

Infection Control Assessment Tool: User Manual

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About SPS

The Strengthening Pharmaceutical Systems (SPS) Program strives to build capacity within developing countries to effectively manage all aspects of pharmaceutical systems and services. SPS focuses on improving governance in the pharmaceutical sector, strengthening pharmaceutical management systems and financing mechanisms, containing antimicrobial resistance, and enhancing access to and appropriate use of medicines.

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ACRONYMS

CDC	U.S. Centers for Disease Control and Prevention
HAI	Healthcare-associated infections
HIV	human immunodeficiency virus
ICAT	Infection Control Assessment Tool
ICU	intensive care unit
IV	intravenous
MSH	Management Sciences for Health
RPM Plus	Rational Pharmaceutical Management Plus
SPS	Strengthening Pharmaceutical Systems
TB	tuberculosis
USAID	U.S. Agency for International Development
WHO	World Health Organization

BACKGROUND

Infection Control in Hospitals: A Worldwide Problem

Healthcare-associated infections (HAIs) are a significant cause of morbidity and mortality in every health care system, especially in developing countries. Common HAIs include surgical site infections, bloodstream infections, pneumonia, and tuberculosis (TB). Outbreaks of infections, particularly in health care facilities (facilities) with limited resources, can affect numerous health care providers and consumers. Controlling these outbreaks unnecessarily consumes scarce resources. Furthermore, worldwide increases in the resistance of infectious organisms to common antimicrobials multiply the difficulties and expense of treating HAIs. However, HAIs can be prevented and controlled among staff and patients through careful and systematic attention to infection prevention and control guidelines and procedures.

Many developing nations spend more than 50 percent of their health care budgets in facilities, including substantial expenditures for advanced diagnosis and treatment equipment and for care of high-risk patients such as newborns, surgical patients, or patients in intensive care units. Failure to prevent or control HAIs can limit the benefits of these expenditures and further stress health care facility budgets. Therefore, sound facility infection control programs are essential from both an economic and a clinical perspective to reduce the risk of serious, preventable, costly infections for patients and health care workers.

Implementing infection prevention and control programs in resource-limited settings is frequently hampered by financial constraints, limited laboratory capacity, and inadequate staff training in areas such as hand hygiene, sterilization procedures, isolation precautions, occupational health programs, hospital epidemiology, and quality improvement. Therefore, a systematic approach to detect deficiencies in infection prevention and control practices and to implement effective, affordable solutions is urgently needed. The Infection Control Assessment Tool (ICAT) provides an approach that can be used by infection control teams to identify and solve problems economically and practically in low-resource health care facilities.

Infection Control Assessment Tool: A Systematic Approach to Improving Health Care Facility Infection Control Programs

The ICAT is designed to help identify, control, and prevent HAIs through an easily administered instrument that highlights areas of concern and suggests cost-efficient improvements within health care facilities. It may be applied across the facility as a whole or for specific clinical and administrative areas.

Many international organizations have developed standards for preventing the transmission of infections among patients and health workers. For example, the World Health Organization (WHO) has developed standards for infection control and injection safety in resource-poor hospitals,¹ and organizations such as EngenderHealth² and Jhpiego³ have created useful

¹ World Health Organization (WHO)/Regional Office for Africa (AFRO), Commonwealth Regional Health Community Secretariat (CRHCS), and East, Central and Southern African College of Nursing (ECSACON). 2001. *Manual of Infection Prevention and Control Policies and Guidelines*. Prepared by U. V. Reid. A copy of this manual is also available on the CD-ROM.

approaches for implementing infection control programs in health facilities in resource-limited settings.

The ICAT offers a simple and practical approach for assessing the adequacy of existing infection prevention and control practices and gives specific recommendations for improving practices and monitoring their ongoing effectiveness.

² EngenderHealth. 2004. Infection Prevention Online Course. <<http://www.engenderhealth.org/res/onc/index.html#start>> (accessed July 17, 2006). Copies of EngenderHealth materials are also available on the CD-ROM.

³ Tietjen, L., D. Bossemeyer, and N. McIntosh. 2003. *Infection Prevention: Guidelines for Healthcare Facilities with Limited Resources*. Baltimore, MD: Jhpigo. <http://www.reproline.jhu.edu/english/4morerh/4ip/IP_manual/ipmanual.htm> (accessed July 28, 2006). A copy of this manual is also available on the CD-ROM.

