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ASSURANCE & PERFORMANCE IMPROVEMENT (QAPI) IN ANTIMICROBIAL STEWARDSHIP (AMS)

MARY THOENNES, RPH, BCACP, CDCES
CDR – U.S. PHS
ANTIMICROBIAL STEWARDSHIP CHAMPION
W. W. KEEBLE MEMORIAL HEALTH CARE CENTER

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ASM.org or #AgarArt



Describe the approaches that can be used to implement a QAPI measure.



Determine what data to collect and how to collect the data.



Identify the key elements of quality assurance / performance improvement measure (QAPI).



Review a QAPI AMS project

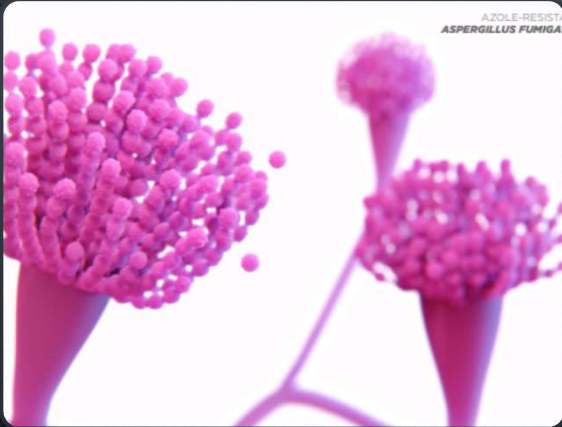
OBJECTIVES

ASSURANCE AND PERFORMANCE IMPROVEMENT (QAPI) DEFINITION

CENTER FOR MEDICARE AND MEDICAID SERVICES (CMS): A SYSTEMIC, COMPREHENSIVE, AND DATA-DRIVEN APPROACH TO MAINTAIN AND IMPROVE SAFETY AND QUALITY



AMS HAVE QAPI MEASURES



- ❖ CENTERS FOR DISEASE CONTROL (CDC)
- ❖ IHS CHAPTER 7
- ❖ IHS CHAPTER 3
- ❖ THE JOINT COMMISSION (TJC)
- ❖ ACCREDITATION ASSOCIATION FOR AMBULATORY HEALTH CARE (AAAHC)

CDC ANTIMICROBIAL STEWARDSHIP

Core Elements of Hospital Antibiotic Stewardship (2014)

The Core Elements of Antibiotic Stewardship for Nursing Homes (2015)

The Core Elements of Outpatient Stewardship (2016)

Implementation of Antibiotic Stewardship Core Elements for Small and Critical Access Hospitals (2017)

CDC National Healthcare Safety Network metrics

Continuing Education and Information Resources

HS CHAPTER 39



Requirements

Personnel training
Accountability
De-Escalation Protocol



Surveillance



Reporting



EHR order sets

DE-ESCALATION PROTOCOLS

- OPTIMIZING DIAGNOSTIC TESTING
- AN ANTIBIOTIC REVIEW PROCESS
- LOCAL RESISTANCE PATTERNS
ANTIBIOGRAM
- DOSE OPTIMIZATION
- PREFERRED ROUTE OF
ADMINISTRATION
- DURATION OF THERAPY
- DUPLICATION OF THERAPY
- DRUG INTERACTIONS
- POTENTIAL FOR TOXICITY
- IV TO PO CONVERSION
- PHARMACOKINETIC SERVICE
- RENAL DOSING PROTOCOLS
- AUTOMATIC STOP ORDERS

SURVEILLANCE

- MONITORING ANTIBIOTIC USE PATTERNS
- ANNUAL ANTIBIOGRAM(S)
- MONITORING C DIFFICILE INFECTIONS AND ANTIBIOTIC RESISTANCE PATTERNS
- TRACKING OF MDROs
- TYPES OF ANTIBIOTIC ORDERED, ROUTE, AND DURATION.
- MONITORING THE APPROPRIATENESS OF DIAGNOSTIC TESTING (E.G., CULTURES AND SENSITIVITY) PRIOR TO INITIATING ANTIMICROBIAL THERAPY
- ANTIBIOTIC USAGE DATA
- ALL REQUIRED CDC NATIONAL HEALTHCARE SAFETY NETWORK METRICS TO REPORT

