THE NATIONAL CLEANING STANDARDS FOR ACUTE HEALTHCARE FACILITIES

2024

INTRODUCTION

This document presents the national cleaning standards for acute healthcare facilities in Singapore. The National Infection Prevention and Control (NIPC) Committee was commissioned by the Ministry of Health to develop the standards in consultation and collaboration with the IPC community.

Purpose of the standards

The purpose of the standards is to provide (i) a quality assurance mechanism to ensure relevant systems are in place and (ii) a quality improvement mechanism to realise aspirational or developmental goals. This document serves as a checklist for self-assessment of the cleaning standards and environmental hygiene plan in an acute healthcare facility. The standards reflect the advice provided in the '*National Infection Prevention and Control Guidelines for Acute Healthcare Facilities'* for all acute healthcare facilities in Singapore (with the exception of the Institute of Mental Health). Similar to the '*National IPC Standards for Acute Healthcare Facilities*', selected standards will eventually be incorporated into the relevant regulations (e.g. Acute Hospital Regulations) or licensing conditions.

How to use the standards?

The standards are grouped into the following components:

a) Quality Management System
b) Human Resource Management
c) Cleaning Processes
d) Procurement of Cleaning Agent, Equipment and Disinfectant
e) Cleaning Technologies

Each standard is made up of "core" and "expected" elements. Core elements define activities fundamental for environmental cleaning. Expected elements identify good-to-have activities that healthcare facilities can work towards to improve environmental cleaning and standards. The expected elements may develop into core elements in future. The standards will be reviewed regularly, and new core/expected elements may be introduced during future reviews.

Accompanying the set of standards is a workbook that can be used as a tool to review the existing cleaning standards and environmental hygiene plan/programme. The workbook is available in Annex B.

ACKNOWLEDGEMENT

The National Cleaning Standards for Acute Healthcare Facilities is endorsed by the National Infection Prevention and Control Committee (NIPC). The composition of the NIPC Committee is provided in Table 0.1.

There has been extensive discussion and collaboration with representations from environmental services, facilities management and infection prevention and control (IPC) experts. Worthy of mention is the guidelines drafting workgroup of representatives led by A/Prof Ling Moi Lin (See Table 0.2).

Table 0.1: Composition of NIPC Committee

S/N	Name	Role	Designation
1	Adj Asst Prof Kalisvar Marimuthu	Chairperson	Senior Consultant, Department of Infectious Diseases, TTSH & National Centre for Infectious Diseases (NCID)
2	Prof Dale Fisher	Advisor	Senior Consultant, Division of Infectious Diseases, University Medicine Cluster, National University Hospital (NUH)
3	A/Prof Ling Moi Lin	Member	Director, Infection Prevention and Epidemiology, Singapore General Hospital (SGH)
4	Adj Asst Prof Surinder Pada	Member	Director and Senior Consultant, Infectious Diseases, Ng Teng Fong General Hospital (NTFGH)
5	Dr Louisa Sun	Member	Consultant, Division of Infectious Diseases, Alexandra Health (AH)
6	Dr Tan Si Huei	Member	Consultant, Laboratory Medicine, Changi General Hospital (CGH)
7	A/Prof Thoon Koh Cheng	Member	Senior Consultant, Infectious Disease Service and Infection Control Committee Chair, KK Women's and Children's Hospital (KKH)
8	Dr Ray Lin	Member	Clinical Lead, Infection Prevention and Control Office, WH
9	Ms Poh Bee Fong	Member	Deputy Director of Nursing and Infection Control Lead Nurse, TTSH
10	Adj A/Prof Brenda Ang	Member *(Former)*	Clinical Director, Department of Infection Prevention and Control, Tan Tock Seng Hospital (TTSH)
11	Ms Sharon Wong	Member *(Former)*	Senior Nurse Clinician, Infection Prevention and Control, Sengkang General Hospital (SKH)

Table 0.2: Members of the specific work group who contributed to the drafting of the guidelines (in alphabetical order)

S/N	Name	Designation
1	Ms Ang Liduan	Nurse Clinician, Infection Prevention and Control Unit, KKH

