



health

Department:

Health

REPUBLIC OF SOUTH AFRICA

THE NATIONAL INFECTION PREVENTION AND CONTROL POLICY & STRATEGY

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Preamble

Many countries across the world are currently grappling with making health care safer for patients through carefully designed systems and methods of care that reduce risks to patients. This need to redesign and strengthen existing systems and implement evidence-based methods has been fanned by the sudden emergence and re-emergence of infectious diseases as well as the gradual development of drug resistance. These threats make it that more important that health care associated infections acquired in health facilities are prevented or effectively controlled when it does occur. In South Africa these threats have the proven ability to undermine the significant health care advances we have made in the past decade.

In our own quest to also improve the safety of health services and thus align ourselves in part with the international challenges set by the World Health Organization's Global Patient Safety drive, a National Infection Prevention and Control Policy and accompanying strategy have been developed and is hereby presented to all health care personnel in the country. I believe this policy and strategy serve as a sound national framework for improving the management of health care associated infections at national, provincial, district and facility level.

The Department of Health is committed to providing a higher quality of life for all the people of South Africa by preventing health care associated infections. The goal of minimizing health care associated infections in our health care facilities can only be realized through commitment and rigorous execution of roles and responsibilities by our health care workers and managers at all levels. I therefore challenge all health care personnel to consciously be guided by the national framework and to do everything in their power to protect health care users from acquiring health care associated infections.



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Acknowledgements

Developing the National Infection Prevention and Control Policy and its accompanying strategy was no easy task when considering the amount of specific technical expertise required for developing a policy and strategy of this distinctive nature. Thus, it took several months to research, write, and extensively consult and debate. Many public officials from all nine provinces, academics from various tertiary training institutions and knowledgeable people from the private sector contributed at various stages to this process of policy development. As part of the process, three special departmental events come to mind in this regard. The Infection Prevention and Control Workshop in September 2005, the Ministerial Workshop for Public Hospital Chief Executive Officers in October 2005 and the National Quality Month Seminar on Infection Prevention and Control in November 2005 created a platform for active participation and debate. The Department of Health would like to express its sincere appreciation to each and everyone who in her or his own way made a contribution at these events and thereafter.

Being well aware that mentioning by name those that have contributed always carries the risk of also unknowingly excluding important names, the Department of Health would still like to take the liberty in acknowledging certain individuals' contributions. Their contributions have highly enriched the process and thus the final product. A special word of appreciation is extended to professors A. Duse, S. Mehtar, H. Mzileni, E. Bignaut and S. Whittaker, doctors F. Hyera and R. Mulumba, Ms L. Ziady, Ms L. Devinish and Ms J. Soester. A special word of thanks is also extended to our colleagues who made their contributions as heads of the provincial Infection Prevention and Control units and as heads of the provincial Quality Assurance units. The balance brought along by them in terms of the do-ability of the policy and strategy should not be underestimated. The Department of Health wishes to also acknowledge the generosity of the Italian Corporation who contributed to the development of the strategy.

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SECTION 1: THE NATIONAL INFECTION PREVENTION AND CONTROL POLICY

1. Introduction

Infection prevention and control refers to measures, practices, protocols and procedures aimed at preventing and controlling infections and transmission of infections in health care settings. Such infections may be pre-existing on admission or may be acquired in a health care facility (nosocomial). Health care associated infections need to be properly managed in order to prevent transmission of organisms amongst patients, health care workers and visitors. Health care workers and visitors may be sources of infections that may result in facility-based outbreaks.

Health care associated infections do place a high burden of cost upon health services by prolonging hospitalization, increasing the use of antimicrobial treatment and increasing the number of surgical and medical interventions per patient.

Infection prevention and control guidelines are aimed at providing a safe health care environment for patients and staff alike. Good infection control practice should be established to improve health outcomes and prevent negative outcomes such as morbidity, mortality, increased health care costs and possible litigation. Infection prevention and control measures are a combination of interventions and activities, ranging from hand hygiene, aseptic technique, waste management, rational antibiotic use, cleaning and the use of chemical cleaning agents, pest and rodent control, food handling, linen handling and management, isolation, surveillance, risk management, the use of personal protective equipment, employees immunization programmes and personnel hygiene. Laxity in application of any of these dimensions can result in significant negative public health consequences.

Emerging and re-emerging diseases, and the increase of resistant organisms, which undermine advances and progress made in the fight against diseases, are posing serious challenges to health care systems in both the developed and developing countries. An infection prevention and control policy is required to provide guidance to health care workers as to ensure safe management of infectious conditions.

2. Scope

This policy will be applicable to all health care establishments and health care providers in the public sector.

3. Purpose of the policy

The purpose of the policy is to set minimum national standards for the effective prevention and management of health care associated infections, so that hazards associated with biological agents are minimized for patients, visitors and health care personnel in health care establishments.

4. Objectives

The objectives of the policy are as follows:

- 4.1 To encourage and improve effective prevention and management of health care associated infections for the public health care sector.
- 4.2 To prevent and minimize environmental hazards associated with microbes for all in- and outpatients, health care workers and visitors to health care institutions.
- 4.3 To optimize infection prevention and control programmes and resources in health care settings.
- 4.4 To control and minimize transmission of and colonization by resistant organisms.
- 4.5 To improve infection control surveillance.

5. Legal and regulatory framework

The following acts and their relevant regulations, bear relevance to the development and implementation of this Policy:

- 5.1 The South African Constitution, Act 108 of 1996 [Sections 2, 24, 27, 36 and 39].
- 5.2 The National Health Act of 2003, Act No 61 of 2003.
- 5.3 The Occupational Health and Safety Act of 1993, Act No 85 of 1993 [Section 8(1)].
- 5.4 The Environmental Conservation Act of 1989, Act No 73 of 1989.
- 5.5 The Foodstuffs, Cosmetic and Disinfectants Act of 1972, Act No 54 of 1972.
- 5.6 Government Notice R1390 of 27 December 2001 [Hazardous Biological Agents Regulations] as promulgated under Section 43 of the Occupational Health and Safety Act of 1993.
- 5.7 Government Notice R908 of 27 June 2003 [Hazard Analysis Critical Control Point Regulations] as promulgated under Section 15(1) of the Foodstuffs, Cosmetic and Disinfectants Act of 1972.

6. Non-compliance

Failure to comply with the infection prevention and control policies and guidelines may result in the following:

- 6.1 Successful litigation against the state for damages suffered by patients or their families as a result of illness or death arising from inadequate infection prevention and control procedures.
- 6.2 Disciplinary action by professional health councils against individuals where their proven negligence caused harm to patients.
- 6.3 Criminal and/or civil prosecution of individual employees whose negligent actions caused the infection and subsequent death of a patient.
- 6.4 Loss of public confidence in the health establishment in question.

