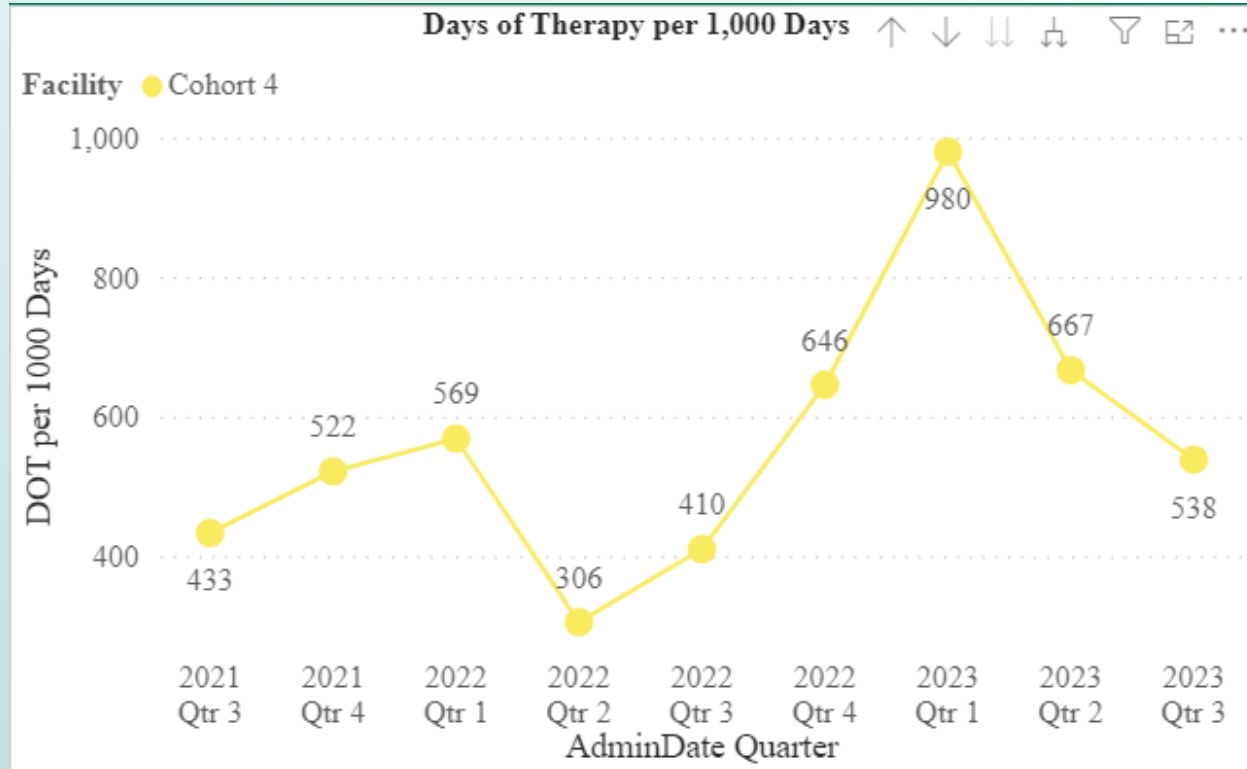
Urine Culture		Final
Organism 1	Escherichia coli	
Colony Count	>100,000 CFU/mL	
Esc coli		
	<u>M.I.C.</u>	<u>RX</u>
Ampicillin	<=2	S
Ampicillin/Sulbactam	<=2	S
Cefazolin	<=4	S
Cefepime	<=1	S
Ceftazidime	<=1	S
Ceftriaxone	<=1	S
Ciprofloxacin	<=0.25	S
Gentamicin	<=1	S
Levofloxacin	<=0.12	S
Meropenem	<=0.25	S
Nitrofurantoin	<=16	S
Piperacillin/Tazobactam	<=4	S
Tobramycin	<=1	S
Trimethoprim/Sulfamethoxazole	<=20	S

Susceptibility Reports

ANTIBIOTIC NAME			%SUS	COUNT	%SUS	COUNT	%SUS	COUNT	%SUS	COUNT	%SUS	COUNT
-----		-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
		ENTFAC		ESCCOL	ESCCOLESBL		MRSA			PROMIR		TOTAL
AM	Ampicillin	100	2	50	2	0	1		100	1	67	6
AMS	Ampicillin/Sulbactam			50	2	0	1		100	1	50	4
AN	Amikacin			100	2	100	1		100	1	100	4
CAX	Ceftriaxone			100	2	0	1		100	1	75	4
CD	Clindamycin							100	1		100	1
CFX.SCRN	Cefoxitin Screen							0	1		0	1
CIP	Ciprofloxacin	100	2	100	2	0	1	0	1	100	1	71

