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Infection Prevention Plan FY2023

I. Description

Outlines the annual infection prevention priorities of Infection Prevention and UNC Hospitals.

II. Rationale

An organized, systematic plan based upon the annual infection control risk assessment that provides the foundation for an effective infection prevention program. This plan is the annual supplement to the Infection Prevention policy: [Infection Prevention Program](#).

III. Policy

A. Goals

1. Overall

- Reduce risk of healthcare-associated infections for all patients, staff, and visitors by limiting unprotected exposures to pathogens, transmission of infection associated with procedures, and transmission of infections associated with the use of medical equipment, devices, and supplies.

2. Targeted

- a. Healthcare-associated infection reduction – 5% reduction of all CLABSI hospital-wide, excluding those defined as mucosal barrier injuries (MBI).
 - **FINAL FY23 Outcome: 0.85% reduction in CLABSI**
- b. Improving compliance with hand hygiene guidelines through the Clean In,

Clean Out hand hygiene compliance program.

- i. Units and departments consistently (>90%) achieve monthly designated thresholds for hand hygiene observations.

- ***FINAL FY23 Outcome: 92.2% of designated units achieved threshold***

- ii. Continue improving our culture of feedback.

- Improve overall feedback among staff by achieving >75 percent across all locations.

- ***FINAL FY23 Outcome: 63.3% overall feedback across all locations***

B. Risk Assessment

(see Attachment 1: Annual Unit - Based Risk Assessment)

(see Attachment 2: UNC Hospitals Risk Assessment)

1. Patient Populations at Increased Risk of Infection

- a. All intensive care unit patients
- b. Solid organ transplant patients
- c. Burn patients
- d. Hematopoietic Stem Cell Transplant (HSCT) patients
- e. Immunosuppressed patients (e.g., absolute neutrophil count [ANC] <1000, agranulocytosis)

2. Procedures/Devices that Increase Infection Risk

- a. Central venous catheters
- b. Indwelling urinary catheters
- c. Tubes, drains, other devices inserted percutaneously.
- d. Intubation and prolonged ventilator support
- e. Surgical procedures
- f. ECMO/VAD

3. Epidemiologically Important Pathogens

- a. Legionella
- b. Mold (e.g., Aspergillus, Rhizopus, Mucor)

- c. MRSA
 - d. VRE
 - e. *C. difficile*
 - f. MDR Gram negative bacteria
 - g. Carbapenem-resistant *Enterobacteriaceae*
 - h. *Candida auris*
4. Highly Communicable Diseases
- a. Novel Influenza virus
 - b. SARS-CoV-2
 - c. Viral hemorrhagic fevers (e.g., Lassa fever, Ebola viral disease)
 - d. Measles

C. General Strategies to Reduce Infection Risk

1. Identify risk for acquiring and transmitting infections based on geographic location, community and population served.
 - a. Receive public health alerts on community illnesses and trends from the NC Public Health Department.
 - b. Public Health Epidemiologist at UNC Hospitals to act as liaison between the UNC Hospitals and the public health department.
 - c. Attend biannual Public Health Institutional Task (PHIT) Force meetings with Public Health Department leadership and other facilities in our area.
2. Identify and control outbreaks.
 - a. Review of microbiology, immunology, and molecular microbiology reports
 - b. Prospective and syndromic surveillance
 - c. Pulsed field gel electrophoresis of outbreak pathogens
 - d. Epidemiologic assessment as indicated (e.g., timeline, epidemic curve, case-control study)
 - e. Institution of prevention and control measures as indicated (e.g., isolation, cohorting of patients and staff, improved hand hygiene, active surveillance cultures, assessment of environmental cleaning, and enhanced environmental cleaning)
 - f. Exposure follow-up (in conjunction with Occupational Health Services [OHS])

