

Infection Control Assessment Tool (ICAT):

*A Standardized
Approach for
Improving Hospital
Infection Control
Practices*

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Control Practices

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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
Autodisable 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 healthcare 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:	Complete blood count, with an analysis of blood components including white blood cells, red blood cells, and platelets
CDC:	The U.S. Centers for Disease Control and Prevention
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. This is appropriate for heat-sensitive instruments which 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 is sometimes used instead of a surgical scrub, but 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
ICAT:	The Infection Control Assessment Tool described in this manual
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. This is usually a two-tiered approach that includes standard precautions and transmission-based precautions – see below.
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 disease-producer, most commonly referring to infectious organisms including bacteria, viruses, and fungi.
Positive-pressure ventilation:	Rooms or wards in which the air is at positive pressure with respect to the corridor, so that air flows outwards and potentially contaminated air cannot flow into the room
PPD:	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 which 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, non-abrasive 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. This method however 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.
VHF	Viral hemorrhagic fever

BACKGROUND

Infection control in hospitals: a worldwide problem

Nosocomial (hospital-acquired) infections are a significant cause of morbidity and mortality in every health care system, especially in developing countries. Common nosocomial infections include surgical site infections, bloodstream infections, pneumonia, and tuberculosis. Outbreaks of infections, especially in hospitals with limited resources, can affect numerous patients and staff, and controlling such outbreaks unnecessarily consumes scarce resources. Furthermore, worldwide increases in the resistance of infectious organisms to common antimicrobials greatly multiply the difficulties and expense of treating infections in hospitals. *However, nosocomial infections can be prevented and controlled in hospitals among staff and patients through careful and systematic attention to infection control guidelines and procedures.*

Many developing nations spend more than 50% of their health care budgets in hospitals, 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 nosocomial infections can limit the benefits of these expenditures and further stress hospital budgets. Therefore, sound hospital infection control programs are essential from both an economic and a clinical perspective in order to reduce the risk of serious, preventable, costly infections for patients and health care workers.

Implementing infection prevention and control programs in low and middle income countries is frequently hampered by financial constraints, limited laboratory capacity, and inadequate staff training in areas such as hand hygiene, sterilization procedures, isolation precautions, employee health programs, hospital epidemiology, and quality improvement. In these settings, there is an

urgent need for a systematic approach to detect deficiencies in infection control practices and to implement effective, affordable solutions. The Infection Control Assessment Tool (ICAT) provides an approach that can be used by hospital staff to identify and solve problems economically and practically in all settings, particularly very low-resource healthcare facilities.

ICAT: A systematic approach to hospital infection control

The Infection Control Assessment Tool (ICAT) is designed to facilitate the identification, control, and prevention of nosocomial infections through an easily-administered and scored instrument that highlights areas of concern and suggests economical improvements within hospitals. The ICAT may be applied across the hospital 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 (see WHO-AFRO on the accompanying resource CD), and organizations such as EngenderHealth and JHPIEGO (see CD) have created useful approaches for implementing infection control programs in lower level health facilities.

The ICAT differs from most approaches to hospital infection control in that it offers a simple and practical approach for assessing the adequacy of existing infection control practices, and gives specific recommendations for improving them and monitoring their ongoing effectiveness. (See examples in accompanying materials)

OVERVIEW OF THE INFECTION CONTROL ASSESSMENT TOOL (ICAT)

Goal of the Assessment Tool and Manual

The goal of ICAT is to improve hospital infection control programs -- especially in resource-limited settings – as practically, economically, and effectively as possible. This Manual describes how to use the tool in different settings. Please read this Manual *before* reviewing the 21 modules that comprise the ICAT.

Assessment modules and scoring

The ICAT consists of 21 modules (standardized units) that provide a comprehensive assessment of infection prevention and control activities in hospital settings. The modules cover a variety of infection control topics, and are easily adapted to be consistent with local government infection control standards or with the resources available in a particular setting. Each module focuses on a particular topic or on a specific hospital department such as labor and delivery, intensive care, or general medical or surgical wards. Modules that target topics that are not relevant for a specific hospital (for example, if a hospital has no microbiology laboratory) can simply be omitted.