7. Definitions

- 7.1 **Disinfection:** A process of reducing microbial load without complete sterilization. Disinfection refers to the use of a physical process or chemical agent to destroy vegetative pathogens, but not bacterial spores.
- 7.2 **Health care associated infection** (nosocomial or hospital-associated infection): An infection acquired in a health care facility by a health care user, health care worker, or a visitor to a health care facility, who was in the facility for a reason other than that infection. Such an infection should have neither been present nor incubating at the time of admission or at the time when the initial contact with the health care facility was made. This includes infections acquired in the hospital, but appearing after discharge, including any infection in a surgical site up to six weeks post operatively. Also included are occupational infections among staff of the facility.
- 7.3 **Infection Prevention and Control Committee:** A multidisciplinary committee that deals with infection prevention and control issues. Each member of the committee makes inputs as they relate to his /her discipline in order to share information and to cooperate. The committee is made up of medically trained microbiologists, clinicians, management representatives, and other health care workers representing, pharmacy, sterilizing service, housekeeping and training services.
- 7.4 **Infection prevention and control programme:** A comprehensive programme that encompasses all aspects of infection prevention and control, covering education & training, surveillance, environmental management, waste management, outbreak investigation, development and updating of infection prevention and control policies, guidelines and protocols, cleaning, disinfection and sterilization, employee health, and quality management in infection control.
- 7.5 **Infection Prevention and Control Team:** The team of health care workers involved in carrying out the day-to-day infection prevention and control programme activities.
- 7.6 **Medical devices:** All equipment, instruments and tools, used in health care for diagnosis, prevention, monitoring, treatment or rehabilitation. Devices could thus include products such as contact lenses, condoms, heart valves, hospital beds, resuscitators and radiotherapy machines, surgical instruments and syringes, wheelchairs and walking frames, etc.
- 7.7 **Personal protective equipment:** This equipment refers to items specifically used to protect the health care worker from exposure to body substances or from droplet or airborne organisms. Personal protective equipment includes gloves, aprons, gowns, caps, masks and protective eye wear.

- 7.8 **Risk management:** All the processes involved in identifying, assessing and judging risks, assigning ownership, taking actions to mitigate or anticipate them, and monitoring and reviewing progress.
- 7.9 **Sterilisation:** A process that destroys or removes all viable micro-organism, including spores. Sterilisation can be achieved by the use of heat, steam, gas or chemicals.
- 7.10 **Waste management system:** All the activities, administrative and operational, involved in the production, handling, treatment, conditioning, storage, transportation and disposal of waste generated by health-care establishments.

8. Principles

The following policy principles will apply:

- 8.1 Prevention: Every effort shall be made to identify possibilities for infection and to put in place interventions for its prevention.
- 8.2 Privacy: The rights of patients and health care workers to privacy and confidentiality will be upheld, within the constraints of safe practice.
- 8.3 Occupational health and safety: The health and safety of health care workers shall be considered with every plan, action and intervention.
- 8.4 Integration: Facility-based infection prevention and control programmes shall be integrated with other relevant programmes such as Environmental and Occupational Health, the TB programme, Comprehensive Care, and Communicable Disease Control.

9. Continuity of care

It is imperative that infections be properly managed throughout the continuum of care. Primary Health Care facilities need to have an infection prevention and control plan and the relevant policies and standard operating procedures pertinent to the activities undertaken by the facility.

Good communication and liaison should exist between hospital staff discharging the patient and health care workers at primary health care level who will take over responsibility for the patient's care. Written information should be passed timely from hospital to the primary health care facility and *vice versa*.

Patients discharged from hospital that need to continue using medical devices that may predispose them or others to infections, for example nebulizers, insulin syringes and dialysis kits, should be given appropriate health education on care, decontamination and disposal of such equipment, and be supplied with memory aids in the form of pamphlets or leaflets.

Guidelines will be developed for the care and decontamination of medical devices in the primary health care and community based health facilities such as home based care centres, hospices and homes for the aged. A district infection prevention and control committee should regularly review infection prevention and control related policies and procedures for implementation in the primary health care setting [see Section 10.3 below].

10. Governance

The national, provincial and local tiers of government, and civil society at large have very specific roles to play and responsibilities to take on when preventing and managing infections.

10.1 The national Department of Health, Directorate: Infection Prevention & Control

- 10.1.1 The national Department of Health establishes a national Infection Prevention & Control directorate within the Cluster: Office of Standards Compliance.
- 10.1.2 The Directorate: Infection Prevention & Control is advised and assisted by a National Infection Prevention and Control Advisory Committee (NIPCAC) consisting of experts in the field of infection prevention and control. This formalized national structure is established in accordance with Section 23(5) of the National Health Act, 2003, making it a committee of the National Health Council.

10.2 The Provincial Infection Prevention & Control Committee/ Unit

In each province, a Provincial Infection Prevention & Control Committee or unit is established, preferably within existing provincial Quality Assurance structures. This committee meets at least quarterly with the district infection prevention and control committees.

10.3 The District Infection Prevention & Control Committee

- 10.3.1 Each health district establishes a District Infection Prevention & Control Committee that will comprise of the district infection prevention and control officer and facility-based officers in charge of infection prevention and control.
- 10.3.2 The Committee meets at least quarterly or more frequently as need arises.

10.4 *The facility-based (institutional) Infection Prevention & Control Committee*

- 10.4.1 Each health care facility should establish a multidisciplinary Infection Prevention & Control Committee where appropriate. This committee should comprise of at least the officer in charge of infection prevention and control in the facility, a microbiologist, heads of all relevant medical disciplines, a pharmacist, a housekeeping supervisor, a food service manager, a laundry service manager, a maintenance manager, and the hospital manager.
- 10.4.2 Should the facility not have a medically trained microbiologist on its staff establishment, the committee should ensure easy access to the services of a medically trained microbiologist.
- 10.4.3 Should the facility (hospital) not have a hospital engineer on its staff establishment, the committee should arrange access to the services of such engineer with their provincial health department.

10.5 *The Infection Prevention & Control Team (Unit)*

- 10.5.1 Each facility appoints an Infection Prevention and Control Team (unit), which will comprise of least a clinician (ideally a medically trained microbiologist) and a registered nurse, trained in infection prevention and control,
- 10.5.2 The number of trained infection prevention and control nurses represented on this team should ideally be one nurse per 200 patient beds.
- 10.5.3 Where the availability of medical staff does not permit it, there should at least be an identifiable clinician allocated for providing medical input and direction to the infection prevention and control team.

11. Monitoring & evaluation

11.1 Surveillance

- 11.1.1 The national Department of Health, in collaboration with the provinces develops a national surveillance system for the monitoring of nosocomial infections. This system will generate quality data on health care acquired infections and antibiotic resistant organisms. Such data is necessary for facilitation of proper investigation into outbreaks and implementation of prevention and control measures. The national Department of Health determines in consultation with the relevant partners and NIPCAC, microbes to be placed under such surveillance.

- 11.1.2 At facility level, regular reports of comparative data on the levels of healthcare associated infections and anti-microbial resistance within the facility should be made available to treating clinicians to make them aware of their local resistance profiles, to enable them to make better empirical treatment choices where necessary and to assess implications of their treatment choices and infection control practices.
- 11.1.3 Internationally recognised methodologies such as Hazard Analysis and Critical Control Point Analysis currently used in especially the food industry will be developed for healthcare associated infection. These methodologies and techniques of 'root cause analysis' will be made a mandatory part of infection control training, and be applied in every health care facility.
- 11.1.4 Cooperation of laboratory services and health care facilities should be coordinated and optimized to ensure optimal use of laboratory data for the diagnosis of healthcare associated infection. Ideally these services need to be electronically linked.
- 11.1.5 Each provinces will implement an early warning detection system based on molecular typing. The results should feed into the District Information Office and then into a national surveillance system.
- 11.1.6 The national surveillance system will allow for reporting of outbreaks of infection in facilities so that appropriate interventions and support by regional, provincial and national structures can be provided when necessary.

11.2 Data management and analysis

Trained and dedicated staff should manage the data. The data needs to be analysed by an expert in the field of medical microbiology or infectious diseases. Reports should be prepared and regularly discussed with the relevant infection prevention and control officers, committees, and/ or health departments.

