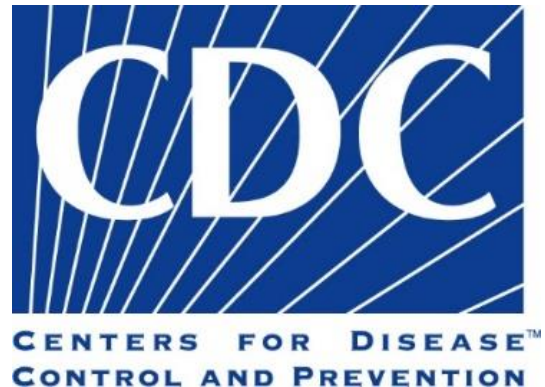


# Environmental Cleaning Collaborative

Best Practices and Implementation Toolkit



# Outline

- Overview (review) of environmental cleaning
- Overview of new environmental cleaning resources
  - CDC and ICAN collaborative
- Questions and Discussion
  - Gaps, challenges, experiences

# Overview of environmental cleaning

# Definitions

## ■ Environmental cleaning

- cleaning and disinfection (when indicated) of environmental surfaces and surfaces of noncritical patient care equipment
- one of the Standard Precautions for IPC
  - Should be practiced universally in health care



## ■ Environmental surfaces

- the surfaces of every *fixed* item in the patient care environment
  - *Examples:* tables, chairs, floors, walls, bedrails, light switches, privacy curtains, etc
- the surfaces of noncritical patient care equipment
  - Non-critical equipment: come in contact with intact skin only (i.e., *not* mucous membranes, *not* sterile spaces)
  - *Examples:* IV poles, stethoscopes, surfaces of incubators

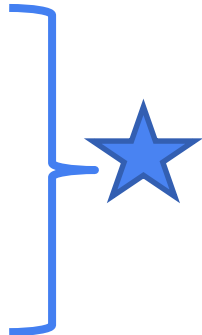
# Why is environmental cleaning important in HCFs?

- **Maintain a hygienic environment**

- People-centered care
- Staff morale and performance
- Model for the community

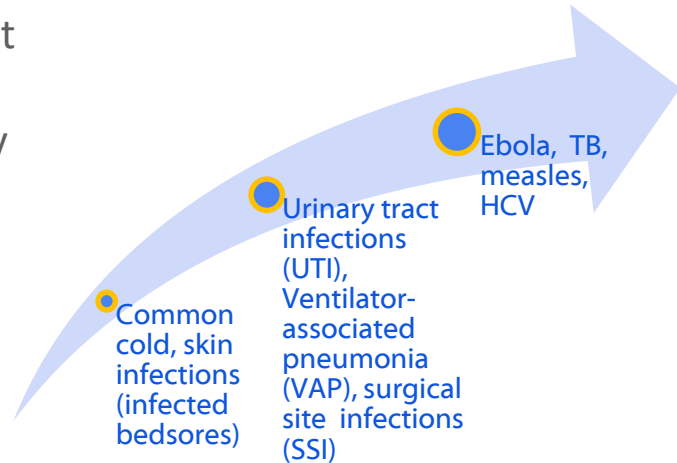
- **Prevent infections**

- How exactly can the environment contribute to transmission of pathogens?
- What are the main types of infections that can result?
- What health care facilities are most at risk for these types of infections?



