



**RAPID EVALUATION GUIDE FOR
HOSPITAL PROGRAMS FOR PREVENTION AND CONTROL OF
NOSOCOMIAL INFECTIONS**

Washington, D.C.

2nd Edition, 2011

PAN AMERICAN HEALTH ORGANIZATION

Health Surveillance and Disease Prevention and Control Area

International Health Regulations, Alert and Response and Epidemic Diseases

Acknowledgments

This guide was produced based on an original idea by Gabriel Schmunis and counted with the contributions of Latin American experts in prevention and infection control -

Silvia Acosta de Gnass, Maria Paz Ade, Laura Araya, Maria Isabel Gonzalez Betancourt, Pola Brenner, Teresa Camou, Liliana Clara, Erna Cona, Alessandra Santana Destra, Silvia Fonseca, Amparo Gordillo, Jorge Matheu, Fernando Otaiza, Pilar Ramon- Pardo, Roxane Salvatella, Gabriel Schmunis, Valeska Stempliuk, Maria Enilda Vega, Natallie Weiller and Martín Yagui.

This publication has been made possible by the sponsorship and cooperation of the United States Agency for International Development, Bureau for Latin America and the Caribbean, Office of Regional Sustainable Development (grant LAC-G-00-07-00001-00) and the United States Centers for Disease Control and Prevention (Cooperative Agreement Number 5U51/CI 000450-04).

Contents

Preface.....	4
Introduction	4
<u>General considerations</u>	4
Instructions for application of the rapid evaluation guide for nosocomial infection programs.....	6
<u>General instructions</u>	6
<u>Instructions and recommendations for interviews</u>	6
<u>Instructions and recommendations for document review</u>	7
<u>Instructions and recommendations for direct observation</u>	8
<u>Specific instructions</u>	8
<u>Written Report</u>	9
<u>Records</u>	9
<u>People to interview</u>	9
<u>Proposed program</u>	10
Glossary.....	10
Rapid evaluation guide for nosocomial infection programs	15
AREA: ORGANIZATION	16
AREA: EPIDEMIOLOGICAL SURVEILLANCE OF INFECTIONS	17
AREA: MICROBIOLOGY.....	18
AREA: INTERVENTION STRATEGIES.....	20
AREA: STERILIZATION AND HIGH-LEVEL DISINFECTION	22
AREA: PERSONNEL HEALTH.....	23
AREA: HOSPITAL ENVIRONMENT AND SANITATION	24
AREA: INEFFECTIVE PRACTICES.....	26
AREA: NEONATOLOGY	28

Preface

There is no doubt that infections associated with health care (nosocomial infections) pose a problem, affecting approximately one out of twenty hospital patients. Programs for infection prevention and control have demonstrable benefits in reducing related morbidity and mortality and hospital costs. One of the best ways to improve the effectiveness of a program for prevention and control of infections is through systematic and rigorous evaluation of the structural, functional, and practical elements that have to be implemented in hospitals. Evaluations, whether they are external or internal, make it possible to identify those areas requiring additional efforts to comply with standards, to evaluate the strengths of institutions in comparison with their peers, and to set priorities for interventions from the national level.

Evaluations also have formative effects on human resources of the institutions that are evaluated. There can be an immediate effect in improvement or correction of practices, in particular, for the prevention of nosocomial infections. However, the lack of available tools has meant that evaluations of the programs and practices of prevention of communicable diseases have not been made part of program routine. PAHO developed this tool in 2005, and it has been validated through its application in the field in a number of countries of Latin America. The application of this tool is thus based on direct observation of practices in visits carried out jointly by national and international professionals.

After five years of the first edition, the increase of scientific evidence has made it necessary to update the original instrument, while maintaining the same purpose and functionality. This second edition also includes a specific annex on neonatology, expanding its objective and scope. The addition of this new area comes at the request of the countries, given the large number of hospital infection outbreaks in these services. It is expected that this guide will maintain its usefulness and be used within the health services to direct implementation and maintenance of programs and practices for control of nosocomial infections.

Introduction

General considerations

The purpose of this guide is to provide orientation for hospital directors on review and improvement of the nosocomial infection programs that all such facilities should have. According to the experts, a well-developed program in the areas currently considered necessary will contain the components and characteristics described in this guide. It is recommended that, before an evaluation, hospitals to be evaluated be informed about the visit and its objectives, and that they have access to this guide.

The purpose of this guide is to provide a general overview rather than specifics on the status of Infection prevention and control (IPC) activities. Therefore, it does not consider the risk of individual patients or specific cases. By nature, it is intended only as an instrument to provide support for an external assessment of the status of the program. It should not be considered an accreditation system. Furthermore, it does not consider other aspects related to care outside of surveillance, prevention, and control of nosocomial infections.