REPORTING

- ANTIBIOTICS PRESCRIBED (E.G., DAYS OF THERAPY) AND PATIENTS TREATED WITH ANTIBIOTICS EACH MONTH.
- PATIENTS ON ANTIBIOTICS THAT DID NOT MEET CRITERIA FOR ACTIVE INFECTION.
- ANTIBIOTICS PRESCRIBED NOT MEETING LOCAL ANTIMICROBIAL GUIDELINES.
- AS APPLICABLE, INDIVIDUAL ORDERING OF CULTURES AND SENSITIVITY TESTS, ANTIMICROBIALS PRESCRIBED, IV TO PO CONVERSIONS, AND DURATIONS OF THERAPY.
- THE ASP TEAM, IN COLLABORATION WITH LABORATORY STAFF WHO PROVIDE MICROBIOLOGICAL DIAGNOSTIC SERVICES, TEST UTILIZATION AND INTEGRATION OF DIAGNOSTIC STEWARDSHIP INTO THEIR ROUTINE WORK AND MDRO TRENDS.

EHR ORDER SETS

- BASED ON BEST PRACTICES AS DEFINED BY THE LOCAL ASP TEAM.
- REVIEWED ANNUALLY, AT A MINIMUM, FOR CONTINUED APPROPRIATENESS.

AMS ELEMENTS OF PERFORMANCE

HOSPITALS AND CRITICAL ACCESS HOSPITALS (MM.09.01.01)

- AMS ESTABLISHED AS ORGANIZATIONAL PRIORITY
- EDUCATE STAFF INVOLVED IN ANTIMICROBIAL ORDERING, DISPENSING, ADMINISTRATION, MONITORING AND ANTIMICROBIAL RESISTANCE
- EDUCATE PATIENTS AND PATIENT FAMILIES AS NEEDED
- INTERDISCIPLINARY AMS TEAM
- LIST OF CORE ELEMENTS FOR AMS
- AMS USES ORGANIZATION-APPROVED MULTIDISCIPLINARY PROTOCOLS



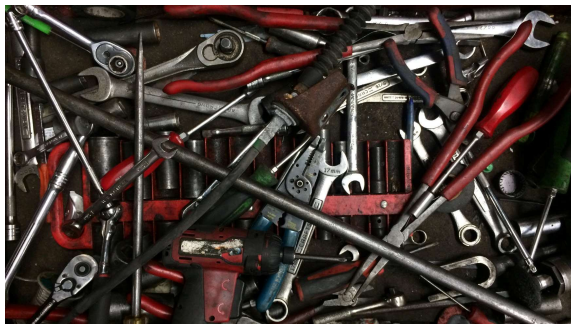
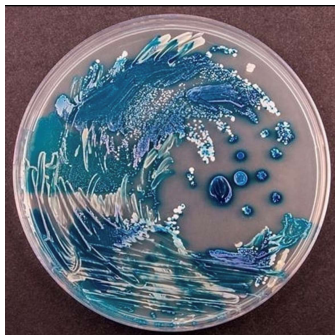
TJC AMS ELEMENTS OF PERFORMANCE



