KINGDOM OF CAMBODIA
NATION RELIGION KING

Ministry of Health

NATIONAL INFECTION CONTROL POLICY

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ABBREVIATIONS

ACH	Angkor Children Hospital
AIDS	Acquired Immune Deficiency Syndrome
AMR	Antimicrobial Resistance
AOP	Annual Operational Plan
APSED	Asia Pacific Strategy for Emerging Diseases
APSIC	Asia Pacific Society for Infection Control
CDC	Centers for Disease Control and Prevention
CMS	Central Medical Store
CENAT	National Centre for Tuberculosis and Leprosy Control
CSSD	Central Sterilization Supply Department
DCDC	Department of Communicable Disease Control
DDFC	Department of Drugs, Food and Cosmetics
DHRD	Department of Human Resources and Development
DHS	Department of Hospital Services
DPHI	Department of Planning and Health Information
DPM	Department of Preventive Medicine
HAI	Healthcare Acquired Infection
HBV	Hepatitis B Virus
HCF	Health Care Facility
HCV	Hepatitis C Virus
HCW	Health Care Worker
HCWM	Health Care Waste Management
HCWMWG	Health Care Waste Management Working Group
HIS	Health Information System
HIV	Human Immunodeficiency Virus
HPA	Health Protection Agency
ICSC	Infection Control Steering Committee
ICT	Infection Control Team
IPC	Institute Pasteur of Cambodia
JICA	Japan International Cooperation Agency
KSFH	Khmer Soviet Friendship Hospital
MOH	Ministry of Health
NBCT	National Blood Transfusion Centre
NCHADS	National Centre for HIV/AIDS, Dermatology and STD
NCHP	National Centre for Health Promotion
NMCHC	National Maternal and Child Health Centre
NGO	Non Governmental Organization
NIP	National Immunization Program
NIPH	National Institute of Public Health
NTF	National Task Force
OD	Operational District
PHD	Provincial Health Department
RH	Referral Hospital
RRT	Rapid Response Team
SOP	Standard Operating Procedure
TB	Tuberculosis
ToR	Term of Reference
TSMC	Technical School for Medical Care
UHS	University of Health Sciences
WHO	World Health Organization
URC	University Research Co.,LLC
UK	United Kingdom
USA	United State of America
WHO	World Health Organization

FOREWORD

The Ministry of Health established the first national policy for Infection Control (IC) in Cambodia and it has been developed through the collaborative efforts of many stakeholders in infection control development. It has relied heavily on the input and contributions from many key people involved in infection control.

Over the years an increased flow of resources for IC development through some NGOs and UN agencies has been observed. This welcome support however, has remained uncoordinated leading to the misallocation of resources to non-priority areas resulting in very poor infection control practices in most health care facilities throughout the country.

The development of this policy seeks to address these challenges. In particular it will provide a road map for all actors and facilitate the channeling of resources to national priority areas. It will provide the much needed framework for IC development in Cambodia.

Although IC represents only one key component of patient safety and quality assurance, the provision of good clinical care for most diseases requires good infection control practices. Good IC practices will reduce the length of hospital stays, the incidence of long-term disabilities and treatment costs while improving adult and infant mortality rates and helping prevent antimicrobial resistance.

To strengthen IC practices a clear structure within the Ministry of Health, Provincial Health Department and health care facilities is needed. The National Infection Control Policy outlines the key areas that require improvement and defines strategic priorities to enable the goal of better IC practices in the country to be realized. It will also be used as a concrete foundation for building up safety in health care facilities in parallel with the national strategic plan and other pillar activities. As far as possible the policy has aligned itself with the priorities identified in the National Health Sector Strategic Plan.

While primarily intended for health care facilities in the public and private sector that are under the supervision of the Ministry of Health (MoH) the policy can also be implemented in the health care facilities of other ministries. Examples include the Ministry of Defense and the Ministry of Interior, both of which operate a network of health centers and hospitals. In the absence of any infection control policy that has been developed specifically for these ministries, they should be encouraged to use the principles outlined in this document and apply them to their own setting.

The Ministry of Health wish to acknowledge the invaluable support and contribution of the following organizations: Chair of the Healthcare Waste Management Working Group, who also chaired the development of this policy; Department of Hospital Services; Department of Communicable Disease Control; World Health Organization; University Research Co. LLC; National Centre for Tuberculosis and Leprosy; National Centre for HIV/AIDS Dermatology and STDs; and the National Task Force for IC and Health Care Waste Management working group, who provided both material and technical support in the development and finalization of this policy document. I therefore appeal to all stakeholders to identify with this policy and give it the necessary support to ensure improved health services are available to all Cambodians.

CHAPTER 1: INTRODUCTION

1.1 Background

The culture of improving general hygiene at health care facilities is an integral part of improving overall health outcomes. An integral part of improving the hygiene culture at health care facilities is to improve infection control. [7]

At any time, more than 1.4 million patients worldwide in developed and developing countries suffer healthcare-associated infections (HAIs).[4] It is a major problem for patient safety. It affects a very large number of patients worldwide each year especially in resource-limited countries and has a high negative impact on patients, their families and healthcare systems. HAIs cause prolonged hospital stays, long-term disability, increased resistance of micro-organisms to antimicrobials, massive additional financial burdens for patients, their families and the health sector generally as well as unnecessary deaths.[3] Data from research studies clearly indicates that HAI is a major hidden problem affecting patients and healthcare workers both psycho-physically and economically.

The risk of acquiring HAI is universal. In the majority of cases, infection is due to multiple causes related to the systems and processes of patient care, and human behavior. By changing their system and practices, some health care facilities have successfully reduced the risk of infection to patients.

The Royal Government of Cambodia understands that good health is a fundamental human right and that a healthy population will foster social and economic growth and political stability. The **Constitution of the Royal Government of Cambodia in Article 72** on Health Care ensures that the health of the people is to be guaranteed. The State gives full consideration to disease prevention and medical treatment.

The Royal Government of Cambodia's **Health Strategic Plan 2** (2008-2015) has strong priorities to develop healthy public policy through health protection and health promotion in order to raise the health status of all citizens. The strategic priorities are: (1) Maternal and Child Health; (2) Communicable Diseases; and (3) Non Communicable diseases. In addition five cross-cutting strategic health interventions have been identified in these three health programs: health service delivery; health care financing; and human resources for health, health information systems, and health system governance.

