



BOTSWANA NATIONAL HEALTH QUALITY STANDARDS FOR HOSPITALS

20. Radiology and Diagnostic Imaging Service

These forms are designed to be used by both hospital personnel and external surveyors. The following information must be provided after each survey, before submitting the completed survey forms.

1. NAME OF HOSPITAL/CLINIC/FACILITY: _____

2. BASELINE/INTERNAL SURVEY INFORMATION:

Title and name of person who completed this document: _____

Post and position held: _____

Date of survey: _____

3. EXTERNAL SURVEY INFORMATION:

Name of external surveyor: _____

Date of external survey: _____

GUIDE TO COMPLETION OF FORM

N.B. Hospital staff are please to use BLACK ink at all times. The external surveyors are requested to use RED ink at all times.

Please circle the rated compliance with the criterion, e.g. NA (Not applicable), NC (Non-compliant), PC (Partially compliant), C (Compliant).

The default category affected is designated on the form for each criterion as follows:

1. patient and staff safety
2. legality
3. patient care
4. efficiency
5. structure
6. basic management
7. basic process
8. evaluation

The seriousness of the default is designated on the form for each criterion as follows:

1. mild
2. moderate
3. serious
4. very serious

<p><u>Documents Checked</u></p> <p>Surveyor:</p> <p>Surveyor:</p>
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20. Radiology and Diagnostic Imaging Service



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20. Radiology and Diagnostic Imaging Service

20.1 Management of the Service

20.1.1 Standard

A radiology and diagnostic imaging service is provided by the organisation, or is readily available through arrangements with outside sources, to meet the needs of its patient population.

Standard Intent: The organisation has a system for providing the radiology and diagnostic imaging services required by its patient population, the clinical services offered and health provider needs.

Radiology and diagnostic imaging services, including those required for emergencies, may be provided within the organisation, by agreement with another organisation or both. The radiology and diagnostic imaging service is available after normal hours for emergencies.

Outside sources are convenient for the patient to access, and reports are received in a timely manner, which supports continuity of care. They are selected by the organisation on the recommendation of the director or another individual responsible for radiology and diagnostic imaging services. Outside sources of radiology and diagnostic imaging meet applicable laws and regulations and have an acceptable record of accurate, timely service. Patients are informed when the referring doctor owns the outside source of radiology and diagnostic imaging.

	Criterion	Comments
		Recommendations
Criterion 20.1.1.1 Critical: .. Catg: Basic Management + Patient Care Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	An adequate, convenient and regular radiology and diagnostic imaging service is available to meet patient needs.	
Criterion 20.1.1.2 Critical: .. Catg: Basic Management + Patient Care Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	An emergency radiology and diagnostic imaging service is available after normal hours.	
Criterion 20.1.1.3 Critical: .. Catg: Basic Management + Legality Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	The selection of an outside source is based on an acceptable record and compliance with applicable laws and regulations.	



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Criterion 20.1.1.4	Patients are informed about any relationships between the referring doctor and an outside source of radiology and diagnostic imaging service.	
Critical: ..		
Catg: Basic Process + Patient Care		
Compliance		
NA NC PC C		
Default Severity for NC or PC = 3 Serious		

20.1.2 Standard

A qualified individual is responsible for managing the radiology and diagnostic imaging service.

Standard Intent: The radiology and diagnostic imaging service is under the direction of an individual who is qualified by virtue of documented training, expertise and experience in accordance with applicable laws and regulations. This individual assumes professional responsibility for the radiology and diagnostic imaging service. When this individual provides clinical consultation or a medical opinion, he or she should be a doctor, preferably a radiologist.

The radiology and diagnostic imaging manager's responsibilities include:

- developing, implementing and maintaining policies and procedures
- administrative control
- maintaining any necessary quality control programmes
- recommending outside sources of radiology and diagnostic imaging services
- monitoring and reviewing all radiology and diagnostic imaging services.

	Criterion	Comments
		Recommendations
Criterion 20.1.2.1	A registered radiologist or radiographer, who is appropriately experienced, manages the radiology and diagnostic imaging service.	
Critical: ..		
Catg: Basic Management + Efficiency		
Compliance		
NA NC PC C		
Default Severity for NC or PC = 4 Very Serious		
Criterion 20.1.2.2	The responsibilities of this person include developing, implementing and maintaining relevant policies and procedures.	
Critical: ..		
Catg: Basic Process + Efficiency		
Compliance		
NA NC PC C		
Default Severity for NC or PC = 4 Very Serious		



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Criterion 20.1.2.3 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	The responsibilities of this person include administrative control.	
Criterion 20.1.2.4 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	The responsibilities of this person include maintaining quality control programmes.	
Criterion 20.1.2.5 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	The responsibilities of this person include recommending outside sources of radiology and diagnostic imaging services.	
Criterion 20.1.2.6 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	The responsibilities of this person include monitoring and reviewing all radiology and diagnostic imaging services.	