11.3 Reporting

- 11.3.1 A national standardized reporting system should be developed to enable the district, provincial and national structures to extract instant epidemiological data on infectious diseases.
- 11.3.2 Comparative data on the levels of health care associated infection and anti-microbial resistance should be provided to all clinical teams.

11.4 Risk assessment

- 11.4.1 Infection control risk assessments should be carried out in each facility.
- 11.4.2 The various District Infection Prevention and Control Committees should receive and discuss institutional risk assessment, risk management and plans.

- 11.4.3 District Infection Prevention and Control Committees should submit their risk assessment and management plans to Provincial Infection Prevention and Control Committees.
- 11.4.4 The Provincial Infection Prevention and Control Committee will discuss and submit their provincial risk profiles and management plans to the national Department of Health.
- 11.4.5 The Provincial Infection Prevention and Control Committee should monitor the implementation of the risk management plans.
- 11.4.6 The Directorate: Infection Prevention & Control, national Department of Health should analyze the national economic impact of health care associated infections on the health care system.

11.5 Research

- 11.5.1 Research studies should be conducted to determine the status quo with regard to practices, skills, knowledge, staffing, availability and use of guidelines and protocols, and effectiveness of reporting lines, etc.
- 11.5.2 The outcome of these studies should determine priorities to be addressed by the national and provincial infection control structures.

11.6 Measuring compliance

The Inspectorate for Health Establishments within each province or their agent(s) will be responsible for measuring overall compliance with national and provincial standards.

11.7 Accreditation

- 11.7.1 The Directorate: Infection Prevention & Control, national Department of Health will prescribe national accreditation standards for infection prevention and control.
- 11.7.2 The Office of Standards Compliance will as part of a national accreditation programme, utilize these standards for accreditation purposes.

12. Quality improvement

12.1 Training

- 12.1.1 In compliance with the duty placed on an employer in terms of the Occupational Health and Safety Act, No 85 of 1993, section 8 (2)(e), information, training and supervision has to be provided to ensure safety of workers (and in this case that of the health service user as well) as far as is reasonably practicable.
- 12.1.2 The national Department of Health shall in consultation with the relevant professional health councils determine training standards for infection prevention and control practitioners.

- 12.1.3 The Provincial Infection Prevention & Control Committee should ensure that training is carried out to ensure an adequate supply of trained infection prevention and control officers in the province.
- 12.1.4 The head of each health establishment should ensure the following:
 - 12.1.4.1 Suitably trained officers are appointed to provide the infection prevention and control function.
 - 12.1.4.2 Annual in-service infection prevention and control training programmes for the relevant categories of health workers and disciplines is developed and executed.
 - 12.1.4.3 An infection prevention and control orientation training programme is developed and executed.
 - 12.1.4.4 Officers appointed to head the Central Sterilizing Department are suitably trained.

12.2 Incentives and rewards.

Existing incentives and rewards utilized in the public sector to reward good practices and good personal performance should be expanded to also include the domain of infection prevention and control.

12.3 Feedback on good practices

Good practices should be shared nationally through the following:

- 12.3.1 An infection control bulletin (quarterly or biannual publication).
- 12.3.2 A national infection prevention and control web page.
- 12.3.3 An annual conference.

12.4 Advocacy and social mobilization

Media releases, posters, pamphlets, comic books and videos on infection prevention and control should be produced and distributed. Infection prevention and control information should be included in health promotion and marketing activities at all levels.

13. Partnerships

Strong partnerships should be established with other government departments and other sectors. The following should be considered:

- 13.1 Public Private Partnerships: Manufacturers of sterile supplies, medical devices, cleaning chemicals and sterilizing equipment should be encouraged to produce products and provide services that will promote the attainment of the goals of this policy.

- 13.2 The Public Works Department: This department has an important role to play to ensure sufficiency of structural requirements such as hand washing facilities, efficient autoclaves and negative pressure rooms. Valuable input on building layouts that facilitate good infection prevention and control practices could be provided.
- 13.3 The South African Police Services: Their services could be called upon for involuntary detentions when an infectious source (person with an epidemiologically significant condition) resists hospitalization and isolation, despite sufficient health education.
- 13.4 Department of Justice and Constitutional Development and the Human Rights Commission: These institutions could provide guidance when, (i) the rights of an individual should be weighed against the rights of a group/ population/ community, (ii) the constitutionality of an involuntary detention is disputed, or (iii) the constitutionality of warning systems and disclosure is questioned.
- 13.5 Department of Labour: This department could assist in, (i) the development of disease management programmes for employees, and (ii) the development of policy on pre-employment testing and post exposure prophylaxis.
- 13.6 Strong partnerships should also be established with professional boards, councils and associations, academic institutions, and the National Health Laboratory Services.

14. Employee health management

As to ensure national uniformity in the management of occupational infections, national policies and/ or guidelines should be developed for the following:

- 14.1 Employee vaccination programmes.
- 14.2 Baseline employment health assessment.
- 14.3 Employee placement (of compromised, predisposed, and infected or contagious employees and their placement under quarantine).
- 14.4 Routine testing.
- 14.5 Outbreak investigation testing.
- 14.6 Chemicals safety (e.g. Gluteraldehyde).
- 14.7 Post exposure prophylaxis.
- 14.8 Personal protective equipment.

15. Standards

- 15.1 Evidence-based infection prevention and control standards for all levels of care will be developed and validated by the national Department of Health.
- 15.2 The national Department of Health will develop, and on a continuous basis update a comprehensive manual on infection prevention and control guidelines.

16. Infection prevention and control roles/ responsibilities

16.1 The role/ responsibility of the Directorate: Infection Prevention & Control, national Department of Health.

16.1.1 Develop and amend the National Infection Prevention and Control Policy as and when necessary.

16.1.2 Monitor provincial implementation of the policy.

16.1.3 Develop and continuously update generic infection prevention and control guidelines.

16.1.4 Set standards on essential infection prevention and control equipment lists.

16.1.5 Develop training frameworks and standards for infection prevention and control training in consultation with relevant professional health councils and associations.

16.1.6 Develop key infection prevention and control indicators and perform a monitoring role in this regard.

16.1.7 Hold biannual meetings with provinces and national stakeholders.

16.2 The role/ responsibility of the National Infection Prevention and Control Advisory Committee (NIPCAC).

16.2.1 Advise and assist in developing and reviewing health care hygiene and infection prevention and control standards.

16.2.2 Advise and assist in developing and managing a system of monitoring compliance with infection control guidelines and standards. This should be done in consultation with the Office of Standards Compliance.

16.2.3 Advise and assist in developing and managing a national infection surveillance system for nosocomial infections. This will include reviewing surveillance data on a regular basis and advising on the implications and required interventions.

16.2.4 Advise and assist in developing a national infection risk management framework and by providing an infection risk report annually on health care associated infections.

16.2.5 Advise and assist in developing a national training framework on infection prevention and control.

16.2.6 Advise on the appropriate research agenda.

16.2.7 Serve as a link between the national Department of Health and the Federation of Infectious Diseases Societies of South Africa.

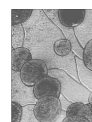
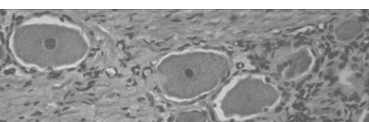
16.3 The role/ responsibility of the Provincial Infection Prevention & Control Committee.