Overview of the Infection Control Assessment Tool

This manual describes how to use the assessment tool. Please read this manual *before* reviewing the modules of the tool.

Assessment Modules

The ICAT consists of 22 modules (standardized units) that are to be used to conduct a comprehensive assessment of infection prevention and control activities in facilities. Each module focuses on a topic or specific service area, such as labor and delivery, intensive care, or general medical or surgical wards. Modules that target topics that are not relevant (for example, if a hospital has no microbiology laboratory) can be omitted.

The ICAT is designed to be adapted for use by large and small health care facilities, regardless of bed size, budget, or type (referral, regional, district, or community). It may be used to address issues at all levels—

- To strengthen infection prevention and control activities at a facility with no formal infection control program
- To identify weaknesses in a facility's existing infection prevention and control program
- To target a specific infection prevention and control issue needing improvement

A brief description of the topics covered in each module is included in the Overview of Modules section. The number of modules completed in an assessment will depend on the identified needs of an individual facility or complex of facilities.

Assessment Module Structure

Each assessment module consists of groups of questions that can be answered by yes/no, multiple choice, or checklist responses. Modules will be completed either for the facility as a whole or from the perspective of a specific ward or department. If a facility has multiple departments or areas of a similar type (such as, medical wards, surgical areas, intensive care units [ICUs]) that follow similar practices and standards, the relevant module is completed only once. If departments or clinical areas differ in patient populations or standard practices, the relevant module is completed separately for each department or clinical area.

Each module is divided into sections that cover different aspects of the general topic (such as procedures for surgical scrubs within the Surgical Area Practices module). Each section is scored by totaling the number of points associated with the responses checked for questions in that section. Each response is assigned a point value (ranging from 0 to 3).

The overall quality of the practices measured in each section is summarized using three categories—

- A—recommended practices are followed consistently and thoroughly (more than 75% of possible points)
- B—recommended practices usually followed (50–75% of possible points)
- C—training and follow-up needed on recommended practices (less than 50% of possible points)

The Module Scoring Sheet section provides a detailed explanation on how to determine the points scoring.

Completing the assessment tool and totaling the points received is not intended as a test. Point values are intended to help users identify areas in which existing practices are satisfactory, or where opportunities exist for improvement. For example, if results from completing the Labor and Delivery module indicate that only 40 percent of points were awarded for the section on use of barrier equipment such as gloves, special shoes, or gowns, this score may be a signal that the issue needs special attention to control the spread of infection among mothers and babies. Financial or logistic constraints may limit what is possible, but part of the self-assessment and quality improvement approach involves looking at alternatives that may be practical and cost-effective in a given situation. Pilot tests indicate that low-cost solutions can frequently be found to address infection prevention and control problem areas. The annotations at the end of each module or the resource materials on the accompanying CD-ROM can help identify inexpensive and practical approaches.

Annotations and Recommended Practices

Following the questions in each module are annotations that explain “best practices” for the issues addressed. These annotations are generally based on recommendations from respected organizations such as WHO, CDC, EngenderHealth, and Jhpiego,⁴ as well as from recognized international experts in infection control. Where possible, recommendations are referenced to specific publications.

If a country or institution has its own policies, guidelines, or standards that address specific topic areas not covered in the ICAT, questions can be added to a module on such issues. Also, the annotations provide a way to compare local practices with international standards.

⁴ See, for example: WHO. <[http:// www.who.int/](http://www.who.int/)>; CDC (U.S. Centers for Disease Control and Prevention). <<http://www.cdc.gov/>>; EngenderHealth. <<http://www.engenderhealth.org/>>; Jhpiego. <<http://www.jhpiego.org/>>.

TYPES OF HEALTH FACILITY ASSESSMENTS

At the start, the team that is planning an assessment should have clear, well-stated objectives that have been established in consultation with facility leadership and are clearly understood within the facility. Three types of assessments can be performed using the ICAT, depending on the specific objectives to be achieved.

Comprehensive Infection Control Assessment

A comprehensive infection control assessment can be performed for accreditation or external evaluation. The ICAT can also be used when introducing a new infection control program. When conducting a comprehensive infection control assessment, all ICAT modules should be completed, including modules that apply to the facility as a whole and those that apply to each ward and service area (see Overview of Modules section). A comprehensive assessment should be led by a team identified by the infection control committee, working in cooperation with the hospital administrator or medical director.

