

Infection Prevention Data to Action

Philadelphia Department of Public Health
Healthcare-Associated Infections and
Antimicrobial Resistance Program

Disclosure & Acknowledgement

I have no actual or potential conflict of interest in relation to this program or presentation.

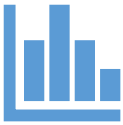
This presentation was developed by the Association for Infection Prevention and Control (APIC) Consulting Services with the aid of DeAnn Richards, RN, BSN, CIC, LTC-CIP, CPHQ, CPPS.

Objectives

The learner will be able to:

1. Understand the Infection Preventionist (IP) role in data collection.
2. List examples of infection prevention performance measures, outcome measures, and process measures.
3. Demonstrate the six steps of data collection.

Infection Preventionist's Role



Aid in organizing and summarizing data



Communicate findings clearly and meaningfully to others



Make interpretations about data



Infection Prevention Data Measures

- A **performance measure** is an organization's specified process or outcome performance (e.g., vaccination outcomes)
- An **outcome measure** indicates the process's result
- **Process measures** are steps that lead to a specific outcome
 - Evaluate quality if linked to an outcome measure
 - Evaluate compliance or monitor practice variation
 - Evaluate the effectiveness of an educational program
 - Evaluate the performance of procedures such as device maintenance

Step 1: Identify Issues and Opportunities

Outcome surveillance:

- Present on admission
- Healthcare Acquired Infections
 - Overall
 - MDRO
 - CLABSI
 - UTI and CAUTI
 - Skin and Soft Tissue
 - Gastrointestinal Illness
 - Respiratory
- TBP and reason
- Antibiotic outcomes

Process surveillance:

- Hand hygiene
- Personal Protective Equipment
- Injection safety
- Point of care blood testing
- Surface cleaning and disinfection
- Equipment cleaning and disinfection
- Device maintenance

Step 2: Set Goals and Objectives

Goal: aim or desired result.



- All staff will clean their hands as expected 100% of the time for all months in 2024
- Staff hand hygiene compliance will increase by 10% in 2024 compared to the previous year. The 2023 median was 80%; thus, the 2024 goal is 88%
- The utilization of hand rub will increase by 10% after the annual hand hygiene education and will remain at or above for two quarters
- All hand hygiene sinks will be stocked with soap and paper towels 100% of the time
- All soap and hand rub dispensers will function as expected 100% of the time

Step 2: Set Goals and Objectives

- All new hires will complete HH education and perform a return demonstration with hand rub and soap/water to validate competency.
- Annually, all staff will attend a skill fair focused on HH education and competency, including a matching game.
- A minimum of 30 HH audits will be collected monthly, and all managers will collect and submit their unit or department audit to the IP by the fifth of the following month.
- When missed opportunities are identified, real-time coaching will be provided, and the reason for non-compliance will be noted on the form.
- Any employee who has three missed HH opportunities noted will meet with the IP for additional education, and their competency will be validated.
- Environmental Services will validate the soap and hand rub dispensers' function while cleaning and disinfecting the paddle daily. Any dispenser that is not functioning will be reported immediately to Facility Management.

Step 3: Approach and Methods

What data is needed?

What data source(s) will be used?

Who will be surveyed?

Who will collect the data?

How will data be collected?

What is the duration of the data collection?

How will the data be compared?

Step 4: Collect Data

- Validity and reliability
- Test period to improve or modify the tool or method
- Train data collectors
- Address concerns and questions
- Communication
- Minimize disruptions



Conducting Hand Hygiene Audits: How-to and Tips

Purpose: The purpose of this document is to share best practices regarding hand hygiene (HH) observations and provide useful tools and instruction for infection preventionists (IPs) to conduct meaningful observations.

What is a hand hygiene audit? An audit is a period in which someone (often the IP or nurse manager) observes staff performing their regular resident/patient-care duties. The number of hand hygiene opportunities (moments) is recorded, as well as the number of times that staff perform hand hygiene *successfully*. A percentage can then be calculated and reported as “percentage of successful hand hygiene opportunities”.