AMBULATORY CARE CENTERS

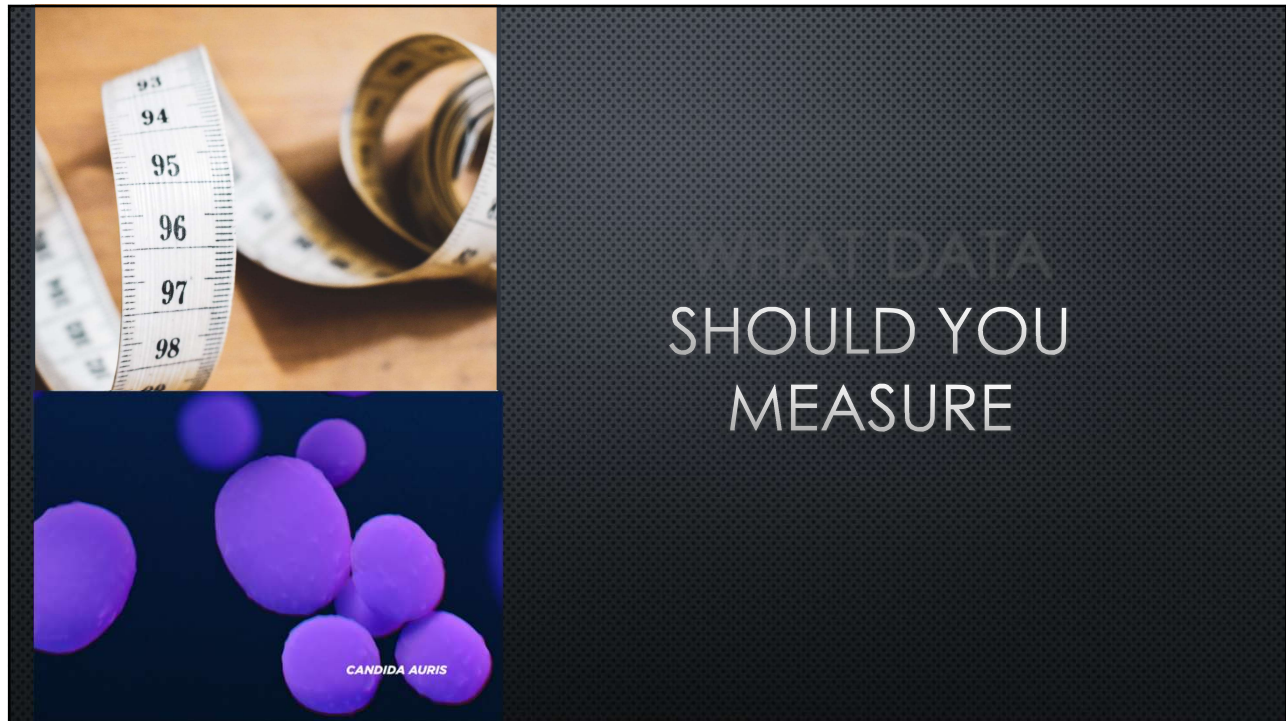
(MM.09.01.03)

- IDENTIFY AMS LEADER
- ESTABLISH AN ANNUAL AMS GOAL
- IMPLEMENT EVIDENCE BASED PRACTICE GUIDELINES RELATED TO THE AMS GOAL.
- PROVIDE CLINICAL STAFF WITH EDUCATIONAL RESOURCES RELATED TO AMS GOAL
- COLLECT, ANALYZE, AND REPORT DATA RELATED TO AMS GOALS



AAAHC AMS TOOLBOX

[HTTPS://STORE.AAAHC.ORG/ANTIMICROBIAL-STEWARDSHIP-TOOLKIT](https://store.aaahc.org/antimicrobial-stewardship-toolkit)



INCREASE IN ANTIBIOTIC USE FOR ASYMPTOMATIC BACTERIURIA (ASB)

- INSTITUTED A SECOND AMS QAPI MEASURE FOCUSED ON DECREASING TREATMENT OF ASYMPTOMATIC BACTERIURIA.
- ACTION PLAN
 - REVIEW INFECTIOUS DISEASE SOCIETY OF AMERICA (IDSA) GUIDELINES WITH PROVIDERS TO REDUCE ANTIBIOTIC TREATMENT OF ASYMPTOMATIC BACTERIURIA FOR NON PREGNANT FEMALE PATIENTS.


WHAT HAPPENED NEXT...

- PROVIDERS STATED THAT THE INFECTIOUS DISEASE (ID) NURSE HAD BEEN CALLING THEM TO TREAT PATIENTS DUE TO POSITIVE UID
 - PROVIDED EDUCATION TO ID NURSE, DON, & ADON
- PHARMACISTS DIRECTED TO INTERVENE WHEN ANTIBIOTICS PRESCRIBED FOR ASB
- IDENTIFIED REFLEX TO CULTURE UA'S AS A POSSIBLE CONTRIBUTOR TO PRESCRIBING.
 - PROVIDERS AND LAB DIRECTOR SPOKE AND UA REFLEX TO CULTURE WAS REMOVED FROM MOST EHR ORDER SETS
- EDUCATION PROVIDED TO PROVIDERS AFTER NP ASKED FOR HELP INTERPRETING MIC ON C&S REPORT
- DISCOVERED WHEN PATIENTS REFERRED TO ORTHOPEDICS FOR SURGERY WOULD BE TREATED FOR ASB PER THEIR POLICIES
 - INTERVENTIONS WITH OUTSIDE ORTHOPEDIC PRACTICE UNSUCCESSFUL