Individual Clinical Unit or Service Area Assessment

Unit or service area assessments can be conducted when requested by the unit or service area manager or when there are insufficient resources to conduct a comprehensive assessment. The request can also originate from concerns raised by doctors or nurses in a ward or clinical service area such as labor and delivery or surgery.

Where resources are insufficient to carry out a full infection control assessment, the team may wish to begin by assessing practices (such as hand hygiene practices) in one or two wards or service areas. In such situations, only the assessment modules that apply to those specific services or facility areas would be included.

It is recommended that modules that apply to the entire facility are completed first to provide a baseline perspective on facility-wide policies. The unit manager in the given clinical unit or service area must lead this type of assessment with the support of facility management.

Additional modules can be completed later as appropriate, especially if completed modules point to other areas of concern. A multifaceted infection control program can be developed in a systematic way as issues are identified. For example, assessing and improving hand hygiene practices in a general ward might point to a need for similar standards in labor and delivery or surgical wards.

Problem-Focused Assessment

A problem-focused assessment is required to address a specific infection outbreak or area of concern. In such situations, a targeted set of modules would be completed. For example—

- If a high rate of surgical site infections has been identified by the microbiology laboratory, ward personnel, or pharmacy department, the modules chosen for an

assessment might include those that apply to surgical issues, including Surgical Area Practices, Surgical Antibiotic Use and Equipment Reprocessing, Hand Hygiene, General Ward (for each ward caring for surgical patients), ICU (if available), Intravenous (IV) Catheter, IV Fluids and Medications, Urinary Catheters, and the Sterilization and Disinfection modules.

- If a concern exists about the adequacy of instrument and equipment processing, particularly disinfection and sterilization procedures, all Sterilization and Disinfection modules should be completed by the central sterile supplies department responsible for this function.
- If facility management or clinical heads observe an increase in the number of cases of TB or pneumonia among patients or staff, the appropriate modules to complete might include Isolation and Standard Precautions, TB, General Ward, Waste Management, Hand Hygiene, Employee Health, and Sterilization and Disinfection.
- If a general concern exists about adherence to hand hygiene guidelines, particularly in facilities with scarce resources, the Hand Hygiene module should be completed for all patient care areas throughout the facility. The annotations to the Hand Hygiene module suggest low-cost alternatives to sinks or sources of clean water, such as preparation and use of antiseptics for ward or facility personnel. Depending on the findings, additional modules relevant to specific services, such as the Labor and Delivery or General Ward might also be completed.

CONDUCTING A HEALTH FACILITY ASSESSMENT: STEPS

The following sections provide an overview of the steps needed to introduce and prepare facility management, health care workers, and the assessment team for conducting an infection control assessment.

Identify the Need to Conduct an Assessment

The first step in conducting an assessment of infection control practices is to identify needs, which can originate from several sources—

- Colleagues from different facilities in a geographic area may identify areas of similar concern in infection control practices and join to address them.
- Personnel from a local health office or a medical training institution may decide to survey the state of infection control programs in a given area to assess current practices.
- National health authorities may decide to survey hospitals to determine whether national infection control standards have been implemented.
- Management or clinical staff in an individual facility may recognize that infection control requires improvement because of an overall high level of reported infections, the occurrence of an outbreak, an increasing number of antimicrobial-resistant infections, or a general decision to focus on improving quality.

Engage Facility Management

If the need to conduct an infection control assessment did not originate from facility management, the next step is to engage the management in the process. The key individuals (for example, clinical or administrative staff) who are leading the initiative should meet with facility leaders to explain the purpose of an infection control program, specifically, ICAT; gain approval; agree on the objectives for the assessment; and determine which modules will fit the objectives (see Overview of Modules section). An infection control team leader or facilitator (team leader) should be designated to represent facility interests both internally and externally, and be able serve as a representative for senior facility management.

An assessment can cover an entire hospital or individual service areas. The team leader and facility leaders should decide who best represents the areas that are to be included in the assessment and which modules will be used. The team leader and other assessment team members will need to receive authority to proceed with the assessment, collect data, and suggest and initiate changes (as feasible) in the facility.