The development and use of the first edition of the Guide were possible thanks to the support and cooperation of the Office of Regional Sustainable Development, Bureau for Latin America and the Caribbean, U.S. Agency for International Development and the Centers for Disease Control and Prevention of the United States of America and the experts of several countries. For its development, specialists in nosocomial infections and microbiologists of several countries met to lay out the principal and essential points that all hospitals should implement in terms of hospital IPC. This guide was applied successfully in 67 hospitals, including public, private, and other hospitals, in 7 countries of the Region of the Americas, involving national and international experts and PAHO staff. Although the programs evaluated presented quite different levels of compliance for the indicators evaluated, the contents of the guide were sufficient for evaluating the different hospitals and their programs for prevention and control of nosocomial infections¹.

After 5 years of the first edition, given the additional scientific knowledge accumulated during this period, the updating of the guide became necessary. Again experts from several countries were invited to participate. The result is a second edition that maintains the general evidentiary principles and applicability of the previous edition. This edition also includes annex for for prevention of infection in the neonatology area.

Description of the guide

The guide provides information on a number of aspects that, according to a group of Latin American experts, should be included in HAI prevention and control programs. These aspects have been organized in eight areas that include similar topics. In each area, some components considered to be essential in a good infection program have been selected. In each component, the characteristics considered to best describe an acceptable component have been established. Then, indicators have been established so that the presence of the characteristics could be considered objectively. A single characteristic may have several indicators and a single component may have several characteristics. One or more verifiers (“suggested verifiers”) have been proposed for each indicator. These simply offer orientation or sources of information for the evaluators that can be used to determine whether a certain indicator is present. The evaluators can use other methods to establish the presence of indicators.

According to this guide, evaluation of the nosocomial infection program is based solely on the presence of indicators. The existence of the characteristics and components is based on analysis of the indicators used for evaluation.

The only exception to the above is the “INEFFECTIVE PRACTICES” area, in which the presence of any of the indicators is considered in a comment to the report.

Instructions for application of the rapid evaluation guide for nosocomial infection programs

General instructions

This guide is designed to be applied within a short period of time (approximately 8 hours per person with one team of 4 people).

- All actions carried out during an evaluation have a well-defined purpose that should be made known during the activity.
- Take written notes on your observations at the time. Do not rely on your memory.
- The written report must be compatible with the oral comments made during the visit.

Instructions and recommendations for interviews

This process includes three main types of interviews:

- I. **Initial interview:** This interview is usually with the hospital director, who may or may not be accompanied by other people. The objectives are as follows:
 - Introduction to the local authority.
 - Meet the people who will accompany the evaluators during the activity.
 - Become familiar with the general characteristics of the hospital.
 - Explain which activities will be conducted in the hospital during the evaluation.
 - Set a time for the final meeting.
 - Confirm that the local authority has consented to the activity.

- II. **Technical interviews:** These interviews are with professionals who perform different activities in the hospital. The objective is to obtain specific information related to the guide. In order to make the most of these interviews, the following is recommended:
 - You should always be accompanied by a professional from the hospital
 - Interview the person in charge of the unit or activity. A meeting with personnel working under him or her should be held only with his or her consent.
 - Introduce yourself and explain the reason for the interview.
 - Tell them what information is required.

- III. **Final interview:** This interview is usually with the hospital director, accompanied by other people. This objectives of this interview are as follows:
 - Report the main findings of the observations.
 - Briefly summarize each area, highlighting aspects that are partially or fully acceptable as well as those that can be improved. Use clear examples. Avoid going into detail.
 - Compile any information that was not included previously.
 - Receive comments and clarifications on your observations.
 - Thank the facilities and the appropriate individuals for having participated in the activity.

It is recommended strongly that the evaluation team meet alone for a few minutes before the final interview and agree on the points that will be dealt with.

Instructions and recommendations for document review

Some of the information will be obtained from documents that directly or indirectly contribute data that can be used as a basis for determining compliance with the characteristics in the guide. Document review tends to be a long and complex process. For document review:

- Focus the document review on the objectives of the guide.
- Request that your local contacts indicate where the information is found in the documents. Review by a person unfamiliar with the local documentation system may be tedious and fruitless. Be explicit about your needs.
- Avoid requesting a particular document. It is preferable to request documentation for the activities. Each hospital has its own form of documentation.
For example: In order to find out about training activities, avoid requesting “committee minutes” since the information needed may not be found there. However, if you request a list of training activities carried out, there may be different types of documentation (e. g., annual summaries of activities and specific training reports).

Instructions and recommendations for direct observation

Evaluation of many of the characteristics is based on observation of how activities are conducted in practice.

- When direct observation activities are conducted, tell your contacts your expectations before beginning observation. After completing the observation, summarize whether what you found met expectations or the practices did not meet the requirements.
- Be cautious about your comments and your reactions to noncompliance with best practices, particularly because the visits are often accompanied by personnel who may have a partial or distorted understanding of the practices.
- If you observe failure to comply with techniques or inappropriate practices, it is important to take note and possibly mention it at the meeting. However, this does not necessarily mean that it represents a trend unless the practice is repeated.

