# IMPLEMENTATION FRAMEWORK OF THE HOSPITAL REVITALISATION PROGRAMME IN A REGIONAL SECONDARY LEVEL PUBLIC HOSPITAL IN PAARL, SOUTH AFRICA

by

GUINEVERE MARGARETHA ATTILLA COULDRIDGE LOURENS

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**Supervisor:** Prof. H.H. Ballard

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## Declaration

I, **GUINEVERE MARGARETHA ATTILLA COULDRIDGE LOURENS**, declare that the contents of this research proposal represents my own unaided work, and that it has not previously been submitted to any other academic institution. Furthermore, it represents my own opinions and literature review.

…… 17 January 2015

…….. .

Signed Date

## Abstract

The National Department of Health of South Africa implemented a Hospital Revitalisation Grant to modernize and transform the infrastructure and health technology of hospitals and improve the quality of care and access to health care. Paarl Hospital, a secondary level semi-rural public regional hospital, was entered as a project into the Hospital Revitalisation Programme (HRP) in January 2006 and reached practical completion on 23 March 2012.

This study critically evaluated the HRP implementation at Paarl Hospital and developed a framework for implementation which addresses the needs of the clients and staff, and assures technical quality of care. Building healthcare facilities is complex and the incorrect planning and implementation thereof can give rise to expensive mistakes. Research on quality of care in health fulfils a social and practical mandate to create information for use by public managers to improve services or by decision makers to inform policy.

A descriptive case study design, with qualitative research methodology was utilized for this study. The case study involved an intensive exploration of the circumstances, dynamics and complexities of this public hospital project. A multi-method approach to data collection was taken which included focus group discussions; individual and pair interviews; as well as photographic and document review. Action research methodology, which is concerned with collaborative knowledge enquiry and sharing, was applied by means of an intervention. The findings which arose during the study were simultaneously used and actions were taken to improve HRP implementation in the Psychiatry planning and decanting stage.

The study's findings indicate that hospital revitalisation holds huge benefits for the community the relevant hospital serves, but that client, staff and technical quality are at risk during implementation. The proposed implementation framework serves to inform of the risk management strategies that can be taken for the infrastructure, health technology, organisational development and quality assurance deliverables of the HRP. Future hospital revitalisation projects stand to benefit from the framework to enhance quality of care during implementation, in the interest of economically effective and efficient allocation of public resources and quality health for all.

## Dedication

This thesis is dedicated to my husband Louis, and my sons Lodrick and Ruben; and

To the courageous staff, clients and community of Paarl Hospital for their tenacity and perseverance in the Hospital Revitalisation Programme to ultimately reach Quality Health Care for all.

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## Glossary

| | |
|---|---|
| AIDS | Acquired Immune Deficiency Syndrome |
| ARV | Anti-retroviral |
| DoH | Department of Health |
| DORA | Division of Revenue Act |
| FGD | Focus Group Discussion |
| HI | History Interview |
| HIV | Human Immunodeficiency Virus |
| HRP | Hospital Revitalisation Programme |
| HT | Health Technology |
| ID | Infrastructure Development |
| II | Individual Interview |
| IPC | Infection Prevention and Control |
| LSC | Local Steering Committee |
| NCS | National Core Standards |
| OD | Organisational Development |
| PCT | Project Commissioning Team |
| PCU | Project Commissioning Unit |
| PHC | Primary Health Care |
| PI | Pair Interview |
| PIM | Project Implementation Manual |
| PIP | Project Implementation Plan |
| QA | Quality Assurance |
| SA | South Africa |
| SABS | South African Bureau of Standards |
| SAEM | South African Excellence Model |
| TB | Tuberculosis |
| WCGH | Western Cape Government Health |
| WHO | World Health Organisation |

## Clarification of terms

| | |
|---|---|
| Adverse event | An unexpected or unintended occurrence involving death, or serious physical or psychological injury, or the risk thereof, rather than that caused by the patient's underlying disease process, that results in death, disability, or prolonged or repeated stay or contact with the health facility. |
| As-builts | Revised set of drawings submitted by a contractor upon completion of a project to represent the final "as-built" conditions and reflects the building as it is with any changes or deviations from the original plans. |
| Aspergillosis | The group of diseases caused by Aspergillus. The symptoms include fever, cough, chest pain, or breathlessness and the range of diseases include sinus and respiratory involvement. Patients with weakened immune systems or who suffer other lung conditions are more susceptible to the disease. |
| Aspergillus | A genus consisting of several hundred mould species found in various climates worldwide. |
| Commissioning | Bringing a hospital building and equipment to a state of readiness, for operational use, with an adequate number of trained staff members to function according to designed systems. |
| Cost | The resources required to carry out a project, including the people who do the work, the equipment used, and the materials consumed as the work is completed. |
| Clinical audit | A formal, clinically led initiative that systematically analyses clinical care against explicit set standards and criteria. Ultimately, a clinical audit seeks to improve the quality and outcome of patient care. |
| Clinical governance | Initiatives to ensure that health facilities have a framework in place to support continuous improvement in the quality of care. This includes having structures, processes, policies, and procedures, to safeguard patient care, and promote a health facility culture that encourages personnel to report any concerns they may have, or offer suggestions for improvement. |
| Decanting | Moving clinical or service departments into temporary accommodation while revitalisation is taking place. |
| Deliverable | The final product or service a project is intended to create. |
| Ergonomics | The study of man in relation to his work environment. |

| | |
|---|---|
| Evidence-based practice | Use of current best evidence, integrating individual clinical expertise with the best available external evidence arising from systematic research. |
| Gantt Chart | A graphical bar chart that shows the project plan over time. |
| Health facility | Any hospital, health centre, or clinic that is recognised and licensed by the Health Department to provide healthcare services. |
| Health Technology (HT) | Medical equipment and all the supportive systems including installations and logistical systems. |
| Histoplasmosis | A disease which primarily affects the lungs caused by the fungus Histoplasma capsulatum. Histoplasmosis is common among AIDS patients because of their suppressed immunity. Occasionally, other organs are affected; this is called disseminated histoplasmosis, and it can be fatal if left untreated.<br><br>Histoplasmosis is found in soil, often associated with decaying bird droppings. Disruption of soil from excavation or construction can release infectious elements that are inhaled and settled into the lung. |
| Hospital | Hospital is a generic term, defined as "people-processing institutions for those in ill health." |
| Hospital Revitalisation Programme (HRP) | The programme entails improving the condition of hospitals, the equipment and management, as well as bringing about rationalisation of highly specialised services. The main aim of the programme is to modernize South African hospitals.<br><br>The programme accommodates two to three hospitals per province per year and is projected to take 20 years. The HRP is owned by the South African Department of Health. |
| Institution | The building of an organisation for promoting public object, such as a hospital. |
| Local Steering Committee/Project Commissioning Team/Project Commissioning Unit (LSC/PCT/PCU) | These committees are mandated to ensure effective implementation and co-ordination of individual HRP projects. |

| | |
|---|---|
| Nosocomial | A hospital-acquired infection also known as a HAI is an infection whose development is favoured by a hospital environment and includes fungal and bacterial infections. |
| Organisation | Group of people working together |
| Phase | A sequence of tasks that represent a major portion of the project's work. |
| Project | A temporary endeavor undertaken to create a unique product or service. |
| Project scope | The work required producing a deliverable with agreed-upon quality, features and functions. |
| Quality Assurance | Quality service to clients beyond the clinical part of the service, extending to quality and safety of patient care, employees working conditions, resources and support for health workers. |
| Resources | People, equipment and material (and the associated costs of each) needed to complete the work on a project. |
| Revitalisation | Renovation, redevelopment, renovation, re-engineering, reconstruction, remodeling. |
| Six-Box Model | The Six-Box Model is a framework developed by the American analyst Marvin Weisbord in 1976 to assess the functioning of organisations. It is a generic framework and is intended for use across a wide variety of organisations. It is based mainly on the techniques and assumptions of the field of organisational development. |
| Stakeholders | The people or organisations that might be affected by project activities (those who "have a stake" in its success). These also include the human resources working on the project, as well as others (such as customers) external to the project work. |
| Standards | A quality or measure serving as a basis on, or principle to, which others should conform, or by which others are judged. |
| Verification Order (VO) | Design change request with cost implication |

# CHAPTER 1
# BACKGROUND

## 1.1 Introduction

The Hospital Revitalisation Programme (HRP) process is an influential health system reform in South Africa (SA) (van Rensburg, 2004:467). Effective implementation of such a complex programme fulfills a social and practical mandate for cost-effective and efficient service delivery in the public health management sector.

This study was conducted to explore the revitalisation of Paarl Hospital in the Western Cape of South Africa and evaluate the HRP. A descriptive case study design was adopted and the data collected and analysed using a qualitative content analysis approach. Hospital revitalisation is furthermore viewed as an innovation in health service delivery and this study follows the Rogers (1983) Diffusion of Innovation Theory for HRP, as an innovation and system wide intervention.

Each HRP deliverable was underpinned and examined in terms of the relevant and appropriate theory. The Weisbord's Six-Box Model (Weisbord, 2011) was applied to Organisational Development (OD); the South African Excellence Model to Quality Assurance (QA); and the 4Ls approach (DoH, 2011) of long life, loose fit, luminous healing space and low impact to Infrastructure Development and Health Technology in the implementation plan. Arising from the findings of the HRP evaluation, a framework is proposed for the effective implementation thereof.

## 1.2 Hospital Revitalisation Programme

The Hospital Revitalisation Programme (HRP) is arguably one of the most influential processes in recent hospital system reform in South Africa. The HRP is a multipronged strategy to address shortcomings of hospital services in South Africa through improving quality of care and through improved management of facilities. Van Rensburg (2011:466) cites the rationale for hospital reform and revitalisation as the inheritance of the new South African government in 1994 of a post-apartheid fragmented, decentralized health system with a dearth of formally trained managers and unequal distribution of resources across district, regional and academic tertiary hospitals.

Important policy and legislative developments ensued in the hospital reform process since 1994 and some of these follow. The National Department of Health (DoH) of South Africa, represented by the Chief Directorate Hospital Services implemented a Hospital Revitalisation Grant in 2000 across all nine provinces in rural and urban environments in South Africa (DoH, 2007). The Hospital Revitalisation Framework for the management of the above grant is part of the Divison of Revenue Act (DORA) 6 of 2011. As per the DORA, 6 of 2011, the purpose of the grant is:

- To provide funding to enable provinces to plan, manage, modernise, rationalise and transform the infrastructure, health technology, monitoring and evaluation of hospitals; and
- To transform hospital management and improve quality of care (van Rensburg, 2011:469).

The HRP Project Implementation Manual (PIM) (DoH, 2007), with all its components, its processes, reporting formats and templates are undertaken within the context of the following aim of the Hospital Revitalisation Programme to develop hospitals with the following in place:

- Fully operational in a good physical condition;
- Able to deliver appropriate services to suit the population's need; and levels of care provided;
- Appropriate management operation system with appropriate delegations;
- Community structures to hold the hospital accountable;
- Appropriately equipped and resourced;
- Implementation and monitoring of quality improvement programmes;
- Equitable budget based on the population served and services delivered;
- Improved cost efficiency and effectiveness;
- Sustainable planned preventative maintenance and replacement programmes supported by appropriately qualified and trained staff; and technical resources;
- Implementation of all national policies; and
- That all health facilities, be part of a national health service and operate within a rationalised referral system network.

South Africa is a country of diverse socio-economic contrasts, which poses a unique challenge to the Department of Health (DoH) to make cost-effective health care accessible to all the inhabitants of this diverse country (DoH, 2003:3). It has adopted a Primary Health Care (PHC) approach to healthcare delivery with a focus on primary preventive and promotive health, referring up to community or district hospitals, regional or secondary, and tertiary or academic levels of health care (Booyens, 2008:57).

Van Zyl *et al.* (2000) distinguish and describe in van Rensburg (2011:414) the three broad levels of care as:

- **Primary level of care** is the entry level to the public health system which is graded in a threefold manner: grade 1 PHC (mobile, satellite and fixed clinics typically rendering services for up to eight hours a day, five days a week); grade 2 PHC (larger clinics rendering a 24-hour, seven days a week service, including maternal and obstetrical services); grade 3 PHC (community health centres); and basic hospital services as rendered at the district hospital, which serves the catchment area and population of a health district, receives referrals from the surrounding stationary and mobile clinics in the district, and typically deals with more complicated health conditions.

- **Secondary level of care** includes more complicated health conditions, which cannot be treated at the district hospital, and comprise intramural services that need the attention of general specialists at regional hospitals. The hospitals are supposed to have an appropriately staffed Intensive Care Unit (ICU) or High Care Unit and to offer a 24-hour casualty or emergency centre service accepting both direct admissions as well as transfers from other hospitals.

- **Tertiary level of care** comprises sophisticated intramural services rendered by sub-specialists and super specialists working mostly in multidisciplinary teams at tertiary or academic hospitals. These hospitals receive referrals from the regional hospitals and usually serve the entire province.

Figure 1.1 hereunder details the context of the health system in which the Paarl Hospital is positioned at Level 2, as explained. Paarl Hospital functions at level two rendering general specialist services.

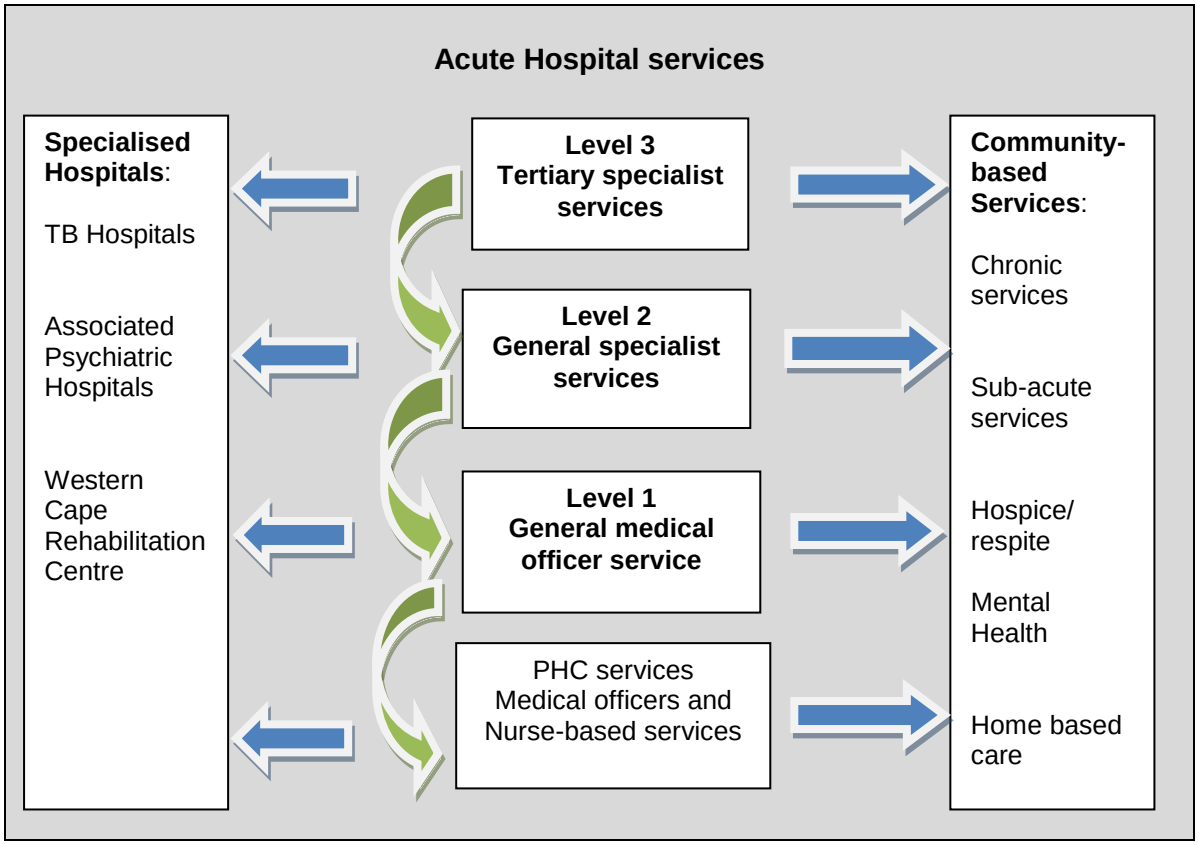



**Figure 1.1: South African Levels of Health Care**

(Source: van Rensburg, 2011:414)

## 1.3 Paarl Hospital as case study

Paarl Hospital is currently a 301-bed secondary regional public hospital, which has been in the South African (SA) National Department of Health's (DoH) Hospital Revitalisation Programme (HRP) since May 2006. The hospital is to increase to a 369-bed hospital when the final phase is funded.

Paarl is situated in the geographical region of the Western Cape of South Africa, approximately 65 km from Cape Town, and is managed within the Cape Metropole region of the Western Cape Government Health (WCGH)). The core function and responsibility of the WCGH is to deliver a comprehensive package of health services to the people of the province, with the vision of equal access to quality health care (DoH, 2010:1). Paarl Hospital is managed administratively by a senior manager, medical services, in the general specialist services secondary level.

In the aftermath of the First World War and the flu epidemic of 1918, building a small hospital in Paarl became essential. Money was collected over time and the cornerstone was laid on 13 August 1921 by Sir Frederick de Waal, the Administrator of the Cape at the time. For a number of years, the hospital accommodated approximately 42 patients. After completion of the nurses' home, the section where nursing staff members were initially housed was transformed into additional wards for patients, which increased the number of beds to 54. During and after the Second World War, it became apparent that the hospital was much too small to meet the needs of the fast-growing town of Paarl. Dr. A.L. de Jager, Medical Superintendent of the hospital during that time, planned to build a bigger and more modern hospital, which commenced in 1951. Mr. P.J. Olivier, Administrator of the Cape then, laid the cornerstone on 21 May 1952, and the hospital was completed in 1954. In December 1954 the first patients were admitted to the new building (Paarl Hospital, 2009).

The entire hospital is being upgraded to accommodate 369 beds by the final phase, as part of the Hospital Revitalisation Programme initiated in May 2006. The Paarl Hospital vision created in 2006 is *"To be a hospital of choice for both staff and patients by being a centre of excellence."* (Paarl Hospital, 2009).

The Paarl hospital mission formulated in 2006 is presented hereunder:

- To provide needs-driven, cost-effective, quality professional services of which the community can be proud;
- To keep well-maintained infrastructure and equipment;
- To attract and retain ample, well-trained, motivated and accountable staff members;
- To support a culture of lifelong learning; and
- To be an active partner with the regional, broader and global community.

The Paarl Hospital slogan devised in 2008 is: ***"Your health, our calling"*** (Paarl Hospital, 2009)***.***

Paarl is a semi-rural agricultural and commercial centre in the Western Cape of South Africa. The hospital serves a population of approximately 700 000; covering a large drainage area that incorporates the West Coast and Cape Winelands areas on a secondary level with a specialist outpatient department and a busy emergency centre. Upon the completion of the revitalisation programme, 369 beds in various specialities which include surgery, radiology, internal medicine, emergency medicine, obstetrics and gynaecology, orthopaedics, paediatrics and neonatology, psychiatry, five (5) theatres, a high care and an endoscopy unit will be established (Paarl Hospital, 2009).

An event which had significant bearing on the Paarl Hospital revitalisation project was the much anticipated Soccer World Cup of 2010 and the required FIFA health guarantee to have South Africa's health services ready for this big event. The DoH signed a FIFA guarantee promising that the infrastructure of the South African health system; and specifically a comprehensive 24-hour medical and disaster management service would be provided throughout the duration of the tournament (Anon, 2010:20-21). As this guarantee indicated that the DoH committed itself to 24-hour availability in all the host cities for the World Cup (Anon, 2010:10) in different areas, the Paarl Hospital Emergency Centre was prioritised for a R18 million unplanned revitalisation to support the soccer events in and around Cape Town.

### 1.4 **Preliminary literature review**

A premilinary review of national and international studies on hospital revitalisation implementation revealed a paucity of literature in this field, especially in South Africa. A more rigorous review ensued and is documented in Chapter 2. The preliminary literature review will be presented with brief explanation of the HRP and the theoretical framework.

### 1.4.1 **Hospital Revitalisation Programme**

In 1996, the Department of Health commisioned the Council for Scientific and Industrial Research (CSIR) to undertake a national audit of health facilities. Harrison (2009:15) cites CSIR (1996) that almost one-fifth (17%) required substantial repair, while 12% of the capital stock needed to be replaced or condemned.

In 1998, the Hospital Rehabilitation and Reconstruction Programme was initiated (van Rensburg, 2011:470), which included the replacement of equipment and facilities in hospitals across South Africa. The importance of integrating the planning of physical assets with broader health systems planning was recognised in the Hospital Revitalisation Programme outlined in the Health Sector Ten Point Plan Strategic Framework, 1999–2004. van Rensburg (2011:470) notes that revitalisation of hospital services was identified as one of the ten-point plans to accelerate the quality of health service delivery. The programme sought to simultaneously improve infrastructure, health technology, organisational management and service quality.

By 2008, there were 40 participating hospitals. However, in 2009, this number was reduced to 27, as a result of a sharp reduction in infrastructural funding. According to Harrison (2009:17) a further limitation to the success of the programme was the inability to achieve the anticipated levels of staffing.

The Hospital Revitalisation Programme as a health system wide intervention is underpinned by the following four normative components for intervention:

- Infrastructure Development (ID);
- Health Technology (HT);
- Organisational Development (OD); and
- Quality Assurance (QA).

Each component will be explained under a separate heading as it relates to the HRP.

#### 1.4.1.1 **Infrastructure Development**

The purpose of the HRP infrastructure development component is to advise on the process of developing the project brief. This also includes an operational narrative, design, project costing, alignment of tender processes with an approved national/provincial budget, development of an implementation plan, monitoring project implementation and finally preparing projects to exit the programme. Revitalisation hospitals also have to have a preventative maintenance plan before the project final hand over.

The DoH (2011:40) acknowledges that public sector infrastructure delivery is a complex, multifaceted set of processes which is currently slow, expensive, inefficient and characterised by a scarcity of skills and capacity in an ever-changing environment of legislation and policy. Knowledge and understanding of cost-effecvtive health interventions could enable policy makers in the DoH to consider not only the service delivery outcomes in terms of quality, access, equity, timelines, but also the financial dimensions of performance which include effectiveness, efficiency and economy.

To ensure progress, Hoffman & Tollman (2010:798) highlight that we need a better understanding of where efficiency gaps exist to avoid waste, and how to deploy existing resources more effectively to improve quality. These authors propose that policy makers and healthcare providers incorporate economic evaluation in the future planning for health services and system – level interventions.

#### 1.4.1.2 **Health Technology (HT)**

Health Technology (HT) is defined in the Project Implementation Manual (PIM) (DoH, 2007:56) as medical equipment and all the supportive systems, which may incorporate all or certain aspects of physical infrastructure, their plant and installations as well as supportive/logistical systems. The purpose of the HRP health technology component is to advise on the gap analysis arising from the equipment audit of the existing health technology available in a good working condition and the HT requirements. This includes the development of an equipment list based on required service package by level of care, development of a HT implementation plan, monitoring the implementation plan, development of HT preventative maintenance, and establishment of an assets register system.

The health service's most valuable assets which must be managed, are its human resources, physical assets, and other resources such as supplies. Physical assets such as facilities and healthcare technology are the greatest capital expenditure in any health sector. Thus, it makes financial sense to manage these valuable resources, to ensure that healthcare technology is selected appropriately, utilized correctly and to maximum capacity, and lasts as long as possible.

Health Technology management is defined in the PIM 2009-2010 (DoH, 2009:48) as interacting and balancing the following:

- Medical and surgical procedures;
- Support services;
- Consumable supplies; and
- Facilities so that the complex whole should provide the health services required.

In Hospital Revitalisation, all aspects of health technology management are dealt with and include:

- Planning and budgeting;
- Procurement and commissioning;
- Operation and safety;
- Maintenance management; and
- Decommissioning and disposal.

Health Technology management is therefore a field that requires the involvement of many disciplines, including technical, clinical, financial, administrative, and management staff (DoH, 2009:49). It is an aspect of hospital revitalisation that accelerates change, according to Appelbaum & Wohl (2000:280), whereby staff are introduced to complicated technology and have to master new equipment, which poses a challenge.

In a developing country such as South Africa, it is important to provide cost effective health care, which also relates to medical equipment. Herbert (2006:1) calls for a balance between technology and cost efficacy.

#### 1.4.1.3 **Organisational Development**

Hospital Revitalisation is an organisation wide development intervention in its own right. It brings about organisation wide changes in the physical surrounding, workflow, modernised technology, requiring skills training and the expanded services to make way for human resource expansion.

Based on systems theory, organisational development involves improving the fit between the individual and the organisation, between the organisation and its environment, and among organisational components such as strategy, structure, culture, processes, and management capacity (DoH, 2009:85). Organisational development is also one of the normative components of the HRP with specific deliverables.

The purpose of the organisational development as it relates to HRP is to strengthen institutional and operational efficiency of revitalisation hospitals through improving management systems, structures and processes (DoH, 2009:85-87). To achieve this purpose the following 11 broad areas should be implemented in all revitalised hospitals:

- Organisational Strategy;
- Delegation of Authority;
- Hospital Governance;
- Human Resources Management;
- Hospital Financial Management;
- Hospital Information Management;
- Hospital Information Technology;
- Patient Administration;
- Communication Strategy;
- Other services such as Pharmacy with hospital drug dispensing and administration systems; and
- Kitchen with sound food services management.

Although there is no single accepted definition of organisational development, the review of the literature in the HRP project implementation plans (DoH, 2009:85), uncover some common denominators, such as planned changes and enhancing congruence between organisational components including strategy, structure systems, culture, processes and performance capacity. These management concepts and elements inform the approach to the construction of an organisational development model applicable to Hospital Revitalisation.

Various models are suggested in the literature review conducted for this study to interrogate the OD. Models were reviewed and two models were identified to either be adapted or adopted to examine the current implementation strategy of the OD and propose interventions to facilitate effective implementation in future. The two identified are the organisational change model of Harvey & Brown (2006:215) and the Six-Box Model of organisational development management of Weisbord (2011:2).

Harvey & Brown (2006:215) suggest the following model for organisational change strategies to increase organisational efficiency, comprising of three basic strategies:

- Structurally emphasizing the organisation's design, lines of authority, span of control and work flow;
- Technological strategies such as implementing new technology, innovations, computer systems, machinery; and
- Behavioural strategies to optimize use of human resources, tapping personal resources and talents, and increasing morale, motivation and commitment.

The organisational change model as proposed by Harvey & Brown (2006:215) is reflected in Table 1.1 hereunder.

**Table 1.1: Organisational Change Model**

| Structure | Technology | Attitudes |
|---|---|---|
| • Re-engineering<br>• New teams/units<br>• Decision making | • Policies<br>• Procedures<br>• Info systems | • Professionalism<br>• People relationships<br>• Motivation<br>• Attitude<br>• Governance<br>• Ethics |

(Source: Harvey & Brown, 2006:215)

Components of the Harvey & Brown (2006:215) model are synonymous with the components of HRP in terms of the physical structural changes which lead to new teams, the health technology which leads to policy procedure and health information changes. The OD deliverables of HRP are directly linked to improvements in professionalism and governance.

Weisbord (1976) proposes a Six-Box Model of Organisation Development Management which is applied to conduct a gap analysis covering six (6) categories of various concerns that need to be addressed, when diagnosing an organisation and their issues or when designing an organisation. It was found to be more comprehensive in terms of this study as the six categories were well aligned to the OD deliverables of the HRP as:

- The purpose of the organisation had to be explored and a new vision defined;
- The staff structure had to be reviewed for revitalisation purposes;
- Leadership had to be developed to implement the project plans; and
- The mechanisms of a large budget to address infrastructure and health technology were a key component of the project.

The six categories of the Six-Box Model of Organisational Development Management proposed by Weisbord (1976) are depicted in Figure 1.2.

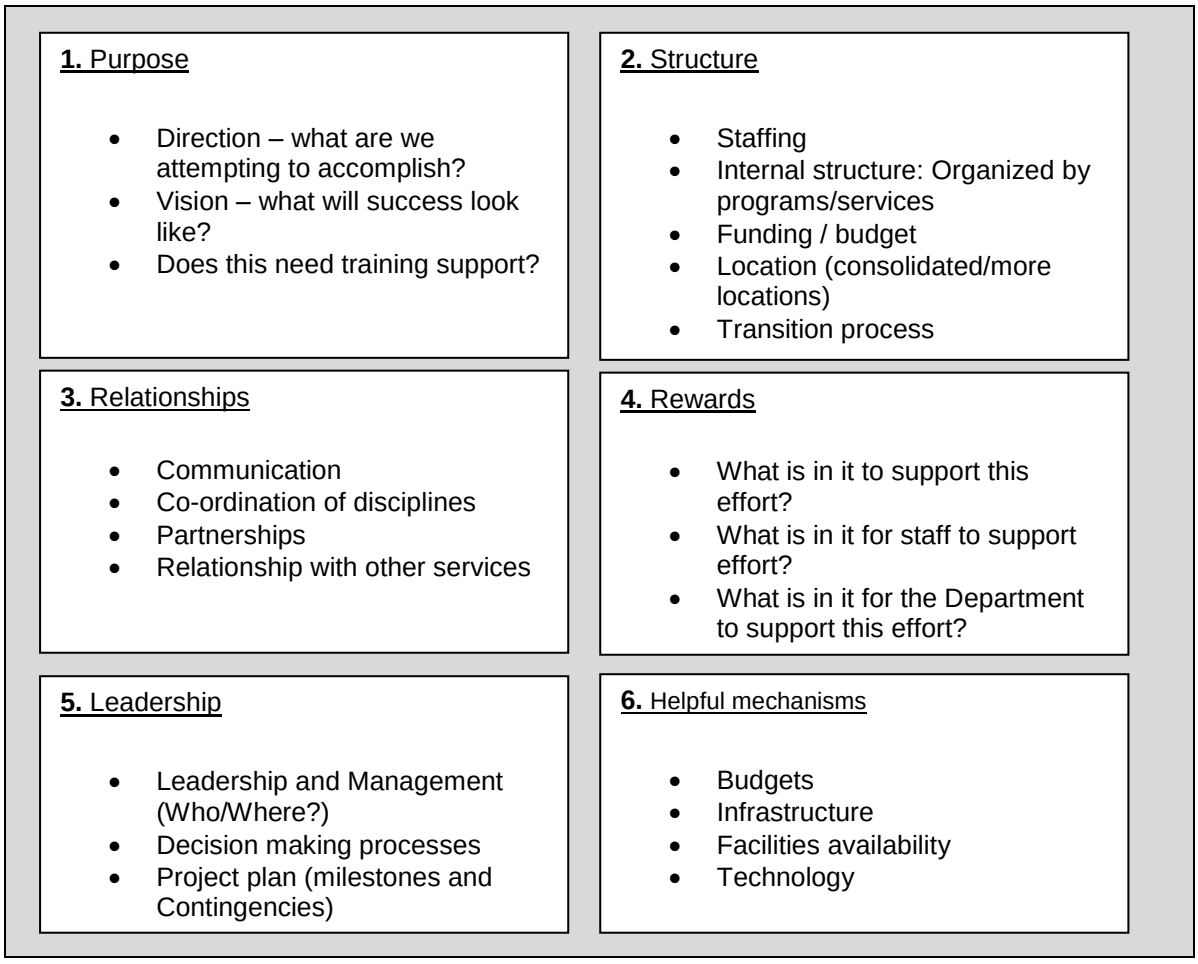



**Figure 1.2: Six-Box Model of Organisational Development Management**

(Source: Weisbord, 2011:2)

The Six-Box Model of Organisational Development Management was therefore selected as the most suitable to examine the organisational development deliverables of the HRP and will be referred to as the Six-Box Model in the text. Weisbord's (1976) Six-Box Model covers the aspects which were implemented in the revitalisation of Paarl Hospital, as organisation wide deliverables, namely; the purpose visioning process; service linked structural transitions; improvement of interdepartmental relationships; the staff performance management system consolidation in terms of rewards; leadership development; and mechanisms such as improved infrastructure, facilities and technologies with allocated budgets.

#### 1.4.1.4 **Change management**

Hospital Revitalisation brings about radical change, defined by Heller (1998:13) as ". . . sudden, dramatic change with marked effects. . . " In order to place organisational development in the HRP context, it is necessary to review organisational theory. Lewin (2001:2) describes Organisational change as "…the movement of an organisation from this current state to some future and hopefully effective state…"

Successful organisations gain most from radical change, but thorough detailed planning of the options is required to minimize risks. Change programmes such as the HRP therefore, should involve planning for change to include determining objectives, principles, analyse cultural assessment, as well as change communication and change management skills (Heller, 1998:13-17).

Change threatens stability and continuity, and even managers aware of the need to change, may resist the parts that appear too major, too risky or too different. Resistance is a normal reaction to change. Understanding change, transformation and reinvention, brought about by hospital revitalisation, is crucial for the healthcare organisation (Appelbaum and Wohl, 2000:279).

In a descriptive study, Anderson, Norton, Reed & Moran (1996:27-34) examined two USA hospitals, one urban community level and one academic, undergoing radical change and redesign and re-engineering. In both cases the processes were described as painful and challenging for staff and the lessons they learnt at some cost were shared as follows:

- Set specific, measurable goals and objectives of redesign at the start and monitor progress;
- Core process redesign takes more time and effort than planned;
- Physicians tend to own the new practices they design;
- You cannot redesign processes without investing in learning new skills;
- Progress cannot be slowed by those who feel threatened. Consensus must be tempered with executive decision making;
- Manage the egos early and often;
- Acknowledge the pain. Everyone loses something; but not everone gains something. However, pain may drive the extraordinary innovations which are evident in hospitals;
- Critical conversations will make or break any real change effort. Critical conversations which contributed to success of these projects focused on what is in it for all stakeholders to change their practice patterns and operational behaviour;
- Move beyond traditional discussion of Quality Assurance or Quality Improvement (QA/QI) to include the idea that all processes are both business and clinical in their impact on health care today; and
- The culture and systems of a hospital (i.e. information, rewards, structure) must be aligned with the total change effort or progress is unacceptably slowed.

There are no certain blueprints for tomorrow's hospital but there is a need for a clear change implementation architecture.

#### 1.4.1.5 **Quality Assurance**

Quality is defined in the PIP (DoH, 2009:102) as "…degree of goodness or worth…" and refers to standards, conforming to requirements, or performing at acceptable levels. Quality assurance in the HRP involves the modification of hospital systems in order to improve the quality of services that are provided. The component involves improvement and sustainability thereof. The objectives of the quality of care services provided in HRP public hospitals are through the:

- Establishment of a hospital based Quality Assurance (QA) Management Team;
- Implementation of appropriate national packages of services with its accompanying norms and standards;
- Introduction of peer review, morbidity and mortality review and clinical audit;
- Establishment of sound supervisory systems;
- Setting up of an adverse event (health errors) reporting system;
- Assessment of client satisfaction;
- Ensure that the hospital staff is trained on the methodology, principles and tools of QA;
- Adjustment of the hospital's internal information system to enable the measurement of quality;
- Ensure that the community the hospital serves is empowered through the Patients' Rights Charter, a Complaints' Procedure, a help desk and a Hospital Board; and
- Ensure that all conditions at all times are treated according to evidence-based guidelines/protocols.

One of the key challenges of the HRP is to successfully intervene in the HRP hospitals as to ultimately demonstrate the tangible improvement in the quality of care provided in these selected hospitals. The intervention in the HRP hospitals is informed by the overarching Ten Point Plan of the Health Sector Strategic Framework 1999–2004, the Strategic Priorities for the National Health System 2004–2009 and the more specific National Policy on Quality in Health Care, from which clear policy statements, the quality assurance objectives of HRP follow (DoH, 2009:101).

The policy on Quality of Care in the Western Cape (H122/2002) provides a framework for the management of quality of care initiatives and for quality improvement at facility level. The framework also forms the basis for the project deliverables in terms of Client, Staff and Technical quality. The directives of this policy aim to improve quality of care through the institutionalisation of processes such as clinical audit (DoH, 2008:2) and enhanced clinical and corporate governance in all health establishments. Data sources for this study emanated from these focus areas of client, staff and technical as tabulated in Table 1.2 on page 26.

Dr. Carol Marshal from the South African National Office of Standards Compliance is quoted in Bateman (2010:623), as stating that "…core standards and quality assurance on their own would not cure the public healthcare sector's ills. They have to be part of a much bigger effort…". The proposed National Health Insurance (NHI) scheme for South Africa has two preconditions for it to work, namely an overhaul to create a quality healthcare system; and strict regulation of the sector to make it more affordable to all South Africans. To this end, the SA Department of Health is working with the Council for Scientific and Industrial Research and the Development Bank of Southern Africa to develop a targeted response to the infrastructure needs of the sector (Anon, 2012:14). A R121-billion SA health budget was announced for 2012/2013, aimed at improving hospitals and strengthening public health ahead of the 14 year implementation period of the NHI (Anon, 2012:14). Extensive audits of all health facilities in the country were completed in 2012, making it clear that quality is taking a front seat in the South African health sector.

Quality improvement models described by Muller, Bezuidenhout & Jooste (2006:474-481) are the South African Excellence Model (SAEM) and the Balanced Scorecard (BSC). The SAEM, developed by the South African Excellence Foundation (Muller *et al.*, 2006:477) integrates ISO 9001 quality principles with enablers such as leadership and processes with business results. A cyclic continuous improvement principle is proposed with people at the core performing the business related processes. Jooste (2009:349) explains that originally the ISO 9000 standards were intended to be advisory in nature and applied to two-party contractual situations (between customer and supplier) and used for internal auditing. Organisations, however, soon began to express the wish to have their quality management certified and numerous organisations globally have received certification. This study explored the underlying aspects of the quality improvement model (Muller *et al.,* 2006:478) namely leadership, policy and strategy, customer and market focus, people management, resources and information management, processes, impact on society, customer and stakeholder satisfaction, people satisfaction, supplier and partnership performance, as well as organisational results.

The balanced scorecard as a quality improvement model (Muller *et al.,* 2006:479) is a logical strategic framework which can be applied to measure an organisation's performance against strategic objectives with graphic, accessible and timely information. A risk management framework, with a legal mandate of the Public Finance Management Act (PFMA) Act 1 of 1999, was also developed by the Provincial Treasury of the Western Cape Government (SA, 2007:9) which had bearing on the responsibility for risk management and corporate governance.

A case study in Brits, SA by Pfaff & Couper (2010:109), concluded that hospital revitalisation resulted in poor patient care, disruptions in clinical and administrative services and proved trying for staff. This study therefore examined the impact on quality by the HRP and included a quality component into the proposed framework for the Hospital Revitalisation implementation. A more detailed literature review was conducted to develop a comprehensive implementation framework for hospital revitalisation in this regard.

## Client quality

Quality is not only the domain of manufacturers or service industries, but also of critical importance in hospitals where clients need quality treatment (Anon, 2008:34). The World Health Organisation's definition of quality is the level of attainment of health systems' intrinsic goals for health improvement and responsiveness to the legitimate expectations of the population (Lourens, 2012:3).

An increasing number of healthcare organisations are implementing the principles of quality management to improve and maintain the quality of care in recognition of the need to not only assess quality from the provider's point of view, but also from the client's point of view. De Jager & du Plooy (2007:96) advise that such organisations should take cognisance of the complexity, heterogeneity and ambiguity of healthcare services.

EngenderHealth (2003:5-6) propose a “client-oriented, provider-efficient” service that helps healthcare staff continuously improve the quality and efficiency of services provided at their facility and make services more responsive to clients’ needs. An objective understanding of working conditions, client satisfaction perceptions, and organisational relationships is needed to devise intervention strategies to improve working conditions and patient care (van Rooyen, 2009:51).

The Batho Pele principle of “putting people first” in the South African public service is seen as an integral part of every aspect of service delivery (van den Berg, 2007:2) and therefore cabinet approved a revitalisation strategy of the Batho Pele principles in 2004. These principles are as follows:

- **Consultation:** The public should be consulted about the level and quality of the services they receive and, wherever possible, should be given a choice of the services that are offered;
- **Service Standard:** The public should be told what level and quality of public services they will receive so that they are aware of what they can expect;
- **Courtesy:** The public should always be treated with courtesy and consideration;
- **Access:** All members of the public should have equal access to the services they are entitled to;
- **Information:** The public should be given full, accurate information about the public services they are entitled to receive;
- **Openness and transparency:** The public should be told how national departments and provincial administrations are run, how much they cost, and who is in charge;
- **Redress:** If the promised standard of service is not delivered, the public should be offered an apology, a full explanation, and a speedy and effective remedy, and when complaints are made, the public should receive a sympathetic and positive response; and
- **Value for money:** Public services should be provided economically and efficiently, in order to give the public the best possible value for money.

Batho Pele has its roots in a number of policies and legislative frameworks categorized into 3 themes (van den Berg, 2007:1-2):

- Overarching/transversal legislative frameworks with the aim to transform public service delivery: The Constitution of the Republic of South Africa of 1996 (as amended); the White Paper on the Transformation of the Public Service of 1995; and Public Service Regulations of 1999 and 2001;
- Access to information with the aim to provide access to updated information by citizens: Open Democracy Act of 2000; Promotion of Access to Information Act of 2000; Electronic Communications and Transactions Bill of 2002; and E-Government Strategy of 2001; and

- Transforming public service delivery with the aim to increase accessibility to services, promote efficient administration and good governance: White paper on Transforming Public Service Delivery of 1997; Promotion of administration Justice Act (AJA) of 2002; and Public Finance Management Act of 1999 (van den Berg, 2007:1-2).

## Staff quality

Quality of work life affects the quality of the human capital or the internal customer of an organisation. Staff wellness demands excellence in the work environment, occupational safety and human resource development to foster staff satisfaction (Steenkamp & van Schoor, 2004:23). According to van Rooyen (2009:51), it is very important for decision makers in hospitals to understand the dynamics of facilities in terms of quality of service being provided to clients beyond the clinical part of the service. This should extend to quality and safety of patient care, employees working conditions, workplace leadership traits, resources and support for health workers.

### Technical quality

The legal context of the National Core Standards is the National Health Act, 61 of 2003, which promotes good quality health services; healthcare standards and ratifies the office of Standards Compliance. The purpose is setting the benchmark for quality of care and providing a framework for the national accreditation of health establishments. The National Core Standards is seen as a basis for quality. Quality is getting the best results possible within the available resources (Lourens, 2012:3-4).

Klinck (2011:25) advises stakeholders to carefully consider the amendment of the National Health Act of 2003, which aims to establish the Office of Health Standards compliance (OHSC) as an 'organ of the state' accountable to the Minister of Health. The OHSC has to do with protecting people's quality of care. According to van den Heever (2011:23), it should be more than a tick box accreditation, but meet the requirements for quality assurance such as external oversight and intrusive investigation ability.

The essential role clinical audit has to play in improving patient care has gained acceptance and momentum in the South African health sector and was included as a policy directive in the National Policy on Quality in Health Care for South Africa in February 2001 (DoH, 2008:9). Armitage (2005:159) found that clinical governance was enhanced when adverse events were integrated into risk management strategies to facilitate incident reporting and active learning from events.

Hospital construction and renovation has been associated with increased risk for nosocomial fungal infections and other airborne infections, increasing morbidity and mortality. A construction planning framework for quality of care should include strategies for intensified environmental control by utilizing a planning committee. Loo, Bertrand, Dixon, Vitye, de Salis, McLean, Brox & Robson (1996:364) recommend that prior to undertaking any hospital construction or renovation activity, a strong case exists to have an infection control planning process for potential nosocomial infections such as Aspergillosis, where the whole team is consulted, including engineers, architects, housekeeping and infection control departments.

#### 1.4.1.6 **Other research**

A search on SABINET on 28 January 2011 assisted by a CPUT subject librarian revealed no current or completed research in South Africa on hospital revitalisation.

### 1.4.2 **Theoretical framework**

The study was guided by a theoretical framework (Terre Blanche & Durrheim, 2002:18-19) and theoretical approach (Ulin, 2005:36) to understand the adoption of change in health innovation, which is Roger's (1983) Diffusion of Innovation Theory (Orr, 2003:1). The approach propagated by Rogers has been adopted for this study to describe the Paarl Hospital Revitalisation project's implementation (Clarke, 1999). The adoption of innovation by a healthcare system is a consequence of multiple factors of which research evidence is only one. Rogers (1983) developed one of the better known approaches to diffusion of innovation (Sanson-Fisher, 2004:S55-S56).

Roger's (1983) Diffusion of Innovation Theory in Orr (2003:1) defines diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system. Furthermore, four elements present in the diffusion of innovation process are: (i) Innovation – an idea; (ii) Communication channels – the means by which messages get from one individual to another; (iii) Time innovation – decision process; and the (iv) Social context or system – a set of interrelated units that are engaged in joint problem solving to accomplish a common goal (Sanson-Fisher, 2004:S55-S56). Understanding and utilizing diffusion networks can aid strategy aimed at inducing system wide change and introducing and spreading innovations (Orr, 2003:1).

The Hospital Revitalisation Programme is seen as an innovation in addressing quality care, and how that innovation was diffused, is explored to support the findings that emerged from this study. To be pushed to what is described by Orr (2003:1) as the "…tipping point…" leads to a domino effect to bring about change in a system. It will also assist in answering the question of how to spread and sustain innovation in health service delivery and organisations. Sanson-Fisher (2004:55) concluded that diffusion theory can offer some plausible explanation for adoption of clinical activities, but called for research, testing this model further in the healthcare environment.

Roger's (1983) Diffusion of Innovation Theory is a theoretical approach to understanding how change may be achieved. Sanson-Fisher (2004:55) argues that the characteristics of the innovation itself such as promotion by influential role models, the degree of complexity of the change, compatibility with existing values and needs, aspects of new technology, style of communication, steps in decision-making and the social context, may facilitate its adoption.

This study therefore used the theoretical framework entitled 'conceptual model for considering the determinants of diffusion, disseminations, and implementation of innovations in health service delivery and organisation' (Greenhalgh, Robert, MacFarlane, Bate & Kyriakidou, 2004:595). Taylor (2011:4) states that in an era of intense reinvention, hospital revitalisation should capture the spirit of innovation. Major HRP activities related to the diffusion and implementation of innovations in Health service delivery is presented in Figure 1.3.