Choose a Team Leader

The choice of a team leader to facilitate and guide the process is a key component of a successful assessment whether the motivation for the assessment has come from facility

management from within the facility or from outside. Identifying a team leader who is familiar with the facility is essential. This person should have a good working relationship with facility management and personnel as well as with Ministry of Health personnel and local health authorities, if appropriate. The facilitator will often be a clinical leader with a background or understanding of infection control issues, frequently someone from the Infection Control Committee or a medical director with strong local and regional ties.

If there is no identifiable leader on infection control issues within the facility to facilitate the assessment process, facility officials may decide to identify a university-affiliated expert or outside clinical expert for this role. In this case, it will be important to assign an internal person as co-facilitator to gain the trust and cooperation of facility staff.

Identify an Assessment Team

In consultation with senior facility management, the chairperson of the infection control committee should identify a multidisciplinary team to take part in the assessment process, ideally including a doctor, a senior registered nurse, and at least one other appropriate infection control partner, such as a quality improvement representative, pharmacist, or microbiologist.

The team leader should convene an initial meeting with the identified team to present an overview of the project and discuss viable approaches for improving infection control quality. Prior to the meeting, each team member should read the ICAT manual and review the contents of the assessment modules. At the meeting, the team can—

- Agree on assessment objectives
- Plan the assessment process
- Establish a schedule for meetings and targets during the process
- Assign individual assessment topics to team members
- Identify which facility staff (as identified in the assessment plan) will be the most appropriate to approach to complete interviews or observations for individual modules

Adapt the Assessment Tool to Local Guidelines

When national or institutional infection control guidelines are already in place, the ICAT modules should be compared to the local recommendations. If a local guideline addresses an issue not included in the ICAT, a question or block of questions can be added to the most appropriate module. Sometimes, local practices will differ from the ICAT recommendations, so the assessment team should discuss the discrepancies. A decision must be made whether to modify the assessment tool to be compatible with local standards or to try to adapt local practices to international standards.

Note:

It is recommended that hospitals put their infection control policies and recommendations in writing, and make the written guidelines readily available to staff. Posting guidelines on the walls in clinical and other areas is helpful. Personnel should be introduced to the guidelines in individualized sessions, and given the opportunity to ask questions, make observations about their experiences with hospital practices, and recommend changes.

Prepare Observation Checklists

For some aspects of the assessment, it is recommended that practices be directly observed over time in a clinical area, for example, hand-washing practices during the process of patient care. For direct observation, key questions in the assessment tool can be adapted to a short observation checklist. The assessment team should make a list of the procedures that can effectively be assessed by observation rather than by questioning and develop the checklist on a given topic. It is important to pilot-test the observation checklist to be sure that it captures the information as intended. The tool comes with seven illustrative checklists (Hand Hygiene Facilities and Supplies, Hand Hygiene Practices, Hand Washing Station Supplies, Correct Hand Washing, Sinks, Injection Administration, and Waste Disposal after Delivery).

If checklists are used, the team should identify facility personnel to participate in and assist with the observations. These individuals may be members of the assessment team, or they could be other staff working on the wards or clinical areas. Nurses are a valuable resource for this purpose.

Administer the Assessment

The assessment team next identifies the respondents who will be asked to complete given modules. Most modules can be completed in one hour or less.

Copies of each module should be distributed to the people who will complete them prior to the actual assessment interview. The assessment team member should take a spare copy in case the respondent is unable to locate the copy sent in advance. Schedule a convenient time for the interview and/or observations. During the assessment, the assessment team member and the respondent should both have a copy of the module so that they can easily follow the questions.

The assessment interview may be easier and more informative if the following points are observed—

- The assessment team member leads the respondent through the questions in the module, marking the answers as indicated in the instructions (such as “Mark one answer” or “Mark all that apply” or “Yes/No”).
- As the interview begins, reassure the respondent that the scores highlight areas that offer opportunities for improvement and are not designed to find fault.

- If a section of the module is not relevant because the health care facility does not offer specific services or follow certain practices, leave the section blank and explain that this result may indicate an area that could become the focus for future quality improvement activities.
- To make the interview flow smoothly, introduce each section of a module by saying, “Now we will move to questions about <topic>.”
- If the respondent asks why no point has been awarded for a particular response, the assessment team member can refer to the annotations associated with the module and explain why points are awarded to some answers and not for others. Again, the assessment team member should emphasize that the assessment is not a test, but a tool for identifying areas for improvement.
- If an observation process is included in the module, such as hand washing prior to surgery or handling of instruments, the interviewer and respondent should complete the observation process together and record on the checklist which items or practices are followed.