2	Ms Chua Gek Hong	Chief Infection Control Officer, Infection Prevention and Control, IHH Healthcare
3	Mr Ahmad Imran	Environmental Manager, Mount Elizabeth Hospital, IHH Healthcare
4	Ms Lee Ewe Choon	Deputy Director, Environmental Services, SGH
5	Ms Cheryl Neo	Institution Lead (Ng Teng Fong General Hospital & Jurong Community Hospital), Group Hospitality, NUHS
6	Adj Asst Prof Surinder Pada	Director and Senior Consultant, Infectious Diseases, NTFGH
7	Ms Tan Kwee Yuen	Senior Nurse Clinician, Infection Prevention and Epidemiology, SGH
8	Ms Cathrine Teo	Nurse Clinician, Infection Prevention and Control, NUH
9	Ms Connie Wong Yoon Foon	Assistant Director, Environmental Services, SKH

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CHAPTER 1. GOVERNANCE AND MANAGEMENT

Intent

This chapter stipulates the standards for governance and management in environmental cleaning. The intent of the set of standards in this chapter is to ensure:

a) Clear lines of accountability and responsibility for providing a safe and clean environment;

b) The number of cleaning staff are at levels that provides the highest levels of environmental hygiene standards for the patients. It is recommended that all healthcare facilities ensure that the ratio of cleaning staff meets national and international best practice.

Standard 1.1. A cleaning and disinfection quality management system is established in the institution.

This standard comprises the following elements:

Element 1.1.1. A detailed environmental hygiene plan is developed in consultation with relevant stakeholders, including infection prevention and control (IPC) personnel, and reviewed annually. [Core element]

Element 1.1.2. In collaboration with the IPC team, environmental services (ES) shall identify key performance indicators (KPIs) to evaluate and document the quality of its processes. Performance over time is monitored. [Core element]

Standard 1.2. Financial and manpower resources are allocated to organise and execute the environmental hygiene plan.

This standard comprises the following elements:

Element 1.2.1. There is at least one individual who is responsible for overseeing housekeeping for each institution. [Core element]

Element 1.2.2. The number of cleaning staff[1] in each ward should be planned accordingly using the methodology in Annex A to optimise cleaning practices; levels of supervisory staff should be appropriate to the number of staff involved in cleaning. [Core element]

[1] The required number of cleaning staff will vary based on several factors, including number of patient beds, occupancy level, type of cleaning, type of patient care areas (e.g. ICU or General wards). Staffing levels should include consideration of reasonable shift length, and the need for breaks, as well as extra staff for contingencies, such as outbreaks and other emergencies.

<u>Standard 1.3.</u> Environmental cleaning policy is in place to provide the standard to which the environmental services will perform to meet best practices.

This standard comprises the following elements:

Element 1.3.1. There are written procedures for cleaning and disinfection of all patient care and public areas. This should include a list of approved cleaning products, supplies and equipment and any required specifications. [Core element]

Element 1.3.2. There are written procedures for cleaning in areas undergoing construction and renovation. [Core element]

Element 1.3.3. There are escalation plans to enhance environmental cleaning as required for environmentally hardy organisms (e.g. C. *difficile*, C. *auris* etc.) and for outbreak management. [Core element]

Element 1.3.4. Frequency of cleaning and disinfection is monitored by the ES team and may be increased under the direction of the IPC team. Examples include but are not limited to patients at greater risk for contamination of the environment (e.g. diarrhoea, patient on contact precautions or droplet precautions; and during outbreaks in consultation with IPC team). [Core element]

<u>Standard 1.4.</u> Cleaning schedules are developed, with frequency of cleaning reflecting whether surfaces are high-touch or low-touch, the type of activity taking place in the area and the infection risk associated with it; the vulnerability of the patients housed in the area; and the probability of contamination.