Health Service Delivery consists of both public health measures against disease – organization of health promotion for reduction of risk behavior and health protection – as well as a general strengthening of health service delivery through general and disease specific policies and plans. Much emphasis is given to the subject of quality improvement and the need for the National Policy on Infection Control.

1.2 What is Infection Control

Infection control in healthcare settings is the discipline concerned with preventing the spread of infections and represents an essential part of the infrastructure of health care. IC concerns itself both with prevention (hand hygiene/hand washing, cleaning/disinfection/sterilization, vaccination, surveillance) and with investigation and management of demonstrated or suspected spread of infections within a particular health-care setting. [1]

Similarly, managing the spread of infectious diseases outside of health care facilities in the wider community requires the development of focused infrastructure. Although often the tools required for managing infection control in health care settings and wider community are the same, the method of delivery can be different. For example, outbreak risk communication to the community via posters and focus groups for community IC versus focused messages given to health care workers on how to use personal protective equipment (PPE) for IC in healthcare settings. Furthermore, IC in the community often involves working with colleagues from different ministries at the operational level.

1.3 Burden of Healthcare-Associated Infections (HAI) in Developing Countries

The biggest enemy of health in the developing world is poverty. For developing countries, a poor social environment, deficiencies in infrastructure, lack of basic equipment, poor quality of supplies, lack of national and local IC policies and co-existence of other major health problems are the main determinants of poor quality of patient care. This situation is further complicated as in many countries surveillance systems providing reliable data on HAI do not exist and the burden of HAI is largely underestimated and practically unknown by healthcare professionals and policy makers.

Prevalence studies conducted in some developing countries have reported hospital-wide nosocomial infection rates mostly higher than 15% with a range from 6% to 27%.[4] The problem affects critically ill patients even more dramatically. However, very few studies have evaluated the mortality associated with HAI in developing countries including Cambodia.

1.4 Cost effectiveness of implementing Infection Control (IC) program in developing countries

The average cost of HAI in developing countries varies depending on the types of infections prevalent in a country's hospitals, the infection rate and the cost of health care. Some studies show that based on an average HAI rate of 8%, the overall cost of treatment (increased days in hospital, more expensive antibiotics, cost of food etc) of the infection being between US $50 and US $500.[4] A 32% reduction in HAI could result in a saving of US $230 million to US $2.3 billion annually.[4] In Cambodia, even if we use the lowest costing, we can expect an overall annual saving from both patient and hospital costs of tens of millions of dollars.

1.5 World Alliance for Patient Safety

A growing awareness of this problem prompted the World Health Organization to promote the creation of the World Alliance for Patient Safety. Prevention of healthcare-associated infection is the target of the Alliance First Global Patient Safety Challenge (Challenge), 'Clean Care is Safer Care', launched in October 2005. After 2 years, a formal statement has been signed by 72 ministries of health as a pledge of their support to implement actions to reduce healthcare-associated infection; of these, 30 are developing countries. Additional countries, mostly from the developing world, have planned to sign by the end of 2008 and will represent in total more than three-quarters of the world's population. Given the emphasis of the proposed strategy on simple and affordable solutions, the impact of the Challenge is expected to be high in developing

countries. The combined efforts expected under the Challenge have the potential to save millions of lives, prevent morbidity and long-term disability for hundreds of millions of patients, and lead to major cost savings through the improvement of basic IC measures in any healthcare setting, regardless of resources available or level of development.[1]

1.6 The History of Infection Control in Cambodia

Addressing IC at the national level in its entirety only really started during the SARS outbreak in 2003. Prior to that, there was a piecemeal approach with development of certain guidelines relevant to certain programs. For example, Injection Safety Guidelines, MCH IC Guidelines for National Maternal and Child Health Centre and various partners trying to establish good sterilisation practices at health facilities.

Since 2003, the MOH has realised the necessity of improving IC with a team being appointed to manage the various activities in the Hospital Service Department of MOH. Most of the focus (and funding) for IC has centred around emerging diseases such as SARS, Avian Influenza and more recently A(H1N1) with an emphasis on the prevention of respiratory infection.

There has been no formal framework to provide guidance and direction for the development of IC in the country, which has contributed to uncoordinated development and poor allocation of resources.

1.7 Rationale for Developing National Infection Control Policy for Cambodia

The development of the National Infection Control Policy has taken into consideration the current economic and technical capacity of the country and the need to keep abreast with advances in medical technology. The aim of the policy is to establish the foundations for an infection control program which includes:

(i) A National Infection Control Policy and National Strategic plan

(ii) Infrastructure in health care facilities that allows the appropriate and correct delivery of the National Infection Control Program including:

- Health facility designs such as sinks for cleaning equipment or hand washing
- Appropriate water and drainage system
- Proper infection control system in operating theatres, wards, laundry, kitchen and isolation rooms
- Standard equipment and quality supplies to ensure safe patient care

(iii) A dedicated person(s) with responsibility for IC in each facility

(iv) Trained IC specialists

- Healthcare workers need to be trained and educated in IC in order to deliver clean and safe care in line with National Infection Control Guidelines

Once these foundations are in place, an IC Program can be implemented. The following programs of work can be viewed as the walls that are built on the foundations in order to deliver a clean, safe healthcare facility, including:

(a) IC guidelines

(b) Appropriate and adequate equipment and supplies

(c) Environment in HCFs including clean water, waste water and sanitation

(d) Waste management in HCFs

(e) Collaboration and Communication

(f) Research and development

(g) Training and capacity building

(h) Diagnostic Microbiological Services

(i) Prudent use of antimicrobials and safe injections

(j) Monitoring and Evaluation

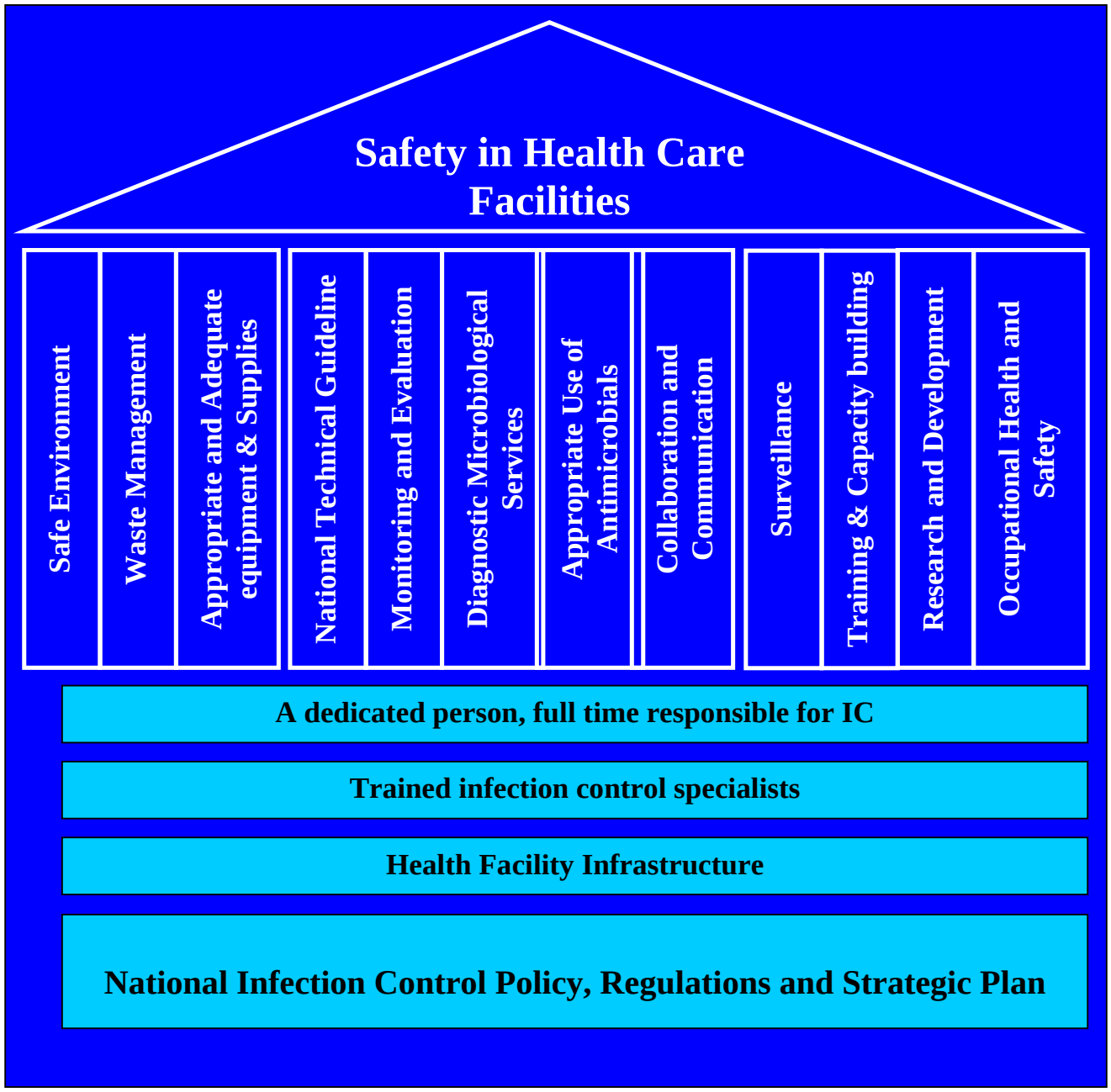
(k) Surveillance

(l) Occupational Health and Safety

The policy will also establish and strengthen structures for IC at:

- National level
    - Steering Committee
    - Leading and responsible departments
- Provincial and OD levels
- Health care facility levels (national hospitals, provincial hospitals, referral hospital (CPA1,2,3), health centres, health posts, private clinics, and all national programs)
    - Infection Control Team (ICT)
    - Infection Control Nurses (ICN)

As summarised in the diagram below, developing IC in Cambodia is like building a house. It needs to have strong and good foundations in order to provide safety in HCFs through out the country.


Safety in Health Care Facilities
Safe Environment
Waste Management
Appropriate and Adequate equipment & Supplies
National Technical Guideline
Monitoring and Evaluation
Diagnostic Microbiological Services
Appropriate Use of Antimicrobials
Collaboration and Communication
Surveillance
Training & Capacity building
Research and Development
Occupational Health and Safety
A dedicated person, full time responsible for IC
Trained infection control specialists
Health Facility Infrastructure
National Infection Control Policy, Regulations and Strategic Plan

CHAPTER 2: CURRENT SITUATION AND CONSTRAINTS

The information describing the current situation and constraints of IC in Cambodia is drawn from various assessments and reports compiled over the years by the Ministry of Health and various stakeholders.

2.1 Organization and Management of Infection Control in Cambodia from 2006-2009

In the past, IC was under the responsibility of the National Task Force on Infection Control. The Task Force is assisted by three technical working groups; (1) Infection Control Working Group, (2) Health Care Waste Management Working Group, and (3) Injection Safety Working Group. The terms of reference existed for the National Task Force for Infection Control but not for each working group. The Health Care Waste Management has developed its own national policy, strategies and action plans but these should now be aligned with the National Infection Control Policy.

It has been recognized that the management of IC in the country needs to be improved further. This is especially true when identifying which departments are responsible for IC and establishing clear lines of communication and responsibility from the central level right through to individual healthcare facilities.

So far almost none of the HCFs have an IC team or a designated person for IC implementation. Even though a few HCFs have set up an ICT, most of them are not fully functioning.

This policy provides a new administrative and organizational structure for IC and this is provided in 3.3 of Chapter 3.

2.2 Infection Control Guidelines

The first National Infection Control Guideline was approved by MoH and distributed for use during the 1990s. However, most HCFs are not aware of it and it is now out of date. A new National Infection Control Guideline is being rewritten by an expert group at MoH and is awaiting approval before distribution.

2.3 Infection Control Training

There has been a plethora of IC training over the last few years as it is important for controlling routine diseases and outbreak prone diseases such as SARS or influenza. Many NGOs as well as the MoH and WHO have provided training and materials on IC practices including injection safety issues. However, most of the training has been focused on IC for Avian Influenza at referral hospitals using the draft Avian Influenza IC guideline as a reference.

Although many people may have been trained on IC practices, there has not been any perceptible improvement in these routine practices. IC practices are seen as activities that need to be done when a patient with Avian Influenza or SARS is admitted to the hospital and is only practiced in those situations.

There is very little knowledge and experience of practicing routine IC at healthcare facilities within the MoH and in many of the private clinics. There is no current system that places responsibility on individuals for implementation of effective IC practice.

2.4 Hospital Infrastructure and Infection Control Activities

One of the issues that has been observed as a barrier to good IC practice in all levels of health care facilities is limited access to running water, soap and/or alcohol gel. Many of the sinks in HCFs are broken or were never connected to piped water and act as a storage shelf instead. There are no clean towels or paper tissues for hand drying. Often, hand washing, cleaning of domestic utensils and cleaning of hospital equipment are all done in the same sinks.