Determine and Review Scoring Results

When the interview is complete, the assessment team member calculates the total point values for each section of the module and enters them in the **Module Scoring Sheet**. When the scoring results have been determined, the interviewer reviews results immediately with the respondent. Once again, emphasize that low point totals are not failing scores on a test but rather indications of areas that may need improvement.

Note that some questions ask respondents to “Mark one answer” or “Mark all that apply.” These questions must be completed correctly to obtain accurate scores. If a section or question within a module section does not apply to the facility, skip those questions and deduct their points from the possible total.

Report and Act on Results

The assessment results should be discussed first within the assessment team and then in a face-to-face meeting with the facility management. The assessment should then be used to determine possible areas for improvement.

If the score for a section is very low or zero—and that service is offered in the facility—it generally signals the need for attention in that area. For example, if no points are awarded for supplies and sinks in the Hand Hygiene module, it is clear that there is an infection control issue to address. The annotations frequently suggest solutions and low-cost alternatives to achieve the purpose.

GLOSSARY

Antimicrobial resistance:	The process by which microbes become resistant to antibiotics, antidiarrheals, antiretrovirals, antifungals, or other substances designed to inhibit the growth of harmful microorganisms, generally due to overuse.
Asepsis:	Condition of being free of germs (sterile).
Autoclave:	A device that sterilizes instruments or other equipment through the use of steam under pressure.
Auto-disable syringe:	Syringe that can be filled and emptied only once.
Barrier/barrier equipment:	Items such as gowns, aprons, shoes, masks, and shoe covers used to protect health care workers from spills, airborne pathogens, or bodily fluids.
Butterfly catheters:	Steel needle peripheral catheters with a “butterfly” to facilitate insertion and securing of catheter.
CBC/FBC:	Complete/full blood count, with an analysis of blood components including white blood cells, red blood cells, and platelets.
Cleaning (instruments/equipment):	Second step in the reprocessing (i.e., sterilization, disinfection) process, involving mechanical cleaning of instruments by washing or scrubbing to remove large or visible particles or debris.
Decontamination:	First step in the reprocessing (i.e., sterilization, disinfection) process that markedly reduces the level of microbial contamination of soiled instruments or equipment. It involves immersing an instrument in a chemical solution to make it safe for handling and processing. The process also inactivates the human immunodeficiency virus (HIV), hepatitis B virus, and hepatitis C virus.
Disinfection (high-level):	Terminal step in the disinfection process. It is appropriate for heat-sensitive instruments that will not contact normally sterile spaces and involves chemical treatment to eliminate nearly all microorganisms (except spore-forming gram-positive bacteria).
Dip:	Antiseptic liquid placed in a container into which health workers dip their hands prior to performing surgery or other procedures. This procedure is sometimes used

instead of a surgical scrub, but it is not generally as effective and is prone to contamination.

Emollient:	Ointment or other agent used to moisturize the skin when applied locally, for example in hand-washing solutions to prevent cracks in the skin or cuts that could facilitate the proliferation of microorganisms.
Formulary:	A list of drugs approved for use in a hospital or other health care facility.
Fumigation:	Aerosolization of an antimicrobial agent to kill vectors that transmit infections.
High-level disinfection:	See disinfection .
Intravenous catheter:	Device used to administer an intravenous solution, such as an antibiotic or electrolyte fluid, directly into a vein.
Isolation:	An approach to infection control in which infected patients are isolated from other patients and cared for with special precautions to reduce disease transmission. The usually two-tiered approach includes standard precautions and transmission-based precautions .
Neonate:	Newborn infant. Generally, infants are considered neonates for the first 28 days (4 weeks) of life.
Nosocomial infection:	Infection that is not present or incubating when the patient arrives at the hospital, but is acquired in the hospital from other patients, health workers, or the environment.
Pasteurization:	High-level disinfection by steaming or boiling
Pathogen:	A causative agent of disease, most commonly referring to infectious organisms including bacteria, viruses, and fungi.
Positive-pressure ventilation:	System used to keep the air in rooms or wards at positive pressure with respect to the corridor, so that air flows outward and potentially contaminated air cannot flow into the room.
PPD:	Purified protein derivative—skin test performed to identify the presence of TB.