3. Perform surveillance for healthcare-associated infections.
 - a. Follow CDC National Healthcare Safety Network (NHSN) definitions.
 - b. Prospective and targeted retrospective
 - c. Comprehensive: inpatient-related and outpatient-detected
 - d. Calculation/distribution of monthly infection rates and line listing of infected patients for each inpatient unit/service line
 - e. Analysis of infection data to examine healthcare equity issues.
 - f. Monthly and as needed analysis of potential for cross-transmission.
 - g. Targeted surveillance for home health/hospice infections
 - h. Monitor incidence of healthcare-associated device-related or procedure-related infections
 - i. Central Line-Associated Bloodstream Infections (CLABSI)
 - ii. Ventilator-Associated Events (VAE)
 - iii. Surgical Site Infections (SSI)
 - iv. Catheter-Associated Urinary Tract Infections (CAUTI)
4. Conduct routine monitoring.
 - a. Biological indicators for tabletop sterilizers and vaporized hydrogen peroxide systems
 - b. Endoscopes used for Endoscopic Retrograde Cholangiopancreatography (ERCP)
 - c. Dental water lines
 - d. Water baths in Transfusion Services
5. Improve Hand Hygiene Compliance
 - a. Support compliance monitoring through Clean In, Clean Out program and provide feedback to staff.
 - b. Routinely evaluate the availability and acceptability of hand hygiene products
 - c. Provide just-in-time peer coaching.
 - d. Provide frequent and tailored education on when and how to perform hand hygiene along with frequent visible reminders.
 - e. Enlist organizational leaders to serve as role models.

- f. Ensure commitment of leadership to achieve and sustain compliance of \geq 90%. Managers must hold everyone accountable for proper hand hygiene.
 - g. Continue to support efforts to engage patient and families in hand hygiene improvements activities.
 - h. Continue to promote engagement in Clean In, Clean Out across all areas.
6. Support Infection Control Liaison Program
- a. Unit-based staff, outpatient care services clinical staff, and ancillary care staff (i.e., Environmental Services, Nutrition and Food Services, Patient Transport) with focused infection control training provided by Infection Prevention.
 - b. Responsible for assessing their area's compliance with infection control policies/procedures and conducting performance improvement activities related to infection prevention (e.g., reducing device-associated infections, monitoring, and improving hand hygiene compliance)
 - c. Serves as the contact person to disseminate infection control information, updates, and answer staff questions.
7. Ensure compliance with Infection Prevention related Joint Commission National Patient Safety Goals
- Comply with either the current Centers for Disease Control and Prevention (CDC) hand hygiene guidelines and/or the current World Health Organization (WHO) hand hygiene guidelines.
8. Prevent HAIs due to multi-drug resistant organisms (MDROs)
- a. Annual risk assessment for MDROs
 - b. Ensure infection control policies support prevention strategies.
9. Assess compliance with evidence-based practices for prevention of central line-associated bloodstream infections.
- a. Compliance with Central Line Insertions, Access, and Maintenance Bundle
 - b. Standardized insertion training and checklist for providers
 - c. Chlorhexidine treatments in intensive care units, MPCU, ISCU, CTSU, and dedicated oncology units
 - d. Daily assessment for central line need
 - e. Provide Central Line-Associated Bloodstream Infection rate data and prevention process measures to key stakeholders, including leaders, licensed independent practitioners, nursing staff, and other clinicians.