ANTIBIOTIC USE

- WHO IS PRESCRIBING THE ANTIBIOTICS?
- WHAT ARE THE MOST FREQUENTLY USED ANTIBIOTICS?
- WHERE? ARE THERE UNITS/PRESCRIBERS THAT TEND TO USE THE MOST ANTIBIOTICS?
- WHEN? ARE THERE TIMES WHEN ANTIBIOTICS ARE MOST LIKELY TO BE PRESCRIBED?
- WHY ARE THE ANTIBIOTICS BEING USED? WHAT ARE THE MOST COMMON REASONS THEY ARE BEING USED?





IDENTIFY A PROBLEM OR CONCERN

- WHOM DOES IT AFFECT?
- WHAT DOES IT EFFECT?
- WHAT IS CURRENTLY BEING DONE?
- WHAT PERSONAL AND ENVIRONMENTAL FACTORS EFFECT THE PROBLEM?
- **WHAT IDEALLY SHOULD BE DONE?**
- **HOW DO WE GET FROM WHERE WE ARE TO THE IDEAL?**

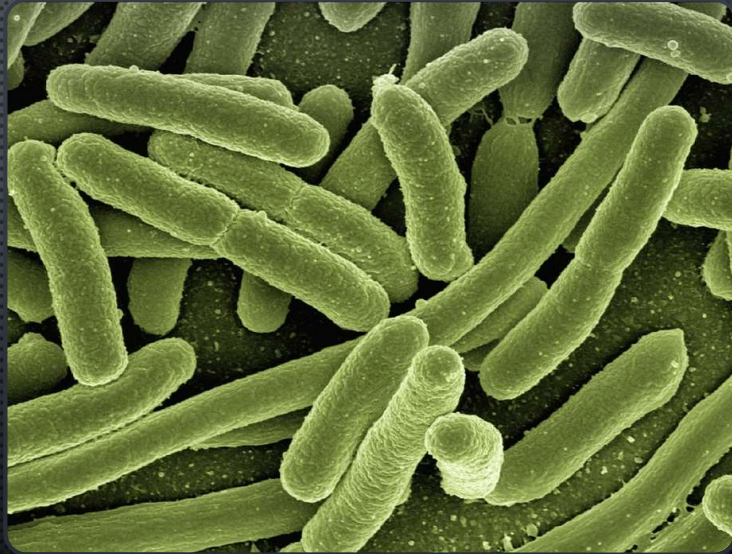
WRITING A SMART MEASURE

S	M	A	R	T
Specific	Measurable	Attainable	Realistic	Timely
What <u>specifically</u> do you want to do?	How will you know when you've reached it?	Is it in your power to accomplish it?	Can you realistically achieve it?	When <u>exactly</u> do you want to accomplish it?

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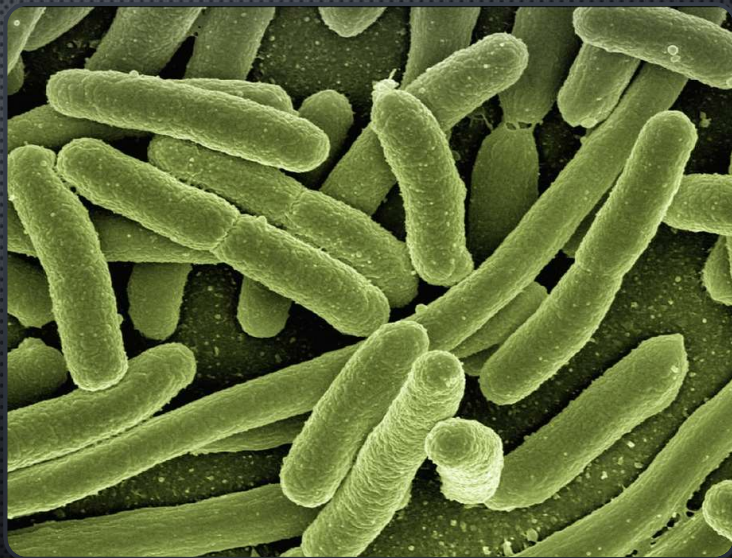
LET'S GO BACK TO
OUR ASB EXAMPLE.