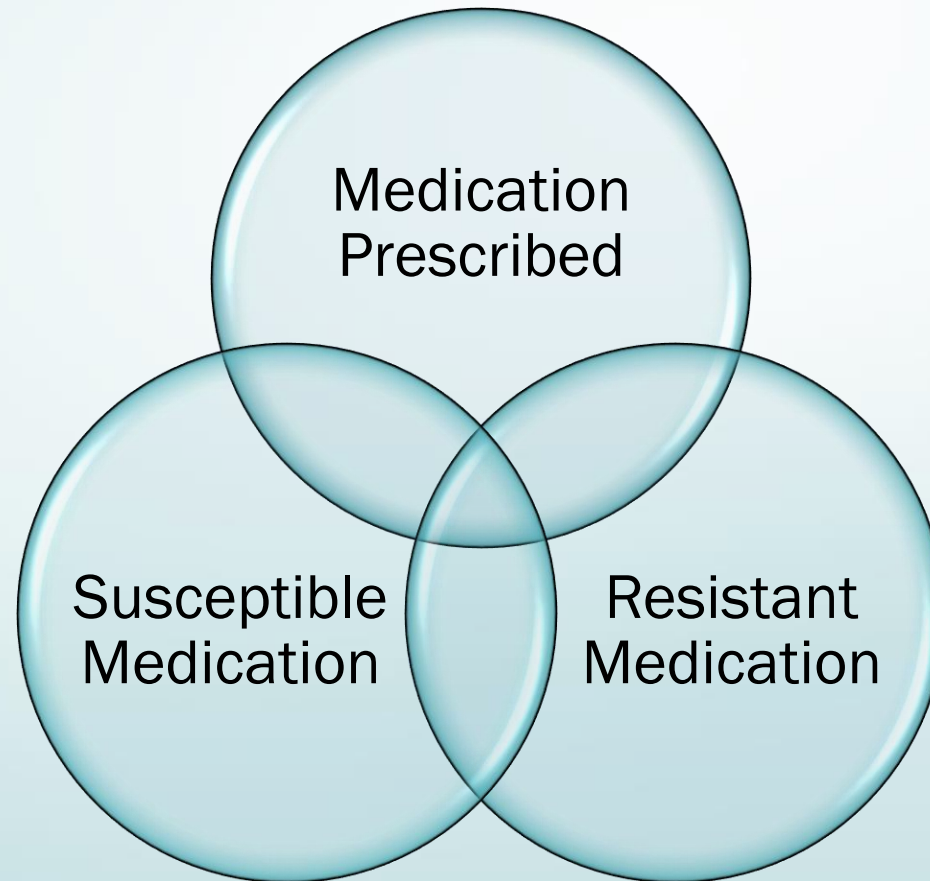
Steps 1 & 2 – Tracking & Reporting

Avera Antibiotic Usage



Facility	Patient Count	Therapy Days	Hospital Days	DOT per 1000 Days
Landmann-Jungman Memorial Hospital Avera	88	253	434	582.95
AZITHROMYCIN IV/PO	20	45	434	103.69
CEFEPIME IV	11	19	434	43.78
CEFTRIAZONE IV	54	107	434	246.54
LEVOFLOXACIN IV/PO	8	12	434	27.65
MEROPENEM IV	3	12	434	27.65
PIPERACILLIN IV	16	40	434	92.17
VANCOMYCIN IV	9	18	434	41.47