The ICAT was developed to facilitate the establishment of infection control programs in large and small hospitals, and to provide guidance for improving infection control policies, programs, and practices, particularly in resource-limited settings. Because the tool is modular, it is easily adapted for use by all types of hospitals, regardless of bed-size, budget, or type (referral, regional, district, or community). It may be used in a hospital that has no formal infection control program but wishes to strengthen infection control activities; to identify weaknesses in an

existing infection control program; or to target a specific infection control issue needing improvement.

A brief description of the topics covered in each module is included in Annex 1. The number of modules completed in an assessment will depend on the identified needs of an individual hospital or group of hospitals.

Structure of each assessment module

Each assessment module consists of groups of questions easily answered by yes/no, multiple choice, or checklist responses. Modules will be completed either for the hospital as a whole or from the perspective of a specific ward or department. If a hospital has multiple departments or areas of a similar type (e.g., medical wards, surgical areas, ICUs) which 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 one.

Each module is divided into sections that cover a different aspect of the general topic covered in the module (such as procedures for surgical scrubs within the Surgical Areas module), and 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 number of points (ranging from 0-3), with positive points indicating recommended practices. The overall quality of the practices measured in each section is summarized using three broad categories: (1) Excellent practice in this topic area (75% or more of the possible points); (2) Good practice in this area (50%-74% of possible points); (3) Poor practice that needs attention (fewer than 50% of possible points). *Note that completing the assessment tool and totaling the points received is not intended as a test. Point*

scores are intended to help respondents identify areas in which existing practices are satisfactory, or where there are opportunities for improvement. For example, if results from completing the Labor and Delivery module indicate that only 40% of points were awarded for the section on use of barrier equipment such as gloves, special shoes, or gowns, this may be a signal that this issue needs special attention in order to control the spread of infection among mothers and babies. Financial or logistic constraints may limit what is possible, but part of the 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 control problem areas. The annotations following each module or the Infection Control resource materials on the accompanying CD 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 JPIEGO 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, it is possible to add questions within a module on such issues.

Although the tool can be adapted in this way to accommodate local recommendations and practices, the annotations provide a way to compare local practices with internationally accepted standards.

TYPES OF HOSPITAL ASSESSMENT

The ICAT can be used for different purposes depending on individual hospital needs. At the start, the team or individuals planning an assessment should have clear, well-stated objectives that have been established in consultation with hospital leadership and are clearly understood within the hospital. Depending on the specific objectives, different combinations of assessment modules will be appropriate. The examples that follow describe some different ways in which the assessment modules can be combined to achieve particular objectives.

Comprehensive infection control assessment

A hospital undergoing an accreditation process, changing infection control leadership, or establishing a hospital-wide infection control improvement program may wish to re-assess its existing infection control policies and activities. In this situation, a comprehensive infection control assessment is appropriate, and all ICAT modules should be completed, including modules that apply to the hospital as a whole and those that apply to each ward and service area (see Annex 1). Comprehensive assessments would usually 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

Sometimes, the motivation for assessing infection control practices originates from concerns raised by physicians or nurses in a ward or clinical service area such as Labor and Delivery or Surgery. There may be situations in which a hospital does not have the staff or resources to carry out a full infection control assessment, and wishes 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 hospital areas would be included. However, even if the focus is on individual wards or services, we recommend that some modules that apply to the entire hospital are also completed in order to gain perspective on hospital-wide policies, especially if they are not readily available in written or posted form to those working on wards or in service areas. This type of assessment would generally be led by the chief physician or nurse in the given clinical unit or service area, with the cooperation of hospital administration. Additional modules could be completed later as appropriate, especially if completed modules point to additional areas of concern. In this way, a multi-faceted infection control program can be built by adding additional issues or service areas in the hospital 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

At times, the motivation for conducting an assessment is driven by a specific infection outbreak or area of concern. In such situations, a targeted set of modules would be completed. For example:

- A high rate of surgical site infections has been identified by the microbiology laboratory, ward personnel, or pharmacy department. In this case, 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 applicable), IV catheter, IV

Fluids and Medications, Urinary Catheters, and the three Sterilization and Disinfection modules.