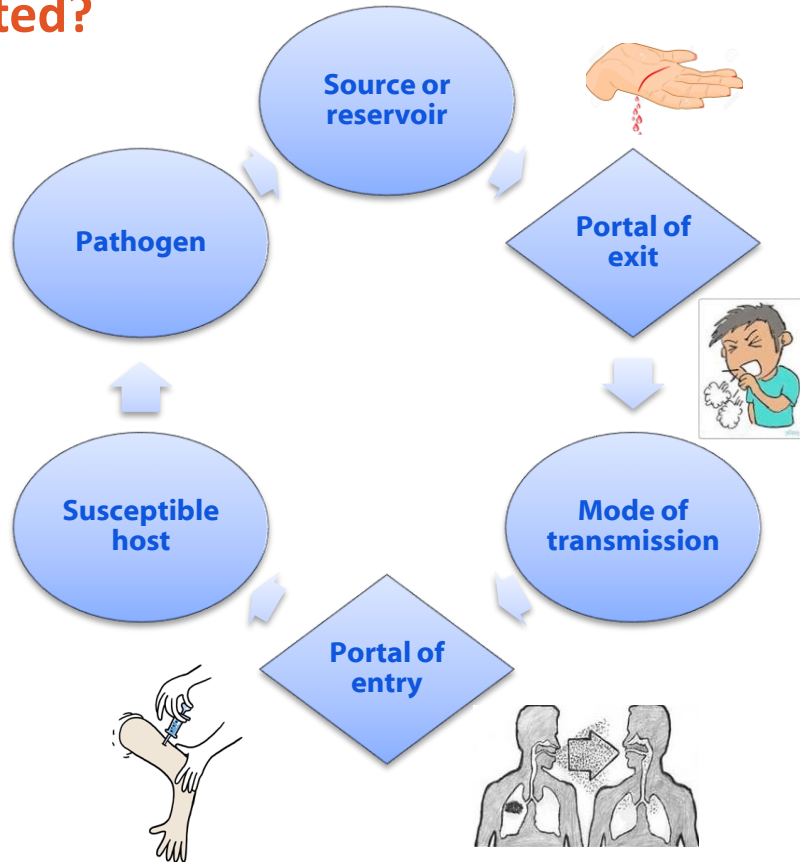
# What are healthcare associated infections (HAI)?

- Any infection that was not present at the time that the patient was admitted to the healthcare facility (HCF)
- Infections acquired by patients in the HCF but appearing after discharge
- Occupational infections among staff