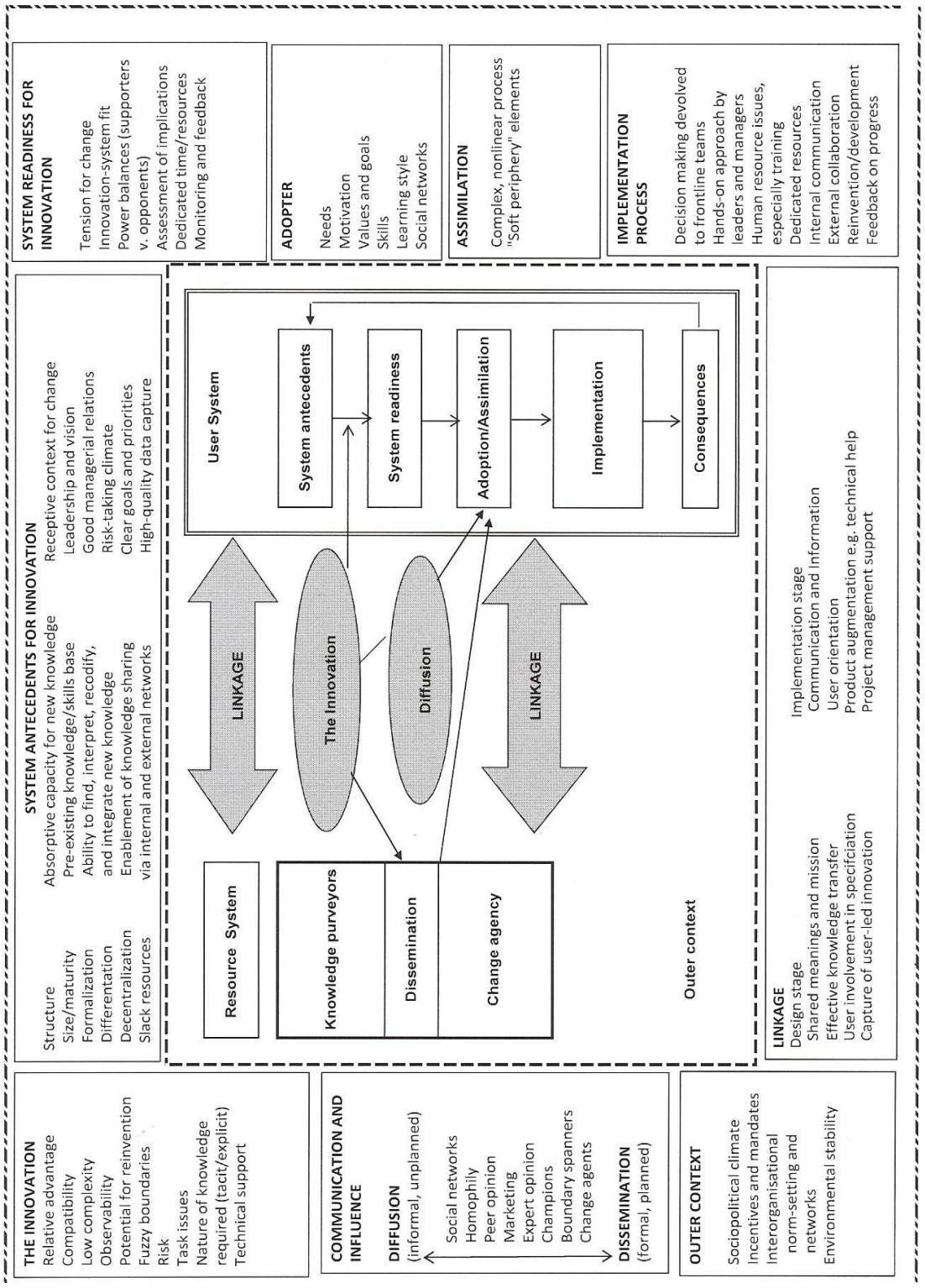



**Figure 1.3: Conceptual Model: Determinants, Dissemination and Implementation of Innovations in health service delivery and organisation**

(Source: Greenhalgh *et al.*, 2004:595)

## 1.5 **Problem statement**

The desired outcome of the HRP at Paarl Hospital was a process where quality of care was to be maintained throughout the Paarl Hospital Revitalisation project. The Paarl Hospital revitalisation implementation, however, resulted in compromised occupational health and safety; client satisfaction and safety; and quality of care. This was evident in quarterly reporting on occupational injuries, safety and security incidents, client complaints and other progress reports from 1 January 2006 to 31 March 2012.

Paarl Hospital management identified and acknowledged the need for a defined framework for a practical hospital revitalisation programme implementation in terms of quality of care. The foregoing is confirmed and documented in reflective summaries on the revitalisation process done at strategic management workshops with top management on 21 February 2011 and also recorded at the Project Commissioning Unit (PCU) on 26 May 2011. Management requested the lessons learnt to be documented for future HRP implementation.

The current implementation practices are not adequate for the economic effectiveness and efficacy; safeguarding of quality; and seamless delivery of Infrastructure Development, Health Technology, Organisational Development and Quality Assurance deliverables.

## **1.6 Rationale**

The rationale for the study is based on the South African National Health's focus on the weaknesses of quality in Health Care and the status of the hospital revitalisation programme as a "…better health system management accomplishment…" (DoH, 2010). The programme stands to benefit from a framework to enhance quality of care during implementation towards economic effectiveness and efficiency.

Booyens (2008:55) concludes that building healthcare facilities is complex and their planning and implementation can give rise to expensive mistakes. Research on quality of care in health fulfills a social and practical mandate to create information for use by programmes to improve services or by decision makers to inform policy (Ulin, Robinson & Tolley, 2005:195).

## 1.7 **Research problem and purpose**

The research problem of this study lies in the area of concern (Brink, 2010:59) about the HRP implementation. The discrepancy between the way things are with a compromise in client, staff and technical quality during implementation and the way they ought to be with the HRP quality improvement focus, prompts the need to evaluate it and propose improvements to the current situation.

The aim of this study (Brink, 2010:59) was to critically evaluate the existing HRP implementation framework as premised on this evaluation, so as to develop and propose an implementation framework for the effective implementation of the hospital revitalisation programme through the achievement of the following objectives:

- To investigate other hospital revitalisation project's implementation in the public and private health sectors globally and locally in the literature review,
- To explore the hospital revitalisation programme implementation intervention at Paarl Hospital in terms of infrastructure, health technology, quality assurance and organisational development during data collection,
- To examine relevant reports, surveys, and photographs and to interview key informants to describe the HRP implementation experience at Paarl Hospital for the findings of this study and
- To provide practical information and recommendations to address hospital revitalisation programmatic implementation issues.

## 1.8 **Research methodology**

A descriptive case study design (Burns & Grove, 2001:604) using a qualitative research approach (Ulin, Robinson & Tolley, 2005:38) was applied. Case study design involves an intensive exploration of a single unit of study (Brink, 2010:110) and was thus suitable for exploring this hospital revitalisation project. Case studies are used when there is a new phenomenon about which little is known (Brink, 2010:110) and hospital revitalisation is a relatively new phenomenon in South Africa. Brink (2010:110) states that case studies utilize a number of data collection and analysis approaches which include interviews, observations and written accounts.

Furthermore, an action research strategy (Brink, 2010:112) was applied. Action research is concerned with improving knowledge regarding existing situations and sharing that knowledge (McNiff & Whitehead, 2009:13). The aim of health programme research is to inform action and enhance decision-making on practical issues by policymakers,

practitioners, and the participants themselves to improve the human condition (Ulin, Robinson & Tolley, 2005:4). Research is a systematic enquiry made public and includes the dimension that action research promotes the processes of improvement and claims that something has improved (McNiff & Whitehead, 2009:11).

The qualitative methodology adopted included the following data collection methods: individual interviews (II); pair interviews (PI); and focus group discussions (FGD) with purposively sampled key participants; and the analysis of documents and photographs pertaining to the deliverables of the project, which are Infrastructure Development, Health Technology, Organisational Development and Quality Assurance. Focus group discussions (FGDs) included small temporary groups of six (6) to twelve (12) participants formed for the collaborative purpose of discovery, targeted and well designed (Barker and Anglelopulo, 2006:347) for the discussion of hospital revitalisation. History interviews (HI) were included to explore the planning prior to project commencement. Further interviews and FGDs were done to validate the data gleaned from documents.

The textual transcripts of the interviews and focus groups were analysed using qualitative content analysis (Flick, 2009:323). The method is mainly used to analyse subject viewpoints collected with interviews, and was therefore deemed appropriate for this study. Furthermore, Flick (2009:328) notes that content analysis is a classical procedure for analysing a wide range of textual material and relevant media articles. Flick (2009:323-324) describes a procedure for qualitative content analysis which includes selection of relevant material from interviews, coding, categorising and contextualising text.

A pilot focus group discussion was planned to test the validity and reliability of the data collection through open questions and probes (Hallberg, 2002:147). A baseline of Paarl Hospital data was reviewed during the study period 1 January 2006 and 31 March 2012. According to Gillham (2005:2) the use of multiple sources of evidence is a key characteristic of case study research. The data sources envisaged are tabulated in Table 1. 2 below:

**Table 1.2: Provisional Outline of Data Methodology Focus Areas and Sources**

| | Focus Areas | Data source: 1 January 2006 – 31 March 2012 | Data validation |
|---|---|---|---|
| 1 | **Client quality**<br>- Retrospective analysis of client satisfaction during revitalisation. (Qualitative, document analysis) | - Document Analysis (Client Satisfaction Surveys, Complaints and Compliments, National Health exit documents, PIM, PIP) | FGD<br>II |
| 2 | **Staff quality**<br>- Reviewing staff quality during revitalisation. (Qualitative, document analysis)<br>- Documenting the organisational development component of hospital revitalisation. (Qualitative, interviews with key informants) | - Interviews and document analysis (Staff Satisfaction Surveys, Annual research projects on staff quality, National Health exit documents, PIM, PIP)<br>- Organisational development reports and training registers (National Health exit documents, PIM, PIP) | FGD<br>II |
| 3 | **Technical quality**<br>- Examining technical quality aspects. (Quantitative, document analysis)<br>- Exploring the impact of concurrent infrastructure construction on quality service delivery in a 301 bed secondary hospital. (Qualitative, interviews)<br>- Looking at Health Technology and the pressure to procure. (Qualitative, interviews and document analysis) | - Document analysis (Adverse incidents, safety and security reports, occupational health registers, National Health exit documents, PIM, PIP)<br>- Interviews, hospital statistics and budget documents<br>- Photographic review<br>- Document analysis (HT plans on PIP's National Health exit documents, PIM, PIP) | FGD<br>II<br>PI<br><br><br><br>II<br>PI |

Key:

FGD - Focus Group Discussion
II - Individual Interviews
PI - Pair Interviews

Furthermore, the camera was also applied as an instrument for collecting data and as suggested by Flick (2009:246) fits into the research process by focussing research questions on the description of aspects of reality contained in the photographs. The analysis of the photographic visual material was triangulated with other methods; and data; and linked the different sets of data in the process of analysis as a whole (Flick, 2009:449). Only photographs of the Infrastructure Development were utilized.

Focus group discussions or interviews were used to validate documents analysed as data sets. Focus groups and interviews provide more in depth discussion, sharing of personal experiences and information for recommendations in terms of HRP implementation (Brink, 2010:51).

Summaries of reflections of hospital management on the HRP process on 21 February 2011 suggested that further exploration was required. Reflection summaries were used to develop probes. Open questions were given preference as they elicit the most detailed responses for data collection purposes.

The unstructured interviews allowed for free-flowing conversation (Brink, 2010:152) but with a purpose and structure based on the focus of the research. The first question asked in focus group discussions was:

*"How have you experienced the implementation of the HRP at Paarl Hospital?"*

These questions were broken down into the four components e.g. how participants had experienced Infrastructure Development, Health Technology, Organisational Development and Quality Assurance implementation.

*"Do you have any recommendations to make in terms of HRP implementation?"*

An interview schedule is attached as Annexure 2 (pg. 193-194). Informed consent forms used for these interviews or focus group discussions are attached as Annexure 1 (pg. 191-192).

### 1.8.1 **Research population**

The research population included the 667 (June 2011) staff members on the fixed establishment of Paarl Hospital. Also included in the research population was the HRP directorate at the Western Cape Government Health Department, Head Office in Cape Town; the Local Steering Committee; and the Hospital Facility Board; as well as the Department of Public Works and Transport project staff. The consultant team and building contractor were also included in the research population.

The Local Steering Committee and the Hospital Facility Board comprises community members in the principle of Ubuntu, which dictates that healthcare delivery is characterised by community participation, and ownership in health (Tjale & de Villiers, 2004:21). For the infrastructure, interviews were conducted with purposively sampled contractor staff and consultants. From each grouping, informants were purposively sampled.

### 1.8.2 **Identified participants**

Members of clinical and nursing management were also purposively selected for focus groups on quality of care during revitalisation. Key informants were purposively sampled for history interviews and included hospital management involved in the planning phase of the hospital revitalisation.

## 1.9 **Delineation of the study**

The case study included only one secondary public hospital in the Western Cape Government Health Department of South Africa, namely the Paarl Hospital. Phase one and two of the Hospital Revitalisation Project were included which were done from 01 January 2006 to 31 March 2012. Project data reviewed was from 01 January 2006 to 31 March 2012. The revitalisation of the TC Newman Community Health Centre in Paarl East, which was included in the 2008/2009, 2010/2011, as well as the 2011/2012 budget of the project, was not included.

An intervention during the decanting for and planning of Phase three of the project was included. Planning commenced in 2011 to build a freestanding Psychiatric block in 2014. The implementation framework was piloted during the decanting of Psychiatry and planning in 2011/2012 for the Psychiatry construction phase envisioned for 2014. The implementation framework was then revised and proposed.

## 1.10 **Study significance**

This study is a response to the notion that the Hospital Revitalisation Programme is a health management accomplishment. However, as National roll out ensues, further replication has given rise to the need for this project study and the process that is proposed to develop a detailed framework for implementation.

Innovation in service delivery and organisation is defined as a novel set of behaviours, routines, and ways of working that are directed at improving health outcomes, administrative efficiency, cost effectiveness or users experience and that are implemented by planned and coordinated action (Greenhalgh *et al.*, 2004:582). Mark Dodgson and John Bessant in their book *"Effective Innovation Policy: A New Approach"* (1996) recognize that 'success' in innovation is not simply a matter of moving a resource from A to B, but "the capability on the part of the recipient to do something useful with that resource", in other words, to innovate effectively.

This study aims to propose a quality focussed framework for effective hospital revitalisation as an innovation, which will contribute to the body of knowledge on hospital revitalisation implementation. The public health sector and role-players in public health management stand to benefit from this research. The research study is therefore necessary and important as it could serve to:

- Inform the National and Provincial Departments of Health of lessons learnt in terms of hospital revitalisation and Quality Management;
- Propose a quality focussed framework for hospital revitalisation as an innovation for role-players involved in hospital revitalisation; and
- Assist in the development of a more quality conscious cost effective, efficient hospital revitalisation project implementation.

## 1.11 **Ethical considerations**

The ethical principles of confidentiality; autonomy, privacy, anonymity, fair treatment (justice) and beneficence were adhered to (Burns & Grove, 2001:220). Anonymity and confidentiality was recorded and documented in conjunction with informed consent prior to voluntary interviews or focus groups with staff (Ulin, Robinson & Tolley, 2005:58).

No emotional, physical, professional or financial harm (Rubin & Rubin (95), in Ulin, Robinson & Tolley, 2005:59) was foreseen by participation in the study. A process of risk/benefit analysis (MRC, 2004:40) was undertaken considering ethics principles. Furthermore, the ethical norms of qualitative research writing, which generates insights from study participants, would include accuracy, non-maleficence and dissemination of results in terms of the right to know (Denzin, 2011:902).

Provisional principle approval was obtained from the Chief Executive Officer (CEO) of Paarl Hospital (Annexure 3, pg. 195), followed by ethical approval from the CPUT academic ethics committee (Annexure 4, pg. 196). Once academic ethical approval was obtained, a research proposal with all the required documentation, was sent to the Department of Health in the Western Cape Government for and approval obtained (Annexure 5, pg. 197).

Oliver (2004:89) argues that the broad ethical position with an organisation which exists in principle to further the public good is that it should be prepared to make its procedures open to public scrutiny. Researchers should receive assistance from public service organisations, commensurate with the protection of named individuals.

## 1.12 **Dissemination of results**

There is an ethical obligation to disseminate research findings and to share information, thereby reciprocating the trust of study participants and returning the benefits of the research to the individuals and the widest possible community that has contributed to the insights gained (Ulin, Robinson & Tolley, 2005:1976).

The results of the research have been written up in the form of a thesis toward an academic qualification. Results are therefore available to hospital management and the hospital revitalisation programme management, in order to inform the facility and provincial role-players of lessons learnt and recommendations made.

## 1.13 **Contribution to the body of knowledge**

The Higher Education of South Africa established the Council on Higher Education (CHE), in May 1998, in terms of the Higher Education Act of 1997. The mandate of CHE is to oversee that the higher education system is characterized by responsiveness to social development needs and contribution for the public good (Vasuthevan & Viljoen, 2003:18).

Furthermore, Vasuthevan & Viljoen (2003:19) state that the Higher Education Act makes provision for the establishment of a Higher Education Quality committee with a primary purpose of ensuring that ". . . providers effectively deliver research of a higher quality and which produce socially useful and enriching knowledge. . . " to enhance social and economic progress.

A doctoral degree is undertaken at higher education on one of the highest levels of the South African National Qualifications framework.

This study seeks to meet these aspirations by its exploration of the current strategies in a public sector hospital undergoing revitalisation. Furthermore, the research attempts to produce useful information towards an economically viable innovation in terms of hospital revitalisation and concurrent quality of care. This stands to benefit the public users of health facilities by contributing to the body of knowledge in the public health and public management sector.

## 1.14 **Chapter overview**

In Chapter 1 background information and a contextualized backdrop to the project is provided about the study, as well as study significance, objectives, delineation and contribution to the body of HRP knowledge. In Chapter 2 a literature review is presented pertaining to HRP Infrastructure Development, Health Technology and of Organisational Development, Change management and Quality Assurance. In Chapter 3 the research methodology is discussed in detail followed by Chapter 4 where the study results are presented. In Chapter 5 the study results are interpreted and discussed with the emerging recommendations, based on which a framework for the effective implementation of hospital revitalisation in South Africa is proposed in Chapter 6. In Chapter 7 concluding remarks are made. The thesis logic is explained in Figure 1.4.

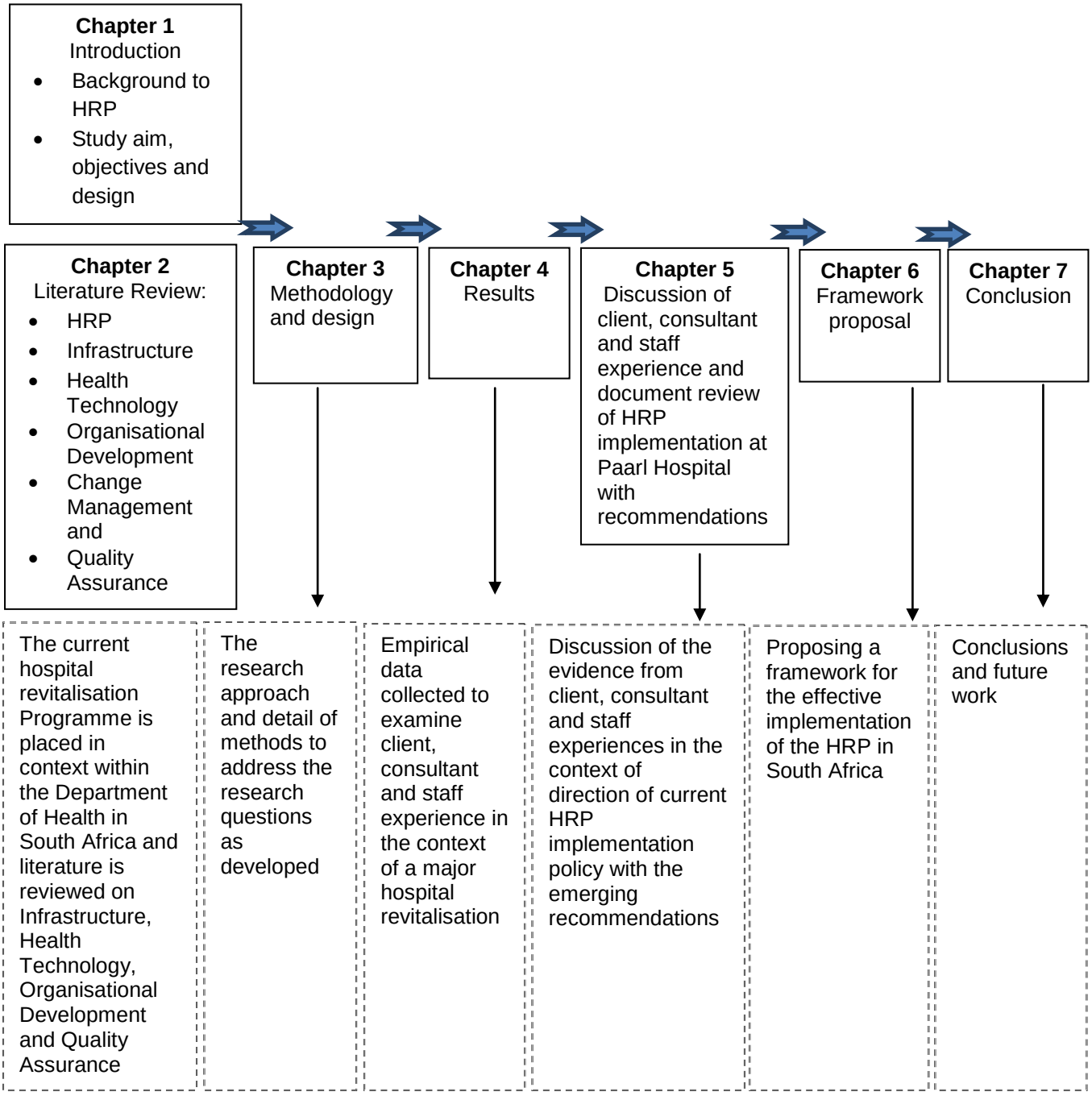



**Figure 1.4: Thesis Logic**

## 1.15 **Summary**

This chapter served to give a brief background and context to the study describing hospital revitalisation in South Africa, as well as the Paarl Hospital project case study objectives. The four normative deliverables of the HRP were defined and introduced. Rogers (1983) Diffusion of Innovation Theory was explained and diagramatically displayed. The study significance and parameters were presented as well as ethical considerations. The logical flow of the chapters in this thesis was also explained and depicted. The following chapter presents the related literature reviewed for Infrastructure Development and Health Technology as well as for Organisational Development and Quality Assurance.

# CHAPTER 2
# LITERATURE REVIEW

## 2.1 Introduction

In the previous chapter the background to the Hospital Revitalisation was discussed, as well as the aim and objectives of this study. This chapter presents the literature review that was conducted for this study, pertaining to the HRP deliverables Infrastructure Development, Health Technology, Organisational Development and Quality Assurance. In the literature review process a paucity of available published literature, especially locally in South Africa, was encountered in terms of Hospital Revitalisation programmes. No current or completed doctoral level research on the South African HRP was traced from the available electronic data bases.

## 2.2 Hospital Revitalisation

The Hospital Revitalisation Programme is described by Abbot, Parsons & du Toit (2006:31) as a massive South African capital reinvestment in its health facilities and a "once in a lifetime" opportunity to influence the nature of the built environment, learn from the process and evaluate the "fitness for service and purpose" of health buildings. Furthermore, it highlights the importance of an interdisciplinary approach to hospital assessment, design and management to ensure that the facility provides an optimum service environment, is safe for its users and is economic to build and operate. Hospital revitalisation requires detailed planning, as a cross sectional descriptive case study in Brits on the consequences of the HRP (Pfaff & Couper, 2010:109) concluded. Inadequate planning leads to poor patient care and the interruption of services.

In another local study in Hermanus, South Africa, Wiid (2011:20) acknowledged that the biggest challenge in the upgrading of an operational hospital was to overcome safety issues and to perform structural work. The New South Wales Health Department in Australia (Anon**,** 2008:1-2) identified safety, design, logistics and communication problems as key issues in suspending surgery in the revitalisation of Bathhurst hospital and called for more technical and safety reports for commissioning.

In a building process of a hospital in Trondheim, Norway, Nesje (2006:3) found that the need for control on the building site was underestimated, as well as the many changes and claims during commissioning. After conducting many interviews Nesje (2006:3) concluded that closer connection and better co-operation between all role-players, higher involvement of suppliers and subcontractors would create more ownership of the process, create more end-user satisfaction, share risk and cost and improve quality and efficiency. Fiorenza (2006:33) states that in order to revitalise an Italian hospital section built in the 1970's and meet objectives of safety and quality, a team approach must be instituted with engineers, architects, doctors, specialists and all the members of the interdisciplinary team where the patient is the centre of attention.

### 2.2.1 **Overview of Hospital Revitalisation project stages**

A summary of the major functions of each project stage of hospital revitalisation is shown in Table 2.1. The current South African Hospital Revitalisation programme's project stages are aligned to this overview.

**Table 2.1: Overview of Hospital Revitalisation Project Stages**

| Stage | Sub-stage | Product/function |
|---|---|---|
| Planning | Strategic planning<br><br>Need identification and approval<br><br>Briefing | • National health services facilities plan<br>• Service required, cost and space norms, and running-cost assessment<br>• Schedule of accommodation<br>• Operational narrative<br>• Room descriptions |
| | Designing | • Master plan<br>  ○ Sketch plan<br>  ○ Line drawings<br>• Room layouts<br>• Cost plan<br>• Working drawings and schedules<br>• Bill of quantities<br>• Tender procedures |
| Construction | | • Building with services<br>• Cost monitoring |
| Commissioning | | • Staff, equipment, orientation to operational policies, occupy building, evaluation |

(Source: Booyens, 2008:112)

The planning stage is characterized by strategic planning and capital budgeting with classic tools such as the SWOT analysis, a review of the internal and external environment to determine the Strengths, Weaknesses, Opportunities and Threats (Richman, 2012:20). Developing a brief should present a clear picture of the intentions of the client (Booyens, 2008:67) and comprises of the following documents:

- The schedule of accommodation, which is the list of rooms and their proposed sizes per department;
- The operational narrative describes the overall concept and the purpose of the facility with information around the functions and relationships of the relevant department; and
- The room descriptions, which detail the activities performed in each room with the required services, fittings and equipment.

It is regarded as crucial that all service providers, especially nurses, participate in the briefing stage, which can be used as a checklist for the design stage, as this is the best opportunity to influence the design and functioning of the healthcare building. The design stage is an exciting period of architectural and engineering translation of the project brief and the client should approve each stage of drawing and try to avoid any changes after the sketch plan approval, following on the master plan for the intended design (Booyens, 2008:100).

The construction stage is the most marked with building activities interrelated. The hospital management team, the construction team and a professional consulting team must plan and work very closely together to contain error and cost escalation (Booyens, 2008:104-107). Commissioning is the concluding stage, which becomes formal during construction and involves making the project operational by staffing the hospital, installing equipment and services, moving into new areas, and formally handing over of the building to the staff.

## 2.3 **Infrastructure Development**

Hospital revitalisation seeks to provide good quality health facilities that are fit for the purpose. The aim of infrastructure development is to ensure that the building is in a good state of function for utilization and that it meets with good practice principles, acceptable standards and is based on the latest technology requirements.

The HRP includes the required processes of proper briefing, normative clinical space planning, relational planning, design and construction of hospital facilities. The main objective of the infrastructure development component is to provide a facility that meets the strategic plan of the province within the allocated and approved budget (DoH, 2009:40). These Infrastructure Development objectives with the expected measurable outputs are depicted in Table 2.2.

**Table 2.2: Infrastructure Development Objectives**

| Specific objectives | Measurable output |
|---|---|
| Development of a project brief and operational narrative based on approved business case | A complete project brief and operational narrative |
| Peer review of project brief, operational narrative and design concept | Approved Project brief, operational narrative and conceptual layouts |
| Development of health facility design | An acceptable facility design and elemental cost estimate |
| Final evaluation of the design | Approved facility design |
| Development of infrastructure Initial Project Implementation Plan (IPIP) | Approved IPIP |
| Development of infrastructure annual Project Implementation Plan (PIP) | Approved PIP |
| Development a sustainable maintenance plan | Maintenance plan available before closure of the project |

Revitalisation projects should follow all steps indicated in the HRP Project Cycle in Figure 2.1 after the National DoH has approved the initial project implementation plan.

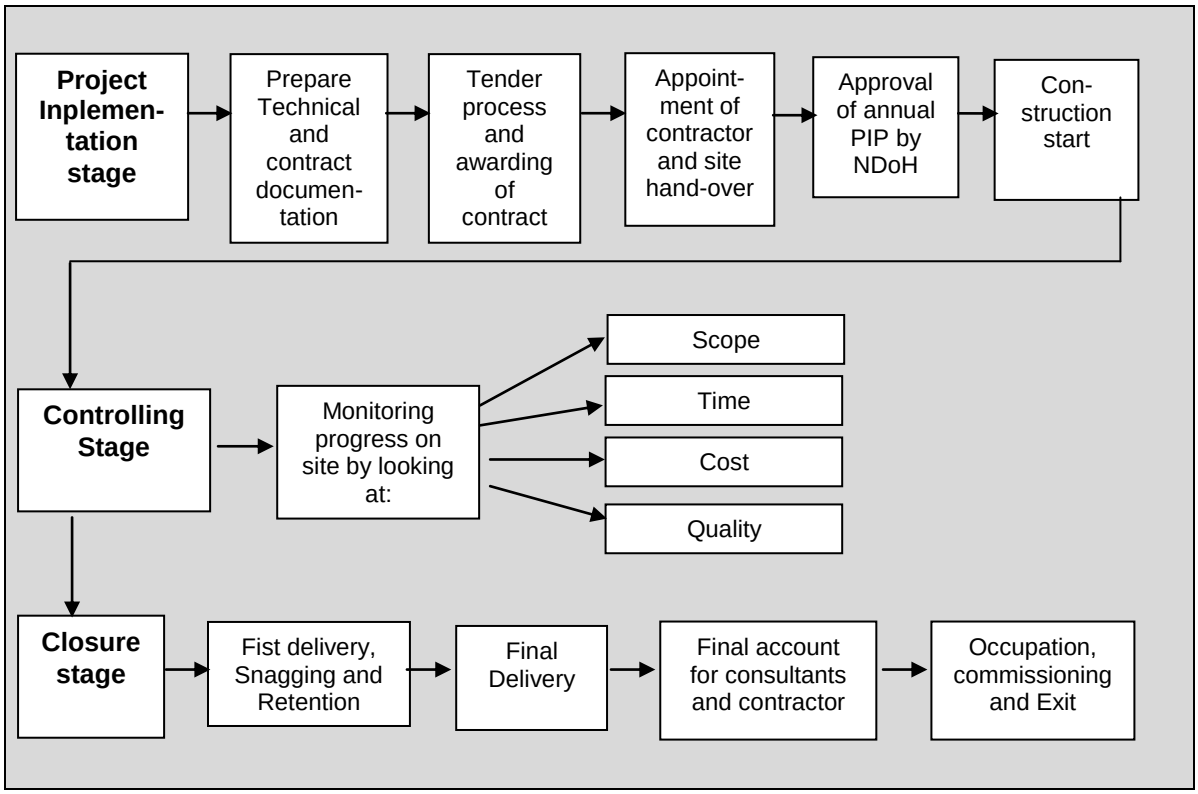



**Figure 2.1: HRP Project Cycle**

(Source: DoH, 2009:42)

Hughes (1999:826) describes construction projects in hospitals as “chaotic” and that the following problems were encountered:

- Electrical failure due to power surges and work on erroneous circuit breakers;
- Medical gas outages or failure due to accidental cuts during demolition;
- Water and sewage outages or interruptions and emergencies such as flooding and dripping;
- Dirt, dust and debris;
- Noise from jackhammers and falling debris; and
- Fire safety compromised with blocked walkways and faulty equipment.

According to Uhlik and Hinze (1998:132) the international trend is to move from building brand new health facilities on green field sites to rather renovating existing buildings. In an extensive study these authors conducted in the United States which included 2 600 surveys of all large hospitals (100 beds or more) the following priorities in construction related problems were identified by respondents:

- On-time completion;
- Keeping projects within the budget;
- Minimizing disruption of patient wards during construction;
- Bureaucratic processes;
- Finding exceptional contractors;
- Lack of confidence in contractors;
- Incomplete construction documents;
- Snag list items;
- Personality conflicts;
- Inattention to owner wishes;
- Funding; and
- Errors / omissions.

Cases of Aspergillosis (fungus infection) may increase dramatically during hospital construction or renovation. According to Loo, Bertraud, Dixon, Vityé, De Salis, McLean, Brox & Robson (1996:363) construction and ground disrupting activity can result in Aspergillus spores being dispersed into the air, which can result in amongst others, respiratory and pulmonary infection of patients and staff. Hospital construction and renovation projects pose many challenges and can increase the risk of nosocomial infections. Infection control resources and practices may be compromised by the dirt and dust carrying bacterial or fungal micro-organisms and hand washing facility or water systems interruptions: as well as changes in air handling and staff traffic patterns. Carter & Barr (1998:587-588) support the old adage of "an ounce of prevention is worth a pound of cure" when it comes to construction-associated Aspergillus infections: or the frustrations of infection control staff trying to retro fit newly constructed areas for e.g. Tuberculosis isolation.

### 2.3.1 **Evidence-based design**

Rynor (2010:634) states that there is a shift of embracing the ideas of evidence-based medicine and translating it into health facility design and that this evidence indicates that design has a positive impact on health and healing. The hospital environment could support or enhance the health and performance of the people who work there. This study explored the impact of the revitalised hospital design on both clients and staff.

De Jager (2011:3) equates successful hospitals to that of the "crocodile", which has a tried and tested 'design' which is stable and has adapted from prehistoric time to now with the adage that out of date yet tried and tested hospitals (crocodiles) are better than "Dodo" hospitals, referring to the extinct bird! Sunseri & Gehring (2006:35) explore the role of engineers in what they consider to be a construction boom in the hospital

environment and the opportunity to co-ordinate planning and implementation of evidence-based design that creates healing environments with innovative designs. The new hospital environment has a family centered focus, providing patient support, enhancing healing and patient comfort with healing environmental controls such as minimizing patient room noise, adequate lighting controls and appropriate colours that are shown to improve patient healing.

Japan has developed 'multi-wing type' configurations as part of hospital engineering master plans which Nagasawa (2006:10) deems effective in coping with growth and change. This gives an estimated lifespan of 30 years to hospitals. De Jager (2011:3) notes that issues that will impact on the adaptability of healthcare buildings are the contract period itself, changing disease profiles, information technology, equipment, electrical supply and usage in the healthcare environment, staffing skills and shortages; global trends versus local solutions; architectural style and building evolution over time.

Historically, in South Africa, hospital planning was managed using the SA Hospital Norms (SAHNORM) under a rigid system strictly controlled by the Treasury Committee Areas Norms and cost limits, which was repealed by the publication of the Public Finance Management (Act no. 1 of 1999, as amended by Act 29 of 1999). According to Hussey (2011:15) a new system of clinical area norms and standards is required to prevent a haphazard approach to health facility design.

A case study was used by Groves (2011:22) to examine the design of the Polokwane Academic Hospital facility, in the Limpopo Province of South Africa, to integrate a commitment to green building and incorporating a healthy and healing environment optimal for people to heal and work in. Groves (2011:22) found that a benchmarking or rating tool for healthcare buildings does not exist in South Africa as in countries like Australia, and has not been developed yet by the green Building Council of South Africa, as established in 2007.

The landscape of South African health care is poised for transformation with the proposed National Health Insurance programme. De Jager (2011:47) claims that the future of healthcare infrastructure and technology is still shrouded in mystery and speculates on the impact on hospital architecture. It will have to move to being aligned to international trends to be environmentally responsible, with energy efficiency, and built on principles of 'open' architecture which strives for less waste, ready adaptability and

enduring relevance. Sadler, Joseph, Keller & Rostenberg (2009:17) implore hospital leaders to seize the unique opportunity hospital revitalisation provides to apply creativity, courage and discipline in their business cases and to utilize evidence-based design to improve patient safety and quality and enhance workforce recruitment and retention.

### 2.3.2 **Framework for Infrastructure**

Watermeyer (2011:21) notes that the current mode of infrastructure delivery in the public sector of South Africa with the lengthy traditional preplanned approach to construction is problematic. Design and specifications having to be approved by multiple departments and municipalities, is failing to address cost, time and performance imperatives, resulting in fiscal period under spending; cost escalation of projects; and significant levels of client dissatisfaction in the construction quality.

Codinhoto, Tzortzopoulos, Rooke, Kagioglou & Koskela (2008:7) highlight the need for further research into the interface between service delivery and building design, following their case study interviews and document reviews of the redevelopment of an existing hospital in Salford in the United Kingdom. Having experienced a seven year strategic planning, investment, and design process, construction started in 2007, but was delayed due to further building design specifications. Several facilitators and barriers to the integration between service delivery and building design were identified. Building design issues were not taken into consideration with service configuration decisions. Changes in decision-makers and the lack of service delivery standards with each clinician having their “own way” of delivering care, led to constant changes with consequent building re-design and unpredictable technological changes. Service demands affected service scope and building design. Early project stage involvement of support service providers to minimize service disruption: and workshops involving different user groups and stakeholders to ensure different perspectives are captured for service and facility operations, were found to be facilitators.

The conclusion of Codinhoto *et al.* (2008:7) was that

> "…integration can be achieved by using a set of approaches including: design team involvement from early stages, stakeholder's involvement in the design process, planning design activities, establishing a development plan, up-front requirement analysis, and consideration of life style issues, but that contextual issues such as complexities around procurement routes, stakeholders structure, poor definition of processes and conflicting requirements, generates barriers to the integration of design..."

Healthcare 2020 (DoH, 2011:40) proposes a "4Ls" approach to Infrastructure Development. The four "Ls" are Long life or sustainability, Loose fit or flexibility, Low impact or the reduction of the carbon footprint, and Luminous Healing Space or enlightened healing environments. Bale (2011) reminds us that it was Sir Alex Gordon, a former RIBA (Royal Institute of British Architects) president of the 1970s who coined the phrase 'long life, loose fit, low energy'. Sir Alex Gordon (Murray, 2011), concerned with the environment and the human consequence of design, argued for what he called 'wise design': the production of simpler buildings that revived the concept of 'delight'.

Foyle (2011) points out that "the phrase that serves as Sir Alex Gordon's lasting memorial was the title of, and the central argument in, his paper on the future shape of architecture published in 1974 as the swansong of his RIBA presidency. In it Gordon argued prophetically that the architect's aim should be to build for 'long life, loose fit, low energy' - ideas that within twenty years were to become mainstays of architectural thinking". The idea of building for permanence with high performance materials, with built-in flexibility to change and adapt in the lifetime of the building, whilst minimizing energy consumption should be seen as desirable (Murray, 2011) for the built environment. Bale (2011) maintains that there are many ways of achieving sustainable construction, by taking the carbon implications of the original environmental investment: the implications of demolition and replacement and the opportunities for environmental improvement of the existing building into account. Planning for an intended design life, with a thoughtful aproach to the life of the structure is recommended.

Osman (2011:5) explains an approach to construction and design called “Open Building” which allows a facility to undergo constant change and adaption, which promotes relevance and sustainability. Osman (2011:5) studied the application of “Open Building” concepts as an innovative procurement process which was developed by hospital authorities at the INO Hospital in Bern, Switzerland. It was found challenging to design a project based on a fixed programme of requirements because the programme inevitably changes in response to new medical procedures, new regulations, new equipment and new market conditions.

Codinhoto *et al*. (2008:7) consider building flexibility to be a key requirement in hospital redevelopment. Cole (1999:8) argues that time is the most important consideration in environmental performance of buildings and involves thinking long term, forecasting change trends and offering design guidance on how one can adjust to change through time.

The 4$^{th}$ L of the 4Ls (DoH, 2011:40) which will be considered as part of the proposed framework for this study, pertains to luminous healing. Many studies focus on natural light, nature and access to gardens, views and water. Redefining the way patient care is provided through the development of a less stressful and more healing environment can determine how design benefits patient care. Herbert (2011:23) found amongst other findings that private rooms enhance patient safety by reducing infections, medication errors and falls.

Hejna (2004:292) proposes four key issues for operation driven facilities planning including: the definition of key operational concepts: the establishment of a vision and planning performance for each major functional area: the design of critical processes within each major function: and the identification of facilitators for each major process. In a review article spanning the last 30 years of the rise of significance of environmental issues and the indirect impact on building design, Sir Alex Gordon’s 1974 paper is cited by Cole (2004:96) as ideas that are again central to current strategic thinking in ‘Green’ building which explores energy use, water, waste, transport and technical systems and advances in buildings.

Cole (2004:102) holds that user needs and expectations are often omitted in building design and that sociological research is important in implementing solutions from scientific data; in a rapidly emerging field with limited informed feedback from the environmental research community in post-occupancy evaluations and design progresses. Decisions to add ancillary functions should be based on volume industry standards, and clinical and administrative expectations of the new department, according to Hill (2005:49); who also emphasized that the role of nursing input from beginning to end is crucial to the success of new healthcare construction or remodeling projects. Cole (2004:104) calls for new models and new thinking to improve building performance and meet environmental sustainability.

### 2.3.3 **Innovation in hospital infrastructure**

A case study of Dublin Methodist Hospital in Ohio (Herbert, 2011:23) included innovation into practice by applying the Fable Hospital concept in their planning. The “Fable hospital” is an imaginary amalgam of the best design innovations that have been implemented and measured by organizations in terms of hospital design. The Fable analysis (Herbert, 2011:23) puts forward that the initial costs of designing an optimal hospital facility are balanced by the economic impact of reduction of operating costs and increased revenues.

Healthcare 2020 (DoH, 2011:41) calls for pilot projects to test more innovative construction technologies and contract arrangements to speed up delivery and reduce the costs. Features of innovation in service organizations are depicted in Figure 2.2. This study proposes an implementation framework which speaks to the “make it happen”, managerial and re-engineering aspects of the HRP innovation.

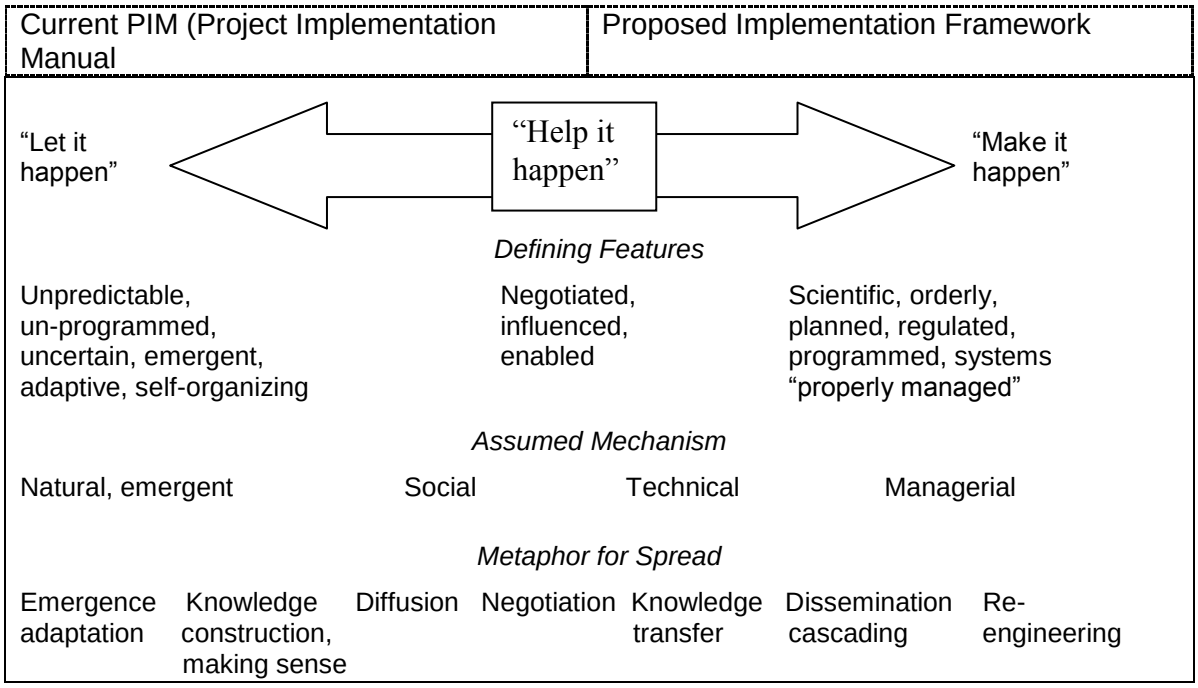



**Figure 2.2: Different Conceptual and Theoretical Bases for the Spread of Innovation in Service Organisations**

(Adapted from Greenhalgh, 2004:593)

## 2.4 **Health Technology**

Health Technology is one of the four normative interventions of the HRP and is an aspect which accelerates change (Appelbaum & Wohl, 2000:280). Technological changes in the organisation's environment brings with it opportunities as well as possible threats. Miller & Palmer (2001:87) suggest that technology should be analysed as an enabler of strategic capability.

Pfaff & Couper (2009:32) reported that the consequences of HRP on equipment included lack of sufficient storage space during decanting; damages, losses and theft of equipment while in transit to storage or new areas; and lack of adequate inventory controls; a higher security risk; as well as posing a huge challenge when it came to the red tape of disposing of redundant assets and scrap from the old hospital. Asset management is deemed as crucial in a developing country (Herbert, 2006:8). Despite being based in the private sector, hospital group Medi-Clinic in South Africa scrutinizes health technology for maximum economic potential, economic life of an asset and life expectancy to promote cost effective health care.

Poluta and Nunziata (2011:10) maintain that medical equipment is often identified and purchased long after infrastructure and its services have been built, which causes delays, aggravated by the lack of technical information regarding the actual equipment, and in most cases leads to difficult, sometimes impossible, very costly health technology installations and in some cases non-operational equipment. The interface between infrastructure development and health technology installations is therefore crucial.

Wear (2006:43) recommends that HT procurement, especially major medical instrumentation such as X-Ray units, CT scans and operating theatre equipment be done with detailed planning by a "technology committee" including staff from administration, medical, nursing, clinical engineering and consultant engineers. This committee could ensure that space and utilities are available and that a plan is developed to maintain HT; as well as assist with writing specifications for compatibility with other equipment; training of users and maintenance staff in operating and maintenance manuals, infrastructural considerations and infection control aspects.

Areas found lacking in South African hospitals by Calder (2011:8) for health technology is that of adequate maintenance systems; hospital environment trained clinical technicians; the general quality of artisan's workmanship; and service delivery of suppliers. To reduce the frustrations and difficulties of maintaining a busy hospital, an integrated maintenance system for maintenance schedules and documents, asset lists, equipment standards and specifications, job cards, artisan training and quality improvements should be considered.

Healthcare 2020 (DoH:41) acknowledges the need for innovation in service delivery and that flexibility in buildings is required to facilitate alterations that occur as a result of policy changes and changing technology. Levin (2011:26) advocates a hands-on approach in terms of modern technology and that clinical staff should not only understand but become involved with the innovative concepts and equipment in health technology.

## 2.5 **Organisational Development**

Hospital revitalisation is an organisational development intervention in its own right as it facilitates radical changes in the infrastructure and health technology. Organisational development is also one of the normative components of the HRP (DoH 2007) with specific deliverables and was reviewed as such.

In the HRP PIM, DoH (2009:84), acknowledges that the management of Public Hospitals is a challenge in general and the delivery of quality health services in particular. The performance of public hospitals has come under the spotlight and placed enormous pressure on both health services providers and policy makers to do something about the deteriorating hospital service delivery. Several factors have been cited as the cause for the decline in quality service delivery. The Hospital Strategy Report (1997) cited declining real budget, demoralisation of staff, inability to replace some categories of professionals, the increased demand for services and loss of public confidence in the system as some of the reasons contributing to this negative decline. It is recognized that the transformation process in the public hospital sector still remains an enormous challenge. Organisational development therefore, forms a key part of the project of Revitalisation of Hospitals, thus ensuring that any inefficiencies and weaknesses in hospital management systems are addressed.

The key expectations for project implementation of OD in HRP are as follows:

- Improved hospital administration and management systems and structures in those areas where the OD and Management component has been implemented;
- Improved hospital efficiency;
- The hospital's technical and managerial staff shall be willing to keep the implemented systems. Through this objective, technology transference shall include the necessary training of said staff, to ensure continuity and maintenance to those systems in the future;
- Motivated and well trained healthcare workers; and
- Customer focused on its day to day running (DoH, 2009:85).

Jooste (2009:366) views organisational development as a process of planned change interventions that seek to improve organisational effectiveness and employee well-being. In healthcare organisations this usually includes the following concepts and processes; Total Quality Management (TQM) introducing quality values; training and empowering employees in TQM; continuous improvement of organisational processes; quality circles of healthcare professionals, discussing quality problems, solutions, corrective actions

and recommendations; strategic planning with action plans; creating a vision statement of the healthcare organisation's future; re-engineering or fundamental rethinking and process redesign to dramatically improve performance; balanced scorecard which focuses on the financial efficiency, internal business and management processes of the healthcare organisation, client satisfaction, as well as learning and growth in health care.

Organisational development and quality management are intertwined but will be addressed separately in this chapter, taking cognizance of the overlaps. The Regenesys School of Public Management is cited in Jooste (2009:367) as stating that "current public healthcare organisations are under immense internal and external pressure to produce more and better services with fewer resources, and are increasingly being faced with demands for fundamental transformation".