DID vs. SHOULD



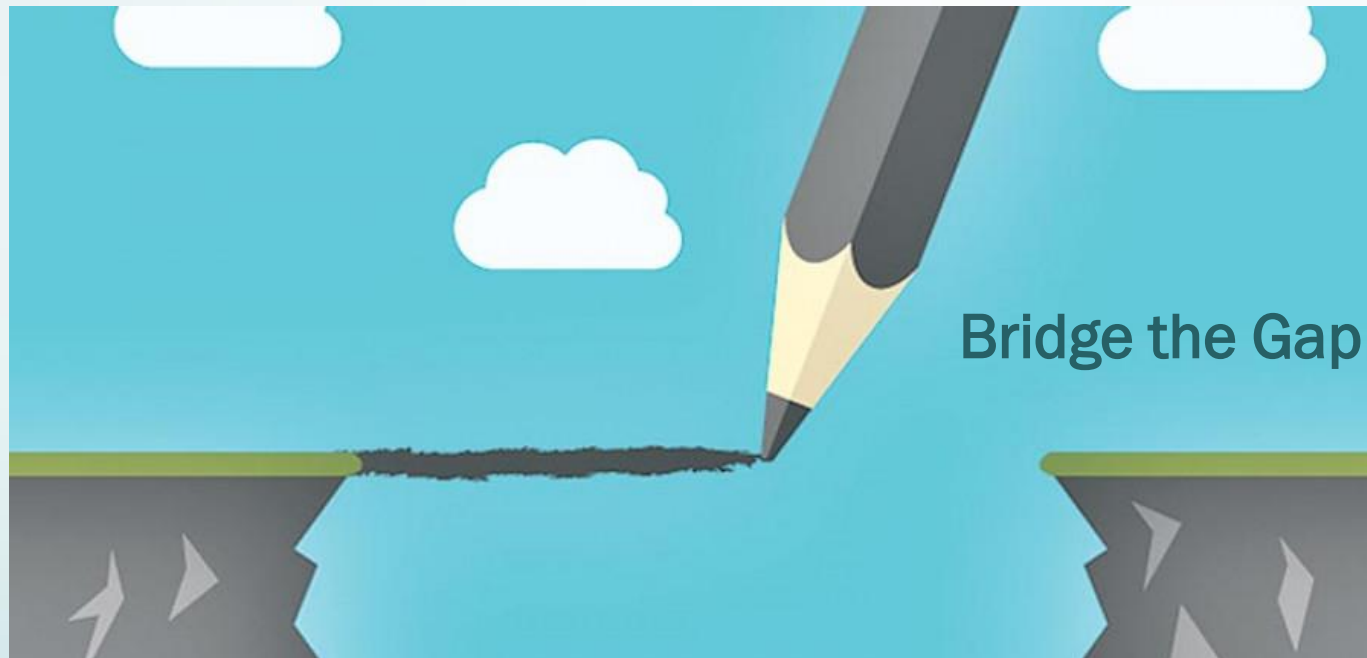
POLE

- Does your facility run microbiology testing in house or do they send these out?

