North Carolina SPICE
Statewide Program for Infection Control & Epidemiology

North Carolina Antibiotic Stewardship Partners (NC CLASP)

Introduction to the CDC's Core Elements of Antibiotic Stewardship in Nursing Homes

March 6, 2024

North Carolina Clinical Antibiotic Stewardship Partners

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TODAY'S PRESENTERS

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UNC School of Nursing

OUTLINE OF TODAY'S SESSION

- Review of the CDC Core Elements
- Small Group Discussion
- Discussion of SMART goals and QAPI

Antibiotic resistance threatens every person, every country, and modern medicine.

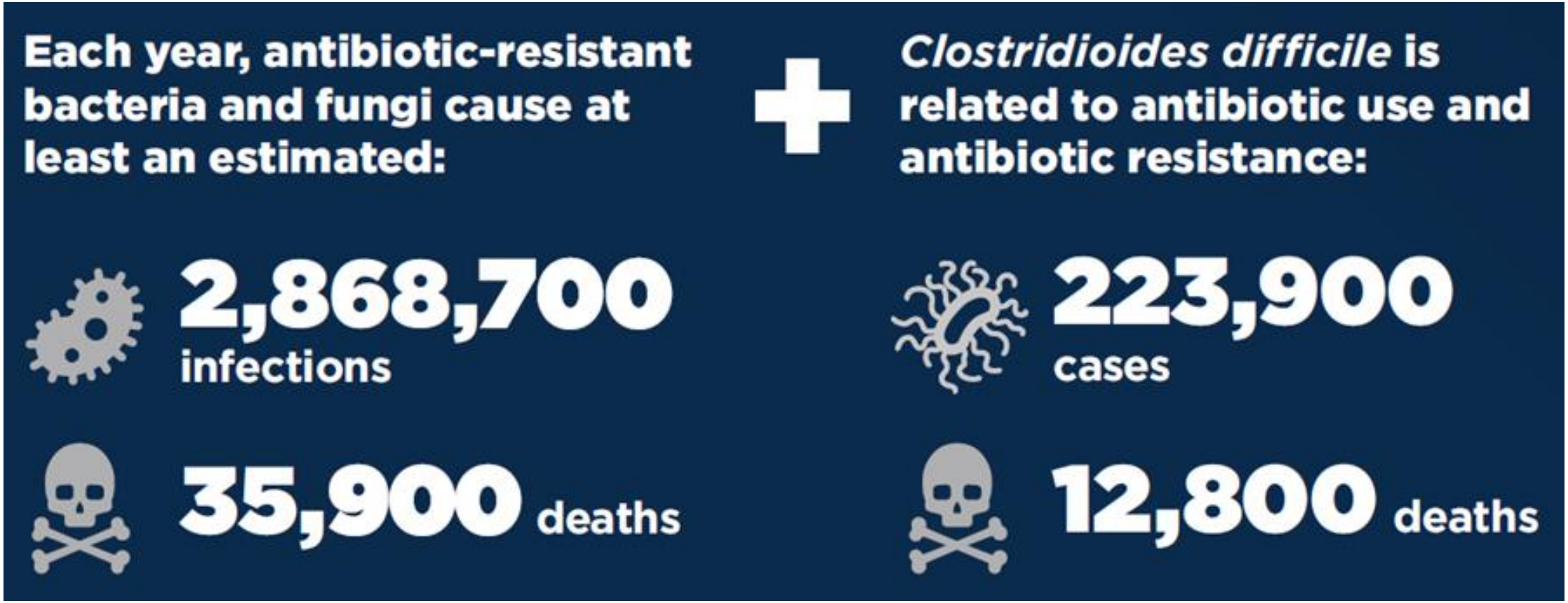
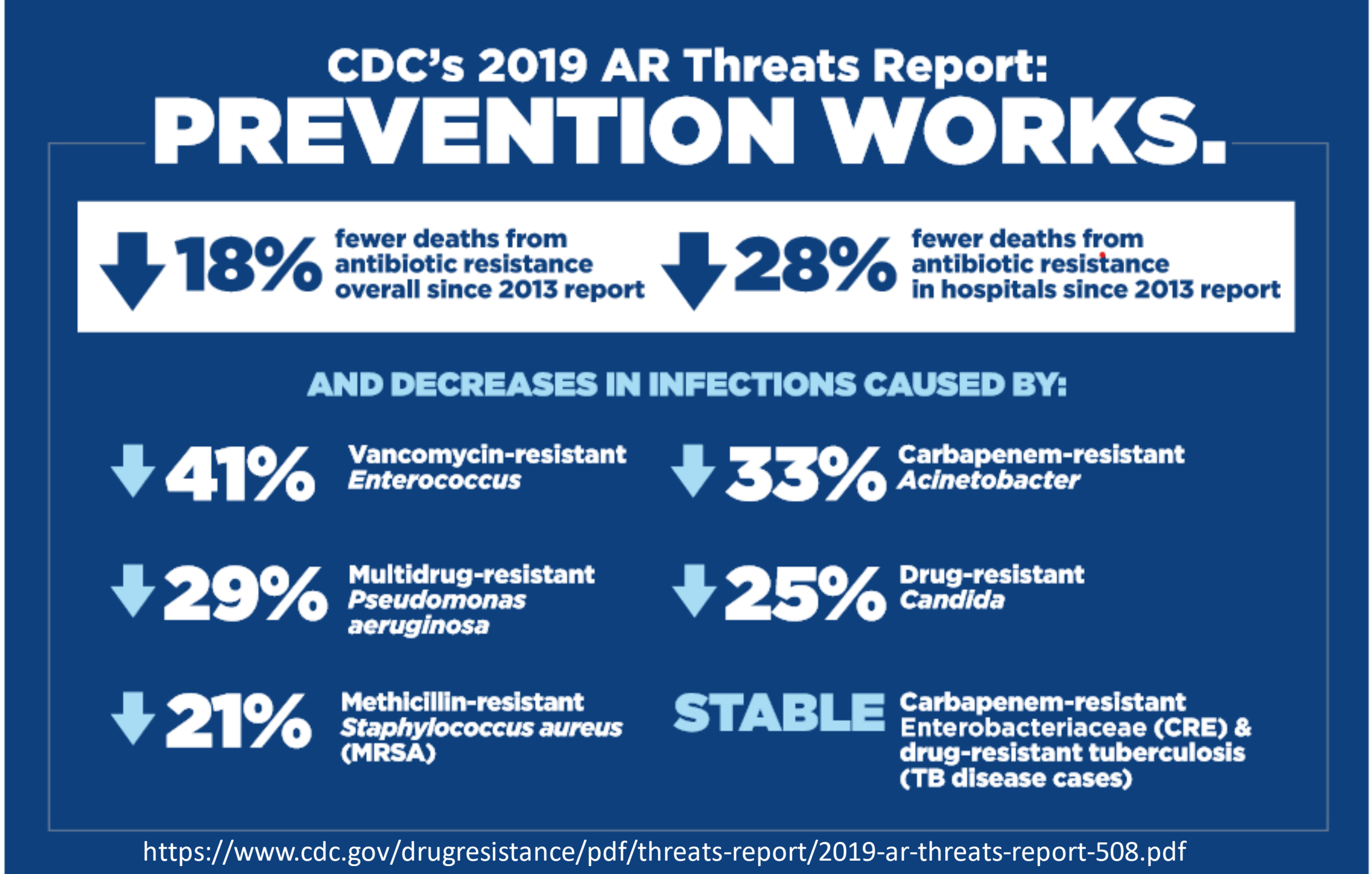
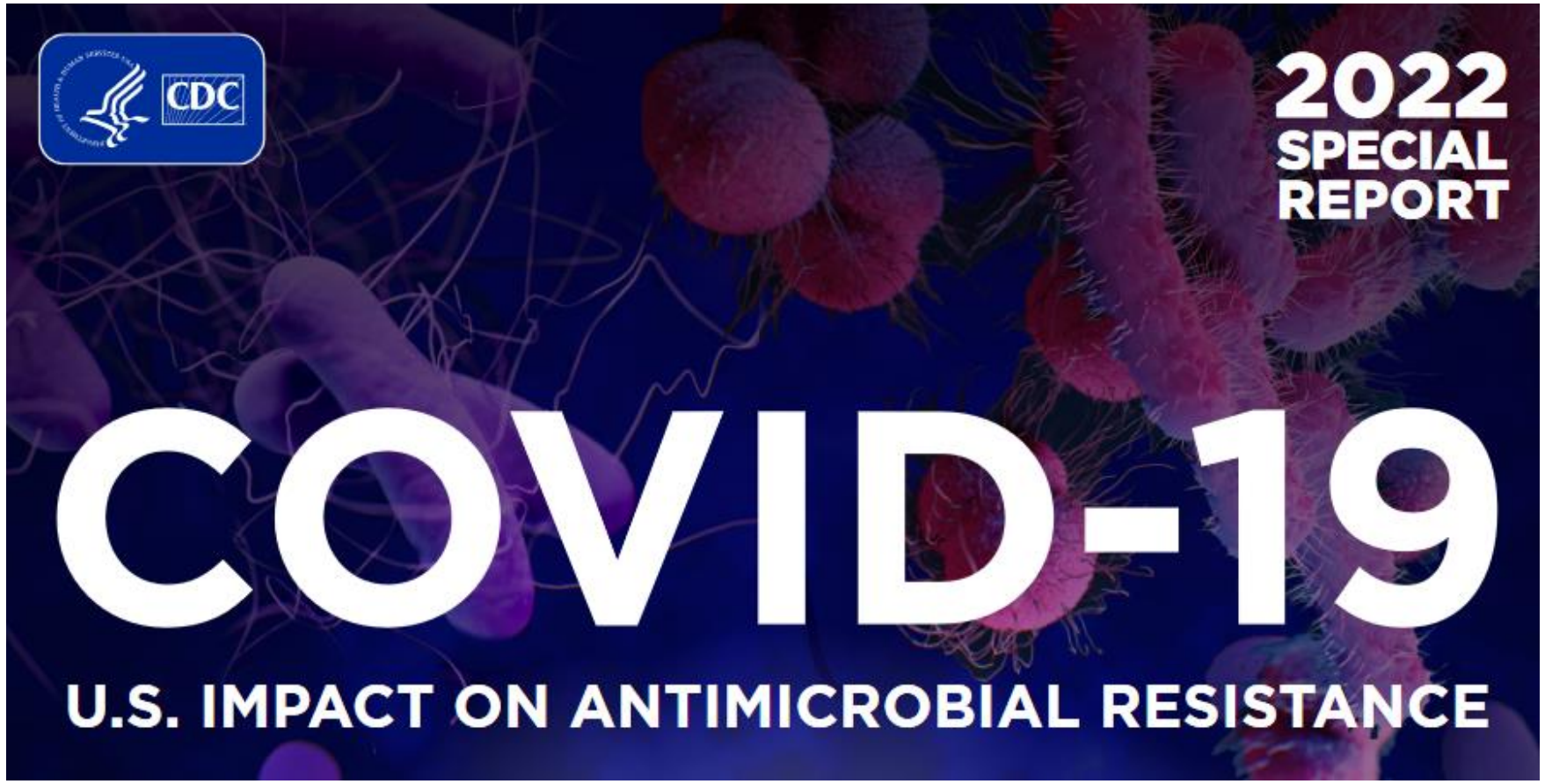