Specific instructions

Some areas have special conditions to be evaluated.

AREA: INTERVENTION STRATEGIES

This is one of the most important areas of the evaluation. It is also usually the area in which there are the greatest numbers of observations. In order to evaluate this area, fill out the "PREVENTION AND CONTROL STRATEGIES RECORD FORM." Each indicator refers to the summary of one of the columns on the RECORD FORM.

The evidence-based concepts used to evaluate the preventive strategies are only some of the best well-known and least controversial concepts. Therefore, they should be included in the usual practice of all hospitals.

AREA: INEFFECTIVE PRACTICES

There are a series of practices that have been introduced in the past in hospitals to prevent infections but which do have bases to support their effectiveness. That is, it has been documented that they do not prevent infections. In some cases, there is even enough information to advise their elimination because they increase the risk of infection.

In this evaluation it is enough to take note and confirm the presence of an ineffective measure that increases the risk of infection in order to include a comment about it in the final review and the written report. Information on the presence of ineffective measures may be acquired from multiple sources. It often occurs by chance during observations in the clinical units.

AREA: NEONATOLOGY

This area includes all aspects of prevention of hospital infection, as well as prevention of vertical transmission from mother to child. Experts agree that these points should be included in hospital practices for IPC.

Written Report

Instructions and recommendations for the preparation of the report

- When the field activities have been completed, a final written report should be prepared.
- It is recommended that the report be written on the same day as the evaluation was made, particularly if more than one hospital has been evaluated that day.
- This is an activity that should be carried out by the entire team. If more than one hospital has been evaluated on the same day, it is recommended that the hospitals be analyzed one at a time.

Records

Indicate whether or not each indicator in the guide is present by recording **YES**, **NO**, or **PARTIAL**. Whenever **NO** or **PARTIAL** is recorded, a brief written description of the actual status should be provided so that there can be records for local follow-up. **UNEVALUATED** should only be recorded in extraordinary circumstances, and the reason should be explained.

People to interview

- Director
- Person in charge of the IPC Program or Committee
- IPC nurse
- Medical epidemiologist
- Microbiologist
- Sterilization supervisor
- Unit chiefs for intensive care, pediatrics, and surgery
- Head of nursing
- Personnel health supervisor

Proposed program

Activity	Estimated duration minutes	Number of evaluators	Objective	
Initial interview	40	All	Presentation set final meeting.	
Meeting with technical committee	90 to 120	1 recommended: all	Review of information, documents, evaluates the organization and surveillance.	
Visit to services	Sterilization	45 to 60	1	Evaluate the sterilization and disinfection processes.
	Laboratory	30 to 45	1	Evaluate microbiology.
	Intensive Care Unit	30 to 45	1	Evaluate intervention strategies. Integration of the program into routine practice.
	Pediatrics	30 to 45	1	
	Surgery	30 to 45	1	
	Medicine	30 to 45	1	Aspects of the physical plant and environmental sanitation. Identify ineffective practices.
Other services, depending on time available.	30 to 45	1		
Meeting with personnel health supervisor	30 to 40	1	Evaluate personnel health.	
Meeting with governing body	30 to 60	All	Oral report on findings.	
Writing report	120 to 180	All	Prepare report.	

Glossary

access	In this document this refers to the situation in which a hospital provides a service that is not necessarily directly under it. For example, it may not have a microbiology department. Rather, the service is provided by an external laboratory on a timely basis whenever required. In this case it has “access” to microbiology.
annual discharges	Includes normal discharges, discharges due to death, and transfers, over the period of a year.
annual occupied bed days	Based on a daily count of the number of patients in the patient care location. This count is recorded at the same time every day. Daily totals are summed up at the end of the month, and monthly totals summed up at the end of the year.
basic HAI indicators	Minimum ongoing information that a hospital should have in

order to determine infection status. The following infections are included in this minimum: central venous catheter-related sepsis, catheter-associated urinary infections, pneumonias associated with mechanical ventilation, surgical site infections by type of operation, and puerperal endometritis by type of delivery. These indications may be different if an establishment has other frequent high-risk procedures.

biological sterilization controls	Biological controls are currently the only available means to confirm sterilization of an article or to determine the effectiveness of the sterilization process.
Bowie-Dick test	This is a method for evaluating the effectiveness of the vacuum system of an autoclave, by measuring the presence or absence of air or other gases in the sterilization chamber that can hinder rapid and uniform penetration of the steam into the contents being sterilized.
chemical sterilization controls	These tests are based on chemical reactions and are sensitive to the parameters of the different sterilization methods (saturated steam, temperature, and time). They contain paper strips printed with ink and other non-toxic reagents that change color when the requirements for the process are met.
disinfection	Procedure designed to eliminate pathogenic agents from articles and other patient care equipment in order to decrease the risk of infection. Microbial spores are not usually eliminated. Different levels are distinguished using Spaulding's classification. High-level disinfection is of particular interest.
epidemiological surveillance	Ongoing information system on diseases (usually infectious diseases), in the population in order to determine their frequency, risk factors, morbidity, and mortality, for early detection of epidemics.
evidence	Certainty derived from studies on a given subject that are currently considered to be conclusive. This usually includes,

but is not limited to, several controlled clinical trials with concordant conclusions.