- f. Support peer audits on Central Line Maintenance compliance and disseminate process measures on compliance to unit leadership monthly.
 - g. Support of dedicated Central Venous Access Device (CVAD) Liaison Team to assist with bedside insertions as needed and serve as a resource for unit staff whose patients have CVAD issues.
10. Assess compliance with evidence-based practices for prevention of surgical site infections.
- a. Ensure patient education provided in Pre-op visit. Use LMS for staff education.
 - b. Promote standardized, evidence-based practices for patient skin preparation prior to surgery.
 - c. Ensure Peri-Operative Services and Anesthesia infection control policies support prevention strategies.
 - d. Trend surgical procedure specific infection rates and unit rates and provide feedback to key stakeholders.
11. Implement evidence-based strategies for prevention of catheter-associated urinary tract infections.
- a. Staff education regarding aseptic insertion of catheter
 - b. Insertion order must include indication for catheter.
 - c. Daily assessment for urinary catheter needs.
 - d. Appropriate maintenance of indwelling urinary catheters
 - e. Perform peer audits on Indwelling Urinary Catheter Maintenance compliance and disseminate process measures on compliance to unit leadership monthly.
12. Implement evidence-based strategies for prevention of *Clostridioides difficile* infections.
- a. Promote appropriate diagnostic testing for suspected *C. difficile* patients.
 - b. Use enteric precautions for patients with *C. difficile* infection for 30 days post treatment.
 - c. Continue efforts to improve antibiotic stewardship.
 - d. Continue to promote engagement in Clean In, Clean Out across all areas.
 - e. Use bleach for daily and terminal cleaning rooms of patients with *C. difficile* infection.

- f. Use of ultraviolet light technology for terminal cleaning of rooms of patients with *C. difficile* infection
13. Manage HAIs as Sentinel Events When Indicated
- a. Review all HAIs for indications of an unanticipated death or permanent loss of function.
 - b. Notify Risk Management of suspected sentinel event.
 - c. Participate in root cause analysis and follow up as needed.
14. Construction Rounds and Construction Risk Assessment Meetings
- a. Walk-about rounds with Plant Engineering every 2 weeks to active construction and renovation sites in UNC Hospital and on an as needed basis.
 - b. Attend bi-weekly and as needed construction meetings held by Plant Engineering and Contract Services
 - c. Review blueprints and risk assessments for all new construction and renovations in clinical areas
15. Infection Prevention Rounds
- a. Evaluate compliance with infection prevention policies/practices.
 - b. Written recommendations to manager with their follow-up documented.
16. Policy Review and Revision
17. Committee Participation: Refer to the Infection Prevention policy: [Infection Prevention Program](#) for committee information.
18. Periodic Comprehensive TB Risk Assessment
19. Consultation, Education/Training
- a. In-services, presentations, educational material to staff, visitors/families, attending physicians, residents, contract employees, students, and volunteers.
 - b. Computer-based training modules
 - c. Educational videos
 - d. Newsletter articles
 - e. Educational materials (e.g., booklets/brochures)
 - f. Quality Improvement support from Infection Prevention Quality Improvement Staff

- g. On-call availability 24/7 for Infection Prevention consultation
20. Additional Strategies to Reduce Infections for the Immunosuppressed Patient (e.g., absolute neutrophil count [ANC<1000], agranulocytosis)
- a. Ideally a private positive pressure room, HEPA filtration for HSCT patients
 - b. No live plants or fresh flowers
 - c. Immunosuppressed diet per physician order
 - d. Patient must wear tight-fitting surgical mask when outside room.
 - e. Child visitor restrictions during influenza and RSV season
21. Additional Strategies for Home Health and Hospice
- a. Trend analysis of device-related infections (urinary catheter-associated UTIs and central line-associated bloodstream infections)
 - b. Promote immunizations to prevent respiratory infections: influenza and pneumococcal pneumonia vaccines (as recommended by ACIP)
22. Additional Strategies for Outpatient Care Services
- Since many patient encounters with the healthcare system now take place in outpatient settings, UNC Hospitals will maintain infection prevention programs in Outpatient Care Services, and this will include training and monitoring of practices on:
 - i. the basic principles of disease transmission and the methods to prevent transmission.
 - ii. safe injection practices and proper use of single use and single patient devices/medications
 - iii. principles of asepsis and hand hygiene
 - iv. OSHA Bloodborne Pathogen Standard
 - v. the principles of disinfection and sterilization
 - vi. TB and respiratory protection per OSHA

D. Specific Strategies to Address Infection Risks

- Based on the Facility Level and Unit-Specific Risk Assessments, the following strategies will be employed in FY22 for elements with scores of ≥ 5 :
 - a. Viral Hemorrhagic Fever
 - i. Coordinate High Consequence Pathogen Preparedness