Image: CDC



https://www.cdc.gov/drugresistance/pdf/threats-report/2019-ar-threats-report-508.pdf

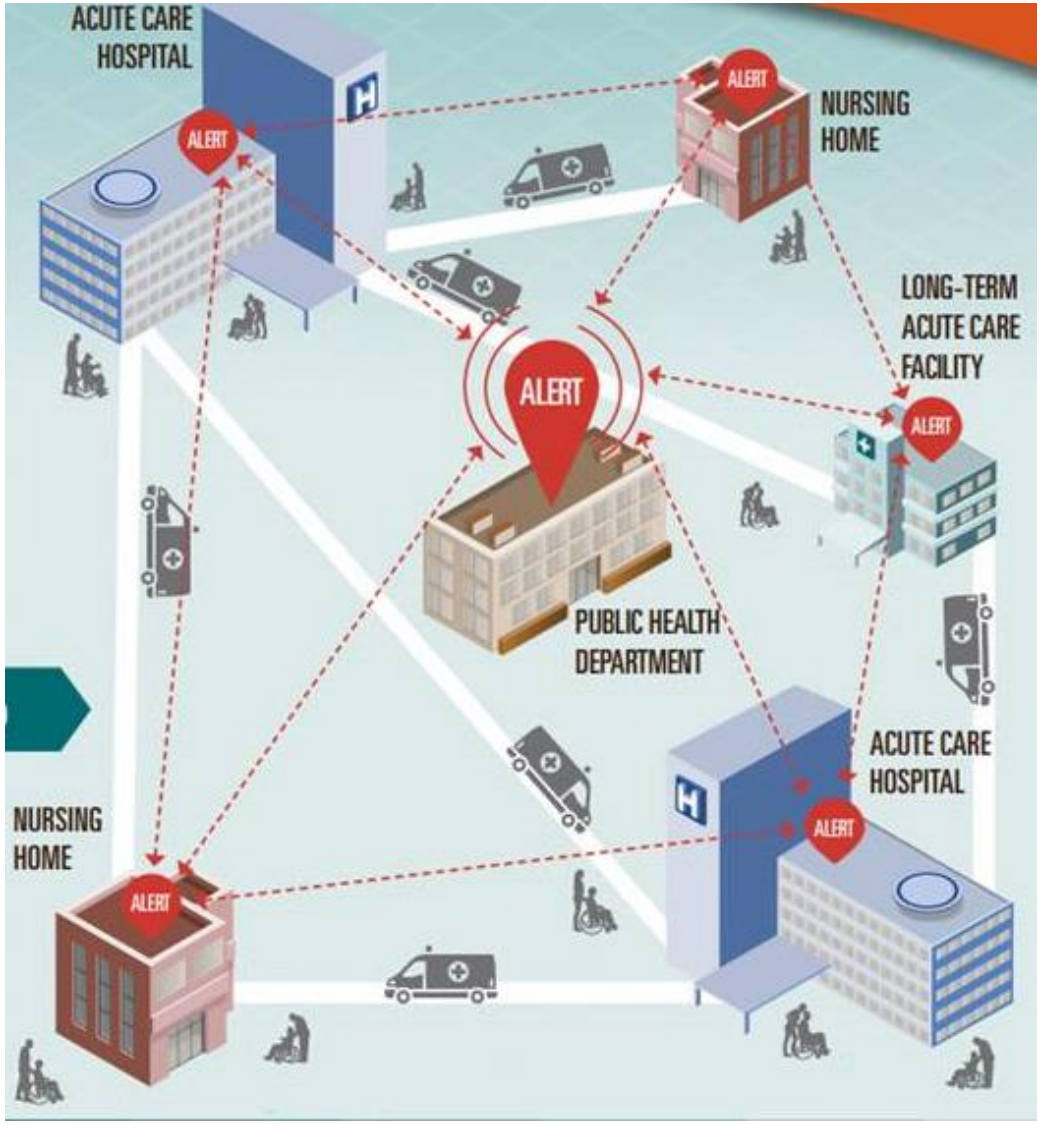


Available data show an alarming increase in resistant infections starting during hospitalization, growing at least 15% from 2019 to 2020.

- Carbapenem-resistant *Acinetobacter* (↑78%)
- Antifungal-resistant *Candida auris* (↑60%)*
- Carbapenem-resistant Enterobacterales (↑35%)
- Antifungal-resistant *Candida* (↑26%)
- ESBL-producing Enterobacterales (↑32%)
- Vancomycin-resistant Enterococcus (↑14%)
- Multidrug-resistant *P. aeruginosa* (↑32%)
- Methicillin-resistant *Staphylococcus aureus* (↑13%)

Healthcare-Public Health Connection

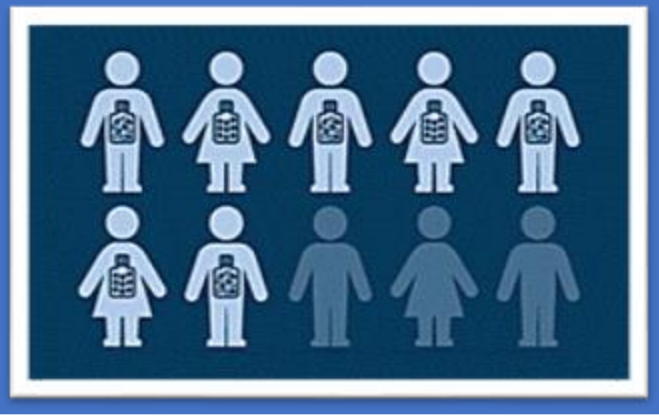
- AR deaths disproportionally impacts the youngest, oldest, and sickest patients who need medical care
- Pathogens spread from patient to patient and across facilities through patient transfer.
- When not stopped, pathogens can move between healthcare facilities and communities, becoming much harder to control.