This standard comprises the following elements:

Element 1.4.1. There is a cleaning schedule detailing the frequency, methods of cleaning, and staff responsible for various parts of the hospital, including patient care and public areas. At a minimum, general cleaning of patients' immediate care area (include floors, bathrooms, toilets etc) should be done once a day, and high touch cleaning at least twice a day (can be included as part of general cleaning). [Core element]

Element 1.4.2. There are written procedures for cleaning of medical equipment that clearly define the frequency and level of cleaning, and which assigns responsibility for the cleaning. At a minimum, all medical equipment should be cleaned once weekly regardless of use (including those in storage), and after each patient use. [Core element]

Element 1.4.3. Clear responsibilities are defined amongst healthcare workers on cleaning of the work area and medical equipment (e.g. procedure trolley must be wiped down by user after use) [Core element]

CHAPTER 2. HUMAN RESOURCE MANAGEMENT

Intent

This chapter stipulates the standards to ensure adequate training and education are provided to all environmental services (ES) staff, and occupational health programme is in place. The intent of the set of standards is to ensure:

a) The provision of a continuous and ongoing education programme for ES staff to increase awareness of environmental hygiene issues and improve patient safety; and

b) Protection of the health and safety of ES staff with the provision of an occupational health service to deal with occupational incidents in a prompt and effective manner.

Standard 2.1. The supervisor / manager and staff of ES department / unit are trained and qualified to manage the cleaning program for the hospital's size, complexity of activities. Their qualification(s) may be met through education, training, experience, and certification or licensure.

This standard comprises the following elements:

Element 2.1.1. The person(s) charged with directing the environment services is qualified and trained in cleaning and disinfection (e.g. successful completion of Workforce Skills Qualifications (WSQ) Advanced Certificate). [Core element]

Element 2.1.2. The cleaning team leaders / supervisors are qualified and trained in cleaning and disinfection (e.g. WSQ Higher Certificate). [Core element]

Element 2.1.3. All ES staff received specialised training in cleaning and disinfection, with at least an environmental cleaning certificate (WSQ). [Core element]

Standard 2.2. The hospital provides basic education about environmental services to all staff and other professionals. The staff education includes policies, procedures, and practices of the IPC programme.

This standard comprises the following elements:

Element 2.2.1 There is ongoing education and training for all staff (including ES staff) on environmental hygiene.
[Core element]

Element 2.2.2. An annual competency assessment is done for all ES staff.
[Core element]

Element 2.2.3 All cleaning staff must undergo a documented orientation session which should minimally include:

a) Hand hygiene;
b) Appropriate use of personal protective equipment (PPE);
c) Prevention of blood and body fluid exposure; and
d) Sharps safety.

[Core element]

Element 2.2.4. All cleaning staff should have training records that are dated and acknowledged by both the trainer and trainee. [Core element]

<u>Standard 2.3.</u> Environmental Services (ES) staff health and safety are protected.

This standard comprises the following elements:

Element 2.3.1. If cleaning is contracted out, the Occupational Health and Safety policies of the contracting services must be consistent with the institution's Occupational Health and Safety policies. [Core element]

Element 2.3.2. There is an immunisation program for all ES staff to minimally cover immunity requirements and recommendations of MOH for immunisation of healthcare personnel[2]. [Core element]

Element 2.3.3. A process is in place to ensure that appropriate PPE is easily available for all ES staff. Gloves shall be used, when indicated, as an additional measure to reduce the risk of hand contamination with microorganisms and chemicals. [Core element]

Element 2.3.4. There is a policy for timely post-exposure management of needle stick injury and infectious diseases encountered in the workplace. [Core element]

[2] To refer to the "*National IPC Guidelines for Acute Healthcare Facilities"* and the latest MOH circulars on immunisation of healthcare workers, and Licensing Terms and Conditions issued under PHMCA/HCSA for the recommended vaccination list and immunity requirements.

CHAPTER 3. ENVIRONMENTAL CLEANING PROCESSES

Intent

This chapter stipulates the set of standards to ensure processes are in place to effectively implement a comprehensive environmental hygiene plan to reduce the risks of healthcare associated infections (HAIs) in patients and health care workers.

Standard 3.1. The environmental hygiene plan is based on current scientific knowledge, accepted practice guidelines, and Singapore's laws and regulations.