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20.1.3 Standard

Individuals with adequate training, skills and experience perform diagnostic imaging procedures and interpret the results.

Standard Intent: The organisation identifies those personnel who may perform procedures and those who may interpret X-ray films and report the findings.

These staff members have appropriate and adequate training, experience and skills and are oriented to their work. Radiographers are given assignments consistent with their training and experience. There are sufficient personnel to provide necessary staffing during all hours of operation and for emergencies.

The organisation is able to identify and contact experts in specialised diagnostic areas such as radiation physics, radiation oncology or nuclear medicine when the need for such services arises. The organisation maintains a roster of such experts.

	Criterion	Comments
		Recommendations
Criterion 20.1.3.1 Critical: '' Catg: Basic Management + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	Those individuals, who may perform diagnostic imaging procedures and those who may interpret and report the results are identified.	
Criterion 20.1.3.2 Critical: p Catg: Basic Management + Legality Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	A mechanism exists which ensures that procedures are performed only by radiographers, radiologists or specially trained doctors and other persons authorised to do so by a health professions council.	
Criterion 20.1.3.3 Critical: '' Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	X-rays are done only upon a signed request from a qualified authorised health practitioner.	



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Criterion 20.1.3.4 Critical: '' Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	X-rays are interpreted and reported on by appropriately trained and experienced staff.	
Criterion 20.1.3.5 Critical: '' Catg: Basic Management + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	There is an adequate number of staff members to meet patient needs.	
Criterion 20.1.3.6 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	Experts in specialised diagnostic areas are contacted, when needed.	
Criterion 20.1.3.7 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	A roster of experts for specialised diagnostic areas is maintained.	



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20.2 Reporting and Recording

20.2.1 Standard

Reporting and recording policies and procedures within the radiology and diagnostic imaging service ensure safety and legality.

Standard Intent: X-ray request forms and the ensuing reports must identify the correct patient and the correct site of X-ray. The organisation defines the time period for reporting diagnostic radiology and diagnostic imaging test results. Results are reported within a time frame based on patients' needs, services offered and clinical staff members' needs. Mechanisms are in place to ensure that X-ray results are reported on immediately in an emergency.

The X-ray films are the property of the patient and may be taken away by the patient. Where this is done, he/she must be told to bring the films along at future visits. Where the organisation stores films, these are kept for a minimum of three years or longer as defined by organisational policy.

	Criterion	Comments
		Recommendations
Criterion 20.2.1.1 Critical: 0 Catg: Basic Process + Patient Care Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	X-ray request forms contain the date of the request, patient's name, examination requested, relevant previous examinations and investigations, name of the requesting officer and clinical information to explain the request.	
Criterion 20.2.1.2 Critical: '' Catg: Basic Process + Patient Care Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	The organisation has established the expected turnaround time for results.	
Criterion 20.2.1.3 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	Radiology and diagnostic imaging results are reported on within a time frame to meet patient needs.	



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Criterion 20.2.1.4 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	There is a method of checking the X-ray reports against the clinical records.	
Criterion 20.2.1.5 Critical: '' Catg: Basic Process + Patient Care Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	X-ray reports contain a clear conclusion (including recommendations for future treatment, if appropriate).	
Criterion 20.2.1.6 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	A copy of the report is filed in the patient's record.	
Criterion 20.2.1.7 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	Films are available at each visit of the patient.	
Criterion 20.2.1.8 Critical: '' Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	A policy that defines the length and method of storage of X-ray films is implemented.	



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Criterion 20.2.1.9	Where patients are allowed to take films home, education on proper storage must be provided.	
Critical: ..		
Catg: Basic Process + Patient Care		
Compliance		
NA NC PC C		
Default Severity for NC or PC = 3 Serious		

20.2.2 Standard

The radiology and diagnostic imaging service meets applicable national standards, laws and regulations.

Standard Intent: The organisation ensures that staff members are knowledgeable about the relevant legal requirements relating to radiology and diagnostic imaging. This is ensured by having available copies of the most recent radiation safety report and local rules relating to current Ionising Radiation regulations, as well as other applicable documents which provide guidance relating to legality.