Slide credit: Denise Cardo, CDC

Antibiotic Stewardship in Nursing Homes

4.1 million Americans are admitted to or reside in a nursing home in any year.



Up to 70% of nursing home residents receive at least 1 antibiotic a year

Up to 75% of antibiotics are prescribed inappropriately

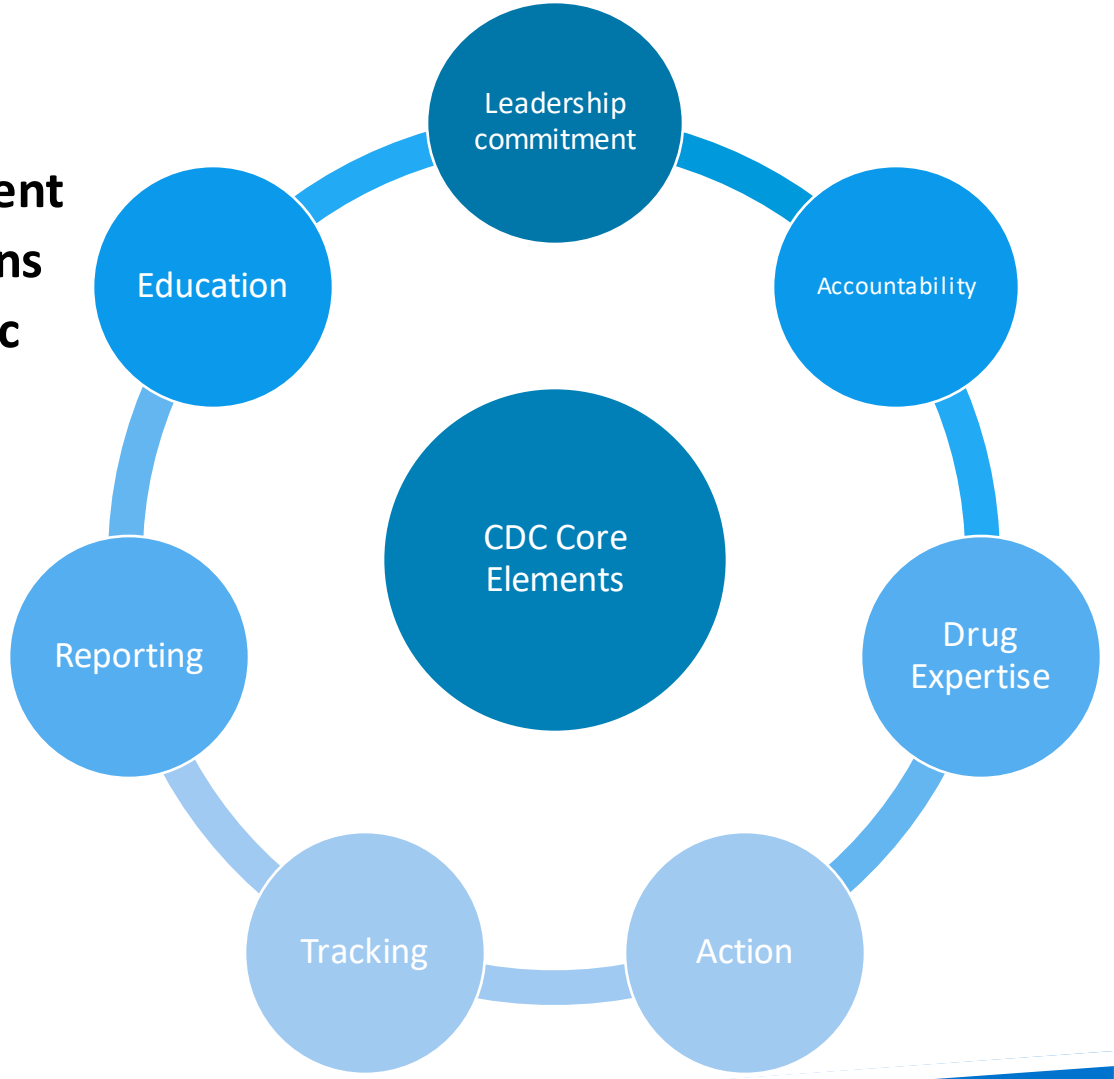
https://www.cdc.gov/antibiotic-use/core-elements/pdfs/Infographic-Antibiotic-Stewardship-Nursing-Homes-508.pdf

NC CLASP OVERVIEW

- NC CLASP project supports acute care hospitals, outpatient clinics, and nursing home communities to improve antibiotic stewardship and the health of our patients.

