



Strategies for Success: A Step-by-Step Guide to the Annual Infection Control Risk Assessment

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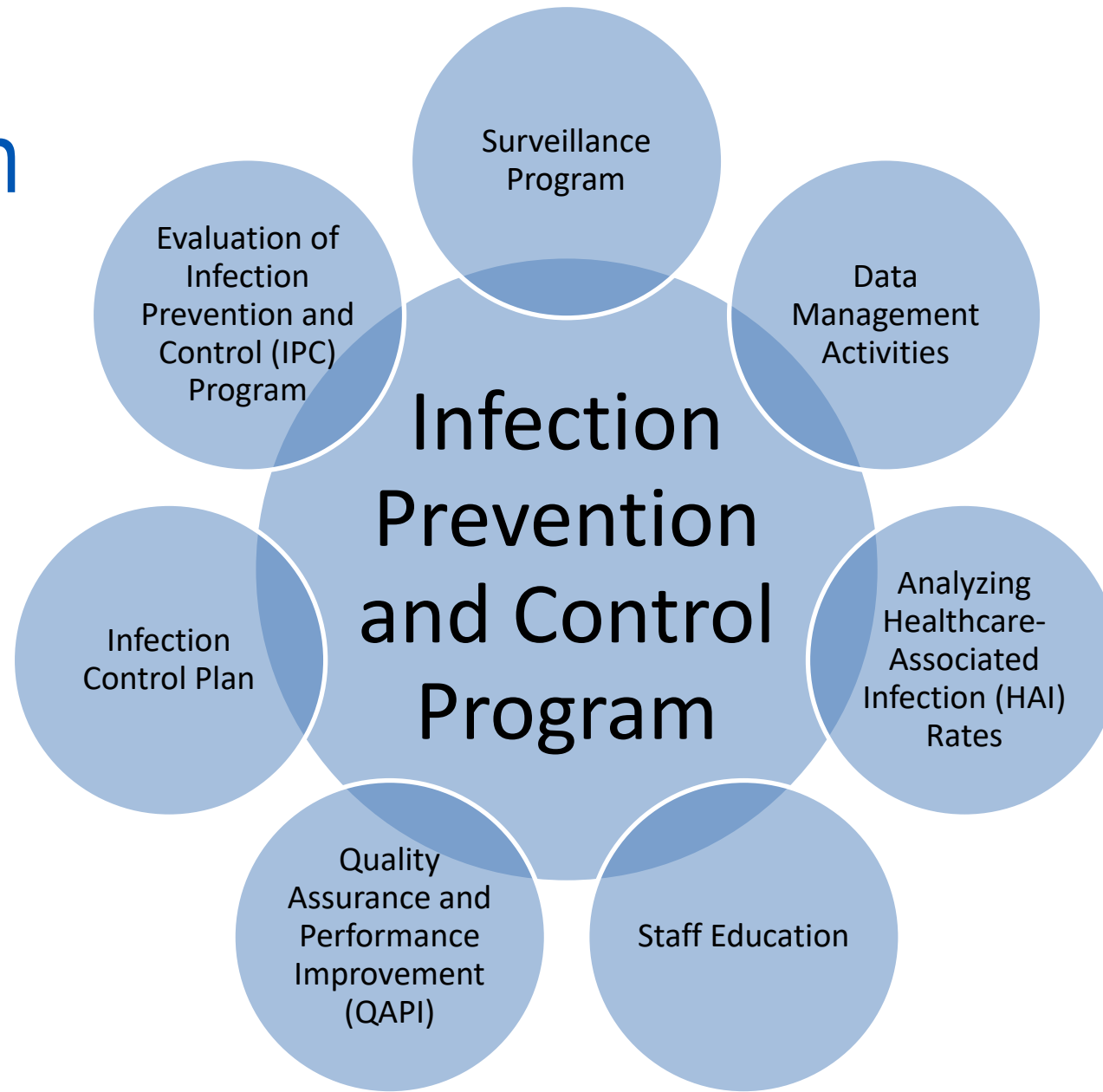


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QUALITY IMPROVEMENT & INNOVATION GROUP

Introduction



Components of an Effective Infection Control Program

- An infection preventionist and multidisciplinary team to oversee the infection control program
- Completion of an annual risk assessment
- Infection control plan
- An effective surveillance program
 - A system for obtaining, managing, and reporting data
 - Use of surveillance findings in the QAPI process
- Infection control plan evaluation

What Is an Infection Control Risk Assessment?

- An infection control risk assessment is a living document that is tailored to the facility, and updated annually or when there are significant changes ^[1]
- Examples of significant changes include:
 - A change of building ownership
 - Addition of a service line
 - Changes in staffing or turnover.