16.3.1 Provide an advisory service to district committees and facilities.

16.3.2 Monitor adherence to national and provincial guidelines.

16.3.3 Review provincially formulated and institutional guidelines.

16.3.4 Evaluate infection control resources needs (assessment and forecasting).



- 16.3.5 Compile and communicate an annual report to the relevant unit within the national Department of Health.
- 16.3.6 Review and analyze surveillance data.
- 16.3.7 Meet biannually, and when necessitated by infection control emergency incidents within the province.
- 16.3.8 Partake in outbreak responses.
- 16.3.9 Liaise with the media in collaboration with the provincial media and communications unit.
- 16.3.10 Identify and prioritize infection related research needs for the province.
- 16.3.11 Assess and address provincial training needs.

16.4 The role/ responsibility of the District Infection Prevention & Control Committee.

- 16.4.1 Provide an advisory service to facilities in the district.
- 16.4.2 Discuss regional trends and surveillance reports.
- 16.4.3 Monitor and support institutions to adhere to their institutional, provincial and national guidelines.
- 16.4.4 Intervene to manage outbreaks when observing the first warning signs of outbreaks.
- 16.4.5 Liaise with district outbreak response structures.

16.5 The role/ responsibility of the District Infection Prevention and Control Officer.

- 16.5.1 Develop communication networks within the district.
- 16.5.2 Liaise with community based organisations and structures such as circumcision schools and home based care groups to promote good infection control practices.
- 16.5.3 Advise, support and educate primary health care professionals, as well as community and home-based facilities.
- 16.5.4 General involvement in the prevention and management of infections.
- 16.5.5 Provide specialist infection control input within the district on the surveillance, prevention, investigation and control of infectious disease in the community.
- 16.5.6 Provide information, advice and training relevant to communicable disease and infection prevention and control to primary health care workers.
- 16.5.7 Provide guidance with development and review of facility infection prevention and control guidelines and policies.
- 16.5.8 Monitor and audit infection prevention and control standards and practices in primary health care facilities.
- 16.5.9 Support primary health care workers in the management and control of infections.
- 16.5.10 Prepare nosocomial surveillance reports for the District Infection Prevention and Control Committee.

16.6 The role/ responsibility of Hospital Management.

- 16.6.1 Provide leadership by supporting the infection prevention and control programme.
- 16.6.2 Ensure different units and disciplines within the facility clearly understand and execute their roles and responsibilities relating to infection prevention and control.
- 16.6.3 The ultimate responsibility for the development of an effective infection prevention and control protocol rests with the Hospital manager/CEO in a hospital, and with the Clinic Head in a clinic.
- 16.6.4 Establish an Infection Prevention & Control Committee.
- 16.6.5 Avail appropriate resources for the infection prevention and control programme.
- 16.6.6 Ensure infection prevention and control in-service and orientation training programmes are carried out for all staff members.
- 16.6.7 Ensure disinfection and sterilization techniques are strictly adhered to.
- 16.6.8 Ensure technical aspects of hospital hygiene are delegated to appropriate staff, such as nursing, housekeeping, maintenance, and the clinical microbiology laboratory.
- 16.6.9 Review the status of health care associated infections and the effectiveness of interventions to contain them, periodically.
- 16.6.10 Review, approve, and ensure the implementation of policies approved by the Infection Prevention & Control Committee.
- 16.6.11 Participate in outbreak investigation.
- 16.6.12 Ensure the Infection Prevention & Control team has authority to facilitate appropriate programme functions.

16.7 The role/ responsibility of the physician.

- 16.7.1 Serve on the Infection Prevention & Control Committee.
- 16.7.2 Support the Infection Prevention & Control Team.
- 16.7.3 Obtain or request appropriate microbiological specimens when an infection is present or suspected.
- 16.7.4 Protect patients under his/ her care from other infected patients.
- 16.7.5 Advise patients, visitors and staff on techniques to prevent the transmission of infection.
- 16.7.6 Institute appropriate treatment for any infection he/ she or his/ her colleagues may have, and take steps to prevent such infections being transmitted to other individuals, especially patients.
- 16.7.7 Comply with the practices approved by the Infection Prevention & Control Committee.
- 16.7.8 Comply with the recommendations of the Drug and Therapeutics Committee regarding the use of antibiotics.
- 16.7.9 Use practices that minimize infection during the process of providing direct patient care.
- 16.7.10 Adhere to appropriate aseptic techniques, hand hygiene and isolation.

16.8 The role/ responsibility of the Microbiologist.

- 16.8.1 Handle patient and staff specimens to maximize the likelihood of a microbiological diagnosis.
- 16.8.2 Analyse and interpret microbiological data.
- 16.8.3 Develop guidelines for appropriate collection, transport, and handling of specimens.
- 16.8.4 Ensure that laboratory practices meet appropriate standards.
- 16.8.5 Ensure safe laboratory practices to prevent infections of staff.
- 16.8.6 Monitor sterilization and disinfection of the environment, and where necessary communicate the results timely to the Infection Prevention & Control Committee.
- 16.8.7 Participate in guideline development and revision all infection prevention and control policies.
- 16.8.8 Alert the Drug and Therapeutics Committee of the emergence of widespread resistance to certain antibiotics, in pursuit of reviewing antibiotics guidelines.
- 16.8.9 Conduct in-service and orientation training on the facility's antibiotic policy for prescribers.
- 16.8.10 Conduct molecular based epidemiological typing of hospital micro-organisms where possible.
- 16.8.11 Advocate a rational antimicrobial use policy to delay the development of resistance to antimicrobials, and to minimise the selection of antibiotic resistant strains.

16.9 The role/ responsibility of the Hospital Pharmacist.

- 10.9.1 Provide medical staff with a list of available antibiotics as developed and agreed upon by the Drug and Therapeutics Committee, indicating dosages, routes and toxicities.
- 10.9.2 Obtain, store and distribute pharmaceutical preparations using practices that limit potential transmission of infectious agents to patients.
- 16.9.3 Dispense antimicrobial drugs and maintain relevant records (potency, incompatibility, conditions of storage and deterioration).
- 16.9.4 Maintain records of antibiotics distributed to medical departments.
- 16.9.5 Provide the Drug and Therapeutic Committee and the Infection Prevention & Control Committee with summary reports and trends of antimicrobial use.
- 16.9.6 Provide feedback to prescribers on the impact their prescribing decisions have on the budget.
- 16.9.7 Participate in hospital sterilisation and disinfection practices by being involved in the development of guidelines for disinfectants, hand hygiene solutions and antiseptics.

- 16.9.8 Have available the following information on disinfectants, antiseptics and other antimicrobial agents:
- 16.9.8.1 Active properties in relation to concentration, temperature, length of action, and antibiotic spectrum.
 - 16.9.8.2 Toxic properties, including sensitization or irritation of the skin and mucosae.
 - 16.9.8.3 Substances that are incompatible with antibiotics or reduce their potency/ efficacy.
 - 16.9.8.4 Physical conditions, which unfavourably affect potency during storage, i.e. temperature, light, and humidity.
 - 16.9.8.5 Harmful effects on materials.

16.10 The role/ responsibility of the nursing staff.

Implementation of patient care practices for infection prevention and control is the responsibility of all nursing staff. Nurses should be familiar with practices to prevent the occurrence and spread of infection, and maintain appropriate practices for all patients throughout the duration of their hospital stay.

