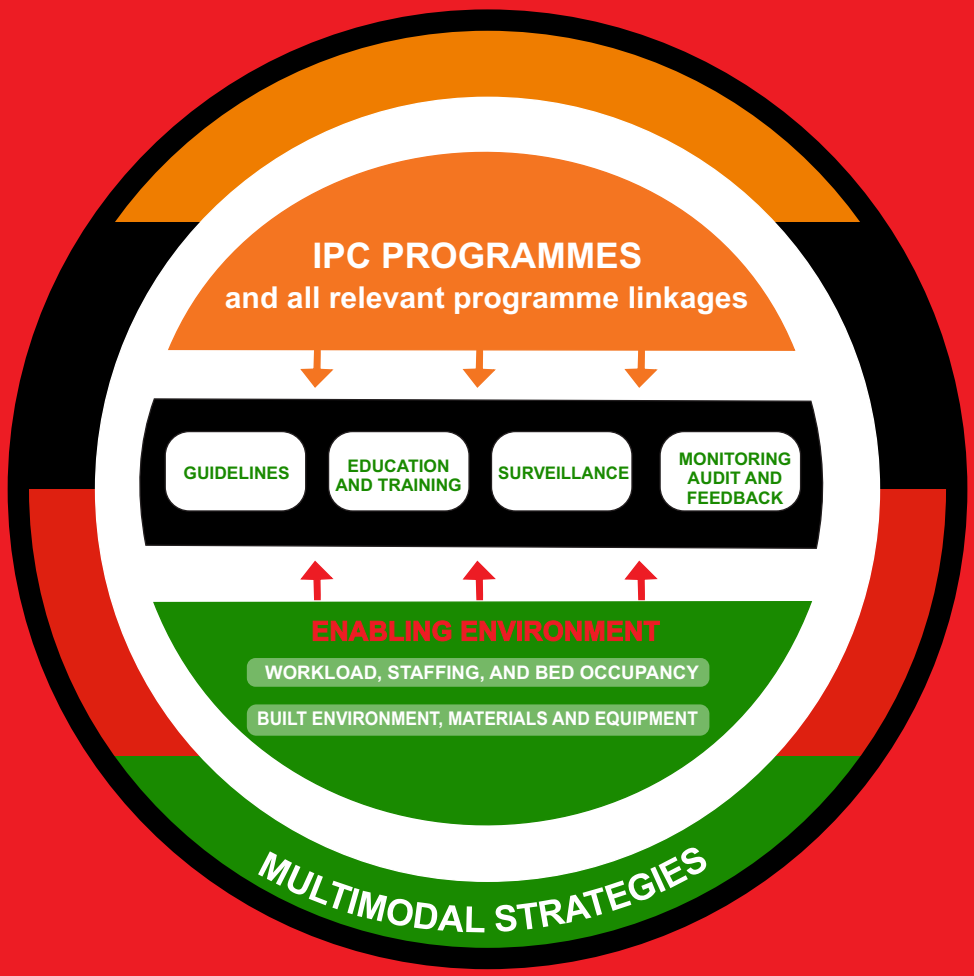
Republic of Zambia

MINISTRY OF HEALTH

NATIONAL STRATEGIC PLAN FOR INFECTION PREVENTION AND CONTROL (2022 - 2032)



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World Health Organization

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PEPFAR U.S. President's Emergency Plan for AIDS Relief

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Foreword

The Global landscape of public health has been shaped by the escalating challenges posed by epidemics, pandemics, and antimicrobial resistance (AMR). These challenges have not only become universal threats but are now recognized as top priorities on the global health agenda. In this context, effective Infection Prevention and Control (IPC) emerges as a fundamental pillar to collective response. In the quest to enhance IPC WHO developed core components for IPC in 2009.

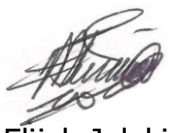
The International Health Regulations (IHR 2005) has underscored the importance of robust IPC strategies in addressing public health threats of international concern. Moreover, the United Nations Sustainable Development Goals (SDGs) have emphasized IPC as a critical contributor to safe, effective high-quality service delivery, particularly in areas related to water, sanitation, and hygiene (WASH), as well as quality and universal health coverage. Recognizing the imperative to enhance patient safety and the quality of care, the Ministry of Health has identified IPC as a pivotal component of quality health care within the framework of the National Health Strategic Plan 2022·

This strategic plan, alongside detailed guidelines, represents a tangible manifestation of the Ministry's commitment to providing quality health services. It empowers the Ministry to uphold established standards and protocols by enhancing the capacity of service providers and promoting IPC at all levels of health care. Basic IPC practices, such as hand hygiene, decontamination of surfaces, and instrument sterilization, must be prioritized in the delivery of optimal patient care.

In addressing the critical nexus between IPC, patient safety, and the provision of quality health services, it is essential to acknowledge that our health system has not adequately addressed this imperative. The unacceptably high rates of Health care-Associated Infections (HCAIs) are indicative of the urgent need to rectify this oversight. The prevalence of highly infectious diseases in our country underscores the urgency of strengthening IPC practices, particularly within health care facilities that can become sources of infection.

The lessons drawn from the challenges posed by the Coronavirus Disease 2019 (COVID-19), emerging and re-emerging public health events serve as a reminder of the need to prioritize IPC within our health sector. This strategic plan provides a comprehensive framework that outlines specific directions for effective implementation of IPC programs in health care facilities and communities. It equips individual health care providers, patients, and caregivers with the necessary tools to implement effective IPC measures.

The Ministry of Health is confident that the implementation of this strategic plan will significantly enhance IPC practices, thereby reducing HCAIs. I call upon all healthcare providers, stakeholders, patients, and caregivers to collaborate in the implementation of this plan. Together, let us strive to achieve our objective of providing quality health services as close to the family as possible.



Hon. Dr. Elijah Julaki Muchima MP.
Minister of Health
Republic of Zambia

Acknowledgements

On behalf of the Ministry of Health, I extend my sincere gratitude to all the dedicated individuals and organizations who played a pivotal role in the development of the Infection Prevention and Control Strategic Plan 2022-2032.

I would like to express my heartfelt appreciation to the Ministry of Health staff and cooperating partners for their unwavering commitment and tireless efforts in mobilizing resources to bring this strategic plan to fruition. Your dedication has been instrumental in shaping a comprehensive and effective roadmap for infection prevention and control.

We are particularly grateful to the technical staff under Ministry of Health, World Health Organization Zambia Office, Zambia National Public Health Institute (ZNPHI), Centres for Disease Research of Zambia (CIDRZ), Water Aid Zambia, United Nations International Children's Fund (UNICEF), Access to Health Zambia, Zambia Environmental Management Agency, and other implementing partners and stakeholders. Your financial and technical support have been invaluable in the successful development and shaping of this strategic document.

I therefore express my profound gratitude to the core team involved in this collaborative effort in finalizing the document. Your commitment to advancing infection prevention and control initiatives is a testament to our sharedvision of a healthier and safer future.

Prof. Christopher Simoonga
Permanent Secretary (A)
Ministry of Health

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EXECUTIVE SUMMARY

This document was developed in line with the Zambia National Health Strategic Plan (ZNHSP) 2022. It highlights and provides strategic guidelines in the implementation of Infection Prevention and Control (IPC) activities for the next ten years at national and sub-national levels. The main focus of IPC is to prevent and control the spread of diseases among patients, health care providers, and caregivers in both public and health care facilities including communities using a holistic approach that integrates all IPC thematic areas in mitigating and preventing healthcare-associated infections and anti-microbial resistance.

The National Strategic Plan for IPC was developed in line with the global strategy highlighting the eight core components of IPC as recommended by the World Health Organization (WHO, 2023). These include:

1. Core component 1: IPC programmes
2. Core component 2: IPC guidelines
3. Core component 3: IPC education and training
4. Core component 4: Healthcare-Associated Infections (HCAIs) Surveillance
5. Core component 5: Multimodal strategies for implementing IPC activities
6. Core component 6: Monitoring and Evaluation and feedback
7. Core component 7: Workload, staffing and bed occupancy at the facility level
8. Core component 8: Built environment and infrastructure

The plan was developed with support from the WHO in consultation with all stakeholders with the aim of achieving national health goals and objectives towards attaining the universal health coverage targets.