Common Risks in Healthcare Settings

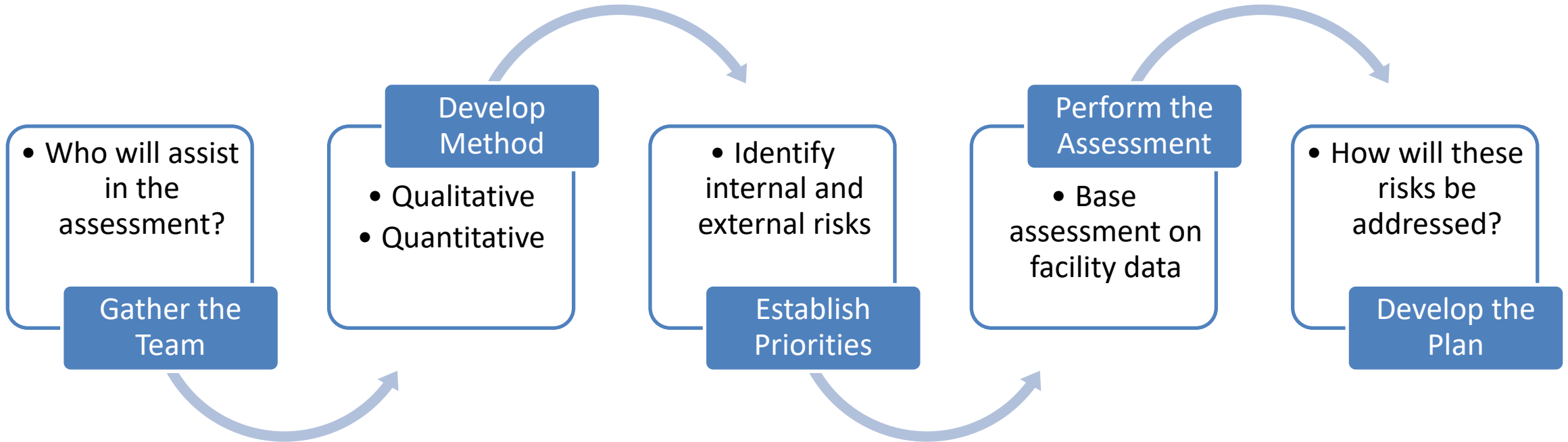
- Why perform an annual risk assessment?
- Helps focus our activities on essential tasks to reduce critical infection control risks
- Risks may be associated with:
 - Local, state, and federal laws
 - Environmental factors
 - Policies and procedures
 - Medication and vaccine availability
 - High-risk Resident Populations served at the facility
 - High Risk Procedures or Services provided at the facility

Understanding the Risk Assessment Process

- “An IPC risk assessment is a careful, proactive examination of events that could cause infections, harm, or even death to residents, staff, families, or visitors.” ¹
- Risks are assessed with input from the multidisciplinary team.
- Prioritized risks are used to develop objectives for the coming year’s infection control plan

¹ Soule, B. M., Memish, Z. A., & Malani, P. N. (2012). *Best practices in infection prevention and control: An international perspective*. Joint Commission International