According to Sadler *et al.* (2009:17), a unique opportunity is provided by hospital renovation to transform the culture and processes of the overall organisation, as effective change packages are usually an integrated set of improvements that are best implemented together with the environmental design intervention. Pajak (2009:6) recognizes that the overarching theme for hospital redevelopment is usually centered upon the fundamentals of business process engineering, focusing on improving efficiency and effectiveness, by creating multidisciplinary teams to drive the change process.

During the revitalisation period the Western Cape Government Health decided to accelerate the effective implementation of functional business units, or multi-disciplinary teams of people collectively delegated to deliver a defined scope of services within a health facility, in all Regional Hospitals (SA, DoH, 2011:1). The brief was that hospital management teams take responsibility for allocated budgets and deliver their scope of services with the appropriate measure of efficiency, quality and value for money.

Pajak (2009:243) warns of the potential risk in redevelopment of hospitals, of the derailment of improved service quality and enhanced financial performance, by lack of staff co-operation and skill. In a study of two UK hospital redevelopment programmes, Pajak (2009:243-244) concluded that hospital re-engineering brought about; instability for certain services: tensions between management and clinical leadership which led to mismatched expectations, anger and a fear of changes; as well as lowering of staff morale in the uncertainty over the redevelopment programme.

Transformation after the democratic transition of 1994 in South Africa and ongoing racial dynamics spiked a need for more inclusion and at Groote Schuur Hospital (Digby, 2009:779) the Medical Superintendent wrote that "…before the patient can reach the point of having the procedure there is a long chain of other people in the background. These include those who keep the wards and theatres clean… each staff member needs to have his or her vital activities recognized..." The Public Service Commission of South Africa was mandated in terms of the Constitution, Act no. 108 of 1996, to promote and maintain a high standard of professional ethics throughout the public service. The top ten values and principles as required in Chapter 10 by the South African Constitution Act (1996) for the public service were identified and are listed accordingly:

- Governed by the **democratic** values and principles of the Constitution;
- Maintaining and promoting a high standard of professional **ethics**;
- Promoting efficient, economic and effective use of **resources**;
- Orientated towards **development**;
- Delivering **services** impartially, fairly, equitably and without bias;
- Responding to people's needs and encouraging **public participation** in policy matters;
- **Accountable** for its actions;
- **Transparent** by providing the public with timely, accessible and accurate information;
- Cultivating good human resource management and career development practices to maximize **human potential**; and
- Broadly **representative** of the South African people, with employment and personnel management practices based on ability, objectivity, fairness, and the need to redress the imbalances of the past (SA, 2002).

Public participation in health service decision making is represented by WHO (2003) as an essential ingredient of democratic and accountable health systems. Representative public participation may involve groups, communities, individuals or users in strategic decision-making such as commissioning, service evaluation, resource allocation; and service delivery issues relating to monitoring and enhancement of quality issues such as clinical governance (Brooks, 2008:4). In the context of this study such groups included the Paarl Hospital Facility Board and a Local Steering Committee (LSC), considered crucial to the HRP implementation plan deliverables. Brooks (2008:4) noted that at the strategic level, public involvement offers both experiences of health encounters and knowledge of local communities and the health issues facing them.

A model regarded as a proven model for organisational diagnostics towards organisational redesign for effectiveness is the Six-Box Model developed by Marvin Weisbord in 1976 (Proven Models, 2011) which identifies six key areas in which "…things must go right…" and be internally consistent for an organisational to be successful. The result of the diagnosis is a prioritised list of ready to be implemented interventions that can drive a change process.

The Weisbord diagnosis involves a ten-phase process during which a profile of the organisation can be built. The ten phases are explained hereunder:

Produce a high-level scan

- Draw the boundary between organisation and its environment.
- Draw the organisation's input/output system by listing:
  - Inputs;
  - Outputs;
  - Transformation processes; and
  - Feedback mechanisms

1. Establish issues for the most important output using a satisfaction congruity matrix.
2. Establish issues for the stakeholders of the organisation based on their satisfaction level.
   Focus on identified key issues
   - Goal fit: how appropriate is the organisation's goal given its environment?
   - Goal clarity: are purposes clear enough to provide guidance to organisation members?
   - Goal agreement: to what extent do organisation members share the organisation's goal?
3. Structure:
   - Draw the organisation chart;
   - Determine the dominant design archetype (functional, product, project, program or hybrid);
   - Assess the rate of change of the environment, technology and departments;
   - List issues of the formal and informal systems; and
   - Discover the rationale of past re-organisations to identify continuous symptoms.
4. Relationship:
   Assess the quality of relationships between:
   - Organisation members (peers and manager/staff);
   - Units executing different tasks;
   - People and their technologies; and
   - Systems, equipment and methods.

   The diagnosis takes into account two factors:
   - The level of interdependence; and
   - The degree of built-in conflict in relationships.

   When interdependence is high and quality of relations is poor, no mode of conflict management suffices: members are required to experiment with new communication styles.

5. Rewards:
    - What the organisation needs to reward;
    - What the organisation pays, both in real terms and psychologically; and
    - What circumstances make the organisation members feel rewarded or punished?

    Weisbord used Maslow's hierarchy of needs and Herzberg's two factor theory to diagnose the fit between the formal reward system and perceived reward system.
6. Leadership:

    For managers to act effectively, the leadership style needs to fit the informal organisation's behavior. Leadership's main tasks are to scan the environment, set goals and align the internal organisation to fulfill the defined objectives.
7. Helpful mechanisms:

    Mechanisms are helpful when they:
    - Assist in the coordination or integration of work;
    - Assist in monitoring the organisation's work; and
    - Help deal with issues from scanning and diagnostics activities.

Mechanisms are formal and informal, helpful and unhelpful.
Classes of mechanisms are:

- Policies, procedures, agenda's, meetings;
- Informal devices, ad hoc solutions to add to the formal structure; and
- Planning, budgeting, control and measurement.

Johnson (2004:165) reviewed change models and found Weisbord's Six-Box Model suitable as a basis for a conceptual model to bridge the gap between organisational change and integration of quality management systems. As this study includes the quality assurance intervention as a deliverable of HRP, it was considered to be a viable model to apply. One of the variables of the Weisbord model is the environment and closely relates to the mandated Quality Policy implementation which is external to the organisational system. The Weisbord Six-Box Model is depicted in Figure 2.3 below.

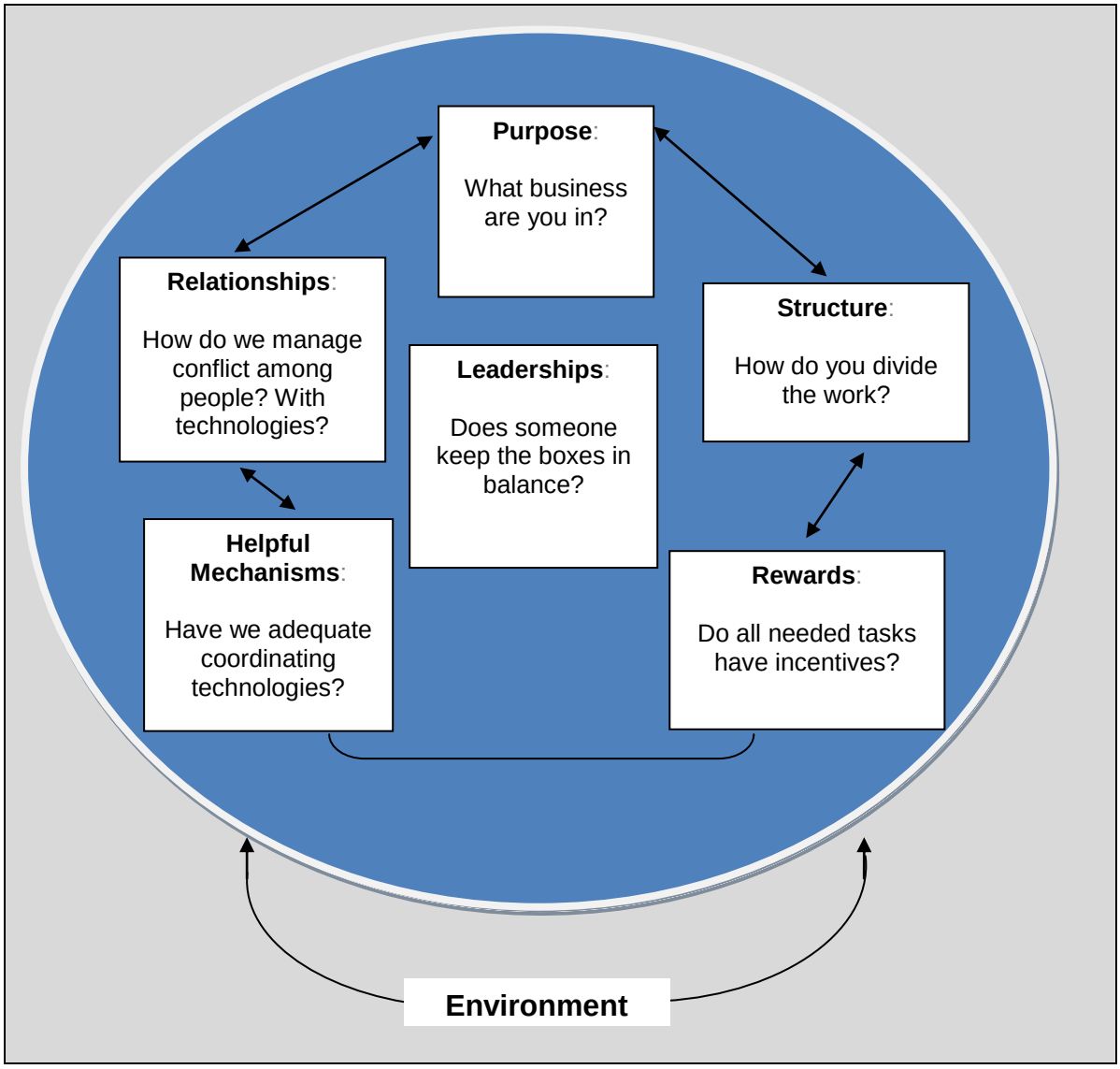



**Figure 2.3: Weisbord's Six-Box Model**

(Source: Weisbord, 2011:2)

Weisbord's Six-Box Model was selected as the theoretical approach and premise for the research to analyse the organisational development deliverables at Paarl Hospital. Weisbord & Janoff (2000:6) describe the conditions for success in taking an organisation in joint action towards a desired future as reviewing the past; exploring the present; creating ideal future scenarios; identifying common; ground and making action plans. While stakeholder groups share perspectives on the present and are encouraged to take ownership, it is important to have a cross section of the whole group for action planning, based on the past and future.

In Weisbord's (2011:2) Six-Box Model relationships and communication are highlighted as important components of organisational development. The failure to appreciate the interrelatedness of systems and to have detailed planning sessions to enhance communication is viewed by Pfaff & Couper (2010:109) as one of the key short comings in the revitalisation project of Brits Hospital. Hughes (1999:828) proposes proper planning by developing a team approach and that co-ordination and co-operation is enhanced by communication. Hughes (1999:826) also advises to "inform patients about the project early, rather than hear complaints and perform damage control later… be proactive, not reactive… use articles in local newspapers, meetings with staff, union representatives and potential patients."

### 2.5.1 **Change management**

Weisbord (2004:103) encourages talking over important decisions in groups before implementation, which leads to higher commitment to change. Guidelines proposed by Weisbord & Janoff (2000:407) for helping people in a major change are:

- Give as much information as possible;
- Listen and accept feelings;
- Make notes and follow up on all questions, rumours and concerns; and
- Tell the truth and give the facts.

Cortvriend (2004:1) comments on the human side of organisational change, in a qualitative study on the impact of organisational change and restructuring in the UK National Health Service, on the psychological contract between the healthcare employee and employee. The study found that a participative, democratic management style and caring leadership was useful in inhibiting psychological contract violation with employees in a constant cycle of change. The psychological contract is safeguarded by employers being committed to employees, fulfilling obligations and keeping promises.

A long term public sector survey of Coyle-Shapiro and Kessler (2000) is cited in Cortvriend (2004:178) where it was found that should employees perceive a breach of this contract: their response would be to reduce their commitment to the employer and to engage in neglect by reducing their level of organisational citizenship behaviour. Davies, Nutley & Mannion (2000:111) view organisational change in health care as the key to quality improvement.

Carroll & Quijada (2004:ii16) concur that cultural analysis of health care and bringing about change by "tilting" the organisational culture to create new ways of working, can redirect professionals in healthcare organisations towards values to support safety and quality. Johnson (2004:170) proposes that key components of organisational change models, as compared to quality systems, can be applied to quality management. The key variables include: Leadership, Strategy, Structure, Technology, Culture and Rewards/recognition.

The conceptual model devised by Johnson (2004:170) focused on quality management and therefore modified the key variables to develop a predictive model of change in improvements in quality and delivery performance measurements. Johnson (2004:171) calls for application thereof in other industry settings to serve as a conceptual model foundation for future empirical research studies.

### 2.5.2 **Strategic planning**

Organisations usually set strategic direction through a vision statement, the development of strategic intent and a mission statement (Ehlers & Lazenby, 2010:58). Effective strategic leadership practices are required to steer organisations in the turbulent and unpredictable environments of today. Weisbord & Janoff (2000:5-6) found the conditions for success in propelling joint action toward a desired future for a community and organisation is to review the past; explore the present; create ideal future scenarios; identify common ground; and make action plans.

This can be achieved by getting the "whole system" in the room: finding common ground and a future focus in self-managed small groups with full attendance, healthy meeting conditions including a sleep over and making participants responsible for follow up. Dreger (2007:14) concurs that user advisory groups of multidisciplinary teams including nurses, infection control practitioners, radiography, pharmacy, administrative support staff, pharmacists, engineers, allied health scientists, clinicians, etc. are crucial in the long and grueling planning work required in hospital design and development.

## 2.6 **Quality Assurance**

The quality assurance deliverable will be presented in terms of the following concepts: definitions of quality health care: and the quality policy framework which includes client, staff and technical quality.

### 2.6.1 **Quality of health care defined**

Quality of care is about getting the best results possible, within the available resources. The World Health Organization's definition of "quality of care" is the level of attainment of health systems' intrinsic goals for health improvement and responsiveness to the legitimate expectations of the population. The patient's experience is gaining prominence in shaping the health system's approach to quality.

The aim of quality management programmes is to meet and exceed the needs and expectations of customers. In healthcare organisations, leaders should be aware of the needs and expectations of the clients as their external customers as well as the nurses, doctors and other healthcare professionals and healthcare workers (Jooste, 2009:350).

The following criteria have been identified by Eygelaar & Uys (2004:35) and Muller *et al* (2006:478-479) to determine the performance excellence in an organisation:

- **Leadership** encompasses the way the management team motivates and inspires the employees in an organisation to continuous performance excellence. The leaders need to demonstrate visibly their commitment to continuous excellence through support and the provision of the appropriate resources and assistance (Eygelaar, 2004:60);
- **Policy and strategy** reflects the mission, vision and strategic direction of the organisation. Performance excellence should be incorporated in policy and strategy and should be regularly updated and improved (Eygelaar, 2004:61);
- **Customer and market focus** is important for service excellence. The needs and expectations of all customers should be taken in to consideration as the customer will be the final 'assessor' of the end product or service;
- **People management** demonstrates how management is instrumental in developing and releasing the full potential of its employees through planning, empowering, recognition and development programmes;
- **Resource and information management** is vital in any organisation and should be deployed effectively. The way financial and information resources are managed requires careful consideration by management. Resource and information management also includes the management of buildings, equipment, technology and other assets (Eygelaar, 2004:62);

- **Processes** refer to all 'value adding activities within the organisation'. In pursuit of service excellence these processes should continually be reviewed and targets should e set for improvement (Eygelaar, 2004:62-63);
- **Impact on society** verifies the organisation's involvement in fulfilling the needs and expectations of the larger community. It includes how the organisation invests in the local community and its involvement in projects to preserve the environment, conserve energy and water and recycle (Muller *et al*, 2006:478);
- **Customer and stakeholder satisfaction** determines how satisfied the customers as well as other stakeholders are with the services rendered;
- **People satisfaction** considers what the organisation is offering to satisfy employees and includes aspects such as a pleasant and safe working environment, ethical conduct and recognition;
- **Supplier and partnership performance** examines the performance of suppliers and partners in terms of continuous improvement, innovation, reduction of costs, improved productivity, the development of knowledge and response to organisational needs (Muller *et al*, 2006:479). Integrity and reliability in the relationship between suppliers and the organisation are also regarded as a sign of performance excellence; and
- **Organisation results** measures the performance of the organisation and its success in satisfying the needs and expectations of all interested parties. These criteria include the financial success of the organisation and aspects such as productivity, timelines, accessibility and relevance.

Eygelaar & Uys (2004:3) summarise this model presented in Figure 2.4 as follows: "Customer and stakeholder satisfaction, people satisfaction, impact on society, and supplier and partnership performance are achieved through leadership, driving policy and strategy, customer and stakeholder focus, people management, resources and information management and processes leading ultimately to excellence in organization results."

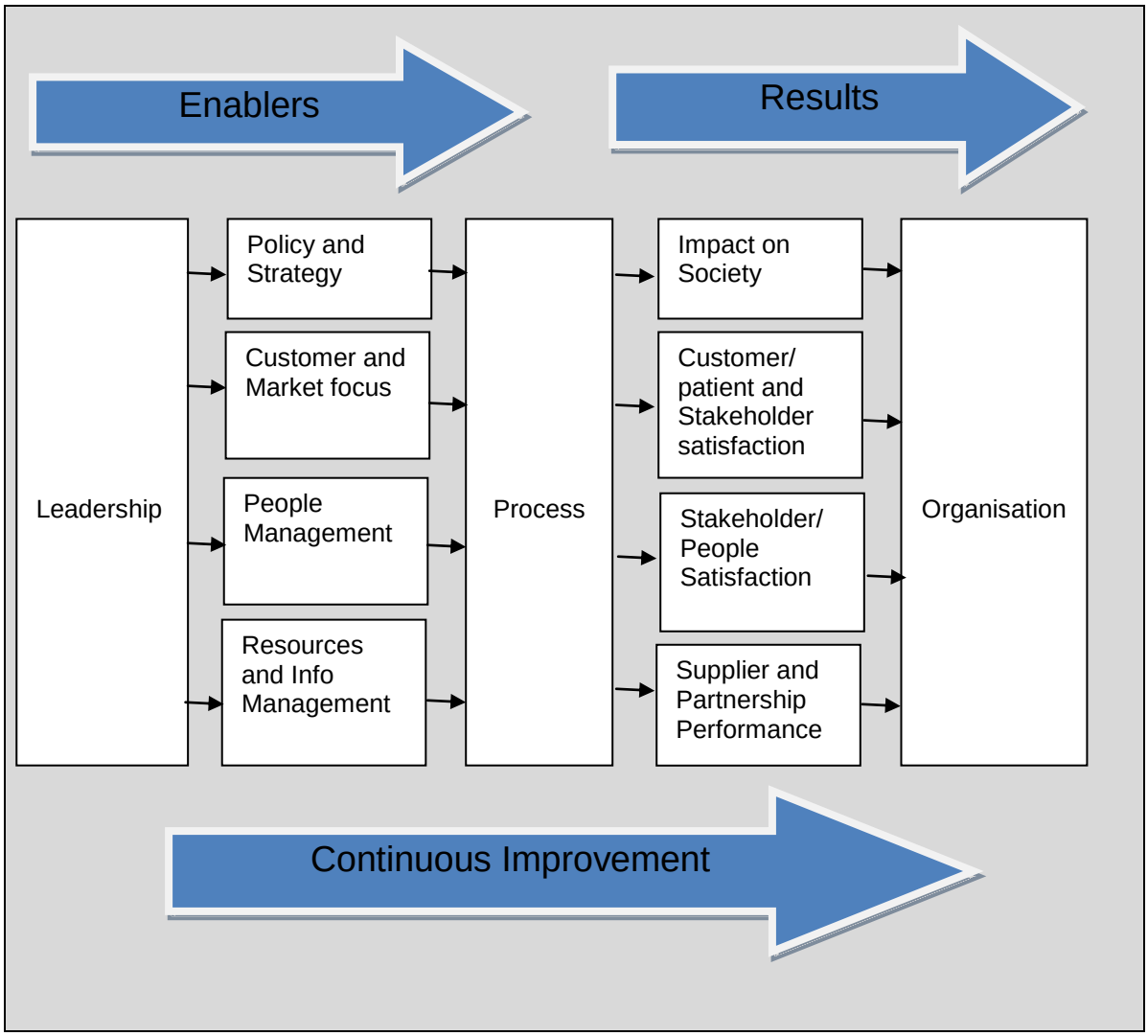



**Figure 2.4: South African Excellence Model**

(Source: Eygelaar & Uys, 2004:35)

Pertinent to Quality in South African health establishments is the National Core Standards compiled by the National Department of Health in 2011. The purpose of the National Core Standards (DoH, 2011:8) is to: develop a common definition of quality care to guide public, staff and managers; establish a benchmark to assess health establishments and identify gaps; as well as develop standards for certification of compliance of health establishments. The office of health standards compliance has been established as a 'juristic person'; is funded by Parliament; and is subject to the Public Finance Management Act (PFMA), 1999 (Act no. 1 of 1999) and has, amongst

others, the function of recommending quality assurance and management systems for the National health system (Section27, 2013:104-105).

Dr. Aaron Motsoaledi (SA Minister of Health) stated in his 2011 health budget and policy speech that the public healthcare system is bedevilled by very poor management, leading to poor quality of care which is compounded by very low resources available in the public health sector. He stated categorically that the present overall healthcare system both public and private will be completely re-engineered. He committed the SA Health ministry to looking closely at management of healthcare institutions and health districts and called for a strategy which will bring about very efficient and effective management of them (Motsoaledi, 2011:4-5).

Dey, Hariharan & Brookes (2006:203) advocate the use of a logical framework analysis to improve the performance of healthcare processes, after application of the three steps of problem identification: solution derivation: and formation of a planning matrix for implementation in a case-study environment, to three acute healthcare environments. Engender Health (2003:6-7) propose COPE (Client-oriented, provider-efficient services) as a process for improving quality in health services. The rationale is that the more these rights are honored and these needs are met, the higher the quality of care will be.

The COPE process is based on two key assumptions:

- Recipients of healthcare services are not passive patients waiting to be seen by experts. Instead, they are autonomous healthcare consumers, or clients. Clients are responsible for making decisions about their own health care and, have a right to high-quality health care; and
- Healthcare staff desire to perform their duties well. However, if they lack administrative support and critical resources, they will not be able to deliver the high-quality services to which clients are entitled.

Clients who use healthcare services experience a wide variation in service quality from facility to facility and over time. Depending on their individual experiences, clients may feel satisfied with and eager to use certain services again, unhappy with and determined never to use the services again, or even desperate, if they are dissatisfied with their care but have no other services available or accessible, which is often the case in the public health sector.

Unfortunately, staff rarely learn what their clients' experiences have been. This is because staff usually do not ask clients their opinions about services, and clients often are reluctant to express their feelings to the staff who serve them. Regardless, clients form opinions about the services they receive, and poor-quality services may, among other things, lead clients to stop using services they really need.

### 2.6.2 **Quality Policy**

Quality Assurance in the South African context is governed by the Quality Policy (Circular H22/2002) (DoH, 2002) which outlines quality assurance measures in terms of client, staff and technical quality. This policy document stipulates 3 focus areas namely Client, Staff and Technical Quality. The domains of this policy have clearly defined areas of quality improvement which had to be implemented as part of the HRP Quality Assurance deliverables.

Simultaneously, it provides a lens through which the HRP project implementation impact could be viewed in terms of these three focus areas. Pfaff & Couper (2010:109-112) concluded that the QA consequences of hospital revitalisation included poor patient care and numerous technical quality issues such as theatre cancellations. Another consequence was that hospital revitalisation placed staff under pressure to work in difficult conditions to render care, which managers were very concerned about. Ultimately, however, committed hospital staff persevered and some improvement in relationships between health professionals was seen.

Quality assurance is also gaining in relevance with the implementation in South Africa of the National Core Standards. A greater importance is also being attached to clinical governance. The PIM (DoH, 2009:107) calls for close collaboration between the national Directorate for Quality Assurance, the provincial Unit for Quality Assurance (especially the provincial QA Co-ordinator) and the hospital based Quality Assurance Management Team. The national Directorate: Quality Assurance will fulfill the following role in this tripartite programme:

- Monitor on a quarterly basis through the Early Warning Reporting System, the number of complaints received and resolved within the HRP hospital for the quarter according to the 7 nationally agreed complaints' categories (See Annexure 6, pg. 198);
- Request that the HRP hospital submits on an annual basis, the results of client satisfaction surveys conducted within a 12-month period;

- Request that the HRP hospital once a year provides proof that clinical audits were conducted within a 12-month period that led to a very specific Quality Improvement Project;
- Request that the HRP hospital once a year provides proof that monthly morbidity and mortality reviews were conducted within a 12-month period (See Annexure 7, pg. 199-200);
- Monitor the HRP hospital's accreditation status once a year; and
- Monitor on an annual basis the HRP hospital's guidelines/protocols for the treatment of the hospital's top ten conditions.

In terms of accountability of hospital managers in South Africa, Bateman (2011:294) informs that "the 'slap on the wrist' approach, driven by a plethora of patient safety policies/guidelines and the absence of a uniform, credible means of probing healthcare delivery problems, could soon be history". The DoH Director General, Precious Matsotso is quoted by Bateman (2011:294) as saying that "Government was 'deeply concerned' by dissatisfied patients complaining of rude and uncaring staff; dirty and unsafe hospitals and clinics; and of waiting in long queues when seriously ill, often returning home without their medicine or any treatment". "We have excellent policies and guidelines but we don't implement them, neither at the level of management nor even at the level of patient care", she admitted. Poor quality, poor reliability in following best practices and a lack of accountability for poor results persisted – aggravated by responsibility being diluted 'among many different people at different levels of the system'.

Bateman (2011:296) quotes Carol Marshal of the office of Healthcare standards compliance (OHSC) as saying that 'her office had three methods of evaluating a facility: compliance with standards, the 'patient voice' through complaints and an ombudsman, and outcome indicators with an early-warning system, honing in on a World Health Organisation (WHO) report that more than half of compliance gaps could be solved at facility level without further intervention or funding'. Furthermore, the proposed National Health Insurance (NHI) scheme has two preconditions for it to work, namely an overhaul to create a quality healthcare system; and strict regulation of the sector to make it more affordable to all South Africans.

This study also explored the underlying aspects of the South African Excellence model (Muller *et al.*, 2006:478) namely leadership; policy and strategy; customer and market focus: people management: resources and information management; processes; impact on society; customer and stakeholder satisfaction; people satisfaction, supplier and partnership performance; as well as organisational results. The study further aimed to examine the impact on quality through the hospital revitalisation plan and include a quality component into the proposed framework for the Hospital revitalisation implementation. A more detailed literature review was conducted and completed in this regard to source a comprehensive implementation framework for hospital revitalisation.

**Client quality**

Client Quality is defined by Tzeng & Yin (2008:122) as, "An individual client or family visitor's subjective perspective on medical services (also called client satisfaction) has long been adopted as one of the indicators of care quality". In South Africa the Batho Pele principles (van den Berg, 2007:5) are crucial to the client service and are as follows:

- Consultation: The public should be consulted about the level and quality of the services they receive from us and, wherever possible, should be given a choice about the services that are offered;
- Service standard: The public should be told what level and quality of public services they will receive so that they are aware of what they can expect from us;
- Courtesy: The public should always be treated with courtesy and consideration;
- Access: All members of the public should have equal access to the services they are entitled to;
- Information: The public should be given full, accurate information about the public services they are entitled to receive;
- Openness and transparency: The public should be told how national departments and provincial administrations are run, how much they cost, and who is in charge;
- Redress: If the promised standard of service is not delivered, the public should be offered an apology, a full explanation, and a speedy and effective remedy: and when complaints are made, the public should receive a sympathetic and positive response; and
- Value for money: Public services should be provided economically and efficiently, in order to give the public the best possible value for money.

The Patient's Rights Charter (van Rensburg, 2004:119-120) is a mandatory document to be displayed in all health facilities in South Africa. The Patient's Rights and Responsibilities are tabulated below in Table 2.3.

**Table 2.3: The Patient's Rights and Responsibilities Charter**

| Every patient has the right to: | Every patient or client has the following responsibilities: |
|---|---|
| • A healthy and safe environment;<br>• Participation in decision-making<br>• Access to health care;<br>• Knowledge of one's health insurance/medical aid scheme<br>• Choice of health services;<br>• Be treated by a named healthcare provider;<br>• Confidentiality and privacy;<br>• Informed consent;<br>• Refusal of treatment;<br>• Be referred for a second opinion;<br>• Continuity of care; and<br>• Complain about health services. | • To take care of his or her health;<br>• To care for and protect the environment;<br>• To respect the rights of other patients and health providers;<br>• To utilize the healthcare system properly and not abuse it;<br>• To know his or her local health services and what they offer;<br>• To provide healthcare providers with the relevant and accurate information for diagnostic, treatment, rehabilitation or counselling purposes;<br>• To advise the healthcare providers on his or her wishes with regard to his or her death;<br>• To comply with the prescribed treatment or rehabilitation procedures;<br>• To enquire about the related costs of the treatment and/or rehabilitation and to arrange for payment; and<br>• To take care of health records in his or her possession. |

(Source: van Rensburg, 2004:119-120)

In the COPE process (Engender Health, 2003:7) the following client rights are put forward: information; access to services; informed choice; safe services; privacy and confidentiality; dignity, comfort, and expression of opinion; and continuity of care. In a study to measure service quality offered in a government controlled hospital in South Africa, de Jager and du Plooy (2007:96,103-104) found that although significant differences exist between in and out patients; personal safety and cleanliness of facilities were regarded as the most important variables in the assurance and tangible dimensions of quality measured; and that clients had high expectations in terms of the general condition of hospital equipment, friendliness of staff and communication at an understandable level.

In a telephonic randomised survey on informal complaints in health services, Gal & Doron (2007:158) concluded that organisational mechanisms should be developed for capturing and using the bulk of complaints which are submitted informally to frontline staff; and called for further research into the factors affecting client complaining behaviour. Clapper & de Jager (2004:222) conducted a survey to review the state of the transforming South African National Health Services in terms of public service delivery, and found that client expectation-based proposals should be considered for improvement of health care. The study concluded that the health service should focus immediate attention on the following:

- General hygiene of hospitals;
- General hygiene of hospital toilets;
- The availability of the medical staff;
- The lack of concern among the nursing staff;
- Waiting time for treatment;
- Safety of patients in hospital; and
- Quality of medical services.

**Staff quality**

Similarly, healthcare staff experience a wide range in the quality of their work environment, in the information and training they receive, and in the equipment and supplies available to them – all elements that staff need if they are to provide quality services. When staff do not have a forum in which to identify and voice their needs, the necessary changes are often not made. The quality improvement movement should be a vehicle for staff to realize quality of work life with individual fulfillment and safety and security assured (Steenkamp & van Schoor, 2004:118-119).

In a longitudinal cross sectional Canadian study of hospital restructuring (Burke, 2004:287), hospital management support emerged as the most significant single factor in helping nursing staff handle difficult change transitions. Critical elements in keeping staff morale intact included respect for staff: being responsive to staff needs and suggestions: and investing in them.

However, staff rights and needs are not that explicit and EngenderHealth (2003:7) propose a set of healthcare staff needs:

> "**Facilitative supervision and management**: Healthcare staff function best in a supportive work environment in which supervisors and managers encourage quality improvement and value staff. Such supervision enables staff to perform their tasks well and thus better meet the needs of their clients.
> **Information, training and development**: Healthcare staff need knowledge, skills, and ongoing training and professional development opportunities to remain up-to-date in their field and to continuously improve the quality of services they deliver.
> **Supplies, equipment, and infrastructure**: Healthcare staff need reliable, sufficient inventories of supplies, instruments, and working equipment, as well as the infrastructure necessary to ensure the uninterrupted delivery of high-quality services."

Lean, a term coined in the automotive industry, to maximize customer value and minimize waste of any resources by streamlining processes, is rapidly becoming the latest rage in health care quality management (Ballé & Regnier, 2007:33). It is also viewed as a valuable learning system in healthcare units such as wards by applying lean thinking and tools of efficiency to many clinical processes.

The people in the processes must not be forgotten and they therefore need to be developed to perform optimally. Steven, J. Spear (2005), a seminal author on Lean, is quoted in Ballé & Regnier (2007:41) as saying "unless everyone is completely clear about the tasks that must be done, exactly who should be doing them, and just how they should be performed, the potential for error will always be high." Lean applied to healthcare should be essentially about creating a culture of "no ambiguity" and resolving problems.

Lean thinking creates a working environment where all employees can visualize problems easily and find countermeasures immediately to solve them. Using Lean to carefully build a learning environment for staff and management has implications for nursing practice, but also for Lean implementation at large.

**Technical quality**

The patient experience is gaining prominence in the health systems approach to quality. Quality Assurance is now on the upswing with the Core standards and Clinical governance on the forefront (Lourens, 2012:3-4). Patient safety needs evidence-based practice as the healthcare system enables major patient errors due to an absence of an adequate safety net (Clarke, 2011).

To avoid medico-legal claims, Williams (2011:11) advocates being open about error; and having enlightened quality systems, where it is recognized that adverse events will happen, and should be treated as learning opportunities to improve systems; with evidence-based practice as a sound means to deflect the blade of the perceived litigation dagger at the back of healthcare professionals and facilities. Evidence-based processes include clinical questions; searching literature; evaluating literature critically, implementing useful findings while being mindful of cost (resource constraints); and developing a repertoire of evidence-based practices (Craig & Smyth, 2007:3).

Evidence-based practice is the use of current best evidence integrating individual clinical expertise with the best available external evidence from systematic research and it is part of quality improvement and a useful tool in health care issue decision-making (Lourens, 2012:3-4). It is a holistic approach to health care that places the patient at its centre and is more than research alone, but includes scientific knowledge (biomedical research), patient knowledge (symptoms, treatment, patient care) and personnel knowledge (understanding the individual) (Craig & Smyth, 2007:8-9).

Clinical audit aims to address quality of health care of all patients/clients, and healthcare management is charged with implementing high quality care. An idea for a clinical audit tool is utilizing the critical points in post-operative care and evaluating the standard care plans. This care plan is an ideal tool to teach nursing students the importance of post-operative by auditing randomly selected post-operative care patient files. When students discover the errors, learning is enhanced (Lourens, 2012:3-4).

Other aspects of Technical quality include the Morbidity and Mortality register (Annexure 7, pg. 199-200) of patients whose clinical outcome was unexpected. These registers are completed by the attending specialist and discussed in monthly multidisciplinary clinical teams, as a clinical practice learning opportunity. The Safety and Security of staff and

clients are recorded quarterly in health facilities (Annexure 8, pg. 201) around incidents such as threatening behaviour (verbal or physical), assault or abuse (verbal or physical), use of weapons; bomb threat, theft or burglary and damage to personal property, as well as disorderly behaviour.

### 2.6.3 **National Core Standards**

The National Core Standards are seen as a basis for quality. A national drive by the National Department of Health to improve the quality of health care through the National Core Standards calls on leadership in the health sector to facilitate initiative and change in practice. The legal context of the National Core Standards for the health sector is the National Health Act, 61 of 2003, which promotes good quality health services, healthcare standards, and ratifies the Office of Standards Compliance. Therefore, the purpose is to set a benchmark for quality of care, and to provide a framework for the national accreditation of health establishments. According to Smailes (2009:40),

> "Ultimately, accreditation should improve patient experience and result in fewer adverse patient outcomes... The importance of accreditation is in the ability of the process to alter the culture of a healthcare setting into one of continual improvement in quality. A successful accreditation survey represents a commitment to quality, which is recognized externally. Of equal importance is the continued focus on the maintenance and improvement of patient care between surveys and the engagement of staff in the process. Accreditation at its best should make patients safer, and develop healthcare settings where staff can develop and thrive."

The National Core Standards are structured into seven cross-cutting domains (see Figure 2.5), and defined as "areas where quality or safety might be at risk". The first three domains, namely patient rights: safety, clinical governance and care; and clinical support services; represent the core business of the health system of delivering quality healthcare to users or patients. The remaining domains, public health: leadership and corporate governance: operational management: and facilities and infrastructure: are the support systems for healthcare delivery. Internal clients (staff) are key in achieving these standards.


**Figure 2.5: Seven domains of the National Core Standards for Health Establishments in South Africa**

(Source: DoH, 2011:16).

The six fast-track, National priorities of the National Minister of Health's inter-relationships with the National Core Standards are:

- **Patient rights**
  1. Values and attitudes
  2. Waiting times
  3. Cleanliness
- **Patient safety, clinical governance and care**
  4. Patient safety
  5. Infection prevention and control
- **Clinical support service**
  6. Availability of medicines and supplies.

National Core Standard assessments were done at all public health facilities in 2011 and the results of Paarl Hospital's assessment will be portrayed in Chapter 5. The patient safety, clinical governance and care domain of the National Core Standards covers the management and processes of effective and quality clinical care and ethical practice; the reduction of unintended harm to healthcare users or patients in identified contexts of clinical risk; and the management of adverse events, including healthcare associated infections, to support any patients or staff affected and to prevent occurrence or recurrence (Lourens, 2012:3-4).

## 2.7 **Risk management**

The introduction of the Public Finance Management, Act 1 of 1999, laid the foundation for a more effective corporate governance framework; as well as an accountable financial management system for the public service; and also established the legal framework for risk management in the public service (SA, 2007:8). The framework developed by Provincial Treasury recommends taking responsibility for risk management and doing risk assessments to address the company's exposure to: physical, operational, human resource, technology, credit, market and compliance risks: as well as business continuity and disaster recovery. It is noted that voters, tax payers and investors are demanding to know more about risks facing Provincial government structures in the face of corporate failures and calls for an integrated approach to risk management.

Risk management processes which are an integral part of strategic planning and capital allocation, and integrated within corporate governance frameworks are likely to be more rigorous (SA, 2007:19-23). The Leicestershire Partnership NHS Trust implemented a risk management strategy that encouraged staff to report adverse events and developed a model to promote active learning from adverse events (Armitage, 2005:159-162).

The TRAIL model (Armitage, 2005:159-162) advocates a five-stage process to support teams to consider what they can do locally to improve patient safety. The five stages of the TRAIL process are:

- **Talk**: create a regular opportunity for open discussion about incidents and adverse events within your team;
- **Reflect**: take time as a team to reflect on the key themes identified and the implications for your clinical practice;
- **Act**: consider simple changes in working practices to reduce the likelihood of things going wrong;
- **Improve**: develop your team's focus on reportable incidents and awareness of safety issues; and
- **Learn**: ensure that all staff know when and how to report an incident, and disseminate learning from other teams and services.

It was found that TRAIL provided the health service with a framework for identifying the lessons that could be shared more widely and raising awareness of individual and team responsibilities for safer services.

## 2.8 **Theoretical framework**

The Diffusion of Innovations Theory (Rogers, 1983) is a broad social/ psychological/sociological theory and purports to describe adoption patterns, and mechanisms of innovation implementation, which has been applied to innovations from creation to use in what Clarke (1999:1) describes as the innovation stages of:

- Knowledge (understanding existence and functions);
- Persuasion (forming a favourable attitude);
- Decision (to commit to adoption);
- Implementation (putting it to use); and
- Confirmation (reinforcement based on positive outcomes).

Greenhalgh, *et al.* (2004:621) encourages other researchers to test their proposed model for diffusion of service organization and is therefore deemed suitable as a model to apply to the hospital revitalisation programme, an innovation in health service delivery and organization to answer the call for further research into the processes of implementation, sustainability and enhancement of implementation and lessons learnt from change management literature in a wider range of contexts.

Figure 1.3 (pg. 22) depicts the adapted conceptual model for this study whereby the HRP has been applied to Greenhalgh *et al.* (2004:595) conceptual model for considering the determinants of Diffusion, Dissemination and Implementation of Innovations in Health Service Delivery and Organisation, based on a systematic review of empirical research studies.

## 2.9 **Summary**

This chapter reflected the literature review for the Hospital Revitalisation programme, hospital infrastructure and design considerations, as well as the interface with health technology. The hospital revitalisation project stages were defined and the critical importance of collaborative planning was highlighted. The 4Ls approach was aligned to current trends in the built health environment towards low impact and luminous healing spaces. This chapter also highlighted the deliverables of Organisational Development and Quality Assurance as it relates to HRP. Organisational development theory was reviewed and the Six-Box Model of Weisbord (1976) found to be suitable to apply to the HRP. While drawing on quality assurance literature, the Quality Policy (H122/2002) of the SA DoH (2002) was used to focus the discussions in the domains of client, staff and technical quality. The following chapter will explain the research methodology for this study.

# CHAPTER 3
# RESEARCH DESIGN AND METHODOLOGY PROCESSES

## 3.1 Introduction

The focus of this chapter is on the research methodology applied to this study and the processes followed. It is structured around the research design, ethical considerations and the data collection processes and management. This study aimed to critically evaluate the HRP implementation at Paarl Hospital, describe the experiences of the role-players, and propose an implementation model. The methodology included a literature review, which confirmed limited published information in this study field. Although hospital renovations in general have been researched, this cannot be said of hospital revitalisation in South Africa.

Summatively, literature was reviewed on the four normative interventions of HRP, namely Infrastructure Development, Health Technology, Organisational Development and Quality Assurance in international hospital redevelopments and renovations, as well as the limited case studies described in South Africa. A theoretical approach was applied to analyse each of these four interventions as a unit of analysis.

The 4Ls concept proposed by Healthcare 2020 (DoH, 2011:40) to modernize, manage and maintain health infrastructure was selected as an approach to infrastructure and health technology. It is governed by Long Life (sustainability), Loose Fit (Flexibility), Low Impact (Reduction of the Carbon Footprint), and Luminous Healing space (Enlightened Healing Environment).

The literature revealed that hospital revitalisation has a negative impact on quality of care during the implementation (Pfaff and Couper, 2010:109). The policy on Quality of Care in the Western Cape (Circular H122/2002) provides a framework for the management of quality of care initiatives and for quality improvement at facility level. The framework also forms the basis of the project deliverables in terms of client, staff and technical quality. The South Africa Excellence Model (Jooste, 2009:350) was also described as a tool to determine performance excellence of an organisation and link to Organisational Development.

Furthermore the model suggested by Harvey and Brown (2006:215) for organisational change strategies to increase organisational efficiency was reviewed for this study as it comprises of three basic strategies:

- Structurally emphasizing the organisation's design, lines of authority, span of control and work flow;
- Technological strategies such as implementing new technology, innovations, computer systems, machinery; and
- Behavioural strategies to optimize use of human resources, tapping personal resources and talents, and increasing morale, motivation and commitment.

The Six-Box Model proposed by Weisbord (1976) was applied to conduct a gap analysis, the diagnosing of the organisation and their issues and the re-designing of the organisation. It was found to be more suitable for the organisational development deliverables within HRP.

The Johnson's model (2004) which integrated key components of the SAEM (2009) and the Six-Box Model (1976) were found to be most suitable as a combined approach to both QA and OD. Roger's Diffusion of Innovation Theory (Greenhalgh *et al.*, 2004:589) was selected to describe the HRP as an innovation to improve quality in public hospital infrastructure and management.

Transforming the data by using concepts and themes from existing literature to provide new insights allows for moving towards interpretively integrating parts of the data. This is what Boeije (2010:153) promotes as the right side of the Sandelowski and Barros (2003) Typology of Qualitative findings, with a higher level of abstraction of analysis and interpretation of data.

## 3.2 **Research design**

A descriptive case study design (Burns & Grove, 2001:604) with a qualitative research approach (Ulin, Robinson & Tolley, 2005:38) was used for this study. Gillham (2005:10) proposes that in case study research, although all the evidence is included in the data collection, qualitative methods are primary. This method focused the study on the circumstances, dynamics and complexity of the Paarl Hospital Revitalisation as a single case (Bowling, 2011:462).

The case study design involves an intensive exploration of a single unit of study (Brink, 2010:110) such as an institution and therefore was selected as most suited to exploring this Public Secondary Regional Hospital Institution project. Furthermore, case studies are

good sources of descriptive information, as required for this study (Burns & Grove, 2001:255).

According to Gillham (2005:102), the health facility can be 'illuminated' by the meticulous description of it as a case study, as well as the institution's process of change and improvement. A case study is a "unit of human activity embedded in the real world; which can only be studied and understood in context; which exists in the here and now; merges in with its context and can be an institution" (Gillham, 2005:1). A cross-sectional descriptive case study was undertaken for a hospital revitalisation study in Brits, South Africa by Pfaff & Couper (2010:109). Gillham (2005:10) holds that qualitative methods are essentially descriptive and inferential, which is also necessary and is scientific research, whereby the evidence focus is on what people tell you to understand the meaning of what is going on. The case study allowed for a multi method approach to data collection (Terre Blanche & Durrheim, 2004:217) which included focus group discussions; individual and pair interviews (Downs and Adrian, 2004:76-77 and 213); and photographic and document review.

The characteristics and components of action research are the processes of continuous enquiry, reflection and continuous improvement (Craig, 2009:7). Action research is both proactive and reactive. The proactive research process was identifying the potential problems in HRP implementation. The systematic enquiry was to improve implementation in terms of quality. A reactive study was also involved, collecting data to diagnose the problems in HRP implementation, using results to implement a plan, and then distributing data and findings to others in order to affect change and improve proactively. The preliminary enquiry results were reflected on and applied in an intervention to the Psychiatry planning stage to bring about concurrent quality improvement.

McNiff & Whitehead (2009:14) argue for critical engagement and meta reflection at doctoral level, with the first step in action enquiry to problematize the HRP implementation, which is taken for granted, within discourses, practices and ideas. Schultz explains in McNiff & Whitehead (2009:41) the importance of not separating meaning from experience and equates integrating meaning and experience with being in a hall of mirrors where one reflection reflects back another. Hence, the experience of the HRP implementation was the focus of the research.

The principal researcher, having experienced the HRP implementation in terms of quality, reflected on the data sets and the process of knowing and through writing up made new meaning to enable others to implement HRP more effectively. The qualitative methodology applied focused primarily on the kind of evidence which people told the principal researcher, which enabled a search for meaning (Gillham, 2005:10).

This study falls within the ambit of public health research. Alex Butchart (1998) is quoted in Terre Blanche & Durrheim (2004:42) as describing an alternate set of categories which have been developed in public health research to represent the ways in which pragmatic and theoretical concerns operate at different levels of generality. In this view all research is action-oriented (and therefore applied), but can be divided into three types. **Fundamental research** aims to increase knowledge about questions of scientific significance that may lead to the development of new technologies (e.g. theories of aggression leading to violence prevention). **Strategic research** generates knowledge about specific needs and problems (these include specific social conditions and systems) with a view to eventually solving or reducing the problem through further development and evaluation. **Intervention development** and **evaluation research** create and assess intervention technologies of all types, such as health policies, social technologies, vaccines and drugs and environmental interventions. This study aims to generate health system knowledge and develop a framework for HRP; and create and assess an intervention within this 'action-oriented' realm.

## 3.3 Delineation of the study

This case study included only one public secondary level regional hospital in one public provincial department (Department of Health) in the Western Cape Government of South Africa.

## 3.4 Study population

The total study population included all role-players of the Paarl Hospital HRP project in the period 01 January 2006 to 31 March 2012. The role-players included the Management and staff of the Paarl Hospital, staff at Head Office, DoH, HRP and the Department of Public Works and Transport; as well as the professional consultant design team and the building contractors.

## 3.5 **Study sample**

Purposive sampling (Brink, 2010:133) was applied to each of the study population as shown in Table 3.1 and 3.2, who had played a strategic role in the HRP project at Paarl Hospital and hence the rationale for selection. Burns & Grove (2001:376) refer to purposive sampling as the conscious selection by the qualitative researcher of certain participants to increase theoretical understanding of some facet of the phenomenon being studied. Table 3.1 and 3.2 depict individuals and pairs purposively sampled. A detailed breakdown of the study sample is presented in Tables 3.1, 3.2 and 3.3 together with a description of the strategic role in the HRP implementation.