16.11 The role/ responsibility of the Senior Nursing Manager.

- 16.11.1 Participate actively in the Infection Prevention & Control Committee.
- 16.11.2 Promote the development and improvement of nursing techniques, and the ongoing review of infection prevention and control nursing policies, with approval by the Infection Prevention & Control Committee.
- 16.11.3 Ensure infection prevention and control training programmes and orientation programmes are developed for members of the nursing staff.
- 16.11.4 Ensure supervision of the implementation of techniques for the prevention of infections in specialized areas such as the operating suite, the intensive care unit, the maternity unit, the neonatal unit and the burns unit.
- 16.11.5 Monitor adherence of nursing units to infection prevention and control policies and standard operating procedures.

16.12 The role/ responsibility of the Nursing Unit Manager.

The Nursing Unit Manager is the nurse in charge of a unit such as a hospital ward. Her/ his responsibilities are as follows:

- 16.12.1 Maintain hygiene consistent with hospital policies and good infection prevention and control practice in the ward.
- 16.12.2 Monitor aseptic techniques, including hand hygiene and application of isolation precautions.
- 16.12.3 Ensure that any evidence of infection in patients under her/ his care, is reported promptly to the attending physician and the infection prevention and control officer.

- 16.12.4 Ensure that patient isolation is initiated promptly for any patient showing signs of a communicable disease, even before the physician and/ or the infection control officer is available.
- 16.12.5 Ensure that patients' exposure to infections from visitors, hospital staff, other patients, or equipment used for diagnosis or treatment is minimized.
- 16.12.6 Maintain a safe and adequate supply of the related equipment needed in the unit (ward), drugs and of patient care supplies necessary for infection prevention and control.
- 16.12.7 Ensure all multidisciplinary team members adhere to all the relevant infection prevention and control policies and isolation precautions.

16.13 The role/ responsibility of the (Health care facility) Infection Prevention & Control Committee.

- 16.13.1 Identify the health care establishment's needs in terms of infection prevention and control, waste management, food safety and central sterilization. These needs also include the need for training and education within the facility.
- 16.13.2 Prioritise the needs and develop an infection prevention and control strategic plan. This strategic plan and recommendations for adequate funding must be presented to the Management of the establishment/institution.
- 16.13.3 Analyse infection prevention and control risks associated with new technologies, devices and products. Based on such analysis, the committee shall make recommendations for approval of acquiring new devices and products.
- 16.13.4 Monitor the implementation of the infection prevention and control strategic plan. The plan shall be communicated to district and provincial infection prevention and control structures.
- 16.13.5 Prepare and manage an infection prevention and control budget that will *inter alia* include the cost of human resources, laboratory tests, surveillance and training of all health care staff. The committee shall ensure that sufficient resources are allocated to support the infection prevention and control programme.
- 16.13.6 Identify structural needs for infection prevention and control and make related inputs into plans for new buildings and renovations in collaboration with the facility's Management and/or Maintenance Unit. The related inputs will amongst others, include the location of suitable hand washing basins, soap and alcohol dispensers, intermediate and central waste storage facilities, isolation rooms, food handling areas, and clean and dirty linen areas.
- 16.13.7 Ensure regular cleanliness surveys are conducted and review reports of such surveys are prepared.
- 16.13.8 Adapt infection prevention and control policies and precautions to local needs.

16.14 The role/ responsibility of the Infection Prevention & Control Team.

- 16.14.1 Supervise and coordinate all infection prevention and control activities to ensure an effective programme.
- 16.14.2 Organise an epidemiological surveillance programme for health care associated infections.
- 16.14.3 Collaborate with the pharmacy in developing a programme for supervising the use of antibiotics.
- 16.14.4 Ensure patient care practices are appropriate to the level of patient risk.
- 16.14.5 Check the efficacy of the methods of disinfecting and sterilization and the efficacy of systems developed to improve hospital cleanliness.
- 16.14.6 Participate in the development and provision of infection prevention and control training and orientation programmes for all categories of staff.
- 16.14.7 Provide expert advice, analysis, and leadership in outbreak investigation and control.
- 16.14.8 Undertake scheduled infection prevention and control risk assessments.
- 16.14.9 Assess incidence and prevalence of health care associated infections within its jurisdiction, through analysis of surveillance data.
- 16.14.10 Participate in the development and implementation of regional and national infection prevention and control initiatives.
- 16.14.11 Provide possible assistance for smaller facilities linked to the hospital.
- 16.14.12 Undertake research in hospital hygiene and infection prevention and control at the facility, and at local level.
- 16.14.13 Prepare an essential equipment list, and identify immediate, mid-term and long-term equipment needs for infection prevention and control.
- 16.14.14 Organise training and education programmes.
- 16.14.15 Supervise isolation and quarantine.
- 16.14.16 Develop and update the facility's Infection Prevention and Control Manual.
- 16.14.17 Oversee waste management, food handling, facility cleanliness, sterilization of equipment, and biological monitoring to assess effectiveness of equipment.
- 16.14.18 Evaluate adherence to infection control standards periodically.

16.15 The role/ responsibility of the officer in charge of Infection Prevention and Control.

The officer in charge of infection prevention and control within the facility is a member of the Infection Prevention & Control Team and is responsible for the following:

- 16.15.1 Identify health care associated infections.
- 16.15.2 Investigate the type of infection and infecting organism.
- 16.15.3 Participate in the training of personnel.
- 16.15.4 Surveillance of hospital infections.
- 16.15.5 Participate in outbreak investigation.

- 16.15.6 Develop infection prevention and control policy and strategy in conjunction with the Infection Prevention and Control Team and Committee, and review and approve patient care policies relevant to infection control.
- 16.15.7 Ensure compliance with local and national regulations.
- 16.15.8 Liaise with district health structures and with other facilities where appropriate.
- 16.15.9 Provide expert consultative advice regarding the health of staff and other appropriate hospital programmes in matters relating to transmission of infections.
- 16.15.10 Maintain the infection prevention and control equipment inventory and infection control records.

16.16 The role/ responsibility of the Central Sterilisation Department.

The Central Sterilisation Department (CSD) serves all hospital areas with sterile supplies, including operating theatres. An appropriately qualified member of staff must be responsible for the management of the CSD programme. The responsibility for day-to-day management of operations may be delegated to a nurse or other official with appropriate qualifications, experience, and knowledge of medical devices.

The infection prevention and control responsibilities of the CSD are as follows:

- 16.16.1 Clean, decontaminate, test, prepare for use, sterilize, and store aseptically all sterile hospital equipment.
- 16.16.2 Collaborate with the Infection Prevention & Control Committee and other hospital programmes.
- 16.16.3 Develop and monitor policies on:
 - 16.16.3.1 Sterilisation methods, according to the type of equipment.
 - 16.16.3.2 Sterilisation conditions (e.g. temperature, duration, pressure, humidity).
 - 16.16.3.3 Cleaning and decontamination of reusable equipment.
 - 16.16.3.4 Cleaning and decontamination of equipment including wrapping procedures, according to the type of sterilisation.

The CSD Programme Manager carries the following responsibilities:

- 16.16.4 Oversee the use of different methods (physical, chemical, and bacteriological) to monitor the sterilisation process.
- 16.16.5 Ensure technical maintenance of the equipment according to national standards and manufacturers' recommendations/ prescripts.
- 16.16.6 Report any defect to Management, the Maintenance Unit, the Infection Prevention & Control Team or any other appropriate member of staff.
- 16.16.7 Maintain complete records of each autoclave run, and ensure long-term availability of records.

- 16.16.8 Communicate, as needed, with the Infection Prevention & Control Committee, Nursing Service, operating theatres, Hospital Transport Service, Pharmacy Service, the Maintenance Unit, and other appropriate services.