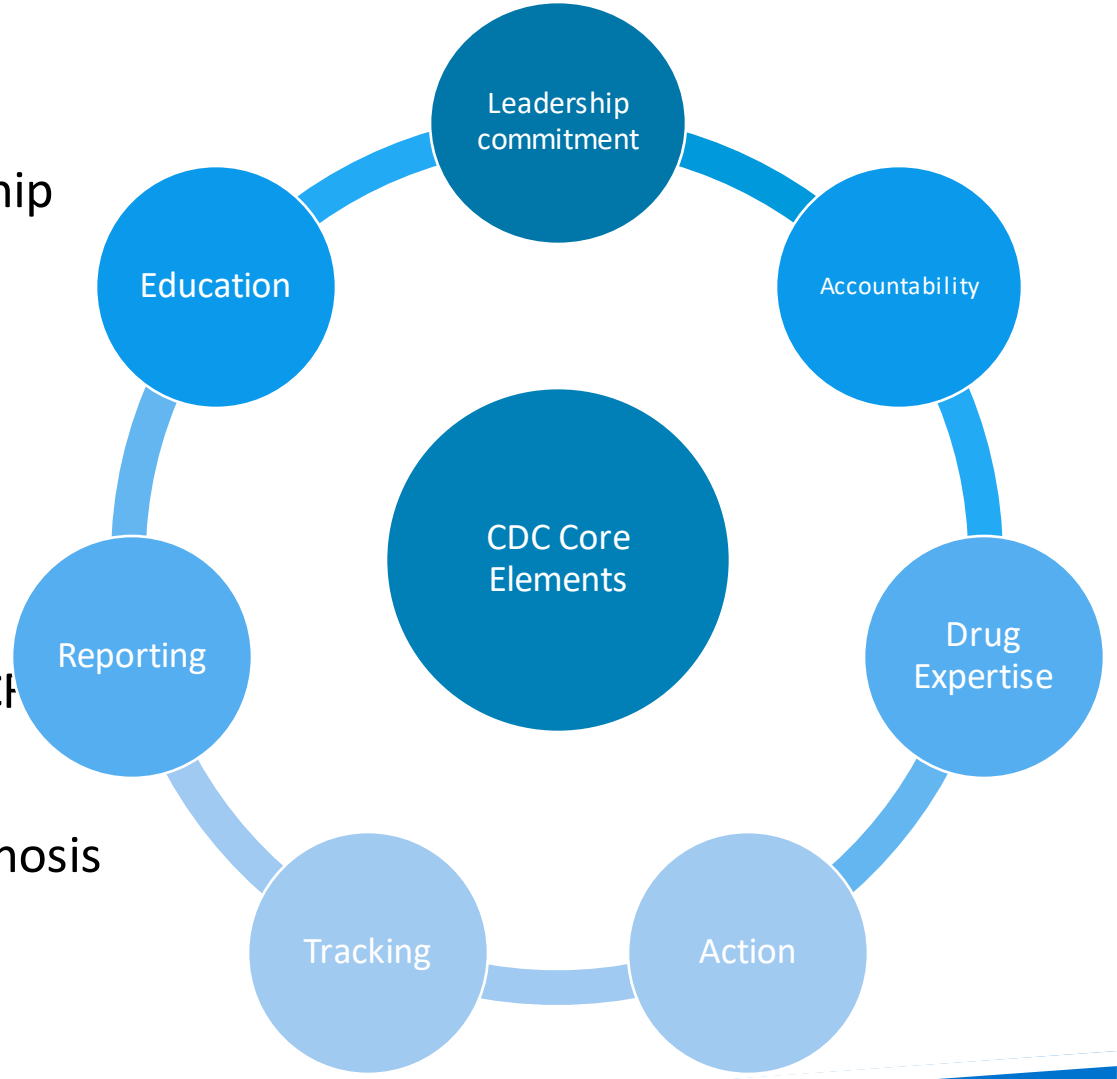
WHAT IS YOUR COMMUNITY DOING WELL? WHAT DO YOU NEED TO WORK ON?

- **Leadership commitment**
  - Write stewardship commitment statements for staff, resident
  - Explicit stewardship activities in leaderships job descriptions
  - Communication about community expectations to staff, etc
  - Ongoing messaging to celebrate stewardship
- **Accountability**
  - Empower team to perform stewardship activities
  - Work with consultant pharmacists and labs
  - Connect with local health departments
- **Pharmacy Expertise**
  - Ensure pharmacist has ID and/or stewardship training
  - Partner with local ID experts



WHAT IS YOUR COMMUNITY DOING WELL? WHAT DO YOU NEED TO WORK ON?

- Action
  - Review medication safety practices and revise for stewardship
  - Review and revise standard work to improve stewardship
    - Antibiotic time-out, reflex culture orders,
  - Review and revise workflow for specific infections: UTI or populations: dementia
- Tracking and reporting
  - Standardize process and antibiotic use measures
  - Standardize antibiotic outcomes: *c. difficile*, sepsis, MRSA, CH
- Education
  - Physician and APP, nursing staff, and patients/families- diagnosis and treatment guidelines and evidence



WHAT IS YOUR GROUP DOING?

Leadership
•Write a stewardship commitment statement for staff, physicians/APPs, and residents/families •Rewrite leadership job descriptions to include stewardship •Leadership communication about community expectations to staff, physicians/APPs, and residents/families •Recurrent and ongoing leadership efforts to celebrate stewardship

WHAT IS YOUR GROUP DOING?

Accountability
•Empower team to perform stewardship activities of the medical director (required antibiotic data review); director of nursing (work with LPNs and aides); IP (dedicated time to track and report data) •Work with consultant pharmacists and labs- ask to help create an antibiogram •Connect with local health departments- state and local HAI/AR programs have resources (like this!) •Allocated IT resources

WHAT IS YOUR GROUP DOING?