This standard comprises the following elements:

Element 3.1.1. Cleaning and disinfection policies and guidelines meet the requirements of the national guidelines. [Core element]

Element 3.1.2. Cleaning and disinfection policies and guidelines are reviewed and updated on a 3-yearly basis and whenever necessary. [Core element]

Element 3.1.3. Institutions adopt methods to reduce risks of cross-contamination between different types of areas (e.g. color-coding scheme for all cleaning materials and equipment etc.). [Expected element]

Standard 3.2. Environmental hygiene risks are identified and assessed annually, and an annual plan is developed with risk-reduction goals and measurable objectives.

This standard comprises the following elements:

Element 3.2.1. The environmental hygiene plan includes an annual risk assessment that evaluates and prioritises potential risks. [Core element]

Element 3.2.2. There is clear documentation for the planning and implementation of strategic actions and initiatives to address risks identified from annual risk assessment. [Core element]

Element 3.2.3. Annual goals are set to strategically enhance the environmental hygiene plan over time. Relevant key performance indicators (KPIs) are defined and monitored. [Core element]

Standard 3.3. A process is in place to measure the quality of cleaning in all stages.

This standard comprises the following elements:

Element 3.3.1. A process is in place to ensure monitoring of cleaning activities in all patient care areas. [Core element]

Element 3.3.2. Regular audits are done systematically to evaluate the implementation of environmental cleaning policies and procedures; and timely feedback is given to hospital management and relevant stakeholders for follow-up action, and for use in hospital's education programs. [Core element]

Element 3.3.3. There is clear documentation of audit frequency for each functional area which best monitor safe standards using the IPC audit tool[3] (e.g. once a month in high-risk areas such as dialysis centres, ICUs etc). The frequency of audit should be reviewed regularly to meet the changing needs of the service, patients, and the environment and to continuously improve safe cleaning standards. [Core element]

Element 3.3.4. Technical audits including visual assessment and at least one of the following tools: residual bio burden or environmental marking should be undertaken regularly. [Core element]

Element 3.3.5. The audit process should encourage quality improvement and not be punitive. It should include technical audit (checks and scores cleanliness outcomes against the safe standard), efficacy audit (checks the efficacy of the cleaning process at the point of service delivery) and external audit. [Expected element]

Element 3.3.6. Institutions take into consideration audit technologies that use objective evidence-based methodology to support the subjective measurement and efficacy of the cleaning process. [Expected element]

<u>Standard 3.4.</u> The environmental hygiene plan is coordinated between housekeeping, facilities management, and IPC personnel.

This standard comprises the following elements:

Element 3.4.1. Regular meetings are held between the ES department and the other relevant stakeholders (e.g. department managers, IPC team etc). [Core element]

[3] The IPC audit tool (issued in 2019) covers the general ward, outpatient clinic and 9 special areas (i.e. emergency department, central sterile supplies department, endoscopy, pharmacy laboratory, intervention radiology, dialysis centre, dental clinic operating theatres, kitchen).

CHAPTER 4. PROCUREMENT OF CLEANING SERVICES, SUPPLIES AND EQUIPMENT

Intent

This chapter stipulates the standards to ensure structures are in place to ensure appropriate use of environmental cleaning supplies and equipment as they are critical for effective environmental cleaning. The intention of the set of standards is to ensure:

a) There is a comprehensive process to effectively manage the procurement, upkeep, and maintenance of environmental cleaning supplies and equipment.

b) If an external company manages the cleaning programme, the contract or service level agreement should meet the expectations required in the environmental hygiene plan.

Standard 4.1. A process is in place to manage the procurement, upkeep, and maintenance of environmental cleaning supplies and equipment.