Steps to Completing the Annual Risk Assessment



Step One: Gather the Team

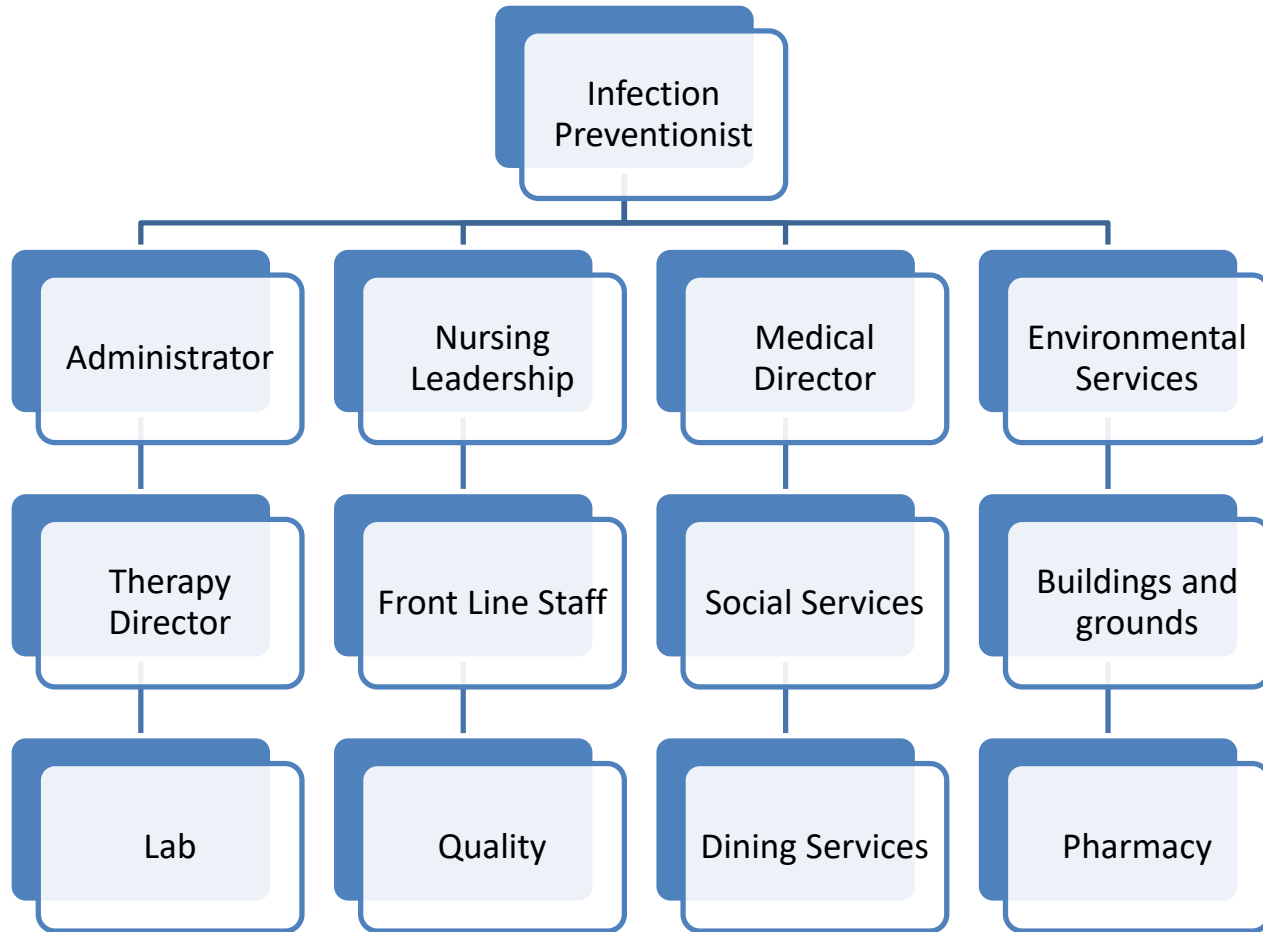


Step One: Gather the Team

- The interdisciplinary infection control team determines goals and objectives for the infection control program by performing an annual risk assessment.



Step One: Gather the Team



Step Two: Develop a Method

- Decide which type of tool to use for your assessment
- Quantitative Method – Using numbers to rate the risk events
- Qualitative Method – Using written descriptions of the risk events to identify potential harms

Quantitative Risk Assessment

- For today's discussion we will utilize a quantitative risk assessment
- There are no right or wrong answers
- Allow appropriate amount of time for the team to gather data as the team may need information from medical records or other departments.

Quantitative Risk Assessment

INFECTION EVENT	PROBABILITY OF OCCURRENCE (How likely is this to occur?)				LEVEL OF HARM FROM EVENT (What would be the most likely?)				IMPACT ON CARE (Will new treatment/care be needed for resi				READINESS TO PREVENT (Are processes/resources in plac			RISK LEVEL (Scores ≥ 8 are considered high
	Score	High 3	Med. 2	Low 1	None 0	Serious Harm 3	Moderate Harm 2	Temp. Harm 1	None 0	High 3	Med. 2	Low 1	None 0	Poor 3	Fair 2	
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Conjunctivitis																
Group A <i>Streptococcus</i> *																
MDRO																

Step Three: Establish Priorities

- Remember: Each organization's priorities will be different.
- Risks for developing an infection and transmitting pathogens are based on:
 - Internal risks
 - External risks
- Infections occurring in your facility
- Resident population served
- Care and services provided
 - Wound care
 - IV therapy
 - Trach
- Adherence to IPC policies and procedures

Tips and Reminders

- Include both actual and potential risks in your assessment
- Include data from infection control rounds and other observations
 - If data is not available from your facility, consider community data or data from literature
- Identify potential risks from current global threats

Perform the Assessment



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Probability of Occurrence

- Based on:
 - Prior occurrence
 - Frequency in facility
 - Vaccine acceptance

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Level of Harm

- **Prior morbidity, hospital transfers**
 - Did many resident transfer out?
 - Were symptoms mild due to processes, early detection, vaccination?
- **Prior mortality**
 - Has there been a high mortality rate for this issue in the past?
- **Risk factors**
 - Is there a high number of immunocompromised residents?
 - Is there a high number of residents with risk factors that may complicate the issue?

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Impact on Care

- Need for new treatment
 - Will you have to stock new medications?
 - Will you have to offer additional treatments?
 - If so what impact will that have on staff?
- Changes in level of care or support
- Restrictions on facility access for staff, residents or visitors
 - Will you have to close a unit?
 - Will you have to stop visitation?
 - Will you have to stop admissions?