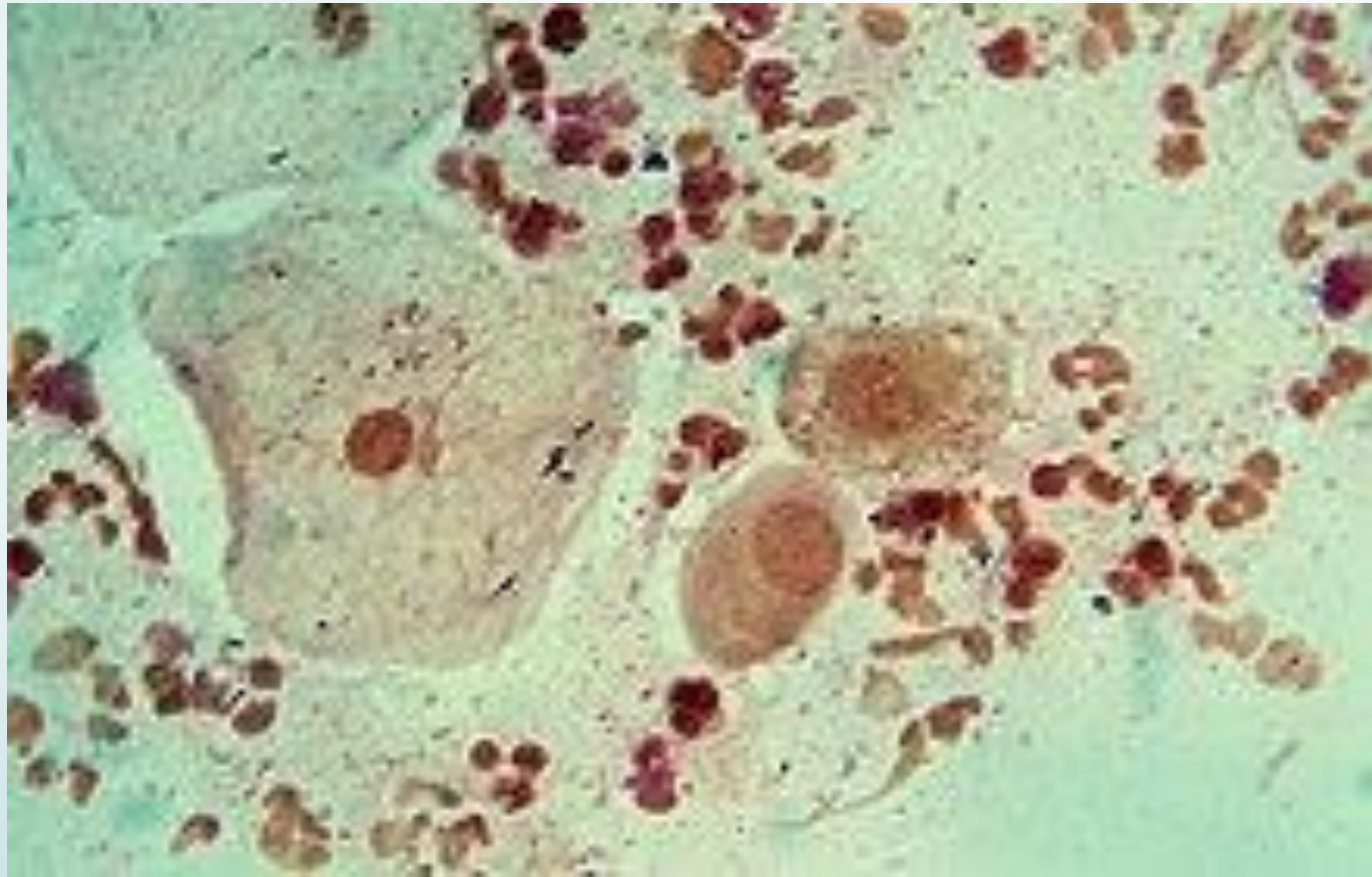
Turn Around Time



Medication Audits



LJMH Case Study



https://en.wikipedia.org/wiki/Aerobic_vaginitis

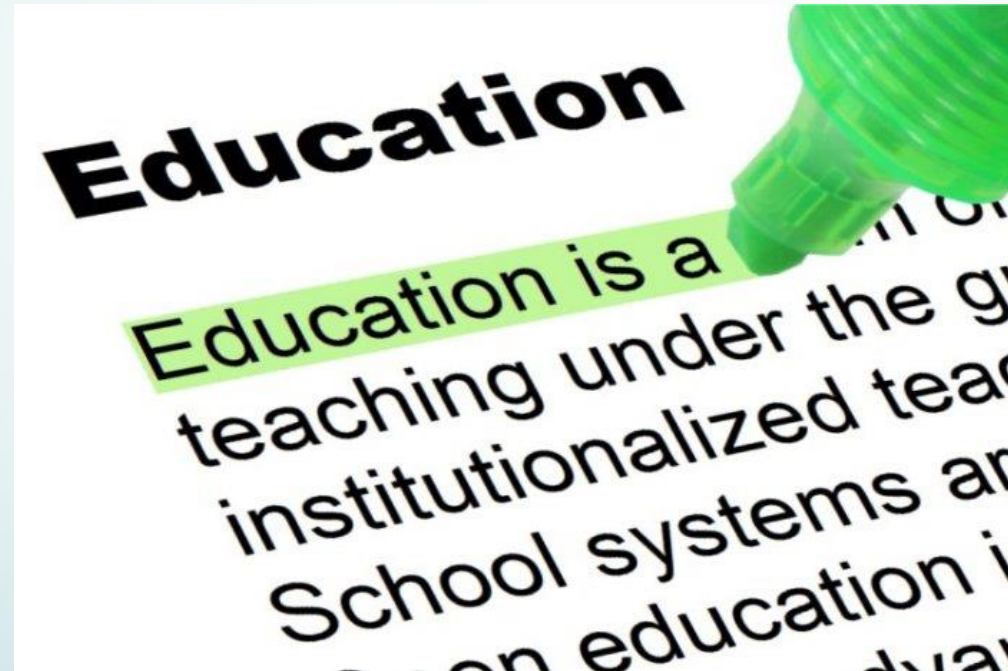
Case Study - Continued

Aerobic Culture		Final	07/22/23	
Organism 1	Staphylococcus aureus-MRSA			
	Moderate growth (2-3+)			
PBP2A	Positive			
Organism 2	Proteus mirabilis			
	Light growth (1+)			
The MRSA isolate is presumed to be oxacillin/methicillin resistant based on detection of penicillin binding protein 2a (PBP2a).				
	S aur MRSA		P mirabili	
	M.I.C.	RX	M.I.C.	RX
Ampicillin			<=2	S
Ampicillin/Sulbactam			<=2	S
Cefazolin			<=4	S
Cefepime			<=1	S
Ceftazidime			<=1	S
Ceftriaxone			<=1	S
Ciprofloxacin			<=0.25	S
Clindamycin	0.25	S		
Doxycycline	<=0.5	S		
Erythromycin	<=0.25	S		
Gentamicin			<=1	S
Levofloxacin			<=0.12	S
Linezolid	2	S		
Meropenem			<=0.25	S
Oxacillin	>=4	R		
Piperacillin/Tazobactam			<=4	S
Tetracycline	<=1	S		
Tobramycin			<=1	S
Trimethoprim/Sulfamethoxazole	<=10	S	<=20	S
Vancomycin	<=0.5	S		