The organisation satisfies the statutory requirements under the Ionising Radiation regulations, according to the most recent radiation safety report.

There are organisational arrangements which allow for advice on radiation protection and how to deal with a suspected case of over-exposure.

	Criterion	Comments
		Recommendations
Criterion 20.2.2.1	Written policies and procedures that address compliance with applicable standards, laws and regulations are implemented.	
Critical: ..		
Catg: Basic Process + Legality		
Compliance		
NA NC PC C		
Default Severity for NC or PC = 4 Very Serious		
Criterion 20.2.2.2	A copy of the national rules relating to current Ionising Radiation regulations is available.	
Critical: ..		
Catg: Basic Management + Legality		
Compliance		
NA NC PC C		
Default Severity for NC or PC = 4 Very Serious		
Criterion 20.2.2.3	A copy of the most recent radiation safety report is held.	
Critical: 0		
Catg: Basic Management + Legality		
Compliance		
NA NC PC C		
Default Severity for NC or PC = 4 Very Serious		



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Criterion 20.2.2.4 Critical: .. Catg: Basic Management + Legality Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	The organisation satisfies the statutory requirements under the Ionising Radiation regulations.	
Criterion 20.2.2.5 Critical: .. Catg: Basic Management + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	A radiation safety officer(RSO) is identified and available to assist a radiation protection inspector in complying with the Ionising Radiation regulations.	
Criterion 20.2.2.6 Critical: .. Catg: Basic Process + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	A patient register is available in the radiology and diagnostic imaging department.	

20.2.3 Standard

X-ray film and other supplies are regularly available.

Standard Intent: The organisation has identified the quantities of film, reagents and supplies necessary to provide a radiology and diagnostic imaging service to its patients. A process to order or secure essential film, reagents and other supplies is effective. All supplies are stored and dispensed according to defined procedures. The periodic evaluation of reagents ensures accuracy and precision of results. Written guidelines ensure the complete and accurate labelling of film, reagents and solutions.

	Criterion	Comments
		Recommendations
Criterion 20.2.3.1 Critical: .. Catg: Basic Management + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Essential quantities of film, reagents and supplies are available.	



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<p>Criterion 20.2.3.2</p> <p>Critical: ..</p> <p>Catg: Basic Process + Pat & Staff Safety</p> <p style="text-align: center;">Compliance</p> <p style="text-align: center;">NA NC PC C</p> <p>Default Severity for NC or PC = 4 Very Serious</p>	<p>All film and reagents are stored and disposed of according to guidelines.</p>	
<p>Criterion 20.2.3.3</p> <p>Critical: ..</p> <p>Catg: Basic Process + Legality</p> <p style="text-align: center;">Compliance</p> <p style="text-align: center;">NA NC PC C</p> <p>Default Severity for NC or PC = 4 Very Serious</p>	<p>All reagents and solutions are completely and accurately labelled.</p>	



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20.3 Quality Improvement

20.3.1 Standard

A formalised proactive quality improvement approach is maintained in the service.

Standard Intent: This refers to the implementation of organisational quality improvement processes (Service Element 8).

It is the responsibility of the management of the organisation to ensure that standards are set throughout the organisation. Within each department or service, it is the responsibility of the managers to ensure that standards are set for the particular department. This requires coordination with the organisation's central/management/co-ordinating quality improvement structures or systems. Departmental managers use available data and information to identify priority areas for quality monitoring and improvement.

Quality monitoring could include:

- a) request forms without history or clinical diagnosis
- b) number of unidentified patients
 - c) unescorted patients arriving at the department
- d) waiting times
- e) reject analysis and remedial action taken
- a) patient and family expectations and satisfaction.

The following will be evaluated:

- problems identified in this service for which quality improvement activities were initiated
- the processes put in place to resolve the problem
- the identification of indicators to measure improvement
- the tool(s) used to evaluate these indicators
- the monitoring of these indicators and corrective steps taken when goals were not achieved
- graphed and/or tabled results, as appropriate.

	Criterion	Comments
		Recommendations
Criterion 20.3.1.1 Critical: '' Catg: Evaluation + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	There are formalised quality improvement processes for the service which have been developed and agreed upon by the personnel of the service.	
Criterion 20.3.1.2 Critical: '' Catg: Evaluation + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Indicators of performance are identified to evaluate the quality of treatment and patient care.	



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Criterion 20.3.1.3 Critical: .. Catg: Evaluation + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	The quality improvement cycle includes the monitoring and evaluation of the standards set and the remedial action implemented.	
Criterion 20.3.1.4 Critical: .. Catg: Evaluation + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	A documentation audit system is in place.	