Prophylaxis/prophylactic:	Procedure performed to prevent infection, usually involving administration of antibiotics, for example during surgery or childbirth.
Perioperative:	Time surrounding a surgical procedure from hospital admission to discharge.
Puerperal sepsis:	An infection occurring during childbirth or the period immediately following childbirth (also known as childbed fever), which is generally attributed to microorganisms spread by health workers or instruments that have not been disinfected.
Rooming in:	Placing a newborn in the same room as the mother.
SIGN guidelines:	WHO guidelines (the Safe Injection Global Network) to promote safe injection practices and to prevent infections from injections.
Standard precautions:	Procedures designed to treat all patients regardless of their presumed diagnosis or the potential presence of an infectious agent.
Steam sterilization:	Treatment that renders an instrument free of all microorganisms (including spore-forming gram-positive bacteria), which is required for surgical instruments and vascular devices that will contact normally sterile spaces (see autoclave).
Sterilization:	Terminal step in the sterilization process that eliminates all bacteria, viruses, fungi, and parasites (including spore-forming gram-positive bacteria). It involves high-pressure steam (autoclave), dry heat (oven), chemical methods, or radiation.
Surgical scrub (“scrub”):	Thorough washing of hands and forearms, such as before surgery, using a soft, nonabrasive brush, as well as an implement to clean under the nails.
Tacky mats:	Sticky mats to step on before entering a surgical area or ward, designed to remove dirt from shoes. However, this method has not proven to be effective.
Transmission-based precautions:	Isolation policies and procedures based on the ways in which microorganisms are transmitted—airborne, droplet, direct or indirect contact spread.

OVERVIEW OF MODULES

Modules Administered Once for the Facility as a Whole

Health Facility Information

This module gathers information about the overall structure and organization of the facility, awareness and adoption of national infection control guidelines, bed capacity and crowding, adequacy of water supply, and availability of separate wards for special populations. The module should be completed by the facility's head doctor or administrator.

Infection Control Program

An infection control program may not be a formal program, but rather it may consist of all activities related to investigating, preventing, and controlling infections acquired by health care users or health care workers. This module reviews the scope of these activities, including applicable government infection control protocols or standards, the nature and organization of infection control activities, composition and functioning of the infection control committee, key infection control personnel, education programs for staff related to infection prevention and control, and infection surveillance practices and reporting. The module should be completed by the person in charge of the infection control program or the person who can best report on infection control activities in the facility.

Isolation and Standard Precautions

This module examines a facility's overall policy for handling health care users or patients with airborne infections. The questions cover facility-wide policies and precautions; procedures for screening visitors, family members, and staff; supplies available for isolation precautions; precautions for other airborne diseases; and precautions for handling viral hemorrhagic fever where applicable. This module should be completed by the person in charge of the infection control program or the person who can best report on infection control activities in the facility.

Employee Health

This module includes topics related to occupational health programs and activities, including occupational health education programs, medical evaluations and screening for new employees, immunizations available to employees, screening for conditions such as TB and HIV, work restrictions for infected employees, handling of exposures and prophylaxis, control and handling of sharps and gloving, and maintenance of employee health records. The questions should be answered by the person in charge of or familiar with occupational health issues in the facility.

Pharmacy

This module addresses pharmacy services and functions related to infection control, including collection and use of data on medication use, policies on control of antimicrobials and antibiotics, antibiotic use monitoring and reporting, and routine procedures for reporting medicine use to facility management or the Drug and Therapeutics Committee (if available).

The module should be completed by the chief pharmacist or the person in charge of the pharmacy.

Tuberculosis Precautions

This module covers facility policies and practices for the prevention and containment of TB. The module should be completed by the TB coordinator or doctor or nurse in charge of the medical/TB ward.

Waste Management

This module covers facility policies regarding segregation of waste; procedures for segregating contaminated from noncontaminated waste; storage and disposal of waste; and procedures in the postmortem room and mortuary. The module should be completed by staff familiar with waste management throughout the facility, including surgical areas, wards, patient care areas, laboratories, and support facilities.

Modules Administered Once for Specific Services (If Present in the Facility)

Labor and Delivery

For health care facilities with a maternity service, this module assesses general issues pertaining to labor and delivery, including ward hygiene, glove and barrier protection use, education programs on infection prevention for labor and delivery personnel, labor and delivery procedures, dress code for vaginal deliveries, use of invasive devices, prophylactic antibiotic use, and postpartum care. This module is to be completed by the head doctor or nurse of the labor and delivery area.