Drug Expertise
•Ensure pharmacists have ID and/or stewardship training •Formulary management including prior authorizations for classes (e.g., fluoroquinoles) •Partner with local ID physicians •Partner with local hospitals and their HAI/AR programs

WHAT IS YOUR GROUP DOING?

Action
•Specific disease diagnosis and treatment guidelines based on local microbiology and standards of care (SBARs based on IDSA guidelines) •Specific treatment order sets for certain populations: dementia, hospice, etc •Antimicrobial dosing strategies, including recommended dose and durations •Diagnostic test sequencing/cascading, information guided/interactive order entry- remove reflexive urine cultures, allow RN order chest xrays •Prospective audit and feedback •De-escalation protocols •72-hour antimicrobial time-out •Antimicrobial review to optimize treatment upon transition to next level of care •Sepsis treatment pathways •Vaccine interventions (pneumococcal vaccines or shingles vaccines)

WHAT IS YOUR GROUP DOING?

Tracking and Reporting
•Perform reviews of all new antibiotic starts, ensuring appropriate documentation for clinical assessment, antibiotic choice and duration •Track how many antibiotics are used for how long (like the Rochester excel tools) •Track the costs and harms of antibiotics: C. Diff, CRE, MRSA, etc

WHAT IS YOUR GROUP DOING?

Education
•Ongoing education for staff (in services etc), physicians/APPs, and residents/families on the diagnosis and management of disease specific infections (handouts or presentations) •Ongoing education for staff, physicians/APPs, and residents/families on the harms of antibiotic use and overuse

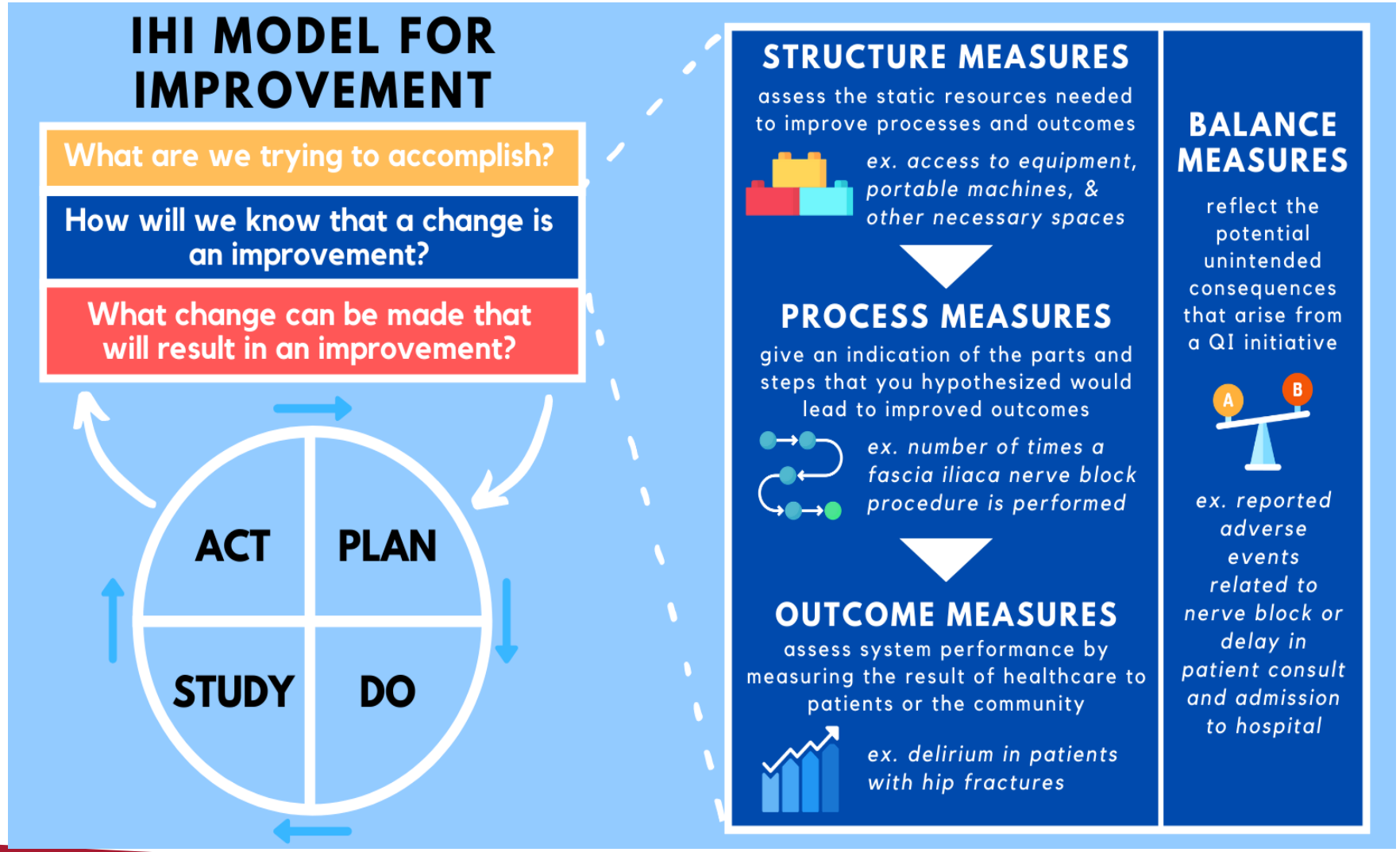
What are you doing well? What do you need work on? (Choose a representative to report back!)