Hand Hygiene is a simple, effective way to prevent infections

What is the difference between an audit and an observation? An audit refers to many observations over a defined period (e.g. the IP makes 30 observations over the course of an hour).

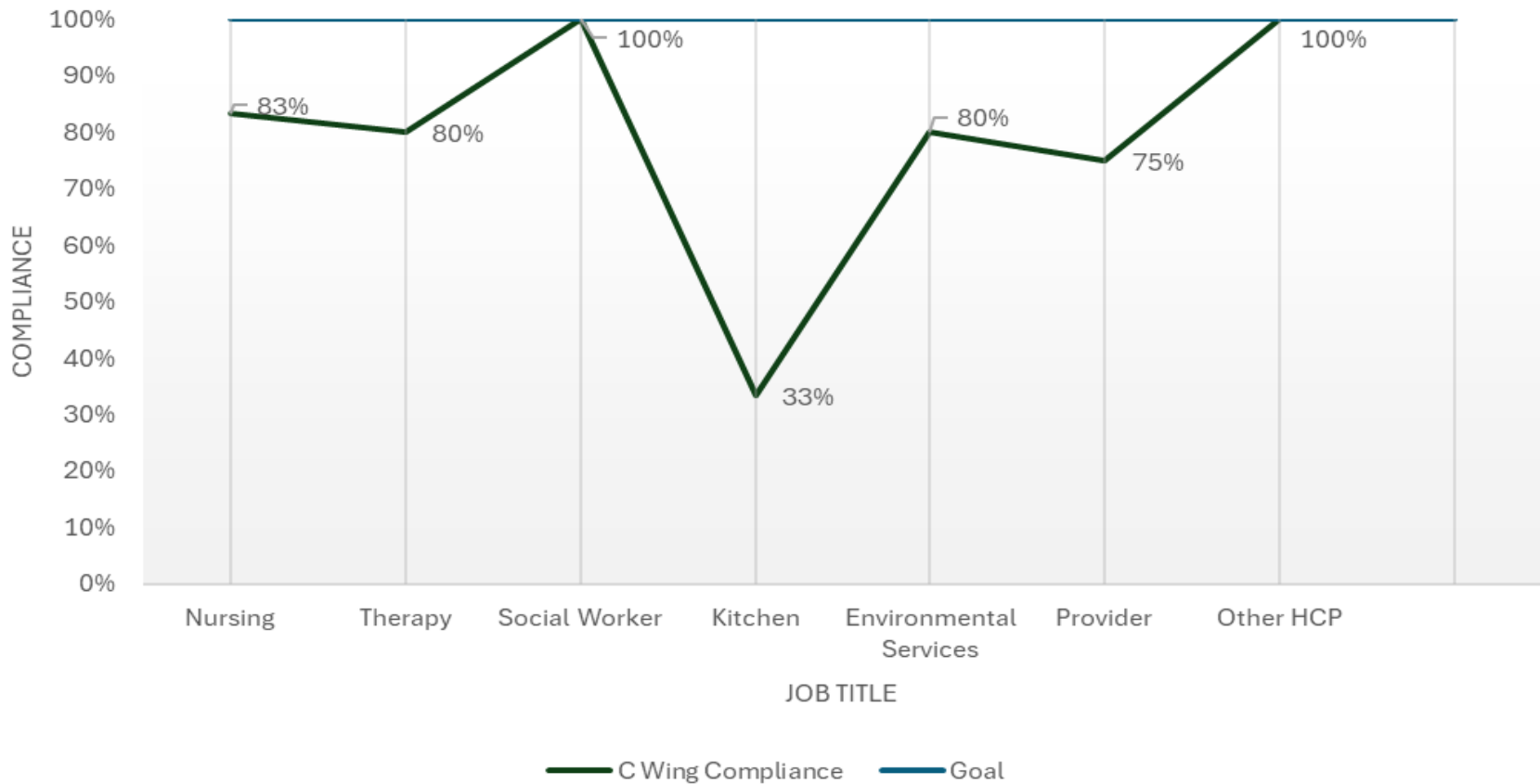
What's the first step? The observer must be trained to recognize all hand hygiene moments, which are points during clinical care that hand hygiene should occur. We recommend using [PA Department of Health Hand Hygiene Make Your Intention Prevention Poster](#) for education.