Surgical Antibiotic Use and Equipment Reprocessing

For facilities that perform routine surgical procedures, this module covers perioperative antimicrobial administration, storage and administration of antibiotics used in surgery, surgical drain placement, reprocessing of surgical instruments and equipment, reprocessing of anesthesia equipment, and postoperative antibiotic practices. This module should be completed by the head doctor or nurse of each surgical ward or area.

Surgical Area Practices

For facilities that perform routine surgical procedures, this module covers preoperative preparation of patients, scrub by operating room personnel, barrier precautions and operating room attire, routine cleaning and decontamination by spillage, surgical area ventilation, traffic in and out of the area, and treatment of contaminated equipment or supplies. The head doctor or nurse of the operating theatre should address these questions.

Intensive Care Units

For facilities with one or more intensive care units, this module assesses staffing, general hygiene practices, and procedures for mechanical ventilation. These questions should be completed by the head doctor or nurse of each intensive care unit assessed. If there is only one ICU, or if policies are similar for all ICUs, the module may be completed only once.

Microbiology Laboratory

For facilities that have a clinical microbiology laboratory, this module assesses general laboratory procedures and record keeping; availability, use, and reporting results of specific tests; blood culture methods; procedures for testing and monitoring antibiotic resistance; and handling of pathogenic substances. The module should be completed by the head of the department or supervisor of the microbiology laboratory.

Modules Administered Once Where Disinfection or Sterilization Takes Place

Sterilization and Disinfection: Equipment and IV Fluids

This key module covers procedures for sterilizing and disinfecting equipment and IV fluids. It will take longer to complete than most other modules. Among the areas covered are the presence of written and/or posted policies on which items require decontamination, cleaning, disinfection, and sterilization; preparation of sterile irrigation and IV fluids; specific processes for the decontamination, cleaning, disinfection, and sterilization of equipment and instruments; and storage and handling of sterile supplies. This module should be completed by the person in charge of the central sterilization unit or by personnel in charge of sterilization/disinfection in support units, such as dental clinics.

Sterilization and Disinfection: Needles and Syringes

If needles or syringes are reprocessed for multiple uses in the hospital, this module covers the procedures used for reprocessing. The module should be completed by the person in charge of the central sterilization unit or by personnel in charge of sterilization procedures in support units, such as the labor and delivery or surgical areas.

Sterilization and Disinfection: Sterile Gloves

If sterile gloves are reprocessed for multiple uses in the hospital, this module covers the methods used for reprocessing. The module should be completed by the person in charge of the central sterilization unit or by personnel in charge of sterilization procedures in support units, such as the labor and delivery or surgical areas.

Modules Administered Once for Each Clinical Area (If Relevant)

General Ward

The module covers key features of physical layout, staffing, and general hygiene practices on a specific ward. The module should be completed by the head doctor or nurse for each medical or surgical ward to be included in the assessment.

Hand Hygiene

This module, essential for any health care facility or health care setting, addresses hand hygiene procedures, including use of soap and antiseptics, and hand hygiene before and after contact with patients. These questions should be completed by the head doctor or nurse of each clinical or service area assessed (including each medical or surgical ward, ICU, labor and delivery unit, or surgical area).

Injections

This module covers facility-wide injection policies and staff education. The module should be filled out by the head doctor or nurse of each medical and surgical ward and ICU included in the assessment.

Airway Suctioning

This module assesses the adequacy of common procedures for administering airway suctioning and handling airway suctioning equipment in specific clinical areas. This module should be completed by the head doctor or nurse for each medical or surgical ward in which airway suctioning occurs.

Intravenous Catheters

The questions in this module cover the types of intravenous catheters used, antiseptic use when inserting catheters, routines for changing catheters, use of antimicrobial ointment, and the types of catheters used for central venous access. The module should be completed by the head doctor or nurse in each ward assessed on which IV catheters are inserted or maintained.

Intravenous Fluids and Medications

This module covers when and how IV fluids and medications are mixed or purchased, how often tubing is changed, and how to use multidose vials. The head doctor or nurse of each area where IV fluids or medications are prepared or administered should answer these questions.

Urinary Catheters

The topics covered in this module include use of indwelling versus straight urinary catheters, indications for use of indwelling catheters, use of gloves and antiseptics, and drainage systems. These questions should be answered by the head doctor or nurse in each clinical area where urinary catheters are used.