SMALL GROUP DISCUSSION

WE WANT TO HELP YOU WORK SMARTER, NOT HARDER

- Quality Assurance and Performance Improvement: get SMART on outcomes important to your community

OVERALL QI PRINCIPLES: PDSA CYCLES



QUALITY IMPROVEMENT:

METHODS FOR IMPROVE PERFORMANCE AND SUSTAIN RESULTS

- Topics we will cover in the Core Elements sessions:
  - Choosing a key process to improve around antibiotic stewardship in your facility
    - Conversations with Staff
    - Asking 'Why' 5 times?
    - Reviewing data and past PIPs
  - Running an Improvement Project
    - Setting SMART Aims (What are we trying to do? How much, by when)?
    - Choosing and Tracking Measures (How will we know if a change results in improvement)?
    - Testing small changes to see what works (What changes can we try?)
    - Sustainability—making small changes "stick"
    - Role of Leaders in Supporting and Sustaining Improvement

POLL: QAPI & PIPS AT YOUR FACILITY

1. How would you describe your current level of knowledge regarding your facility's QAPI plan?

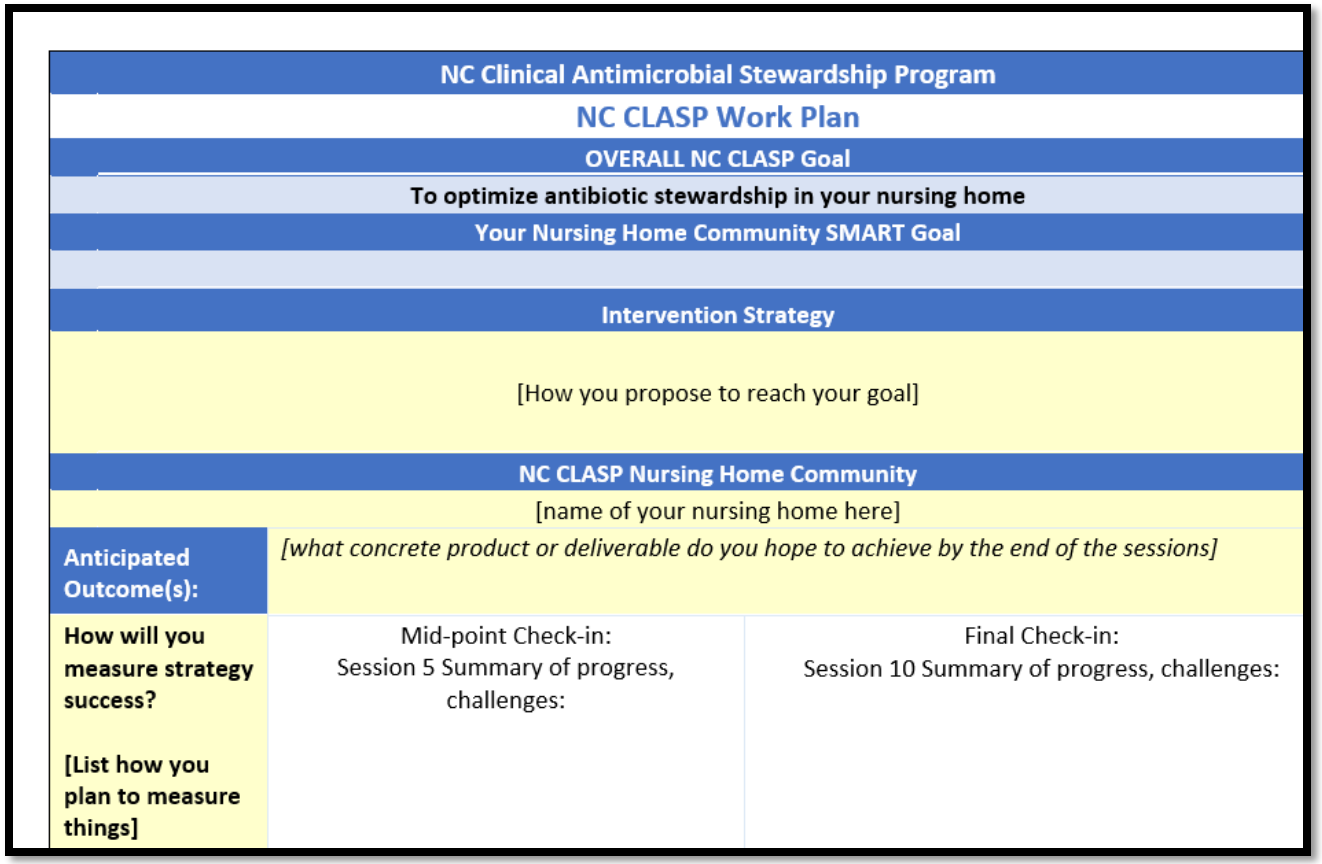
a. I did not fully know about QAPI before today.
b. I helped create it and understand it fully.
c. I have read it and understand it.
d. I have heard about it but not read it.
e. I have never seen or heard about it.