LIST OF ACRONYMS

AMR	Anti-Microbial Resistance
COVID-19	Coronavirus Disease 2019
CDC	Centres for Disease Control
CHW	Community Health Worker
FIPC	Fundamental for IPC
HCAIs	Healthcare-Associated Infections
HCF	Health Care Facility
HCP	Health Care Provider
HCW	Health Care Worker
HIV	Human Immunodeficiency Virus
IDSR	Integrated Disease Surveillance and Response
IHR	International Health Regulations
IPC	Infection Prevention and Control
IPC-FPP	Infection Prevention and Control Focal Point Person
M&E	Monitoring and Evaluation
MoH	Ministry of Health
PDIPC	Post graduate Diploma in IPC
PPE	Personal Protection Equipment
SARS	Severe Acute Respiratory Syndrome
SDG	Sustainable Development Goals
SOP	Standard Operating Procedure
SWOT	Strengths, Weaknesses, Opportunities and Threats
TB	Tuberculosis
TWG	Technical Working Group
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
ZNPHI	Zambia National Public Health Institute
EHP	Environmental Health Practitioner
EHO	Environmental Health Officer
EHT	Environmental Health Technologist

DEFINITION OF CONCEPTS AND TERMS

Term	Definition
Anti-Microbial Resistance (AMR)	Anti-microbial Resistance (AMR) occurs when bacteria, viruses, fungi, and parasites change over time and no longer respond to medicines making infections more challenging to treat and increasing the risk of disease spread, severe illness and death.
Community Health Worker	A personal who offers hers/his services in the community usually on a voluntary basis (without anticipation of being paid).
Health Care Facility	Any place where people receive health care services, for example, hospitals, clinics, health posts, pharmacies and outreach services.
Health Care Provider	Member of the health care team providing care or support services.
Infection	The invasion and multiplication of harmful microorganisms in the body tissues of the host. This could be bacteria, fungi and or viruses.
Infection Prevention and Control (IPC)	A practical, evidence-based approach to preventing patients, health care providers, caregivers and all those in contact with the facility environment from being harmed by preventable infections.
Multimodal strategy	This comprises several elements or components implemented in an integrated way to improve IPC practices
One Health	A collaborative, multisectoral, and transdisciplinary approach that recognizes people's health is closely connected to the health of animals and our shared environment.
Personal Protective Equipment (PPE)	Specialized clothing or equipment worn to protect the health care providers, patient or any other person from infection and hazards such as biological, chemical, radiological, electrical, mechanical and other workplace hazards.

Standard precautions	These are the minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where healthcare is delivered.
Strengths, Weaknesses, Opportunities and Threats Analysis (SWOT)	This is a systematic assessment of strengths, weaknesses, opportunities and threats that influence a specific topic.
Transmission-based precautions	Additional measures which focus on the particular mode of transmission of the micro-organism and are always used in addition to standard precautions.
Environmental Health Practitioner	Its an authorised officer defined in the Public Health Act Cap 295 of the laws of Zambia with the responsibility to enforce the IPC compliance and social measures in both public and private institutions including the community
Nosocomial Infection	This is an infection that is acquired in a Hospital or other health facilities.

Vision, Mission and Overall Goal

VISION

A Nation of Healthy and Productive People.

MISSION

To provide equitable access to cost-effective, quality health services as close to the family as possible.

OVERALL GOAL

To ensure everyone accessing or providing health care is safe from healthcare associated infections by 2030.

Chapter 1

INTRODUCTION

Infection Prevention and Control (IPC) is part of a comprehensive approach to improving health outcomes (WHO, 2022). An effective IPC strategy provides a framework to develop and implement guidelines and Standard Operating Procedures (SOPs) to establish a safety culture in Health Care Facilities (HCFs). The evolving landscape of emerging and re-emerging infectious diseases necessitates increased awareness and attention to IPC. A robust health system, which includes the culture and infrastructure of IPC, enables governments and communities to respond to, manage outbreaks and prevent the spread of infectious diseases. The National Strategic Plan for IPC was developed in line with the global strategy considering the eight core components of IPC as recommended by the World Health Organization (WHO, 2022). These are: IPC programme; IPC guidelines; education and training; healthcare associated infections surveillance; multimodal strategies; monitoring, assessing and feedback; workload staffing and bed capacity, and built environment and infrastructure.

The success of IPC programmes in the Zambian setting will be based on guidance and coordination from the national programme by cascading to HCFs and communities based on understanding the facility's problems and needs, prioritizing activities, and using available resources effectively. Resources are always limited, so careful planning, implementation, and evaluation of IPC activities are essential, whether in a small HCF or a busy tertiary hospital. In many settings, infection surveillance systems, microbiology laboratory resources to identify the cause of Healthcare-Associated Infections (HCAIs), and treatment options for infections are limited (WHO, 2021). Thus, IPC is not only the most cost-effective option but also the best strategy available to protect patients and limit the spread of disease within HCFs(Gomes et al., 2022). An effective and efficient IPC programme must consist of multidisciplinary groups that engage and educate staff in all areas and levels to prevent the spread of infections among patients, fellow workers, and themselves (WHO, 2010).

Health care-Associated Infections can be prevented with readily available, relatively inexpensive strategies. However, health care administrators, clinic managers, and staff at all levels must be committed to supporting and implementing recommended IPC guidelines and practices to make this happen. Therefore, IPC programmes are structured to guide, support and assess the facility's IPC activities (WHO, 2016). The development of this strategic plan has considered contextual factors such as the country's current economic, technical, and human resources capacity. This strategic plan gives an overview of the IPC situation in Zambia and the strategies guiding documents and resources to implement IPC programmes.

1.0 BACKGROUND

IPC is part of a comprehensive approach to improve health outcomes. The emergence and re-emergence of various diseases like Severe Acute Respiratory Syndrome (SARS), Tuberculosis (TB), Cholera, Plague, Ebola and norovirus has highlighted the need for strengthening IPC measures in HCFs (Kapoor, 2023). Notably, these events have exposed the gaps in IPC programmes that exist in all countries. In addition, the continuous and increasing endemic burden of HCAIs and Anti-Microbial Resistance (AMR), which harms patients every day across health care systems worldwide and can spread to the community, is a less visible but equally compelling reason to address gaps in IPC. Equally, gaps in the provision of safe Water, Sanitation, Hygiene (WASH), cleaning , disinfection and waste services in HCFs, including the threats posed by climate change globally, require health actors to investin such services in order to strengthen all aspects of IPC.

According to Zimba et al. (2022), HCAIs pose a significant problem in Zambia. In a study conducted atthe University Teaching Hospitals on IPC, revealed that up to 37% of HCAIs are directly attributable to the cross-transmission of resistant organisms across patients and HCPs (Zimba et al., 2022). A study conducted at one of the tertiary hospitals in Zambia showed that white coats worn by HCPs have high microbial contamination and hence pose a nosocomial risk. Isolates of *Staphylococcus aureus* and *Klebsiella pneumoniae*, exhibited the highest resistance to most of the antibiotics assessed (Mwamungule et al., 2015).

In May 2022, the World Health Assembly approved a 'Global Strategy on Infection Prevention and Control' through a resolution that aims to position IPC as central to infectious hazards and health emergency preparedness and response as key to addressing the silent burden of HCAIs and AMR.It positions IPC in the context of health system strengthening and high-quality care delivery, with theaim of improving patient and health worker safety. The resolution calls upon Member States to improve IPC at the national, subnational and facility levels, in line with WHO recommended core components for IPC programmes.

The National Health Strategic Plan (NHSP) 2022 has prioritised IPC in recognition of the fact that it is central to infectious hazards and health emergency preparedness and response, and as key to addressingthe silent burden of HCAIs and AMR. For example, one of the major objectives is to increase the proportion of HCFs complying to IPC/WASH standards from 45% in 2020 to 70 % by 2026 (MOH)

Although the National Health Strategic Plan has prioritised IPC, its implementation in the country has been previously anchored on a narrow perspective focusing on national guidelines. There has been limited coordination of IPC and investments in critical areas such as education and training, infrastructure, surveillance systems, monitoring and evaluation and research. However, during the Coronavirus Disease 2019 (COVID-19) outbreak, efforts were made to improve IPC standards and practices in HCFs and community

The National Infection Prevention and Control Strategy for Zambia which is costed and includes a monitoring and evaluation framework to support accountability for results. The plan translates the vision of the National Health Strategic Plan for 2022 - 2032 and is anchored on the WHO recommended core components for IPC programmes and the 2023 WHO Global Strategy on Infection Prevention and Control. It therefore not only provides a comprehensive framework for implementation, but also accelerates the achievement of the IPC objectives.