external performance evaluation	System for retrospective and objective comparison between laboratories, organized by an independent external entity. ²
goals	Quantified objectives expected to be achieved. They are usually expressed numerically in ratios, rates, proportions, or other similar indicators.
guide	Document with recommendations for action on a given subject. The subjects are usually technical, and the recommendations are not compulsory.
healthcare associated infection (HAI)/ nosocomial infections (NI) /hospital infections	Infection that occurs during or as a result of hospitalization, and was not present or in incubation at the time of patient admission. This definition does not distinguish between severe and minor infections, or between preventable and non-preventable infections.
high level disinfectants with proven effectiveness	Formulations based on glutaraldehyde, >2%; orthophthalaldehyde (OPA), 0.55%; hydrogen peroxide, 7.5%; peracetic acid, >0.2%; hydrogen peroxide, 7.35%. and peracetic acid, 0.23%; hydrogen peroxide, 1%, and peracetic acid, 0.08%.
immunization coverage	Proportion of persons vaccinated of the total planned. For this guide, no distinction is made whether or not the immunological response to the vaccine was evaluated.
immunization program	Activities designed to vaccinate a given population, which establishes who should be vaccinated, which vaccines should be used, dosages, methods, periodicity, and any other relevant characteristics of immunization.
invasive procedure	Clinical procedure that includes mechanical disruption of the body's defense barriers (e. g., skin perforation or insertion of catheters that change the normal flow of fluids.
major surgeries	A major surgery is any procedure carried out in an operating

room that requires incision, excision, manipulation, or suture of a tissue. It usually requires local anesthesia, general anesthesia, or deep sedation to control pain.¹

management of personnel with/exposed to infections	Perform rapid diagnosis and appropriate post-exposure prophylaxis following accidents in the workplace
manual	Reference document that organizes and summarizes the regulations, instructions, procedures, or any other type of information, usually operational, on a specific subject.
medical sharps box	A container for disposing safely of sharp objects used. The medical sharps box should safely contain contaminated sharp objects: immediately after use; during temporary storage; and during transport and handling up to the point of final treatment and disposal.
official document	Document that meets local requirements to be considered obligatory for familiarity and compliance. At minimum it must have the signature of the person in charge of the hospital.
orientation program	Organized training activities to ensure that recently hired personnel are familiar with the hospital's technical and administrative procedures.
professional	Worker with a university education and degree.
program	Organized set of resources and activities to attain a known end. It also includes objectives, goals, and persons responsible.
routine	Customary practice without a rationale that is performed according to current practice.
standard	Standing order that must be complied with.
sterilization	Procedure designed to eliminate all forms of microbial life from articles and other patient care equipment in order to decrease the risk of infection.
structures responsible for the program	A specific stable unit or service that includes those responsible for the safety of clinical activities (departments or unit chiefs). In addition to the individuals themselves, this includes their

method of communication and the hierarchical structure of the organization.

supervision

Process of observation for measuring compliance with standards, instructions, care procedures, or other characteristics of daily practice.

1 ALIANZA MUNDIAL PARA LA SEGURIDAD DEL PACIENTE. SEGUNDO RETO MUNDIAL POR LA SEGURIDAD DEL PACIENTE. LA CIRUGÍA SEGURA SALVA VIDAS. Organización Mundial de la Salud.

http://whqlibdoc.who.int/hq/2008/WHO_IER_PSP_2008.07_spa.pdf

2 Curso de Gestión de calidad y buenas prácticas de laboratorio. II Edición, Washington, D.C., 2009.http://new.paho.org/hq/index.php?option=com_content&task=view&id=1077&Itemid=1273&lang=e

Rapid evaluation guide for nosocomial infection programs

DESCRIPTION OF HOSPITAL

Evaluation date:			
Name of the hospital:			
City:	Country:		
Administrative status: state private university Other:			
Beds:	Annual discharges:		
Annual occupied bed days:			
Beds in Intensive Care Unit (ICU):	Microbiology laboratory:		
ICU beds for adults:	Number of isolations/year:		
ICU beds for pediatrics:	Number of antibiograms/year:		
ICU beds for neonatology:			
Mark the clinical or surgical services that the hospital has	Clinical Service	# Annual discharges	# Annual major surgeries or childbirths
	Surgery		
	Obstetrics		
	Pediatrics		
	Internal medicine		
	Neonatology		
	Adult intensive care		
Other subspecialties			
Names and positions of the people interviewed:			
Names of evaluators:			