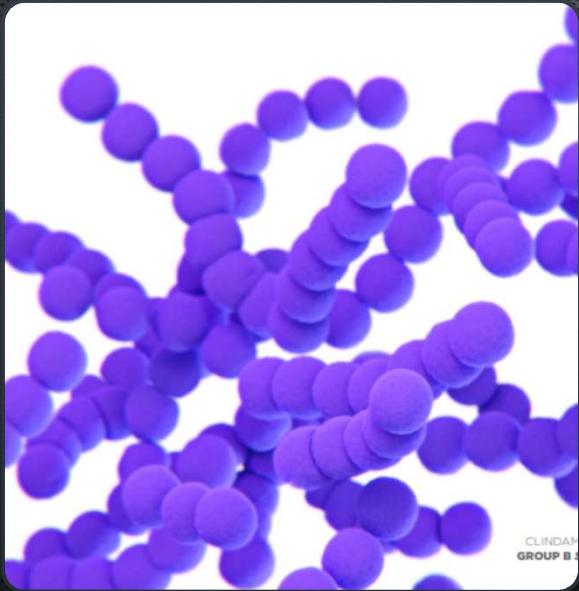
**WHAT WOULD YOUR
QAPI MEASURE TO
DECREASE ANTIBIOTIC
USE FOR ASB LOOK
LIKE?**



LET'S GO BACK TO
**NON-PREGNANT
PATIENTS WITH
BACTERIURIA THAT DO
NOT RECEIVE
ANTIBIOTICS, GOAL
>80%**

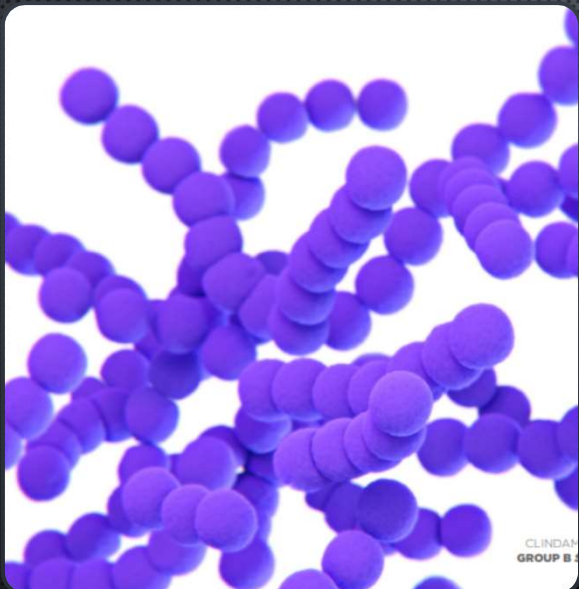
**•HOW WOULD YOU IMPROVE THIS
QAPI MEASURE?**





CLINDAMycin IDENTIFIED
THAT PEDIATRIC PATIENTS THAT WERE NEGATIVE WITH QUICK STREP TEST, BUT POSITIVE WITH CULTURE DID NOT ALWAYS GET ANTIBIOTICS PICKED UP

WHAT WOULD YOUR QAPI MEASURE TO INCREASE ANTIBIOTIC ADHERENCE FOR PEDIATRIC STREP LOOK LIKE?

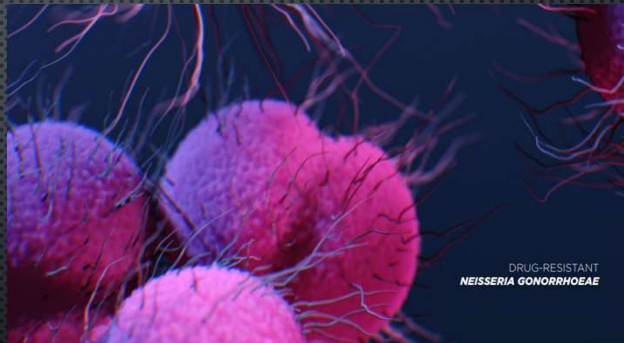


CLINDAMycin IDENTIFIED
(AGES 1-16) WITH POSITIVE RESULT ON STREP QUICK TEST OR CULTURE ARE DISPENSED AN ANTIBIOTIC. GOAL >90%

HOW WOULD YOU IMPROVE THIS QAPI MEASURE?