**Table 3.1: Individual Interviews**

| Individuals | Strategic role in HRP implementation |
|---|---|
| CEO of Paarl Hospital | Strategic leader of hospital |
| Deputy Director: Nursing | Strategic view of Nursing |
| Assistant Director: Nursing and acting Health Technology co-ordinator for 5 years | Played integral part in project planning and Health Technology |
| Deputy Director: Administration | Perspective of effect of HRP on support services departments of hospital |
| Anaesthetist, Clinical head of surgical theatre | Instrumental in planning of theatre decanting and commissioning |
| Clinical head of Emergency Medicine | Closely involved in the planning, decanting and commissioning of the Emergency Centre during revitalisation |
| Radiographer: Acting head of Radiography Department | Involved in sophisticated Health Technology installations |
| Deputy Director: HRP Monitoring and Evaluation | Involved in monitoring and evaluation of this project for head office and sending information to National Health. |
| Architect Project Manager from Public Works and Transport Department | Closely involved with principal agent and overseeing of infrastructure deliverables. |
| CEO: Worcester Hospital | Triangulation of data in terms of risk-benefit ratio of the HRP |
| Quality Manager: George Hospital | Triangulation of data in terms of effect of HRP in clinical quality of care. |

**Table 3.2: Pair Interviews**

| Pairs | Strategic role in HRP implementation |
|---|---|
| Building contractor, General Site manager and Project manager | Perspective of HRP implementation at the interface between consultants and clients |
| Physicians, Clinical head of Internal Medicine department and Senior Consultant in Internal Medicine | Clinical insights into impact of HRP implementation towards the inpatient or ward patients' clinical care. |

Convenient sampling, (Terre Blanche and Durrheim, 2002:380) refers to taking participants for focus group discussions based on their availability. Groups where identified to be invited and those who accepted the invitation and were available to attend, were included. The composition of the focus groups and their strategic role in the HRP implementation is displayed in Table 3.3.

**Table 3.3: Focus Groups**

| Focus groups | Strategic role in HRP implementation |
|---|---|
| Consultant Group (Engineers and architects) | Representative of all consultants and disciplines of project |
| Nursing Senior Management | Representatives of all disciplines of Senior Nursing Management in hospital |
| Nursing Operational Management | Representatives of operational nursing ward managers of specialized, surgical and medical wards |

Interviews and focus groups were set up in the geographical location of the participants in a place and at a time that suited them. All interviews and FGDs took place at a time which was convenient, with adequate time and privacy allocated for the interview schedule and in a variety of suitable settings (Brink, 2010:153).

## 3.6 **Ethical considerations**

The ethical approach of this study was guided by the principles of respect for self determination (autonomy); privacy, anonymity and confidentiality; fair treatment (justice); and protection from discomfort and harm (beneficence) (Burns & Grove, 2001:220). Ethical approval for the study was granted by the Research Ethics Committee of the Faculty of Business of the Cape Peninsula University of Technology, on 28 September 2011 (Annexure 4, pg. 196).

The researcher did not identify that this study posed any visible harm to the study participants and was not aware of any possible risks. Confidentiality of information rested with the researcher and was enhanced by not using participant names during data analysis (where participants introduced themselves it was not typed on verbatim data sets) and data presentation. Only the researcher would be in a position to trace the information to a particular person, thereby enhancing anonymity.

Oliver (2004:89) holds the broad ethical position that an organisation which exists in principle to further the public good, should be prepared to make its procedures open to public scrutiny. This is with the exception of the confidentiality requirements to project data on named individuals, which was upheld by the principal researcher. Recording interview data raises significant ethical issues and informed consent, as established at all data collection during this study, is crucial. The process of recording of responses and taking field notes was made clear by the interviewer (Brink, 2010:153).

Verbatim focus group discussion and interview transcripts and digital recordings are securely stored and locked it away at the home office of the principal researcher. The fair treatment of the people asked to assist and participate in this research extended to reasonable measures to ensure their peace of mind and included reassurances about confidentiality, anonymity and the presence of the digital recorder, as well as the option to pause or withdraw from the interview at any time (Oliver, 2004:46).

### 3.6.1 **Access to study participants**

Study participants were contacted personally by the researcher or via the health authority that they worked for in order to obtain permission for them to attend focus group discussions or interviews. In these cases usually an official email from the researcher was required to gain consent to access contact during work hours.

### 3.6.2 **Informed consent**

Informed consent is defined by Terre Blanche & Durrheim, (2004:479) as; "The process of seeking the explicit and uncoerced agreement from a subject to participate in a research project, based on their full understanding of the procedures involved and their likely effects." Participants were asked to give written informed consent (Hallberg, 2002:61) before starting focus group discussions and interviews. Confidentiality and anonymity during data collection was ensured verbally before the start of the focus group discussion or interview. This informed consent was documented in a signed consent form (See Annexure 1, pg. 191-192), as well as digitally recorded. Participants were also requested to maintain confidentiality about information shared during focus group discussion or interview sessions.

At the start of each focus group discussion or interview; the data collection process was explained to participants regarding their voluntary participation; and that they would be encouraged not to identify themselves during the focus group discussion or interview, which would be digitally recorded. This verbal informed consent explanation was also digitally recorded. All data collection was undertaken by the principal researcher to ensure consistency during data collection.

Hallberg (2002:119) states that when interviews are used for research, their use must be based on confidence and trust between the researcher and the person providing the information. To facilitate this, the participants were asked whether they will allow the data originating from their participation to be used for research purposes. If they gave their voluntary permission, they were informed that their identity would be protected (Hallberg, 2002:119). Should they have wanted to withdraw their consent they were asked to feel free to stop participation but to stay in the room until the end of the focus group. They were assured that should they withdraw at any time, they would not be victimised in any way.

A copy of the informed consent form was given to study participants with the researcher's details (See Annexure 1, pg. 191-192). The researcher is proficient in English and Afrikaans and data collection was offered in either of these languages based on the choice of the study participants.

### 3.7 **Data collection tool**

The data collection tool was an open questionnaire with exploratory probes. The opening question was peer reviewed prior to the first focus group discussion (Brink, 2010:153). An open question was developed to encourage study participants to share their experiences of the HRP implementation. The first FGD served to pilot the question and the exploratory probes. Interviews are ideal for exploratory, descriptive research as in this case study. Unstructured interviews with a certain number of specific questions, and additional probes (Brink, 2010:152) were used as the data collection method. The same questions were used in the interviews and focus group discussions, as a FGD is regarded as an interview with a group of five to fifteen people whose experiences are requested simultaneously (Brink, 2010:152). The opening question in both the interviews and the focus groups was *"How have you experienced the HRP implementation at Paarl Hospital?"*

## 3.8 **Probes developed and used in study to collect data**

Probes are prompting or clarification questions that encourage participants to elaborate on the topic (Brink, 2010:152), for example: “Tell me more about….”. Probes enhance rapport in that they indicate to the participant that the researcher is truly interested in understanding his/her experience. Probes were designed for the focus group discussions or interviews for this purpose to find out more specifically how participants experienced the implementation of HRP at Paarl Hospital and whether they wanted to make recommendations to enhance the implementation framework.

Probes developed were:
*“Tell us more about your experience in terms of quality of care during HRP?” and “Do you have any recommendations for the HRP?”*

Clarification questions were used to clarify content and details presented in data collection sessions as recommended by Ritchie and Lewis (2003:164). An interview schedule with all the questions and probes is attached as Annexure 2 (pg. 193-194).

## 3.9 **Pilot study**

The data collection was initiated with a pilot focus group facilitated by the researcher to test the validity and reliability of the data collection tool’s open question and probes (Brink, 2010:153). Informed consent was obtained and documented in a consent form and the focus group discussion or individual interview was recorded and transcribed.

The opening question, *“How did you experience the HRP implementation at Paarl Hospital?”* was well understood and elicited the experiences of the study participants of the project. Validity was confirmed as the posed question answered the question to reflect reality (Hallberg, 2002:147). The question was not changed and this focus group discussion became part of the study sample and data set.

## 3.10 **Data collection**

Data was collected using unstructured focus group discussions, pair and individual interviews to reflect the experiences of role-players of the HRP project (Ritchie and Lewis, 2003:164). A camera was also applied as an instrument for collecting data by focussing research questions on description of aspects of reality contained in the photographs (Flick, 2009:246). The analysis of the photographic visual material was

triangulated with other methods and data, by linking the different sets of data in the process of analysis as a whole (Flick, 2009:449). Only photographs of the infrastructure and health technology installations were used.

Documents which were reviewed and analysed included the occupational health register; safety and security reports; client and staff satisfaction surveys; waiting time, cultural and client care surveys; adverse event registers; complaints and compliments registers; minutes of meetings which included statistical reports on bed occupancy, theatre cancellations, and allied health services. Reflection notes of staff on the revitalisation project written at strategic planning workshops and the red flag register kept at the HRP site project office of critical incidents were also included.

Triangulation according to Flick (2009:447) can be used in qualitative research as a research strategy. It was applied in this study in terms of methodological triangulation of different ways of collecting data; namely interviews, focus groups, document analysis, and photographic data. Brink (2010:118) recommends using a variety of sources in data gathering to establish internal validity.

Further triangulation to enhance result reliability (Brink, 2010:118) included two individual interviews at project sites of the Hospital Revitalisation programme, namely George and Worcester secondary public hospitals in the rural areas of the Western Cape; as well as two individual interviews at a selected rural private hospital and one district public hospital, which had undergone revitalisation during the same time frame. The triangulation matrix (Craig, 2009:204) is inserted in a chronological data collection schedule in Table 3.4.

**Table 3.4: Summary of Data Collection Process by Place, Venue and Method**

| Place | Venue | Data collection method |
|---|---|---|
| Paarl Hospital | ▪ Boardroom | FGD |
| Paarl Hospital | ▪ Training venue | FGD |
| Paarl Hospital | ▪ Boardroom | FGD |
| George Hospital | ▪ Hospital Office | II |
| Worcester Hospital | ▪ Training venue | II |
| Paarl Hospital | ▪ Hospital Office | II |
| Paarl Hospital | ▪ Hospital Office | II |
| Paarl Hospital | ▪ Hospital Office | II |
| Durbanville | ▪ Regional office | II |
| Paarl Hospital | ▪ Office | II |
| Paarl Hospital | ▪ Office | II |
| Paarl Hospital | ▪ Office | II |
| Paarl Hospital | ▪ Teleconference | II |
| Paarl Hospital | ▪ Site office | PI |
| Paarl Hospital | ▪ Office | PI |

Key:

FGD - Focus Group Discussion
II - Individual Interviews
PI - Pair Interviews

Table 3.4 summarises where the data was collected and the data collection methods used.

### 3.10.1 **Focus group discussions**

Data collected during focus group discussions, using open-ended questions and probes were recorded, after obtaining the informed consent of participants, and digital recordings were transcribed verbatim.

### 3.10.2 **In-depth interviews as data collection method**

Due to the experience and knowledgeable background in HRP of certain study participants, focus groups were not always appropriate and therefore individual interviews had to be conducted. Brink (2010:151) states that unstructured interviews will produce more in-depth information on the participant's beliefs and attitudes than can be obtained through any other data-gathering procedure and it was therefore deemed to be a suitable alternative.

Two in-depth pair interviews were conducted with individuals who formed a small team of two in their relevant departments and for whom individual interviews would have been repetitive in terms of data collection.

Although it was explained to participants that they could withdraw at any stage without any form of victimization and that participation was voluntary (Brink, 2010:35), none of the study participants elected to leave the process once the explanation had been given.

Study participants differed with regard to proficiency and fluency in English. Where necessary, focus group discussions or interviews were conducted in Afrikaans by the researcher who is fully billingual in these two languages (i.e. English and Afrikaans). Afrikaans is the more colloquial language in the geographical location of this study.

### 3.10.3 **Study participation**

Study participation is grouped and described in data collection groupings of focus group discussions, pair interviews and individual interviews in tables 3.5, 3.6 and 3.7.

**Focus Group Discussions**

**Table 3.5: Focus Group Discussion by Dates, Participants and Place**

| Focus Group Discussion number | Date | Number of participants | Place of Focus Group Discussion | Description |
|---|---|---|---|---|
| 1 | 6 October 2011 | 11 | Paarl | Consultant Team |
| 2 | 22 November 2011 | 11 | Paarl | Nursing management |
| 3 | 13 March 2012 | 10 | Paarl | Operational nursing |
| **TOTAL** | **3 focus groups** | **32 participants** | | |

**Pair Interviews**

**Table 3.6: Pair Interviews by Dates, Participants and Place**

| Focus Group Discussion number | Date | Number of participants | Place of Focus Group Discussion | Description |
|---|---|---|---|---|
| 1 | 28 November 2011 | 2 | Paarl Site office | Building contractor site and project management |
| 2 | 12 December 2012 | 2 | Paarl Hospital | Clinical heads: Internal Medicine |
| **TOTAL** | **2 pair interviews** | **4 participants** | | |

**Individual Interviews**

**Table 3.7: Individual Interviews by Dates and Places**

| Individual Interview number | Date | Place Interviewed | Description |
|---|---|---|---|
| 1 | 07 October 2011 | George Hospital | Quality Manager |
| 2 | 24 October 2011 | Worcester Regional Office | Deputy Director : Nursing |
| 3 | 14 November 2011 | Paarl Hospital | Assistant Director : Nursing |
| 4 | 15 November 2011 | Paarl Hospital | Deputy Director : Administration |
| 5 | 16 November 2011 | Paarl Hospital | CEO : Paarl Hospital |
| 6 | 6 December 2011 | Paarl Hospital | Clinical head: Emergency Medicine |
| 7 | 15 December 2011 | Durbanville | Deputy Director Monitoring and Evaluation |
| 8 | 19 December 2011 | Paarl Hospital | Clinical head: Theatre |
| 9 | 22 December 2011 | Paarl Hospital | Architect Project Manager Department Public Works and Transport |
| 10 | 18 April 2012 | Paarl Hospital | Acting Head of Radiography |
| **TOTAL** | | **10 individual interviews** | |

### 3.10.4 **Reflective journal**

A reflective journal was kept throughout by the principal researcher as yet another rich source of data (Craig, 2009:39) and included concept mapping. The journal served a vital purpose in the research as the steps were recorded of concept mapping (Craig, 2009:41). This included recording the general concept, free-form mapping, connecting ideas, revisiting the map and engaging in fixed-form mapping to rearrange ideas and make connections.

Field notes were taken in addition to recording interviews (Brink, 2010:153) and these provided content to the journal. Maps and diagrams may help develop interpretations and present the structure of the findings, especially a proposed model; Boeije (2010:125) holds that graphical representations of both interim results and final results are common.

## 3.11 **Data management**

After recorded verbal and written informed consent was obtained, the focus group discussions and interviews were recorded and transcribed verbatim by transcribing software. Once transcriptions were completed, it was necessary for the researcher to review these transcriptions (Ulin & Tolley, 2005:126) in terms of spelling and accuracy of transcription to get the data ready for analysis.

Transcripted digital recordings were re-listened to by the researcher, to ensure that transcripts were accurate verbatim reflections of interviews. Craig and Smyth (2007:173) state that when data sets come from transcribed interviews and open-ended questions, data quality should be checked against the digital recordings for clarification to prevent confusion and misinterpretation when the coding starts; leading to categorization errors.

All recordings have been locked away in a secure home office by the researcher and will be kept in a safe place for at least five years after completion of the study. After verbatim transcription of these digital recordings, transcripts were stored in a locked office cupboard that only the researcher has access to and are also available to the study supervisor on request to ensure confidentially. These recordings and transcriptions will be managed as confidential throughout.

### 3.12 **Data analysis**

Terre Blanche and Durrheim (2002:42) state that qualitative researchers collect data in the form of written or spoken language, and analyse the data by identifying and categorising themes. Qualitative methods allow the researcher to study selected issues in depth, openness and detail as they identify and attempt to understand the categories of information that emerge from the data.

Collected data was analysed using a qualitative content analysis approach to analyse and interpret collected data (Brink, 2010:170) to identify and link emerging themes. The qualitative content analysis approach (Goddard & Mellville, 2001:9) was used to analyse and interpret the data using the verbatim transcripts as data sets. Further analysis involved extrapolating themes from the text (Hallberg, 2002:144).

The qualitative data analysis steps followed were reading and re-reading coding, developing themes, and some interpreting, using triangulation to enable agreement of what study participants were saying in order to reflect reality to reduce and display/present results (Proske, 2007). The triangulation strategy was adopted for this study design for analysis and interpretation of data to ensure that it is trustworthy and reflects reality, which concerns validity in the study and contributes to research vigor (Hallberg, 2002:147).

Triangulation includes the combined use of two or more data sources as selected for this study. More specifically data triangulation was adopted by collecting the data from multiple sources i.e. various study participants; documents and photographs. The data sources provided an opportunity to examine how the project was experienced by the different individuals in the HRP setting (Burns and Groves, 2001:239).

Data was then grouped in a thematic cut and paste method with some level of interpretation using triangulation, and quotes were selected from the verbatim typed transcripts to substantiate the theme interpretation (Pope, Ziebland and Mays, 2000:114). This links to the suitability of the qualitative method which uses descriptions and explanations of uniquely human phenomena to generate knowledge from the reflections/perceptions of reality (Hallberg, 2002:54). The verbatim quotes are the reflections of reality in the minds of the study participants and would be used to substantiate interpretation.

### 3.13 **Data triangulation**

Global analysis as suggested by Legewie in Flick (2009:328) was applied by reading through the text, noting key words on the side margin of the transcript, marking central concepts or statements, noting and listing ideas, ordering themes and finally summarising the text key words. Global analysis was a preparatory step for the thematic coding of the text which followed to develop a set of themes.

Flick (2009:449) also advocates using triangulation in data analysis, and this was applied by using content analysis for interview data, a different approach to the photographic data sets and documents and lastly, linking the different data sets in the process of the analysis as a whole. This was achieved by looking for links on the level of the data sets (Flick, 2009:450) by analysing the themes emerging from the interviews and focus groups, the document review trends and the photographic data and linking the similar patterns.

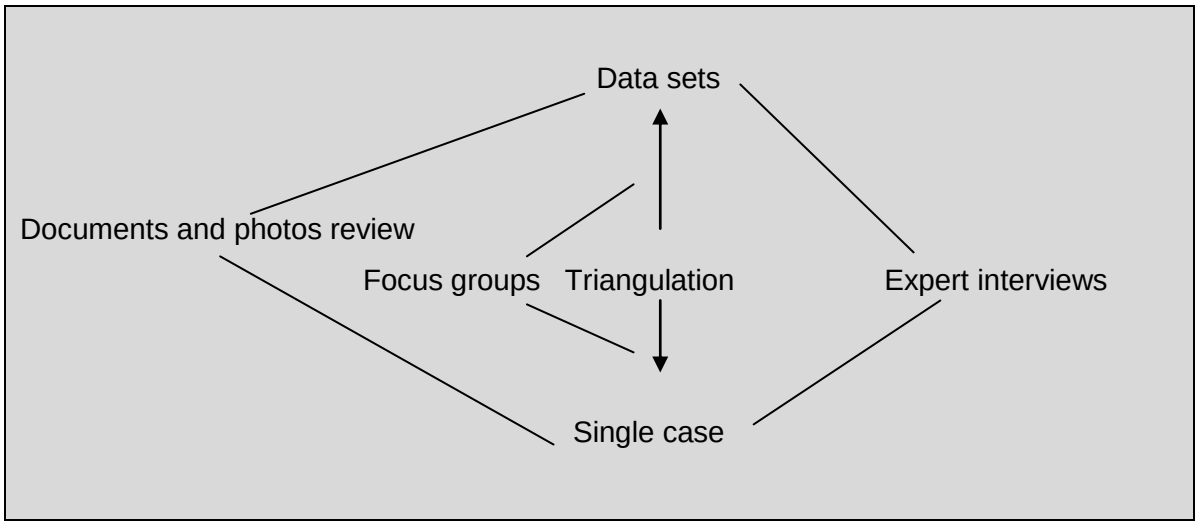



**Figure 3.1: Levels of Triangulation with Three Forms of Qualitative Data**

(Source: Flick, 2009:450)

Gillham (2005:13) defines this approach from different methodological standpoints as triangulation and if they converge it raises the researcher's confidence in terms of getting a true picture and the 'same fix'. If the different kinds of data from the different sources agree then simple, confirmatory triangulation would have been achieved according to Gillham (2005:29). This aspect will be discussed in Chapter 4 on results. An action plan for implementing the findings in order to effect change (Craig, 2009:204) will be noted in the recommendations Chapter 6.

## 3.14 **Limitations**

Limitations of this study include the use of the purposive sampling strategy which is criticized by Burns and Grove (2001:376) as having no way of evaluating the precision of the researcher's judgment of participants. The purposive sample can be too small to achieve theoretical saturation or too large to perform the detailed analyses of data required in qualitative studies.

The credibility of qualitative data analysis is also questioned in Burns and Grove (2001:593) and concerns raised about replicating the outcomes of the study, even when using the same data set. Bowling (2009:382) holds that another investigator should be able to analyse the data in the same way and reach the same conclusions. This was addressed by triangulation with a group of 65 senior post graduate health services management students; following an ethics and confidentiality briefing; who were given anonymous data sets to thematically code. Similar outcomes were documented.

Furthermore, the researcher applied reflexive thought (Burns and Grove, 2001:595) during data analysis which involved exploring personal feelings and experiences which may influence the study and integrated this conscious self awareness into the understanding of the study. To ensure meticulous records of the research process (Bowling, 2009:382), the researcher kept a separate reflective diary of feelings and interpretations.

Gillham (2005:10) further suggests that in a case study design qualitative methods are primary and that all evidence is of some value or trustworthiness. To enhance rigour and the generalisibility of the analysis sampling included a diverse range of individuals (Bowling, 2009:382). However, in terms of validity it is noted by Oliver (2004:46) that having a digital recorder present may have affected the manner and content of what interviewees said.

## 3.15 **Summary**

This chapter described the research design and methodology applied to this study. This study was a descriptive case study design using a qualitative approach to explore the experiences of participants in a public secondary hospital revitalisation project. Study participants were all role-players in the HRP process within a given time frame. This chapter described the research methodology in that it gave an overview of the data collection procedures used in this study; and how data was analysed and managed, using a qualitative content analysis approach. The next chapter will present the findings of this study.

# CHAPTER 4
# RESULTS

## 4.1 Introduction

This study aimed to critically evaluate the HRP implementation at Paarl Hospital and to develop a framework for effective HRP implementation. An overview of the hospital revitalisation process and a literature review was undertaken. This chapter will present the results of the study, from the data collected and collated from the various data collection methods described in the previous chapter.

## 4.2 Data presentation

Data is presented in the themes that emerged during the data analysis; using the content analysis technique; from the data collected through the following methods: Focus Group Discussions (FGD); Pair Interviews (PI); and Individual Interviews (II); document and photographic reviews; which will be presented using descriptions. Each theme is described with an interpretation thereof. Quotes will be presented to substantiate the emerging themes with the data source listed in brackets. For the purposes of reporting the results accurately, some quotations have been translated from Afrikaans to English.

## 4.3 Emerging themes

The following themes emerged consistently during the application of the content analysis technique, namely Infrastructure Development, Health Technology, Organisational Development, Quality Assurance and the Psychiatry Intervention. Sub-themes of each are printed in italics and described with verbatim quotes from the data.

### 4.3.1 Infrastructure Development

The following sub-themes where identified and defined during analysis of the Infrastructure Development theme:

#### 4.3.1.1 ***Infrastructure interface with health care***

The interface between the construction of a multimillion rand infrastructure revitalisation project and a fully operational hospital, posed a particular challenge to all categories of staff. Boundaries between builders and hospital activities of staff and clients were not experienced as firm enough.

Snagging, which is the process of identifying flaws before and after commissioning of clinical areas was seen as a tedious process which failed to reach conclusion.

Snagging was seen as a "*never ending story*" with concurrent snagging or allowing clinical staff access to snag clinical areas during construction viewed as favourable; as well as an electronic snag register on Excel designed by the project manager.

*"Snagging took a lot of time and we as ward sisters did not feel we had enough experience to do it. Snagging should be done by professionals in building construction."* (FG 3)

The electronic snag register was developed by the DoH project management to keep track of unresolved snags. This register progress was tracked at the weekly decanting meetings.

*"The electronic snag register developed at Paarl Hospital worked well, as well as the decanting meeting to keep parties informed of what was happening."* (II 6)

The scope of the project in terms of infrastructure is attached as Annexure 9 and 10 (pg. 203-204) depicting the initial existing site plan and the proposed new site plan on completion. The photographs depicting various phases of the infrastructure are included in Annexure 11 (pg. 204-208) attached.

The construction activities had a challenging effect on hospital infection control operations in terms of dust, dirt, and debris, potentially carrying bacteria and fungi. The constant noise of construction activities prompted complaints from patients and clinical staff and infrastructure occasionally had to be halted when theatre cases where underway.

#### 4.3.1.2 ***Decanting difficulties***

Decanting, which involved moving clinical or service departments into temporary accommodation during the revitalisation process of that specific department, emerged at every data collection method as the greatest challenge in an operational hospital.

*"Decanting was exhausting, with little help, constant date changes and huge challenges to keep clinical areas operational during decanting."* (FG 3)

Insufficient areas in which to decant; interruption of services such as electricity, water, sewage, medical gas and oxygen during decanting; overcrowding and unsatisfactory ergonomics in decanted areas; and high levels of conflict in decanting decision making was experienced. Eventually, weekly decanting meeting were initiated by the DoH project manager between the clinical staff and contractors.

*"The weekly decanting meeting which was initiated was a positive way of dealing with decanting."* (FGD 2)

#### 4.3.1.3 ***Design brief considerations***

The architecture and look and feel of the hospital design was viewed positively by the clients, community and staff alike; and there were many participants who voiced that it contributed to a quality working and healing environment.

*"The use of natural light in theatre is a positive that enhanced staff quality."* (II 7)

Various specific installations caused challenges e.g. doors, air cons, lifts, fire specifications, access control and pest control (pigeons). The lack of ability of clinical staff to visualise plans in 3-Dimensional view, led to many planning and design issues, errors and omissions.

*"Hospital flow should be optimal in planning, with standardised layout plans for clinical areas... and durable fittings... and practical interior decorating."* (II 5)

The local fire department was an important part of reaching fire safety compliance. The local fire chief did numerous compliance inspections. All shift teams of the local fire station did familiarisation tours of the new areas and a full set of hospital plans were given to the fire station.

The new fire alarm system was installed with lights flashing in the switchboard area to alert management of fires. However, with blind switchboard operators in the hospital employ, the electrical engineer had to redesign the alarm system to be sound activated. The blind switchboard operators are now alerted by a siren and then call the maintenance team to investigate. The local fire station is also linked to the fire alarm system of the hospital.

Infrastructure design issues that emerged from exit evaluations of National Health included:

- **Storage**: Workshop storage inadequate; Inadequate storage space in wards for cleaning trolleys and wheelchairs; and Linen rooms space not adequate;
- **Doors** were too narrow for easy movement of patient beds;
- **Finishing**: Melamine in ward kitchens and counter tops not durable and prone to chipping;
- **Lifts**: Service lifts only serve one block (B) and initially gave huge technical problems;
- **Flow**: Theatre flow blocked by CT Scan late installation; and
- **Space**: Out patients Department proved to be too small due to the exponential growth in patient numbers since planning phase.

*"Lifts must be adequate to fit patient beds… air conditioners must take geographical setting and external temperatures into account… and metal corner protectors should be mounted on door frames, wall corners and workstations."* (PI 2)

In a draft document collated by the Western Cape Government Health HRP Deputy Director of Infrastructure in 2012, the following comments and recommendations were adapted, as echoed by research participants in terms of design brief considerations (FG 1 and 2) as key focus areas for future HRP projects:

- Acoustic and noise control;
- Adaptability (building flexibility);
- Air quality;
- Building regulations adherence;
- Cleaning and access strategy to external windows, gutters and roofs;
- Communications and circulation (patient flow);
- Design life of materials;
- Disabled access (equal access for patients, visitors and staff);
- Doors and ironmongery to be spacious and durable;
- Durability of materials and components;
- Electrical emergency equipment to include a generator of adequate capacity;
- Fire safety and fire resistance of materials;
- Fixtures, fittings and furnishings to be robust;
- Ground water and dampness to be considered in basements;
- Heating and cooling to be adequate for specific external environment;
- Integration of art that is culturally acceptable;
- Interior design (special materials, light and colour for a luminous healing environment);
- Internal / external landscaping important for healing environment;
- Internal finishes – walls, floors and ceilings to be durable, washable and safe;
- Maintenance regime to be established from the outset;
- Natural and artificial lighting to be included;
- Patients, visitors and staff comfort paramount;
- Pest control measures (bird proofing, etc.);
- Quality control procedures during construction;
- Radiation protection in Radiography;
- Sanitary ware in staff and patient bathrooms to be tamper proof;
- Security to be considered very carefully as it is a major issue during implementation and future;
- Services in ceilings should take account of service areas below and access challenges;
- Site access, external circulation, car parking and building access;
- Structural loadings (future heavy equipment, etc.) and unplanned areas utilized for storage to be considered by civil engineer;
- Sustainability of maintenance and consumables to be considered;
- Ventilation and ventilation systems to address TB prevention;
- Wall protection with bumpers and corner protectors;
- Way-finding and signage to be done timeously and in all local languages; and
- Weather protection of building.

#### 4.3.1.4 ***Trust relationships***

There were numerous role-players in the implementation with inevitable personality conflicts. The clinical staff did not always feel that their opinons were valued. A measure of low trust and confidence in the design team was expressed by hospital staff.

*"Clinical staff's needs where not considered, ...it was difficult to get co-operation... communication from contractors was not adequate... emotions ran high between the professional groups when unexpected and uncontrollable problems occurred... it felt like construction consultants looked down on government institutions... plans were made without involving role-players..."* (Reflection notes: P1, P3, P5, P14, P20)

Nursing staff felt strongly about being included in the design of clinical areas (Lourens, 2014).

"*All staff, especially nursing, must be involved from day one with the design."* (FG 3)

The relationships between the hospital workshop in particular and the consultant team were strained by the following:

- Documents and plans depicting the building 'as-builts' came in "*drips and drabs*" despite an official handover date meeting with a planned consolidated handover with commissioning certificates;
- Fire sign-off was delayed by non-alignment of Provincial Fire Marshall and local fire chief requirements which proved problematic for compliance; and
- Training was not done with stringent control of workshop training registers (plumbing, aircons, electrical) as required.

The contractors and professional consultants also expressed frustration in terms of their relationship with the DoH clients.

*"As the contractor, it was a big challenge to keep multiple clients happy… communication was lacking at times… and the clinical staff didn't always trust our input."* (PI 1)

*"There was a lack of appreciation… for the consultants… by the client."* (FGD 1)

What emerged as positive was the weekly meetings, the weekly 'Projectcast' sent out by the DoH project manager, the monthly site reports and inspection, the visibility of the hospital CEO, and the enthusiasm about the project which eventually cemented better working relationships.

*"Communication, feedback, planning, involving all parties… in-depth planning with relevant stakeholders (nursing, clinicians and administrative staff)… keeping staff informed about the status of the project… will streamline the working relationship management."* (Reflection notes: P4, P5, P7, P13, P20, P21, P24)

The diagram shown in Figure 4.1 below represents themes that emerged from the data on the infrastructure development deliverable of the project which included: 1) The infrastructure interface with the hospital, causing challenges of dust, dirt, debris and noise; unclear boundaries on site; and tedious snagging; 2) The difficulties experienced with decanting planning and implementation; 3) Design brief considerations for a variety of aspects of the infrastructure; and 4) The precarious relationships between the role-players.

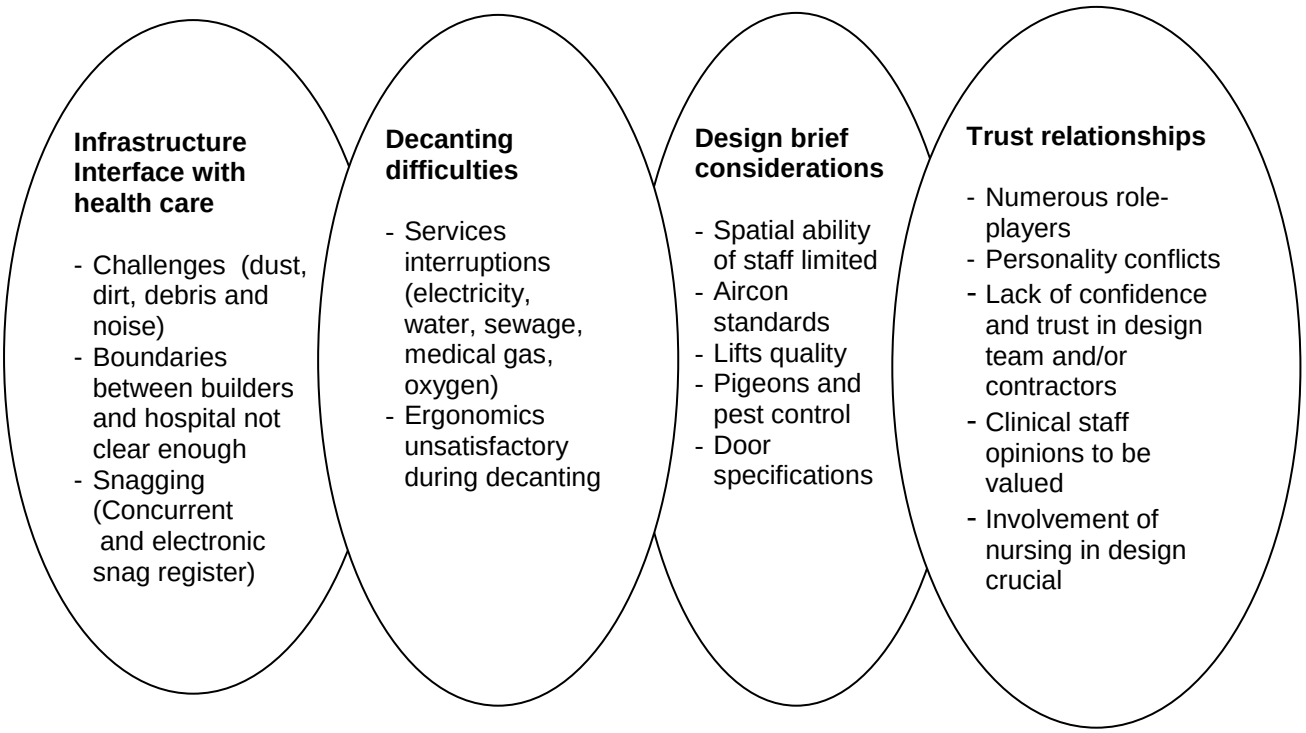



**Figure 4.1: Diagrammatic representation of Infrastructure Development**

### 4.3.2 **Health Technology**

In the health technology theme the following recurring sub-themes emerged:

#### 4.3.2.1 ***Infrastructure and Health Technology installation interface***

The interface and alignment of health technology installation and the construction schedule was a major challenge, especially where HT was not procured through the contract and delays as a result of specification and tender processes were caused.

"*Heath Technology should be included in the contract. Installations of HT procured on tender did not align well to the GANTT chart of the contractor.*" (FG 1)

Decanting of departments with a lot of health technology equipment such as radiography posed a particular problem, especially when their area was under construction and some items had to be put in storage.

"*Mobile X-ray units were parked at strategic areas, which worked well as it prevented moving X-ray equipment or patients through less accessible temporary or uneven walkways.*" (II 9)

Continuous communication, meetings facilitated by DoH between engineers, supplier, agents and relevant clinical staff with clear timelines and decisions documented seemed to eventually facilitate resolution of these issues and final commissioning.

*"Health Technology alignment with construction is very important."* (II 7)

#### 4.3.2.2 ***Pendant problems***

Pendants are usually ceiling mounted shafts which protrude into the clinical area and supply critical medical services such as oxygen and suction. The pendant installations in Neonatology, Theatre and the High Care proved to be problematic and challenging to respondents for various reasons.

*"The more technical the Health Technology installations, the more problems it caused…"* (FG1)

In Neonatology the low position of the pendants, due to limited ceiling space in a certain area, led to poor ergonomics and head bumps of staff. Furthermore, the planning of services to each pendant of oxygen, medical gas, and suction had not been verified with the current neonatal pediatric specialist and therefore did not meet clinical requirements. After escalation to DoH HRP head office, the costly and tedious process was embarked upon, whereby the Neonatal Unit was decanted to Pediatric High Care and the pendants were transported to a factory in another Province, shortened, services adjusted, re-installed and re-commissioned.

*"Standardisation and norms need to be in place to avoid design errors."* (II 6)

Fixed Theatre pendants were installed and positioned overhead walkways of busy areas, such as the area where sterile packs are retrieved and had to be re-installed elsewhere. Temporary wall mounted services were eventually installed and movable double armed pendants favoured for use in theatre.

The High Care pendants installation proved to be time consuming and challenging for respondents. The tender was awarded and the pendants had to be imported, causing delays when parts were held up in customs; engineers had to fly out from other countries to assist with technical trouble shooting; and the hydraulics proved to require a lot of fine tuning, staff training and daily manipulation (whether in use or not) to prevent seizure of mechanisms. The High Care Unit with its double arm pendants are pictured on Annexure 12 (pg 209).

*"Items that are procured must have a proven track record."* (II 4)

#### 4.3.2.3 ***Health Technology innovation***

Late requests occurred as health policies changed, or community needs and profiles changed. The CT scanner in Radiography was approved at a late stage in the project and resulted in design change requests which were written up as verification orders and had cost implications; as well as serious implications to the flow of patients to theatres, as walkways had to be enclosed to accommodate the specifications of the CT scanner. In the case of health policy changes which made audiology services imminent at secondary level, the request came too late for the HRP contract and the hospital had to

make structural changes and accommodate the post of an audiologist and the audiology equipment at their own cost. The CT scanner is pictured in Annexure 12 (pg. 209).

Participants fell strongly that in the specifications and selection of health technology equipment, durability and quality was paramount, as was doing costings on the consumable items used by different equipment and an analysis of the long term costs.

*"Durability and quality rather than aesthetics are important."* (II 8)

Participants recommended that standard operating procedures be devised for Health Technology equipment and ownership of maintenance and care to protect these assets be promoted.

"*Hospital Management must take ownership of Health Technology…, staff must be trained in the use of new equipment and documentation of operating procedures, training and assets and maintenance must be in place."* (II 2)

Themes that emerged from the experiences of the Health Technology installations are summarized in this diagrammatic representation (Figure 4.2) and included Infrastructure and Health Technology installation interface challenges, the various types of pendant problems; and Health Technology innovation during implementation and the future planning thereof.

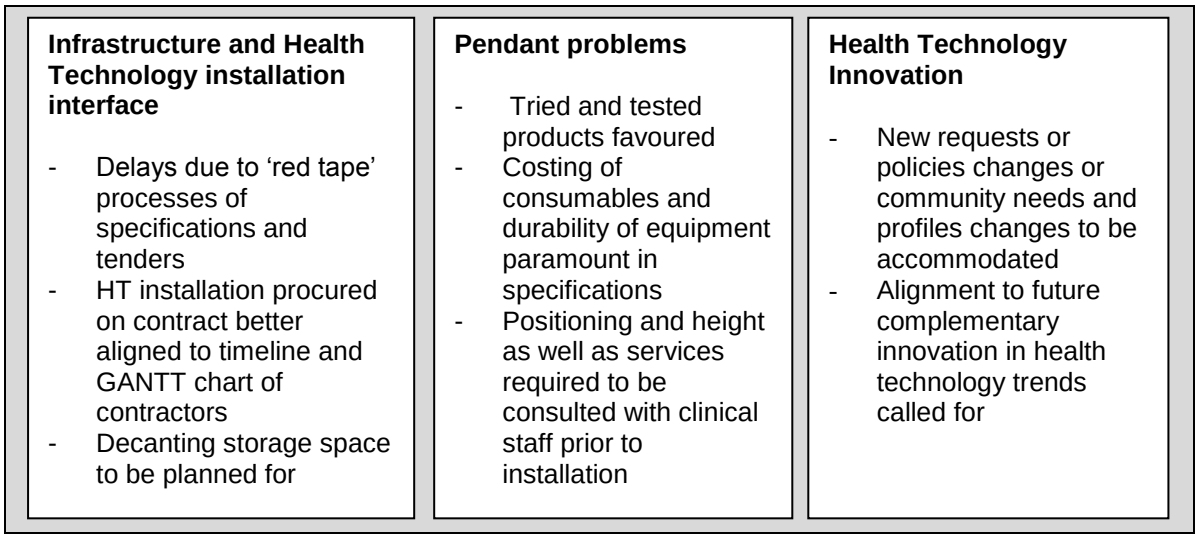



**Figure 4.2: Diagrammatic representation of Health Technology**

### 4.3.3 **Organisational Development**

The Organisational Development theme elicited the following sub-themes:

#### 4.3.3.1 ***Staff and community cohesion***

Staff described the hospital revitalisation as "*highly, stressful", "a nightmare"* and alluded to a sense of endurance and pulling through together that developed amongst staff under the very difficult revitalisation circumstances.

*"HRP was frustrating… exhausting… challenging… exciting… it was a new experience and we learnt and grew together with the project."* (Reflections notes: P2, P6, P7, P23)

Participants also experienced a strengthening of community links by the Local Steering Committee's (LSC) role in the project implementation. The Local Steering Committee and the Hospital Facility Board were the platforms available to communicate with the local community about the inconveniences experienced during the construction phase. The LSC played a role in selection of infrastructure learnerships and the Hospital Facility Board was very supportive and initiated an annual Hospital Ball and Golf Day, engaging the hospital staff with local community members and businesses.

The nursing learnerships, which were initially funded by the HRP and initiated as result of advocacy on the part of the LSC, provided opportunities to local community school leavers to enter the nursing profession and a number of these individuals eventually applied successfully for nursing assistant positions at Paarl Hospital, staffing the expanding hospital they had learnt in.

The Hospital Board, furthermore, enhanced quality issues by monitoring service delivery issues reflected in the media, and by interrogating regular reports on the project and quality management during revitalisation.

*"The impact on the community is obvious… the Paarl Hospital project was a wonderful project with an energetic construction team…. a CEO who backed the project… and a pleasant atmosphere on the site… positive feedback was received from the community."* (II 6)

#### 4.3.3.2 ***Strategic empowerment through change management***

The organisational development deliverables of the HRP project were viewed as favourable. Staff felt that the change management intervention was crucial in preparing staff to some extent to the massive changes they had to grapple with.

*"There were a lot of change management challenges and the change management workshops impacted on resistance to change."* (II 3)

Participants acknowledged the tensions that arose around changes, which clinical staff felt were imposed on them and which did not always align to their priorities; as well as the uncertainty of some changes.

*"Change management was a big issue... and played a big role... certain staff were resistant to the change, and change management workshops are very important."*
(II 4)

The bi-annual strategic management workshops saw the development of a new vision, mission, service values and slogan for the hospital. Four (4) strategic teams namely 1) leadership; 2) transformation; 3) training; and 4) clinical, drove the objectives of the strategic plan. This was facilitated by a systematic approach to total management used in the strategic planning workshops as pictured in the circular Figure 4.3 below.


**Figure 4.3: A Systematic Approach to Total Management**

(Source: Stellenbosch University, 2005)

The matrix of active meetings consolidated during this time is depicted in Annexure 13 (pg. 210).

*"There was a massive increase in workload during revitalisation for hospital management... around 98 extra meetings per annum, excluding ad hoc meetings for urgent construction related issues."* (II 3)

Organisational Development interventions and change management were viewed as positive, breaking down silos and impacting on frontline skills. The format of the change management workshops included exploring the losses and gains of the proposed projects, the stages and emotions to expect during a major change; and how to remain professional throughtout the change. This approach was viewed favourably by participants. Notably an annual skills audit was conducted and the training team developed the organisational development and training strategy around the training needs gap analysis.

*"Despite all the challenges, ...the traumatic, stressful, disruptive, infuriating, exhausting, frustrating, confusing and tiring times, ...it was highly rewarding when areas were completed and handed over to hospital management... it was a interesting experience and we learnt a lot."* (Reflection notes: P15, P17, P23, P25)

The results indicate that through the change management and strategic planning workshops, utilising multi-disciplinary strategic teams, the hospital met the specific objectives of the HRP PIP. The measurable outputs are tabulated in Table 4.1.

**Table 4.1: Organisational Strategy Outputs of Paarl Hospital**

| Sub-component | Specific objectives | Measurable outputs/indicators |
|---|---|---|
| **Organisational Strategy** | Develop vision and mission statement | Vision and mission statement available.<br>The leadership strategic team spearheaded the development of the vision.<br>'*To be the hospital of choice for both staff and patients by being a centre of excellence.'* |
| | Develop hospital strategy and business plan in line with provincial strategy | Each strategic planning workshop produced a strategic plan.<br>The annual performance plan was applied to develop business plans. |
| | Develop an approved hospital staff establishment, which enhances service delivery | Copy of approved hospital staff establishment available. |
| | Develop system for co-ordination for all committees within the hospital | Many new required committees established are captured in a matrix document in Annexure 13 (pg. 210) |
| | Assess the service culture of the hospital and ensure development of service culture that enhances service delivery | Copy of survey done which included an observational survey and strategy to develop a particular service culture.<br>The transformation strategic team was instrumental in this development and devised the following value statement below pertaining to transforming the organisational culture. The strategy included daily use items such as mousepads and memo note holders displaying the particular cultural aims:<br><br>**Paarl Hospital Service Values**<br><br>*We aim to RESPECT the DIVERSITY of all role players involved in our service delivery efforts*<br>*We aim for QUALITY health care service delivery by taking OWNERSHIP of the entire client, infrastructure and assets*<br>*We aim for excellent COMMUNICATION and UNDERSTANDING of our internal and external client.*<br>The Batho Pele concepts of *'We belong; We care and We deliver*' was a backdrop to this cultural shift. |

**Table 4.1: Organisational Strategy Outputs of Paarl Hospital (continued )**

| Sub-component | Specific objectives | Measurable outputs/indicators |
|---|---|---|
| **Organisational Strategy** | Develop values for the hospital and strategy to enforce them | Copy of values and implementation strategy developed.<br>The leadership strategic team also developed institutional values which are strategically displayed on pull-up posters at all hospital entrances. |
| | Develop risk management plan which covers both clinical and non clinical | Risk management plan developed in terms of IPC and occupational health. |
| | Ensure that the hospital has disaster and emergency preparedness plan | Copy of disaster and emergency preparedness plan, which was developed using major incident management expertise in emergency medicine and occupational health. Input from the fire marshal, occupational health medical and nursing expertise was included. |
| | Ensure that the hospital have a functional change management plan | Change management plan was developed at project initiation in 2006 and implemented throughout. |
| | Ensure that the hospital has a security policy | Copy of security policy was developed by services management and security services are outsourced. |
| | Ensure that the hospital operates within all legislative documents applicable in running the hospital | List of legislative documents available. A library of legislation files was established in the administration component. |
| | Ensure that the hospital has yearly updated maintenance and replacement plan | Copy of maintenance and replacement plan was developed by outsourcing to an asset maintenance management company working closely with the maintenance department. |
| | Ensure appropriate and suitable staff establishment according to the needs of hospital is developed | Approved staff establishment, updated annually depending on available budget, however available budget precluded filling all posts. |
| | Ensure that the hospital have clear reporting structure, which goes with accountabilities | Copy of an approved reporting structure which is displayed in an organogram. |

The process of bi-anual strategic planning was embraced by hospital management and the managers interviewed for this study indicated that it would be continued.