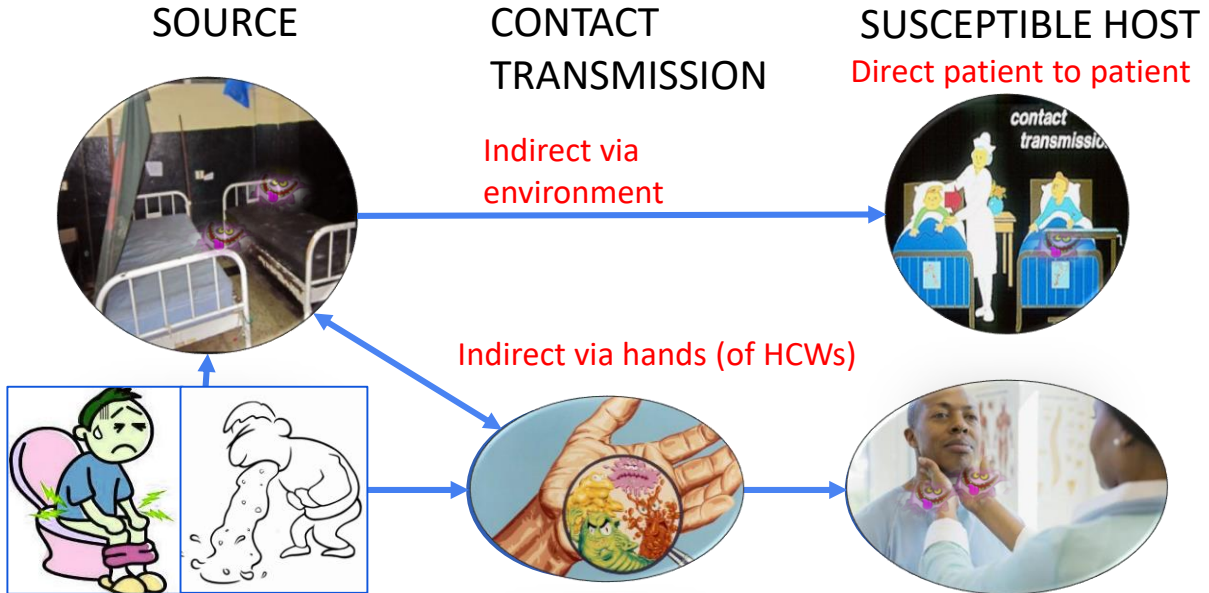


# How are HAIs transmitted?

- Chain of Infection
- For infections to spread, all the steps must be connected

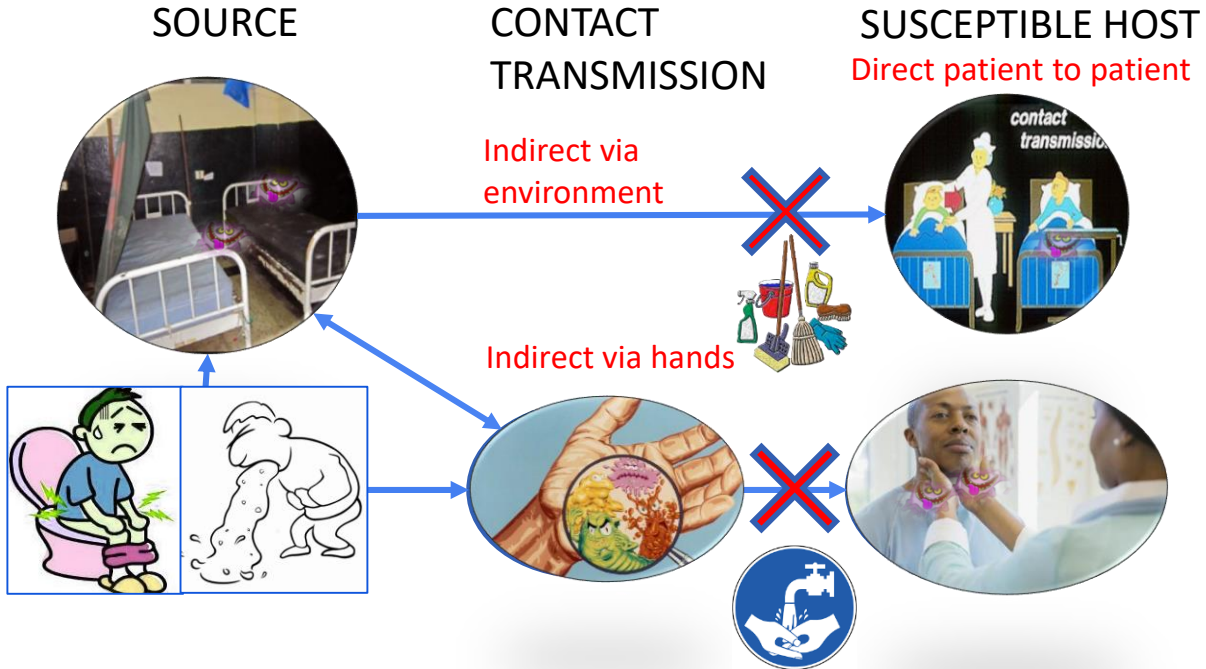


# How are HAIs transmitted via the environment?





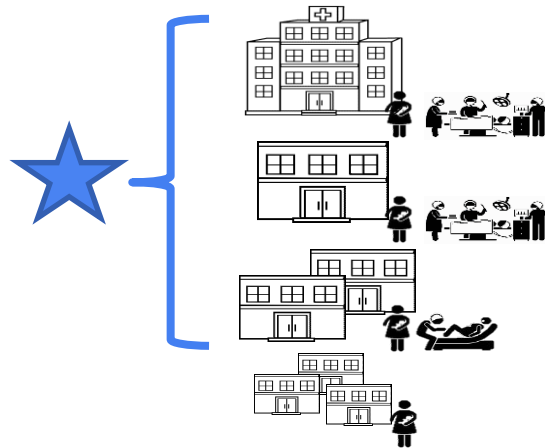
# How can we prevent these HAIs?



# What are the pathogens that can be transmitted via the environment?

- Germs that are transmitted by contact
  - Not airborne or droplet (e.g., TB, measles)
- They can cause a variety of infections:
  - Enteric infections (*via mouth*)
  - Urinary tract infections (UTI), Ventilator-associated pneumonia (VAP), surgical site infections (SSI) (*via devices*)

Organism	Survival time
Methicillin-resistant <i>Staphylococcus aureus</i>	7 days→7 mo
<i>Acinetobacter</i>	3 days→5 mo
<i>Clostridium difficile</i>	>5 mo
Vancomycin-resistant <i>Enterococcus</i>	5 days→4 mo
<i>Escherichia coli</i>	2 h–16 mo
<i>Klebsiella</i>	2 h→30 mo
Norovirus	8 h–7 days