Step 5: Analyze and Interpret

- Determining trends and changes leads to insights
- Compare and contrast data
- Organize and summarize:
 - Line chart – change over time
 - Bar charts – comparison between distinct variables
 - Combination
- Sample size
- HAI - Incidence rate
- Outbreak – attack rate

Step 5: Analyze and Interpret

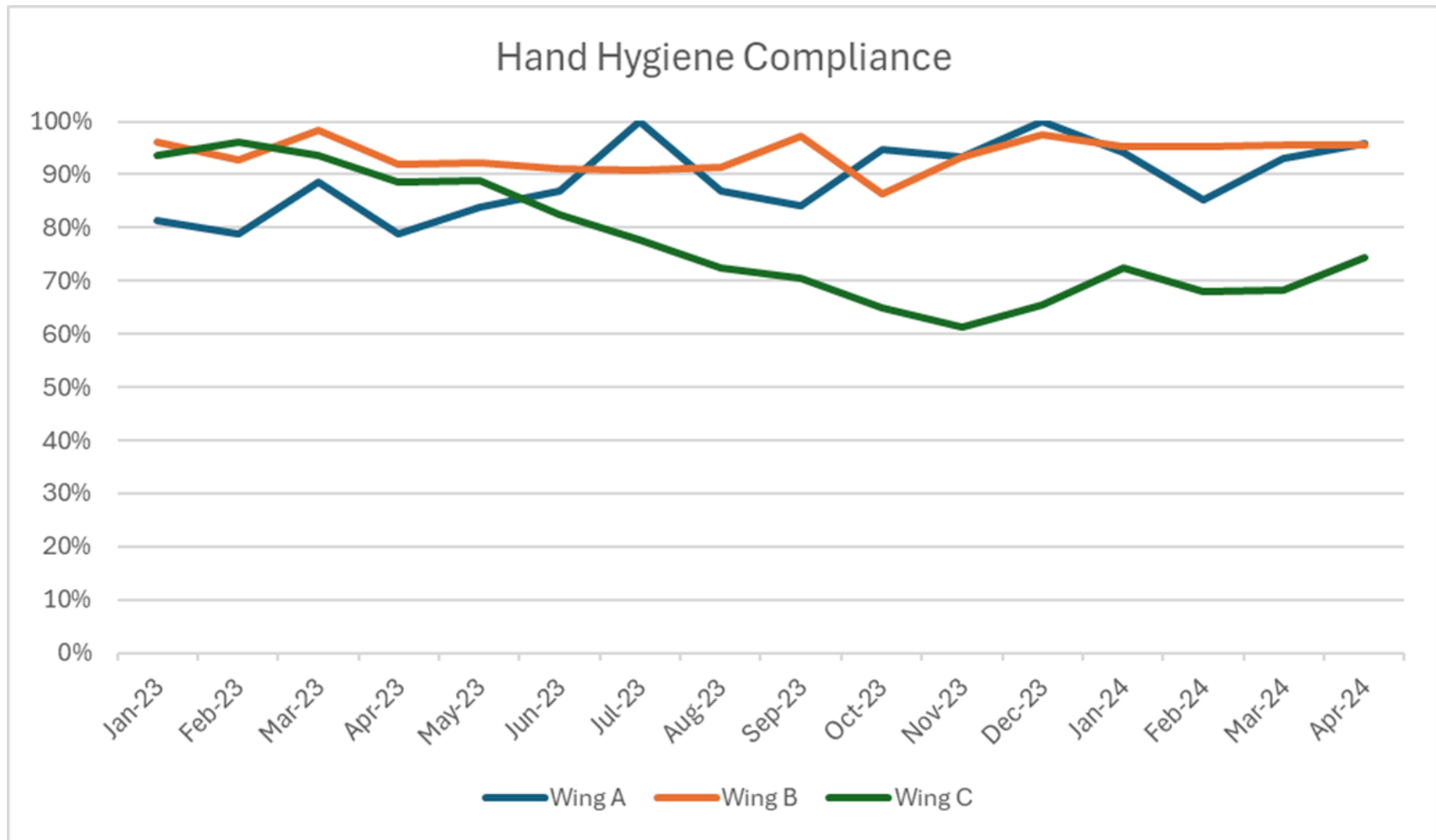
C Wing Hand Hygiene Compliance March 2024