Chapter 2

2.0 SITUATION ANALYSIS

IPC is a practical, evidence-based approach whose aim is to prevent patients and health workers from being harmed by avoidable infections. It requires strong multisectoral collaboration and coordination that includes administrative, environmental, and financial support. WHO provides eight core components to strengthen IPC programme implementation at all levels of health care. In addition Zambia has recorded major milestones that include setting up of IPC systems at all levels including the community, development of IPC guidelinesand SOPs, and assessments of HCFs in IPC and WASH. there has been capacity building through trainings and mentorships at various levels to champion best practices, IPC skills transfer and behavioural change. Additionally, the health sector has ensured that IPC commodities and supplies are available at all levels of care. However, to improve a coordinated national IPC programme and address gaps in the 8 core components of IPC across the continuum of the health care system, there is need for the country to develop a strategic plan.

A SWOT analysis was conducted to inform the formulation of strategies, plans, and counter measures based on the results of the assessment (See table below).

2.1 Strengths, Weaknesses, Opportunities and Threats Analysis

Core Component 1: IPC Programme	
Strengths: • Political will • The national IPC-Focal Point Person (IPC-FPP) has undergone training in IPC • Coordination through technical support supervision for national, provincial, and district IPC FPPs • Legal statutes addressing IPC are available	**Weaknesses:** • No established position for national IPC-FPPs • No dedicated budget for IPC activities • IPC implementation in Silos • Limited IPC, HAI and AMR data to inform policy and decision makings • Inadequate survey, assessments and research
Opportunities: • Financial and technical support from partners • Capacity to leverage on resources and lessons from emerging infectious diseases • International IPC guidelines and technical support	**Threats:** • Reliance on partner/donor support • Change in funding priorities by partners
Core Component 2: IPC Guidelines	
Strengths: • National IPC guidelines are available. • IPC SOPs developed and disseminated to public and private institutions	**Weaknesses:** • The IPC guidelines and SOPs not fully implemented by all stakeholders. • IPC guidelines not reviewed and updated. • Lack of specific guidelines for HCWs in different work areas
Opportunities: • Partners support, e.g., WHO, CIDRZ, etc. • Global Strategy on IPC	**Threats:** • Change in funding priorities by partners • Climate Change

• Core component guidelines on IPC	
Core Component 3: IPC Education and Training	
Strengths: • Existence of training institutions for health professionals and community health workers • Existence of Continuous Professional Development Programmes (CPD) that include IPC	**Weaknesses:** • No specific training policy to support IPC training. • Pre-service and in-service curriculum not available • Low coverage of in-service IPC training
Opportunities: • Strong collaboration between Government and relevant stakeholders. • Use of IPC curriculum as a speciality for existing staff	**Threats:** • High staff attrition • Lack of skilled human resource to provide training. • No existing establishment of IPC structure
Core Component 4: Healthcare-Associated Infections Surveillance	
Strengths: • Trained surveillance personnel • Existence of a data collection and management system • Existing reporting structure (from the community, facility, district, province, and national levels) • AMR surveillance in selected HCFs • Presence of a national body (ZNPHI) that looks at disease surveillance and intelligence. • Existence of surveillance national technical guidelines	**Weaknesses:** • Trained surveillance personnel only at national, provincial and district • HAI surveillance guidelines not available • Limited laboratory support for AMR testing and HAI surveillance • Inadequate sensitization on HCAIs at all levels • Current surveillance data collection and management tools do not include HAI .
Opportunities:	**Threats:**

• Supporting partners available • National surveillance system in place • Adequate provisions for research in terms of HAI surveillance	• Increased cost, morbidity, and mortalities due to lack of HAI early warning system. • Surveillance reliance on donor funding • Emerging and re-emerging infectious diseases like COVID-19, Zika, M-pox, and many other events of public health concern
Core Component 5: Multimodal Strategies	
Strengths: • Existing knowledge and awareness of IPC among HCPs • Existing media platforms • Strong expanded immunization programme for adults and children • Models of IPC implementation available	**Weaknesses:** • Inadequate IPC training for HCPs • Inactive IPC committees at all levels • Inadequate monitoring mechanism for IPC • No policy mandating immunization of HCWs • Inconsistent provision of IPC supplies and equipment • Non-adherence to IPC standards • Inadequate vaccines such as Hepatitis B
Opportunities: • International guidelines and technical documents by WHO and other organizations • Willingness of partners and other stakeholders to support IPC	**Threats:** • Emerging and re-emerging infectious diseases • Irrational use of antimicrobials
Core Component 6: Monitoring and assessing IPC practices and feedback	
Strengths: • IPC assessment checklists and score cards available • Competent workforce to support IPC monitoring and evaluation (M&E)	**Weaknesses:** • Current data collection, reporting and feedback is not inclusive of IPC, AMR and HAI indicators

• Existence of Ministry of Health M&E system.	
Opportunities: • Partner support towards IPC M&E framework • Existing WHO IPC indicators, monitoring framework, and data management systems • Integration of technological innovations into the health system	**Threats:** • Cost of purchasing and maintenance of ICT equipment and systems • Dependency on partners for the purchase of ICT equipment
Core Component 7: Workload Staffing and Bed Occupancy at Health Facility Level	
Strengths: • IPC guidelines in facilities available • Availability of HCPs in the HCFs • Bed occupancy standards available	**Weaknesses:** • HCP patient ratio not conforming to set standard • Unplanned leave/days off • Inadequate staffing levels in HCFs
Opportunities: • Political will • Donor/partner support • Bridging the staffing gap/training	**Threats:** • Staff attrition • Staff burn out
Core Component 8: Built Environment and Infrastructure	
Strengths: • Existence of HCFs • Availability of decontamination areas in HCFs • Access to the HCFs by surrounding communities • Newly constructed infrastructure that conforms to IPC standards	**Weaknesses:** • Inadequate isolation facilities with necessary accessories for implementation of the IPC • Inadequate WASH and IPC infrastructure • Inadequate maintenance plan for IPC/WASH facilities • Old infrastructure not conforming to IPC measures • Dilapidated infrastructure

	• Knowledge gap on the use of available IPC/WASH infrastructure
Opportunities: • Political will • Donor/partner support	**Threats:** • Climate change • Population growth

Chapter 3

3.0 SCOPE OF THE STRATEGIC PLAN

This plan provides guidance to IPC programmes at the national, sub-national (provincial and district), HCF and community.

3.1 IPC as a tool to combat Healthcare-Associated Infections (HCAIs):

Healthcare-Associated Infections are the most prevalent adverse events of hospital care, posing a substantial threat to patient safety and burden on society. They are known to complicate clinical care and increase the duration of stay in HCFs.

The following HCAIs will be included under the national surveillance programme:

1. Surgical Site Infections (SSI)
2. Catheter-Associated Urinary Tract Infections (CAUTI)
3. Catheter-Related Bloodstream Infection (CRBSI)
4. Ventilator-Associated Pneumonia (VAP)

Healthcare Associated Infections can be controlled through proper hand hygiene practices of the HCPs and caregivers, proper waste management, and adequate environmental sanitation (Lotfinejad et al., 2021). In addition, basic preventive measures such as administrative support, educating HCPs, hand hygiene, aseptic techniques, and isolation precautions shall be implemented in combination with other evidence-based interventions (Cagle et al., 2022).

3.2 IPC as a tool to combat Anti-Microbial Resistance (AMR):

The continued spread of AMR is a global public health concern. It increases morbidity and mortality and is associated with high economic costs due to its health care burden (Majumder et al., 2020). Healthcare Associated Infections (HCAIs) due to antimicrobial resistant pathogens are one of the biggest challenges for modern medicine (Friedrich, 2019). Antimicrobial stewardship programmes are often interlaced with IPC to optimize the fight against AMR. Zambia through this strategic plan has adopted the WHO Global action plan on AMR strategic objective three (3) which states the need to reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures. Additionally, the country has developed the 2017 to 2027 Multi-sectoral National Action Plan on AMR to guide the implementation of AMR-combating strategies. Arising from implementation of the action plan, some strides have been recorded. However, some gaps were observed by the JEE conducted in 2023 that highlighted the following: the need to address the prevention of multi-drug resistance organism (MDRO); Optimal use of antimicrobial medicines in human health and animal health.