**PATIENTS WHO COME IN
FOR VOLUNTARY STI
SCREENING CANNOT BE
FOUND IF TREATMENT IS
NECESSARY**

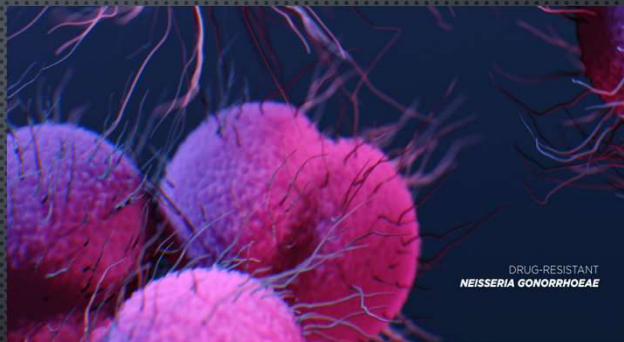
**WHAT WOULD YOUR
QAPI MEASURE TO
INCREASE % OF POSITIVE
STI TREATED LOOK LIKE?**



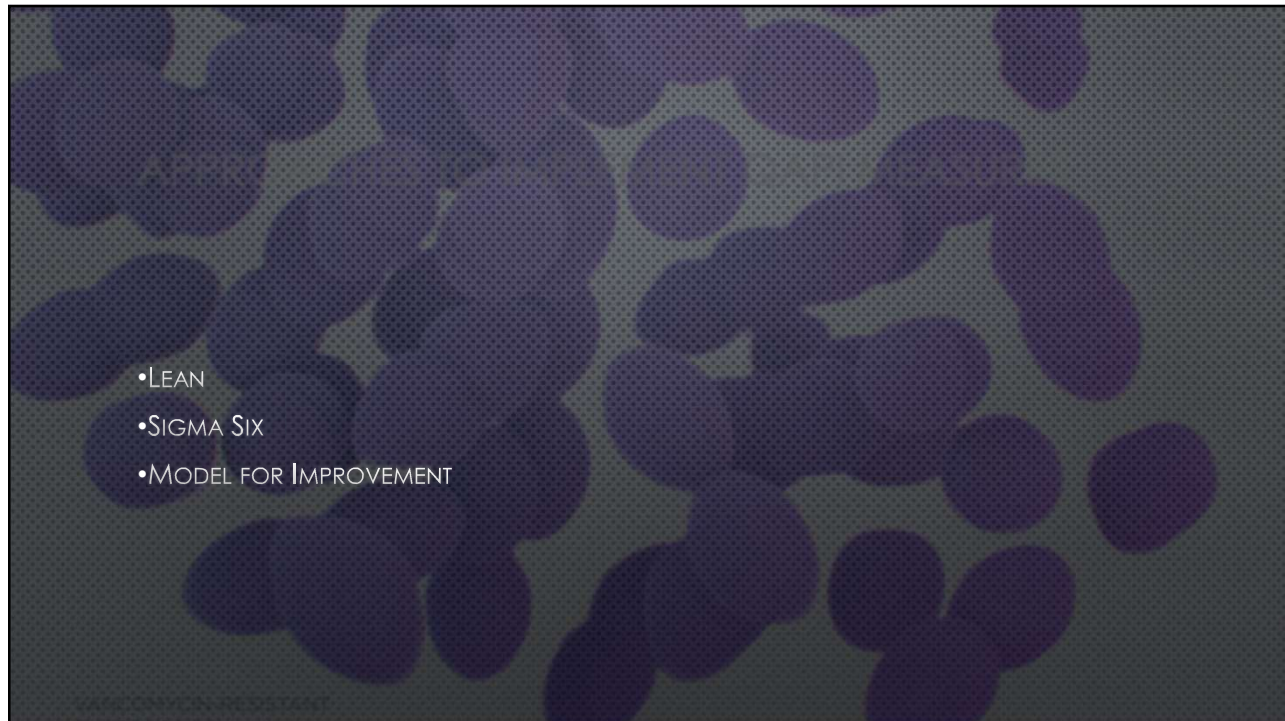
**% OF PATIENTS DIAGNOSED
WITH CHLAMYDIA AND/OR
GONORRHEA WHO RECEIVE
TREATMENT, GOAL >90%**