This standard comprises the following elements:

Element 4.1.1. Evaluation processes are defined and include the relevant stakeholders (including IPC) prior to procurement of equipment. They should assess cleaning and disinfection of equipment, compatibility of equipment with cleaning agents (e.g. bleach), impact on IPC, functional need for the equipment, maintenance, health and safety, and adequacy of manufacturer's instruction for use on cleaning and disinfection. [Core element]

Element 4.1.2. There are collaborative efforts and policies in place to guide selection, procurement, and selection of finishes to ensure that all finishes, furniture, and patient care equipment can be effectively cleaned and are compatible with the facility disinfectant(s). [Core element]

Standard 4.2. Outsourced cleaning services should meet the standards required in the institution's environmental cleaning policies.

This standard comprises the following elements:

Element 4.2.1. If cleaning services are outsourced, the contract or service level agreement should include the standards and requirements stipulated in the hospital's environmental hygiene plan and policies. [Core element]

CHAPTER 5. CLEANING TECHNOLOGY

Intent

This chapter stipulates the standards to ensure processes are in place to review existing innovation and cleaning technologies to improve efficacy and quality of environmental cleanliness. The intention of the set of standards is to ensure:

a) Processes are in place to review existing cleaning technologies to improve cleaning efficacy and quality of environmental cleanliness.

Standard 5.1. There are considerations for innovation and use of new technology to improve cleaning standards and compliance.

This standard comprises the following elements:

Element 5.1.1. Cleaning technology is included in the annual review of environmental hygiene plan to improve cleaning efficacy and outcome with the following considerations:

a) Reduce variation of cleaning efficacy;
b) Increase level of cleaning and disinfection of surfaces;
c) Increase number of surfaces cleaned and disinfected;
d) Increase frequency of cleaning and disinfection;
e) Protect against recontamination between episodic cleaning and/or disinfection;
f) Provide redundancy in cleaning and disinfection.

[Expected element]

Element 5.1.2. There is clear documentation that evaluation of technology is done in consultation with IPC and the relevant stakeholders (e.g. end-users, workplace safety etc). [Expected element]

Element 5.1.3. Non-touch cleaning technology (e.g. hydrogen peroxide vaporiser, ultraviolet-C disinfection system) is readily available for use as an adjunct to conventional cleaning of environmentally hardy organisms (e.g. C.*auris* etc.), emerging pathogens and hospital outbreaks as directed by the IPC team. [Expected element]

ANNEX A: CALCULATION FOR MINIMUM NUMBER OF FTE REQUIRED

The required number of cleaning staff per ward will vary based on several factors, including number of patient beds, occupancy level, type of cleaning, type of patient care areas (e.g. ICU or General wards). As a guide, Table 1 lists the type of activities as well as the time allocation and frequency of each activity that will be required. An *example* of how institutions can calculate the number of FTEs can be found in Table 2.

Table 1: Type of activities, time allocation and cleaning frequency.

S/N	Activity	Estimated time allocation	Frequency
1	General environment (include mopping of floor, walls, nursing station, empty bins etc.)	3 hours	Once a day
2a	Cleaning of toilets (Single room)	10 mins for each toilet	Once a day
2b	Cleaning of toilets in cubicle (Toilet + shower)	30 mins per toilet	Once a day
2c	Cleaning of common toilets	45 minutes per toilet	Once a day
3	High touch cleaning	10 mins per bed	Twice a day
4a	Cleaning of discharged beds (Single room with toilet)	45 minutes per room	Avg no. of discharged beds / day
4b	Cleaning of discharged beds (Cohort cubicle/room)	30 minutes per bed	Avg no. of discharged beds / day
5a	Terminal cleaning of discharged beds (Single room with toilet)	2 hours per room	Avg number of isolation beds / day
5b	Terminal cleaning of discharged beds (Cohort cubicle/room)	1 hour per bed	Avg number of isolation beds / day
6	Replacing hospital supplies (e.g. replace toilet paper, tissues, or soaps)	1 hour	Once a day
7	Daily bed making	3 mins per bed	Once a day

Table 2: An *example* of calculation for FTE required in a subsidised B2 inpatient ward based on activities[4]