AREA: ORGANIZATION

Components	Characteristics	Indicator	Suggested verifier	Present?
Leadership	The structures responsible* for Infection Prevention and Control (IPC) in the hospital and the division of responsibilities have been defined.	There is an official document* designating those responsible for IPC in the hospital. The functions for each person responsible are laid out. The personnel responsible for IPC are at a high level within the institution.	Document signed by local authority. Document signed by local authority. Document signed by local authority.	
	IPC functions are directed and evaluated by the highest level of the organization.	There are annual goals* for IPC for the hospital.	Official document of the institution (program, plan or annual report).	
		There is evidence that decisions are made to achieve the goals.	Minutes, reports, or intervention programs.	
		Goals are monitored and evaluated at least once a year by the hospital management.	Minutes, reports, or annual report.	
IPC Education	The IPC program is considered to be an integral part of work by all personnel.	There is an orientation program* for new personnel and this program is implemented.	Written program that includes IPC standards. Report on compliance with the program.	

* See Glossary.

AREA: EPIDEMIOLOGICAL SURVEILLANCE OF INFECTIONS

Components	Characteristics	Indicator	Suggested verifier	Present?
Personnel	The program has a physician for the activities.	Physician trained in basic epidemiology and IPC	Interview, certificates	
	The program has a nursing professional for HAI control.	# of physicians: Total hours per week: Nursing professional trained in epidemiological surveillance, IPC, and supervision	Interview ¹	
Surveillance method	Microbiologist	# of nursing professionals: Total hours per week: Access to professional microbiologist	Interview ²	
	Surveillance is conducted with active data collection methods	Standardized definitions of most frequent infections	Interview	
		At least weekly case-finding in risk groups, by review of clinical histories and laboratory data	Local document	
		Case-finding carried out by professionals	Surveillance record sheets, interview	
		Standardized definitions of exposed individuals (denominators of rates) and of how information on such individuals is collected	Interview	
Dissemination of information	Epidemiological information is analyzed to detect HAI problems and evaluate the impact of interventions	Has monthly HAI rates for each basic indicator ³	Local procedure and interview	
		Number of months in the last year the indicator was provided:	Reports	
		Annual analysis and report on antimicrobial drug resistance	Report	
		Annual analysis of HAI trends that identifies problems and proposes solutions	Report	
		Evaluation system (e. g., prevalence) of the capacity of the surveillance system to detect infections	Evaluation report	
Dissemination of information	Information is disseminated to all who need it	Identifies epidemic outbreaks and has outbreak report	Outbreak report	
		Number of outbreaks in the last year? Average time for detection of outbreaks:		
Dissemination of information	Information is disseminated to all who need it	Periodic report with analysis, recommendations, and known distribution	Report or bulletins and list of distribution	
		Up-to-date information is available and known in all the departments involved in surveillance	Interview managers	

* See Glossary.

1- minimum of 10 or more hours a week – Core components for infection prevention and control programmes WHO/HSE/EPR/2009

2- minimum of one full-time professional per 250 beds - [Haley RW et al. Am J Epidemiol. 1985 Feb; 121\(2\):182-205.](#)

3- minimum of at least 80% of the year

AREA: MICROBIOLOGY

Components	Characteristics	Indicator	Suggest Verifier	Present?
<p>Diagnostic capability</p>	<p>The establishment has access* to identification of the most relevant microbial agents in HAI</p>	<p>Identification of aerobic bacteria to species level in blood cultures <i>Enterococcus faecium</i> and <i>Enterococcus faecalis</i> <i>Pseudomonas aeruginosa</i> <i>Staphylococcus aureus</i> Enterobacteriaceae</p>	<p>Report, record, and laboratory interview</p>	
		<p>Identification of viral agents: Hepatitis B and C HIV Adenovirus Influenza Syncytial respiratory virus Rotavirus</p>	<p>Report, record, and laboratory interview</p>	
		<p>Identification of <i>M. tuberculosis</i></p>	<p>Report, record, and laboratory interview</p>	
		<p>Identification of Candida</p>	<p>Report, record, and laboratory interview</p>	
		<p>Determination of <i>Clostridium difficile</i></p>	<p>Report, record, and laboratory interview</p>	
	<p>Has routine procedures and capacity to identify susceptibility to antimicrobial drugs of HAI agents isolated</p>	<p>Identify susceptibility patterns for the most frequent agents or those of epidemiological importance for HAI Methicillin-resistant <i>Staphylococcus aureus</i> Vancomycin-resistant <i>Staphylococcus aureus</i>, with CIM</p>	<p>Report, record, and laboratory interview</p>	
		<p>Vancomycin-resistant <i>Enterococcus</i>.</p>	<p>Report, record, and laboratory interview</p>	
		<p>Enterobacteria and nonfermenting bacilli that produce carbapenemases and extended-spectrum beta-lactamases (ESBL)</p>	<p>Report, record, and laboratory interview</p>	
		<p>Nonfermenting bacilli productive of carbapenemases</p>	<p>Report, record, and laboratory interview</p>	

* See Glossary.