3.3 IPC as a tool to reinforce other national public health programmes:

In Zambia IPC standards have been integrated in all clinical and public health programmes. Coordination of IPC with other health programmes is a priority. Transmission-based precautions, AMR surveillance and monitoring, patient safety and quality of care, WASH, occupational health and safety, health emergencies, biosafety and biosecurity should be integrated across all other national health programmes. IPC measures must be integrated into patient pathways and clinical care delivery at each service provision point at all levels of the health system delivery.

3.4 Achieving global health security goal

The Global Health Security is defined as the activities required both proactive and reactive to minimize the danger and impact of acute public health events, also known as Public Health Emergicies of International Concern (PHEICs), that endangers people's health across geographical regions and international boundaries (WHO, 2023). In the quest to achieve the national health security, the country is partisan to State Party Self-Assessment Annual Reporting Tool (SPAR) and the Joint External Evaluation (JEE). Additionally, the country has also developed the Zambia Multi Hazard Emergency Preparedness and Response Plan and is signatory to the International Health Regulation (IHR) 2005 which is a cornerstone of health system preparedness, response and resilience. The COVID-19 pandemic demonstrated the importance of IPC during patient care and the central role of HCFs in controlling emerging and re-emerging infectious diseases (Iyengar et al., 2020). The safety of HCPs is paramount in the provision of care. Compliance with IPC interventions help to protect caregivers and patients aswell.

Zambia has accomplished a lot under the IPC programme with a few notable challenges, ranging from inadequate coordination among key players (partners and stakeholders), capacity building for the newly recruited staff and logistical support (finances and material) for the implementation of IPC at all levels. To address the above challenges, Zambia working with various partners has identified priorities for strengthening the IPC programmes in line with universal health coverage. Some of the prioritized actions to close the gaps mentioned will be short-term, intermediate and long-term as highlighted in this document.

All health programmes implemented in Zambia have IPC standards integrated such as HIV, Elimination of Mother to Child Transmission (EMTCT), Maternal, Neonatal and Child Health, Tuberculosis (TB) and W ASH. It is cardinal to integrate transmission-based precautions in infectious disease programmes as these are the backbone of control (Ka, 2020). Various national health programmes have an important IPC component, which calls for collaboration and coordination at all levels of service delivery.

Chapter 4

4.0 THE MINIMUM REQUIREMENT FOR IPC AT THE NATIONAL AND SUB-NATIONAL LEVEL

The eight core components of IPC are the wheels of the cart that will ensure safety for patients and providers during provision of health care services both at facility and community levels.

4.1 Core Component 1: Infection Prevention and Control Programme

Infection Prevention and Control programmes are one component of safe, high-quality health service delivery. Infection Prevention and Control programme is a multidisciplinary program that includes a group of activities to ensure that recommended practices for the prevention of HCAIs are implemented and followed by HCPs, making the healthcare setting safe from infection for patients and healthcare personnel. This programme usually includes surveillance of HCAIs, investigation of any HCAI trends or problems, implementation of prevention practices, evaluation and management of outbreaks, and reporting HCAI data to designated authorities (Virginia Department of Health, 2023).

WHO recommends minimum requirements for IPC programmes that countries should adopt and implement by appointing a full-time focal point person to oversee the national programme with a dedicated budget that supports the implementation of IPC strategies and plans. Functional IPC programmes require trained personnel at all levels of care that include community level, primary, secondary, and tertiary level. Each health facility should have an IPC focal point person and a multidisciplinary IPC committee responsible for implementation of IPC activities. Tertiary institutions should ensure to put in place IPC programs at departmental or unit levels with dedicated IPC focal point persons with a multidisciplinary committee. All health facility management should allocate resources towards implementation of IPC activities. It is expected that IPC meetings be conducted to track and address all identified gaps as part of the terms of reference for the IPC committee or focal point person.

Zambia has a supporting Legal framework that complements the enforcement of preventive practices that combat HCAIs in the HCF setup and the industries that provide health services (both public and private institutions). The following are statutes used in the implementation of the IPC programmes:

- Public Health Act Cap 295 of the Laws of Zambia
- Occupational health and safety Act 2010 of the Laws of Zambia
- Food safety Act No 7 of 2019 of the Laws of Zambia
- Environmental management Act No 12 of 2011
- Factories Act chapter 441 of the laws of Zambia
- Solid Waste Management regulations and Management Act no. 20 of 2018

The enforcement of the related laws is a mandate of the Environmental Health practitioners also known as authorized officers who should proactively provide legal education and enforcement with an aim of disease prevention. As a country, the IPC budget outline is lumped under WASH and it includes other thematic areas, such as disaster risk reduction and mitigation components. There is no dedicated and protected budget for IPC as it is regarded as a cross-cutting issue. At the sub national, HCF and community level, IPC activities support should be covered under the monthly grant. Implementing partners and stakeholders support should ensure that it feeds into the existing IPC thematic areas. To actualize WHO recommendations, a dedicated IPC Focal Point Position supported by treasury authority should be considered and the national level to advocate for the inclusion in the national annual budget.

4.2 Core Component 2: Infection Prevention and Control Guidelines

Establishment and strengthening IPC programme at national and facility level requires evidenced based guidelines. To support member states, Zambia inclusive, WHO developed IPC core components to enhance implementation of IPC with effective technical and behavior modifying interventions. The IPC guidelines were first developed in 2017 and have been disseminated to the public and private HCFs across the country. In addition, IPC/WASH SOPs were developed in 2018. With the emerging outbreak of COVID-19, Zambia developed integrated IPC guidelines for COVID-19 to address the challenges of IPC in healthcare settings. Plans are underway to review the existing IPC guidelines, SOPs and adapted national assessment tools to address the current gaps in training, dissemination, implementation and monitoring.

Infection Prevention and Control SOPs should be regularly reviewed, printed, disseminated and distributed to all service provision points. To strengthen the existing programmes, technical support, on-site orientation and mentorship should be conducted to ensure adherence and compliance to IPC guidelines. Exchange visits are encouraged at international, national, provincial and district level to share best practice in IPC.The guidelines should include monitoring IPC at workplaces (occupational health and safety at all levels).

4.3 Core Component 3: Education and Training in Infection Prevention and Control

Infection Prevention and Control capacity and expertise at the country and facility level are linked to the implementation of IPC core component three, IPC education and training. The Zambia IPC programme will support collaboration with all stakeholders to ensure education and training of the health workforce to actualize core functions number 3. Through this strategic plan a deliberate national training policy and accredited curriculum will be developed to train and orient all HCPs in IPC.

Strengthening IPC knowledge, skills and behaviours across all HCWs is a priority action to support the provision of safe effective care and deliver on the actions outlined in the WHO IPC global strategy (WHO, 2024)

To advance this agenda, Zambia will use the WHO in-service training curriculum to develop a national in-service training curriculum and materials for HCPs.

In the same vein, all frontline HCPs and support staff must be trained in IPC as part of induction. Heads of health care facilities are charged with the responsibility of ensuring that IPC training/orientation is provided to new staff. Equally annual assessment of IPC training needs should be conducted to address the identified gaps. To achieve the strategy number four in the global IPC strategy, Zambia will:

- Upgrade the current IPC module provided during the training of HCPs to make it comprehensive.
- Develop undergraduate IPC curriculum.
- Develop postgraduate and specialized curriculum.

4.4 Core Component 4: Healthcare-Associated Infections Surveillance

Globally HCAIs and AMR significantly affect the quality and safety of healthcare delivery. According to a survey conducted by the European Centre for Disease Prevention and Control, 8.9 million HCAIs occur every year. In 2018, a point prevalence survey conducted in hospitals in the USA estimated that 3.2% of patients had one or more HCAIs (Suetens et al., 2018). In 2015, HCAI prevalence of 9% was estimated in South East Asia (Ling et al., 2015). WHO observed that HCAIs prevalence was highest inlow-middle-income countries, ranging from 5.7% to 19.1% (Allegranzi et al., 2011).

These HCAIs are preventable when effective IPC interventions are implemented. The spread of infection in healthcare facilities is often at the origin of major outbreaks or determines their amplification. With global public health emergencies and emerging AMR, strengthening IPC

programmes at all levels will prepare countries to respond to outbreaks and maintain overall safety in health care. Most data related to HCAIs is from high income countries, there is a paucity of data from low- and middle-income countries.