Most HCFs do not have infrastructure required for effective IC practices in place. Many operating theatres are old and the equipment flow is not correct. The vast majority of HCFs do not have a Central Sterilization Supply Department. Each ward has its own sterilization process which sometimes is not consistent with other wards in the same HCFs. Most patients' rooms do not have hand washing facilities. Appropriate drainage systems are also lacking in most facilities. Standard equipment for good IC is often lacking e.g. autoclaves. Training manuals are also often absent leaving questions about appropriate use of equipment.

General hygiene status is poor irrespective of the level of the HCF. It is not unusual to find blood stains on most emergency unit walls, dirty floors throughout the buildings and filthy toilets. Patients' beds are usually not clean enough.

There are no consistent standard supplies of IC supplies provided to the HCFs. For instance, different types of soap (liquid, solid and powder) with different names are seen in the same HCFs. Decontamination and disinfection procedures are different from one department to another in the same HCF as well as in different HCFs.

Understanding the concept of IC is still poor in most HCFs even though most professional staff were already trained on some aspects of IC during their formal education before being hired. In the majority of cases they have not had refresher training and this is especially true in relation to day-to-day practices.

Finally, the process of using the Annual Operational Plan to ask for dedicated funds for IC equipment and activities is not well understood at most HCFs. Since there are few local champions at any of the HCFs who understand IC and its cross cutting nature very few HCFs request dedicated funding. It is often the case that HCF staff do not know how to request dedicated funds for IC activities. Even if budget requests for dedicated funds are originally included, these can be deleted as a result of cost cutting or are recorded under the wrong headings.

CHAPTER 3: INFECTION CONTROL POLICY

3.1 Aim and Objectives of the Policy

Aim

To improve overall quality of health service delivery by improving the culture of IC at all health care facilities.

Objectives

1. To establish effective and safe IC practices for patients and health care workers at all levels of the health care system and through out the country.
2. To ensure the appropriate allocation of funds to support effective and safe IC practices.
3. To increase IC capacity in Cambodia to reach an optimum standard set by the Asia Pacific Strategy for Emerging Diseases (APSED).
4. To involve relevant organizations in promoting and implementing effective and sustainable infection control.

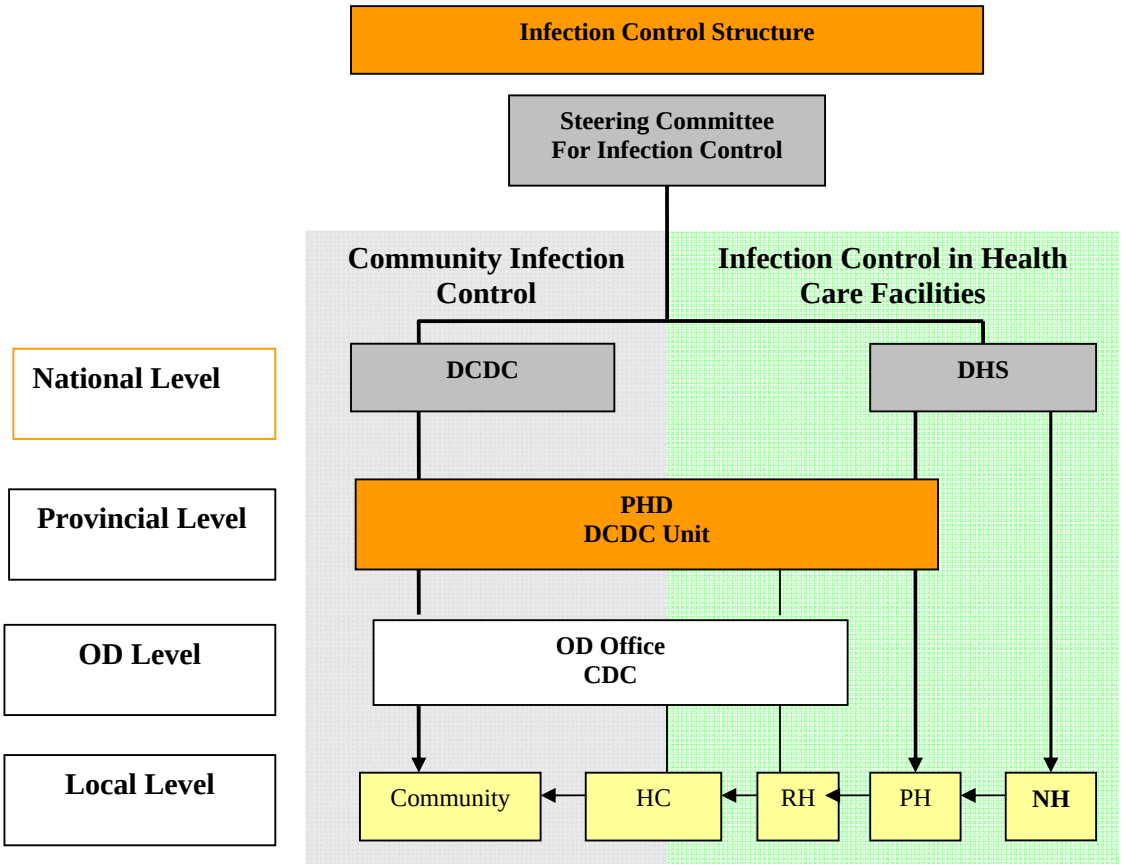
3.2 Scope of this Policy

These policy guidelines build on existing structures in the country to provide safety to patients and health care workers. This policy applies to all health care facilities that are within the jurisdiction of Ministry of Health. This includes all national hospitals, all provincial hospitals, all referral hospitals (CPA1,2,3), all health centers, all health posts, all private clinics, all consultation rooms, and all national programs. This policy also covers all IC in the community of the Ministry of Health.

Other health care facilities that are beyond the control of Ministry of Health could use this policy to facilitate their respective IC programs. This includes health care facilities under the jurisdiction of Ministry of National Defense, Ministry of Interior, Ministry of Social Affairs Veteran and Youth Rehabilitation, Ministry of Education, Youth and Sport, Ministry of Labor and Vocational Training, etc.

3.3 Management and Organization of Infection Control Program

The following diagram provides the overall management and organizational structure of IC in Cambodia.



Note:

The Chairman of the National Infection Control Steering Committee has the discretion to modify, add or reduce the terms of references and members of any infection control teams at national, provincial, operational district, community, and healthcare facility levels.