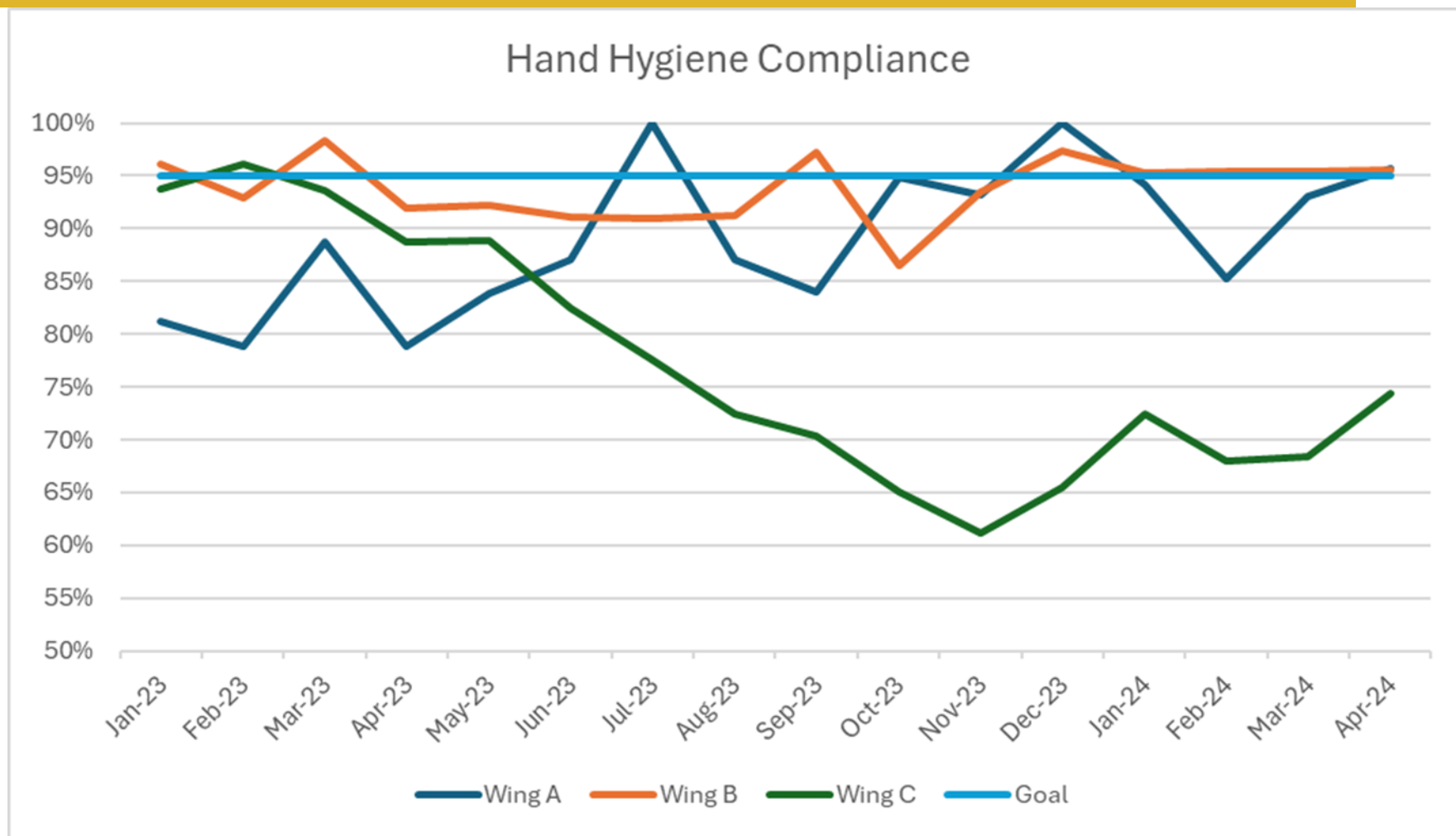
Step 5: Analyze and Interpret

A Wing	Number of Observations	Number Compliant	Overall Compliance		B Wing	Number of Observations	Number Compliant	Overall Compliance		C Wing	Number of Observations	Number Compliant	Overall Compliance
Jan-23	80	65	81%		Jan-23	51	49	96%		Jan-23	48	45	94%
Feb-23	66	52	79%		Feb-23	56	52	93%		Feb-23	51	49	96%
Mar-23	71	63	89%		Mar-23	59	58	98%		Mar-23	62	58	94%
Apr-23	52	41	79%		Apr-23	62	57	92%		Apr-23	71	63	89%
May-23	62	52	84%		May-23	64	59	92%		May-23	72	64	89%
Jun-23	85	74	87%		Jun-23	67	61	91%		Jun-23	74	61	82%
Jul-23	24	24	100%		Jul-23	66	60	91%		Jul-23	76	59	78%
Aug-23	54	47	87%		Aug-23	69	63	91%		Aug-23	80	58	73%
Sep-23	69	58	84%		Sep-23	71	69	97%		Sep-23	81	57	70%
Oct-23	58	55	95%		Oct-23	74	64	86%		Oct-23	83	54	65%
Nov-23	74	69	93%		Nov-23	76	71	93%		Nov-23	85	52	61%
Dec-23	26	26	100%		Dec-23	77	75	97%		Dec-23	87	57	66%
Jan-24	51	48	94%		Jan-24	84	80	95%		Jan-24	76	55	72%
Feb-24	61	52	85%		Feb-24	86	82	95%		Feb-24	75	51	68%
Mar-24	58	54	93%		Mar-24	88	84	95%		Mar-24	79	54	68%
Apr-24	47	45	96%		Apr-24	89	85	96%		Apr-24	78	58	74%