Surveillance in Zambia is implemented using Integrated Disease Surveillance and Response (IDSR) strategy to enhance early warning and response mechanisms. The concepts of surveillance are enshrined in the IDSR technical guidelines for detection, reporting and response to public health events and conditions across the different levels of implementation including HCFs and community. Although HCPs have been trained in IDSR, it does not adequately address HCAIs surveillance. The recent COVID- 19 pandemic also highlighted the need to further strengthen HCAIs surveillance in Zambia. In recent years, the country has been able to train personnel from HCFs with the roll out of the adopted 3rd edition IDSR guidelines initially targeting second and third level hospitals. IDSR training is offered to HCPs both in the pre- and in-service training and will include HCAIs surveillance in a phased approach.

Surveillance approaches for HCAIs are essential to monitor and control their prevalence, identify outbreaks and assess the effectiveness of IPC measures. It shall be the responsibility of the multidisciplinary IPC Committee at all levels to actively monitor patients using the standard tools, review medical records, laboratory data and other relevant information to identify infections and report appropriately.

4.5 Core Component 5: Infection Prevention and Control Multimodal Strategies

WHO recommends implementing IPC activities at all levels using multimodal strategies to improve practices and reduce HCAI and AMR. Multimodal strategies are core components of an effective IPC programme which include the following elements: Build it (system change), Teach it (training and education), Check it (monitoring and feedback), Sell it (reminders and communications), and Live it (culture change). See detailed information in Annex 1. The strategies are implemented in an integrated way to improve an outcome and change the behavior of the HCPs and community.

The emergence and re-emergence of various infectious diseases have justified the need for strengthening IPC measures in health systems. IPC integrates various programmes in health systems that restrict the spread of infections. Thus, strict implementation and adherence to IPC guidelines will prevent the spread of infections from the facility (HCPs and caregivers) and the community. A study conducted at the University Teaching Hospitals revealed that up to 37% of HCAIs is directly attributed

to the cross-transmission of resistant organisms across patients and HCPs at the facility (Zimba et al., 2022). This further indicates that HCPs are generally at risk of exposure to microbial contaminations that would result into HCAIs. These infections can be prevented by adherence to established multimodal interventions for IPC.

The health, safety and well-being of HCPs, patients and caregivers is a legal and moral responsibility of the government and a prerequisite for an effective response to HCAIs and other public health emergencies. Human capital cannot be replenished in the same way as medicines, equipment and other supplies. Hence, it is paramount that we nurture and safeguard them. Therefore, the national IPC programme will coordinate and aid in the implementation of IPC activities at national and subnational levels using the multimodal strategies. The role of multimodal strategic intervention cannot be over emphasised in the control and prevention of HCAIs.

4.6 Core Component 6: Monitoring and assessing IPC practices and feedback

Zambia has adopted WHO recommendations on developing a national monitoring and evaluation programme to assess the extent to which IPC standards and activities are being performed against the programmes goals. At facility level, regular monitoring and timely feedback of health care practices according to IPC standards should be performed to prevent and control HCAIs and AMR.

Strengthening of an integrated action plan to monitor, surveillance, research and give feedback on IPC practices should be guided by comprehensive tools used at primary, secondary, and tertiary level facilities. Additionally, key monitoring indicators should be integrated into the routine national monitoring system.

4.7 Core Component 7: Workload Staffing and Bed Occupancy at the Facility level

Bed occupancy refers to the level of bed use required to deliver effective and safe health care to patients and HCPs therefore, it should not exceed the facility's standard capacity. In order to reduce the HCAIs and AMR, WHO recommends that bed occupancy does not exceed the facility's standard capacity and staff should be assigned according to patient flow. To achieve this, relevant authorities should ensure that all facilities at all levels are not over-crowded, have an effective triage system with clear patients' flow and adequate staffing that promotes IPC including hand hygiene practices. All HCFs should

ensure no more than one patient occupies a bed and provide spacing at least one (1) meter between bed edges. The HCFs should adhere to the established referral guidelines. It is critical that referral system is strengthened with proper communication, adequate transport and logistics to facilitate patient movement from the lowest to next level of care.

Health Care Providers staffing levels should be adequately assigned according to patient workload. The current doctor-to-patient ratio in Zambia is high (1:12,000 vs 1:5000 and the nurse-to-patient ratio is 1: 14,960 vs 1:700) (MOH, 2022). The critical shortage of skilled manpower contributes to stress, work overload and burnout that compromises the quality of healthcare services provided with a risk of increasing HCAIs. Staffing level needs assessment should be conducted and data used to address the challenges. Advocate to update the existing human resource structures and lobby for adequate funding to operationalize the ideal structures.

4.8 Core Component 8: Built Environment and Infrastructure

Built environments and infrastructure are man-made features, structures and facilities viewed collectively as an environment where people live and work. It touches on all aspects of our lives, encompassing the buildings we live in, the distribution system that provides us with water, electricity, bridges, and transportation system. The built environment is all-encompassing in providing health care services considering all the pillars of IPC for HCPs, patients, and caregivers.

According to the national WASH Report of 2019, 14% of the HCFs had no access to clean and safe water; only 53% of HCFs had proper sanitation; 64% of HCFs met the health care standards of waste management; 62% of HCFs practiced hand hygiene and had basic facilities; and, 49% practiced cleaning and disinfection of critical areas of the HCFs. This shows that most HCFs require improvements in sanitation, waste management and hand hygiene infrastructure.

Following the 2022 political and administrative directive that stated that all HCFs should have 100% access to running water, waterborne toilets, maternity annex and waste management systems. Ministry of Health will collaborate with all stakeholders to ensure HCPs adhere to hand hygiene practice, sensitize and educate community through monitoring of hand hygiene. All HCFs should maintain a clean environment to minimize the risk of the spread of HCAIs and promote safety as health care services are provided.

Additionally, buildings should comply to the standards in the Public Health Act on:

- dimensions for habitable rooms (minimum 2.5m by 2.5m);
- lighting (openable windows or doors should be one-tenth of floor area);

- ventilation should achieve/allow 12 air changes per hour;
- fly screening of windows;
- rat proofing of buildings.

Chapter 5

5.0 STRATEGIC OBJECTIVES AND KEY INTERVENTIONS

5.1 Strategic Objective 1: Infection Prevention and Control Programmes

Objective 1: To Strengthen and maintain active IPC programmes at national and sub-national levels	
Intervention 1	Advocate for the establishment of at least two IPC positions (environmental and clinical backgrounds) at national level and all HCFs with cabinet approval
Intervention 2	Establish a national IPC Steering committee with clear TORs.
Intervention 3	Establish a multi-sectoral IPC Technical Working Group at national level , subnational levels and IPC committees at all HCFs
Intervention 4	Develop an IPC Action plan and budget at all levels of the health sector
Intervention 5	Strengthen partner coordination in the implementation of IPC activities
Intervention 6	Develop IPC research topics at all levels
Intervention 7	Strengthen legal education and enforcement in IPC
Intervention 8	Promote community involvement in IPC

5.2 Strategic Objective 2: Infection Prevention and Control Guidelines

Objective 2: To strengthen and standardize IPC practices and behavior.	
Intervention 1	To develop and implement specific SOPs based on transmission precautions to prevent the most prevalent HCAIs.
Intervention 2	To review and disseminate evidence-based approved guidelines for the purpose of reducing HCAIs and AMR to all stakeholders at all levels (public and private)
Intervention 3	To train HCPs at all levels on the use of national SOPs and adherence to guideline recommendations to improve IPC practices and behaviour.
Intervention 4	To monitor implementation and adherence to guideline recommendations.

5.3 Strategic Objective 3: Education and Training in IPC

Objective 3-1: To enhance Health Care Providers competencies and skills in Infection Prevention and Control	
Intervention 1	Conduct a training needs assessment and review for clinical, environmental and other human and animal paramedical professions.
Intervention 2	Develop an IPC curriculum for pre-service, in-service and post graduate training to address the identified national training needs (Annex 2)
Intervention 3	Design a monitoring and evaluation system for the effectiveness of education and training.