HCWMWG, IC Technical Working Group, and Infection Safety Working Group will provide technical support to the steering committee as needed.

3.3.1 Aim of the Infection Control Management Structure

To have a national and local system in place for IC.

Commitment from MoH, senior management, local infrastructure and effective systems are all vital components as tackling HAI is everyone's responsibility.

3.3.2 Objectives of the Infection Control Structure

National Level

At the national level the Infection Control Steering Committee (ICSC) has the overall responsibility for approving and ensuring implementation of IC policies, national strategic plans and guidelines, including strengthening capacity building.

With technical support from HCWM WG and national program coordinators the Committee will give advice to two departments responsible for and empowered to implement all IC activities in Cambodia.

The two departments are under the Steering Committee:

- Department of Hospital Services (DHS): responsible for IC in all health care facilities, including public and private sectors
- Department of Communicable Disease Control (DCDC): responsible for IC in communities

Provincial Levels

At the Provincial level the ICT is chaired by the PHD vice director and the chief of DCDC unit is the focal contact for IC in community. The Chief of Technical Bureau at PHD is the focal contact for IC in health care settings, including public and private sectors.

The ICT at provincial level follows advice and recommendations from DHS regarding IC in HCFs and from DCDC regarding IC in the community.

Community Levels

At the community level the Rapid Response Team (RRT) is responsible for IC following guidance from the provincial and district ICT.

Healthcare Facilities

In healthcare facilities there must be an ICT. This team will follow guidance from the provincial ICT as well as from the DHS. The team is responsible for day-to-day running of IC activities. The ICT must ensure that there is a comprehensive plan for IC in their health care facility. The team should meet on a regular basis to discuss relevant issues and report to OD, PHD, and DHS respectively as outlined in the structure above.

The secretary of the ICT plays a role as an IC nurse and must spend dedicated time on IC activities in HCFs.

Please refer to the members and Term of References (ToR) of IC structure at all levels.

3.3.3 Roles and Functions of the National Steering Committee for Infection Control

The Steering Committee is the overall coordinator for all IC activities in the country. It is chaired by the Secretary of State for Health. The Steering Committee will also take into account specific information coming from national programs and also guidance from HCWMWG. The ToR for HCWMWG has been developed already and the working group will continue its work as before. HCWMWG will become responsible for providing technical assistance on HCWM for both departments.

Within the Steering Committee it is the role of directors of national programs and relevant departments to provide technical input into the review and approval process and to ensure that national programs develop their capacity and adhere to the infection control recommendations as approved by the Steering Committee.

If necessary the ICSC can ask directors of national program and other MoH departments to work directly with the DHS and DCDC to ensure the smooth development of policies, national strategic plans, guidelines and their timely implementation.

ToR of the Steering Committee

1. Review and approve the IC policy for final endorsement
2. Review and approve the IC strategic plan for final endorsement
3. Review and approve the IC annual plan for final endorsement
4. Review and approve the IC guidelines for final endorsement
5. Review specific issues raised by DHS or DCDC then submit for decision making
6. Review six monthly reports on IC status and activities in Cambodia
7. Mobilize funds for IC activities

Membership of the steering committee

• Secretary of State for Health	Chair
• Chairperson of HCWMWG	Vice Chair
• Director of DHS	Permanent Secretary
• Directors of DCDC/DPM/DPHI	Member
• Directors of NCHADS,CENAT, CNM, NMCHC, NCHP, NCBT	Members

ToR of the Health Care Waste Management Working Group

1. Coordinate with various development partners and NGOs to create guidelines
2. Provide technical assistance and build capacity of DHS in HCWM
3. Give technical advice related to HCWM to the steering committee
4. Have quarterly meetings with all members of the working group

Membership of the Health Care Waste Management Working Group

• Director of NMCHC	Chair
• Deputy director of National Center for HIV and STD	Member
• Deputy Director of Kossamak Hospital	Member
• Deputy Directors of NPH	Member
• Deputy Director of CDC	Member
• Deputy Directors of NIP	Member
• Deputy Director of DHS	Permanent secretary
• Deputy Directors of Blood Bank Centre	Member
• Deputy Director of DPM	Member
• Deputy Directors of Planning and Health Information	Member
• Vice Chief of Technical Bureau, KB Hospital	Member
• Chief of Hospital Service Bureau	Member
• Chief of Technical Bureau, P. Penh Health Department	Member
• Chief of Technical Bureau, KSFH	Member
• Vice Chief of Admin Bureau, Angdoung Hospital	Member
• Staff of CENAT	Member
• Head nurse, responsible for hygiene in Calmette Hospital	Member
• Vice Chief of Drugs and Food Bureau	Member
• Vice Chief of Bureau of NIPH	Member
• Vice Chief of Nurse and Midwife Bureau, DHS	Member

3.3.4 Roles and Functions of Infection Control Team at the Department of Hospital Services

The Department of Hospital Services is responsible for coordinating the day-to-day activities of infection control at health care facilities. They are also in charge of developing infection control policies, strategic plans and guidelines for health care facilities and working with the DCDC and other stake holders to develop national infection control policies, strategic plans and guidelines.

ToR of ICT at DHS

1. Develop IC policy
2. Develop IC strategic plan
3. Develop and update IC Guidelines
4. Develop its annual plan and budget for action to support the strengthening and expansion of IC activities throughout the country
5. Support IC working group in health care settings and direct resources to address problems as indentified
6. Provide technical advice on standard infrastructure for IC at health care facilities
7. Provide technical inputs during hospital construction or renovation to ensure IC infrastructure is in place
8. Implement the Plan of Action
9. Collaborate with provincial ICT and DCDC to disseminate information to lower levels
10. Coordinate with ICTs in HCFs to make sure IC plans are implemented
11. Roll out training for health care workers in cooperation with DHRD
12. Evaluate IC practice in HCFs
13. Write biannual reports on IC activities and submit them to the Steering Committee
14. Attend regular meetings with DCDC and other partners
15. The director of DHS shall be responsible for organizing meetings with relevant units and partner organizations in order to monitor IC activities at health care facilities and take actions as appropriate

Membership of ICT at DHS

- Director of DHS — Chair
- Deputy Director of DHS in charge of Hospital Services Bureau — Vice Chair
- Chief of Hospital Services Bureau — Permanent Secretary
- Vice Chief of Hospital Services Bureau in charge of IC — Member
- IC Unit, Hospital Services Bureau — Member
- Representative of Nursing Office (1 or 2 persons) — Member
- Representative of Medical Ethic Regulation Bureau (1 or 2 persons) — Member
- Representative of Medical Lab Bureau (1 or 2 persons) — Member

3.3.5 Roles and Functions of Infection Control at the Department of Communicable Disease Control

The ICT at the Department of Communicable Disease Control is in charge of developing and implementing IC activities in the community as well as working with the DHS and other stakeholders to develop national IC policies, plans and guidelines.