16.17 The role/ responsibility of the Food Services Department.

The director (head) of food services must be knowledgeable in food safety, staff training, storage and preparation of foodstuffs, and the use of equipment. The head of the Food Services Department is responsible for the following:

- 16.17.1 Define the criteria for the purchasing of foodstuffs, equipment use, and cleaning procedures to maintain a high level of food safety.
- 16.17.2 Ensure equipment that is being used and all working and storage areas are kept clean.
- 16.17.3 Issue written policies and instructions for hand washing, care of dishcloths, clothing, staff responsibilities and daily disinfection duties.
- 16.17.4 Ensure the methods that are used for storing, preparing and distributing food will avoid contamination by micro-organisms.
- 16.17.5 Issue written instructions for the cleaning of crockery and cutlery after use, including special considerations for infected or isolated patients where appropriate.
- 16.17.6 Ensure appropriate handling and disposal of wastes.
- 16.17.7 Establish programmes for training staff in food preparation, cleanliness, and food safety.

16.18 The role/ responsibility of Laundry Services.

- 16.18.1 Select fabrics for use in different hospital areas, develop policies for working clothes in each area and group of staff, and maintain appropriate supplies.
- 16.18.2 Distribute working clothes and, if necessary, manage changing rooms.
- 16.18.3 Develop policies for the collection and transport of dirty linen.
- 16.18.4 Define, where necessary, the method for disinfecting infected linen, either before it is taken to the laundry or in the laundry itself.
- 16.18.5 Develop policies for the protection of clean linen from contamination within the laundry area and during transport from the laundry to the area of use.
- 16.18.6 Develop criteria for selecting a site for laundry services, ensuring appropriate flow of linen, and separation of "clean" and "dirty" areas.
- 16.18.7 Recommend washing conditions (e.g. temperature, duration).
- 16.18.8 Ensure the safety of staff in the laundry through the prevention of exposure to sharps or laundry contaminated with potential pathogens, by ensuring compliance with the wearing of personal protective equipment.

16.19 The role/ responsibility of Cleaning (housekeeping) Service.

- 16.19.1 Regular and routine cleaning of all surfaces and the maintenance of a high level of hygiene in the facility.
- 16.19.2 In collaboration with the Infection Prevention & Control Committee, Cleaning Services is responsible for the following:
 - 16.19.2.1 Classify the different hospital areas by varying need for cleaning.
 - 16.19.2.2 Develop policies for appropriate cleaning techniques, procedure, frequency, agents used, etc., for each type of room, from highly contaminated to the most clean, and ensuring that these practices are followed.
 - 16.19.2.3 Develop, in collaboration with the facility's Waste Manager and the Infection Prevention & Control Team, policies for collection, transport and disposal of different types of waste (e.g. containers, frequency).
 - 16.19.2.4 Ensure that liquid soap and paper towel dispensers are replenished regularly.
 - 16.19.2.5 Inform the Maintenance Unit of any physical (building) problems requiring repair e.g. cracks in walls, missing floor and wall tiles, defects in the sanitary or electrical equipment, etc.
 - 16.19.2.6 Develop in collaboration with the environment health officer, a pest control programme (insects, rodents).
 - 16.19.2.7 Provide appropriate training for all new staff members and periodically for other employees, and specific training when a new technique is introduced.
 - 16.19.2.8 Establish methods and routines for the cleaning and disinfection of bedding, e.g. mattresses, pillows, screens and curtains.
 - 16.19.2.9 Determine the frequency for the washing of curtains, screening curtains between beds, etc.
 - 16.19.2.10 Review plans for renovations or new furniture, including special patient beds, to determine feasibility of cleaning.
 - 16.19.2.11 Develop and execute an in-service programme for staff training, that covers personal hygiene, hand washing, cleaning methods (e.g. sequence of rooms, correct use of equipment, dilution of cleaning agents, etc.).

16.20 The role/ responsibility of the Maintenance Unit.

- 16.20.1 Collaborate with Housekeeping, the nursing staff or other appropriate groups in selecting equipment and ensuring early identification and prompt correction of any defect.

- 16.20.2 Inspect and perform regular maintenance of the plumbing, heating, and refrigeration equipment, and electrical fittings and air conditioning. Records should be kept of these activities.
- 16.20.3 Develop procedures for emergency repairs in essential departments e.g. at the Central Sterilising Department, in the theatres, at ICU and in the laundry.
- 16.20.4 Ensure environmental safety outside the hospital, e.g. water sources, broken windows, etc.
- 16.20.5 Participate in the choice of equipment if maintenance of the equipment requires technical assistance.
- 16.20.6 Inspect, clean and regular replace the filters of all appliances for ventilation and humidifiers.
- 16.20.7 Test autoclaves (temperature, pressure, vacuum, recording mechanism) and perform regular maintenance (cleaning the inner chamber, emptying the tubes).
- 16.20.8 Monitor and record thermometers of refrigerators in pharmacy stores, laboratories, mortuary, blood bank and the kitchen.
- 16.20.9 Inspecting all surfaces, i.e. walls, floors, and ceilings regularly to ensure surfaces are kept smooth and washable.
- 16.20.10 Repair any opening or crack in partitioning or window frames.
- 16.20.11 Maintain hydrotherapy appliances.
- 16.20.12 Notify the Infection Prevention & Control Committee of any anticipated interruption of services such as plumbing or air conditioning.

SECTION 2: THE NATIONAL INFECTION PREVENTION AND CONTROL STRATEGY

1. Introduction

The threat posed by infectious diseases is progressively growing on a global scale. This is largely due to dramatic changes in human behaviour, broader social, economic and technological developments, and mutations in pathogens. In South Africa, however, this growing threat to the health care system has never been accorded the attention it deserves.

The spread of infectious diseases have amongst other things been exacerbated by changes in technology-driven medical procedures entailing some risks of infection, inappropriate use of antibiotics which results in development of novel pathogens, the breakdown of public health systems in some countries due to war or economic decline, climate changes which enable diseases and vectors to expand their range, changes in land use patterns, and international travel, as was clearly demonstrated during the Severe Acute Respiratory Syndrome (SARS) outbreak.

The devastating effect international outbreaks such as the SARS, Marburg hemorrhagic fever and the numerous national *Klebsiella pneumoniae* outbreaks in neonatal units have had in terms of morbidity and mortality and the accompanying financial burden placed on individuals, families, and society at large, has served as a reminder of the need for urgent action to ensure efficient management of infectious diseases. Furthermore, the several outbreaks in neonatal units have also highlighted the need for effective environmental cleaning.

A robust National Strategic Plan addressing the prevention and control of health care associated infections is essential. In the interest of accountability, there is need to improve practices to ensure that health care costs are not unduly inflated by preventable health care-associated infections and their resultant complications. The need to develop well functioning infection prevention and control programmes at national, provincial, district and facility level, for the effective prevention and control of known and other diseases that may arise, for which medication may not be readily available, have become an imperative. These programmes must address all the essential areas of infection prevention and control such as sanitation, health care worker protection, isolation protocols for specific infectious diseases, infection control protocols for high-risk settings, rational use of anti-microbials, safe and appropriate use of injections, infusions, and blood and blood products.

The success of such programmes depends on partnerships and the commitment of academic institutions, research organizations, the public and the private.

2. Purpose of the Strategic Plan

This strategic plan forms part of an important national initiative of the national Department of Health in guiding efforts of the entire South African health care system in a joint effort to prevent and control infectious diseases in health care settings.

The strategy is also intended to position the prevention and control of infectious diseases as a crucially important strategic area of focus in the mainstream of health care quality and service improvement.