Objective 3-2: To enhance community knowledge and adherence to IPC practices	
Intervention 1	Conduct community sensitization to promote IPC practices at household level
Intervention 2	Develop and disseminate IPC/IEC material in different local languages targeting all households, community schools, health care and public places
Intervention 3	Develop and disseminate IPC/IEC material for people with special needs
Intervention 4	Promote ownership of IPC through collaboration and engagement of community leadership
Intervention 5	Monitoring and evaluation of IPC practices in the community

5.4 Strategic Objective 4: Healthcare Associated Infections Surveillance

Objective 4-1: To strengthen Health care Associated Infections (HCAIs) surveillance programme.	
Intervention 1	Establish a multidisciplinary Health care Associated Infections surveillance taskforce at national and sub-national levels with clear TORs.
Intervention 2	Develop data collecting systems for Health care Associated Infections among Health Care Providers and the community.
Intervention 3	Establish Monitoring and evaluation systems for HCAIs
Intervention 4	Develop Health care Associated Infections surveillance guidelines to be included in the national surveillance guidelines
Intervention 5	Build capacity for HCPs in HCAIs
Intervention 6	Strengthen laboratory capacity and sample referral system
Intervention 7	Strengthen the detection, recording and reporting of all priority Health care Associated Infections among Health Care Providers at every level of service delivery.

Objective 4-2: To strengthen AMR surveillance programme.	
Intervention 1	Integrate AMR surveillance into the national surveillance system
Intervention 2	Collect baseline data of AMR prevalence
Intervention 3	Build capacity for HCPs in AMR detection and reporting
Intervention 4	Strengthen laboratory capacity and sample referral system
Intervention 5	Collaborate with regulatory bodies to promote rational use of antimicrobials and adherence to good clinical practices in all health settings (public and private) and community sensitization
Intervention 6	Strengthen the detection, recording and reporting of all priority Health care Associated Infections among Health Care Providers at every level of service delivery.

5.5 Strategic Objective 5: Multimodal Strategies

Objective 5-1: To provide administrators and Health Care providers (HCPs) with tools to implement effective IPC programmes to protect patients, fellow HCPs and care givers from infections.	
Intervention 1	Provide a safe work environment with minimum IPC requirements package for all administrators and HCPs
Intervention 2	Equip all HCPs and care givers with IPC knowledge at all levels.
Intervention 3	Procure and distribute IPC promotional materials and supplies to all levels of Health care
Intervention 4	Provide quarterly technical support and supervisory visits
Intervention 5	Monitor and evaluate IPC multimodal interventions at all levels of the Health care system
Intervention 6	Strengthen senior management involvement at all levels

Objective 5-2: To collaborate with communities to minimize the spread of infections.	
Intervention 1	Identify and map the local partners and stakeholders in the community
Intervention 2	Review and adopt TORs and key deliverables for community interventions
Intervention 3	Allocate resources for community activities
Intervention 4	Develop M&E and feedback mechanism to track community activities

5.6 Strategic Objective 6: Monitoring and assessing IPC practices and feedback.

Objective 6: To strengthen the national IPC monitoring and assessment system.	
Intervention 1	Develop an M&E framework for tracking IPC activities.
Intervention 2	Train health care providers on data collection, reporting and analysis at all levels.
Intervention 3	Develop an electronic management system for IPC real time reporting.
Intervention 4	Develop and implement an integrated action plan for monitoring/audit and feedback on IPC practices
Intervention 5	Monitor hand hygiene compliance and provide feedback as a key priority indicator at all levels

5.7 Strategic Objective 7: Workload Staffing and Bed Occupancy at Health Facility Level

Objective 7: To Provide Health Care Facilities with staffing levels that are adequately assigned according to patient workload and bed occupancy.	
Intervention 1	Increase health care facility staffing levels to meet the recommended MoH standard staff to patient ratio.
Intervention 2	Review the current structure and advocate for the creation of an ideal human resource structure with treasury authority for the different levels of health care system.
Intervention 3	Promote and sustain adherence to optimum bed occupancy according to IPC standards.
Intervention 4	Strengthen patient flow that promote and meet IPC standards
Intervention 5	Implement a real time M&E feedback mechanism to track compliance to bed occupancy, patient flow and staffing levels

5.8 Strategic Objective 8: Built Environment and Infrastructure

Objective 8: To advocate for infrastructure improvement and development to support IPC measures through collaboration with infrastructure development unit in the various sectors.	
Intervention 1	Identify, map and engage stakeholders to improve and develop infrastructure
Intervention 2	Collaborate with experts in the design of inclusive, well-structured infrastructure to support IPC/WASH.

Intervention 3	Advocate for adequate facilities for IPC implementation such as constant running water supply, hand hygiene stations, waterborne toilets, waste management facilities, power back up solutions, other IPC supplies and commodities .
Intervention 4	Ensure availability of adequate bed space in health facilities at all levels.
Intervention 5	Establish an M&E system to monitor compliance in line with the recommended standards for Infrastructure designs and usage.

Chapter 6

6.0 OPERATIONAL PLAN

Operational planning is a process that involves creating a detailed roadmap to align with a strategic plan. Therefore this IPC Operational Plan outlines timelines, action items and critical milestones for executing the strategic plan to achieve the planned objectives.
Refer to annex xx

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Country:	
Reporter Name :	
Email:	
Mobile :	

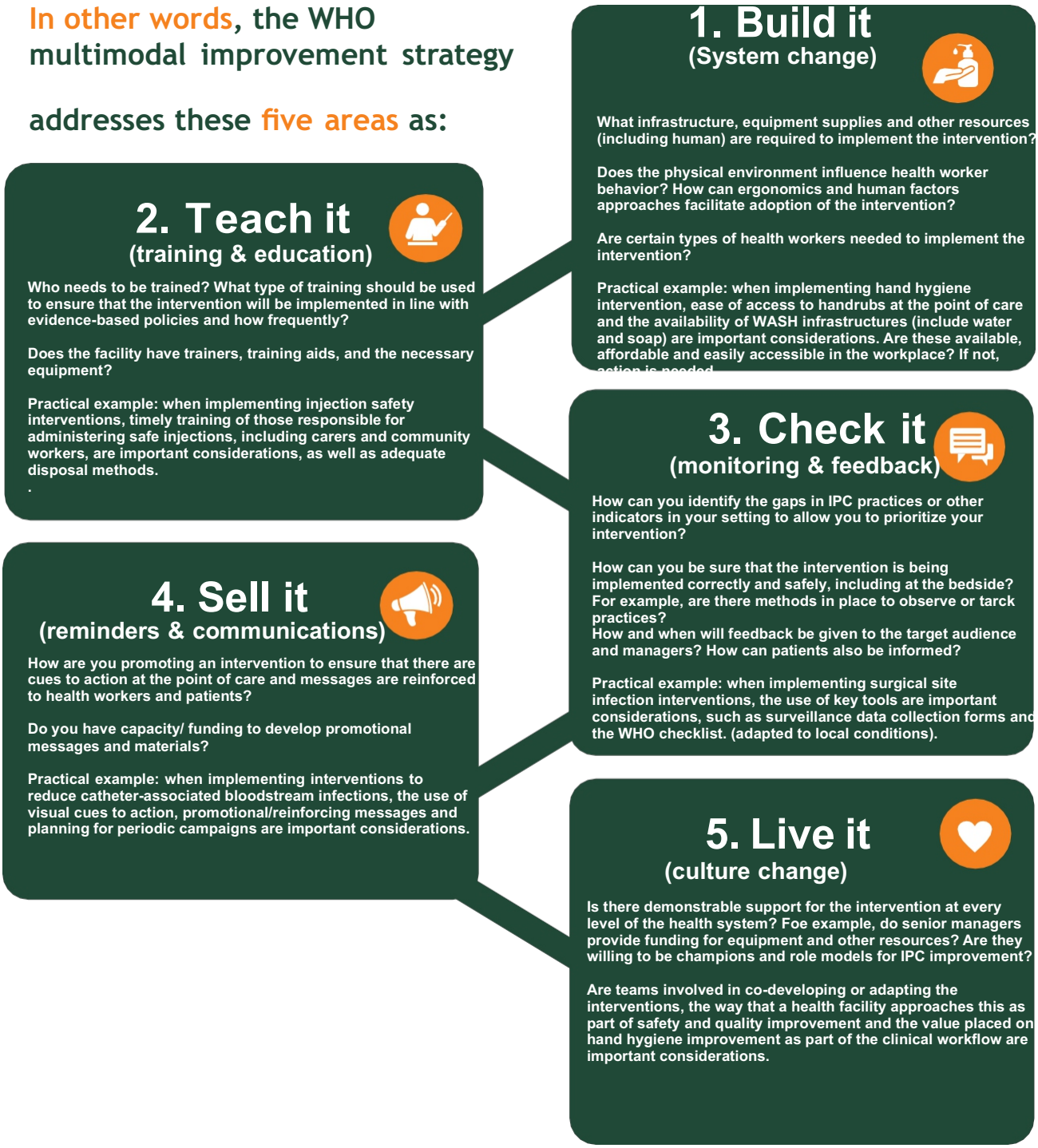
Infection Prevention and Control Operation Plan Illustrative Table