2. How would you describe Performance Improvement Projects (PIPs) as part of QAPI in your facility?

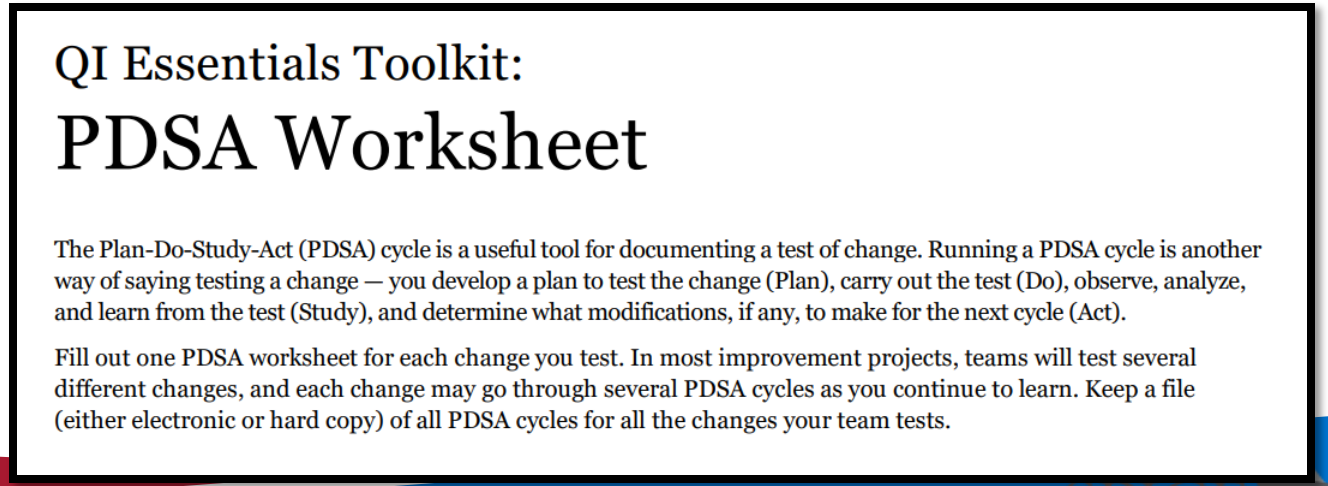
a. I'm not sure what a PIP is.
b. We routinely conduct PIPs, and I am involved in them.
c. We have run PIPs before, and I have been somewhat involved.
d. We have run PIPs, but I have never been involved.
e. I am not aware if we have ever run PIPs before.

NC CLASP WORK PLAN

- Worksheet to help document goals, activities, and outcomes
- Midpoint and final check-ins to document successes, learning, and challenges
- Assign and communicate person(s) responsible for each change/task/activity to help guide team roles
- Tool to help share learning and progress, not for judgment!!



NC Clinical Antimicrobial Stewardship Program		
NC CLASP Work Plan		
OVERALL NC CLASP Goal		
To optimize antibiotic stewardship in your nursing home		
Your Nursing Home Community SMART Goal		
Intervention Strategy		
[How you propose to reach your goal]		
NC CLASP Nursing Home Community		
[name of your nursing home here]		
Anticipated Outcome(s):	*[what concrete product or deliverable do you hope to achieve by the end of the sessions]*	
How will you measure strategy success? **[List how you plan to measure things]**	Mid-point Check-in: Session 5 Summary of progress, challenges:	Final Check-in: Session 10 Summary of progress, challenges:



QI Essentials Toolkit:

PDSA Worksheet

The Plan-Do-Study-Act (PDSA) cycle is a useful tool for documenting a test of change. Running a PDSA cycle is another way of saying testing a change — you develop a plan to test the change (Plan), carry out the test (Do), observe, analyze, and learn from the test (Study), and determine what modifications, if any, to make for the next cycle (Act).

Fill out one PDSA worksheet for each change you test. In most improvement projects, teams will test several different changes, and each change may go through several PDSA cycles as you continue to learn. Keep a file (either electronic or hard copy) of all PDSA cycles for all the changes your team tests.

80 yo woman with GI cancer who is seen by her oncologist. She has an indwelling foley to help her post-radiation skin ulcers heal. She's had the foley over a month.

CLINICAL CASE- FROM EVENT TO OUTCOME

Clinical Event

Dtrs complain to oncologist about increased sediment in foley bag. MD sends Rx for UTI tx to NH.

PROBLEM:

No evaluation of LUTS or attempt to educate family.

Evaluation by R.N. or M.D.

RN starts antibiotics. NH-MD is unaware of the plan. Pt's INR sky-rockets and develops GI distress.

PROBLEM:

No RN-MD or MD-MD communication

Decision To Prescribe Antibiotic

Urine culture grows mixed urogenital flora, but NH-MD unaware. Receives full course.

PROBLEM:

Culture results in non-NH record.

Outcome

IDEAL OUTCOME: NO ANTIBIOTICS PROVIDED AND FAMILY AND PATIENT EDUCATED ON FOLEYS AND ASYMPTOMATIC BACTERIURIA

PROBLEM: Antibiotics provided and harm results

SPICE

What would you have done in the case above? What part of that process would you want to tackle? (Choose a representative to report back!)

GROUP DISCUSSION

NC CLASP OFFERINGS

- Core Elements Series
  - 8 Sessions on the Core Elements of Antibiotic Stewardship and Fundamentals of QI in Nursing Homes
  - Small Group Discussions to Foster Exchange of Ideas
- In Person Conference
  - All settings with dedicated nursing home sessions
  - Experts in the field!
  - Free CME
- Hot Topics Series
  - Cutting-edge and up-to-date info on key ASP related topics
  - Dedicated time to discussing your QI problems with a QI expert! Bring your QAPI issues to get advice and support
- Regional Meeting
  - 1-hour free lunch to bring together local ASP champions from all settings
  - Review of Best Practices of Transitions of Care

HOT TOPIC: ANTIBIOTICS IN COPD EXACERBATION

With Adrian Austin, MD

11:30 – Noon on March 13, 2024

THE NORTH CAROLINA CLINICAL ANTIBIOTIC STEWARDSHIP PARTNERS (NC CLASP)

- All the information from today's session will be on our website https://spice.unc.edu/ncclasp/