Furthermore, the strategic planning workshops enabled hospital management to integrate the establishment and implementation of functional business units (SA DoH, 2011:1) due to the multi-disciplinary staff mix available. The Strategic Planning workshop was applied to launch the concept of the team taking collective responsibility for the allocated budget and the model of dual accountability of staff to their discipline (Head of Department) and their functional area (FBU manager). This allowed the hospital to commit to ensure that FBU's became a functional reality at Paarl Hospital and realise the principle of decentralised management with the appropriate delegated managerial authority and accountability.

HRP funding also allowed for the design and launch of a website for Paarl Hospital, www.paarlhospital.co.za.

#### 4.3.3.3 ***Human resource restrictions***

Non-alignment of Human Resources with HRP infrastructure and bed capacity increases, proved highly frustrating for staff - 674 posts instead of over 900 required to run the enlarged hospital were funded.

*"As soon as the HRP plan is tabled, the human resources plan with relevant funding must be in place ... staff morale stays low when staffing is inadequate for increased bed capacity."* (FGD 3)

Human Resource non-alignment to the expanding hospital service was marginally bolstered by the nursing learnerships, which were initiated by HRP funding. The concept of 'growing your own timber' was applied by selection and recruitment of local candidates for nursing learnerships and filling any vacant nursing auxiliary posts with these trainees on completion of their studies.

*"Hospitals are being built, but there is no funding for staff."* (II 7)

Paarl Hospital implemented a volunteer programme in 2007 as a response to the rapid changes brought about by hospital revitalisation and the resultant expanded services. Innovation in service delivery and organisation is defined as novel ways of working that are directed at improving health outcomes, administrative efficiency, cost effectiveness or users experience and that are implemented by planned and co-ordinated action. The value of volunteers is viewed through the lens of impact on efficacy and quality of care,

which stands to benefit public health management. The volunteer programme required co-ordination and some secure funding to remain sustainable, but was a huge benefit in terms of human resource supplementation, organisational development, as well as gainful employment and development of previously unemployed volunteer programme participants (Lourens, 2013).

#### 4.3.3.4 ***Professionalism promoted***

The hospital revitalisation provided an opportunity to transform the service culture and promote a high standard of ethics in the workplace. The Public Service Commission's code of conduct document, as mandated by the Constitution Act no. 108 of 1996, was used as a training aid in the professionalism workshops for minimum expectations about acceptable behavior and values and principles for public service employees.

The establishment of an ethics committee at Paarl Hospital was another milestone in promoting ethics in the workplace, and encouraging public servants to think and behave ethically. The establishment of this committee was preceded by a purposeful intervention presented at the strategic workshops where clinical heads, top management, nursing leadership, allied health and administrative management were present to absorb the ethical guidelines given.

The numerous OD training interventions funded by HRP were considered crucial to the turnaround in professional frontline skills required with the changing face of the hospital. Courses included client care, frontline skills training and professionalism workshops.

An innovation noted in frontline training included pre-assessment of clerical staff at their workstations, followed by a training intervention, as well as a post course assessment with 'mystery visitor' evaluations of reception areas.

*"The frontline training during HRP implementation had a huge impact on professionalism."* (FGD 2)

A new switchboard was installed as part of the organisational improvement brought about by the HRP. However, the logistical implications of this 'PABX, Nortel' system were huge. It is recommended that a specific person drives such a system from within the hospital. A staff member from the services department had to find ways of informing the entire community of the new telephone numbers. Key community institutions such as the local police station; magistrates' court; fire brigade; private hospital and local authorities were notified; as well as articles placed in the local newspaper. Monthly meetings were held with the electrical engineer to ensure smooth transition from the one system to the other. Pin codes were given to staff on signature for acceptance and fax numbers were also re-done. All numbers had to be manually entered onto the new electronic system, which was extremely time consuming.

Quality improvements included one number for the hospital, the ability to call staff directly on extensions from external lines and not all go through the switchboard. The 'Smile' programme was also installed on the desktop of the computer linked to the switchboard with voice prompts for the blind switchboard operators. Not without challenge, the installations were marred by a groundwater flood in the basement which caused damage to some operational equipment on the new system. Strict control on the electronic desktop linked to the system had to be implemented, as personal software is not permitted to be loaded.

The new eight (8) telephone lines to the hospital, now all come into one central number, which has been listed with the telephone directory company. The switchboard operators were also trained in client care.

A new safety system with CCTV cameras, and monitors for security officers was also installed, enhancing hospital safety and security. Human resource funding did not make provision for full time monitoring of the system in the basement, which is a constraint, but recordings can be viewed retrospectively after theft or other related incidents. The security officers in the emergency centre and at the main entrance are able to view the closed circuit camera displays in their vicinity. Photo identities of staff for swipe card access into the building were made to enhance safety in terms of accurate identification of legitimate staff.

Hospital values were owned by the leadership strategic team, developed and displayed at the hospital entrance. The Hospital values developed during HRP implementation were as follows:

**Integrity:** Being honest, sincere and having strong moral values, respecting diversity guiding your actions at work.
**Loyalty:** To be faithful towards the employer by supporting its vision, mission and objectives.
**Efficiency:** The ability to achieve the desired result without wasting time and money, taking ownership and rendering quality health care.
**Teamwork:** Working together as a team, to achieve the hospital's objectives.
**Accountability:** Assumption of responsibility for decisions, actions and consequences.
**Compassion:** To be empathetic towards patients and staff, at all times.

Grouped here in Figure 4.4 are the themes that emerged with regard to organisational development during HRP implementation, which resulted in the experience of staff and community cohesion; strategic empowerment of management; with some discord in allocated human resources to the new services; and professionalism promoted through client care and professional image training.

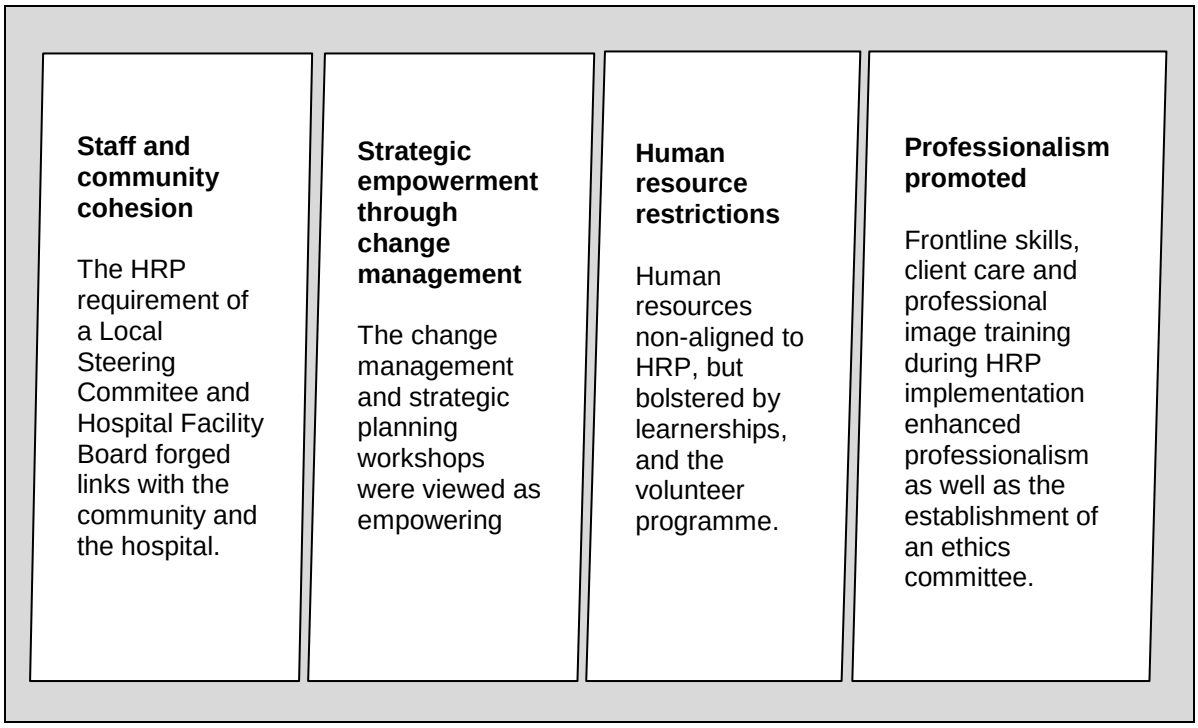



**Figure 4.4: Diagrammatic representation of Organisational Development during HRP**

### 4.3.4 **Quality Assurance**

Quality Assurance emerged as a dominant theme in the HRP experience of participants. The Quality Policy (Circular H 122/2002) (DoH, 2002) was implemented at Paarl Hospital as a key project deliverable. The implementation of the Quality Policy at Paarl Hospital is attached as Annexure 14 (pg. 211). The experience of research participants will be grouped in client, staff and technical quality sub-themes.

#### 4.3.4.1 ***Client quality compromise***

Clinical staff felt that quality of care to clients was compromised in various ways by cramped decanting clinical areas, the noise and dust of construction, interruptions in services, and cancellation of theatre lists, poor demarcation of building areas reducing security and a long waiting time for way-finding signage.

*"Clients were frustrated with noise and dust… and upset by jackhammers."* (FGD 3)

Decanting was raised as a particular area of concern in terms of client quality and many clinical services had to be rendered, albeit temporarily, in very cramped conditions.

*"The emergency centre decanting was the most shocking with patients seen in a 'bush hospital' set up."* (II 8)

Over the implementation period, however, the client satisfaction increased notably with regard to tangibles (physical infrastructure and equipment) and assurance. A detailed explanation of client satisfaction specifications; questionnaire and result summaries from 2005 – 2011; and lessons learnt is attached as Annexure 15-18 (pg. 212-218).

*"Communication with clients, and telling them what it was all about, helped to calm them, because they knew it was an improvement for the community."* (II 4)

The physical infrastructure improvements which enhanced client satisfaction and quality are photographed in Annexure 19 (pg. 219).

An internal complaints policy flow chart to achieve local resolution of client complaints, (Annexure 20, pg. 220) was developed; as well as a resolution complaint checklist (Annexure 21, pg. 221) to track complaint resolution. An informal complaint form was developed to record bedside, verbal and telephonic complaints (Annexure 22, pg. 222). Client feedback forms were developed and provided in wards for additional patient engagement (Annexure 23, pg. 223-224) and feedback.

Client satisfaction with the food services remained fairly good, despite decanting of the main kitchen. A 'tray survey' (Annexure 24, pg. 225) was implemented in the wards by the principal dietician appointed during revitalisation, as a quality initiative. The Food Services went on to get a gold audit status by practical completion.

Service Standards were developed in the following selected domains:

- Hospital Workers Rights;
- Patient Rights;
- Batho Pele Principles;
- Reception;
- Signage;
- Disability Access;
- Redress;
- Staff identification;
- Cleanliness;
- Safety and Security;
- Access to Emergency Mental Health; and
- Discharge Information.

See Annexure 25 (pg. 226-228) for the detailed service standards which the hospital management selected to focus on and developed for implementation during revitalisation and beyond.

#### 4.3.4.2 ***Staff quality complications***

The HRP implementation proved very trying for staff and tested their endurance.

*"The HRP project was stressful..., especially the decanting... and really tested the endurance and stretch of staff."* (II 4)

Safety and security was compromised by multiple entrances; unclear boundaries between construction and hospital areas on site; and staff endured personal belonging theft including cars.

Staff quality was compromised in terms of infrastructure related workplace injury, added stress and cramped decanted areas.

*"The decanting was exhausting for nursing staff, …moving wards with little or no help…, and keeping wards operational with no halt on admissions!"* (FGD 3)

A comprehensive list of 41 reported and recorded workplace injuries is attached as Annexure 26 (pg. 229-231). Staff workplace injuries during implementation related to Infrastructure Development with slips, falls and even lacerations and fractures incurred; and Health Technology related were most notably the pendant positions which caused

numerous staff head bumps, but also some other old and new equipment which caused injury over the 6 year period.

The reported workplace injuries were directly linked to construction related safety issues. Demolition of the buildings saw windows broken behind a clerk's back while seated; release of asbestos lagging to which staff were exposed, and release of spores with resultant increase in mould formation on walls in clinical areas such as theatre, posing an infection control risk.

Many incidents were not reported as official workplace injuries but the ones recorded in the occupational health register included: slips and falls on uneven parking areas or temporary walkways with poor housekeeping of contractor and poor lighting playing a role, resulting in strains and sprains; ceiling panels which fell on a staff members head, following a water leak resulting in a laceration and 7 stitches; numerous near-misses of ceiling panels falling in clinical areas were reported in the 'red flag' register; numerous soft tissue injuries when nursing and medical staff bumped their heads on neonatal pendants installed at the incorrect height; hand and arm injuries which occurred during decanting when staff assisted to move furniture, resulting in an arm fracture; various hand injuries; and isolated incidents of a newly installed security gate, bedside barriers and shelving which fell on staff members, causing contusions and abrasions.

Another outcome of the HRP process was that the health and safety representative committee requested a slot on the 2 weekly Broad Management meeting to personally convey their concerns during construction to management about various issues such as the dust and pest control in areas such as the central sterilizing department; incorrect/faulty fire equipment and water supplies not connected to some fire hoses; omission of burglar bars, comprehensive forensic guidelines and personal protective equipment in the mortuary; mounting of sharps containers; safety and security issues; emergency exit planning; and many more.

A more detailed occupational health and safety inspection report checklist was developed during revitalisation by the occupational health committee chair, with input from other members. The checklist is attached as Annexure 27 (pg. 232-233).

The Occupational Health Services developed over the project period, as reflected in Annexure 28 (pg. 234-235) with the culmination of the appointment of a full time Occupational Health nurse in the month of practical completion i.e. 1 March 2012.

Needle stick injuries are always an occupational risk for healthcare professionals and even support staff in any health facility. During the revitalisation period, the reporting and follow up was streamlined by a new pamphlet (Annexure 29, pg. 236-237), which was designed to track these occupational health incidents. The side-effects of the ARV (anti-retroviral) drugs were also provided to staff in a pamphlet form as a quality staff initiative (Annexure 30, pg. 238-239).

Paarl Hospital is immersed in a high incidence Tuberculosis Health sub-district. Tuberculosis amongst staff was identified as a potential risk, especially considering the overcrowded, decanting situations and the unsatisfactory enginering design of ventilation and aircon systems to adequately address TB prevention. At various times during HRP implementation, however, the QA initiatives of the HRP at Paarl Hospital included TB training and awareness sessions, as well as the development of an intervention strategy to enhance TB control strategies in the workplace.

An outsourced staff wellness programme was well marketted during HRP implementation, but underutilized. The employee assistant programme offered a wide range of services including counselling, financial advice, management support, coaching to management, group debriefing sessions, etc. Some issues were raised by staff about the staff wellness programme:

- Confidentiality issues;
- Staff not satisfied with service;
- Lack of marketing of staff wellness programme;
- Staff utilizing social workers more for e.g. marital problems
- Delay in face to face referrals;
- Staff not aware of services;
- Managers referring to hospital Social Workers and not to staff wellness programme. If the choice were given to staff, Social Workers would be chosen when staff are in a crisis, but the time constraints of Social Workers do not make this possible; and
- Interpersonal issues not resolved by manager, then referred to Social Workers with HR and Labour issues, which are not appropriate referrals for Social Workers e.g. shift work issues, etc. These referrals were especially not possible with only one Social Worker on site in the initial stages of the HRP project.

The employee assistance programme was eventually used more, especially for management support in corrective counselling and dealing with absenteeism, psycho-social issues, substance dependency rehabilitation referrals, etc.

One of the first staff quality initiatives of the HRP project was a small task group which was nominated to write staff rights. Staff felt that patient rights received a great deal of attention and that staff often endure a great deal of abuse at the hands of clients and that their rights should hang alongside the patient rights charter. This staff rights charter is depicted in Figure 4.5 below.

**All staff at Paarl Hospital have the right to:**

- Be treated with dignity and respect
- Work in a safe work environment which is free of threats, intimidation and/or interference.
- Protection from injury and disease transmission

**All clinical staff have the right to:**

- Accurate information pertaining to client's health status and have disclosed to them.
- Co-operation from clients using health services.
- 'Refuse to treat a user who is physically or verbally abusive or who sexually harasses him or her' [National Health Act, No. 61, 2003, Chapter 2, Section 20(4)]

**References:**


- National Health Act, No. 61, 2003
- South African Nursing Council, The Rights of Nurses, 2006


**Figure 4.5: Paarl Hospital: Facility Worker's Rights (2006)**

An area affecting staff quality was the maintenance and safety of the official vehicles with which staff drove to distant meetings and training. A transport survey was developed to monitor this (Annexure 31, pg. 240) and enhance the process of receiving an official vehicle, as well as ensure that it was roadworthy.

A detailed reflection of staff satisfaction survey specifications and results is portrayed in Annexure 32 and 33 (pg. 241-243). Staff satisfaction surveys were funded and done annually during the HRP implementation.

The areas for improvement diminished over time, especially with the increasingly positive views on change mangement, environmental safety and security, a committment to Quality of Care and a sense of pride and loyalty towards Paarl Hospital. The staff's facilities also improved as the infrastructure was commissioned (Annexure 34, pg. 244). Staff relaxation areas include a staff tearoom and outdoor entertainment area, as well as a cafeteria. The staff training areas were dramatically upgraded with a new training centre.

*"The hospital is beautiful after the revitalisation. Staff feel like coming to work here in the morning."* (FGD 3)

A monthly Quality newsletter documented project progress and staff morale slowly improved.

*"Staff were prepared to make huge sacrifices during revitalisation and this led to team building."* (FGD 2)

Ultimately, the endurance of staff to render services and patient care in very trying conditions, improved staff relationships and cohesion.

#### 4.3.4.3 ***Technical quality risks increased***

It was generally held that the construction process increased technical risks in terms of safety and security and adverse incidents. Technical quality was compromised due to increased risk in terms of safety and security, Infection prevention and control, fire safety, occupational health and service supplies.

Technical quality issues included:
*"the infection risk of sewage spills..., lift quality problems causing delays in reaching clinical areas...; electricity failures and emergency power faults in an untested system, ...water condensation in the services systems and aircon inconsistencies in temperature regulation and TB safety."* (II 1)

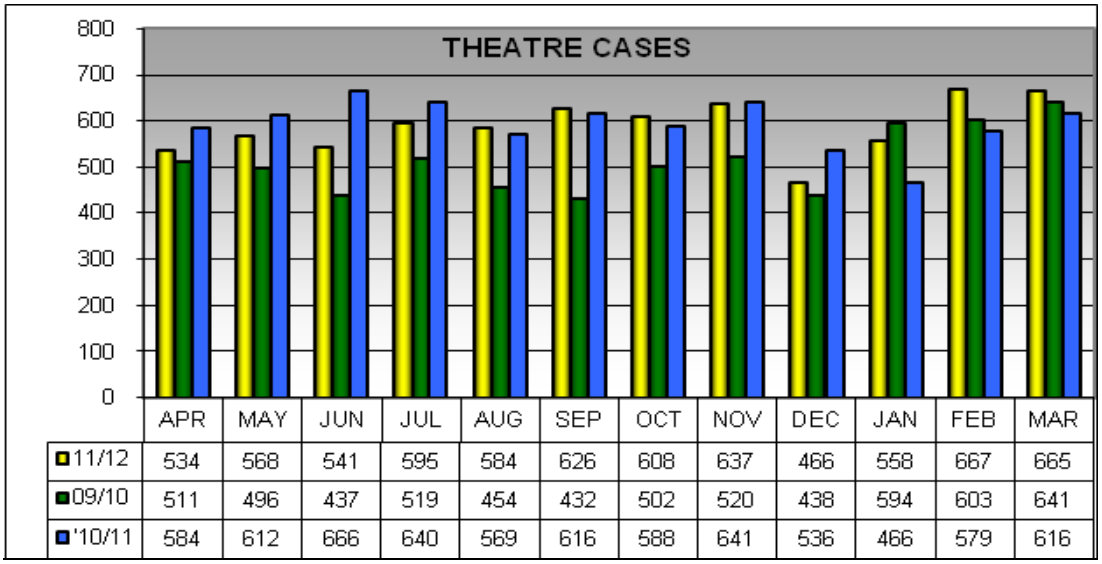
The fire safety sign-off took years and some staff felt unsafe in this regard. Infection prevention and control was adversely affected by sewage explosions in strategic areas

due to inadequate plumbing design; and work on roof structures and ground breaking and demoliton manifested with mould growth on walls of crucial clinical areas.

The hospital statistics were affected in terms of theatre cancellations, as evident in the graphs and tables below depicting the effect on theatre activity during decanting and construction in 2009/2010. Theatre cancellations lead to even longer waiting lists for elective surgery in this public sector setting.

**Table 4.2: All Theatre Cases Total (2006 – 2012)**

| 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 |
|---|---|---|---|---|---|
| 6135 | 6153 | 6716 | 5865 | 7113 | |
| Comment<br>Significant drop in theatre cases was seen during 2009/2010 when theatres were decanted and under construction.<br>Theatre cancellation rate was also adversely affected by the decanting of theatre but declined as soon as theatres mere commissioned by the end of 2010. | | | | | |




| | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11/12 | 534 | 568 | 541 | 595 | 584 | 626 | 608 | 637 | 466 | 558 | 667 | 665 |
| 09/10 | 511 | 496 | 437 | 519 | 454 | 432 | 502 | 520 | 438 | 594 | 603 | 641 |
| '10/11 | 584 | 612 | 666 | 640 | 569 | 616 | 588 | 641 | 536 | 466 | 579 | 616 |

**Figure 4.6: All Theatre Cases (2009-2012)**

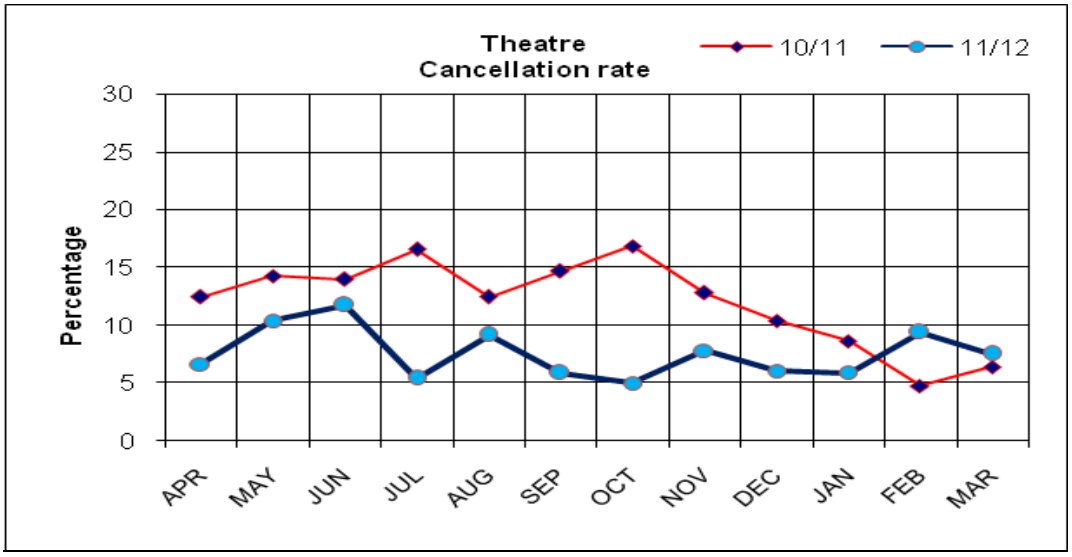



**Figure 4.7: Theatre Cancellation Rates (2010-2012)**

Other statistics were relatively unaffected by the revitalisation activities, largely due to the huge demand on services. Bed occupancy averaged at 91 % (Table 4.3) and the Emergency Centre cases (Table 4.4) at 3560 cases per month. As HRP's organisational development became evident, allied health services increased. See the gradual increase in the Allied Health Services in Annexure 35 (pg. 245).

**Table 4.3: Bed Occupancy Rates (2006-2012)**

| | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 |
|---|---|---|---|---|---|---|
| No of beds | 250 | 250 | 250 | 272 | 285 | 285 |
| Bed occupancy | 91 % | 96 % | 94 % | 90 % | 86 % | 87 % |
| Comment<br>A busy hospital is regarded as a 85 % bed occupancy. The hospital exceeded this despite the challenging construction process throughout. | | | | | | |

**Table 4.4: Emergency Centre Cases (monthly averages) (2006-2012)**

| 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 |
|---|---|---|---|---|---|
| 3462 | 3319 | 3483 | 3530 | 3774 | 3790 |
| Comment<br>The gradual increase in numbers and pressure on the emergency centre is evident and this increase was accommodated despite the decanting into a "bush hospital" set up in 2009/10. The R18 million upgrade in 2010 for the soccer world cup will, however, stand this community in good stead as the community needs for emergency care increase | | | | | |

The SA National Core Standards are a technical quality initiative by the office of standards compliance implemented by the National DoH (DoH, 2011). The revitalised hospital was near completion of phase 2 when the National Core standards assessment was done. The hospital results were most satisfactory with an overall performance of an A due to the alignment of HRP implementation with these standards. Many domains were, however, non-compliant due to minor outstanding documents or implemetation aspects. Table 4.5 is an extract from the assessment outcome.

**Table 4.5: National Core Standards Outcome Paarl Hospital 2012**

| Domain | Outcome | Provisional Score |
|---|---|---|
| Patients Rights | Non-Compliant | A |
| Patient Safety (clinical governance) | Non-Compliant | A |
| Clinical support services | Non-Compliant | B |
| Public Health | Fully Compliant | A |
| Leadership and Corporate Governan | Fully Compliant | A |
| Operational Management | Non-Compliant | A |
| Facilities and Infrastructure | Non-Compliant | A |
| **Overall Performance of Establishment** | **Non-Compliant** | **A** |

| Priority Areas | Outcome | Provisional Score |
|---|---|---|
| Availability of medicines and supplies | Non-Compliant | B |
| Cleanliness | Non-Compliant | B |
| Improve patient safety | Non-Compliant | B |
| Infection Prevention and Control | Non-Compliant | B |
| Positive and caring attitudes | Non-Compliant | A |
| Waiting Times | Fully Complaint | B |

A clinical audit aims to address the quality of health care of all patients and clients. Healthcare management is charged with implementing high-quality care. One of the clinical audit tools developed at Paarl Hospital during revitalisation to enhance technical quality was an evaluation of the critical points in postoperative care, as documented in the standard care plans. This tool became a useful training tool for students. See the clinical audit instrument as Annexure 36, pg. 247-248.

In a pilot study at Paarl Hospital where post graduate management students did post operative clinical audits (Lourens, 2012:3-4) the outcome was as follows: Students gained knowledge on the concept of evidence-based care; developed an understanding of post operative clinical audit; applied evidence-based nursing to post operative nursing care and analysed components of the nursing care plan; combined elements of evidence-based practice and evaluated the controversy around evidence-based nursing; as well as judged clinical audit against the proposed core standards.

The Adverse Incident reporting system was pilotted at Paarl Hospital (Annexure 37, pg. 249) which gradually led to a learning culture around medical error. The pilot was a paper-based system initially, to encourage reporting of any adverse incidents in the following categories: absconds; acquired pressure ulcers; pressure ulcers on admission; medication errors; nosocomial infections; client assaults; suicide attempts; client falls; and patient injuries; and a category for other incidents outside of these categories.

The Morse Fall Scale was subsequently also adapted at Paarl Hospital to minimize patient falls (Annexure 38, pg. 250-252). Client falls are always a risk in a hospital setting and the adapted Morse Fall Scale mitigates this risk by prevention.

One of the main client complaints was dirty toilets and bathrooms in the quarterly complaints and compliments register. A housekeeping audit instrument (Annexure 39, pg. 253) was developed and implemented in all clinical areas. Housekeepers received certificates as incentives to enhance performance. This audit document was eventually absorbed into a provincial SEAT (Satisfactory Environments at Toilets) Committee strategy to address this issue.

Diagrammatically represented in Figure 4.8, is the extensive impact of the HRP on quality as described in terms of client, staff and technical quality.

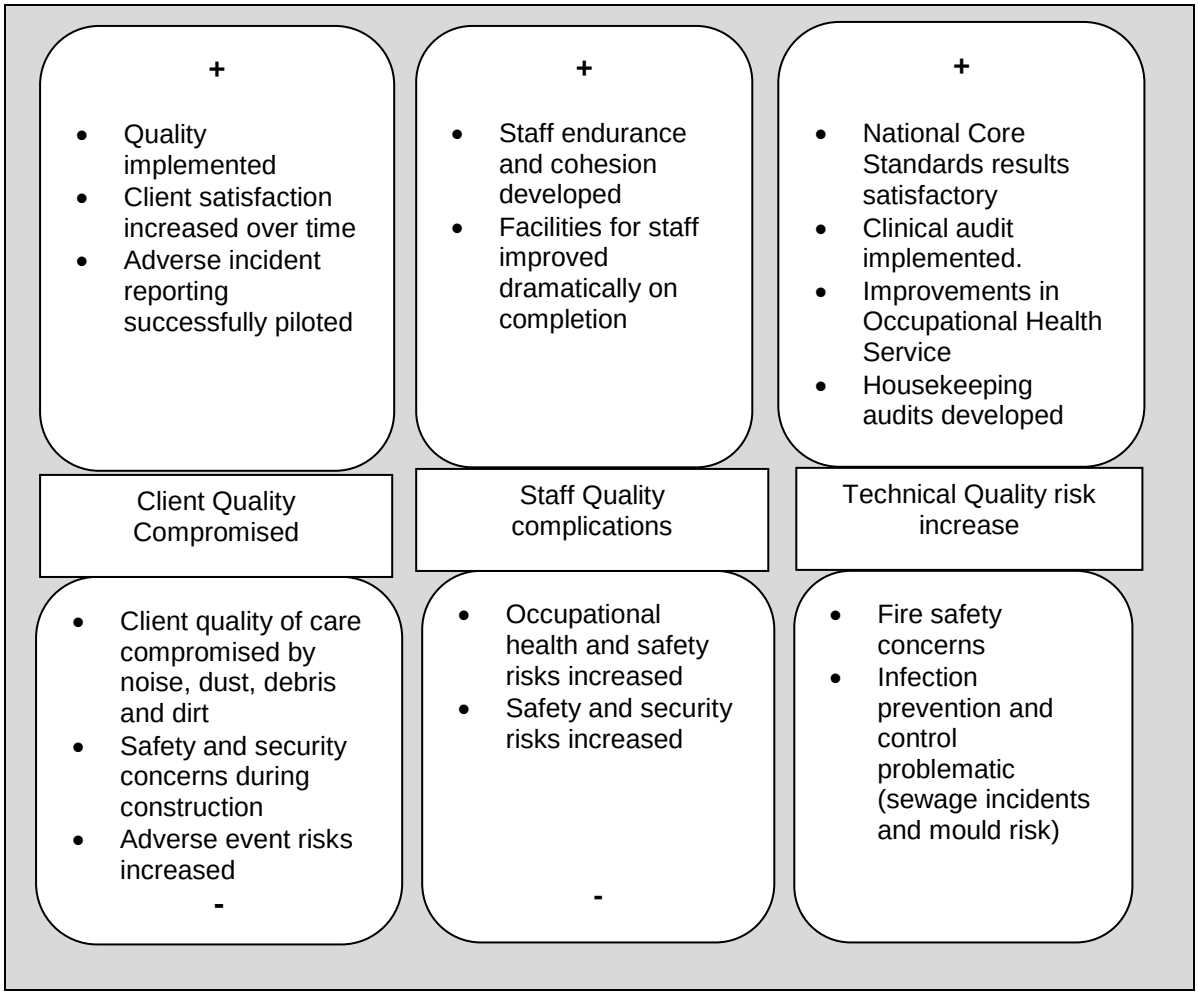



**Figure 4.8: Diagrammatic representation of the HRP Impact on Quality Assurance**

### 4.3.5 **Psychiatry intervention**

Having experienced the hospital revitalisation's impact on staff and client quality and reflecting on the preliminary results from data, an intervention was implemented with the Psychiatric ward decanting.

The Psychiatric patients had endured uncomfortable decanting into the old 1921 block from the medical ward at an earlier stage of the project, and the intervention aimed to improve the client and staff experience in the final decanting planning. Psychiatry patients were housed in passage facing rooms on the ground floor passage with metal gates and locks, during their temporary decanting from the medical ward. This passageway had heavy traffic of staff and visitors and was unsuitable for psychiatric therapy.

*"Psychiatry patients had no privacy during the temporary decanting to the old K-block."* FGD 2

#### 4.3.5.1 ***Psychiatry staff quality***

Staff were sent on change management workshops and were offered group debriefing by the staff wellness programme counsellors. Placement in Psychiatry was negotiated by the Operational manager.

#### 4.3.5.2 ***Psychiatry client quality***

An area was identified timeously to decant patients into and time was allocated on the site and decanting meetings to thoroughly plan the decanting. A budget was allocated by the principal agent to upgrade the building identified to the specifications required to accommodate a psychiatric ward. Multi-disciplinary meetings and site inspections where held consisting of the Principal Psychiatrist, Nursing Manager and Staff, as well as the architect and contractor, after which numerous proposals where drafted by the architect and final approval was signed off by the hospital management.

#### 4.3.5.3 ***Psychiatry technical quality***

This was regarded as paramount and a dedicated security officer post was allocated 24 hours with design of access and fittings of windows and doors, as well as gates given special attention.

#### 4.3.5.4 ***Results of Psychiatry intervention***

##### *4.3.5.4.1* ***Dust control***

The paving area under construction around the decanted building was inspected regularly and the contractor was instructed to keep the area sprayed down to reduce dust. No complaints about dust, dirt or debris were recorded.

##### *4.3.5.4.2* ***Noise and nuisance***

Despite all the negotiations with contractors by the HRP project team, which formed part of the intervention, some noise was experienced as a "*nuisance factor*" with builders dressing and urinating on the construction area outside the clinical area. However, due to the systematic approach with the intervention and relationships built up between clinical staff and the contractor, the facility project manager was able to get these issues dealt with swiftly and prevented recurrence.

##### *4.3.5.4.3* ***Safety***

The decanted building held out well with the design focus on durability and no incidents were reported during the intervention study period. Only one patient managed to abscond, but this was due to a temporary lapse in the security officer's guard and could be linked to human rather than design error.

##### *4.3.5.4.4* ***Adverse incidents***

No incidents were reported from 10 December 2010 when the area was decanted to 23 March 2012 when practical completion was attained.

## 4.4 **Summary**

The focus group discussions, pair and individual interviews from which the data for this study was collected allowed the voices of the study to become audible in describing their experiences of the HRP project. The other data sources which included document and photographic material further supported the findings that during the HRP implementation the hospital was at risk, but that many benefits became evident closer to practical completion.

*"The risk-benefit ratio was eventually in favour of doing the HRP, as the re-engineering of the hospital's systems was very beneficial through the Quality improvements and Organisational Development interventions of change. However, the project delays and the impact of construction on quality was the big challenge."* (II 5)

The chapter presented the findings of this study in a thematic format covering the themes which emerged from the four deliverables of the HRP. The next chapter will discuss these results and the recommendations which emerge from the findings.

# CHAPTER 5
# ANALYTICAL DISCUSSION

## 5.1 Introduction

This study aimed to critically evaluate the HRP implementation at Paarl Hospital. Chapter 1 gave a background and overview of HRP, Chapter 2 presented the literature review. Chapter 3 presented the study methodology and the previous chapter presented the findings of the study. This chapter discusses the results with emerging recommendations.

## 5.2 Infrastructure Development

Infrastructure Development was the key deliverable in this project and various issues emerged from the data, which are discussed below.

### 5.2.1 Infrastructure interface with health care

Hill (2005:50) recommends that during planning, consider what the needs may be in 5, 10, 15 and 20 years and that the shell provides for extra space for future use as population growth, age profiles and health needs change. This ties in with the 4Ls approach to infrastructure, which is recommended for HRP implementation in terms of the "Loose fit" or flexibility of the infrastructure.

Bale (2011) discusses a RIBA President of the 1970s (Sir Alex Gordon) who coined the phrase 'long life, loose fit, low energy', as a maxim for good building. Bale (2011) notes that "the low energy bit is now generally accepted, but the first two requirements (that buildings need to have a degree of permanence, and be capable of adaptation to a variety of uses over their lives) seem to be somewhat ignored. The intended life-span of a building is frequently unstated by designers, design is often tailored closely to current needs as if they are unlikely to change, and many buildings are structurally unsuited to adaptation". Even during the course of this project implementation, requirements changed and the building had to be structurally adapted to accommodate radiology and audiology extensions.

The problems Hughes (1999:826) described in hospital renovations rang true in terms of the results in this study with regard to the encountering of the following problems: electrical failure; medical gas outage or failure; water and sewage outages; dirt; dust; and debris; noise; and compromised fire safety. Hughes, (1999:824) recommendations for implementation are very valid and are as follows:

Appointment of project drivers responsible for overall guidance of construction, progress of work, planning team, estimated projected timeline, establishing good working relationships and insight into hospital functions on the part of the builders, public relations about the construction project to staff and patients; co-ordination, communication and co-operation by brainstorming widely with staff, physicians, anesthetists, specialists so as not to neglect any slight detail that may have major ramifications. Project drivers to ensure that electrical outages are co-ordinated, expert knowledge of circuit breakers and oxygen lines are applied; contingencies for water and sewage lines are in place, preventing flooding and ceiling collapses; construction of dirt- and dust proof barriers are in place before demolition; and noise management; as well as fire safety alternative plans; and administrative actions to compensate for hazards posed by construction activities. These recommendations should be done with proper planning in a team approach. In an extensive survey study on hospital renovations which Uhlik & Hinze (1998:134) conducted, findings where similar to this study pertaining to construction related challenges of disruption of patient wards and getting the required quality within a complex set of relationships between the builders and bureaucracy.

The American Society for Healthcare Engineering (ASHE) (Anon, 2011:3-4) holds that healthcare construction and renovation have been associated with increased risk for nosocomial fungal infection, especially Aspergillosis, among patients. Multidisciplinary planning committees including Engineers, Infection Control and Safety officers throughout planning and construction phases are recommended. The American Institute of Architect Guidelines for design and construction of healthcare facilities which includes engineering systems, infection control, and safety; as well as architectural guidelines for design and construction, as a reference or standard when reviewing construction designs and plans for health care facilities are recommended. Published guidelines in this regard could be incorporated or adapted in a hospital revitalisation implementation framework.

Mention of mould in various areas during construction was made by respondents and reported in incidents and should certainly be flagged as an area for preventative planning in an HRP implementation framework. The results indicated visible fungal growth in certain clinical areas such as theatre at the commencement of construction activities, raising awareness of the risk of Aspergillosis during hospital revitalisation. Loo *et al.* (1996:363) recommend the following in Aspergillosis control planning when anticipating construction for hospital renovation:

- Consult engineers, architects, housekeeping and infection control departments prior to undertaking any construction activity;
- Evacuate/decant patients from ward for 3 – 4 weeks to implement interventions;
- Paint walls, doors, frames, baseboards, radiator exteriors, room vents and ceilings with copper-8-quinolinolate, an odourless fungicide, while wearing protective eyewear and gloves;
- Seal windows;
- Replace perforated ceiling tiles with non-perforated, vinyl faced aluminum tiles;
- Consider portable high-efficiency particulate air (HEPA) filter air purifier units with room air exchange rates of 12 to 22 per hour;
- Regular daily dusting and cleaning of patient rooms;
- Meticulous maintenance of ventilation systems; and
- Preferably keep patients in single rooms with doors closed.

The measures proposed by Loo *et al.* (1996:361) seem rather cost intensive for the South African public sector context, however, some prevention should be considered, such as: sealing windows, keeping patient room doors closed, cleaning and dusting patient rooms daily, painting surfaces with an antifungal preparation, and if feasible considering the use of portable HEPA filter air purifier units.

Carter & Barr (1997:596) encourage infection control personnel to be involved in all phases of these projects to avert outbreaks and to ensure that newly constructed or renovated areas allow staff to follow good infection control practices. The role of infection control personnel in these projects is set to increase as the complexity, and immune-suppression of hospitalised patient's increase; while hospitals are required to decrease their budgets drastically, and regulatory bodies increase the number of infection control guidelines. It could be argued that the time and energy invested in adequate infection control aspects of construction in revitalisation projects, before and during the project, may save hours of time, huge sums of money, and the lives of patients and healthcare workers after the project is finished.

Construction sites should be separate from patient-care and critical areas, as hospital construction can disperse large numbers of Aspergillus spores. Carter & Barr (1997:591-592) recommend the following measures to limit the spread of dust, dirt and nosocomial pathogens:

- Plastic sheeting or sheet-rock duct-taped as a barrier for construction generated dust and dirt contaminating clean patient care surfaces, supplies and equipment;
- 'Restricted Area' signage;
- Traffic control by staff route-planning to prevent contamination;
- Schedule major projects during the winter when the risk is lower for Aspergillus and other fungal infections (e.g. histoplasmosis);
- Clean and vacuum areas under construction and the surrounding areas frequently;
- Place adhesive floor strips outside of the door to the construction area to trap dust;
- Wet mop the area just outside the door to the construction site daily or more often if necessary;
- Use a high-efficiency particulate air (HEPA) filtered vacuum to clean carpeted areas daily or more often if necessary;
- Shampoo carpets when the construction project is completed;
- Transport debris in containers with tightly fitting lids, or cover debris with a wet sheet;
- Remove debris as it is created; do not let it accumulate;
- Remove debris through a window when construction occurs above the first floor;
- Do not haul debris through patient-care areas;
- Remove debris after normal work hours through an exit restricted to the construction crew; and
- Designate an entrance, an elevator, and a hallway that the construction workers must use and that are not used by patients, visitors, or health care workers.

A 'daily construction survey sheet' to ensure compliance with these measures is also recommended.

Health care, infrastructure and technology are fundamental to economic growth but according to Watermeyer (2011:21) significant levels of client dissatisfaction in the quality of construction and cost overruns on projects in the public sector are common. This is partly attributed to the traditional lengthy preplanning process prior to construction.

A common thread in the data for this study was the copious snags on construction quality issues, but also the long time that had lapsed between the preplanning of design with previous staff and approval by departments of Health and Public Works long before tenders for construction were invited; and up to 10 years in total before some clinical

areas were commissioned. A closer noose around planning and design stages to infrastructure delivery; with a focus on risk allocation, was recommended by respondents from the clinical, as well as the consultants who participated in the study.

As was found in this study in the successes of the emergency centre, theatres and radiography design, it was where clinical staff were closely involved with concurrent snagging. Hill (2005:50) also found that weekly and later daily walkabouts during construction is the opportunity to make critical adjustments at minimal cost.

The literature revealed that the international trend is to renovate rather than rebuild health facilities (Uhlik & Hinze, 1998:134), yet the respondents in this study all felt that a green field site was preferable than renovating an existing operational facility.

### 5.2.2 **Dealing with decanting**

In this study decanting emerged as the greatest challenge and one of the recommendations is weekly decanting meetings, with well-defined terms of reference. Studies by Rynor (2010:E634) found that during decanting terrible working conditions; cluttered, inefficient and ergonomical challenges did not support what clinical staff do, and are synonymous with the working conditions staff in this study described while decanted.

In the Bathhurst study (Anon, 2008:1-2) a communication strategy was developed to deal with decanting, which included the names of management involved, timelines, the benefits, information packs, changes, impact on existing services and how communication would be dispersed to staff and the community. The weekly ‘Projectcast; was deemed a successful tool in the implementation and was sent out weekly by the DoH project manager’s team to all the staff on email with information about lockouts, Organisational Development workshops and quality initiatives.

### 5.2.3 **Design brief considerations**

Churchill is quoted in Rynor (2010:E633) as having said in 1943, "*First we shape our buildings and then they shape us*." Hospital design seems intertwined with patient outcome and staff quality of work life environment.

Sadler *et al*. (2009:18) hold that hospital leaders should ask how the proposed project will incorporate all relevant and proven evidence-based design interventions to optimize patient safety, quality, and satisfaction; as well as workforce safety, satisfaction, productivity and energy efficiency. Evidence-based design is not about hospitals that are simply nicer or fancier than traditional hospitals. Rather, the focus of evidence-based design is to create hospitals that actually help patients recover and be safer, and help staff do their jobs better. The large research literature surveyed in a report by Ulrich & Zimring (2004:26-27), point to several actions we can take immediately:

- Provide single-bed rooms in almost all situations. Single rooms have been shown to lower hospital-induced nosocomial infections, reduce room transfers and associated medical errors, greatly lessen noise, improve patient confidentiality and privacy, facilitate social support by families, improve staff communication to patients, and increase patients' overall satisfaction with health care;
- New hospitals should be much quieter to reduce stress and improve sleep and other outcomes. Noise levels will be substantially lowered by the following combination of environmental interventions: providing single-bed rooms, installing high-performance sound-absorbing ceilings, and eliminating noise sources (for example, using noiseless paging);
- Provide patients with stress reducing views of nature and other positive distractions, such as healing interior decorating, garden access, television, or artwork;
- Develop way-finding systems that allow users, and particularly outpatients and visitors, to find their way efficiently and with little stress;
- Improve ventilation through the use of improved filters, attention to appropriate pressurization, and special vigilance during construction;
- Improve lighting, especially access to natural lighting and full-spectrum lighting; and
- Design ward layouts and nurses stations to reduce staff walking and fatigue, increase patient care time, and support staff activities such as medication supply, communication, charting, and respite from stress.

A multidisciplinary review article (Ulrich, 2000:54) of theory and scientific research in the behavioural sciences and health-related field proposed the following guidelines for creating supportive healthcare environments:

- Foster control and include privacy for patients by having light dimmers, TV control, accessible gardens, easy way-finding;
- Guidelines for promoting employee feelings of control include comfortable staff break rooms to escape briefly from workplace demands and stressors and easily adjustable workstations;
- Promote social support in comfortable waiting areas such as the patient lounges and convenient access to food, such as the new cafeteria for public and staff; and
- Provide access to nature and other positive distractions, as viewing nature is linked to stress reduction. This was reflected in the data from theatre staff and in the resuscitation room in the emergency, where the fact that they could see trees and mountains, had a positive impact on staff morale.

In this study the role of the new staff room could not be underestimated, although there was a need amongst doctors to have their own restroom, which was not catered for. The new workstations in the new wards were viewed more favorably. However, the melamine finish chipped easily. The workstations in the renovated tower block where cramped as an existing infrastructure with spatial constraints was utilized. In the students residence, the workstation was too high to sit at comfortably.

The results also show unequivocally that patient and nurse or clinical-focused design environments with particular mention of theatre, the emergency centre and the more spacious, interior decorated new wards enhanced staff morale and general client satisfaction. The studies done by the Academy for Design and Health at the Karolinska Institute in Stockholm on the interaction between design, health, science and culture (Rynor, 2010:E633) are certainly guiding the way forward in terms of design innovations to create restorative environments. In another rigorous review of research into the link between the physical healthcare facility environment design and the patient and staff outcome, conducted by Ulrich & Zimring (2004:3) areas were highlighted where the hospital design can impact on staff stress, and patient safety.

#### 5.2.3.1 **Design to reduce staff stress and fatigue**

Increase effectiveness in delivering care by focusing on design to reduce walking time and aligned to work patterns. Reducing staff stress by ergonomic interventions, as well as careful consideration of other issues such as air quality, noise reduction, and adequate light, can have a significant impact on staff health. In addition, it is also likely to

send a message that maintaining health and safety of staff members is an important goal for the organisation. Thus, lighting levels, frequent interruptions or distractions during work, and inadequate private space for performing work can be expected to worsen incidents such as medication errors.

#### 5.2.3.2 **Design to reduce patient stress and improve patient outcomes**

Design to address noise control, way-finding and natural light have all been shown in studies to contribute to improved health outcomes in terms of depression, agitation, sleep, circadian rest-activity, as well as length of stay in demented patients and persons with seasonal affective disorders.

#### 5.2.3.3 **Design to improve patient safety**

Transmission of infection to patients occurs through two general routes: airborne and contact. The research literature shows that the design of the physical environment strongly impacts hospital-acquired infection rates by affecting both airborne and contact transmission routes.