ToR of ICT at DCDC

1. Develop IC policy with DHS
2. Develop IC Strategic plan for communities
3. Develop and update IC guidelines for community IC
4. Develop the annual plan of action in collaboration with national and international partners for IC in communities
5. Provide technical support and budget planning to DHS on IC procedures in case of new emerging and reemerging infectious diseases
6. The director of DCDC shall be responsible for organizing meetings with relevant units and partner organizations in order to manage IC in communities

Membership of the ICT at DCDC

• Director DCDC	Chair
• Deputy-Director in charge of Surveillance Bureau	Vice Chair
• Chief of Surveillance Bureau	Permanent Secretary
• Surveillance Bureau (2 persons)	Member
• Communicable Disease Prevention and Control Bureau (2 persons)	Member
• Quarantine Bureau (2 persons)	Members

3.3.6 Roles and Functions of Infection Control Teams at Provincial Health Departments, Operational District Offices, National Hospitals, Provincial Hospitals, Referral Hospitals, and Health Centers

Health Center, Hospital, Operational District and Provincial Health Department level teams are all involved in implementing infection control policies and guidelines within their spheres of responsibility.

ToR of ICT at Provincial Health Department level

1. Focal contact for IC at provincial level
2. Disseminate IC information from the national level to OD or HCF level.
3. Cooperate with DHS and DCDC to monitor and evaluate IC in HCFs and communities
4. Collect reports from each OD and write biannual reports on IC activities and IC status of the province and submit to DHS regarding IC in HCFs and to DCDC regarding IC in communities
5. Make sure that the AOP of the OD includes a budget for IC activities
6. Review the budget for IC improvement in HCFs and in communities in each AOP submitted by each OD and respective provincial hospital
7. Ensure that the AOP of the PHD includes sufficient budget for IC activities

Membership of ICT at Provincial Health Department level

• Vice director of PHD	Chair
• Chief of Technical Bureau at PHD	Vice chair
• CDC chief unit	Secretary
• Chief of Administration Bureau	Member
• Chief of Budget and Finance Bureau	Member
• Provincial Program Manager	Member
• OD Directors	Member
• Director of Provincial Hospital	Member

ToR of ICT at Operational District Level

1. Focal contact for IC at OD level
2. Disseminate IC information from the Provincial level to HCFs and communities.
3. Cooperate with the provincial ICT to monitor and evaluate IC in HCFs and communities
4. Collect reports from each HCF and write biannual reports on IC activities and IC status in the HCFs and communities of the OD and submit to the provincial ICT
5. Ensure that the AOP of the OD includes sufficient budget for IC activities
6. Review the budget for IC improvement in HCFs and in communities in the AOP prepared by each HCF

Membership of the ICT at Operational District Level

• Director of OD	Chair
• Chief of Technical Bureau at OD	Vice chair
• CDC chief unit/RRT	Secretary
• OD Program Managers	Member
• Director of Referral Hospitals	Member

ToR of ICT at National, Provincial, and Referral Hospitals

1. Focal contact for IC in health care facilities
2. Ensure appropriate implementation of IC guidelines
3. Receive updates on IC from OD, Provincial and National levels
4. Develop an annual IC plan with budget proposal in AOP (which could include infrastructure upgrades, equipment, supplies and training)
5. Evaluate the IC practices and status in the HCFs, write quarterly reports and submit to the hospital director.
6. Supervise and monitor daily practices of patient care designated to prevent infection
7. Identify the problems in the implementation of appropriate IC activities that need to be solved and report these to the ICT at OD, provincial or national level
8. Identify and investigate abnormal nosocomial infections in the health care settings and report to the ICT at OD, provincial or national level and request for support if needed
9. Continuously provide refresher training to HCWs on IC practices at least annually
10. Ensure availability of supplies and equipment needed for effective IC practices like syringes, needles, safety boxes, soap, decontamination products, plastic bags and bins for waste
11. Ensure appropriate infrastructure for effective IC in health facilities i.e. running water, appropriate toilets, sewerage and drainage systems, electricity, etc
12. Provide technical support in purchasing and monitoring of equipment and supplies and checking the efficacy of sterilization and disinfection measures
13. Ensure that hand hygiene facilities are available and functioning properly and that soap is available in all wards
14. Ensure that the environment and surfaces are cleaned and washed correctly
15. Ensure that newly recruited staff are briefed about IC practice before they start working in a ward
16. Ensure that waste is segregated and managed according to the Prakas on HCWM
17. Ensure Injection Safety Guidelines and PEP Guidelines are implemented

Membership of the ICT at Provincial and Referral Hospitals

• Hospital Vice Director	Chair
• Chief of Technical Bureau	Vice Chair
• Chief of Nurse/Nursing Division	Permanent Secretary
• Chief of Budget and Finance	Member
• Chief of Administrative Bureau	Member
• Chief of all wards	Member
• Head nurses in all wards	Member

ToR of ICT at Health Centers

1. Focal contact for IC in the health center
2. Ensure the appropriate implementation of IC guidelines
3. Work with local RRT to implement IC activities at the community level

Membership of the ICT at Health Centers

• Health Center Director	Chair
• Program Managers	Member
• Representatives of Village Health Volunteers	Member

3.4 Human Resources

3.4.1 Human Resource Requirements

There will be regular reviews of human resource requirements in terms of skills and numbers to support the IC practices in the country as an ongoing process for manpower development. The recommendations for IC staffing will be based on services offered by the health facilities as well as workload

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3.4.2 Infection Control Training as part of professional training prior to working at HCFs

The Technical School for Medical Care, University of Health Sciences, Regional Training Centers and Private Universities will plan to include detailed IC information in their respective curriculums.

3.4.3 Continuous Professional Development of Infection Control Staff

The ICT of the DHS will be responsible for planning and coordinating continuing professional development of IC personnel at the central level. Refresher training courses and other activities will be developed by DHS ICT according to the requirements of IC personnel in the country. Refresher training courses will be followed up by on-site support supervision and evaluated by performance review.