- There is a concern about the adequacy of instrument and equipment processing, particularly disinfection and sterilization procedures. In this case, all three Sterilization and Disinfection modules should be completed, either by the central supply unit responsible for this function or in each area where instruments and equipment are sterilized, such as General Wards, ICU, Labor and Delivery, or Surgical Areas.
- If hospital administrators or clinical leaders 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, General Ward, Waste Management, Hand Hygiene, Employee Health, and the three Sterilization and Disinfection modules.
- If there is a general concern about adherence to hand hygiene guidelines, particularly in hospitals with scarce resources, the Hand Hygiene module should be completed for all patient care areas throughout the hospital. 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 hospital personnel. Depending on the findings, additional modules relevant to specific services, such as the Labor and Delivery or General Ward modules, might also be completed.

STEPS WHEN CONDUCTING A HOSPITAL ASSESSMENT

To determine what will be needed to carry out a hospital infection control assessment, read this manual completely *before* planning or implementing your assessment. In addition, review the content of all assessment modules (on the resource CD) to determine which ones will apply,

given the objectives of your assessment.

The following sections provide an overview of the steps needed to introduce and prepare hospital administration, hospital staff, and the assessment team for conducting an infection control assessment.

Identifying the need to conduct an assessment

The first step in conducting an assessment of infection control practices is to identify needs.

These needs can originate from several sources:

- Colleagues from different hospitals in a geographic area may identify areas of similar concern in infection control practices and join together to address them.
- Personnel from a local Ministry of Health office or a medical training institution may wish to survey the state of infection control programs in a given geographic area to assess current practices.
- Government health authorities may wish to survey hospitals to determine if national infection control standards have been implemented.
- The administration or clinical staff in an individual hospital may recognize that infection control requires improvement due to 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.

Engaging hospital administration

If the need to conduct an infection control assessment did not originate from hospital

administration, the next essential step is to engage the administration in the process. The key individuals (i.e., clinical or administrative staff) who are leading the initiative should meet with hospital leaders to explain the purpose of an infection control program, gain their understanding and approval, agree on the specific objectives for the assessment, and discuss which modules best fit the objectives (see Annex 1). A leader or facilitator should be designated to represent hospital interests both internally and externally, and to senior hospital administration.

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

Choosing a facilitator

The choice of a facilitator to guide the process is a key component of a successful assessment, whether or not the motivation for the assessment has come from hospital administration, from within the hospital, or from outside. Identifying a facilitator or leader who is familiar with the hospital is essential. This person should have a good working relationship with hospital administration and personnel, as well as with Ministry of Health personnel and local health authorities, if appropriate. The facilitator will frequently be a clinical leader with a background or understanding of issues in infection control, 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 hospital to facilitate the assessment process, hospital officials may decide to identify a university-affiliated researcher or

outside clinical expert for this role. In this case, it will be important to assign an internal person as co-facilitator in order to gain the trust and cooperation of hospital staff.

Identifying an assessment team

In consultation with senior hospital administrators, the facilitator should next identify a multidisciplinary team to take part in the assessment process , ideally including a senior physician, Head/ Senior Nurse, and at least one other appropriate infection control partner such as a senior hospital administrator, quality improvement representative, or pharmacist.

The facilitator should convene an initial meeting with the identified team to present an overview of the project and discuss viable approaches to improving infection control quality. Prior to the meeting, each team member should read this 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 milestones to meet during the process
- Assign individual assessment topics to team members.
- Identify which hospital staff (as identified in the assessment plan) will be the most appropriate to approach to complete interviews or observations for individual modules.