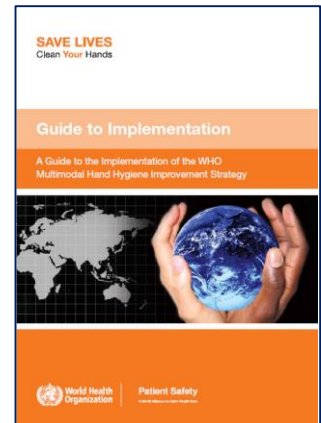
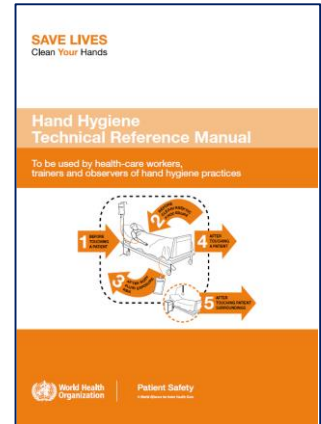
# Summary

- The environment can be a source/reservoir for germs that are transmitted by touch (contact)
  - The environment can contaminate the hands of health care workers
- The infections that can result can occur through the mouth (enteric infections), but most occur when the germs enter the body via devices
  - Risk from contaminated environment is highest where invasive procedures are conducted and patients are vulnerable
- Environmental cleaning is important for maintaining a hygienic environment in all healthcare settings, but it is most important for preventing infections that occur during procedures
  - Examples: vaginal delivery, caesarean section, other surgery, intubation in ICU

# Overview of new environmental cleaning resources

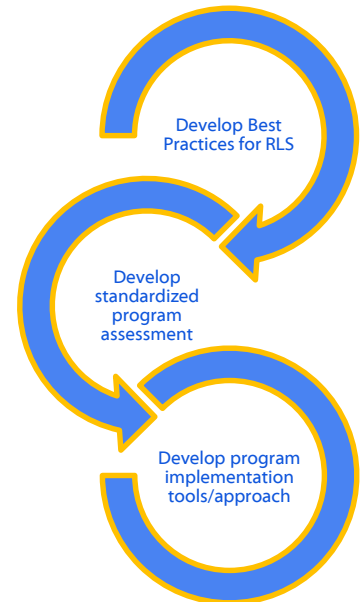
# Concept Development

- Conducted informal landscape and gap analysis
  - Training materials being piloted for general cleaning activities (**TEACH CLEAN / Soapbox Collaborative**)
  - Lack of comprehensive, standardized guidance
  - Lack of implementation tools for cleaning programs in resource-limited settings (RLS)
- Partnership established with ICAN and CDC
  - Aim to develop needs-based, practical materials to improve program implementation



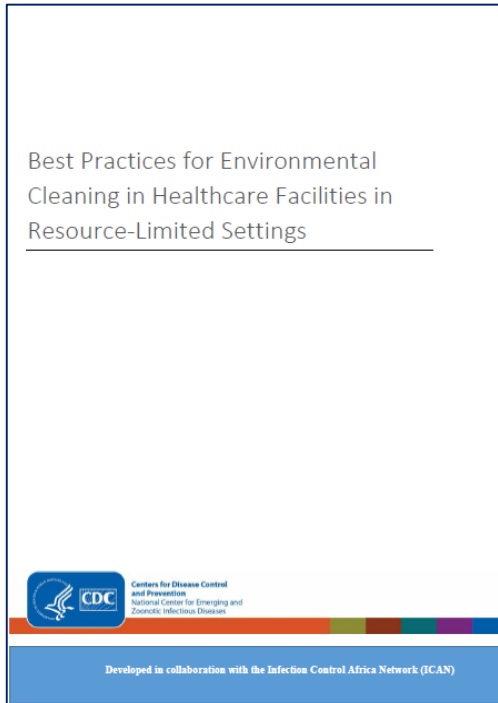
## CDC and ICAN Collaborative

- Overall goal: develop practical resources to improve the effectiveness of environmental cleaning and environmental cleaning programs at healthcare facilities in ICAN countries and other RLS
- Objectives:
  - Summarize the current best practices for environmental cleaning that are feasible and relevant in RLS
  - Develop a structured approach for cleaning program assessment and improvement
  - Develop and compile practical tools for implementing effective cleaning programs