<p>Quality control</p>	<p>Microbiology activities are evaluated periodically with internal and external quality control</p>	<p>The program maintains quality control records on identification of agents and antimicrobial susceptibilities in accordance with NCCLS or other standards</p> <p>The program is submitted to an external performance evaluation program at least once a year</p> <p>There is a manual of procedures for internal quality control, updated at least every 3 years, which is disseminated to the personnel</p>	<p>Report, record, and laboratory interview</p>	
<p>Specimen collection, processing, and shipping standards</p>	<p>There are standardized techniques and procedures</p>	<p>There is a specimen collection and shipping manual, updated at least every 3 years, which is disseminated to the personnel</p> <p>There exists a specimen processing manual, updated at least every 3 years, which is disseminated to the personnel</p>	<p>confirm</p> <p>confirm</p> <p>confirm</p>	
<p>Microbiological information</p>	<p>Clinical information analysis</p>	<p>Periodic report on the agents responsible for HAI by specimen type and the department of origin</p> <p>How many in a year?</p> <p>Periodic report on antimicrobial susceptibility patterns for relevant etiologic agents</p> <p>How many in a year?</p> <p>There is an alert mechanism for unusual microbiological findings</p>	<p>Microbiology report</p> <p>Microbiology report and record</p> <p>Report and records</p>	
<p>Participation in the committee for HAI prevention and control</p>	<p>Relation of the microbiologist to the HAI control committee</p>	<p>A laboratory staff member is part of the HAI control committee of controls</p> <p>Participation of the laboratory in the preparation of manuals and guidelines of the HAI committee</p>	<p>Records</p> <p>Confirm</p>	

AREA: INTERVENTION STRATEGIES

Component	Characteristics	Indicator	Suggested verifier	Consolidated activities ¹	Present?
Interventions to improve HAI prevention and control	Principal activities for IPC are regulated in accordance with best current knowledge	Existence of a complete regulatory technical basis	Standards , guides * or manuals *	Summary column (a)	
		The regulations have been updated within the last three years	Standards * , guides * or manuals *	Summary column (b)	
		The contents and indicators of the technical regulations are evidence-based	Standards * , guides * or manuals *	Summary column (c)	
	Compliance with regulations is promoted and evaluated	The regulations have been disseminated with effective activities to those personnel who should be familiar with them	Training program evaluated, attendance reports	Summary column (d)	
		Supervision * of compliance with the regulations by personnel	Supervision reports	Summary column (e)	
		There is evidence of compliance with the basic regulations	Direct observation	Summary column (f)	

¹ Use the “**PREVENTION AND CONTROL STRATEGIES RECORD FORM**” to record the detailed information consolidated here.

* See Glossary.

PREVENTION AND CONTROL STRATEGIES RECORD FORM

		Characteristics					
	(a) Present	(b) Updated (< 3 years)	Evidence-based ² central concepts	(c) Are these concepts included in the standard?	(d) Disseminate d to personnel	(e) Supervision plan for the standard applied	(f) Compliance with the standard
Infection prevention activities							
Prevention of bacteremia associated with central venous catheter			<ul style="list-style-type: none"> • Maximum barriers (surgical preparation of patient and physician) for its installation • Circuit handling with aseptic technique • Use of chlorhexidine for maintenance of the site of insertion 				
Prevention of pneumonia associated with mechanical ventilation			<ul style="list-style-type: none"> • Closed aspiration or with aid of secretions • Handling of circuits with aseptic technique • Circuits change between patients • Use of circuits with at least high-level disinfection • Semi-reclining position • Oral hygiene 				
Prevention of urinary infection associated with urinary catheter			<ul style="list-style-type: none"> • Circuit permanently closed • Bag emptied and hands washed between patients • Collection bag permanently below bladder level 				
Prevention of surgical wound infections			<ul style="list-style-type: none"> • Infectious foci eliminated before surgery • Surgical site not shaved with razor blade • Antimicrobial prophylaxis is administered within a hour before the surgical incision 				
Standard precautions and additional precautions			<ul style="list-style-type: none"> • Use of gloves for handling secretions • Hand-washing before and after patient care • Use PPE (for example, gloves, gown, masks), appropriate for the level of expected contamination when patient is treated in isolation 				
Aseptic technique			<ul style="list-style-type: none"> • Hand-washing before and after patient care • Use of antiseptics for skin preparation before invasive procedures • Use of sterile material in invasive procedures 				
Restricted-use antibiotics			<ul style="list-style-type: none"> • Vancomycin • Third-generation cephalosporin of 3rd generation. • Others? Specify which: 				

²

These concepts are based on well-designed studies that permit the conclusion that compliance is effective in preventing infection