Adapting the assessment tool to local guidelines

When where there are national or institutional infection control guidelines in place, the modules

in the ICAT should be compared to those recommendations. When 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 recommendations in the ICAT. Discrepancies should be discussed by the assessment team. A decision must be taken 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 highly 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 extremely helpful. Personnel should be introduced to the guidelines in individualized sessions, and given the opportunity to ask questions or make observations about their experiences with hospital practices, and given the opportunity to recommend changes.

Preparing observation checklists

Some aspects of the assessment are best dealt with through direct observation of practices in a clinical area over time, for example, handwashing practices during the process of patient care. In this case, it may be desirable to adapt key questions in the assessment tool to a short observation checklist. The assessment team should make a list of the procedures that can best 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.

If checklists are used, the team should identify hospital personnel to participate in and assist with the observation process. These individuals may be members of the assessment team, or they

could be other staff working on the wards or clinical areas. Nurses are usually a valuable resource in this process.

Administering the assessment

In consultation with the assessment team, the facilitator next identifies the respondents who will be asked to complete given modules, and assigns team members to make appointments to complete the responses. (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. Both the assessment team member and the respondent should have a copy of the module in front of them during the assessment so that the respondent 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 hospital does not offer specific services or follow certain practices, leave the section blank and explain that this 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 there is an observation process 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.

Scoring and reporting

When the interview is complete, the assessment team member calculates the point total for each section of the module and enters them in the scoring sheet (see Annex 2). When the scoring has been completed, the interviewer reviews results on the spot 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 the correct scores. If a section or question within a module section does not apply to the hospital, skip those questions and deduct their

points from the possible total. (The respondent should not have points deducted for questions that do not apply. This may mean adjusting the ratings, for example decreasing the number of points required for an “Excellent” rating.)

Reviewing results

The assessment results should be discussed first within the assessment team and then in a face-to-face meeting with hospital leadership. The information from the assessment should then be used to determine possible areas for improvement in infection control practices.

If the score for a section is very low or zero (and that service is offered in the hospital), it may signal the need for attention in that area. For example, if in the Hand Hygiene module no points are awarded for supplies and sinks, it becomes clear that there is an infection control issue that should be addressed. The annotations frequently suggest solutions and low-cost alternatives to achieve the purpose.

ANNEX 1: OVERVIEW OF MODULE CONTENTS

Modules administered once for the hospital as a whole

Hospital Information

This module gathers information about the overall structure and organization of the hospital; 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 Chief Physician or Chief Administrator for the hospital.

Infection Control Program

An infection control program may not be a formal program, but rather consist of all activities related to investigating, preventing, and controlling infections acquired by patients or hospital personnel. This module reviews the scope of these activities, including applicable government infection control regulations or accreditation 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 hospital's infection control program or the person who can best report on infection control activities.

Isolation and Standard Precautions

This module examines a hospital's overall policies for handling patients with airborne diseases, the area most vulnerable for hospital transmission of infections. The questions cover hospital-

wide policies and precautions; procedures for screening visitors, family members, and staff; supplies available for isolation precautions; precautions for TB (including sputum induction); precautions for other airborne diseases; and precautions for handling viral hemorrhagic fever (VHF) if a hospital is in a vulnerable area. This module should be completed by the Medical Director or Chief Physician.

Employee Health

This module includes topics related to employee health programs and activities, including employee 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 hospital administrator in charge of employee health or another administrator familiar with employee health issues.

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 utilization monitoring and reporting; and routine procedures for reporting drug utilization to hospital 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.

Waste Management

This module covers hospital policies regarding separation of contaminated from non-contaminated waste; procedures for separating and storing contaminated waste; waste disposal practices; and procedures in the post mortem room and mortuary. The module should be completed by staff familiar with waste management throughout the hospital, including surgical areas, wards, patient care areas, laboratories, and support facilities.