Step 5: Analyze and Interpret



Step 5: Analyze and Interpret



Step 5: Analyze and Interpret

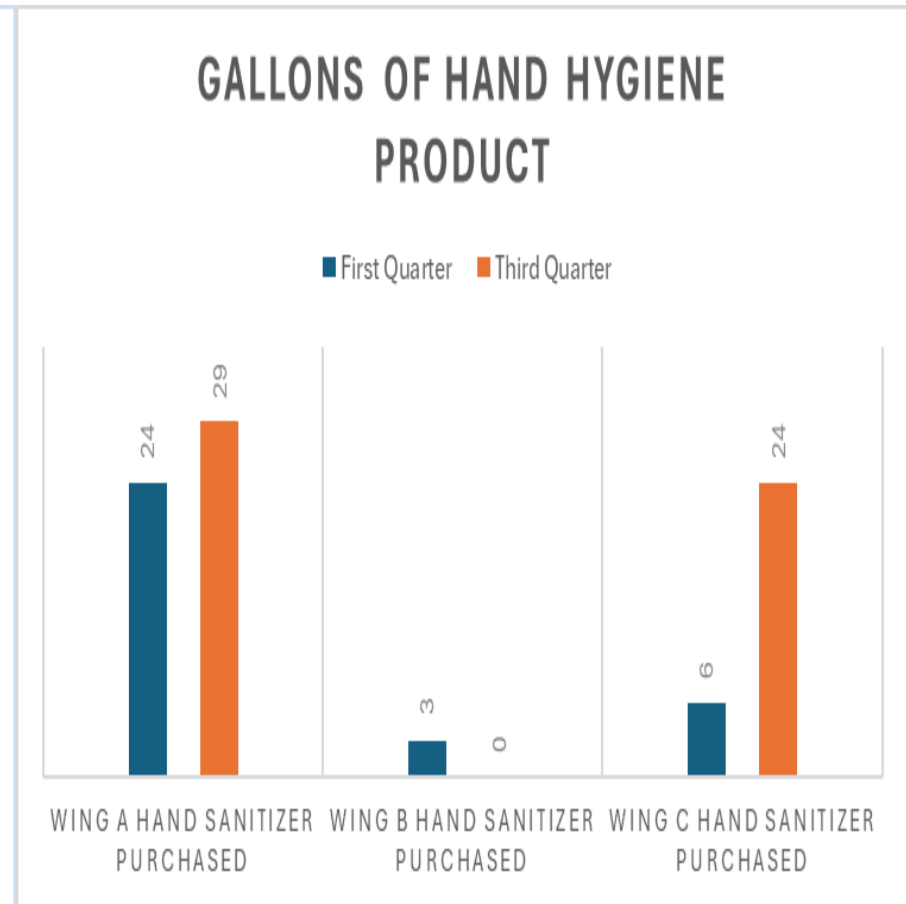
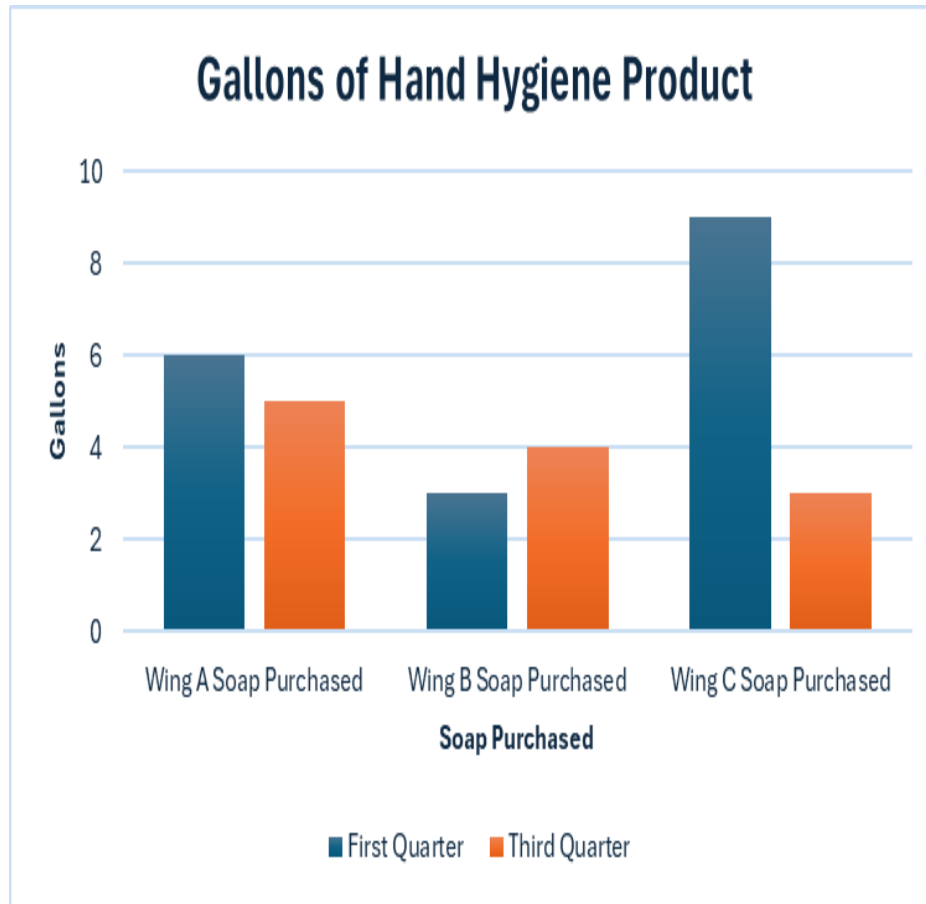
Unit	First Quarter in Gallons	
	Soap Purchased	Hand Sanitizer Purchased
A Wing	6	24
B Wing	3	3
C Wing	9	6
Total	18	33

Unit	Third Quarter In Gallons	
	Soap Purchased	Hand Sanitizer Purchased
A Wing	5	29
B Wing	4	0
C Wing	3	24
Total	12	53

Unit	Difference Between Quarter	
	Soap Purchased	Hand Sanitizer Purchased
A Wing	-1	5
B Wing	1	-3
C Wing	-6	18
Total	-6	20