Case Study - Continued

ANTIBIOTIC NAME	%SUS	COUNT	%SUS	COUNT	%SUS	COUNT	%SUS	COUNT	%SUS	COUNT	%SUS	COUNT	%SUS	COUNT	%SUS	COUNT	%SUS	COUNT
-----	----	-----	----	-----	----	-----	----	-----	----	-----	----	-----	----	-----	----	-----	----	-----
		CITKOS	E	ENTCLOG		ENTFAC		ESCCOL	ESCC	OLESBL		KLEOXY		KLEPNE		MORMOR		MRSA
AM Ampicillin					100	8	67	21	0	6	0	1	0	3	0	1		
AMS Ampicillin/Sulbactam							76	21	0	6	100	1	100	3	0	1		
AN Amikacin	100	1	100	1			100	21	100	6	100	1	100	3	100	1		
CAX Ceftriaxone	100	1	100	1			100	21	0	6	100	1	100	3	0	1		
CD Clindamycin																	100	2
CFX.SCRN Cefoxitin Screen																	0	1
CIP Ciprofloxacin	100	1	100	1	100	8	100	21	0	6	100	1	100	3	0	1	0	2
LEV Levofloxacin	100	1	100	1	100	8	100	21	0	6	100	1	100	3	0	1	0	2

Case Study - Continued



Outcomes



<https://www.skmurphy.com/blog/2009/06/28/michael-schrage-on-innovation-collaboration-tools-and-incentives/>

THANK YOU!

Do you have
any
Questions? 😊

Interactive Discussion: Panelists and Attendees

- What are some challenges, barriers, and successes you have experienced with implementing best practice strategies?
- Have you identified and/or closed any disparities/gaps in care to promote safe, effective and appropriate antibiotic use?



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Telligen QI Connect™

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Leaving in Action

HQIC Change Pathway

- Compilation of challenges, barriers and best practices for implementation
- Adapt and use to help address your opportunities and/or augment existing interventions
- Links to tools and resources for planning and executing your QI project

The screenshot shows a document header with logos for ALLIANT HEALTH SOLUTIONS, COMPASS, IPRO, and Telligen QI Connect. The main title is "Change Pathway Antibiotic Stewardship: Quick Wins for Improving Duration of Therapy". The text describes a collaborative group of Alliant, Compass, IPRO, and Telligen, and mentions a national subject matter experts panel from the CDC, Michigan Hospital Medicine Safety Consortium, and MyMichigan Health. It includes sections for "Why Now" and "National Trends", and a table titled "Implement Changes with Leading Interventions and Best Practices" with columns for Beginner, Intermediate, and Expert levels.

Beginner	Intermediate	Expert
Identify a leader or champion and form a multidisciplinary team.	Implement "antibiotic timeouts" performed daily by frontline clinicians for patients receiving antibiotics	Gain technological support for reporting within the National Healthcare Safety Network's Antibiotic Use and resistance (AUR) Module

Upcoming Events

- + **The Core Elements of Antibiotic Stewardship: National Updates and Promising Practices**
- + November 9, 2023
 - [Registration Link](#)
- + **Compass Engaging Your Team in Plan Do Study Act Cycles**
- + October 26th at 1:00pm CT
 - [Registration Link](#)
- + **Compass Infection Prevention Open Office Hour**
- + November 1, 2023 at 1:00pm CT
 - [Registration Link](#)
- + **Compass Toolkit Review - How to Collect REAL Data**
- + November 8th at 1:00pm CT
 - [Registration Link](#)
- + **Compass Conducting Root Cause Analysis**
- + November 16th at 1:00pm CT
 - [Registration Link](#)



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Contact Us



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[View our Website](#)

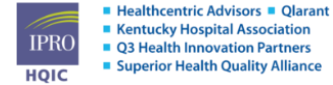


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Thank you for joining us today!

We value your input!

Please complete the brief evaluation after exiting the event

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