3. Situational analysis

During 2005, provincial workshops were conducted in all the nine provinces to determine the challenges in infection control in South Africa. The results particularly around prevention and control of infections showed that a focused infection control quality improvement programme could greatly enhance the input aspects of infection control and prevention programmes.

The results obtained through the provincial workshops and the conclusions drawn, were in many instances also substantiated by data the Council for Health Service Accreditation of Southern Africa (COHSASA) obtained through their continuous service assessments in certain provincial facilities. In both assessments infection prevention and control is generally viewed as an area that needs serious improvement.

The following is a summary of the findings of the provincial workshops conducted in the nine provinces.

3.1 Training

- 3.1.1 A shortage of experienced and properly trained Infection Control Practitioner (ICP) exists in South Africa. If no interventions are put in place this shortage will continue to worsen as currently practicing ICP retire or move on to other positions.
- 3.1.2 Health care workers currently practicing as Infection Control Officers (ICO) have received variable training, while the majority others have received no training at all.
- 3.1.3 Most practicing ICO expressed a lack of capacity to efficiently run the infection control programmes. Some expressed the concern that the type of training they received did not fully equip them to run efficient infection prevention and control programmes.
- 3.1.4 In addition to the lack of confidence, these ill-equipped infection control officers often had no authority to act, which renders them ineffective.
- 3.1.5 On average, three to five years, on-the-job training is viewed as the norm for new ICP to become competent in the field. A comprehensive training programme could reduce this time to 2 - 3 years.

- 3.1.6 Infection control in-service training was reported to be sub optimal in most facilities.
- 3.1.7 The group that was mostly neglected for in-service training on infection control and prevention was medical doctors.
- 3.1.8 The duration of training programmes vary from a three days course, a one-week course, a six months course, up to a two-year post graduate diploma. Concerns were raised over variability of outcomes of the different training programmes.
- 3.1.9 Staff shortage and lack of funding were cited as reasons for failure to fully utilize available training opportunities.
- 3.1.10 A need was identified for the national Department of Health to establish training unit standards for Infection Prevention and Control.

3.2 Staffing

- 3.2.1 Concerns were raised over the lack of dedicated Infection prevention and Control posts on staff establishments at all levels, from institutional to national level.
- 3.2.2 It was reported that there are institutions without a full time dedicated infection control officer. The infection prevention and control function in such cases was done on an ad-hoc basis. A registered nurse who performs normal duties in a particular unit is sometimes delegated to "deal with infection control situations when the need arises". Staff shortage was also sighted as a reason for such arrangements.
- 3.2.3 This casual approach to Infection Prevention and Control was also associated with lack of clear job descriptions for ICP.
- 3.2.4 Due to staff shortages, it is not always possible to adequately orientate and in-service train nursing agency staff on infection control issues before they are allocated in the wards.
- 3.2.5 High staff turnover is a contributory factor to the shortage of trained ICO.
- 3.2.6 Staff shortage has resulted in closure of certain wards, including isolation units. This in some facilities has led to mixing of patients with contagious conditions, with the rest of the patients in units not designed to contain such conditions.
- 3.2.7 A need was identified to establish realistic infection control staffing norms that are relevant and viable for South Africa.

3.3 Structures.

- 3.3.1 The infection prevention and control function is managed by different structures under different directorates in the different provinces.

- 3.3.2 At national level and in a few provinces, the function had no specific delegated structure to manage infection prevention and control. This has resulted in the function being handled on an *ad hoc* basis or not being addressed at all. At institutional and provincial level where such structures do exist, a situation is found where there is no specific higher structure to report to.
- 3.3.3 A lack of coordination of infection control activities at primary health care level does exist.
- 3.3.4 Often where infection control committees do exist in hospitals, the roles and responsibilities of members of such committees are not clearly defined.

3.4 Infrastructure.

- 3.4.1 Most of the old public hospitals were not designed with infection control in mind. Structural design limitations compromise on health care workers' capacity to effectively implement isolation precautions.
- 3.4.2 Other challenges are the lack of isolation units, insufficient hand basins and taps, wrongly designed taps, and lack of waste management facilities.
- 3.4.3 Inadequacy of isolation units also leads to the mixing of patients with contagious conditions with those without such conditions.

3.5 Antibiotic use

- 3.5.1 Irrational antibiotics use was reported to be common with examples like inappropriate prolonged prophylactic courses lasting up to a month.
- 3.5.2 Empiric antibiotic prescription of broad-spectrum antibiotics was reported to be still rife. This was associated with limited access to appropriate diagnostic facilities due to budget limitations and sometimes lack of facilities in the rural areas.
- 3.5.3 In some provinces drug and therapeutic committees were reported to be dysfunctional.
- 3.5.4 Prescribers indicated that often, antibiotic courses had to be changed prematurely due to drug shortages. This may be indicative of problems in the drugs supply management chain.
- 3.5.5 A concern was raised over the unavailability of copies of the Essential Drug List.

3.6 Environmental cleaning

- 3.6.1 There is a lack of cleaning standards for the health care environment.
- 3.6.2 Training of cleaners is largely neglected. In some facilities the cleaning service is not properly managed, as cleaning supervisors are not trained.
- 3.6.3 Poor collaboration and consultation between procurement divisions and infection control units in the procurement of cleaning chemicals, which results in cleaning products and chemicals being purchased that are not properly understood and thus not appropriately used by the cleaners.

- 3.6.4 Due to inefficient career pathing, cleaning departments often get stuck with a largely aging staff component that is no longer optimally productive.
- 3.6.5 Inefficient cleaning serviced turn health facilities into environments conducive for microbial growth and spread.

3.7 Surveillance

Infection control surveillance systems are non-existent in all provinces. Attempts are being made in provinces such as Gauteng and KwaZulu-Natal to initiate infection control surveillance systems.

4. Strategic Areas of Action

4.1 Action Area 1: Promoting early detection of infections through active surveillance and monitoring.

Problem Statement: Lacking high quality information on health services acquired infections undermines the tracking of progress made, investigating underlying causes and instituting prevention and control measures, because such information is specifically required to:

- Provide information about unusual problems or clusters of infection;
- Identify risk associated with certain procedures or techniques;
- Evaluate success of specific preventative measures;
- Provide information on temporal trends and allow comparisons using standard definitions; and
- To provide timely, valid and useful feedback to key stakeholders.

Currently, there is no coordinated nosocomial surveillance system at district, provincial or national level. Monitoring is inadequate and access to computerized systems is limited. For example, the existing Hospital Information System as part of the District Health Information System does not require hospitals to report any data on adverse events including nosocomial infections.

Actions:

- Develop a national infection control surveillance system to produce quality data on targeted health care associated infections and antibiotic resistant organisms so that appropriate interventions and support by regional, provincial and national structures can be provided when necessary.
- Identify key infectious diseases and syndromes for targeted surveillance.
- The District Health Information System to be extended to include data on adverse events including nosocomial infection rates.
- Develop appropriate reporting back mechanisms that provide clinical teams with comparative data on the levels of health care associated infection rates within their hospitals.

- Uniform policies to report and review nosocomial infections should be developed, adopted and reviewed in local health care facilities.
- Coordinate and optimize linkages between laboratory services and health care facilities to ensure optimal use of laboratory data for the diagnosis of healthcare associated infection.
- The techniques of 'root cause analysis' and the methodology of *Hazard Analysis* and *Critical Control Point* shall be developed for healthcare associated infection and be made a mandatory part of infection control training, and be applied in every health care facility.

4.2 Action Area 2: Addressing health care worker needs and requirements; education for doctors, nurses and ancillary healthcare workers.