NUMERATOR: NUMBER OF
PATIENTS TREATED FOR
GONORRHEA AND CHLAMYDIA
PER CDC GUIDELINES

DENOMINATOR: NUMBER OF
PATIENTS WITH POSITIVE
GONORRHEA AND / OR
CHLAMYDIA TEST



**ANY RECOMMENDATIONS TO
IMPROVE THIS QAPI MEASURE?**



PURPOSE IS TO IMPROVE THE VALUE FROM THE CUSTOMER'S POINT OF VIEW

- CREATE A FLOW CHART TO IDENTIFY THE STEPS THAT HAVE TO BE COMPLETED TO FINISH A PROCESS
- IDENTIFY THE STEPS THAT DON'T ADD VALUE OR INCREASE SAFETY
- CHALLENGE (REMOVE) ALL WASTED STEPS CURRENTLY NECESSARY TO PROVIDE VALUE/PRODUCT /SERVICE
- MAKE THE PRODUCT FLOW CONTINUOUSLY THROUGH THE REMAINING VALUE-ADDED STEPS
- MANAGE TOWARD PERFECTION

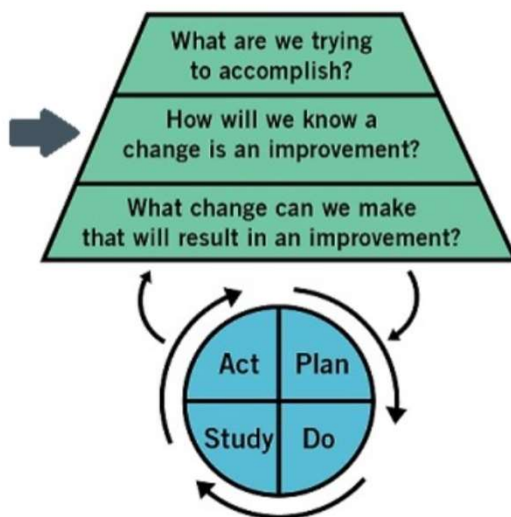
SIX SIGMA STEPS

- DEFINE THE PROBLEM IN DETAIL
- MEASURE DEFECTS
- ANALYZE UNDER WHAT CONDITIONS DEFECTS OCCUR BY USING PROCESS MEASURES, FLOW CHARTS, & DEFECT ANALYSIS
- IMPROVE BY DEFINING AND TESTING CHANGES AIMED AT DECREASING DEFECTS
- CONTROL RESULTS BY DETERMINING WHAT STEPS YOU WILL TAKE TO MAINTAIN PERFORMANCE

GOAL IS TO DECREASE VARIATION OR DEFECT RATE



Model for Improvement



MODEL FOR
IMPROVEMENT

MODEL FOR IMPROVEMENT FROM THE INSTITUTE FOR HEALTHCARE IMPROVEMENT (IHI)

[HTTP://WWW.IHI.ORG/EDUCATION/IHIOPENSCHOOL/PAGES/DEFAULT.ASPX](http://www.ihl.org/education/ihioopenschool/pages/default.aspx)

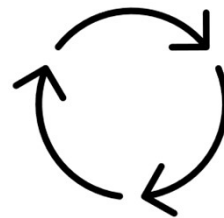
FOR MORE INFORMATION ON IHI
TRAININGS, CONTACT:

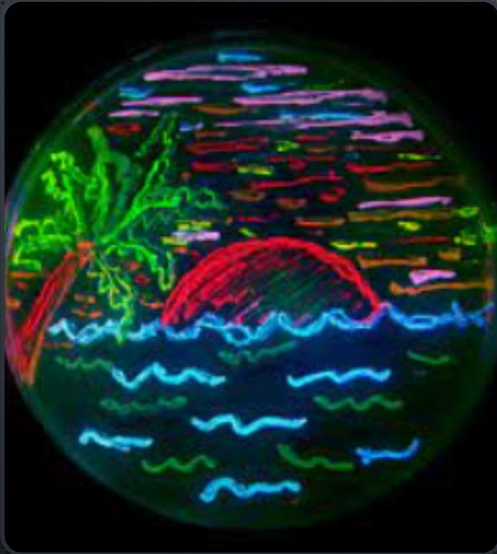
BEN FELICIANO
IHS OFFICE OF QUALITY
(301)-443-6690 OFFICE
(240) 687-2084 CELL

BENJAMIN.FELICIANO@IHS.GOV

CLOSING THE LOOP

- IF A CHANGE ISN'T WORKING, ADJUST IT.
- ACCEPT THAT VARIOUS TYPES OF BIAS CAN EXIST
- TESTING FOR IMPROVEMENT DOESN'T TAKE PLACE IN CONTROLLED CONDITIONS
- WHENEVER POSSIBLE, DEVELOP MEASURES FROM DATA THAT SOMEONE IS ALREADY COLLECTING.





ON ASB

- AMS TRAINING ADDED TO NEW PROVIDER ORIENTATION (EVENTUALLY ADDED TO ORIENTATION FOR NURSING)
- ANTIBIOTIC TREATMENT RATE OF ASYMPTOMATIC BACTERIURIA WAS CUT IN HALF FROM JUNE TO DECEMBER OF 2016, BUT WAS STILL > 20%
- JANUARY TO MARCH OF 2017, TREATMENT RATE FOR ASYMPTOMATIC BACTERIURIA DROPPED TO 11%
- AMS PHARMACIST PREPARES A QUARTERLY AMS REPORT TO ANTIMICROBIAL STEWARDSHIP, P&T, AND MEDSTAFF



- AAAHC AMS TOOLBOX [HTTPS://WWW.AAAHC.ORG/NEWS/AAAHC-PUBLISHES-TOOLKIT-FOR-IMPROVING-ANTIMICROBIAL-STEWARDSHIP/](https://www.aaahc.org/news/aaahc-publishes-toolkit-for-improving-antimicrobial-stewardship/)
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- IHS CHAPTER 7, PHARMACY [HTTPS://WWW.CDC.GOV/ANTIBIOTIC-USE/INDEX.HTML](https://www.cdc.gov/antibiotic-use/index.html)
- IHS CHAPTER 39, ANTIMICROBIAL STEWARDSHIP [HTTPS://WWW.IHS.GOV/IHM/PC/PART-3/CHAPTER-39-ANTIMICROBIAL-STEWARDSHIP-PROGRAM/](https://www.ihs.gov/iim/pc/part-3/chapter-39-antimicrobial-stewardship-program/)
- MCGREGOR J, FURUNO J, OPTIMIZING RESEARCH METHODS USED FOR THE EVALUATION OF ANTIMICROBIAL STEWARDSHIP PROGRAMS, *CLINICAL INFECTIOUS DISEASES*, VOLUME 59, ISSUE SUPPL_3, OCTOBER 2014, PAGES S185-S192, [HTTPS://DOI.ORG/10.1093/CID/CIU540](https://doi.org/10.1093/cid/ciu540)
- STEVENS A, GILLAM S. NEEDS ASSESSMENT: FROM THEORY TO PRACTICE. *BMJ*. 1998;316(7142):1448-1452. DOI:10.1136/bmj.316.7142.1448 [HTTPS://WWW.NCBI.NLM.NIH.GOV/PMC/ARTICLES/PMC1113121/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1113121/)
- THE JOINT COMMISSION [HTTPS://WWW.JOINTCOMMISSION.ORG/RESOURCES/PATIENT-SAFETY-TOPICS/INFECTION-PREVENTION-AND-CONTROL/ANTIMICROBIAL-STEWARDSHIP/](https://www.jointcommission.org/resources/patient-safety-topics/infection-prevention-and-control/antimicrobial-stewardship/)

ANY QUESTIONS?
MARY.THOENNES@IHS.GOV