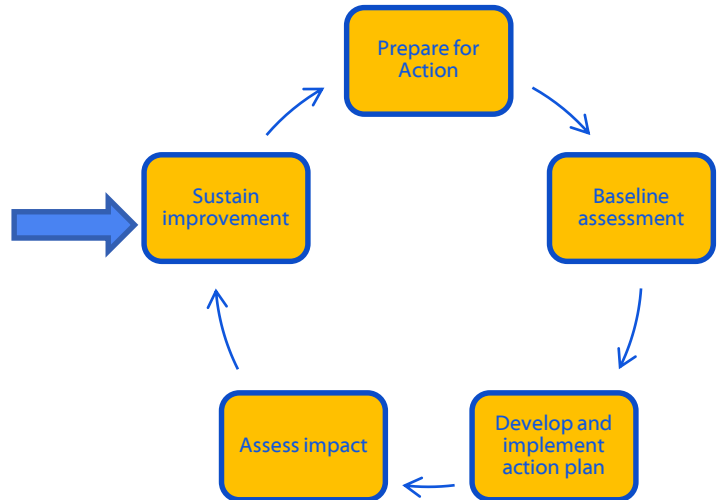


# IICP and ICAN Collaborative

- Best Practices Manual



- Program Implementation Toolkit



# Best Practices for Environmental Cleaning

- Based on high-income setting guidance documents
  - US (HICPAC), Canada (Ontario, British Columbia), Australia, UK (England and Scotland)
- Expert committee developed the content
  - International technical experts
  - Practitioners and experts from resource-limited settings
- Tailored to include aspects most actionable and relevant for resource-limited settings
  - Disinfectant types
  - Mention of water, wastewater services (i.e., WASH)
  - More focus on key high-risk areas
    - HAI rates (e.g., OR)



# Best Practices for Environmental Cleaning

- **Purpose:**
  - Serve as a standard reference and resource to supplement existing guidelines
  - Inform the development of guidelines where needed
  - Elevate the awareness and attention to this topic as a core infection prevention and control intervention
  
- **Scope:**
  - Environmental cleaning in *health care areas* (i.e., patient care areas)
    - Excludes administrative areas, service areas outside the facility (e.g., waste storage areas)
  - *All facilities*: out- and inpatient setting, services at all tiers of healthcare from primary to tertiary care
    - Both in-house and externally managed (contracted cleaning services)
    - Most relevant for acute care facilities

# Best Practices for Environmental Cleaning

## ■ Target audience:

- **Primary:** full- or part-time cleaning managers and/or cleaning supervisors or other clinical staff appointed to assist with environmental cleaning program development and implementation (e.g., IPC committee member)
- **Secondary:** other staff as implicated, such as supervisors of wards or departments, midwives, nursing staff, administrators, procurement staff, facilities management and any others responsible for WASH and/or IPC services at the healthcare facility.

## ■ Layout:

- Best practices for cleaning programs
  - *Standardized program elements*
- Best practices for cleaning supplies and equipment (e.g., selection, use)
- Best practices for cleaning procedures (e.g., method, frequency)
  - *General and specialized areas (e.g., OR, ICU)*