Currently, due to severe shortages of qualified infection control staff, selected senior nurses or medical doctors with clinical experience will assist the training program based on the IC Guideline. ICTs at the national level are encouraged to attend further training courses in resource centers in regional countries to obtain more applicable experience in IC that is transferrable to the Cambodian setting.

A national training program for IC will be set up with input from WHO, MoH, universities, colleges and partners like RHAC, RACHA, URC, OPTION, and BTC to plan the best method of mass training for IC. Initially this will be achieved by running training the trainer workshops. The newly trained trainers will then be responsible for rolling out the training program to all health care

workers including the newly recruited ones. This will allow initial training of all healthcare workers to raise the awareness of IC.

MoH will encourage creation of partnerships with experienced colleagues and other organizations and societies that may be able to assist (e.g. MoH/WHO, United State Centre for Disease Control and Prevention, Asia Pacific Society for Infection Control) with developing the IC culture at national, provincial and local settings.

3.5 National Infection Control Guidelines

The Department of Hospital Services, in collaboration with appropriate departments and National Programs at the Ministry of Health, will ensure the development, dissemination and implementation of evidence-based guidelines for IC practices in Cambodia and be responsible for coordination of the review process.

The National Infection Control Guidelines will be updated regularly to ensure relevant national and local changes are reflected in the document. The Guideline will be used by all HCFs as a reference document.

3.6 Infection Control Equipment and supplies in Public Health Facilities

3.6.1 Infection Control Equipment Standardization

The Ministry of Health will establish a standard list of IC equipment (e.g. autoclave, incinerators, surgical instruments) for National Hospitals, Referral Hospitals and health centers based on the quality of the instruments, the availability of service contracts and technical performance. All purchase or donations of infection control equipment will be coordinated through the ICTs at DHS and MoH to ensure equipment is appropriate for the level of health care facilities. The decision must be reported to the Steering Committee.

All health care facilities must ensure that safe processing of reusable equipment is carried out so that patients are not put at risk. Standard operating procedures are to be added to the IC Guideline.

The Central Medical Store should be able to supply IC equipment to all health care facilities with sufficient quantity and within an appropriate time frame.

3.6.2 Infection Control Commodity Supply and Distribution

The IC leader of the Referral Hospital will ensure requests for IC supplies like masks and gloves are passed through the hospital administration to ODs and provincial health departments.

The ICT at provincial level is responsible for coordinating with the ICT at DHS and CMS when necessary.

IC supplies should be ordered, managed and stored by the pharmacy in consultation with the ICT in the Referral Hospitals.

Each health care facility should have a standardized data base for inventory control.

The ICT at DHS will work with the DDFC and procurement unit to ensure the equipment and supplies for IC are of acceptable quality.

3.6.3 Care and Maintenance

When new equipment is procured or donated the ICT at DHS will undergo orientation by the manufacturer (or their agent) on the operation and maintenance of the equipment.

The National Workshop Team will be provided with sufficient funds to visit the peripheral hospitals for care, maintenance and calibration of equipment.

Standard operating procedures will be developed by the ICT and other partners at the national level and supplied to IC personnel at health care facilities for daily care and user maintenance of some IC equipment.

3.7 Environment in Health Care Facilities

Each HCF will ensure a clean, and safe environment for implementing the National Infection Control Guidelines.

Each health care facility will have to provide clean water, latrines, soap and sinks for all health care workers to practice appropriate and correct hand hygiene. While hand washing facilities are under construction, each health care facility should be able to provide temporary water supply (buckets, scoops etc) or alcohol based hand gel to its staff for correct hand hygiene.

All referral and national hospitals should have the capacity to manage infectious patients. Ideally, these patients should be isolated from other cases but if isolation facilities are not available, or are in use, they should be treated in a separate room or cohorted. These rooms should not be near the HIV or TB wards. Each health care facility should consider patient flow as one of the prioritized areas of IC activities which needs to be reorganized. This is especially true in Triage/ER and OPD to avoid transmission of some infectious diseases like TB and Avian Flu.

The ICT of Referral and National hospitals must work with the Hospital Maintenance Group to ensure an ongoing maintenance program for sinks, washing machines, toilets, showers etc is carried out. This program should also include communal cooking facilities to avoid relatives cooking in patient rooms.

National and Referral hospitals will provide education for relatives on how to safely prepare food for patients and how to correctly dispose of the waste using different methods, such as posters, in the healthcare environment.

3.8 Waste Management in Public and Private Health Care Facilities

Health care waste management in health care facilities is part of IC activities and must be under the responsibility of the ICT.

All medical waste generated in all health care facilities will be properly segregated, stored, collected, transported, treated and disposed in a safe and environmentally sound manner.

All health care facilities will follow MoH Prakas on HCWM and international protocols for treating health care waste to minimize harm from the medical waste.

The ICTs at all levels will develop and put into practice information, education and communication programs for the public on the importance of proper HCWM.

Further advice on HCWM can be seen in HCWM Prakas.

3.9 Collaboration and Communication

There will be communication and collaboration between different departments within MoH and with other key Ministries, Working Groups and partner organizations.

All other departments within MoH will collaborate and work together with DHS and DCDC to help improve all aspects of IC in Cambodia.

MoH will collaborate with other relevant ministries such as Ministry of Rural Development; Ministry of Interior; Ministry of National Defense; Ministry of Education, Youth and Sports; Ministry of Environment; Ministry of Land Management, Urban Planning and Construction; Ministry of Information; Ministry of Economy and Finance; Ministry of Public Works and Transport; and Ministry of Industry Mines and Energy to improve IC in Cambodia.

MoH will also collaborate with international and local organizations including WHO and other international partners, as well as with NGOs, United States Centre for Disease Control and Prevention (USCDC), Health Protection Agency UK (HPA UK), Asia Pacific Society for Infection Control (APSIC), etc to develop human resources at the national level on IC as well as to implement some of the activities mentioned above.

3.10 Monitoring and Evaluation

There will be ongoing evaluation and monitoring of the IC program and practices at all levels in Cambodia to ensure that objectives have been met, goals accomplished, and activities have been performed according to requirements and areas for improvement identified.

In following up guideline implementation MoH will set up and conduct a program audit to monitor compliance with the National Infection Control Guidelines. These activities will be carried out by the Quality Assurance Office of MoH through routine health facility assessments.

3.11 Surveillance

Active surveillance of Healthcare Associated Infection (HAI) and Antimicrobial Resistance (AMR) is essential to understanding the current situation of HAI & AMR in Cambodia. It also assists in investigating underlying causes of infection, tracking IC practices and can be used as an early warning tool against outbreaks.