Modules administered once for specific services (if present in hospital)

Labor and Delivery

For hospitals 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 Director or Supervisor of the Labor and Delivery area.

Surgical Antibiotic Use and Equipment Reprocessing

For hospitals 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 post-operative antibiotic practices. This module should be completed by the Chief Operating Room Physician or Head Operating Room Nurse.

Surgical Area Practices

For hospitals that perform routine surgical procedures, this module cover 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 Chief Physician or Head Nurse in the Operating Room should address these questions.

Intensive Care Units

For hospitals 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 Chief Physician and/or Head 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 hospitals 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 Director 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 Labor and Delivery or Surgical Areas.

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. It 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 processes used for reprocessing. It 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 for each clinical area assessed (if relevant)

General Ward

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

Hand Hygiene

This module, essential for any hospital 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 Chief Physician or Head Nurse of each clinical or service area assessed (including each medical or surgical ward, ICU, labor and delivery unit, or surgical area).

Injections

The Injections module covers hospital-wide injection policies; use of reprocessed needles; staff education; and adoption of WHO's SIGN guidelines. The module is to be filled out by the Chief Physician or Head 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 Chief Physician or Head 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 Chief Physician or Head 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 the use of multi-dose vials. The Chief Physician or Head 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 vs. straight urinary catheters; indications for use of indwelling catheters; reuse/sterilization of catheters; use of gloves and antiseptics; and drainage systems. These questions should be answered by the Chief Physician or Head Nurse in each clinical area where urinary catheters are used.

ANNEX 2: MODULE SCORING AND SAMPLE SCORING SHEET

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 ② indicates a highly recommended practice. Responses with no point value ○ attached are generally not recommended. [See the Annotations associated with the module or refer to the resource material on the resource CD to learn about the reason for recommendations.]

Calculate scores by adding the point values checked for each question in a section. If a question says “Mark one answer” the person completing the module should record only *one* response. In questions that ask “Mark all that apply,” add the total number of points checked. No points are given if the checked answer has no points associated with it.

To calculate the summary scores, enter the point totals for each section in a score sheet similar to the column headed Your Total and mark the corresponding rating (E, G, or P) associated with that point range in the column headed Your Rating. Scores are based on:

75-100% possible points:	E = Excellent practice in this area
50-75% possible points:	G = Good practice in this area
<50% possible points:	P = Poor practices needing immediate attention

It is important to note that completing the assessment tool and evaluating the points received is not intended as a test. Point scores can identify areas in which existing practices are generally satisfactory or where there are opportunities 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 hospital and should be addressed with new policies or programs.

In the example below, the section headings and score ranges associated with the Labor and Delivery module have been entered into a blank assessment form, along with the values that were obtained during the assessment. The blank form that follows can be copied to use as a score sheet during an actual assessment.

Module Scoring Sheet (Example)

Name of module: Labor and Delivery

Date completed: 12 December 2005

Module Section	Possible Total	Point Range			Your Total	Your Rating
		Excellent >75%	Good 50-75%	Poor <50%		
General issues, hygiene, glove use	4	4	2-3	0-1	3	E
Cleaning and General Hygiene	4	4	2-3	0-1	3	G
Glove use for Vaginal Deliveries	4	4	2-3	0-1	3	G
Glove use for C-sections	2	2	1	0	2	E
Scrub for vaginal delivery	6	5-6	3-4	0-2	5	E
Barriers worn for vaginal delivery	8	6-8	4-5	0-3	2	P
Invasive devices	5	4-5	3	0-2	4	E
Labor & delivery procedures	11	8-11	6-7	0-5	8	E
Prophylactic antibiotic use	4	3-4	2	0-1	4	E
Postpartum care	5	4-5	3	0-2	2	P
Total for module	47	35-47	23-34	0-23	33	G

Module Scoring Sheet

Name of module: _____

Date completed: _____

Module Section	Possible Total	Point Range			Your Total	Your Rating
		Excellent >75%	Good 50-75%	Poor <50%		
Total for module						