S/N	Activity	Estimated time allocation	Frequency	#Quantity	*Total Time required (hrs)
1	General environment (include mopping of floor, walls, nursing station, empty bins etc.)	3 hours	Once a day	-	3
2	Cleaning of toilets	30 mins for each toilet	Once a day	6 toilets	3
3	High touch cleaning	10 mins per bed	Twice a day	40 beds	13.3
4	Cleaning of discharged beds (single room with toilet)	45 minutes per bed	Avg no. of discharged beds / day	1 bed	0.75
5	Cleaning of discharged beds (cohort cubicle/room)	30 minutes per bed	Avg no. of discharged beds / day	4 beds	2
6	Terminal cleaning of discharged beds (single room with toilet)	2 hours per bed	Avg number of isolation beds / day	1 bed	2
7	Replacing hospital supplies (e.g. replace toilet paper, tissues, or soaps)	1 hour	Once a day	-	1
8	Daily bed making	3 mins per bed	Once a day	40 beds	2
			Total time required:		27
			Number of FTE required per ward (assuming 8 hrs per FTE)^:		3

^ This only accounts for peacetime environmental cleaning. For clusters or outbreaks, an additional 50% FTEs should be included to increase the frequency of cleaning.
** Total time (hours) should be derived accordingly based on quantity, frequency, and time allocation.*
[#] Quantity should be indicated based on the area / ward which the institution is deriving the number of FTE.

[4]Table 2 is meant as an example for calculation of FTE based on type of activities, time allocation and frequency of each activity, and institutions should tabulate the FTE for each clinical area accordingly based on these requirements.

ANNEX B: THE NATIONAL CLEANING STANDARDS WORKBOOK

This workbook has been developed for individuals within the healthcare facility who are responsible for the cleaning standards and environmental hygiene plan and plan for measures to mitigate gaps in the existing processes / programme.

1	GOVERNANCE AND MANAGEMENT	ELEMENT TYPE	MET	NOT MET	ACTION PLAN
1.1	**A cleaning and disinfection quality management system is established in the institution.**				
1.1.1	A detailed environmental hygiene plan is developed in consultation with relevant stakeholders, including infection prevention and control (IPC) personnel, and reviewed annually.	Core element			
1.1.2	In collaboration with the IPC team, environmental services (ES) shall identify key performance indicators (KPIs) to evaluate and document the quality of its processes. Performance over time is monitored.	Core element			
1.2	**Financial and manpower resources are allocated to organise and execute the environmental hygiene plan.**				
1.2.1	There is at least one individual who is responsible for overseeing housekeeping for each institution.	Core element			
1.2.2	The number of cleaning staff in each ward should be planned accordingly using the methodology in Annex A to optimise cleaning practices; levels of supervisory staff should be appropriate to the number of staff involved in cleaning.	Core element			
1.3	**Environmental cleaning policy is in place to provide the standard to which the environmental services will perform to meet best practices.**				
1.3.1	There are written procedures for cleaning and disinfection of all patient care and public areas. This should include a list of approved cleaning products, supplies and equipment and any required specifications.	Core element			
1.3.2	There are written procedures for cleaning in areas undergoing construction and renovation.	Core element			

1	GOVERNANCE AND MANAGEMENT	ELEMENT TYPE	MET	NOT MET	ACTION PLAN
1.3.3	There are escalation plans to enhance environmental cleaning as required for environmentally hardy organisms (e.g. C. difficile, C. *auris* etc.) and for outbreak management.	Core element			
1.3.4	Frequency of cleaning and disinfection is monitored by the ES team and may be increased under the direction of the IPC team. Examples include but are not limited to patients at greater risk for contamination of the environment (e.g. diarrhoea, patient on contact precautions or droplet precautions; and during outbreaks in consultation with IPC team.	Core element			
1.4	**Cleaning schedules are developed, with frequency of cleaning reflecting whether surfaces are high-touch or low-touch, the type of activity taking place in the area and the infection risk associated with it; the vulnerability of the patients housed in the area; and the probability of contamination.**				
1.4.1	There is a cleaning schedule detailing the frequency, methods of cleaning, and staff responsible for various parts of the hospital, including patient care and public areas. At a minimum, general cleaning of patients' immediate care area (include floors, bathrooms, toilets etc) should be done once a day, and high touch cleaning at least twice a day (can be included as part of general cleaning).	Core element			
1.4.2	There are written procedures for cleaning of medical equipment that clearly define the frequency and level of cleaning, and which assigns responsibility for the cleaning. At a minimum, all medical equipment should be cleaned once weekly regardless of use (including those in storage), and after each patient use.	Core element			
1.4.3	Clear responsibilities are defined amongst healthcare workers on cleaning of the work area and medical equipment (e.g. procedure trolley must be wiped down by user after use)	Core element			