There is a very large field of literature that looks at the causes and risk factors involved in patient falls in hospitals. This is an area of great importance because patients who fall incur physical injuries, psychological effects, and have greater lengths of stay in the hospital.

Nonetheless, several studies have shown that most patient falls occur in the bedroom, followed by the bathroom, and that comprehensive fall-prevention programs can have an effect. Design faults identified in the bathroom and bedroom areas included slippery floors, inappropriate door openings, poor placement of rails and accessories, and incorrect toilet and furniture heights.

An innovative and promising environmental strategy for reducing falls has its origins in evidence suggesting that many falls occur when patients attempt to get out of bed unassisted or unobserved. Considerable evidence has shown that bedrails are ineffective for reducing the incidence of falls and may increase the severity of fall injuries from beds. Given that falls are a critical safety problem, additional research is needed to understand

the effectiveness of this evidence-based design approach for designing patient-care units.

#### 5.2.3.4 **Design for emergency centre quality**

Brinkman (2011:17) describes the requirements of the Soccer World Cup in South Africa in 2010, to provide a new accident and emergency facility at the Livingstone Hospital in Port Elizabeth, South Africa, as a daunting challenge due to the demanding time schedule, restricted site conditions and extensive scope of work. It was noted that design principles which should receive attention are high security with CCTV Surveillance, metal detectors and motorized access control; clear way finding; separate critical ambulance and public walk-in entrances, and to make allowances for separate public and staff circulation; as well as overflow spaces for mass casualty events. The security installations need special mention, as the metal detectors were not always used by security officers; the motorized access control was only installed as a late request after strike action in the community; and the CCTV cameras could only be used retrospectively due to lack of staff for the control room.

The findings in this study are similar with a very constricted site and time line having been given for completion of the Paarl Emergency Centre. The clinical staff emphasized their pivotal role in design and the use of windows, and light, to lift their spirits while working in resuscitation; as well as stainless steel fittings for durability and cleanliness reasons. As pointed out by Brinkman (2011:17), trauma units are unpleasant places to go to by the very nature of the human frailties they deal with, and emphasized making an open, light and neutral environment to create a pleasant space for both patients and staff.

#### 5.2.3.5 **Design to improve overall health care quality**

Based on an extremely large and varied body of research reviewed in earlier sections, there can be no question that single-bed rooms have several major advantages over double rooms and open bays. To summarize briefly, these advantages include: lower nosocomial infection rates, fewer patient transfers and associated medical errors, far less noise, much better patient privacy and confidentiality, better communication from staff to patients and from patients to staff, superior accommodation of family and consistently higher satisfaction with overall quality of care. Cost and staffing constraints, however, in

the South African context many hamper this option throughout, but some single rooms should certainly be catered for in hospital design.

There is strong evidence that design changes that make the environment more comfortable, aesthetically pleasing, and informative relieve stress among patients and increases satisfaction with the quality of care provided. Patients in well-decorated and well-appointed hotel-like rooms rated their attending physicians, housekeeping, and food-service staff, the food, and the hospital better than patients in standard rooms (typical hospital beds, inexpensive family sitting chairs, and no artwork) in the same hospital. Also, they had stronger intentions to use the hospital again and would recommend the hospital to others, (Swan, Richardson & Hutton, 2003: 254-264).

Some studies show quite clearly that tacit, as well implicit, staff organisational practices and policies influence how an environment actually functions and is perceived. Further research that looks at satisfaction among hospital patients, should consider using these multi-method, post-occupancy evaluations that use different methods to obtain objective and subjective evaluation of use and satisfaction.

The methodology applied in the design of a community based 100 bed Wellstar Paulding hospital in North Georgia, USA was three phased, with a literature review; focus interviews; and a financial analysis of the evidence-based design features required in an intensive care unit, while optimalizing safe and cost-effective quality care. It is described by the authors (Spikes & Aduddel, 2010:279) as a strategic planning process by senior hospital leadership and staff.

To stay ahead, Sadler *et al.* (2011:18) recommend evidence-based innovations such as family/social spaces, improved way-finding, respite areas, staff gym, decentralized nursing logistics, and environmentally responsible materials. In this study, the family spaces created in the new wards with patient lounges, as well as store areas and treatment rooms close to patient rooms proved to be a positive innovation. The respite area in the form of a beautifully designed tearoom, as well as an outdoor barbeque/braai area and courtyard for staff, enhanced staff quality. Way finding, although improved, proved challenging due to the 3 different languages (namely English, Afrikaans and Xhosa) required, as well as colloquial terminology versus medical textbook terminology. Pictographs were also used but not always understood.

Respondents in critical care areas such as theatre, the resuscitation room in the emergency centre and high care noted that the windows which permitted them to see the sky, trees and mountains meant a great deal to staff morale and in wards where excellent views are abundant, staff felt that it improved client quality. Groves (2011:22) promotes the humanistic and restorative approach to health care facility design with acknowledgement of the importance of fresh air, natural light and contact with the natural environment to promote the recovery of patients; and provide an optimal working environment for health care workers; and goes on to suggest developing a local Green Star rating tool for South Africa.

The results sounded the voice of respondents in the call for South African Hospital Norms and Standards for health facility design. Hussey (2011:15) describes the historical pre-1994 SA Hospital Norms, controlled by the Treasury Committee Area Norms and Cost limits, albeit with many shortcomings, having been replaced by a haphazard methodology of managing health facility design, once the Public Finance Management Act repealed the Exchequer Act and the SAHNORM system. Without a subsequent system or structure, with the cost of building health facilities having increased dramatically and inequity of applied standards, the efforts of health care planners to provide equitable access to health care has been stifled. A new system of area standards, driven by clinical needs, to guide health planners in benchmarking clinical area sizing for function and level of care, as well as essential support services is proposed.

### 5.2.4 **Spatial aspects**

This study found that clinical staff grappled with spatial ability and three dimensional perceptions when asked to comment on architectural designs. Hill (2005:49) suggests using mock-ups to demonstrate the use of space, as well as taping the floor, using the planned dimensions, and taping the actual size of equipment to assist staff to visualize clinical area layouts. Three dimensional computers software used by architects for home design could be adapted for clinical area design.

Dreger (2007:14) applied 22 user advisory groups for the sketch design and design development of the 254 bed Royal Alexandra hospital in Canada. It was found that doing life-sized mock-ups of medication rooms, scrub rooms, labour and delivery rooms on walkthroughs with staff, enabled staff to visualize where medical gas should be positioned for availability; whether beds and wheelchairs would move through areas with ease, whether floor drain slope was adequate for drainage, etc. Nurses and physicians gave feedback on how feasible their day to day work would be in that space.

A key finding of this study which therefore requires consideration, was the inability of respondents to visualize the design plans as 3-dimensional. They then often requested changes once the areas were constructed and handed over to them, most of which were not approved due to the cost involved.

### 5.2.5 **Innovation**

Taylor (2011:4) suggests that innovation in health care design is in tune with the spirit of innovation, through the current age of disruption; intense competition; and non-stop reinvention; and that originality has become the acid test of strategy. Other authors in Taylor (2011:4) say that a hospital is already outdated by the time it is built! The context in which this project was implemented, namely the public sector, with the dimension of the legislature, executive and administrative relationship is described as a culture in which too much focus is placed on eliminating any possible mistakes, and not enough attention is paid to innovation.

### 5.2.6 **Relationships**

The close interaction between the project team, client and operational team is essential, as Wiid (2011:20) found in planning several phases of a Medi-Clinic Hospital upgrade in Hermanus, South Africa, where the biggest challenge of safety had to be overcome while doing structural work over a soft theatre ceiling.

In the data, amongst the areas that reported the highest level of satisfaction with their commissioned clinical area, was the Emergency Centre, where very close cooperation between the design and clinical team was required due to the short period available for delivery of this area in time for the World Soccer tournament of 2010. According to Boffard (2011:19) it is only when the design team includes the end-users (healthcare

personnel, and even patients) that satisfactorily functioning units with a smooth patient flow results.

In the requirement of a new Accident and Emergency facility at Livingstone Hospital in Port Elizabeth, South Africa, Brinkman (2011:17) advises design team engagement with the end user departments and staff, ranging from nurses, doctors, housekeeping to maintenance, and discussions about operational requirements, practical issues to departmental policies and practices which can lead to the creation of a pleasant environment for both patient and staff. The issue of procuring suitable human resources for the maintenance division of the Hospital during revitalisation, in particular the Industrial Technician, and getting sufficient training for maintenance staff was lamented by many respondents.

Calder (2011:8) reiterates that the lament nowadays is the deterioration of the quality of artisans, their workmanship and the service delivery of suppliers in the hospital environment. Calder proposes some basic principles explored in the Medi-Clinic hospital group of South Africa to reduce the frustrations and difficulties of maintaining a busy hospital which include:

- An apprentice training programme for electricians, clinical technician practical training in a hospital environment, and a technical assistant training programme to improve and challenge existing artisan assistant staff in tool handling, basic electrical, plumbing fitting and carpentry;
- A comprehensive maintenance document system describing the equipment, the requirements and standards, maintenance schedules, asset management in the form of asset lists and job request generation, as well as an annual audit which is also applied as a type of competition between the various hospitals in the group;
- A bi-annual client satisfaction index to determine the success or frustrations with the maintenance department, as well as regular visits to section heads for valuable feedback. Artisans are also encouraged to give feedback on the amount of and duplicate job requests;
- A good service providers reward system;
- Stringent financial control with decentralized budgeting and just in time purchasing; and
- Quality improvement projects allocated to each person in the technical department.

It was felt that the full maintenance staff contingent should be appointed at an early stage during construction, so that simultaneous training could take place while the contractors were installing plumbing and electrical services and the engineers were installing sophisticated systems for fire control, telecommunications, pneumatic tube, security, and numerous other technical installations. Guidelines were drafted at Paarl Hospital for technical support activities in patient areas (Annexure 40, pg. 254), which is recommended to contain potential risks in this regard.

### 5.2.7 **Nursing role**

The studies of Dreger (2007:14) and Hill (2005:51) concur that nurses are essential for designing hospitals and by involving them in design, users take pride in their departments and quality patient care flourishes. This is aligned to the data respondents in the nursing focus groups with regard to the theatres, day ward and emergency centre, where nurses were closely involved in design and daily or weekly walkabouts during construction. Spikes & Aduddel (2010:281) found that nurses being involved in design helped nurses learn the language of evidence-based design and that their input into the design of the hospital environment supports safe and efficient patient care.

### 5.2.8 **Infrastructure A-Z**

A summary of some of the recommendations pertaining to the Infrastructure Development deliverable are captured in an alphabetical format in Figure 5.1. This ranges from the careful collaborative planning required with strong relationship, communication and contract management to the risk management priority.


**Figure 5.1: Infrastructure A-Z**

## 5.3 Health Technology

### 5.3.1 Health Technology and infrastructure interface

The concept of the 'Last Mile' in the telecommunication field has been applied by Poluta & Nunziata (2011:10) to address the 'coupling' of medical equipment and the receiving infrastructure. It is usually procured long after infrastructure and services have been built, leading to difficult and costly health technology installations and even non-operational medical equipment.

This was evident in the data with particular reference to the late CT Scanner installation, which had design and cost implications; and the High Care pendants procured after infrastructure completion. Most respondents felt that large Health Technology items should be procured within the infrastructure contract where the consultant electrical engineer is closely involved with monitoring and evaluation of the installations.

This alignment of the biomedical engineer and the monitoring and evaluation processes, is what Poluta & Nunziata (2011:10) describe as the “last mile” in the “coupling” or interface between the equipment and the services. Sufficient technical information about the health technology to be procured, enhances smoother final installation, while minimizing cost.

Frustrations were, however, also expressed with the HT procured on the contract. The advantage of HT procured on the contract was a more seamless and just in time alignment between procurement and infrastructure alignment. The clinical staff were, however, not always involved in writing the specifications and assisting with product selection. This was evident in, amongst other items, the bedpan washers, which in some cases could only take one bedpan in busy 36 bed wards; had high running costs in terms of chemicals; and spare parts were not readily available in South Africa, causing delays in maintenance and repairs.

#### 5.3.1.1 **Pendant problems**

The pendants in both theatre and high care proved very challenging, causing workflow problems and staff injuries due to positioning problems and technical complications. In the case of the pendants, close liaison between current clinical specialists and nursing staff is recommended, as well as procuring the pendants on contract.

### 5.3.2 **Health Technology innovation**

The results also implied that health technology products could be aligned with co-operation by manufacturers to ease transition to future trends in technology. The example in this project was that of digital radiography which was aligned, but delayed due to tender and budget processes. In theatre it was suggested that future trends should be considered such as the interface of e.g. Bluetooth receivers in theatres and other digital advancements. A complimentary innovation will lead to overall improvement

in performance (Rothaermel, 2000:150) and this was voiced by respondents in terms of digital radiography, which would eliminate the need to purchase chemicals and develop X-rays, manually archive X-rays, use CD's and external hard drives to save data and to refer patients to a higher level of care.

Rothaermel (2000:149) notes that complementary innovation is an advantage, leading to radical technology products with co-operation from manufacturers. The flexibility factor of the 4Ls (DoH, 2011) approach could be applied to Health Technology by procuring to allow for future complementary innovations, which could seamlessly be added on to selected HT as requests and funding changed over time.

### 5.3.3 **HealthTechnology management**

The importance of effective healthcare technology management in the provision of efficient and cost effective healthcare services has not been fully embraced by healthcare organisations in developing countries, and remains a particular challenge in Sub-Saharan Africa. Amoko (2006:39) proposes more input by engineers in management teams for strategic engineering input; healthcare technology standards; regulations and policy covering HT acquisition; HT management, and training. Participants in this study voiced the need for tried and tested HT equipment to be procured; standardised equipment; standardised standard operating procedures with promotion of ownership through adequate training.

A concern expressed by participants was the sustainability of current HT equipment and what the future held in terms of upgrades and replacement. Sasikala, Pillay & Sinha (2006:18) discuss the need to have a properly planned strategy for replacement. Planning with a focus on clinical risk based prioritisation for replacement planning, to address the primary concern of quality of care and safety in healthcare services is crucial. Calder (2011:8) proposes that a healthy balance be kept between repairing equipment in-house and sending it to outside suppliers; creating the need for thorough in-house artisan training on clinical technical work; and a maintenance system that captures the requirements and standards for equipment, all of which could assist in generating initial HT specifications.

The HT assets in this project were managed by an asset verification process and subsequent computerized tracking of asset register and maintenance, which was procured from an external service provider on the HRP contract. Nunziata & Baholo (2006:15) support the notion of a policy framework for healthcare technology management which includes: an asset audit; procedure development for HT acquisition and selection of appropriate technologies; daily asset management procedures; in a central workshop with a computerized asset management system installed.

Poluta (2011:7) holds that the golden triangle of stewardship, efficiency and bench marching are the key functions of a health system; and concluded after a medical device audit that asset management needs to be actively supported, resourced and managed for the achievement of effective and sustainable health technology in health care. The asset management of the health technology on this study was described as effective in that HRP resourced the procurement of an outsourced asset management company who did a thorough asset verification process and managed asset maintenance until the end of phase 2.

Concerns were raised about the future asset management support and resourcing once these expenses served on the operational budget of the hospital, after the revitalisation project funding ended. The recommendations of this study for the Health Technology deliverable of the hospital revitalisation programme are as follows:

- Include as many HT installations in the contract to ease alignment with contractor GANTT charts;
- Make provision for complementary innovation and future trends in technology by getting co-operation from suppliers to align procured Health Technology as far as possible accordingly;
- Factor in flexibility or “loose fit” of the 4Ls approach to make provision for late requests for additional health technology as health policies and priorities emerge during construction;
- Re-visit planning of installations with current clinical staff and do mock-ups of installation heights, position and service points (electricity, oxygen, medical air, suction;
- Make pro-active provision for additional storage space during decanting or in the event of delays in installation;
- HT procurement practice to favour tried and tested products with durability and quality built into specifications as well as cost-effective consumables;
- Procure large items on infrastructure contract to enhance interface between construction and installation; and
- Develop norms and standards for specifications and standard operating procedures.

## 5.4 **Organisational Development**

The organisational deliverables of the HRP proved to have been one of the positive outcomes at Paarl Hospital. The organisational development strategic planning workshops were described as empowering.

Margaret Wheatley states in Weisbord & Janoff (2000:173) that, “To bring health to a system, connect it to more of itself. The primary change strategy becomes quite straight forward… the system needs to learn more about itself from itself.” The model of Weisbord & Janoff (2000:4) of involving and leading all stakeholders to: discover shared intentions; create and act on a shared future vision; and take responsibility for their own plans seems evident in the way the four strategic teams at Paarl Hospital namely Leadership, Clinical, Training and Transformation, representing a cross section of the whole, took ownership of their respective strategies.

Public participation in health service decision making (WHO, 2008), was achieved by the Local Steering Committee, as stipulated in the HRP project implementation manual; and initiatives included the infrastructure trades and nursing learnerships; and monitoring of service commissioning. The Paarl Hospital Facility Board also brought the component of user definitions of need (Brooks, 2008:4), by lobbying for the revitalisation to take place with the Provincial Minister of Health; and by monitoring quality issues which supported clinical governance.

The COPE process of Engender Health (2003:5) emphasizes staff involvement, ownership of services, self-assessment and team work. The training team co-ordinated an annual skills audit and training gap analysis which prompted the annual organisational development strategy

The Strategic planning teams harnessed the staff member’s understanding of local conditions and resources, by using in particular the Transformation team, which helped staff identify concrete and immediate opportunities for action, in terms of staff team involvement and ownership of services and resources. Gareth Morgan in his book *The Chaos Manager* (2000) is quoted as saying “The task hinges on finding new understandings or new actions that can reframe the paradox in a way that unleashes system energies in favour of the new line of development*”.*

### 5.4.1 **Change management**

This study found, unsurprisingly, that the revitalisation process had a destabilizing effect with consequences for patients and staff alike, facing major changes in a state of flux. Pajak (2009:244) concluded that irrespective of the level of change facing services, staff had little choice in continuously working, despite uncertainty and were pressured to provide continuity of care as per their professional responsibility in the face of adversity, brought about by revitalisation.

A structured change management process, with multidisciplinary teams is recommended to contain this destabilizing uncertainty, when the revitalisation process is initiated. To navigate a successful future, Krauss & Mendel (2008) indicate that you have to understand the patterns of the past. Not only does the past need to be respected and losses acknowledged with revitalisation, but past practices assist with gap analysis towards a desired future.

MacPhee (2007:405) concurs that continuous change in complex healthcare environments is a challenge, but argues that sound management of change can leverage initiatives of innovations that improve quality of care delivery. Amongst the strategies to effectively manage change, MacPhee (2007:408-409) suggests that a clearly stated vision and mission is most crucial to collaborative team work and success. The other strategies include relationship and team building, as well as stakeholder analysis and clear project planning, with regular progress reports.

Furthermore, the Weisbord Six-Box Model (1976) is put forward as a framework to provide structure to organisational development gap analysis and formulation. The focus on organisational purpose, relationships, leadership, structure, rewards and helpful mechanisms, is well aligned to meet the OD deliverables in terms of the HRP project implementation plan too.

The PIP (DoH, 2009:86) has as its objective the strengthening of institutional and operational efficiency of public hospitals, which have been selected as revitalisation projects, through improving their management systems, structures and processes. This is prescribed to be done through eleven broad focus areas: organisational strategy, delegation of authority, hospital governance, human resources management, hospital

financial management, hospital information management, hospital information technology, patient administration, and a communication strategy.

Spikes (2010:279) documents how such a strategic planning process was utilized to establish evidence-based design in a community hospital modification. In HRP implementation, change management of organisational culture should be viewed as a key to quality of health care (Davies *et al.*, 2000:111) and the implementation of quality improvement and risk management systems, which include patient safety (Carrol & Quijada, 2004:ii16).

## 5.5 **Quality Assurance**

Health leadership should bring quality to life by campaigning for Quality Assurance; meaningful engagement with QA, a daily consciousness of quality; planting Quality Assurance in the centre of management meetings and continued commitment to quality of care. A change in practice is called for to include supervision and mentoring; surveillance; greater attention to the opinions of patients as reflected in client satisfaction and other surveys and client feedback; performance management; system goals; and process change.

The results indicated that the organisational development and change management strategies supported the implementation of the Quality Policy in Paarl Hospital. Davies *et al.* (2000:118-119) recognize that organisational, cultural transformation of values and attitudes are the key to quality revoluntionisation of health services.

Taveira, James, Karsh & Sainfort (2003:287) argue that total quality management implementation is to a large extent “moderated” by the organisational culture and call for future research into these “moderating relationships between QA and OD, which impact on the success of quality improvement programmes.” Johnson (2004:170) proposes a conceptual model for organisational change with applicability to quality management standards and change management with the key variables of: Leadership; Strategy; Structure; Technology; Culture; and Rewards/recognition.

This model as pictured in Figure 6.2 below, proposes these variables as predictors of successful quality implementation and change in improvements in quality and delivery performance (Johnson, 2004:170). Client, staff and technical quality was found to be compromised during hospital revitalisation, as confirmed by the Brits hospital case study of Pfaff & Couper (2010:109), who recommend detailed planning; allocation of additional resources for aspects such as decanting; and that clinicians be an integral part of decision-making.

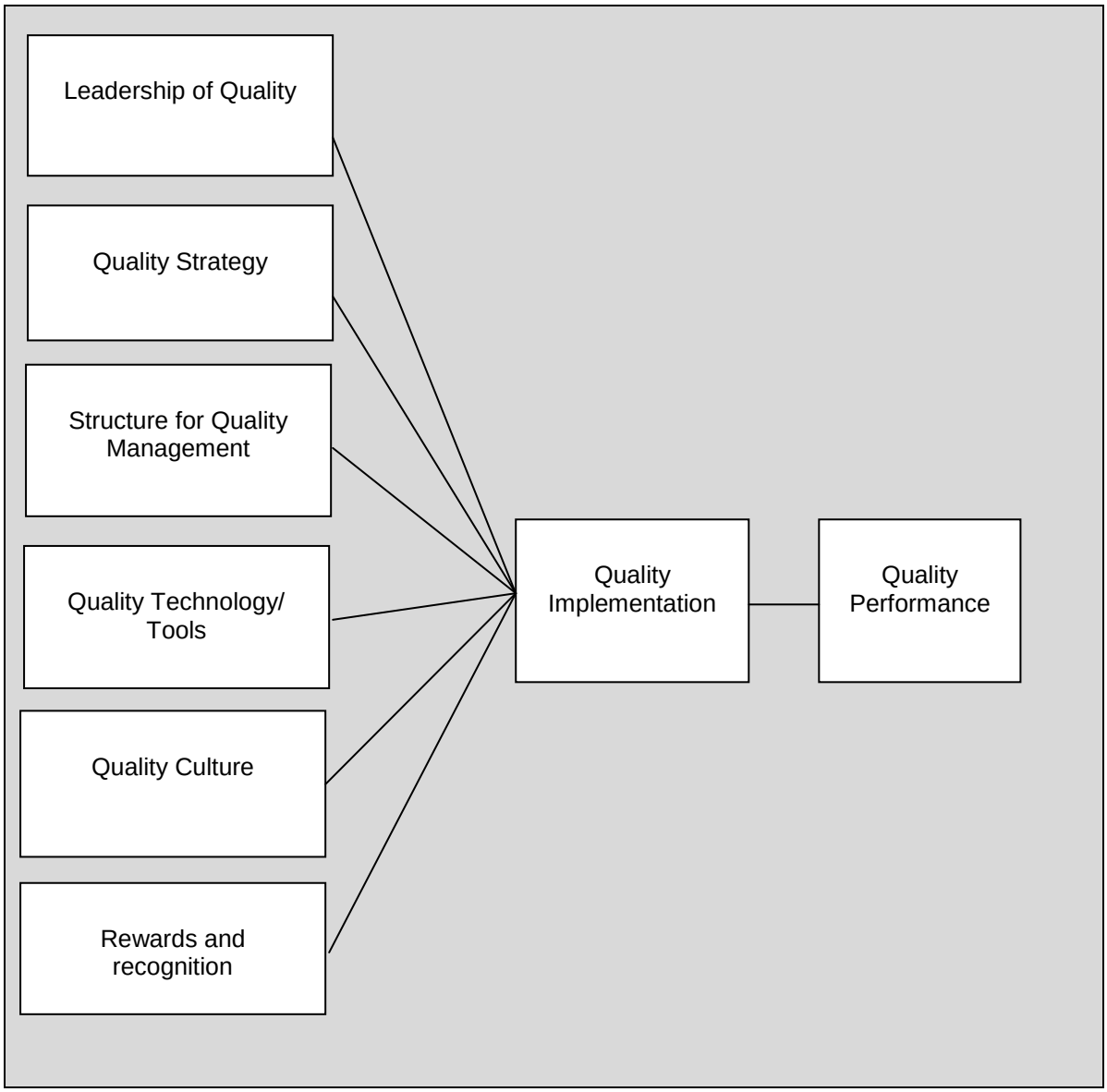



**Figure 5.2: Adapted Quality Implementation Performance Outcome Model**

(Source: Johnson, 2004:156)

The conceptual Adapted Quality Implementation Performance Outcome Model of Johnson (2004:156) adapted from Weisbord's Six-Box Model is recommended for Quality Policy implementation in the HRP implementation. The Six-Box Model is relatively uncomplicated, easy to understand and to visualize. It reflects the essential activities and key variables in an organisation, and has been successfully implemented to assist clients in their change programmes.

Since Weisbord (1976) was interested in change processes, he included politics as an integral part of the delivery's phase design process. For the organisation to be able to adopt the change, individuals and departments must have the power to realize the change. Communication (Hughes, 1999:828), detailed planning (Pfaff & Cooper, 2010:111) and promoting relationships are amongst the findings of this study as areas which required attention during revitalisation. A structure for the revitalisation programme project is attached as Annexure 41 (pg. 255).

Weisbord (1976) adopted a "forms follows function" rationale without fully taking into account that the current organisation structure limits the range of objectives an organisation can pursue. The model is based on goal setting theory that supports the notion that agreement on goals and objectives between employers and employees leads to greater organisational effectiveness and performance. Other organisational effectiveness theories are systems theory, shared value theory and stakeholder theory. HRP cannot only focus on the end result of QA deliverables to implement a quality management system, without being cognisant of the impact on the organisation.

The existing state of the hospital needs to be assessed, by applying change models as a conceptual framework, and identifying the aspects within the organisational structure which will be impacted by the changes associated with implementing and integrating a quality management system. The modified conceptual framework of Johnson (2004:156) as extrapolated from amongst others, Weisbord's Six-Box Model and quality management systems is recommended as an approach to QA and OD in the HRP context.

### 5.5.1 **Client quality**

De Jager & du Plooy (2007:108-109) hold that service quality in public health care service delivery can be improved by a structured and continuous process of investigating and addressing patient's perceptions of service delivery; with a pro-active approach by public health service management to meet expectations and concerns relating to hygiene, state of equipment, safety and caring.

During hospital revitalisation a double edged sword exists in terms of client quality, where the implementation of a structured quality management system and compliance with national core standards is a formal deliverable of project implementation; but simultaneously during the decanting and construction phase, client's expectations of personal safety, hygiene and general cleanliness of ablution and other facilities, as well as the condition of equipment, should be addressed as a priority.

Training programmes throughout the revitalisation period and beyond to instill a friendly and caring attitude amongst staff would be an imperative measure for hospital management to take to improve the perceived performance of the hospital. The Batho Pele principles were revitalised at Paarl Hospital by training sessions on the topic of client care; developing service standards; and printing the principles of '*We belong, We care, We serve'* on regular use items such as mouse pads, T-shirts and paper holders.

Other recommendations to revitalise Batho Pele in the public service (van den Berg, 2007:10) include:

- Implementation and monitoring of service standards;
- Public relations officers at facilities who do walkabouts and guide clients;
- Creating capacity to champion Batho Pele;
- Quality Assurance activities linked to Hospital Revitalisation developing a partnership with hospital management to reinforce Batho Pele; and
- Reinforcing that Batho Pele is not only the responsibility of Quality Assurance.

### 5.5.2 **Staff quality**

The framework of client's rights and staff needs proposed by Engender Health (2003) can guide a facility's managers, supervisors, and staff in their efforts to improve quality. Acknowledging that clients have a right to expect certain things when they come for services is a powerful concept, one that has implications for staff behavior and performance. Moreover, recognizing that service providers and other staff have needs that must be met if they are to provide quality services is a motivating force among staff and supervisors. Staff are often frustrated at being unable to provide the kind of services that they both would like to provide and know are needed.

The staff rights charter, as developed at Paarl Hospital, is a way of giving staff a voice and promoting staff involvement by writing it for their facility. Lean's double focus on customer satisfaction and employee involvement (Ballé & Regnier, 2007:33) makes it suitable for the HRP implementation context. The Lean thinking and tools (Ballé & Regnier, 2007:33-41) should be considered as a future intervention for HRP project implementation, especially when departments such as the outpatients department and the emergency centre are planned.

The staff in these busy departments in the public health context should be developed as processes improve when individual employees learn to do the same job better. The concept of adding a system dimension to Lean to promote true Lean thinking and creating a working environment where all employees can visualize problems easily and find countermeasures immediately to solve them; and use Lean to build a learning environment for staff and management (Ballé & Regnier, 2007:41) could serve to develop health care staff in HRP hospitals before delivering care.

Caring leadership and participative management emerged from data and literature as a way to provide some support to assist staff in adjusting and stabilizing during the constant cycle of changes (Cortvriend, 2004:185), brought about by the HRP, such as decanting, new clinical areas, policies and structures. Rhoades & Eisenberger (2002:711-712) suggest that if staff perceive organisational support in fair organisational procedures, supervisor support, and favourable rewards and job conditions; the consequences could include increased commitment to the organisation and performance, both of which are highly beneficial to HRP implementation versus withdrawal behaviour by staff.

Those managing the HRP implementation should be mindful of the importance of appropriate management of others and self during the rapid and unsettling changes, as well as the risk posed to the psychological contract between employee and employer. Violation of this contract could lead to distress and disengagement amongst staff.

### 5.5.3 **Technical quality**

With a greater focus on patient safety, the notion of facilitating incident reporting and active learning from adverse events (Armitage, 2005:159) is recommended to enhance clinical governance. The patient safety, clinical governance and care domain of the SA National Core Standards covers the management and processes of effective and quality clinical care and ethical practice; the reduction of unintended harm to healthcare users, or patients in identified contexts of clinical risk; and the management of adverse events, including healthcare-associated infections; to support any affected patient or member of staff, and to prevent occurrence or recurrence. An extract of this domain is reflected in Table 5.1.

**Table 5.1**: **Extract of SA National Core Standards for Health Establishments**

| Sub-domain | Standard | Criteria |
|---|---|---|
| **2.1 Patient care** | 2.1.1 Patients receive care and treatment that follows nursing protocols, meets basic needs and contributes to their recovery | 2.1.1.1 Procedures are in place to ensure delivery of basic care that optimises health outcomes |
| | | 2.1.1.2 There is evidence that care provided optimises health outcomes |

(Source: DoH, 2011:22)

These core standards call for evidence-based practice**.** Sackett *et al.* (2000) describes evidence-based practice as the use of current best evidence integrating individual clinical expertise with the best available external evidence from systematic research.

Evidence-based practice is a holistic approach to health care, that places the patient at its centre, and is more than research alone, but includes scientific knowledge (biomedical research), patient knowledge (symptoms, treatment and patient care), and personal knowledge (understanding the individual) (Liaschenko & Fisher, 1999:29-41). Patient safety needs evidence-based practice to prevent "healthcare system enabled patient errors due to an absence of an adequate safety net" (Clarke, 2011).

Evidence-based processes include clinical questions; searching literature; evaluating literature critically; implementing useful findings, while being mindful of cost (resource constraints); and developing a repertoire of evidence-based practices. Evidence-based practice is part of quality improvement, and is a useful tool in decision making in health care (Lourens, 2012:3-4).

#### 5.5.3.1 **Clinical audit**

Clinical audit was found to be an excellent tool to measure and evaluate clinical practice against set standards in the post-operative context specifically. It would also be a strong recommendation in all other clinical settings to advocate for patient safety and (DoH, 2008:12) identify further development and training needs of health care providers. Clinical audit aims to address quality of health care of all patients/ clients and health care management is charged with implementing high quality care. An idea for a clinical audit tool hatched at Paarl Hospital which involved utilizing the critical points in post operative care and using it to evaluate the standard care plans (Lourens, 2012:3-4). This care plan as an ideal tool to teach nursing students the importance of post operative care by auditing randomly selected post operative patient files. When students discover the errors, their learning is enhanced.

## 5.6 **Risk management**

The following are examples of South African policies and acts regarding staff and client safety during revitalisation:

- The Constitution of South Africa in Act 108 of 1996 and its Bill of Rights.
  - "Everyone has the right to an environment that is not harmful to their health and wellbeing"
- Public Service Regulations, Part 6, 2001
  - "Government will work towards the improvement of a working environment… to include employees health"
- Occupational Health and Safety Act
  - Outlines the general duties of employees and employers
- Compensation for Occupational Injuries and Diseases Act (COIDA)
  - Allows for compensation under very specific circumstances (Government Gazette, Vol. 451, No 24231, January 2003).

With these legislative documents as a backdrop, the necessity for risk management during revitalisation becomes imperative. The role of thorough risk assessments in terms of client, staff and technical quality issues to supply accurate and timely information about the hospital's key risks (SA, 2007:18) during revitalisation to corporate governance stakeholders cannot be overemphasized. In the context of an increasingly complex and technologically sophisticated economic system, tax payers and investors alike would assume that no entity is immune from the prospect of failure or collapse, and stakeholders therefore require more than before perhaps, that management has taken the necessary steps to protect their interests.

Construction and renovation projects pose special challenges for infection control personnel. Demolition of buildings near patient-care areas poses many similar challenges. In many hospitals, infection control personnel are the only clinical staff who assist in all construction and renovation projects. They may even find themselves having to ensure that both infection control guidelines and general building regulations are met in this regard. Infection control aspects of construction and renovation projects require large amounts of time and hard work and it would be advisable for infection control clinicians to have a briefing or tailored training to prepare them for the impact of construction activities on Infection Prevention and Control.

Clarke (1995:27) advises that the following stakeholders integrate duties which address health and safety on construction sites:

- **The client (Department of Health)**, i.e. any person for whom construction work is carried out, who is required to appoint a competent planning supervisor and principal contractor for each project and to ensure, as far as reasonably practicable, that work does not commence unless a health and safety plan has been prepared for the project;
- **The planning supervisor (Department of Public Works)**, appointed by the client, who is responsible for ensuring that designers comply with their duties regarding the avoidance and reduction of risk; preparing a health and safety plan before a principal contractor is appointed; notifying the project to the Health and Safety Executive; and giving advice to the client and contractors;
- **The designer (Principal architect)**, who is required to ensure so far as reasonable and practicable that any design he prepares has regard to health and safety considerations;
- **The principal contractor (Architectural firm)**, who is required to take reasonable steps to ensure co-operation between all contractors and to ensure as far as is reasonably practicable that every contractor and employee at work on the project complies with the health and safety plan and to ensure that workers are provided with information and training and are consulted on health and safety matters; and
- **Other contractors (Builders and sub-contractors)**, who are required to co-operate with the principal contractor and provide him with relevant information regarding health and safety and to comply with the health and safety plan and the directions of the principal contractor. Self-employed persons have similar duties when they act as contractors.

Prevention of staff injuries is an apparent priority, with the list of reported construction interface related injuries elucidated in this study. Thorough induction of staff and any visitors to the construction area is mandatory; and the safety rules as utilized during this project implementation by the building contractor is recommended as a suitable minimum to be covered (Annexure 42, pg. 256).

## 5.7 **Limitations**

As this is a qualitative study, the aim was not to seek generalisability or representivity (Terre Blance & Durrheim, 2004: 63). This study included one secondary level public hospital in one Province in South Africa; therefore these results cannot be generalised. However, this data can form a basis to conduct further similar studies.

As the researcher was involved in the project there was a possibility of bias during data collection; analysis; and interpretation (Burns & Grove, 2001: 226). Keeping this in mind, bias was managed by the study supervisor being involved in a prominent way; multi-method data sources and collection; and triangulation during data analysis.

## 5.8 **Theoretical framework**

The conceptual model of determinants, dissemination and implementation of innovations in health service delivery and organisation proposed by Greenhalgh *et al.* (2004:595) was adopted for the HRP as an innovation in health service delivery and organisation. The implementation of the HRP as an innovation at Paarl Hospital was applied to the conceptual model and various aspects of the hospital's leadership and management positioned it well as a receptive context for change and innovation in light of the inadequate facilities. This diagrammatic application is displayed in Figure 5.3. The adapted conceptual model on pg. 153 will be explained in detail per unit, as blocked off in Figure 5.3. Each aspect of the model from the innovation to the implementation of the innovation and the interlinked systems are explained as it applies to the HRP.

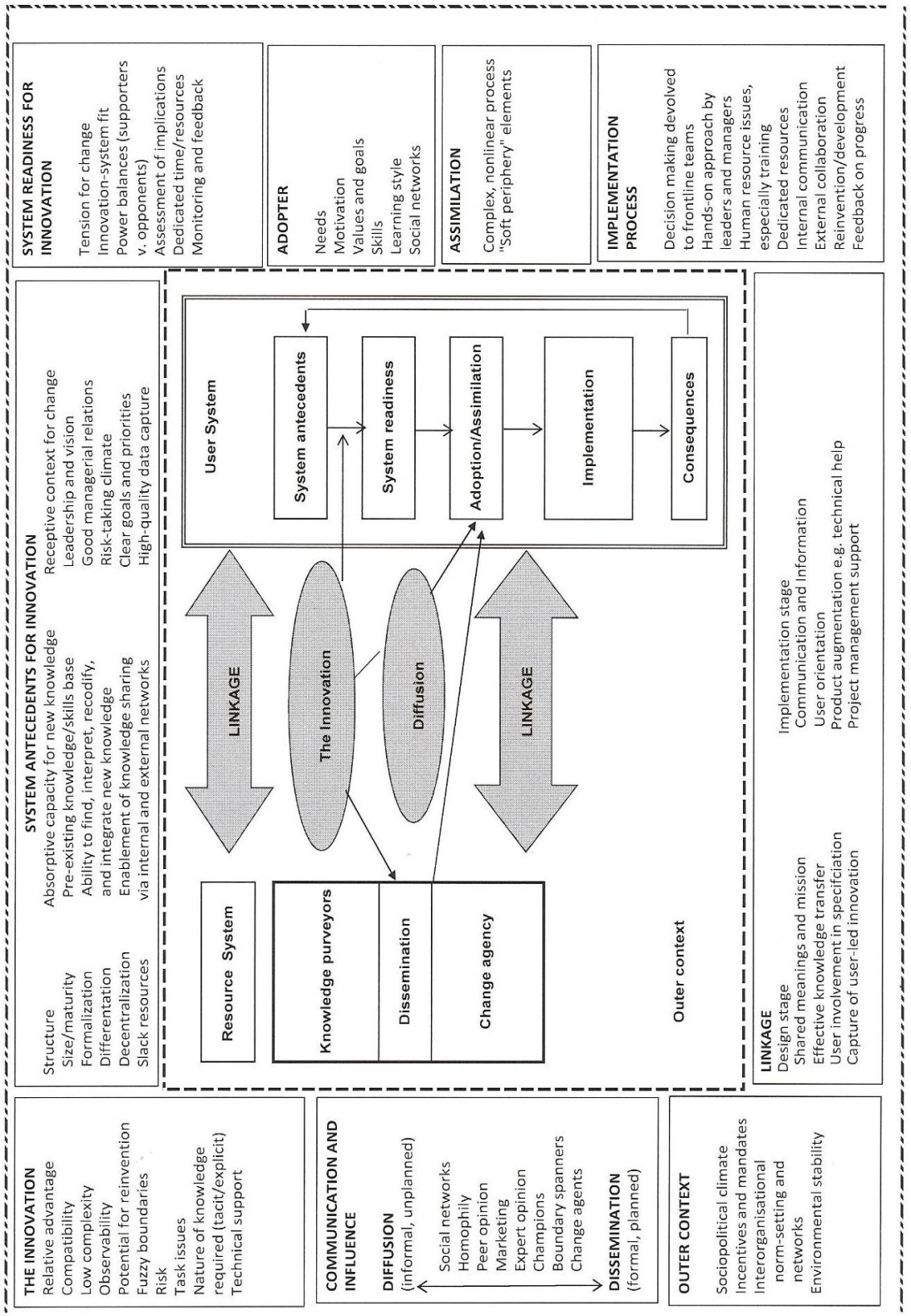



**Figure 5.3: Conceptual Model: Determinants, dissemination and implementation of Innovations in health service delivery and organisation as applied to the HRP implementation at Paarl Hospital**

(Adapted from Greenhalgh et al., 2004:595)

### 5.8.1 The innovation

Relative advantage: Innovations such as HRP that have a clear unambiguous advantage of improved infrastructure are more readily adopted or implemented.

Compatibility: The HRP is compatible with the adopters perceived needs of an improved hospital.

Low complexity: The complexity of the HRP innovation had to be broken down into the 4 manageable deliverables to ease adoption; namely Infrastructure, Health Technology, Organisational Development and Quality Assurance.

Trialability: Evidence of other HRP projects at similar regional hospitals raised trialability as a predictor of adoption.

Observability: The observability of the first HRP initiatives when the first areas to be built were viewed, made the benefits more visible and increased assimilation.

Potential for reinvention: The reinvention potential of the HRP innovation for adopters to adapt the project to suit their own needs when they were able to give input into design decisions, led to easier adoption.

Fuzzy boundaries: A complex innovation such as HRP has a 'hard core' of deliverables but the soft periphery linked with the system readiness.

Risk: If an innovation carries a high degree of risk, it is less likely to be adopted. The risk was not well defined or perceived at the beginning of the project and therefore the projected risk-benefit balance promoted assimilation. Risk management is therefore essential in diffusion of the HRP innovation.

Task issues: The HRP was perceived to improve the task performance of its users, the health care workers and was therefore more easily adopted.

Knowledge required: The HRP innovation had been tested in similar secondary level hospital contexts, making the knowledge required transferable and more favourable for adoption.

Technical support: The technical support and training supplied by HRP Provincial head office staff facilitated easier adoption.

### 5.8.2 Communication and influence

The HRP implementation at Paarl Hospital covered the continuum of diffusion (informal spread) to dissemination (formal spread).

### 5.8.3 Diffusion

The spread of the HRP innovation was initially informal and unplanned.

Social networks: The adoption of the HRP innovation was powerfully influenced by the formal, vertical networks evident in the hospital, which is more effective for passing on authoritative decisions.

Homophilly: The end users do not have similar socio-economic, educational, professional or cultural backgrounds and this could have influenced the resistance to change.

Opinion leaders: Opinion leaders have either a positive or negative influence. To those key opinion leaders who found the project sufficiently appealing to their goals being met by resources, support of the innovation was attracted. Not all true opinion leaders were identified in the organisation and this limited success of the intervention in some departments (e.g. the workshop).

Champions, however, emerged in the form of transformational leadership adopted by some managers, harnessing the support from other members of the organisation and the OD facilitation which led to a network of cross-functional coalitions in the form of 4 strategic teams.

Boundary spanners: The innovation adoption was enhanced by management members who had significant social ties inside and outside the organisation and were able to link the organisation to the outside world in relation to this particular innovation by establishing the local steering committee of community stakeholders.

The formal dissemination was characterized by being led by an external change agency (HRP directorate) which attempted to take full account of adopters needs and perspectives, and by incorporating rigorous evaluation and monitoring of the HRP deliverables. More could have been done to tailor a communication strategy to target different demographic, structural and cultural subgroups with appropriate style, imagery and metaphors, utilizing appropriate communication channels.

### 5.8.4 Dissemination

The spread of the innovation was formal and planned through the Department of Health's structures.

### 5.8.5 System antecedents for innovation

The following are viewed as key antecedents for innovation:

Structure: The hospital facility was aligned to the features found to influence the likelihood that an innovation will be successfully assimilated (i.e. adopted by all relevant individuals and incorporated into 'business as usual' in that it is a large, mature, functionally differentiated facility with semi-autonomous departments and has specialised foci of professional knowledge).

Absorptive capacity for new knowledge: An important pre-requisite for an organisation's potential to assimilate an innovation is the existing knowledge, skills base and experience. Here the data reveals that staff felt inexperienced to deal with issues such as infrastructural snagging and that they had limited knowledge of infrastructure. The pro-active leadership who strove to find out more from head office assisted in some way to overcome this.

Receptive context for change: Hospital leadership envisioned change. The features of an organisation associated with its ability to embrace new ideas and face change include strong leadership which was evident on this project, visionary staff in pivotal positions who drove this project for 10 years prior to inception, the conditions in the outdated, and in some places dilapidated hospital, set a climate conducive to risk taking in the interest of improvement and change.

### 5.8.6 System readiness for innovation

High tension existed for change due to inadequate facilities; the innovation fitted the health system; the power balance was tipped towards more supporters for HPR than opponents; the assessment of the implications of the HRP project were positive; dedicated resources were allocated by National Health; and monitoring and feedback was provided by Provincial HRP Directorate.

### 5.8.7 Adopter

The hospital staff sought the innovation, developed feelings about it, some complained and challenged it, worked around it and modified the process to fit in their tasks by dialogue with others. Certain individuals who could tolerate the ambiguity, had intrinsic motivation, and a learning individual style, displayed more propensity to engage with the HRP innovation. The staff who shared the new vision and values and who had specialised skills to apply in the upgrade where more involved in adoption.

### 5.8.8 Assimilation

The assimilation was consistent with the stages of adoption by key individuals who had "knowledge-awareness" of the HRP innovation, and adoption-implementation took place; although more often a messy model of assimilation was evident in which the organisation moved back and forth between initiation, development and implementation punctuated by shocks, setbacks and surprises.

### 5.8.9 Implementation process

The literature reveals that change management is an integral part of the implementation process.

In this project many factors in system readiness were favourable for implementation such as dedicated funds for HRP, Top Management support at the hospital and leadership at DoH Head Office displaying a hands-on approach.

The intra- and inter-organisational communication within and between the hospital and stakeholders were effective enough to promote the success of implementation. An additional 98 meetings were held per annum with internal and external stakeholders.

This also facilitated the requirement for successful innovation which is the feedback loop on accurate and timely information of the impact of the implementation. The ‘Projectcast’ and monthly newsletter fulfilled this purpose.

The HRP project was adapted to the local health context and is another contributing factor to the successful implementation. See Annexure 41 (pg. 275) for the HRP structure, which facilitated implementation with all the role-players from the local health context.

### 5.8.10 Linkage

Design stage: The meaning and mission of HRP was shared and ensured compliance with National Health Policy in HRP implementation.

Project implementation stage: Communication and information, as well as technical support was supplied by Provincial HRP directorate. Users were orientated by visiting a nearby secondary hospital revitalisation presentation. Project management support was provided in the form of a facility project manager and project assistant.

### 5.8.11 Outer context

The socio-political climate in South Africa with its democratic constitution was conducive to environmental stability. Political directives or a "policy push" occurring at the early stage of implementation of an innovation can increase its chances of success, such as the dedicated funding stream from the HRP. However, external mandates increase an organisation’s motivation but not capacity to adopt an innovation. Inter-organisational networks with other hospitals where the HRP innovation was the "norm", promoted adoption.

The intentional spread strategies, such as the quality improvement collaborative driven by the formal networking initiative of the Directorate in which Quality Assurance was housed, provided crucial support in the implementation phase. The wider environment had a small positive impact on innovativeness, common for the service sector, whereby a measure of inter-organizational competition within the HRP existed.

### 5.8.12 Conceptual model

At the centre of the application of the conceptual model, lie the linkages between the different systems from the project design to implementation stages. The relevant role-players are identified in Figure 5.4 for each system.