The goal of HAI & AMR surveillance is to systematically collect data on the incidence of HAI (new infections) in order to recognize problems when they occur and implement appropriate changes.

Ministry of Health sets the priorities for surveillance of infections and pathogens in Cambodia as follows:

1. Surgical site surveillance
2. Urinary tract infections
3. Bloodstream infections
4. Neonatal infections
5. Acute respiratory infections
6. Antimicrobial resistance

Standardized case definitions for active methods of surveillance will be developed so that consistent data is collected across healthcare facilities and is able to be compared.

The protocols for active surveillance will be in line with the National Infection Control Guidelines and key healthcare facilities with operational diagnostic microbiological services will be assigned to participate in the surveillance program.

3.12 Diagnostic Microbiological Services

The Laboratory Bureau in DHS is now working on the laboratory policy and national strategic plans for laboratory capacity improvement. This IC policy will be in line with the laboratory policy and push toward a functional microbiological service in Cambodia so that IC surveillance can be conducted on a regular basis.

3.13 Prudent Uses of Antibiotics

MoH will promote appropriate use of antibiotics through clinical practice guidelines developed by MoH and national programs.

MoH will also work towards aligning surveillance of antimicrobial resistant organisms with surveillance objectives and to educate healthcare workers in the appropriate use of antimicrobials to reduce the burden of antimicrobial resistance.

3.14 Research and Development

Country specific research and development will lead to a better understanding of HAI in Cambodia which will be used to benefit patient care.

IC will be one of the topics for research conducted by medical students at both the under graduate and post graduate level at the University of Health and Sciences or other medical institutions.

MoH will also encourage local and international institutions, laboratories, or research programs to conduct studies in any field that is beneficial for developing IC in Cambodia.

3.15 Occupational Health and Safety

MoH acknowledges the risks for health care workers working closely with patients and the risk of patients getting infections from health care workers who carry pathogens. MoH will try to ensure a safe environment in health care facilities in Cambodia by introducing a program of appropriate vaccination for healthcare workers, especially Hepatitis B vaccines and vaccines for some emerging diseases, and implementing the policy for managing post exposure prophylaxis for HIV and TB as well as setting up surveillance for needle stick injuries, etc.

3.16 Financing and Sustainability of Infection Control Activities

Financial resources will be sought to sustain quality IC practices in Cambodia. Financial management will be improved for effective utilization of available funds.

Financing mechanisms

All budgeting will reflect cost effectiveness and sustainability. A budgetary cycle for IC implementation will be developed separately from other budgets and in line with the government budgetary cycle. Budgets will be prepared at each relevant unit in consultation with their ICT. DHS and DPHI will consolidate these budgets into a national IC budget.

The implementation of IC in Cambodia will be funded through several mechanisms including:

- Government budgetary provision
- Donations and grants from development partners - all donations will be channeled through MoH
- Income generating activities within health care facilities if applicable

3.17 Revision of Infection Control Policy

This policy is due for revision every five years or a shorter period as needed by the Chairman of the Steering Committee in consideration of structural changes or other major changes in the Ministry of Health.

BIBLIOGRAPHY

1. Pittet D, Allegranzi B, Storr J, Bagheri Nejad S, Dziekan G, Leotsakos A, Donaldson L. (2008). Infection Control as a major World Health Organisation Priority for developing countries. *Journal of Hospital Infection*. Apr;68(4):285-92

2. Department of Health, 2003 Winning Ways, Working together to reduce Healthcare Associated Infection in England. Report from the Chief Medical Officer. Department of Health, England.

3. Victor Daniel Rosenthal, MD, CIC,a Sandra Guzman, RN,a and Pablo Wenceslao Orellano, MScb Buenos Aires, Argentina, Nosocomial infections in medical-surgical intensive care units in Argentina: Attributable mortality and length of stay. *American Journal of Infection Control, Vol. 31 No. 5, August 2003.*

4. H. Nyamogoba, D.N, BSc, MSc, Nosocomial Infection in Developing Countries: Cost Effective Control and Prevention, East African Medical Journal, Vol. 79, No. 8, August 2002.

5. Victor D. Rosenthal, MD, CIC, MSc, Buenos Aires, Argentina, Device-associated nosocomial infections in limited-resources countries: Findings of the International Nosocomial Infection Control Consortium (INICC), *American Journal of Infection Control, Vol. 36 No. 10, December 2008.*

6. Peta-Anne Zimmerman, RN, BN, MHSc, Help or hindrance? Is current infection control advice applicable in low- and middle-income countries? A review of the literature, *American Journal of Infection Control, Vol. 35 No. 8, October 2007.*

7. Department of Health, Social Services and Public Safety, Castle Buildings, Belfast BT4 3SQ *Changing the culture, infection control Nursing in Northern Island, A way forward 2006/2009.* http://www.dhsspsni.gov.uk/changing_the_culture-2.pdf

8. MoH HCWM policy and guidelines

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Technical Advisory Group (This section will be finalized):

H.E. Prof. Eng Huot,	Secretary of State of the Ministry of Health
Professor Koum Kanal,	Director of the National Maternal and Child Health Centre
Sok Touch, M.D.,	Director of Department of Communicable Disease Control
Sann Sary, MD,	Director of Department of Hospital Services.
Sok Srun, M.D.,	Team Leader, Deputy Director of Department of Hospital Services
Ly Sovann, M.D.,	Assistant Team Leader, Deputy Director of Department of CDC
Nima Asgari,M.D.	Public Health Specialist, CSR, WHO
Mohd Nasir Hassan, PhD,	Environmental Engineer, WHO Office
Chea Nora, M.D,	National Programme Officer, Technical officer for Infection Control & Surveillance, WHO Office
Frances Daily, M.D.	University Research Co., LLC
Om Chhorvoin, M.D.	University Research Co., LLC
Cheu Sivuthy, M.D.	Chief of Hospital Services Bureau, Department of Hospital Services.
So Nakry, M.D.	Infection Control Team, Department of Hospital Services.
Sim Sansam, M.D.	Infection Control Team, Department of Hospital Services
Ouk Romanea, Ph	Infection Control Team, Department of Hospital Services
Som Seiharath, M.D.	Vice Chief Office of Regulation & Ethic, Department of Hospital Services
Karen Shaw, MSc	Epidemiology, consultant, CSR, WHO
Philip Pouh, MSc	Infection prevention and control, consultant, CSR, WHO

Sharon Salmon, MPH, Infection control technical officer, CSR, WHO

HCWM Working Group