Problem Statement: Very few health care workers have formal infection control training. As a result, staff are often reluctant to participate on infection control committees and very few are able to lead the service. Often, especially in smaller hospitals, the infection control function is additional to that of other activities, resulting in infection control activities not receiving the necessary attention. Moreover, this function is often delegated to someone not suitably skilled, or delegated to more than one person on a rotational basis, compromising continuity in the prevention, surveillance and control functions associated with infection control.

Action:

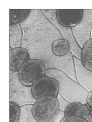
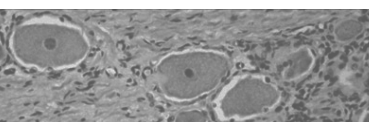
- Develop standardized courses for infection prevention and control that will equip infection control officers to provide appropriate in-service training for health care workers in facilities.
- Implement an education and training programme for doctors, nurses and ancillary healthcare workers.
- Establish facility based infection control teams and provide them with appropriate training.
- Increase awareness of the importance of prevention, surveillance and control of infections, amongst health care workers.

4.3 Action Area 3: Reducing risk through implementation of guidelines for infection prevention and control.

Problem Statement: Availability and use of guidelines play an important role in infection prevention and control. While infection control manuals are available in most facilities, adherence to such guidelines is often questionable.

Action:

- Promote the use of existing guidelines, through an awareness raising campaign that fully engages patients and service users as well as health care professionals. E.g. conduct national and provincial workshops, and distribute guidelines as widely as possible.



- Establish a national Infection Prevention and Control Guideline Development & Review Project Team.
- Policies and standards need to be continually reviewed, developed and monitored both provincially and nationally. Systems for this must be developed.
- Establish the Office of Standard Compliance as a matter of urgency, in order to investigate in a coordinated manner areas of poor patient care, and health service provision.

4.4 Action Area 4: Reducing reservoirs of infection.

Problem Statement: Factors that greatly increase the risk of healthcare associated infections are high bed occupancy rates, extensive movement of patients within a health care facility, unhygienic conditions and an absence of suitable facilities for isolation. Proper strategies within facilities are needed to address these risk factors.

Action:

- Provinces assess environmental infection control needs and address them.
- Adequate structural capacity for airborne isolation is created.
- Employee programmes are put in place to minimize the possibilities of health care workers contracting preventable infectious diseases and transmitting such diseases to other health care workers.
- Health care facilities to adhere to standards for the prevention and control of infection standards, including:¹
 - Health care facilities design and implement a coordinated programme to reduce the risk of nosocomial infections in patients and health care workers.
 - Health care facilities implement targeted surveillance of device-associated infections.
 - Health care facilities identify the procedures and processes associated with the risk of infection, and implement strategies to reduce infection risk.
 - Protective clothing, disinfectants and other barrier techniques are available and are used correctly when required.
 - Laboratory cultures are obtained from designated sites in the health care facility associated with significant infection risk when indicated.
 - The infection prevention and control programme has a quality management and improvement programme that is integrated with the health facility's overall programme for quality management and improvement.
 - Infection control and environmental cleaning standards to be developed and validated for all levels of care.
 - Cleaners to receive in-service training on use of cleaning chemicals and solutions.

¹ COHSASA SE9 – Prevention and Control of Infection Standards

4.5 Action Area 5: Best use of antibiotics.

Problem Statement: Emerging antibiotic resistance continues to limit access to effective therapies for some infectious diseases. If no effective interventions are put in place to preserve the efficacy of existing drugs, a significant rise in mortality from infectious diseases can be expected in the near future. A significant amount of hospital-acquired infections are usually caused by resistant pathogens. Indiscriminate and inappropriate use of antibiotics to treat infections within health care facilities is one of the drivers of the emerging antibiotics resistance problem. Other drivers include irrational usage of antibiotics in food reared for human consumption, patients' misunderstanding of the pharmacological actions of antimicrobial agents, self-medication and poor adherence to dosage regimens. Prudent use of antibiotics is essential and must be supported and promoted.

Action:

- *Drug and therapeutics committees* should be revived or established where they do not exist. The functioning of such committees should be strictly managed to ensure that they execute all their responsibilities, especially responsibilities relating to the management of antibiotic use.
- A system to monitor the functioning of *drug and therapeutics committees* must be put in place.
- A surveillance system for antibiotic use and resistance must be established, to provide information for the optimal management of resistance.
- Health care workers to be trained to conduct an epidemiologically valid surveillance of antimicrobial resistance, and produce relevant good quality data.
- Continuous education of all groups of prescribers and dispensers to be conducted on the importance of rational antibiotics use.
- Improve immunization coverage as a way of reducing the need for antibiotics.
- Empiric antibiotic management should be avoided as far as is reasonably practicable.
- Microscopy results should be made available as soon as possible while sensitivity and culture results are awaited, to guide antibiotic choice.
- Public health education campaigns to be conducted to promote appropriate antibiotic use, and use of preventive measures such as immunization and vector control.

4.6 Action Area 6: Management and organisation.

Problem Statement: Appropriate structures at different levels for the management of infection prevention and control need strengthening.

Action:

- Establish an *Infection Prevention and Control directorate* within the national Department of Health.
- Establish a *National Infection Prevention and Control Advisory Committee* (NIPCAC) consisting of experts in the field of infection prevention and control.
- Establish provincial and district infection prevention and control committees.

- Strengthen facility-based (institutional) Infection Prevention & Control Committees as well as Infection Prevention & Control (Clinical) Teams.
- Build awareness amongst hospital managers and administrators on nosocomial infections to ensure they understand their roles and responsibilities with regards to infection control.
- Performance indicators that specifically relate to infection prevention and control are included in performance management agreements of Hospital Chief Executive Officers, District Managers, and Primary Health Care Supervisors.
- Health care facility managers to execute their responsibilities as stipulated in the National Infection Control and Prevention Policy.
- Health care facility managers ensure that the different units and disciplines within the facility clearly understand and execute their roles and responsibilities relating to infection control as indicated in the National Infection Control and Prevention Policy.
- Collaborate with educational/training institutions to ensure infection prevention and control is given high-level status in under-graduate and post-graduate training curricula for all levels / types of health care professional training.
- Empower formulary managers to limit antibiotics use to the prescription of an appropriate range of selected antimicrobial agents.

4.7 Action Area 7: Research and development.

Problem Statement: A greater in-depth understanding of nosocomial infections is essential to strengthen current programmes and initiatives in South Africa.

Action:

- A national research strategy will be developed in partnership with national research partners to address gaps in current scientific and clinical knowledge about how to manage and reduce nosocomial infections.
- Studies will be conducted to identify behaviours and environmental factors that predispose people to infectious diseases, and to determine the *status quo* with regard to practices, skills, knowledge, staffing, availability and use of guidelines and protocols, effectiveness of reporting lines, etc. The outcome of these studies shall determine priorities to be addressed by the national and provincial infection prevention and control structures.
- National research partners will be encouraged to develop a research programme that address gaps where they exist.
- Research funders will be approached to assist in supporting a national nosocomial research programme.

6. Conclusion

Successful implementation of this strategy depends on many factors such as political and managerial commitment and authority at all levels, strong partnerships and good communication between all tiers of government, the private sector and other relevant stakeholders. The establishment of the required structures and making available the necessary resources to implement the strategy will also be of the utmost importance. Every effort should be made to build and improve capacity for management of infectious diseases, infection control practice, epidemiology and surveillance at different levels, and to ensure that all activities are based on evidence-based practices.