Unit	Difference Between Quarter	
	Soap Purchased	Hand Sanitizer Purchased
A Wing	-1	5
B Wing	1	-3
C Wing	-6	18
Total	-6	20

Step 5: Analyze and Interpret



Step 6: Act on Results

Possible Actions:

- Address opportunities for improvement
- Collect more of the same type of data
- Modify its approach
- Sustain improvement

Step 6: Act on Results

Summary:

- Barriers, gaps, and opportunities
- Steps to take
- Short-term and long-term goals
- Input from stakeholders
- Goal progress

Act on Hand Hygiene Example

Wing A

- Median Observation – 60
- Median compliant observations – 52
- Overall is 87% compliance
- Missed 30 observations in 2 out of 16 months
- Upward trend

Wing B

- Median Observation – 70
- Median compliant observations – 64
- Overall is 91% compliance
- Consistently collected over 30 observations per month
- Met goal last 4 months, and 8 out of 16 months

Wing C

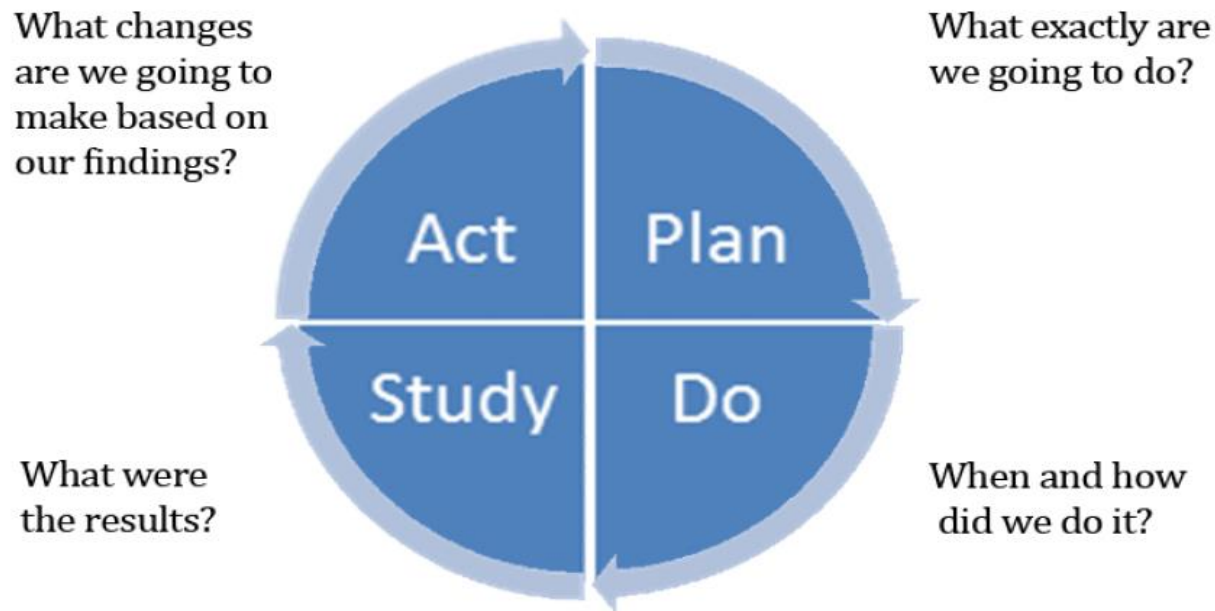
- Median Observation – 76
- Median compliant observations – 57
- Overall is 75% compliance
- Consistently collected over 30 observations per month
- Stopped downward and started a 4-month trend upward
- Meet with the new manager to review the audit form and goals

Product Ordering

- Previous education on the effectiveness of hand sanitizer resulted in the shift from soap to hand sanitizer.