Committee

- ii. Refine High Consequence Pathogen Preparedness plans and exercise development.
- b. COVID-19 Preparedness and Response
 - i. Continued monitoring of PPE supplies.
 - ii. Support HCP vaccination efforts
 - iii. Continued monitoring and reporting of COVID cases at UNC Hospitals
 - iv. Educational consultations for UNC Hospitals on COVID related issues and policies
 - v. Support UNC Hospitals leadership in policy and decision making related to COVID-19 throughout the pandemic and return to normal operations of UNC Hospitals
 - vi. Support mask compliance efforts
 - vii. For highest volume areas receiving patients from the community (i.e., ED), develop site-specific plans.
- c. CLABSI prevention
 - i. Leadership of CLABSI executive committee, CLABSI Prevention Task Force, and SHINE workgroup
 - ii. Identification and partnership on strategies in focus areas
 - iii. Creation and maintenance of tools for CLABSI prevention (e.g., peer audits, CHG toolkit)
 - iv. Creation and maintenance of lead (process) measures for CLABSI prevention work
- d. Water intrusion
 - i. Multi-disciplinary workgroup will be formed.
 - ii. Policy development
 - iii. Continue to expand products to prevent wipes from being flushed.
- e. Endoscope inadequate HLD
 - i. Support routine microbiologic testing.
 - ii. Support tracking of usage and routine maintenance of endoscopes

- iii. Provide staff education for HLD activities.
- iv. Perform Infection Prevention rounds in areas conducting HLD.
- v. Participate in organization-wide HLD sterilization workgroup
- f. Storage of Patient Care Items within 3 feet of a sink
 - i. Infection prevention rounds to assess proper storage of supplies.
 - ii. Consult with individual units to trouble shoot storage concerns.
 - iii. Ensure no storage of patient care items within 3 feet of a sink if no splash-guard present.
 - iv. Consult on design of patient care areas to ensure proper engineering controls and storage space for safe storage of patient care supplies.
- g. Unit-level strategies
 - i. Inpatient units with risk assessment score >5
 - Rounding at least monthly to promote compliance with evidence-based practices for infection prevention relevant to the unit's surveillance data.

E. Evaluation of Plan Effectiveness

See Attachment 3 - Hospital Quality Assessment Performance Improvement Plan

1. Statistical analysis of infections
2. Trend analysis of infection rates
3. Device-associated rates to include home health and hospice.
4. Monthly infection reports to nurse managers, clinical directors, infection control liaisons.
5. Monthly infection reports to Infection Control Committee
6. Infection Prevention rounds report and annual compliance assessment
7. Support Occupational Health Services to monitor compliance with required and recommended immunizations.
8. Annual assessment of communicable disease exposures with trend analysis
9. Annual risk assessment for MDROs with trend analysis
10. Periodic assessment of process measures with staff feedback

- a. Evidence based processes to prevent surgical site infections.
- b. Evidence based processes to prevent central line-associated bloodstream infections.
- c. Evidence based processes to prevent indwelling catheter associated urinary tract infections.
- d. Evidence based processes to prevent *Clostridioides difficile* infections
- e. Evidence based processes to prevent ventilator associated pneumonia
- f. Hand hygiene compliance
- g. Isolation precautions compliance

Attachments

[01: Annual Unit-Based Infection Risk Assessment FY23](#)

[02: UNC Facility Risk Assessment FY23](#)

[03: Hospital Quality Assessment Performance Improvement \(QAPI\) Plan FY23](#)

Approval Signatures

Step Description	Approver	Date
Policy Stat Administrator	Kimberly Novak-Jones: Nurse Educator	10/2023
	Thomas Ivester: CMO/VP Medical Affairs	10/2023
	Emily Vavalle: Dir Epidemiology	10/2023
	Sherie Goldbach: Project Coordinator	10/2023

Applicability

UNC Medical Center