20.3.2 Standard

Quality control procedures are in place, followed and documented.

Standard Intent: Sound quality control systems are essential to providing excellent radiology and diagnostic imaging services. Quality control procedures include:

- validation of the test methods used for accuracy and precision
- daily surveillance of imaging results by qualified radiology staff
- rapid corrective action when a deficiency is identified
- testing of reagents and solutions
- documentation of results and corrective actions.

	Criterion	Comments
		Recommendations
Criterion 20.3.2.1 Critical: .. Catg: Evaluation + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	There is a quality control process for the radiology and diagnostic imaging service and it is implemented.	
Criterion 20.3.2.2 Critical: .. Catg: Evaluation + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Quality control includes validating test methods.	



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Criterion 20.3.2.3 Critical: .. Catg: Evaluation + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	Quality control includes daily surveillance of imaging results.	
Criterion 20.3.2.4 Critical: .. Catg: Evaluation + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Quality control includes rapid correction when a deficiency is identified.	
Criterion 20.3.2.5 Critical: .. Catg: Evaluation + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 3 Serious	Quality control includes equipment maintenance/testing/safety.	
Criterion 20.3.2.6 Critical: 0 Catg: Evaluation + Efficiency Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Quality control includes documenting results and corrective actions.	



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20.4 Patient Rights

20.4.1 Standard

The department/service implements processes that support patient and family rights during care.

Standard Intent: This refers to the implementation of organisational policies on patient and family rights (Service Element 5).

Compliance will be verified during observation of patient care processes, patient record audits and patient interviews.

	Criterion	Comments
		Recommendations
Criterion 20.4.1.1 Critical: .. Catg: Basic Management + Patient Care Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	There are processes which support patient and family rights during care.	
Criterion 20.4.1.2 Critical: .. Catg: Basic Process + Patient Care Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Measures are taken to protect the patient's privacy, person and possessions.	
Criterion 20.4.1.3 Critical: .. Catg: Basic Process + Patient Care Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	The personnel respect the rights of patients and families to treatment and to refuse treatment.	



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20.5 Prevention and Control of Infection

20.5.1 Standard

xThe department/service implements infection prevention and control processes.

Standard Intent: This refers to the implementation of organisational processes for infection prevention and control (Service Element 9).

	Criterion	Comments
		Recommendations
Criterion 20.5.1.1 Critical: .. Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	The department identifies the procedures and processes associated with the risk of infection and implements strategies to reduce risk.	
Criterion 20.5.1.2 Critical: .. Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Infection control processes include prevention of the spread of respiratory tract infections, and focus on processes that may lead to infection.	
Criterion 20.5.1.3 Critical: .. Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Infection control processes include prevention of the spread of skin infections, and focus on processes that may lead to infection.	
Criterion 20.5.1.4 Critical: .. Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Infection control processes include prevention of the spread of infection through intravascular invasive devices.	



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20.6 Risk Management

20.6.1 Standard

The department/service implements risk management processes.

Standard Intent: This refers to the implementation of organisational risk management processes. (Service Element 7).

The organisation has an active radiation safety programme that includes all components of the organisation's radiology and diagnostic imaging services, including radiation oncology and the cardiac catheterisation laboratory. The radiation safety programme reflects the risks and hazards encountered. The programme addresses safety practices and prevention measures for radiology and diagnostic imaging staff, other staff and patients.

The programme is coordinated with the organisation's safety management programme.

	Criterion	Comments
		Recommendations
Criterion 20.6.1.1 Critical: '' Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	The department conducts on-going monitoring of risks through documented assessments as part of the organisational programme.	
Criterion 20.6.1.2 Critical: '' Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Appropriate radiation safety devices are available.	
Criterion 20.6.1.3 Critical: '' Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Dosimeter badges are worn and handled according to Ionising Radiation Regulations.	



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Criterion 20.6.1.4 Critical: .. Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	A system for monitoring incidents/near misses/sentinel/adverse events is available and includes the documentation of interventions and responses to recorded incidents	
Criterion 20.6.1.5 Critical: .. Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Security measures are in place and are implemented to ensure the safety of patients, personnel and visitors.	
Criterion 20.6.1.6 Critical: .. Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Fire safety measures are implemented.	
Criterion 20.6.1.7 Critical: .. Catg: Basic Process + Pat & Staff Safety Compliance NA NC PC C Default Severity for NC or PC = 4 Very Serious	Organisation policy on handling, storing and disposing of health waste is implemented.	