MODULE SCORING

Each module in the ICAT is divided into sections to assess performance in particular areas of practice. Each section has its own possible total score and performance rating. There is also a total score and overall performance rating for the module as a whole.

For each response, a point value of **1** indicates a recommended practice, and a point value of **3** indicates a highly recommended practice. Responses with no point value attached are generally not recommended. Review the annotations associated with the module or refer to the resource material on the CD-ROM to learn about the reason for recommendations. If the team decides to adapt the tool and insert additional questions and possible responses on specific issues, it is recommended that the team reviews available local or international standards and allocate point values of 0, 1, 2, or 3 to the possible responses, depending on recommended practices.

Calculate section scores by adding the point values marked for each question in a section. If a question says “Mark one answer,” record only *one* response. If a question says “Mark all that apply,” add the points for all marked responses. No points are given if the marked answer has no points associated with it. Enter the assessment section totals at the end of each section. The possible section totals are provided for the team’s convenience.

Go to the **Module Scoring Sheet** located at the end of each module and enter the assessment section totals and possible section totals in columns (1) and (2). Compute the module totals by summing up columns (1) and (2) and then compute section and module percent scores and enter in column (3). Calculate the rating (A, B, C) associated with that point range and enter in column (4). Percent score ratings are based on—

More than 75% of possible points:	A—recommended practices are followed consistently and thoroughly
50–75% of possible points:	B—recommended practices usually followed
Less than 50% of possible points:	C—training and follow-up needed on recommended practices

Completing the assessment tool and evaluating the point values is not intended as a test. Point values identify areas in which existing practices are generally satisfactory or where opportunities exist for improvement. In a given situation, there may be general agreement that the issues assessed in a given section or module are immediate priorities for the facility and should be addressed with new policies or programs.

In the following example, the Labor and Delivery module has been scored. Each section of the module has been entered into the module scoring sheet, along with the values that were obtained during the assessment. The blank form is included at the end of each module and is included here for easy reference. It can be copied as needed to use as a score sheet during an actual assessment.

Example Scoring Sheet

Name of facility: City Health Center

Name of module: Labor and Delivery

Date completed: October 10, 2008

	1	2	3	4
Module Section	Assessment Total	Possible Total	Percent Score	Rating Based on Percent Score
General issues: Staff education and labor and delivery services design	3	4	$3/4 \times 100 = 75\%$	B
Cleaning and general hygiene	3	4	$3/4 \times 100 = 75\%$	B
Glove use for vaginal deliveries	3	4	$3/4 \times 100 = 75\%$	B
Glove use for cesarean sections	2	2	$2/2 \times 100 = 100\%$	A
Scrub for vaginal delivery	5	6	$5/6 \times 100 = 83.3\%$	A
Barriers worn for vaginal delivery	2	8	$2/8 \times 100 = 25\%$	C
Invasive devices	4	5	$4/5 \times 100 = 80\%$	A
Labor and delivery procedures	8	11	$8/11 \times 100 = 72.7\%$	B
Prophylactic antibiotic use	4	5	$4/5 \times 100 = 80\%$	A
Postpartum care	2	5	$2/5 \times 100 = 40\%$	C
Total for Module	Sum of 1 = 36	Sum of 2 = 54	(Column 1)/ (Column 2) = $36/54 \times 100 =$ 66.6%	Overall score = B

Column Notes:

1. Assessment Total—Sum of points for all marked responses

2. Possible Total—Sum of all possible points for the question

3. Percent Score—(Column 1/Column 2) \times 100

4. Rating—

More than 75% of possible points: A—recommended practices are followed consistently and thoroughly

50–75% of possible points: B—recommended practices usually followed

Less than 50% of possible points: C—training and follow-up needed on recommended practices

Sample Scoring Sheet

Name of facility: _____

Name of module: _____

Date completed: _____

	1	2	3	4
Module Section	Assessment Total	Possible Total	Percent Score	Rating Based on Percent Score
Total for Module			%	

Column Notes:

1. Assessment Total—Sum of points for all marked responses

2. Possible Total—Sum of all possible points for the question

3. Percent Score—(Column 1/Column 2) × 100

4. Rating—

More than 75% of possible points: A—recommended practices are followed consistently and thoroughly

50–75% of possible points: B—recommended practices usually followed

Less than 50% of possible points: C—training and follow-up needed on recommended practices