AREA: STERILIZATION AND HIGH-LEVEL DISINFECTION

Components	Characteristics	Indicator	Suggested verifier	Present?
	Appropriate methods	Only sterilization methods of proven efficacy are used ³	Interview, standards, direct observation	
	Standardized procedures	Standards and procedures have been established for all processes related to sterilization	Standards and procedures manual	
		Use of individual chemical indicators in each package	Direct observation	
		Use of biological indicators at least for implants and after equipment repair	Record	
Sterilization * methods	Sterilization processes controlled to guarantee results	Daily use of Bowie-Dick test for pre vacuum autoclaves	Records	
		Surgical instruments processed are free from organic matter	Direct observation	
		All packages are labeled with expiration dates and are within the effective period	Direct observation	
		Undamaged containers that are appropriate for the method ⁴	Direct observation	
	Processes are performed on operational equipment	Use Flash autoclave only in emergencies	Records	
	Appropriate methods	There is a program for preventive maintenance of the sterilization equipment	Maintenance programs records	
	High-level disinfection * processes controlled to guarantee results	Only high-level disinfection of methods of proven efficacy ⁵ are used	Interview, standards, and direct observation.	
		Standards and procedures are established for all processes related to disinfection	Standards and procedures manuals	
		Appropriate exposure time is controlled in every cycle	Standards and records	
		Chemical indicator of concentration at least daily	Records	

* See Glossary.

³ As of the date this document was prepared: autoclaves, dry heat, ethylene oxide in automated equipment, formaldehyde in automated equipment, hydrogen peroxide plasma in automated equipment, peracetic acid in automated equipment.

⁴ Fenestrated boxes for use in autoclaves, use of memory-free paper for all paper packaging, cellulose-free packaging for plasma sterilization

⁵ As of the date this document was prepared, : 2% glutaraldehyde, peracetic acid, orthophthalaldehyde (OPA). For dialysis filters 4% formaldehyde can be used

AREA: PERSONNEL HEALTH

Components	Characteristics	Indicator	Suggested verifier	Present?
<p>Prevention of infections that can be transmitted between health workers and patients</p>	<p>There are activities for prevention of infections that can be transmitted between health workers and patients</p>	<p>Staff training on prevention of exposure to sharps and on immunization</p>	<p>Program and care records</p>	
		<p>Program * in writing for Hepatitis B immunization of personnel exposed to blood</p>	<p>Program</p>	
		<p>Hepatitis B program coverage * greater than or equal to 80% of the target population</p>	<p>Records and coverage</p>	
		<p>Program * in writing for annual influenza immunization for all health staff</p>	<p>Program</p>	
		<p>Influenza program coverage * greater than or equal to 80% of the target population</p>	<p>Records and coverage</p>	
		<p>Program * in writing for rubella immunization for women and susceptible men</p>	<p>Program</p>	
<p>Personnel infections are monitored and measures taken to protect exposed personnel and patients</p>	<p>Personnel infections are monitored and measures taken to protect exposed personnel and patients</p>	<p>Rubella program coverage * greater than or equal to 80% of the target population</p>	<p>Records and coverage</p>	
		<p>Management of exposures to blood caused by injuries from sharp objects used with patients</p>	<p>Standard and records</p>	
		<p>Management of personnel with communicable⁶ infections that is supervised* and complied with</p>	<p>Standard and records</p>	
		<p>Management of exposures of mucous membrane to blood and organic fluids and to injuries from sharp objects used with patients</p>	<p>Standard and records</p>	

* See Glossary.

⁶ Establish whether personnel with infectious communicable diseases may be in contact with patients or whether they should be absent from work during the course of the infection

AREA: HOSPITAL ENVIRONMENT AND SANITATION

Components	Characteristics	Indicator	Suggested verifier	Present?	
Physical plant conditions.	Basic structural conditions for infection prevention exist	Potable water is available on an ongoing basis with a minimum of eight hours supply	Direct observation		
		Hand-washing	Accessible ⁷ and operational washbasins with soap and supplies for drying hands in all patient care areas	Direct observation	
			Glycerinated alcohol in all patient care areas	Direct observation	
	Minimum space	Operational washbasins with accessible supplies in all drug preparation and invasive procedures areas	Direct observation		
		Separation of a meter or more between beds in pediatrics	Direct observation		
		Separation of a meter or more between beds in intensive care units	Direct observation		
Conditions exist for individual isolation of patients	Participation by IPC team if remodeling or construction takes place in areas where activities of clinical importance are conducted	Availability of room for isolation of individual patients or groups, with operational washbasins, access to glycerinated alcohol solution, supplies, closed doors, and personal protection equipment	Minutes, and interviews.		
		For patients who need respiratory isolation, rooms are available for isolation of individual or groups, with operational washbasins, access to glycerinated alcohol solution, supplies, closed doors, and personal protection equipment. The isolation rooms have air vents to the outside	Direct observation		
	Areas for isolation and patients in isolation are marked	There is a space reserved for procedures that generate aerosols	Direct observation		
		Disposal in waterproof, puncture-resistant containers	Direct observation		
	Sanitation conditions	Sharps are handled in a way as to prevent			

⁷ Washbasins should be inside the patients' hospital rooms

accidents	The containers for sharps are in a safe place adequate for guaranteeing the safety of patients and health workers	Direct observation	
	Personnel handling waste use protective ⁸ barriers	Direct observation and interview.	