Thematic Area	Activity/Sub-activity	Responsibility	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Indicators: Indicator	Baseline	Target	Resources required	Source of funding
1. Infection Prevention and Control Programme	**1. Advocate for the establishment of at least two IPC positions (Environmental and clinical backgrounds) at HCF level with cabinet approval**													
	i. Formulate TWG to spearhead advocacy	MOH - IPC focal point, Director PH			Q4					Existence of TWG		Functional multi-sectoral TW	Financial and Human	
	ii. Generate Concept note to HR (MoH)				Q4					Documentation of concept note		HR acknowledges receipt of	Human	
	iii. Hold followup meetings with HR				Q4	Q1	Q1	Q1	Q1	Meeting minutes		At leat 2 meetings each year	Financial and Human	
	2. Develop an IPC Action plan and budget at all levels of the health sector													
	i. Hold action plan meetings	Focal Point person at all levels			Q3	Q3	Q3	Q3	Q3	IPC action plan and budget ready	Report	All facilities	Financial and Human	"GRZ, Partners
	ii. Incorporate IPC in Mid Term Expenditure Framework (MTEF)	Focal Point person at all levels			Q3	Q3	Q3	Q3	Q3	PC action plan and budget develope	Report	All facilities	Financial and Human	
	iii. Develop an IPC Action Plan and budget at all levels of health care sector	Focal Point person at all levels			Q3					Launch and disseminate IPC action plan	Report	All facilities	Human	
	3. Strengthen partner coordination in the implementation of IPC activities													
	Establish a national IPC Steering committee	MOH IPC focal point			Q4					Existence of steering committee	Report		Financial and Human	GRZ, Partners
	4. Strenghthen and maintain a functional multi-sectoral IPC Technical Working Group													
	i. Develop ToR's	MOH IPC focal point								Availability of TOR		Complete set of TORs	Financial and Human	
	ii. Regular meetings					Q1,2,3,4	Q1,2,3,4			Number of meetings held		at least 2 meetings each year	Human and financial	
	iii. Planning meeting and development of assessment tool									tool developed	0	One planning meeting	Financial and Human	
2. Infection Prevention and Control Guidelines	1. To review, update and dissemate IPC national Guidelines and SPOs									0				
	i. Disseminate SOP and guidelines	MOH - IPC focal point, Director PH				Q4				Needs assessment		One needs assessment done		GRZ , Partners
	2. Train IPC personnel at all levels				Q4					All healthcare workers trained	7%	100%	Financial and Human	
3.Education and Training	**1. Develop the national curriculum on IPC training**													
	i. Advocate for a training policy	TWG			Q4					Training policy launched		Implementation of training policy	Human	
	ii. Hold a meeting to develop a standardized IPC training curriculum aligned with national guidelines and WHO training module (Institutionalize through academia)					Q1				Higher learning board Approved IPC Curriculum		IPC curriculum offered	Human Financial Equipments	GRZ, Partners
	iii. Disseminate Curriculum to the training institutions					Q3				Number of disseminations conducted		All major universities includ	Financial and human	
	iv.Assess implementation of Curriculum in training Institutions						Q4			Percentage of health training institutions offering IPC		80% of health training institutions offering IPC programme	Human and Financial	GRZ, Partners
	v. Review Curriculum						Q4			Revised curriculum		Periodic revisions	Human	
4. Heath Care Associated Infections	**1. Create a multidisciplinary Healthcare Associated Infections surveillance teams at national and sub-national levels**													
	i. Stakeholder mapping	TWG			Q4					care associated infectious diseases		surveillance team	Financial	GRZ. Partners
	ii. Develop TORs for surveillance functions				Q3					Availability of TOR		Complete set of TORs	Financial and Human	
	iii. Hold biannual meetings to review implementation				Q4	Q2,Q4	Q2,Q4			Number of meetings held		Two meetings (each year)	Human and technical	
	2. Strengthen the detection, recording and reporting of all priority Healthcare Associated Infections among Health Care Providers at every level of service delivery.													
	i. Develop reporting tool	IPC focal point person at all levels				Q4				Reported HAI at all levels		A strengthened team that	Human	
	ii. Orientation meeting for surveillence team					Q4						will detect, record and	Financial	
	3. Develop Healthcare Associated Infections surveillance guidelines to be included in the national surveillance program													
	i.Hold a planning meeting	TWG					Q1			Meeting minutes and report		One planning meeting held	Financial and Huma	
	ii. Develop guidelines				Q4					Availability of guidelines		Approved guidelines	Technical and Human	
	iii.Disseminate the guidelines				Q3					Percentage of districts with guidelines		100% (116) of districts with	Financial	
	1. Create a safe work environment for all administrators													

5. Multimodal Strategy	i. Development of training materials,for all levels.	National IPC focal point				Q1				for all levels.					
	ii. Procure vaccine commodities and other logistics for HCPs in health institutions				Q4	Q4	Q4			Availability of vaccine commodities.			Human Financial		
	iii. Develop and distribute SOPs				Q4					Availability of SOPs			Technical and Human		
	iv.Validation of training materials					Q2				Availability of validated materials			Human and Financial		
	v. Plan and budget for IPC programs and activities at all levels.					Q3				Existence of IPC plan at all levels		IPC plans and budgets at all	Financial		
	vi. Conduct cascade training for District IPC /multimodal				Q4					Percentage of districts with trainers		100% (116) districts			
	2. Impart all HCPs with IPC knowledge at all levels.														
	i. Orient Health workers in IPC multimodal strategies	IPC focal point at all levels			Q3,Q4	Q1,2,3,4	Q1,2,3,4			Percentage of HCP's oriented in IPC/Muitimodal		100% of HCP's oriented in IPC/Muitimodal			
	ii. Mentor Facility Health Care Workers in IPC multimodal				Q3,Q4	Q1,2,3,4	Q1,2,3,4			Percentage of HCP's mentored in IPC/Multimodal		100% of HCP's mentered in	Human		
	3. Procure and distribute IPC promotional materials to all levels of healthcare.														
	i. Develop and update IPC promotional materials	**IPC focal point**				Q1				Percentage of districts with IPC promotional materials		100%(116) of districts with IPC promotional materials	Human, Financial and Equipment		
	ii. Supply and distribute Promotional materials to Districts					Q2									
	4. Provide a mechanism for adherence to standard IPC														
	i. Compile analysed IPC reports to the Provincial Office					Q1,2,3,4	Q1,2,3,4			Number of monthly reports submitted to the province		12 reports from each district each year			
	ii. Compile IPC multimodal reports to the National Level					Q1,2,3,4	Q1,2,3,4			Number of monthly reports submitted to national level		12 reports from each provin	Human Financial Equipment		
	iii. Order Supplies based on the local needs					Q1,2,3,4	Q1,2,3,4			Availability of essential IPC supplies		Maintain minimum stocks of			
	iv. Hold quarterly District IPC performance /Review Meeting					Q1,2,3,4	Q1,2,3,4			Number of quarterly review meetings held		Four each year			
	v. Conduct IPC multimodal Audits					Q2, Q4	Q2, Q4			Number of audits conducted		Two each year			GRZ, Partners
6. Workload Staffing and Bed Occupancy at Health Facility Level	**1. To provide Health Care Facilities staffing levels that are adequately assigned according to patient workload and bed occupancy**														
	i. Recruitment of staff, short, Medium and Long term basis.	TWG			Q3,Q4	Q1,2,3,4	Q1,2,3,4			Number of health providers recruited		care worker			
	ii. Provision of better renumeration, motivation and compensation	TWG				Q1,2,3,4	Q1,2,3,4			Proportion of IPC officers substatively apponted		100% of IPC officers substatively appointed	Financial		
	iii. Expansion and rehabilitation of existing infrastructure to provide adequate bed space in health facilities at all levels and comform to IPC standards	TWG					Q4			Number of existing structures rehabilitated		Atleast 50% of dilapidated facilities upgraded	Financial and equipment		
	2. To advocate for infrastructure improvement and development to support IPC measures through collaboration with infrastructure development unit in the various sectors														
	i. Assessment of infrastructure to determine IPC state of building	MOH - IPC focal point, Director PH				Q2				Assessment report		One assessment for each facility	Human and Financial		
	ii. Resource mobilization	TWG				Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Funds raised		Guided by assessment	Financial		
	iii.Refurbishment of the identified dilapidated infrastructure	TWG				Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Number of health institutions refurbished		Guided by assessment	Human Financial Equipment		
	iv. Provide adequate supplies for implementing IPC, e.g., constant water and sanitation supply services	MOH - IPC focal point, Director PH				Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Proportion of health institutions with required IPC supplies	0	100% (3059 health facilities)	Human and Financial		GRZ, Partners
	v. To construct standard isolation facilities in all districts by fourth quarter of 2025					Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Proportion of districts with dedicated isolation facilities	0	100% (116 districts)	Equipment, infrastructure and		
7.Built Environment and Infrastructure	**1. Strengthen the multidisplinary technical working**														
	1. Development of multidisplinary technical group monitoring				Q4					Existence of TWG for monitoring		One Functional TWG	Finances		
	ii. Schedule meetings					Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Number of meetings held		Four meetings each year	Finances		
	2: Develop and implement an integrated action plan for monitoring/audit and feedback on IPC practices														
	i. Conduct Action Plan Reviews at all levels	IPC FPP all levels				Q2,Q4	Q2,Q4	Q2,Q4	Q2,Q4	Number action plan reviews conducted		Two review each (all levels)	Human		
	ii. Monitoring IPC measures for compliance at facility					Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Number of facility IPC assessments conducted		As guided by assessment toc	Human		
	iii. Develop IPC Health facility TOR for IPC Committee					Q1				Availability of facility TOR		Complete set of TOR	Human		
8.Monitoring and assessing IPC practices and feedback	**1. Develop a mechanism to train national and local**														
	i.Train National TOT for In service Training to the District Facilities	MoH FPP			Q4					Number of provinces with IPC trainers	25%	100% (10 provinces)	Financial, Supplies and Human		
	2. Designate IPC dedicated human resource														
	i. Establish IPC staff at the facility level	TWG				Q4				Number health facilities with dedicated	40%	00% (3059 health facilities)	Financial, Supplies and Human		
	1. Supervise, monitor and evaluate IPC multimodal														
	i. Supervise IPC activities at all levels	IPC-FFP all levels				Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Monthly supervision reports		12 Reports	Financila and human		
	ii. Monitoring and evaluation IPC multi modal activities at all levels					Q2,Q4	Q2,Q4			M&E report bianual report		Two M&E reports	Financial and human		
	iii. Provide Technical and supervisory support	IPC-FFP all levels				Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Q1,2,3,4	Quarterly reports		Four reports each year	Financila and human		