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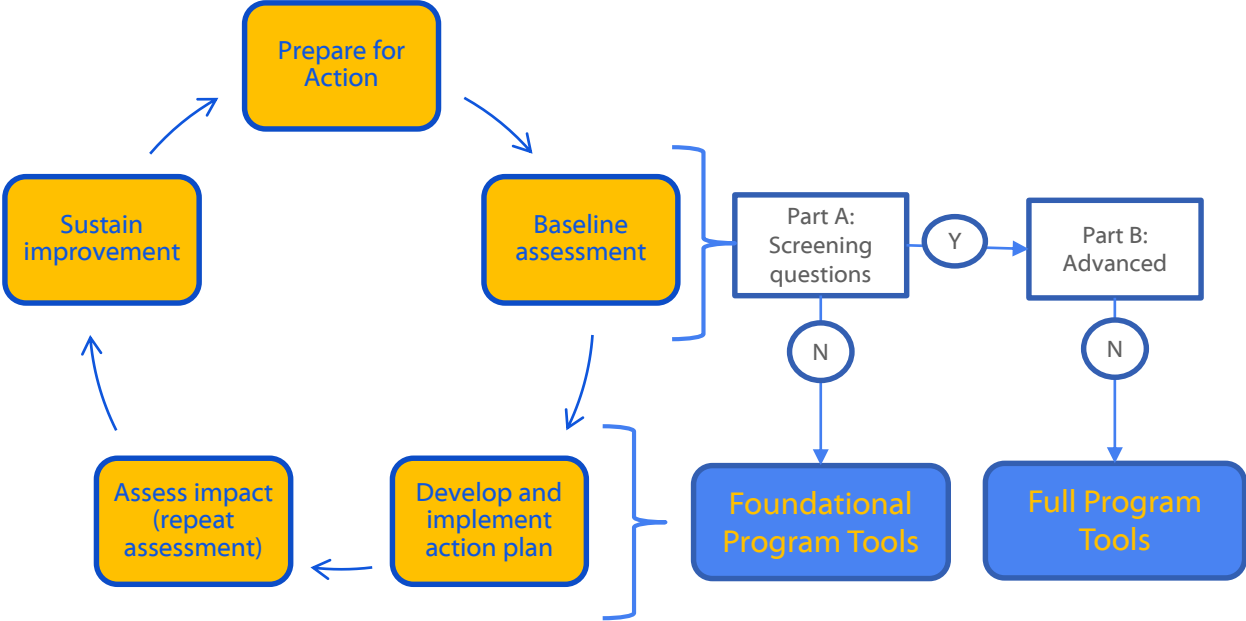
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## Timeline for Best Practices

- Version 1 published by late September / early October 2019
  - As downloadable PDF
- Available on both CDC and ICAN websites:
  - <http://www.icanetwork.co.za/icanguideline2019/>
- Summary as html late 2019
  - CDC website
- Review/feedback collected
  - Revisions as needed 2020

# Implementation Toolkit



# Foundational Cleaning Program

1. Organizational elements
  - Dedicated budget for cleaning activities (staffing, supplies)
  - Focal point with dedicated time (%) for overseeing cleaning activities
2. Policy and procedural elements
  - Facility-level cleaning policy
  - **Basic SOPs, at least in high-risk/priority wards**
3. Staffing elements
  - Full-time cleaning staff, at least in high-risk/priority wards
  - **Training for cleaning staff**
4. Supporting infrastructure and supply elements
  - **Basic access to water and wastewater systems**
  - Availability of basic cleaning products, supplies and equipment
5. Monitor, audit and feedback elements
  - Basic monitoring, at least in high-risk/priority wards



# Full Cleaning Program (examples of indicators)

- Organizational elements
  - EC focal point/manager is integrated with IPC program/structure
  - Staffing organizational chart, reporting structure
- Policy and procedural elements
  - SOPs are developed for cleaning patient-care areas (specifying responsible staff, product, frequency and technique)
- Staffing elements
  - # of cleaning staff to allow adherence to policy
  - Structured training program for EC staff (at least annual)
- Supporting infrastructure and supply elements
  - Procurement system in place; storage, supply rooms (utility rooms/clean rooms)
- Monitoring, audit and feedback elements
  - Operational system for routine monitoring and feedback

# Implementation Toolkit (examples of tools)

- Foundational program tools:
  - Identifying a focal point and planning committee (ToR template)
  - Infrastructure/facility assessment tool
  - Staffing and supply needs calculator/tool
  - Policy development template + examples
  - Reference other resources (e.g., WASH FIT, TEACH CLEAN)
- Full program tools:
  - ToRs of multi-disciplinary team, organizational chart template
  - Templates for cleaning SOPs
  - Checklists, job aids
  - Training program considerations and recommended topics, frequency
  - Monitoring tools (methods, checklists, feedback mechanisms)
  - Reference other resources (e.g., CDC Monitoring Toolkit)

# Timeline for Toolkit

- Pilot in Jan – June 2020
- Revisions summer 2020
- Version 1 published fall 2020
  - Additional piloting welcome



# Questions and Discussion

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