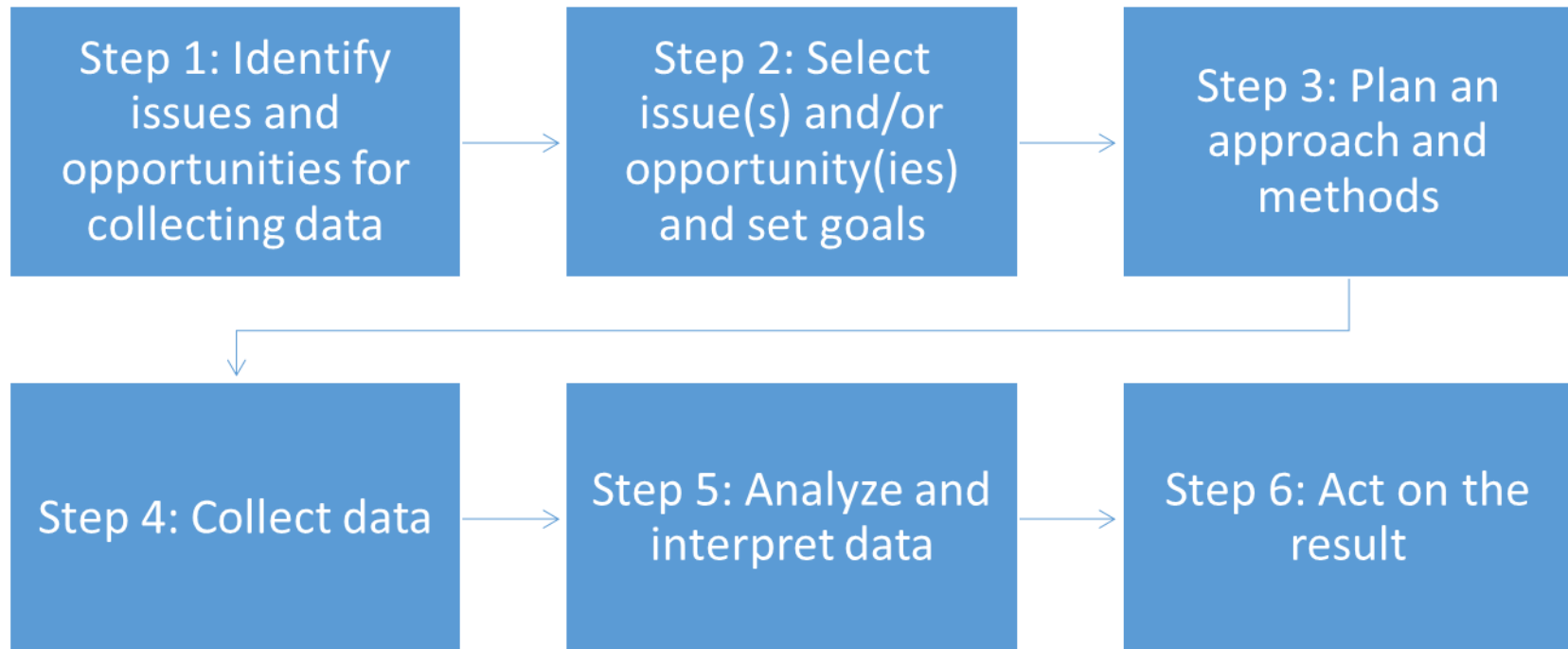
Continue audits, share with staff, obtain feedback

Step 6: Act on Results



[cms.gov](https://www.cms.gov)

Summary



Tools, Resources, and References

Action Planning Tool for the AHRQ Surveys on Patient Safety Culture

- <https://www.ahrq.gov/sites/default/files/wysiwyg/sops/sops-action-planning-tool.pdf>

Auditing Strategies to Improve Infection Prevention Processes in Nursing Homes

- <https://www.ahrq.gov/nursing-home/materials/prevention/observational-audits.html>

Pennsylvania Department of Health Healthcare Professional Resources

- <https://www.health.pa.gov/topics/programs/HAIP-AS/Pages/Healthcare.aspx>

For Questions, Please Contact:

Philadelphia Department of Public Health,
Division of Disease Control | Healthcare-
Associated Infections/Antimicrobial Resistance
(HAI/AR) Program

Email: HAI.PDPH@Phila.gov

Phone: (215) 685-4501

- Tiina Peritz, MS, BSN, RN, CIC | Program Manager
- Jane M. Gould, M.D. | Medical Director

THANK YOU