⁸ Thick waterproof gloves, eye covers if splashing may occur during activities

AREA: INEFFECTIVE PRACTICES

	The following practices have been used in the past for prevention of infections. There are currently no bases for recommending their continuation.	Present?
<p>Known to be ineffective practices that increase risk⁹.</p>	Processing with disinfectants that do not have proven efficacy for sterilization or high-level disinfection	
	Syringes or needles that are used on more than one patient (e. g., in anesthesia or in neonatology)	
	Use Of <i>Flash</i> sterilization as a routine method to sterilize instruments	
	Shaving surgical site with razor blade	
	Use immersion in chemical agents for sterilization	
	Environmental disinfection with formaldehyde	
	Sterilization with formaldehyde tablets	
	Sterilization of materials in plastic bags and ethylene oxide ampoules	
	Recycling of disposable peripheral venous infusion material	
	Use of air conditioning without filter in operating room	
	Use of insecure boxes for disposal of sharps	
	Critical areas for patient care, invasive procedures, and preparation of medications should not have ventilators	
	Chemical decontamination of contaminated material	
	<p>Known to be ineffective and expensive practices.¹⁰</p>	Routine cultures for personnel who are carriers ¹¹
Use of topical antiseptic on open wounds		
Continuation of antibiotic treatment after the operation ends		
Routine cultures of vascular catheter tips		
Disinfection of hospital waste (except for microbiology laboratory)		

⁹ These concepts are based on well-designed studies that lead to the conclusion that they do not prevent infection and, to the contrary, may increase the risk of infection.

¹⁰ These concepts are based on well-designed studies that lead to the conclusion that they do not prevent infection. Although they do not increase risk, they often cause unnecessary expense.

¹¹ These practices are not useful unless there is an epidemic in which there is reason to consider the existence of carriers as a risk factor.

	Use of footwear covers in all areas of the hospital	
	Routine cultures of urinary catheter tips	
	Routine environmental cultures (e. g., air, surfaces, or soap)	

AREA: NEONATOLOGY

Components	Characteristics	Indicator	Are there sufficient nursing professionals, depending on the severity of the children's illnesses?	Suggested verifier	Present?
<p>Prevention of infections that can be transmitted to patients</p>	<p>There are basic general structural conditions for prevention of infections</p>	<p>Number of nursing professionals</p>	<p>Are there sufficient nursing professionals, depending on the severity of the children's illnesses?</p>	<p>Interview</p>	
	<p>There are activities for prevention of infections that can be transmitted between patients and health workers</p>	<p>Hand -washing</p>	<p>Accessible and operational washbasins with soap and supplies for drying of hands in all the patient care areas</p> <p>Glycerinated alcohol in all the patient-care areas</p> <p>Operational washbasins with accessible supplies in all areas for preparation of drugs and formulas and for invasive procedures</p> <p>Separation of a meter or more between cradles in neonatology</p> <p>Use of aseptic technique for insertion</p> <p>Use of chlorhexidine for care of the insertion point.</p> <p>Withdrawal of CVCs with positive hemocultures</p> <p>Early beginning of the enteral diet</p> <p>Breast milk is offered by mothers only to their own children</p> <p>There is availability of pasteurized breast milk</p> <p>There is a protocol for drug fractionation</p>	<p>Direct observation</p> <p>Direct observation</p> <p>Direct observation</p> <p>Direct observation</p> <p>Direct observation</p> <p>Interview, standards, and direct observation.</p> <p>Interview, standards, and direct observation.</p> <p>Interview, standards, and direct observation.</p> <p>Interview</p> <p>Interview, standards</p> <p>Interview, standards, and direct observation.</p>	
	<p>Drug management</p>	<p>Minimum space</p> <p>Prevention of bacteremia associated with central venous catheter</p> <p>Enteral nutrition and breast milk bank</p>		<p>Standards</p>	

			All fractional drugs have the date and hour of dilution and the date and hour of validity or expiration	Interview, standards, and direct observation.	
Prevention of infections that can be transmitted from mother to child	There are activities for prevention of infections that can be transmitted vertically		There is a protocol for prevention of vertical transmission of HIV	Interview, standards, and direct observation.	
			There is a protocol for prevention of vertical transmission of HBV	Interview, standards, and direct observation.	
			There is a protocol for decolonization of mothers colonized with <i>Streptococcus B</i>	Interview, standards, and direct observation.	
			Collyrium ¹² is used for gonococcal ophthalmia prophylaxis	Interview, standards, and direct observation.	

¹² 1% silver nitrate or erythromycin ophthalmic ointment