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Readiness to Prevent

- Surveillance processes
 - Is there a process in place?
- Policies and procedures
 - Are there strong policies, which are updated at least annually?
- Performance monitor
 - How is performance measured?
- Staff vaccination rate
- Adherence to sick-leave policies
 - Presenteeism
 - Adherence to masking, hand hygiene

IPC Practice Failure Tab

IPC PRACTICE FAILURES	PROBABILITY OF OCCURRENCE (How likely is this to occur?)				IMPACT ON RESIDENT/STAFF SAFETY (Will this failure directly impact safety?)				CAPACITY TO DETECT (Are processes in place to identify failures?)			READINESS TO PREVENT (Are policies, procedures, and resources in place?)			RISK LEVEL (Scores ≥ 8 are considered high)
	High 3	Med. 2	Low 1	None 0	High 3	Med. 2	Low 1	None 0	Poor 3	Fair 2	Good 1	Poor 3	Fair 2	Good 1	
Care activity															
Lack of accessible alcohol-based hand rub															
Antibiotic Stewardship															
Inappropriate selection and use of PPE															
Inadequate staff adherence to hand hygiene															
Inadequate staff adherence to glove and gown use when resident in Contact Precautions															
Inadequate staff adherence to facemask use when resident in Droplet Precautions															
Other (specify):															
Other (specify):															
Occupational health															
Low influenza immunization rates among staff															
Lack of notification of employee illness or working sick															
Low compliance with annual tuberculosis (TB) screening among staff															
Other (specify):															

IPC Practice Failure Tab

- Probability of occurrence
 - Frequency the practice is performed based on staff activities
 - Adherence to proper procedure
- Impact on resident/staff safety
 - What harm to residents, staff, and visitors can occur from the practice failure?
- Capacity to detect
 - Results of monitoring practices
- Readiness to prevent
 - Strong policies/procedures
 - Access to necessary supplies
 - Training and monitoring programs

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Central line-associated bloodstream infection (CLABSI)			1		3					2					1	8
Tracheostomy-associated respiratory infection				0								0	3			3
Percutaneous-gastrostomy insertion site infection			1			2					1				1	5
Wound infection Other (specify):	3						1				1				1	6
Resident-related																
Symptomatic urinary tract infection (SUTI)	3						1					0			1	4
Pneumonia		2				2								2		8
Cellulitis/soft tissue	3						1				1				1	6
Clostridioides difficile infection			1			2									2	7
Tuberculosis* Other (specify):			1			2				3					2	8
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Date Prepared:																
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Develop the Plan

- Interdisciplinary team compiles a list of high-scoring risks
- Develop plan for risk reduction
- Share results with leadership and frontline staff

Resources & Educational Campaigns related to the Annual Risk Assessment

- Quality Insights
 - <https://www.qualityinsights.org/qin/resources>
- Centers for Disease Control and Prevention (CDC) Risk Assessment Template
 - <https://www.cdc.gov/longtermcare/excel/IPC-RiskAssessment.xlsx>
- Pennsylvania Department of Health (DOH) Infection Control Plan Toolkit
 - <https://www.health.pa.gov/topics/Documents/Programs/HAIP-AS/PA%20DOH%20IC%20Plan%20Toolkit.pdf>
- Society for Healthcare Epidemiology of America (SHEA)/Association for Professionals in Infection Control and Epidemiology (APIC) Guideline: Infection Prevention and Control in the Long-Term Care Facility
 - https://oeps.wv.gov/ic/Documents/hcp/SHEA_IC_LTCF_Guidance.pdf

Questions?

References

- Holmes, K, McCarthy, J, Steinfeld, S (2021). Infection Prevention and Control Programs. APIC Text Online. Retrieved from <https://text.apic.org/toc/overview-of-infection-prevention-programs/infection-prevention-and-control-programs>
- Flutem, C (2020) Risk Factors Facilitating Transmission of Infectious Agents. APIC Text Online. Retrieved from https://text.apic.org/toc/microbiology-and-risk-factors-for-transmission/risk-factors-facilitating-transmission-of-infectious-agents#book_section_504
- Soule, B. M., Memish, Z. A., & Malani, P. N. (2012). *Best practices in infection prevention and control: An international perspective*. Joint Commission International.
- CDC (2019) Nursing Home Infection Prevention Training Course. <https://www.cdc.gov/longtermcare/training.html>
https://www.train.org/cdctrain/training_plan/3814
- Infection Control Plan Toolkit: Creating And Maintaining An Effective Road Map To Your Facility's Infection Prevention Program. Retrieved from: <https://www.health.pa.gov/topics/Documents/Programs/HAIP-AS/PA%20DOH%20IC%20Plan%20Toolkit.pdf>

Thank You for Joining Us!

Contact:

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