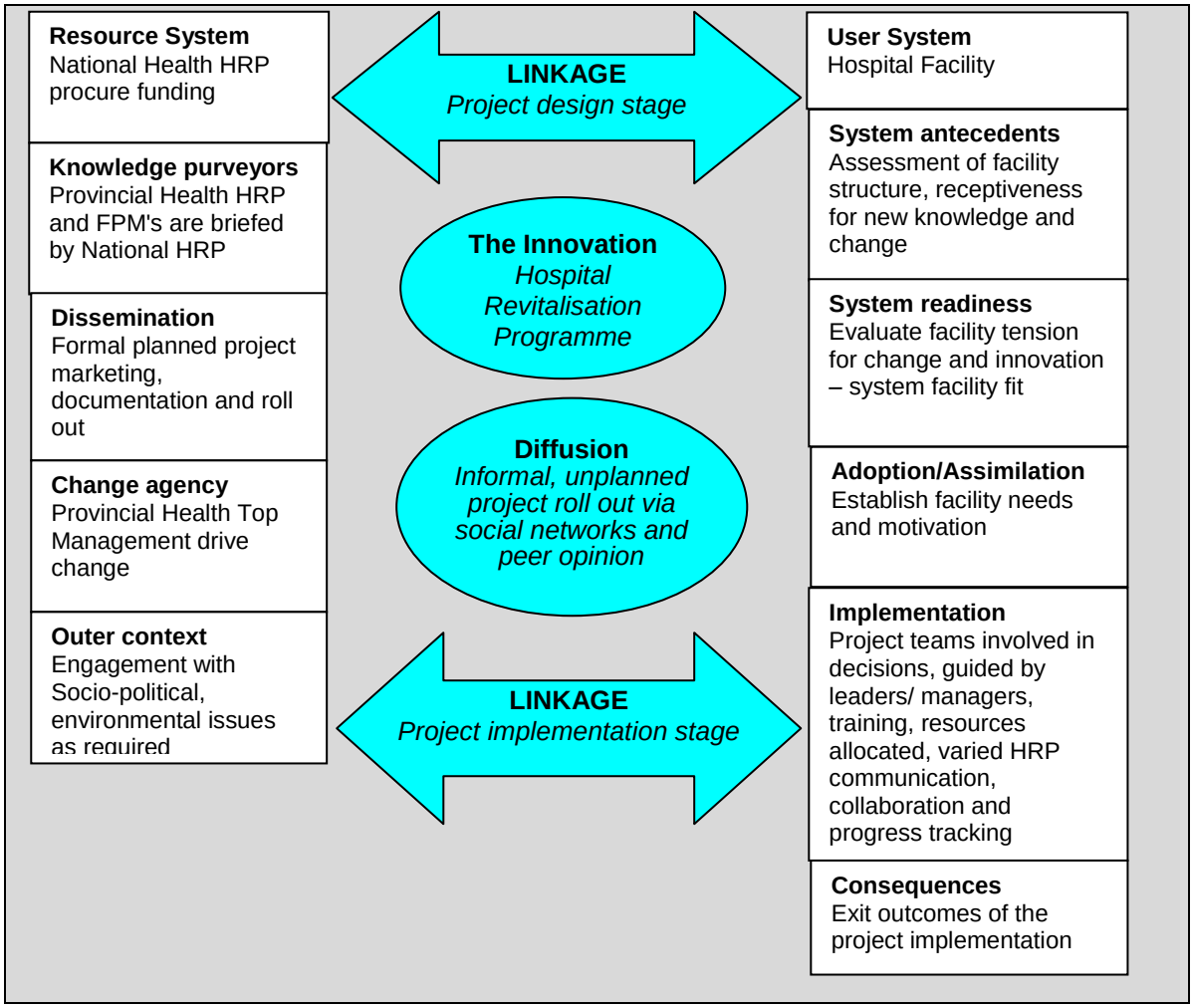



**Figure 5.4: Conceptual Model as applied to HRP Implementation**

The '**Resource system**' in this conceptual model was the availability of SA National Health funding, without which the infrastructure and health technology improvements could not have been procured. The National HRP served as purveyors of knowledge to Provincial Health with regard to the project. In turn, formal planned communication for HRP project roll out at Paarl Hospital was done by the relevant authorities. However, a measure of diffusion took place by way of social networks, hospital gossip and opinionated peers and community members on the Hospital Board.

The change agency was driven by top management structures at the DoH head office, but support was required from hospital management. In the outer context engagement with socio-political issues, of which job creation was the most marked, resulted in construction trade learnerships; as well as nursing learnerships; and a volunteer programme which were driven by the LSC and the Hospital Facility Board.

The '**User system**' is the Hospital facility which displayed system antecedents of receptiveness for new knowledge and system readiness with signs of a facility based tension for change and innovation; driving adoption due to the motivation to meet facility needs. The implementation in the user system of the Paarl Hospital facility was characterized by various project and strategic teams, guided and trained by hospital and head office leadership, forging ahead in project progress through communication and collaboration. The consequences for the user system was the Paarl Hospital facility exit from the Hospital Revitalisation Programme with measurable outcomes in all four (4) deliverables of Infrastructure Development, Health Technology, Organisational Development and Quality Assurance.

## 5.7 **Summary**

This chapter discussed the results of this study linked to relevant available literature. The project deliverables of Infrastructure Development, Health Technology, Organisational Development and Quality Assurance were discussed individually and the recommendations which emerged from the findings combined with literature, were presented. The next chapter will describe the implementation framework put forward for hospital revitalisation, based on the findings of this study.

# CHAPTER 6
# PROPOSING A FRAMEWORK FOR THE EFFECTIVE IMPLEMENTATION OF THE HOSPITAL REVITALISATION PROGRAMME IN SOUTH AFRICA

## 6.1 Introduction

This study aimed to critically evaluate the HRP implementation at the Paarl Hospital in the Western Cape of South Africa. Chapter 1 gave an overview of the global and local hospital revitalisation situation. Chapter 2 and 3 presented the literature reviewed for this study. Chapter 4 presented the methodology applied to the study. Chapter 5 presented the results and the previous chapter presented the discussion of the results with the emerging recommendations. Drawing on the results and the literature reviewed and discussed, a framework for the effective implementation of the Hospital Revitalisation Programme in South Africa was developed. In this chapter, the implementation framework as outlined by the literature and data findings of this study, will be described and proposed.

The chapter is structured around the following: construction of the proposed framework; and presentation of the proposed framework in the various project deliverables separately and summarized as a whole; and a theoretical model on the diffusion of innovation in health services as applied to hospital revitalisation. In constructing a framework for the effective practical implementation of the South African Hospital Revitalisation Programme, with its required deliverables, various models were made use of and will be discussed per deliverable.

In the Infrastructure domain, the 4Ls approach initiated by Gordon (Murray, 2011) some decades ago and now integrated in the South African Healthcare 2020 (DoH, 2011:40) planning, was found to be relevant to the aim and findings of this study. The 4Ls is therefore a crucial component of the infrastructure framework proposed; as well as the alphabetical summary of implementation guidelines extrapolated from the results and recommendations of this study. The 4Ls is focused on the sustainability or long life of health facilities; buildings which are flexible or have a loose fit for expanding health services; reduction of the carbon footprint from low impact health service infrastructure; and a luminous healing environment designed for both patients and staff benefit.

In seeking a conceptual approach for the effective implementation of the Hospital Revitalisation Programme in South Africa, this study made use of the overarching Rogers (1983) theory on the diffusion of innovation, as applied in health services to the Hospital Revitalisation Programme. The Rogers (1983) model gives an overall picture of diffusing an innovation, such as the Hospital Revitalisation Programme into the health services. This theory has been applied to the Hospital Revitalisation Programme as a system wide approach to gauge system readiness for such an innovation; and to mobilize the resource and user system for optimal HRP implementation.

## 6.2 **HRP business case**

The business reasons for the HRP project should be well articulated (Richman, 2012:18-19) to secure the long term growth of the health service with improved capacity; and be regarded as an investment to leverage significant benefits to the community within the constraints of time, cost, and scope.

In terms of the Hospital Revitalisation programme, when a new project is proposed, the key ingredients of the business case, as deduced from the findings of this study, are to include the appropriate people (i.e. clinical and management in multidisciplinary teams) in the planning and development; to ensure appropriate authorisation at all levels of final plans and in particular get clinical staff and management to sign off such plans of each new area. The business case also serves to ensure appropriate updates in service needs and requirements to the National Department of Health, who currently provide the HRP funding and should be notified of such changes; and an appropriate detailed risk management plan to be developed and written into the brief pertaining to occupational health and safety of staff; as well as all aspects of client, staff and technical quality safeguarding. These overarching recommendations for the HRP business case is depicted as the 4As in Figure 6.1.

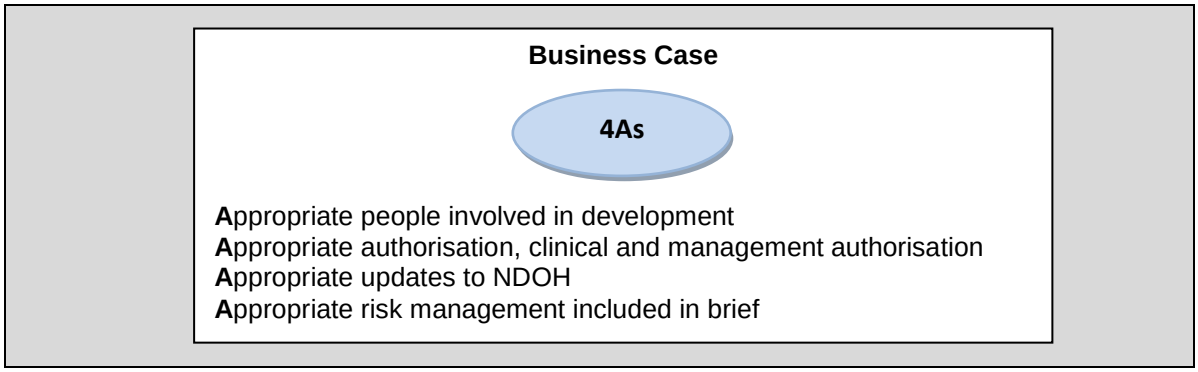



**Figure 6.1: HRP Business Case**

## 6.3 Infrastructure Development

The Infrastructure component has the most marked impact on the hospital system during the construction phase and some of the recommendations to enhance the execution of this challenging stage of the project are displayed in Figure 7.2 and described below.

Clinical staff should be assisted with three-dimensional visualisation during design sign-off by using mock-ups or 3D computer software. Taping space and equipment on an accurate scale is a more cost-effective alternative to assist staff in visualising the design.

Norms and standards developed by the National or Provincial Health Department for clinical areas would streamline the design process. The only existing set of norms are the SAHNORMS and Booyens (2008:65) notes that these are loosely applied when plans are studied by the Department of Health. Regulation R158 (Government Gazette no. 6832, 1 February 1980, as amended) sets minimum standards as guidelines to planners and designers and can therefore lead to the provision of inadequate space. Any developments to norms and standards regulating hospital facilities should be applied to future projects. Design brief considerations should include evidence-based and innovative healthcare facility trends.

The contract management of the HR infrastructure deliverables is a crucial control area with special attention required for communication between role-players; the decanting decisions; retaining acceptable relationships between clinical and construction stakeholders; managing staff and client safety and security; and giving support to clinical staff during decanting and snagging periods. Communication should be planned for and include weekly meetings and updates to all role-players. Relationships between the clinical staff, management, construction consultants and contractors need to be nurtured to ensure amicable project delivery and hospital commissioning.

Other important considerations are that the planning tool for infrastructure delivery should remain active in the event of changes in community or national health needs or policy.The business case must be well written with the appropriate people's input and signatory approval, with flexibility for updates and a risk management plan factored in. The risk management plan should evolve from the planning stage of the project and according to Richman (2012:163-164) incorporate early identification of possible risks, assessing the likelihood of these risks and prioritizing these risks in terms of prevention, detection, mitigation of loss and restoration after risk response. Some possible sources of risks in HRP implementation, as confirmed by the results of this study can include the following categories:

- Administrative: processes, procedures, changes in roles or responsibilities, bureaucracy;
- Environmental: culture of the organization, change in management or priorities, office politics, community needs and demands;
- Ergonomical: Cramped working environment during decanting;
- Financial: budget cuts, cash flow problems, unchecked expenditures, changing economic conditions, shifting priorities;
- Governmental: legislated regulations, policy changes, tender procedures;
- Human: human error, poor worker performance, personality conflicts, communication breakdown, workplace conflict, burnout, absenteeism, workplace injuries;
- Logistical: inability to deliver materials or work face-to-face, difficulty in decanting operational clinical areas, delays in construction;
- Market: product failure in the marketplace, change in consumer expectations, new competitor products, expensive consumables for equipment;
- Psychological: Staff fatigue and burnout due to constant state of change;
- Resource availability: specialized skills or critical equipment not available; and
- Technical: new breakthroughs, design errors or omissions, complex health technology installations requiring engineering support.

Norms and standards should not only be developed for clinical areas, but also services such as lifts and air-conditioners. Strict monitoring and evaluation of HRP funding and expenditure should be in place in the layers of local, provincial and national health.

Governance of all four normative component deliverables should certainly be reviewed by the provincial HRP role-players. A library of HRP documents needs to be established with 'as-built' plans and manuals. Electronic back-up copies of OD and QA legacy documents are recommended.

Pro-active human resource planning and recruitment should accompany the expansion of services due to HRP. The benefit-risk ratio must always be considered when infrastructural activities are interfacing closely with clinical areas; as staff and patient safety should come first.

Strong management is called for in the complex HRP project delivery. Strong leadership from National and Provincial HRP can strengthen strong project and contract management on site. Key issues to manage during constructions include: risk management; change management; contingency planning; stakeholder management; snagging; and producing and interrogating progress reports.

**The 4Ls approach**

The 4Ls approach to infrastructure Development (DoH, 2011:40) is recommended as a broad brush approach to design, where the long term sustainability of the hospital should be considered; some flexibility be factored in by having a loose fit for future installations or services; the carbon footprint of the new services be carefully considered to ensure a low impact; and a healing environment be created by considering the use of lighting, and natural elements as well as optimal client comfort.

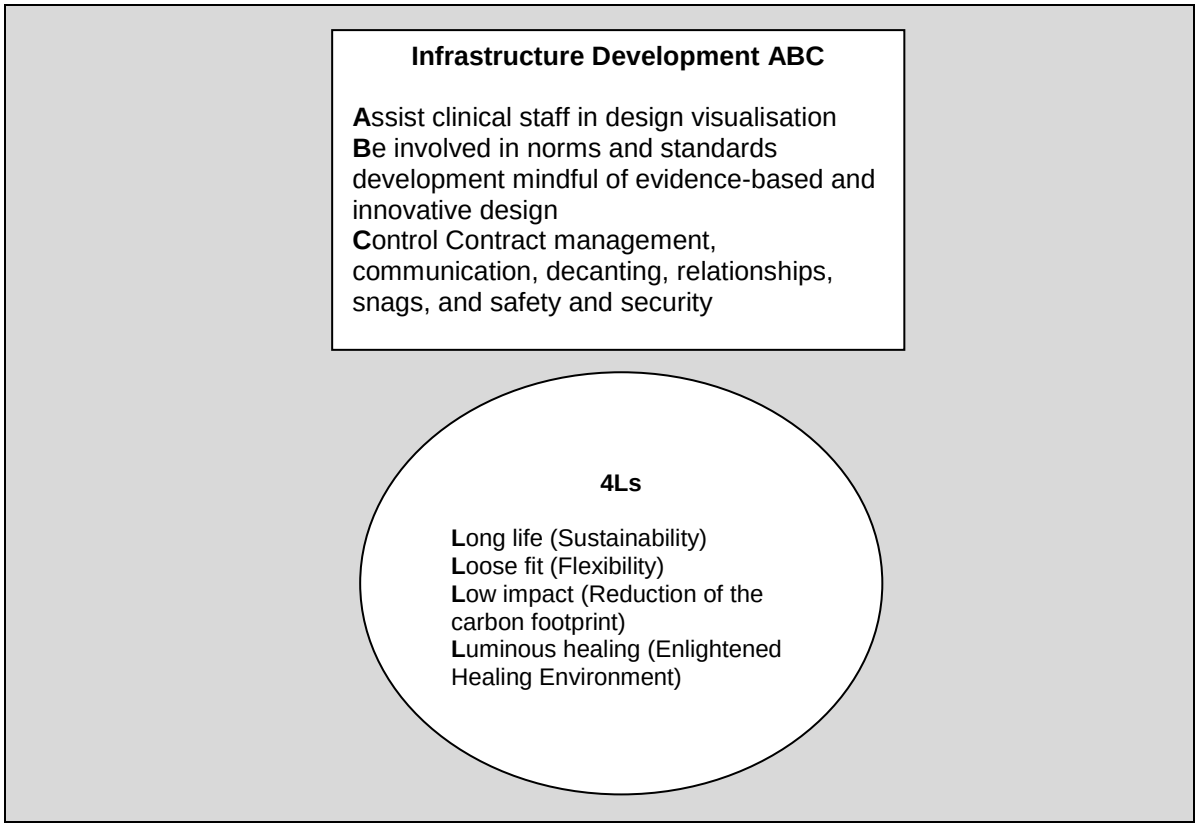



**Figure 6.2: Infrastructure Development ABC**

## 6.4 **Health Technology**

The interface between health technology and infrastructure is a precarious one in the HRP context. This study found that large items are integrated more smoothly if procured as part of the contract; and that norms, standards and specifications should be developed with consideration of consumable item cost efficiency and product durability for HT procurement.

Allowances should be considered for integration with future HT innovations. Booyens (2008:108) warns that it is tempting to exclude the installation of major capital items from the brief of the professional team but that this is short-sighted and can create major problems if it is essential that such items are properly installed and integrated into the fabric of the building.

Standard operating procedures need to be developed for HT items before they are issued or installed in clinical areas. An effective asset management system with planned pro-active maintenance of HT is crucial.

Once HT items are procured and installed, provision of operating manuals and training and ownership by the clinical or support staff is critical to ensure preventative maintenance and longevity of HT items. Figure 6.3 highlights some of the key HT considerations for the HRP.

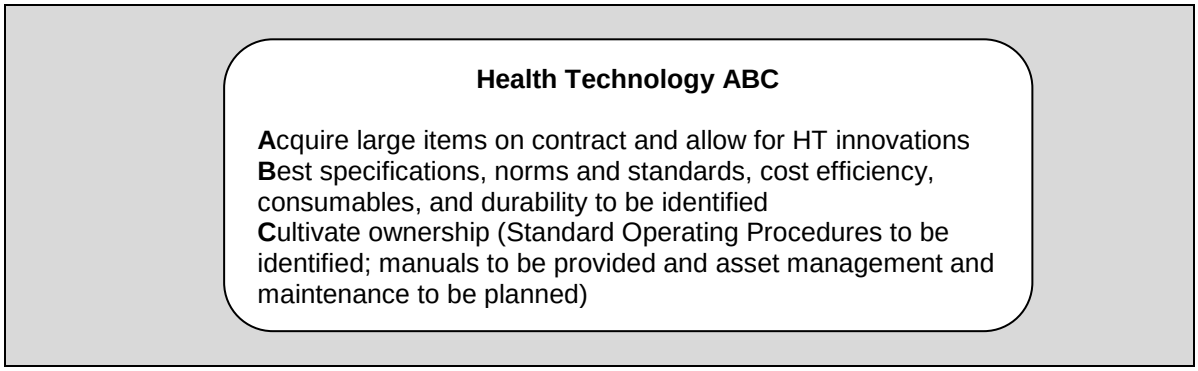



**Figure 6.3: Health Technology ABC**

## 6.5 Organisational Development

For the organisational development deliverable, a model found suitable for the objectives of this study was the Six-Box Model of Weisbord (1976), which provides a lens through which to conduct the organisational development gap analysis. The organisational development strategy is based on developing the organisational vision, relationships, structure and systems for reward and recognition. Strategic Planning workshops to review the past and own the present by doing a SWOT analysis, is also recommended to establish a common future and develop action plans in strategic teams, representing a cross section of the whole system.

Based on the organisational development findings of this study it is recommended that prior to HRP implementation and during construction; a change management intervention is planned and done. Moving from an existing facility to a new one is stressful and the closing down of an existing hospital is likened to the grieving process (Booyens, 2008:109). The change process, therefore, has to be acknowledged and planned for. This intervention should include a respect for and a celebration of the past, exploring the losses and gains of the HRP project, marking the beginnings and endings of departments, and moving toward a new future. Caring leadership is essential to contain the staff and community during the construction and change.

Pro-active alignment of human resources recruitment to deliver the expanding services and increased bed capacity of the revitalised hospital is paramount. A skills audit should be done and a training needs analysis done to align the organisational development and training towards the needs of the new facility services. This can be reviewed annually. Frontline and professionalism training should be given and ideally these skills should be pre- and post-assessed in the workplace to consolidate training.

The importance of communication with a team approach is emphasized, to enhance relationships during revitalisation. A local steering committee to engage with the community will facilitate cohesion with the community and hospital staff during the construction phase. A communication strategy was eventually formulated by top management (Kruger, 2012:1) to clarify arrangements for communicating with staff, patients and other stakeholders; a step seen as vital to the success of an organisation during revitalisation to inform and educate, to promote awareness, earn understanding and support, and influence opinion and behaviour.

Furthermore, as cultural change and policies within health systems seem poised to further advance the role of client and community participation in health care decision-making and clinical governance; joint initiatives with clients and communities such as a Hospital Facility Board and a project linked Local Steering Committee are encouraged as a way forward. Figure 6.4 encapsulates these recommendations.

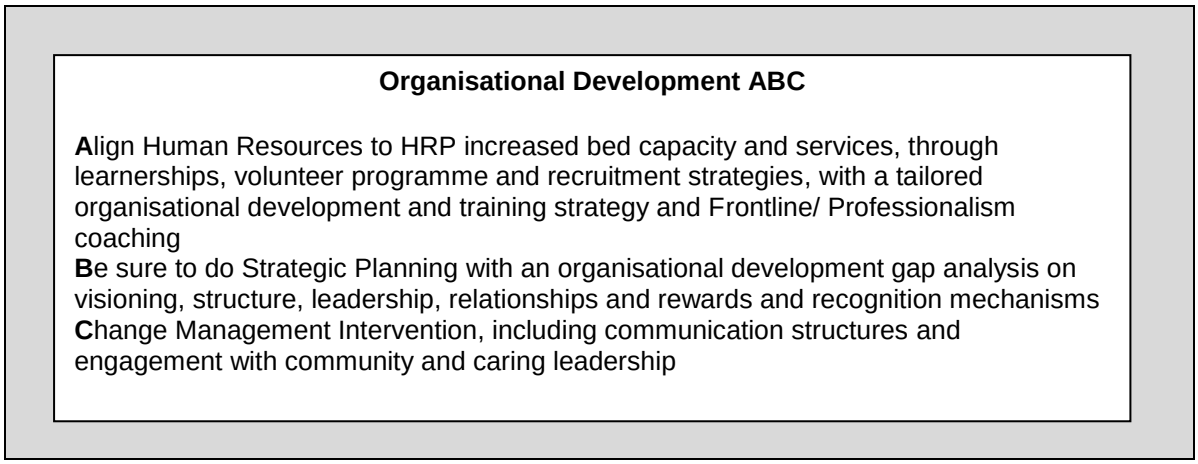



**Figure 6.4: Organisational Development ABC**

## 6.6 Quality Assurance

In Quality management in health services, the literature suggests varied approaches. One of these approached explored was the South African Excellence Model, and was chosen to provide a South African perspective.In this model patient and stakeholder satisfaction are achieved through effective leadership driving processes through policy; strategy; people, resource and information management (Eygelaar & Uys, 2004:35).

Health leadership should bring quality to life through campaigning for quality assurance; meaningful engagement with quality assurance, a daily consciousness of quality; setting quality assurance at the centre of management meetings; and continued commitment to quality of care. The Quality Policy was also chosen as it is an existing South African approach to managing quality of care in the public health sector. The Quality Policy domains of client, staff and technical quality; which are applied at HRP sites to elicit Quality improvement initiatives; was also used to categorise the consequences of the HRP implementation on Quality.

A key recommendation of this study, as depicted in Figure 6.5, is to do a thorough risk assessment of the entire revitalisation project using the domains in the Quality Policy (H 122/2002)namely client, staff and technical quality domains. A baseline of QA data should be established at project initiation and compared at the exit of the project to establish to what extent the quality management system has been implemented and improved quality of care.

Compliance with the SA DoH National Core Standards for health establishments should form an integral part of any HRP implementation. To meet the essence of the National Core Standards, clinical audit is invaluable in ensuring a change in practice. This will require coaching; surveillance; paying greater attention to patient opinion; performance management; and system strengthening. Risk management should be applied to mitigate technical risks of staff and client injury, low staff morale, adverse events, infection control issues as well as safety and security. Financial business units, balanced scorecards and Lean are some of the tools which can be considered. It is recommended that quality be the driver of the HRP implementation in what will be procured and assured.

The literature suggests that organisational change and quality improvement in healthcare settings are intertwined. Johnson (2004:170) developed a model to apply the organisational approach of Weisbord (1976) to quality management. As this study looked at the implementation of both QA and OD, the Johnson model is proposed as an approach for QA and OD implementation, drawing on the core concepts of Weisbord's Six-Box Model and elements of the South African excellence model.

The 4As business case key points are important at the outset of the HRP project and the 4Ls approach of long life, loose fit, low impact and luminous healing is relevant to the infrastructure design considerations to enhance quality.

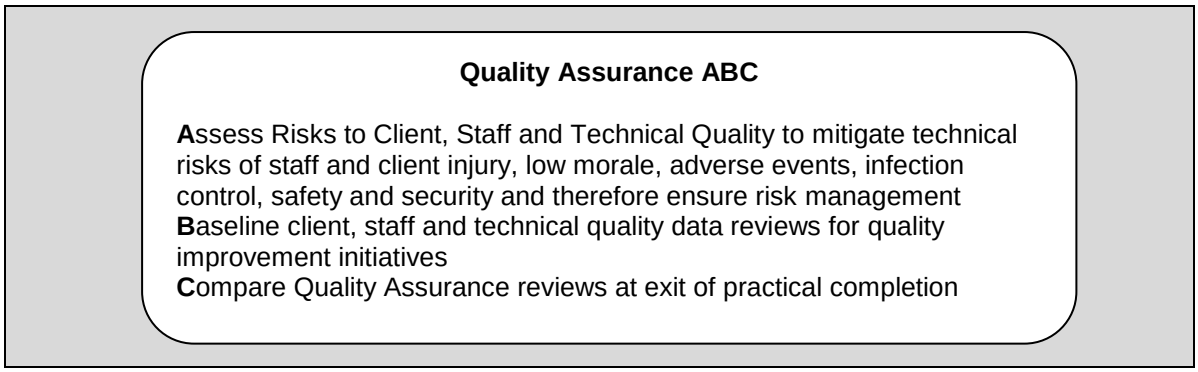



**Figure 6.5: Quality Assurance ABC**

## 6.7 **Quality as HRP driver**

The findings of this study support the notion that quality should be the driver of the aesthetics/cost/quality ratio triangle in a project of this nature. Quality of infrastructure, durability and longevity is essential. Quality HT equipment which has been tried and tested and procured based on standardized specifications is preferable.

In terms of clients and staff who must interface with the construction activities, quality management in terms of client, staff and technical quality is paramount. Risk assessments should precede project initiation. The triangle in Figure 6.6 below depicts the recommendation that Quality should be the driver in all the components of the HRP project deliverables.

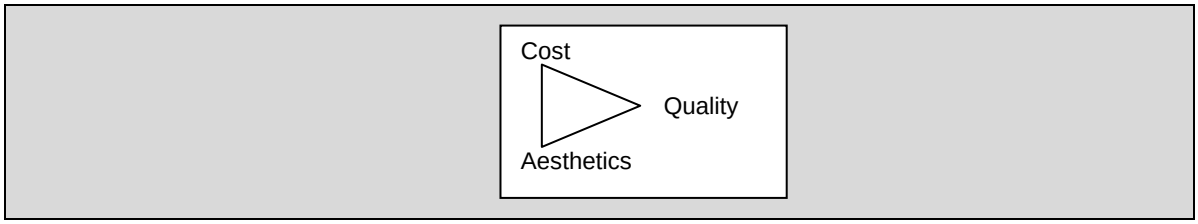



**Figure 6.6: Quality as the driver for HRP Project Implementation**

## 6.8 **HRP Implementation Framework**

The proposed implementation model as pictured in Figure 6.7 ties in the four normative components of HRP namely Infrastructure Development, Health Technology, Organisational Development and Quality Assurance. An ABC summary of the key recommendations has been adopted to convey the findings and translate them into a palatable format for future projects. The summary of ABC figures for HRP deliverables is are tabulated below in Table 6.1.

**Table 6.1: Summary of ABC Figures for HRP Deliverables**

| | |
|---|---|
| **Infrastructure Development** | • **A**ssist and involve all clinical staff in design visualization<br>• **B**e involved in norms and standards development, based on evidence-based, innovative design<br>• **C**ontrol Contract management, communication, decanting, relationships, snags and safety |
| **Health Technology** | • **A**cquire large items on contract and allow for HT innovations<br>• **B**est specifications, norms and standards, cost efficiency, consumables, and durability to be identified<br>• **C**ultivate ownership (Standard Operating Procedures to be identified; manuals to be provided and asset management systems maintenance to be planned) |
| **Organisational Development** | • **A**lign Human Resources to HRP increased bed capacity and services, through learnerships, volunteer programme and recruitment strategies with a detailed organisational development strategy<br>• **B**e sure to do Strategic Planning and frontline/ Professionalism coaching<br>• **C**hange Management Intervention, including communication structures with community and caring leadership |
| **Quality Assurance** | • **A**ssess Risks to Client, Staff and Technical Quality to mitigate technical risks of staff and client injury, low morale, adverse events, infection control, safety and security and therefore ensure risk management<br>• **B**aseline client, staff and technical quality data reviews for quality improvement initiatives<br>• **C**ompare Quality Assurance reviews at exit of practical completion |

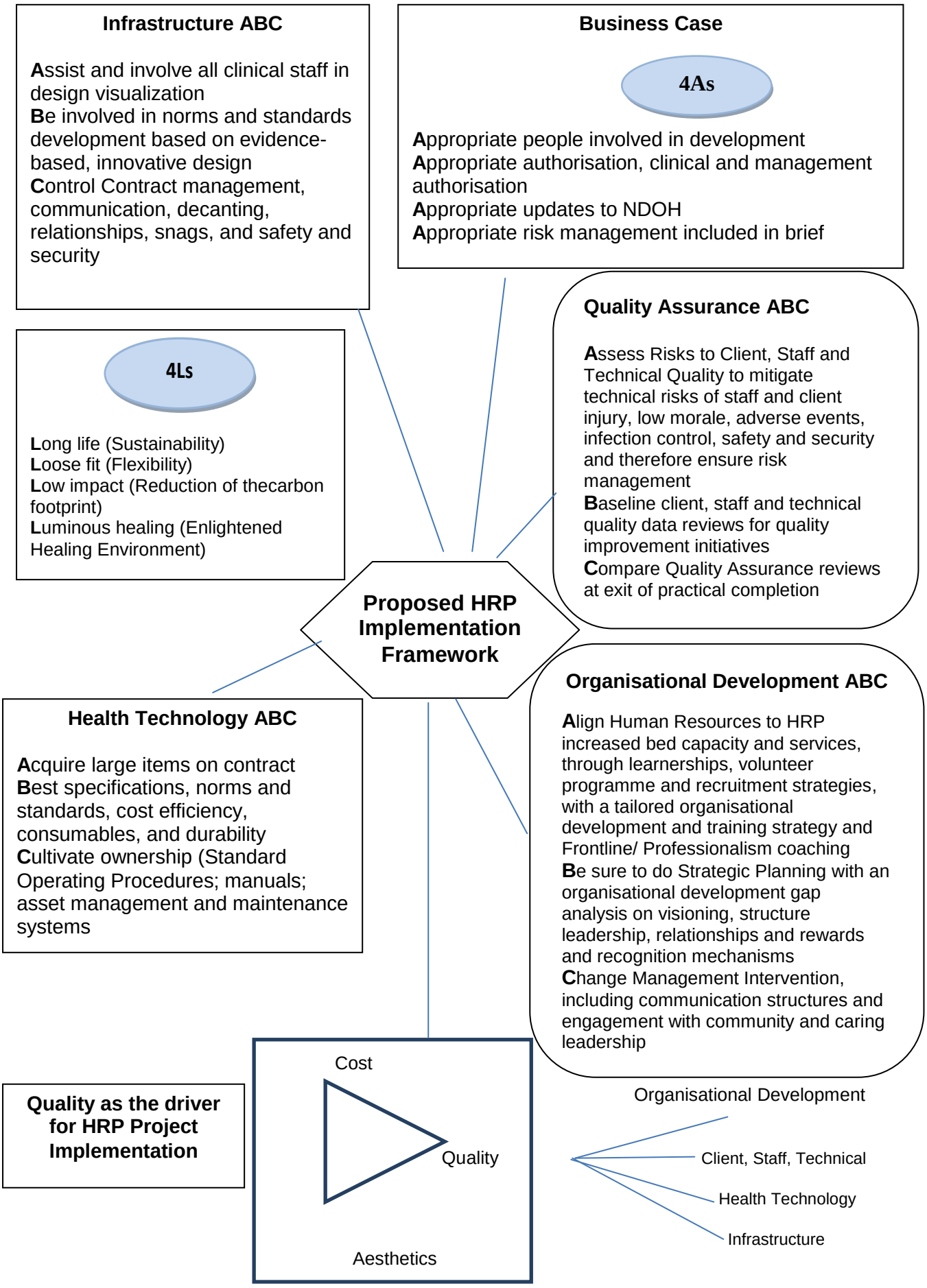



**Figure 6.7: HRP Implementation Framework**

## 6.9 **Theoretical framework**

Based on the findings of this case study, the diffusion of innovation in health services model is proposed to view the HRP process as a whole.The Roger's (1983) diffusion of innovation is a suitable theory to apply to establish the readiness of a hospital for an innovation such as HRP. It could also serve to guide activities towards readiness and promote sustainability if the system is primed to adopt and assimilate the HRP project implementation.

In the theoretical framework of Roger's diffusion of innovation, which the HRP project was applied to, as depicted previously in Figure 5.3 on page 153 and Figure 5.4 on page 159, the HRP is the innovation; the linkage between the user and the resource system is the project design stage, where the business case is written, as well as the project implementation stage. The diffusion of the project often initially occurred in informal, unplanned social networks in the form of rumours or peer opinions.

Central to the framework are the requirements of the Resource System, being the National HRP, to: provide the funding for the project, and purvey required knowledge to the provincial HRP to manage the project and disseminate it in a formal way, while acting as the change agent for project implementation. The resource system, HRP National or Provincial, should be cognisant of the outer context and ensure that socio-political and environmental issues are dealt with appropriately, engaging in e.g. an environmental impact study, green building practices to include a low carbon footprint; and exploring opportunities for volunteerism, learnerships, and internships, linked to the hospital expansion.

In turn the user system of the hospital facility needs to be assessed to determine the system antecedents of receptiveness for new knowledge and facility structure changes, as well as system readiness in terms of innovation. This will give an indication of the facilities' motivation to adopt or assimilate the project; and be a predictor of the teams and hospital facility leaders who would be involved in the decision making on design and decanting; and whom to involve in the HRP communication strategy; as well as who would assist in project progress tracking to ensure that HRP exit deliverables are achieved as a consequence.

## 6.10 **Summary**

In this chapter a primary objective of the study was achieved. To this effect, a framework for the effective implementation of the Hospital Revitalisation programme in the South African context was developed and presented. The main framework proposed in this study is presented in Figure 6.7 on page 174. The proposed framework is broken down into various sub-frameworks and represented with explanations in Figures 6.1 to 6.6. Each deliverable of the HRP Infrastructure Development (ID), HT, OD and QA have sub-frameworks, also proposed for the business case and for the pivotal role of quality in the HRP. The next chapter will make concluding comments on this study.

# CHAPTER 7
# CONCLUSION

## 7.1 Introduction

In chapter seven, a framework for the effective implementation of hospital revitalisation and a suitable overarching theoretical framework were proposed.In this chapter, the concluding remarks will be made.

## 7.2 Concluding remarks

The Hospital Revitalisation Programme has a decidedly influential impact on the Public Health Sector in South Africa. The communities in which the regional hospital's infrastructure and health technology is revitalised stand to benefit from the expanded services and quality management improvement, as well as organisational development.

However, during the decanting and construction phase, client, staff and technical quality is at risk. Staff are vulnerable to the chaos and change management requirements during revitalisation, which stretches staff morale and endurance. Clients and staff are exposed to safety and security risks and staff have occupational health risks to consider.Infection prevention and control is challenged by the inevitable dust, debris and overcrowding of decanting which could promote conditions favourable for nosocomial infections.

Nursing staff are a crucial component to health service infrastructure and should be included in planning. Assistance with 3D visualization of plans should be provided to most clinical staff consulted.

An implementation framework as developed and depicted in Figure 6.7, is recommended to manage risk in the various components of HRP namely Infrastructure Development, Health Technology, Quality Assurance and Organisational Development.

The Business Case 4As approach of: **A**ppropriate people involved in development; **A**ppropriate authorisation, clinical and management authorisation; **A**ppropriate updates to NDoH; and **A**ppropriate risk management included in brief, are recommended as crucial components of the business case development for a proposed hospital revitalisation project.

The 4Ls approach of: **L**ong life (Sustainability); **L**oose fit (Flexibility); **L**ow impact (Reduction of the carbon footprint); and **L**uminous healing (Enlightened Healing Environment) provides guidance for infrastructure and health technology installations.

The "ABC" frameworks for each deliverable provide a quick guide to the key recommendations that emerged from participant data, as tabulated in Table 7.1. Strong contract management is advisable in all deliverables, to ensure timeous delivery, reduce decanting time and snagging and to contain relationships, while mitigating risk to staff and clients.

Quality is viewed as the appropriate driver in the triangle pointing to the quality direction as a priority focus in HRP between cost, aesthetics and quality.The SA Policy on Quality of Care with domains in client, staff and technical quality provides an excellent framework for doing baseline and project exit quality assurance reviews, as well as a tool to guide essential risk assessment before and during HRP implementation.

Compliance with the SA National Core Standards are mandatory for accreditation of health establishments. These standards can guide quality assurance initiatives, organisational development systems strengthening, as well as infrastructural design and health technology standards. It is advisable that these standards are integrated in HRP planning and implementation.

Theoretical models, which can supplement the project implementation in each specific component, are put forward. Roger's (1983) diffusion of innovation provides a broad framework for the HRP innovation assimilation and implementation in the health service; Johnson's (2004) model, for organisational change, which integrates the South African Excellence Model (SAEM) and Weisbord's (1976) Six-Box Model, is recommended to apply for the gap analysis of Quality Assurance and Organisational Development to initiate improvement.

The framework, as developed for HRP implementation, based on the available data from this study, provides guidelines for intervention strategies to complement and strengthen public health systems to achieve the cost-effective and efficient realisation of a hospital revitalisation programme. Hospital revitalisation projects require high levels of professional support and control. Strong HRP contract management is therefore imperative, as project management proved complex.

Hospital revitalisation proved to enhance community participation and was beneficial to the immediate community, patients, staff, public health sector and the larger community in terms of specialist rural outreach activities.Pivotal to the success of hospital revitalisation is national political commitment and ring-fencing dedicated budgets with adequate funding; dedicated drivers of the individual project at provincial level and on site; and diffusion of the innovation in the health service system and adoption by hospital management and staff, as well as the community it serves.

HRP was viewed as an innovation in this study, and implementing this innovation took high levels of energy, endurance and dedication from staff, patients and the community. However, innovations such as hospital revitalisation should not occur faster than the public sector can provide the necessary trained healthcare professionals and human resources for the support services required to staff an expanded range of health services and bed-capacity.

Despite the innovative nature in which this HRP project developed, the sustainability of some organisational development interventions is threatened, due to resources being withdrawn from the public health sector when restructuring of health services occur or funding streams are re-allocated. In this study, outsourced asset and maintenance management, as well as annual off-site strategic development workshops were of the positive interventions regarded as being under threat when HRP funding ended.

It is important for the revitalisation of hospitals in the future that government policy should define the range of risk management activities required in hospital revitalisation programme implementation, as well as where or at what stage they might be appropriately applied. Strategic consideration needs to reflect on the range of risk management required from the conception of a new revitalisation project through to practical project completion and beyond.

Government bodies need to be cognisant of the voices of staff and patients in previous hospital revitalisation projects and incorporate their varying expectations into political thinking around programmes of this nature.

The findings which have emerged from this research indicate specific areas where the public health sector adopting hospital revitalisation projects on the basis they currently do, requires further examination or extension of the empirical evidence-base; such as risk management in hospital revitalisation in particular. The light shed by this study on issues around staff and client safety during revitalisation, as well as staff and client perceptions, experiences, and insights, should prompt a need for a better understanding of these facets during a major hospital revitalisation, as well as the appropriate change management programme, as these revitalisation projects are increasingly being embarked upon.

Based on this study, it is also recommended that further studies be conducted into international architectural and engineering guidelines for design and construction of healthcare facilities to develop a 'system-fit' innovation to address the current shortcomings in engineering systems; infection control; staff and patient safety; and tailored architectural guidelines for standardised healthcare facility design and plans. Hospital Revitalisation programme evaluations of this nature should lead to decision-making. Evidence-based decision-making could serve as sound recommendations to influence policy around hospital revitalisation.

Successful implementation of projects of this nature has the potential to be used for purposes of political expediency. This has advantages in terms of mobilising political will, commitment and budget allocation for hospital revitalisation to the benefit of the local community.

Policymakers could consider incorporating components of this study's findings in the Hospital Revitalisation programme's project implementation plans and policies, remaining mindful that inefficient allocation of public sector resources exacts a penalty by way of forgone health service benefits in the community, which expects quality health for all.

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**Annexure 1**

**Informed Consent: Interview / Focus group discussion**

**Title of Research Study:**
**Implementation framework of the Hospital Revitalisation Programme in a Regional Secondary level public Hospital located in Paarl, South Africa**

Principal Investigator: Guin Lourens
Cape Peninsula University of Technology

**Introduction and Purpose:**

Mrs. Guin Lourens is currently conducting research to describe the Paarl Hospital revitalisation project.

You are being asked to take part in this research study because your knowledge on these issues is very important for the purposes of this research project.

**Procedure:**

If you take part in this study, you will be asked to answer basic questions in an interview or a focus group discussion, of approximately 1 hour, on your experiences regarding the project.

**Benefits:**

There may be no direct benefit to you; however, information from this study may benefit other institutions considering or selected for such a revitalisation project.

**Risks:**

There are no known risks at this time to participation in this study.

Voluntary participation/Withdrawal:

Taking part in this study is voluntary. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study.

**Costs:**

There will be no costs to you for participation in this research study.

**Compensation:**

You will not be paid to participate in this study.

**Annexure 1 (continued)**

**Informed Consent: Interview / Focus group discussion**

**Confidentiality:**

All information collected during the course of this study will be kept confidential to the extent permitted by law.

Information from this study may be published, but your identity will be kept confidential in any publications, to limit the possibility of individuals being recognizable. The results of this study will be used for research purposes only.

**Questions:**

If you have any questions in the future, you may contact Mrs. Guin Lourens. See details below.

**Consent to Participate in this Research Project:**

To voluntarily agree to take part in this study, you must sign on the line below. If you choose to take part in this study, you may withdraw at any time. You are not giving up any of your legal rights by signing this form. Your signature below indicates that you have read, or had read to you, this entire consent form, including the risk and benefits, and have had all your questions answered. You will be given a copy of this consent form.

…….  ……..
Signature of Study Subject  Date

…….  ……..
Printed Name of Study Subject  Date

…….  ……..
Signature of Witness (if applicable)  Date

…….  ……..
Signature of Investigator/Designee Obtaining informed consent  Date

Guin Lourens
Paarl Hospital
(021) 8602562
082 7791726

**Annexure 2**

## Interview schedule

### Questions

The opening question in the focus group discussions, individual and pair interviews was,

1. “How have you experienced the HRP implementation at Paarl Hospital?”

This was followed by the following,

2. “How did you experience the HRP Infrastructure deliverable implementation at Paarl Hospital?”

3. “How did you experience the HRP Health Technology deliverable implementation at Paarl Hospital?”

4. “How did you experience the HRP Organisational Development deliverable implementation at Paarl Hospital?”

5. “How did you experience the HRP Quality Assurance deliverable implementation at Paarl Hospital?”

### Probes

During these answers a few probes were used to expand and clarify responses (Brink, 2010:152):

- “What do you mean by…?”
- “Tell me more about…?”
- “Can you describe …. in more detail?”

## Interview schedule

### Closing questions

The final question was,

“Do you have any recommendations or suggestions to make in terms of the HRP implementation?”

The interviews were closed with a final,

“Is there anything you wish to add or comment on about the HRP implementation experience at Paarl Hospital?”

**Annexure 3**

**Institution Approval letter**

PAARL HOSPITAL

PROPOSED CASE STUDY RESEARCH PROJECT

Hereby principle approval is granted for a case study research project on the Paarl Hospital revitalisation programme, by principal researcher G. Lourens, pending academic ethical committee clearance and consent.

.....  5/11/2010

DR. B. KRUGER  DATE

SENIOR MEDICAL SUPERINTENDENT

**Annexure 4**

## CPUT Ethical academic approval letter

Cape Peninsula
University of Technology

P.O. Box 1906 • Bellville 7535 South Africa •Tel: +27 21 6803938 • Email: sallefa@cput.ac.za
Symphony Road Bellville 7535

| Office of the Chairperson<br>Research Ethics Committee | Faculty: **BUSINESS** |
|---|---|

**At a meeting of the Research Ethics Committee on** 28 September 2011, **ethics approval was granted to** LOURENS, Guinevere Margaretha Attilla (204246687) **for research activities Related to the MTech/DTech:** DTech: Public Management **at the Cape Peninsula University of Technology.**

| | |
|---|---|
| **Title of dissertation/thesis:** | Implementation Framework of the Hospital Revitalisation Programme in a Regional Secondary Level Public Hospital located in Paarl: South Africa<br><br>Supervisor: Prof H Ballard |

**Comments** (Add any further comments deemed necessary)
Research activities are restricted to those detailed in the research proposal.

**Decision: APPROVED**

| | |
|---|---|
| **Signed: Chairperson: Research Ethics Committee** | **28 September 2011**<br>**Date** |
| **Signed: Chairperson: Faculty Research Committee** | **Date** |

Clearance Certificate No | FBREC0026

**Annexure 5**

## Western Cape Government Health approval letter

Western Cape Government
Health

STRATEGY & HEALTH SUPPORT
healthres@pgwc.gov.za
tel: +27 21 483 9907; fax: +27 21 483 9895
1st Floor, Norton Rose House,, 8 Riebeek Street, Cape Town, 8001
www.capegateway.gov.za

REFERENCE: RP 166/2011
ENQUIRIES: Dr V Appiah-Baiden

**10 Datis Street,**
**Paarl**

For attention: Guinevere Lourens

**Re: Implementation framework of the Hospital Revitalisation programme in a Regional Secondary Level Public Hospital located in Paarl, South Africa**

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.
Please contact the following people to assist you with any further enquiries.

**Paarl Hospital** **Dr B Kruger** **(021) 860 2508**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final report within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (healthres@pgwc.gov.za).
3. The reference number above should be quoted in all future correspondence.

Yours sincerely

**DR T NALEDI**
**DIRECTOR: HEALTH IMPACT ASSESSMENT**
**DATE:** 14/12/2011

**CC** **DR L PHILLIPS** **DIRECTOR: CAPE WINELANDS**

**Annexure 6**

## Facility : Paarl Hospital

### *Complaints and Compliments : Return*

## Period under review:

| SERVICE AREA | COMPLAINTS | | | | | | | | | COMPLIMENTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CATEGORY OF COMPLAINT | | | | | | TOTAL | OUTCOME | | CATEGORY OF COMPLIMENT | | | | | | TOTAL |
| | A | B | C | D | E | F | | RESOLVED | UNRESOLVED | A | B | C | D | E | F | |
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| **TOTALS** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |

A - Complaints/compliments which relate to physical facilities (includes state of cleanliness of facility) and security services.