2	HUMAN RESOURCE MANAGEMENT	ELEMENT TYPE	MET	NOT MET	ACTION PLAN
2.1	**The supervisor / manager and staff of ES department / unit are trained and qualified to manage the cleaning program for the hospital's size, complexity of activities. Their qualification(s) may be met through education, training, experience, and certification or licensure.**				
2.1.1	The person(s) charged with directing the environment services is qualified and trained in cleaning and disinfection (e.g. successful completion of Workforce Skills Qualifications (WSQ) Advanced Certificate).	Core element			
2.1.2	All ES staff received specialised training in cleaning and disinfection, with at least an environmental cleaning certificate (WSQ).	Core element			
2.2	**The hospital provides basic education about environmental services to all staff and other professionals. The staff education includes policies, procedures, and practices of the IPC programme.**				
2.2.1	There is ongoing education and training for all staff (including ES staff) on environmental hygiene.	Core element			
2.2.2	An annual competency assessment is done for all ES staff.	Core element			
2.2.3	All cleaning staff must undergo a documented orientation session which should minimally include: a) Hand hygiene; b) Appropriate use of personal protective equipment (PPE); c) Prevention of blood and body fluid exposure; and d) Sharps safety.	Core element			
2.2.4	All cleaning staff should have training records that are dated and acknowledged by both the trainer and trainee.	Core element			
2.3	**Environmental Services (ES) staff health and safety are protected.**				
2.3.1	If cleaning is contracted out, the Occupational Health and Safety policies of the contracting services must be consistent	Core element			

2	HUMAN RESOURCE MANAGEMENT	ELEMENT TYPE	MET	NOT MET	ACTION PLAN
	with the institution's Occupational Health and Safety policies.				
2.3.2	There is an immunisation program for all ES staff to minimally cover immunity requirements and recommendations of MOH for immunisation of healthcare personnel.	Core element			
2.3.3	A process is in place to ensure that appropriate PPE is easily available for all ES staff. Gloves shall be used, when indicated, as an additional measure to reduce the risk of hand contamination with microorganisms and chemicals.	Core element			
2.3.4	There is a policy for timely post-exposure management of needle stick injury and infectious diseases encountered in the workplace.	Core element			

3	ENVIRONMENTAL CLEANING PROCESSES	ELEMENT TYPE	MET	NOT MET	ACTION PLAN
3.1	**The environmental hygiene plan is based on current scientific knowledge, accepted practice guidelines, and Singapore's laws and regulations.**				
3.1.1	Cleaning and disinfection policies and guidelines meet the requirements of the national guidelines.	Core element			
3.1.2	Cleaning and disinfection policies and guidelines are reviewed and updated on a 3-yearly basis and whenever necessary.	Core element			
3.1.3	Institutions adopt methods to reduce risks of cross-contamination between different types of areas (e.g. color-coding scheme for all cleaning materials and equipment etc.).	Expected element			
3.2	**Environmental hygiene risks are identified and assessed annually, and an annual plan is developed with risk-reduction goals and measurable objectives.**				
3.2.1	The environmental hygiene plan includes an annual risk assessment that evaluates and prioritises potential risks.	Core element			
3.2.2	There is clear documentation for the planning and implementation of strategic actions and initiatives to address risks identified from annual risk assessment.	Core element			
3.2.3	Annual goals are set to strategically enhance the environmental hygiene plan over time. Relevant key performance indicators (KPIs) are defined and monitored.	Core element			
3.3	**A process is in place to measure the quality of cleaning in all stages.**				
3.3.1	A process is in place to ensure monitoring of cleaning activities in all patient care areas.	Core element			