ANNEXES

Annex 1: WHO multimodal improvement strategy



Source: Interim Practical Manual supporting national implementation of the WHO Guidelines on Core Components of Infection Prevention and Control Programmes (2017)

Annex 2: Proposed Training Curriculum Duration by Qualification

Curriculum	Sta ffcategory to be trained	Duration
Basic IPC	All HCPs	Five days
Intermediate level	All HCWs	Seven to 10 days, 1–2-hour sessions in addition to the five days Basic IPC
Fundamentals for IPC (FIPC)	Interested in IPC, including IPC practitioners starting in the job (in-service)	Six months, part-time
Postgraduate Diploma in IPC (PDIPC)	IPC practitioners in post for two years or more	Two years part-time (equivalent to one-year full-time)

Annex 3: Structure for a national IPC curriculum for Zambia

	Contents of Curriculum

Curriculum for Basic IPC	• Microbes and transmission
	• Standard precautions:
	  ○ Hand hygiene
	  ○ Personal Protective Equipment
	  ○ Patient placement
	  ○ Disinfectant use sterilization and medical devices decontamination management
	  ○ Respiratory hygiene
	  ○ Environmental cleaning
	  ○ Aseptic procedures
	  ○ Prevention of injuries from sharp instruments and post-exposure prophylaxis
	  ○ Occupational health and safety
	  ○ Waste management
	  ○ Care for linen

	• Transmission-based precautions:
	  ○ Droplet
	  ○ Contact
	  ○ Airborne
	• Understand surveillance results.
	• Occupational health and vaccination
	• Basic Radiation Protection and safety
	• Additional precautions:
	  ○ Water safety
	  ○ Basic sanitation
	  ○ Staff welfare
	  ○ Vector and rodents' control

Additional Intermediate Level	• Terminal cleaning and post-discharge • HAI & AMR surveillance • Auditing IPC practices • Feedback
Additional for FIPC	• Aseptic procedures • Epidemiology • Decontamination (SSD) • Built Environment • WASH • Specialized areas • Outbreak response • Teaching skills • Monitoring and evaluation • Writing reports • Leadership/Mentorship
Additional for PDIC	• IPC & Quality improvement • Incorporating multimodal strategies in IPC practices • Operational research • Designing health facilities • Procurement • Ethics

	• Communication • Advisory role • Budget and Costing

Annex 4: Key Performance Indicators

Indicators		Target
Indicators on Infection Prevention and Control programmes		
1	Number of abstracts developed on IPC per year	20
2	Number of local authorities with all the IPC legal instruments	116
3	% of HCFs complying to IPC legal provisions	20%
4	Number of HCFs working with Community based volunteers (CBVs) in IPC	100%
Indicators on Infection Prevention and Control guidelines		
1	Total Number of national IPC Guidelines Available	5
2	% of reviewed guidelines (Number of National IPC Guidelines reviewed/Total Number of Guidelines Available)	80%
3	Number of National IPC SOPs reviewed and disseminated	4
4	% of HCFs scoring >75% in the health facility IPC monitoring tools	50%
Indicators on Education and training in IPC		
1	Proportion of employed HCWs that received in-service training in IPC (compiled into one National Database)	50%
2	Proportion of employed HCWs that received in-service orientation in IPC (compiled into one National Database)	70%
3	Proportion of HCFs with functional IPC committees	100%
4	Number of IPC training curriculum developed and disseminated in Health training institutes	4
5	% of HCFs with existing CBVs trained or oriented in IPC preventive measures	50%
Indicators on Healthcare Associated Infections Surveillance		
1	Percentage of health facilities implementing the infection monitoring strategy	100%
2	Number of health care workers suffering from HCAIs/number of HCW exposed	-
3	% of change in HCAIs captured by the surveillance system (cohort studies)	-10%
4	Number of HCAIs detected and reported to by the HCAI	-

	surveillance system/given time period	
Indicators on Multimodal Strategies for Implementation of IPC Interventions		
1	No of Multimodal IPC strategic Training materials developed	1
2	No of TOT HCWs Trained in IPC Multimodal strategy	40
3	No of Plans and Budgets developed at all levels.	1
4	% of HCWs trained on handling of hazards/HCWs employed	50%
5	No of vaccine commodities procured and distributed for HCWs in hospitals /Health facilities (Cholera, Covid-19, TB, Tetanus, Hepatitis B, Measles)	6
6	% of HCFs having atleast 80% of the appropriate IPC equipment for all levels of Health care systems procured	75%
7	% of HCFs having Micro burn Incinerators procured	20%
8	No of Developed and distributed SOPs	5
9	% of serviced and maintained micro burn incinerators at Health Facilities	50%
10	% of HCFs with appointed competent officer responsible for IPC	100%
Indicators on Monitoring and assessing IPC practices and feedbacks		
1	% of HCFs tracking IPC activities	100%
2	% of HCFs demonstrating capacity to adhere to hand washing	100%
Indicators on Workload Staffing and Bed occupancy at Health facility		
1	Number of qualified doctors deployed against catchment population	1:5000
2	Number of qualified nurse deployed against catchment population	1:700
3	% of HCWs fully vaccinated from prevailing immunisable disease(s)	50%
4	% of HCFs adhering to IPC standard on bed occupancy (beds 2m apart)	75%
Indicators on Built environment and Infrastructure		
1	% of newly built structures built in compliance with infrastructural guidelines (built in the reporting year)	100%
2	% of HCFs with adequate and separate WASH facilities	100%
3	% of HCFs with alternative power sources (gensets, solar, inverter, batteries)	50%
4	% of HCFs complying with ZEMA and SWMA no 20 of 2018 in the management of healthcare waste	20%
5	% of HCFs with standard isolation facilities	60%

List Participants

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