3	ENVIRONMENTAL CLEANING PROCESSES	ELEMENT TYPE	MET	NOT MET	ACTION PLAN
3.3.2	Regular audits are done systematically to evaluate the implementation of environmental cleaning policies and procedures; and timely feedback is given to hospital management and relevant stakeholders for follow-up action, and for use in hospital's education programs.	Core element			
3.3.3	There is clear documentation of audit frequency for each functional area which best monitor safe standards using the IPC audit tool (e.g. once a month in high-risk areas such as dialysis centres, ICUs etc). The frequency of audit should be reviewed regularly to meet the changing needs of the service, patients, and the environment and to continuously improve safe cleaning standards.	Core element			
3.3.4	Technical audits including visual assessment and at least one of the following tools: residual bio burden or environmental marking should be undertaken regularly.	Core element			
3.3.5	The audit process should encourage quality improvement and not be punitive. It should include technical audit (checks and scores cleanliness outcomes against the safe standard), efficacy audit (checks the efficacy of the cleaning process at the point of service delivery) and external audit.	Expected element			
3.3.6	Institutions take into consideration audit technologies that use objective evidence-based methodology to support the subjective measurement and efficacy of the cleaning process.	Expected element			

3	ENVIRONMENTAL CLEANING PROCESSES	ELEMENT TYPE	MET	NOT MET	ACTION PLAN
3.4	**The environmental hygiene plan is coordinated between housekeeping, facilities management, and IPC personnel.**				
3.4.1	Regular meetings are held between the ES department and the other relevant stakeholders (e.g. department managers, IPC team etc).	Core element			

4	PROCUREMENT OF CLEANING SERVICES, SUPPLIES AND EQUIPMENT	ELEMENT TYPE	MET	NOT MET	ACTION PLAN
4.1	**A process is in place to manage the procurement, upkeep, and maintenance of environmental cleaning supplies and equipment.**				
4.1.1	Evaluation processes are defined and include the relevant stakeholders (including IPC) prior to procurement of equipment. They should assess cleaning and disinfection of equipment, compatibility of equipment with cleaning agents (e.g. bleach), impact on IPC, functional need for the equipment, maintenance, health and safety, and adequacy of manufacturer's instruction for use on cleaning and disinfection.	Core element			
4.1.2	There are collaborative efforts and policies in place to guide selection, procurement, and selection of finishes to ensure that all finishes, furniture, and patient care equipment can be effectively cleaned and are compatible with the facility disinfectant(s).	Core element			
4.2	**Outsourced cleaning services should meet the standards required in the institution's environmental cleaning policies.**				
4.2.1	If cleaning services are outsourced, the contract or service level agreement should include the standards and requirements stipulated in the hospital's environmental hygiene plan and policies.	Core element			

5	CLEANING TECHNOLOGY	ELEMENT TYPE	MET	NOT MET	ACTION PLAN
5.1	**There are considerations for innovation and use of new technology to improve cleaning standards and compliance.**				
5.1.1	Cleaning technology is included in the annual review of environmental hygiene plan to improve cleaning efficacy and outcome with the following considerations: a) Reduce variation of cleaning efficacy; b) Increase level of cleaning and disinfection of surfaces; c) Increase number of surfaces cleaned and disinfected; d) Increase frequency of cleaning and disinfection; e) Protect against recontamination between episodic cleaning and/or disinfection; f) Provide redundancy in cleaning and disinfection.	Expected element			
5.1.2	There is clear documentation that evaluation of technology is done in consultation with IPC and the relevant stakeholders (e.g. end-users, workplace safety etc).	Expected element			
5.1.3	Non-touch cleaning technology (e.g. hydrogen peroxide vaporiser, ultraviolet-C disinfection system) is readily available for use as an adjunct to conventional cleaning of environmentally hardy organisms (e.g. C.*auris* etc.), emerging pathogens and hospital outbreaks as directed by the IPC team.	Core element			