B - Complaints/compliments relating to communication about services provided, treatment, follow-up, waiting times, etc. (does not include staff attitude)

C - Complaints/compliments relating to staff attitudes and behaviour.

D - Complaints/compliments relating to the care and professional treatment received, accessibility of services and waiting lists.

E - Complaints/compliments relating to the catering services and linen.

F - Complaints/compliments which fall outside the scope of the Categories A to E.

**Annexure 7**

## Morbidity and Mortality statistics

## Morbidity Register

**FACILITY:**

**PERIOD OF REVIEW:**

| NO | PATIENT PARTICULARS | NATURE OF COMPLICATION(S) | ACTION TAKEN | OUTCOME | REFFERED TO M & M FORUM | |
|---|---|---|---|---|---|---|
| | | | | | YES | NO |
| 1 | Name: ----------<br>Age (yrs): ----------<br>Folder No: ----------<br>Date of Admission: ----------<br>Discipline code: ----------<br>Other specify: ----------<br>A B C D E F | | | | | |
| | Name: ----------<br>Age (yrs): ----------<br>Folder No: ----------<br>Date of Admission: ----------<br>Discipline code: ----------<br>Other specify: ----------<br>A B C D E F | | | | | |
| | Name: ----------<br>Age (yrs): ----------<br>Folder No: ----------<br>Date of Admission: ----------<br>Discipline code: ----------<br>Other specify: ----------<br>A B C D E F | | | | | |

**LEGEND:**

A Medical
B Surgery
C Maternity
D Paediatrics
E Psychiatry
F Accident and Emergency
OTHER:
Specify

**Annexure 7 (continued)**

## Morbidity and Mortality statistics

## Mortality Register

**FACILITY:**

**PERIOD OF REVIEW:**

| NO | PATIENT PARTICULARS | NATURE OF COMPLICATION(S) | ACTION TAKEN | OUTCOME | REFFERED TO M & M FORUM | |
|---|---|---|---|---|---|---|
| | | | | | YES | NO |
| | Name: ----------<br>Age (yrs): ----------<br>Folder No: ----------<br>Date of Admission: ----------<br>Discipline code: ----------<br>Other specify: ----------<br>A B C D E F | | | | | |
| | Name: ----------<br>Age (yrs): ----------<br>Folder No: ----------<br>Date of Admission: ----------<br>Discipline code: ----------<br>Other specify: ----------<br>A B C D E F | | | | | |
| | Name: ----------<br>Age (yrs): ----------<br>Folder No: ----------<br>Date of Admission: ----------<br>Discipline code: ----------<br>Other specify: ----------<br>A B C D E F | | | | | |

**LEGEND:**

A Medical
B Surgery
C Maternity
D Paediatrics
E Psychiatry
F Accident and Emergency
OTHER:
Specify

**Annexure 8**

## Quarterly Return: Safety and Security Incidents

**FACILITY: PAARL HOSPITAL** **DATE:**

| SERVICE AREA | DATE OF INCIDENT | TYPE OF INCIDENT | | | | | | | BRIEF DESCRIPTION OF INCIDENT | IMPACT ON STAFF & DEPARTMENT | ACTION TAKEN | REPORTED TO SAPS | | CASE NO | ACTION TO BE TAKEN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Threatening Behaviour Verbal/ Physical | Assault/ Abuse Verbal/ Physical | Use of Weapons | Bomb Threat | Theft/ Burglary | Disorderly Behaviour | Damage to Personal Property | | | | Yes | No | | |
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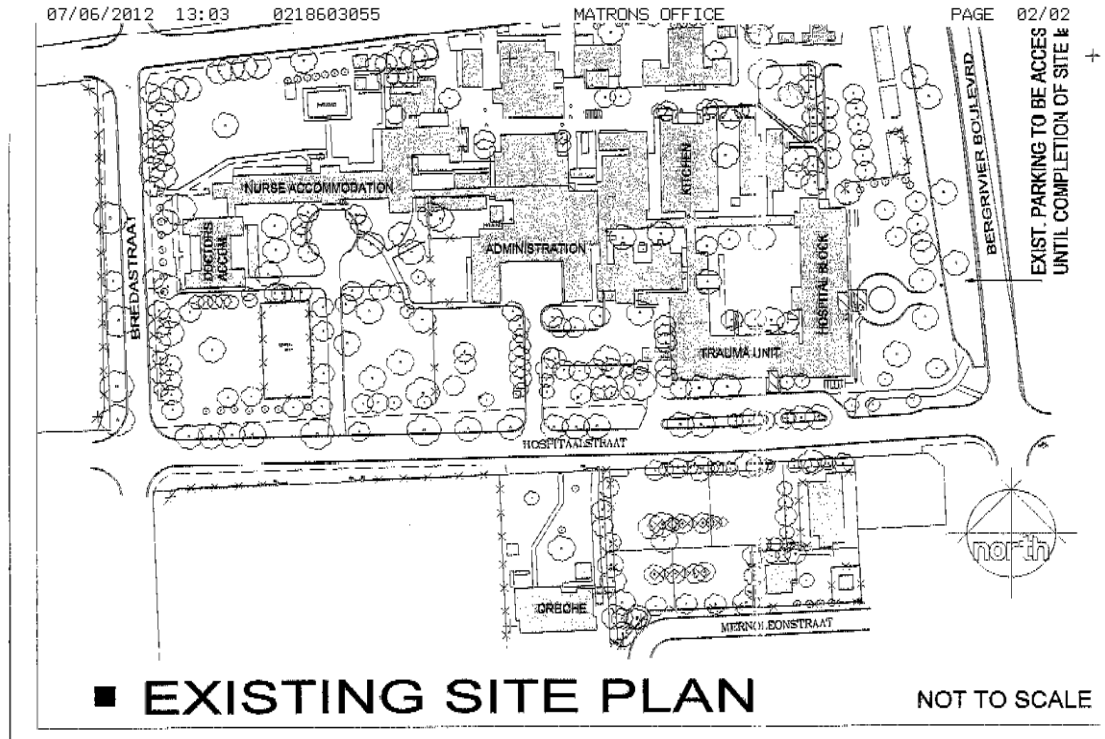
| **SUB TOTALS:** | | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **TOTAL:** | **0** | | | | | |

**Existing site plan** **Annexure 9**




## LEGEND

| | | | |
|---|---|---|---|
| A | Existing Hospital | E | Administration building |
| B1 | New Hospital block | F | New Training facility |
| A1 | New Out Patients, Physio + OT | | Nurses Quarters |
| B | Trauma / Theatres | H | Docters Quarters |
| B2 | Psychiatry / High care / Neonatal | | Prefab. Archives building |
| C | New Kitchen | | Temporary Medical Refuse Containers |
| D-W | Morgue and Refuse | | Storage Containers |
| D-X | Stores | | Establish Builders Yard |
| D-Y | New Laundry | | Occupy Building |
| D-Z | Workshops | | Civil Decanting |

**New site plan** **Annexure 10**

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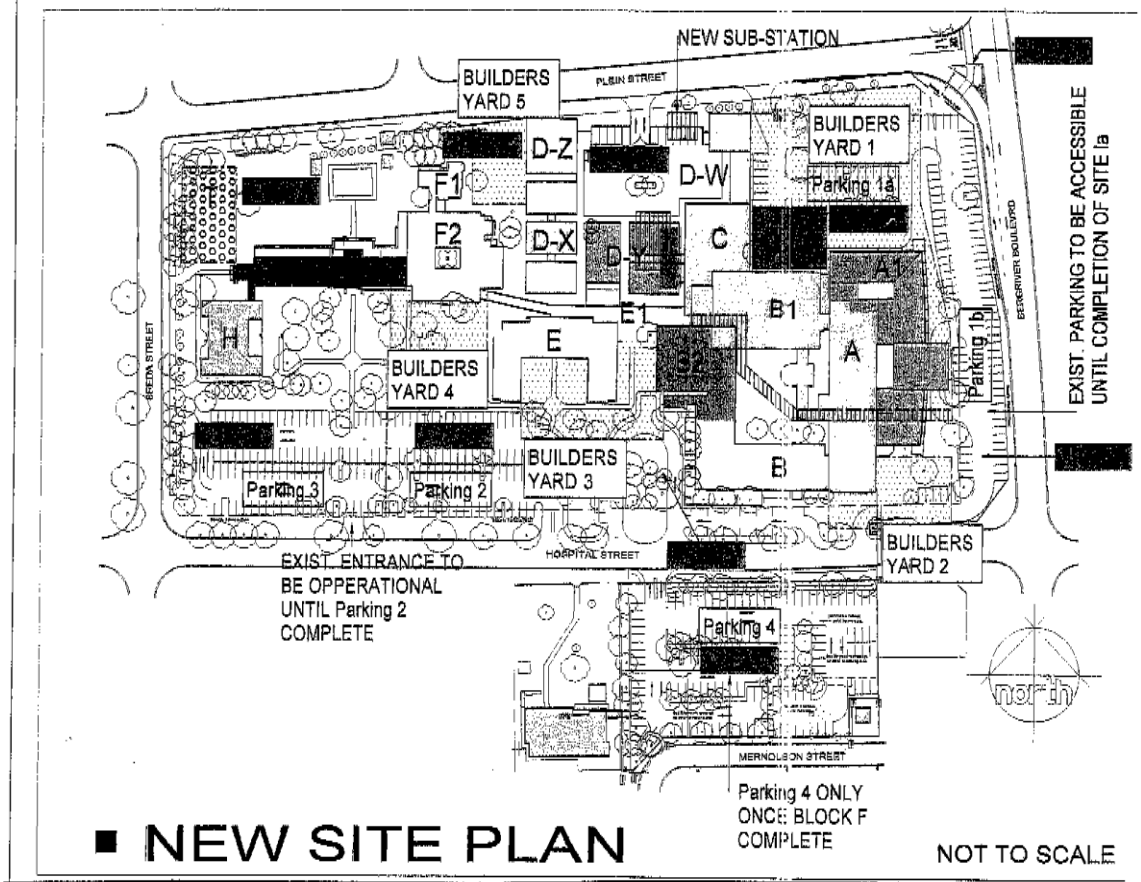
| | | | |
|---|---|---|---|
| B1 | New Hospital block | F | New Training facility |
| A1 | New Out Patients, Physio + OT | | Nurses Quarters |
| B | Trauma / Theatres | H | Docters Quarters |
| B2 | Psychiatry / High care / Neonatal | | Prefab. Archives building |
| C | New Kitchen | | Temporary Medical Refuse Containers |
| D-W | Morgue and Refuse | | Storage Containers |
| D-X | Stores | | Establish Builders Yard |
| D-Y | New Laundry | | Occupy Building |
| D-Z | Workshops | | Civil Decanting |




[redacted]

**Annexure 11**

**Infrastructure Development Photographs: during contruction**

Excavations adjacent to clinical areas

Demolition of concrete slab to build extensions for new specialist outpatient, causing noise, dust and debris for staff and patients in 6 floors of wards.

Excavations during winter rainy season caused water pooling on construction site.

**Infrastructure Development**

Extensions taking place adjacent to and on top of roof of fully operational theatre with Emergency exit of theatre into construction area.

Piling adjacent to tower block of 6 floors of operational wards causing vibration.

Builder's yard and new 7 floor block under construction in middle of operational secondary level care hospital site.

**Infrastructure Development**

Temporary walkway under construction

Aerial view of temporary walkway which had to be used by staff and to connect wards with services (food, linen and stores)

Access route through unsafe construction area of some staff for security installations in basement.

**Infrastructure Development: practical completion**


New façade of main entrance of Paarl Hospital with specialist outpatient facilities and ample parking for staff and clients.

The historical 1921 building no longer suitable for modern health care delivery, renovated as an Administration office block, with façade intact, as stipulated by Western Cape Heritage society.

New specialist outpatient area with tiles which initially caused patient and staff slips due to sand residue of building process.

**Infrastructure Development: quality improvements**

Modern open plan nursing stations with pneumatic tube. The melamine finish of counter tops and plastered bases proved to lack durability from damage by beds and trolleys.

Added seating in wards opposite nursing stations ideal for patients and their families awaiting conclusion of discharge procedures.

New cafeteria facilities for staff, client and community convenience.

**Annexure 12**

**Health Technology Photographs**

A state of the art High Care Unit


The Radiography department had a multimillion rand upgrade which included a new CT Scanner service.

**Annexure 13**

## Paarl Hospital Meeting Matrix

| Domain | Active meeting | Chair | Frequency |
|---|---|---|---|
| • **ADMIN SUPPORT** | Information management<br>Porters<br>Linen Bank | Information Manager<br>Service Manager<br>Service Manager | <br>Monthly<br>Weekly |
| • **CEO** | Hospital Facility Board<br>Broad Management<br>Events Management Committee | CEO<br>CEO<br>Not structured | Monthly<br>2 weekly<br>Ad hoc |
| • **CLINICAL** | Radiology<br>Pharmaceutical Control Committee<br>Paramedics (Dietician, Occupational Therapy, Physiotherapy, Radiography, Pharmacy) | Head of Radiography<br>Chief Pharmacist<br>CEO | Monthly<br>2 Monthly<br>Monthly |
| • **FINANCE** | Functional Business Units<br>Quotation Committee | DD : Admin<br>ASD Finance | Monthly<br>Ad hoc |
| • **HUMAN RESOURCES** | HR<br>IMLC (Labour relations)<br><br>Skills plan HRD / Training Committee | ASD HR<br>Leader of Transformation team<br>Head of Training | Monthly<br><br>Monthly<br>Quarterly |
| • **HRP** | PCU<br>PCT<br>LSC<br>HRP team training + progress<br>Site / Progress | CEO<br>HRP FPM<br>CEO<br>HRP FPM<br>Principal Agent | Monthly<br>2 weekly<br>Quarterly<br>Monthly<br>Monthly |
| • **HT** | Equipment Committee<br>Condemning committee | ASD Finance<br>Senior Admin Clerk | Monthly<br>Monthly |
| • **MEDICAL** | Clinical updates<br>Clinical Heads | CH<br>CEO | Weekly<br>Monthly |
| • **NURSING** | Unit Managers<br>Operational Managers<br>Staff Nurse<br>Assistant Nurse<br>CSSD | DD Nursing<br>DD Nursing<br>DD Nursing<br>DD Nursing<br>DD Nursing | Weekly<br>Monthly<br>Monthly<br>Monthly<br>Monthly |
| • **QA** | Infection Prevention and Control<br>Occupational Health & Safety<br>Morbidity &Mortality<br>Peri-Natal meeting<br>Risk Management (risk assessments)<br>Ethics committee | Clinical Co-ordinator<br>Clinical Co-ordinator<br>CEO<br>CH<br>CH<br>CH (Internal Medicine) | Monthly<br>Monthly<br>Monthly<br>Monthly<br>Monthly<br>Ad hoc |
| • **RISK MANAGEMENT** | Central Management FBU and Clinical Risk Management | CEO | Monthly |

| | | | |
|---|---|---|---|
| ASD | = Assistant Director | CH | = Clinical Head |
| CEO | = Chief Executive Officer | COO | = Chief Organisational Officer |
| DD | = Deputy Director | HRP FPM | = HRP Facility Project Manager |

**Annexure 14**

**Quality Policy implementation at Paarl Hospital**

**Consumer Quality**
- Client contact (complaints and compliments) reviews
- Client satisfaction surveys
- Complaints policy
- Food quality surveys
- Imbizo with community

**Staff Quality**
- Admin support surveys (Transport Office, HR)
- Complaints channelling
- Organisational development – Frontline Professionalism training, Computer skills training
- Quarterly newsletter
- Service exit interviews - supervisors
- Staff satisfaction surveys
- Staff training and development (Skills Development Plan)
- "Town Hall" meetings between staff and management

**Technical Quality**
- Clinical audits – Post Operative Care
- Monitoring adverse incidents – Morse Fall Risk Assessments
- Monitoring infection prevention and control, including Hospital acquired infections and Hand washing
  – Best care always campaign
- Morbidity and Mortality reviews
- SEAT (Satisfactory Environments at Toilets) and Housekeeping audits

**Risk Management**
- Emergency/Major incident planning
- Health and Safety Committee
- Health and Safety Representatives
- Monitoring, evaluating and recording workplace injuries
- Reporting safety and security incidents
- Risk assessment

**Quality Committee**
- Extension of Broad Management Agenda
- Inter-disciplinary quality issues
- Reports to Hospital Facility Board

**Quality Documents**
- Batho Pele Principles
- National Core Standards
- Patient Rights Charter
- Provincial Quality of Care Policy (H 122/2002)
- Quarterly QA Report
- Staff Rights Charter

**Annexure 15**

**Client satisfaction survey specifications – Paarl Hospital : 2005 - 2011**

A client satisfaction survey was conducted at Paarl Hospital annually focusing on Emergency Centre clients and general ward discharged clients.

The survey results informed the organisation what patients thought about the care they received at the organisation. Patients were asked standardized questions about their recent health care experiences.

The surveys included questions about six domains of patient experience:

- Tangibles – equipment & physical surroundings
- Reliability – the ability to accurately perform the service offered
- Responsiveness – willingness to assist patients
- Assurance – the ability to be knowledgeable and to inspire confidence & trust
- Empathy – the ability to care & display compassion
- Access – the cost & time for patients to reach the health facility as well as service hours.

The surveys highlighted areas of care that needed improvement in order to provide a better service for patients.

Survey feedback was used to initiate quality improvements.

A minimum of 500 client questionnaires were processed over a one week period in November of each year, which included a weekend. Clients were assisted on a one to one basis with completion of surveys by fieldworkers in either Afrikaans, English or Xhosa.

A detailed report and feedback to management was required to conclude surveys.

A copy of the questionnaire follows.

**Annexure 16**

**Client Satisfaction Survey: Paarl Hospital**

**Date:**_____

**Directions**: Based on your experiences as a patient at the Paarl Hospital, please tell us whether you strongly agree, disagree, don't know, agree or strongly agree with the following statements. Please mark your answer for each question by circling the number. For example, if you disagree with a statement, you would circle 2. If you agree with a statement, you would circle 4. You may only choose one answer per question, and please answer all the questions. If you spent at least one night in the Hospital, please wil you also answer questions 17 to 27. The information on this form will be treated confidentially, so please do not place your name on this forms. **Thank you.**

| Questions | Strongly disagree | Disagree | Unsure | Agree | Strongly agree |
|---|---|---|---|---|---|
| **To be completed by all patients.** | | | | | |
| 1. It takes more than 30 minutes to get to the Hospital. | 1 | 2 | 3 | 4 | 5 |
| 2. It costs more than R20-00 to get to the Hospital. | 1 | 2 | 3 | 4 | 5 |
| 3. The Hospital is in good condition. | 1 | 2 | 3 | 4 | 5 |
| 4. The Hospital is clean. | 1 | 2 | 3 | 4 | 5 |
| 5. The Out-patients/ Casualty Department has convenient hours of opening. | 1 | 2 | 3 | 4 | 5 |
| 6. The toilets are dirty. | 1 | 2 | 3 | 4 | 5 |
| 7. I had to wait a long time to get my folder. | 1 | 2 | 3 | 4 | 5 |
| 8. There was a bench for me to sit on while I waited. | 1 | 2 | 3 | 4 | 5 |
| 9. The person who gave me my folder was helpful. | 1 | 2 | 3 | 4 | 5 |
| 10. The nurse who treated me, listened to my problems. | 1 | 2 | 3 | 4 | 5 |
| 11. The doctor who treated me, was polite. | 1 | 2 | 3 | 4 | 5 |
| 12. I was pleased with the way I was treated at the Hospital | 1 | 2 | 3 | 4 | 5 |
| 13. The doctor explained to me what was wrong with me. | 1 | 2 | 3 | 4 | 5 |
| 14. My privacy was respected by all the staff. | 1 | 2 | 3 | 4 | 5 |
| 15. If I received medicines/ pills, I did not have to wait long for them. | 1 | 2 | 3 | 4 | 5 |
| 16. Next time I am ill, I will come back here . | 1 | 2 | 3 | 4 | 5 |
| **Only to be completed by <u>In-patients</u> (Clients who spent at least one night in the Hospital)** | | | | | |

**Client Satisfaction Survey: Paarl Hospital**

| Questions | Strongly disagree | Disagree | Unsure | Agree | Strongly agree |
|---|---|---|---|---|---|
| 17. The ward was clean. | 1 | 2 | 3 | 4 | 5 |
| 18. The bedding was clean. | 1 | 2 | 3 | 4 | 5 |
| 19. The food was good. | 1 | 2 | 3 | 4 | 5 |
| 20. Visiting hours were not long enough. | 1 | 2 | 3 | 4 | 5 |
| 21. The staff at the Hospital answered all my questions about my illness. | 1 | 2 | 3 | 4 | 5 |
| 22. I was very bored in the Hospital. | 1 | 2 | 3 | 4 | 5 |
| 23. When I needed help at night, there was always a nurse to help me. | 1 | 2 | 3 | 4 | 5 |
| 24. I did not feel safe at night in the Hospital. | 1 | 2 | 3 | 4 | 5 |
| 25. The Hospital made sure I got a lift home. | 1 | 2 | 3 | 4 | 5 |
| 26. The Hospital will tell my local health clinic about my future care needs. | 1 | 2 | 3 | 4 | 5 |
| 27. If my friends are sick, will tell them to come to this Hospital. | 1 | 2 | 3 | 4 | 5 |

28. Is there anything else you would like to add, recommendations you would like to make or you would like the Hospital to be aware of?

**Annexure 17**

**Client Satisfaction overview 2005 - 2011**

An overview of the Client Satisfaction Surveys during revitalisation is reflected below in terms of the results of the annual survey and the trends which were viewed positively by clients and could be celebrated versus the trends which required attention described as "to fix":
Paarl Hospital, Quality Assurance: HRP: 2005 – 2011
Client Satisfaction Survey trends to:

| Celebrate | Fix |
|---|---|
| **2005** | |
| Empathy | Access |
| General Satisfaction | Reliability |
| | Tangibles |
| **2006** | |
| Empathy | Access |
| General Satisfaction | Reliability |
| Assurance (perceived staff as knowledgeble and trustworthy) | Tangibles |
| | Assurance (patients were concerned about safety at night and referrals) |
| **2007** | |
| Empathy | Access |
| General Satisfaction | Reliability |
| Assurance (perceived staff as knowledgeble and trustworthy) | Tangibles |
| Responsiveness | Assurance (patients were concerned about safety at night) |
| **2008** | |
| Empathy | Access |
| Responsiveness | Reliability |
| Assurance | Tangibles |
| General Satisfaction | |
| **2009** | |
| Empathy | Assurance (patients were concerned about safety at night) |
| Responsiveness | Tangibles |
| Assurance (staff viewed positively) | |
| General Satisfaction with: cleanliness; communication; and food | |
| **2010** | |
| Tangibles | Responsiveness |
| General Satisfaction | |
| **2011** | |
| Tangibles | Access |
| Empathy | Reliability |
| General Satisfaction | |
| Assurance | |

Comment: A marked improvement in general satisfaction and client satisfaction with tangibles (equipment and physical surroundings) is evident as the revitalisation progressed.

**Client Satisfaction overview 2006 – 2011**

The final HRP Client Satisfaction Survey was conducted in November 2011 and the results loaded on SINJANI. A comparison of Client Satisfaction Surveys was done by the FPM of 2006 versus 2011. See below.
A comparison of Client Satisfaction Surveys was done of 2006 versus 2011. See tabulated below on a scale of 0 - 2.

| Domain | Question | 2006 | 2011 |
|---|---|---|---|
| Assurance | Staff informed me about my illness | 0.89 | 1.18 |
| | Privacy respected | 1.14 | 1.30 |
| Tangibles | Hospital is clean | 0.61 | 1.37 |
| | The food was good | 0.50 | 1.35 |
| | The Hospital is in a good condition | 0.57 | 1.53 |
| Reliability | No wait for folder | -0.22 | 0.57 |
| | Long wait for medicine | 0.33 | 0.67 |
| General satisfaction | I will recommend this hospital | 1.02 | 1.50 |
| | I was pleased with my treatment | 1.11 | 1.29 |
| Responsiveness | Admin was helpful | 1.23 | 1.20 |
| | Nurse was available | 1.00 | 1.16 |
| Empathy | The Doctor was polite | 1.34 | 1.36 |
| | The nurse listened | 1.24 | 1.28 |
| Access | Help with a lift home | -0.01 | 0.06 |

Comment: Most domains reflect an improvement in client satisfaction

**Annexure 18**

**Client Satisfaction Survey feedback - Paarl Hospital**

The following lessons were learnt from the client satisfaction surveys:

**1. The logistical arrangements**

- The client satisfaction survey has to be well communicated prior to the event to ensure that staff accommodate the process
- The consultants should have some kind of base where they can operate from (e.g. a table in casualty dept.)
- Consultants have to be clearly identified
- Consultants have to schedule time to interview clients over weekends and during night duty to get a more representative sample/cross section of client
- Careful planning of the dates of the survey to accommodate various times and shifts and a weekend prior to liaison with consultants is recommended

**2. The questionnaire itself**

- The 28 questions are not too tedious. Paarl Hospital HRP have made use of consultants who assisted the clients to complete questionnaires and this is a recommendation, as well as having consultants who can speak Afrikaans, English and Xhosa
- The clients were quite willing to participate and expressed pride at being asked to give their opinion

<u>Suggested Question changes</u>

- The 30 minute access time should be changed for rural areas
- The R7,00 travel cost should be changed to market related local taxis charges

**3. The analysis**

- Paarl Hospital were fortunate as a revitalisation site to have access to funding to do surveys with consultants, who have their own software for analysis. It has also added credibility to the findings to make use of external consultants, seen as more objective, to conduct the surveys.

**Client Satisfaction Survey feedback - Paarl Hospital**

## 4. Taking corrective action

- To sell corrective action the findings have to be widely distributed to staff and even then some resistance can be encountered. To do this the results were summarized and distributed in a pamphlet form to all categories off staff and also published in the hospital newsletter
- Corrective action has to be communicated assertively and persistently to prevent complacency and to motivate ownership of Quality initiatives.

## 5. Management taking responsibility

- A driver of the process is recommended, as these surveys could be shelved if action is not driven. In this setting it was facilitated by the Quality manager and the Quality committee, which took action out of the findings of the surveys. The Quality component is also accountable to the hospital facility board, where the findings are presented and actions interrogated. Commitment from top management and their visibility at the Quality Committee also assisted in giving impetus to the initiatives.
- The survey results should also be communicated at a broad Management platform, where supervisors of specific departments can get an idea of where they stand in the eyes of clients.

## General

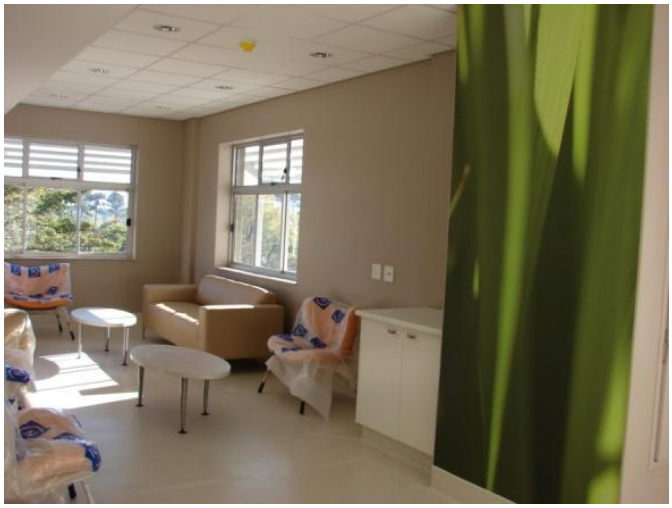
- What has been useful is the ability to compare the one year with the next and see improvements in certain areas and give that positive feedback to staff.

**Annexure 19**

## Client Quality Photographs

New specialist outpatient waiting area where seating and space proved to be inadequate due to exponential growth in patient numbers from planning to commissioning time span.

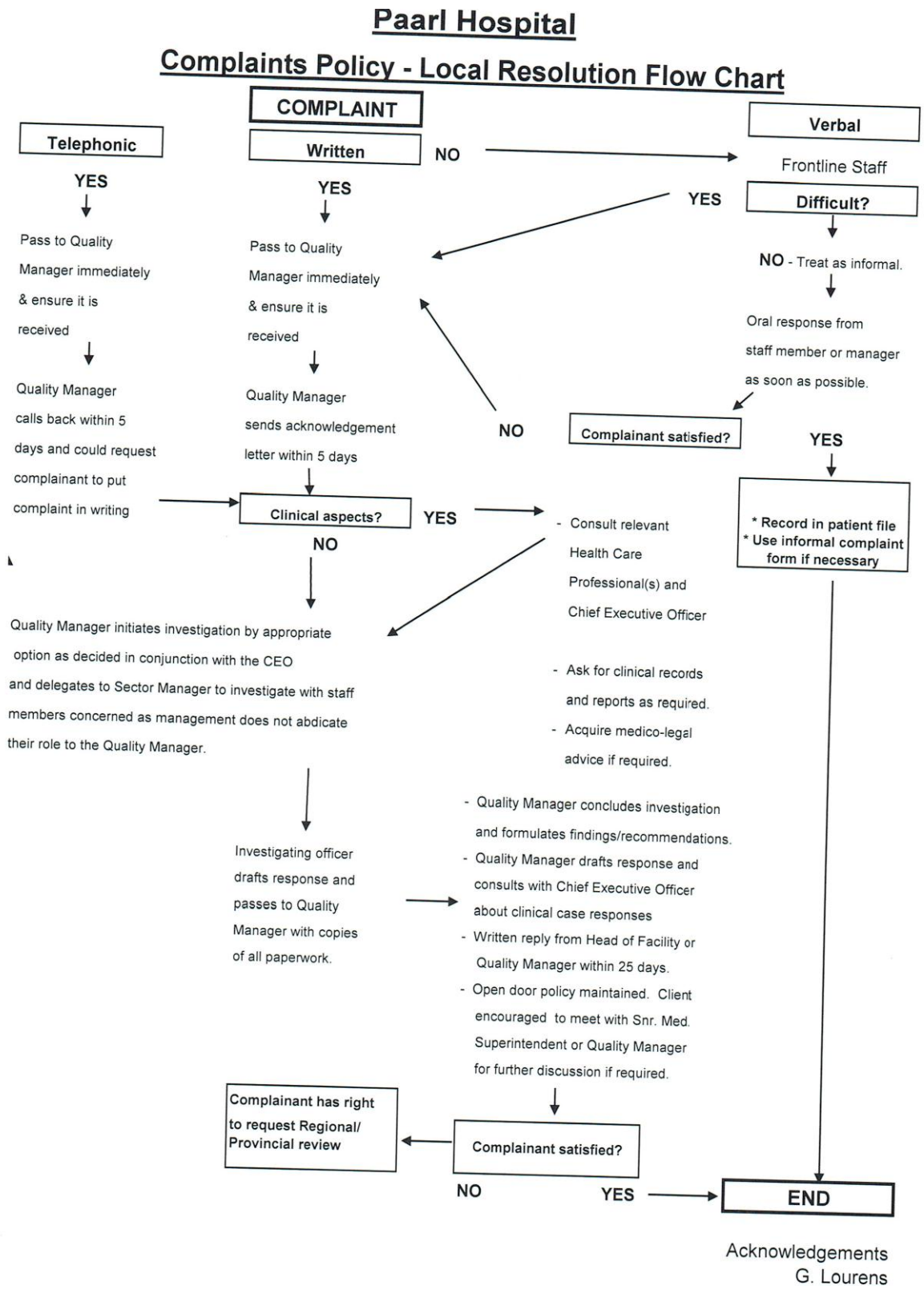
Convenient additional seating on landings between wards for visitors.



Patient lounges were an addition to new wards contributing to the healing environment.

**Annexure 20**

**Complaint resolution flow chart**



**Annexure 21**

## Complaint check list

**Complaint received** Date ……

☐ Telephonic ☐ Written ☐ Verbal

☐ Received Date ……

Quality Manager

**5 days**

☐ Initial response sent Date ……

☐ Investigation Conducted Date ……

☐ Investigation Concluded Date ……

**25 Days**

☐ Final response sent Date ……

**Other comments**

Acknowledgements

G. Lourens

**Annexure 22**

# Paarl Hospital

## Informal complaint form

□ **Bedside** □ **Verbal** □ **Telephonic**

Date: ……..…… Ward: ……

Client: …….. Age: ……..

**1. NATURE OF COMPLAINT**

……

……

**2. DISCUSSION WITH CLIENT**

……

……

**3. ACTION TAKEN**

……

……

**4. FOLLOW UP**

……

……

**……**
**PRINT NAME** **SIGN**

Acknowledgements
G. Lourens

**Annexure 23**

# *PAARL HOSPITAL*

## *Client feedback pamphlet*

**COMPLAINTS / COMPLIMENTS / COMMENTS / RECOMMENDATIONS**

## Your opinion can make a difference!

**Feedback on Complaints/Compliments/Comments/ Recommendations**

**Service area: …….....**

**Date: ……**

Are you  with our service?

Please give us the details.

……

……

……

……

……

# *Client feedback pamphlet*

Dear Patient / Visitor

The staff at PaarlHospital are continuously trying to deliver the highest quality of service, treatment and care to all patients using our services. We welcome all feedback, as this information will allow us to improve our services and acknowledge staff.

**Complaints / Compliments / Comments / Recommendations**

If you wish to voice your comments or dissatisfaction, make recommendations or render a compliment regarding any aspect of the service or facility, you are invited to discuss it with a staff member who will try to resolve it or refer it to a senior staff member.
We would also like you to tell us when you are satisfied with the services rendered to you by us or any specific staff member. Positive feedback is always welcome.
Alternatively, you can complete one of these leaflets and post it in one of the at the main entrance of the hospital and ward entrances. You are also welcome to write to us, or to post this leaflet to us at:

Paarl Hospital: Private Bag X 3012, PAARL, 7621

You can contact the hospital telephonically at:
(021) 8602500 (website: www.paarlhospital.co.za)

**What are we planning to do with the information we receive from you?**

- Your written complaint/comment/ recommendation will be acknowledged within five (5) working days of receipt thereof if you provide an address/telephone number.
- An investigation will be launched into any complaint receive.
- You will receive feedback on your complaint within 30 days of receipt thereof.
- We will look into and consider all comments and/or recommendations.
- Compliments will be conveyed to the relevant departments and staff members.

Thanking you for your input.

Enjoy the rest of your day.

**Annexure 24**

# Paarl Hospital

## Tray Survey

DATE: ……

**MEAL: BREAKFAST / LUNCH / SUPPER**

Please give us feedback on our food.

Mark with x

| | | YES | NO |
|---|---|---|---|
| 1 | Was the food tasty? | | |
| 2 | Was the food warm enough? | | |
| 3 | Was there enough food? | | |
| 4 | Were the salads cold enough? | | |
| 5 | Did the food look nice? | | |

What can we do to improve the food?

.....

.....

If the food was not enough, what was not enough?

| | | |
|---|---|---|
| Meat / Fish / chicken | Rice / potatoes / porridge | Vegetables |

| | YES | NO |
|---|---|---|
| Are you on a special diet? | | |
| Have you been here longer than 3 days? | | |

Acknowledgements: M. Gouws& D. Koen

**Annexure 25**

| Paarl Hospital : Service Standards | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **No** | **Programme Area** | **Key Services** | **Quantity** | **Quality** | **Target Group** | **Target Area** | **Time Period** | **Full Statement** |
| 1 | All Services | Hospital Facility Workers Rights Charter | At least one Hospital Facility Workers Rights will be displayed in each Department | Prominently displayed | All service users and employees | All departments and entrances | At all times | The Hospital Facility Workers Rights Charter will at all times be prominently displayed at all departments and entrances |
| 2 | All Services | Patients' Rights Charter | At least one Patients' Rights Charter will be displayed in each department, of the facility | Prominently displayed | All service users and employees | All departments | At all times | The Patients' Rights Charter will at all times be prominently displayed at all departments in the facility |
| 3 | All Services | Batho Pele principles | The Batho Pele principles will be displayed in each department, of the facility | Prominently displayed | All service users and employees | All departments | At all times | The Batho Pele Principles will at all times be prominently displayed at all departments in the facility |
| 4 | All Services | Reception Greeting | All Staff and Clients | All staff and clients will receive a friendly reception and greeting and /or be directed in a helpful manner. | All Staff | All departments in the Health Facility | At all times | All staff and clients will at all times be greeted in a friendly manner |

**Annexure 25 (continued)**

| Paarl Hospital : Service Standards | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **No** | **Programme Area** | **Key Services** | **Quantity** | **Quality** | **Target Group** | **Target Area** | **Time Period** | **Full Statement** |
| 5 | All Services | Signage: a display of available services and service delivery times | A display board at the entrances and/or inside of the health facility | Prominently displayed in all 3 Western cape official languages | All entrances of the facility | All entrances of the facility | At all times | Signage reflecting available services and service delivery times will be prominently displayed in all 3 Western Cape official languages at all entrances of the facility |
| 6 | All Services | Accessibility to persons with disabilities | All departments in the facility will be accessible to persons with disabilities | All departments in the facility | Persons with disabilities | All departments in the facility | At all times | All departments in the facility will be disability friendly |
| 7 | All Services | Redress | All clients lodging complaints | All clients lodging complaints will be provided with a response reflecting the outcome | All service users and employees | All departments in the facility | Within 30 working days | All clients lodging complaints will be provided with a response reflecting the outcome within 30 working days |
| 8 | All Services | Staff Identification name tags | All Employees will wear identification | Visibly displayed identification | All Employees | All departments in the facility | At all times | Identification will be worn by employees at all times in all departments of the facility |
| 9 | All Services | Hospitality | All health facility departments | All health facility departments will be clean and suitable for health care delivery | All departments in the facility | All departments in the facility | 24 hours a day | All departments in the facility will be clean and tidy and conducive to a good work environment |

**Annexure 25 (continued)**

| Paarl Hospital : Service Standards | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **No** | **Programme Area** | **Key Services** | **Quantity** | **Quality** | **Target Group** | **Target Area** | **Time Period** | **Full Statement** |
| 10 | All Services | Safety and Security | All health facility departments | All health facility departments will be safe and suitable for health care delivery | All departments in the facility | All departments in the facility | 24 hours a day | All departments in the facility will be conducive to a safe work environment |
| 11 | Paarl Hospital | Access to Emergency Psychiatric Services | All Mental healthcare users requiring emergency care | Access to emergency services | All citizens | Paarl Hospital | 24 hour emergency mental health care | All citizens requiring emergency mental healthcare will have access to psychiatric emergency services according to the Mental Health Act for a 72 hour holding period and referral to an approvalpriv ate level of care |
| 12 | All clinical departments | Provision of discharge and referral information | All service users | All service users will receive a discharge report, discharge information, medication, referral notes and/or bookings. | All service users | All clinical departments | At the time of discharge or referral | All service users will receive a discharge report, discharge information, medication, referral notes and/or bookings at the time of discharge or referral. |
| All Services inclusive of: DHS - District Health Services, EMS - Emergency Medical Services, PHS - Provincial Hospital Services, CHS - Central Hospital Services, HST - Health Sciences and Training, HCSS - Health Care Support Services, HFM - Health Facilities Management, PHC - Primary Health Care. | | | | | | | | |

**Annexure 26**

**Staff Quality: Workplace Injuries**
**Paarl Hospital Revitalisation Incidents May 2006 – March 2012**

**Infrastructure / Decanting related incidents**

| | Date | Department | Category of Staff | Incident |
|---|---|---|---|---|
| 1 | 12 July 2006 | Medical | General Assistant | Staff member stumbled over loose tiles. |
| 2 | 28 Aug 2006 | Pediatric | General Assistant | Staff member was pushing revite beds on a trolley when a bed fell off and crushed his right hand. |
| 3 | Date omitted 2007 | HRP | General Assistant | While assisting with decanting of student's residence, a cupboard fell on staff member causing an arm fracture |
| 4 | 18 May 2007 | Postnatal | Nurse | Staff member injured her left ankle as she entered the old building with poor housekeeping of contractors. |
| 5 | 29 July 2007 | Workshop | Maintenance | While walking from kitchen to workshop on uneven terrain tripped and fell. |
| 6 | 02 Oct 2007 | Workshop | General Assistant | Staff member tripped on stones in uneven areas outside workshop and twisted left foot. |
| 7 | 16 Nov 2007 | Entrance | Prof Nurse | Staff member tripped on temporary steps in entrance hall injuring left foot |
| 8 | Date omitted 2008 | Nursing Management | Senior Nursing Manager | Staff member slipped in poorly lit, muddy parking area during hospital revitalisation |
| 9 | 07 Jul 2008 | Pediatric | Professional Nurse | Fell on hospital grounds and injured her left ankle while walking to ward on uneven parking area during construction |
| 10 | 05 Feb 2009 | Student residence | Workshop Assistant | While climbing steps in student residence, while under construction, staff member slipped and injured his back in area that should have been unauthorized for his access. |
| 11 | 06 Mar 2009 | Medical | Professional Nurse | While assisting with decanting of a ward, her left hand was squashed with a bed at the door injuring left index and middle finger |
| 12 | 09 Mar 2009 | Neonatology | Nurse | While walking in overcrowded corridor during construction and decanting bumped head on a protruding phone box which had been moved from its original position causing swelling on scalp. No open wounds. |
| 13 | 06 Aug 2009 | Pediatric | Nurse | Bumped head against temporary vertical service panel |
| 14 | 24 Aug 2009 | Gynecology | General Assistant | Fell on black tiles in entrance hall and injured left knee |

**Annexure 26 (continued)**

**Staff Quality: Workplace Injuries**

**Infrastructure / Decanting related incidents (continued)**

| | Date | Department | Category of Staff | Incident |
|---|---|---|---|---|
| 15 | 23 Sept 2009 | Cleaning team | General Assistant | Fell in decanted open air Linenbank area and injured right knee |
| 16 | 15 Feb 2010 | Emergency Centre | Staff nurse | Tripped in decanted area on way to temporary overnight ward straining left ankle and ligament |
| 17 | 16 Mar 2010 | Linen Supervisor | Linenbank | While on route to Linenbank, tripped over open drain injuring back. |
| 18 | 08 May 2010 | Finance | Senior Administration Clerk | Slipped on temporary walkway built during construction between administration department and hospital during hospital revitalisation |
| 19 | 11 May 2010 | Cleaning team | Housekeeper | Sprained foot in gutter in backyard of hospital with right ankle sprain during hospital revitalisation |
| 20 | 20 May 2010 | Emergency Centre | Senior Nursing Auxiliary | Injured right middle finger on temporary blue benches at overnight ward during decanting for hospital revitalisation |
| 21 | 24 Sep 2010 | Linenbank | Housekeeper | Staff member opened services gate recently installed during revitalisation of D-Block and it fell on her chest and left cheek. |
| 22 | 21 Sep 2010 | Medical | Area Manager (Nursing) | Staff member tripped and fell in temporary walkways built for revitalisation purposes, uneven surface |
| 23 | 29 Nov 2010 | Emergency Centre | Doctor (Specialist) | Ceiling panels fell on head due to water leak shortly after construction. Staff member required 7 Stitches for laceration. |
| 24 | 10 May 2011 | Admin | Clerk | Staff member slipped on last step while carrying heater during decanting |
| 25 | 12 July 2011 | Pediatric | Nurse | New shelves broke off and fell on staff member |
| 26 | 11 Nov 2011 | Surgical | General Assistant | New shelves broke off and fell on staff member |
| 27 | 06 Dec 2007 | Management | Nursing | Staff member was working in office when she tripped on HRP HT stock box injuring right forearm, right and left knees and forehead |
| 28 | 02 Sept 2009 | Pediatric | General Assistant | Staff member bumped head against ceiling pendant incurring soft tissue injury. |
| 29 | 26 Sept – Nov 2009 | Neonatology | Nurses, Doctors, Cleaners, Mothers | 63 Incidents reported of staff members and mothers of premature babies bumping heads on pendants installed too low. |

**Staff Quality: Workplace Injuries**

### Health Technology / Pendants related incidents

| | Date | Department | Category of Staff | Incident |
|---|---|---|---|---|
| 30 | 07 Dec 2009 | Cleaning team | General Assistant | While cleaning newly installed stainless steel towel holder it snapped open and caused laceration on left forefinger |
| 31 | Throughout 2010 | Neonatology | Nursing | A register was established to record daily head bumps of nursing staff on pendants due to problems with installation |
| 32 | Jan 2010 | Neonatology | Nurse | Bumped head on pendant installed too low causing a bruise on forehead and a headache for 3 days after incident |
| 33 | 19 June 2010 | Midwifery | Nurse | Lacerated right middle finger when new stainless steel towel holder snapped open |
| 34 | 19 Nov 2010 | Pediatric Neonatology | Pediatric Specialist Doctor | Bumped head on pendant installed too low and incurred laceration on left eyebrow. |
| 35 | 04 April 2011 | Surgical | Nurse | New bedside barrier fell on right toe |

### Old equipment related incidents

| | Date | Department | Category of Staff | Incident |
|---|---|---|---|---|
| 36 | 18 Aug 2006 | Medical | Nurse | Staff members ring and middle finger crushed by faulty old bedside barriers. |
| 37 | 07 Sept 2006 | Cleaning team | General Assistant | Cover of old aircon fell on right foot. |
| 38 | 06 Oct 2006 | Emergency Centre | Housekeeper | Staff member's right ring finger cut on metal protrusion while cleaning a damaged door. |
| 39 | 08 Jan 2007 | Emergency Centre | Clerk | While staff member was sorting files, old metal trolley with files fell over onto right wrist, shoulder and leg. |
| 40 | 07 Feb 2007 | Post Natal | General Assistant | Staff members left small finger got stuck and pinched in old mop-master. |
| 41 | 04 Nov 2009 | Orthopedic | Nurse | Old bedside barrier fell on left big toe |

**Annexure 27**

## Occupational Health and Safety Inspection Report

Annexure 27

# PAARL HOSPITAL
# THE OCCUPATIONAL HEALTH AND SAFETY INSPECTION REPORT
(as developed during revitalisation period)

WARD/DEPARTMENT: .....
AREA INSPECTED: .....

HEALTH AND SAFETY REPRESENTATIVE: .....

DATE OF INSPECTION: .....

DATE OF LAST INSPECTION: .....

1. **PREMISES AND HOUSEKEEPING**

| | DESCRIPTION | Acceptable | Not acceptable | Not applicable | Comments / Action to be taken or action taken | Responsible person | Requisition number | Date |
|---|---|---|---|---|---|---|---|---|
| 1.1 | **Facilities** | | | | | | | |
| | Buildings and floors | | | | | | | |
| | Roof/ceiling | | | | | | | |
| | Walls | | | | | | | |
| | Floor | | | | | | | |
| 1.2 | **Lighting: natural & artificial** | | | | | | | |
| | Lighting adequate | | | | | | | |
| | Lighting out | | | | | | | |
| | Lights flickering | | | | | | | |
| 1.3 | **Ventilation** | | | | | | | |
| | Natural | | | | | | | |
| | Artificial | | | | | | | |
| 1.4 | **Sanitation/hygiene (National building regulations)** | | | | | | | |
| | Toilet facilities | | | | | | | |
| | Storage for personal belongings | | | | | | | |
| | Shower/washbasins | | | | | | | |
| | Plumbing | | | | | | | |
| | Drinking water | | | | | | | |
| | Floor hygiene | | | | | | | |
| | Waste bins | | | | | | | |
| | Cleaning implements (mops, broom, etc) adequate | | | | | | | |
| | Soap | | | | | | | |
| | Handtowels | | | | | | | |
| | Toilet paper | | | | | | | |
| 1.5 | **Environmental Control** | | | | | | | |
| | Aisle and walkways | | | | | | | |
| | Stacking & storage | | | | | | | |
| | Outside area/yard/grounds | | | | | | | |
| | Refuse removal | | | | | | | |
| | Colour coding of pipes etc / markings / signs / information | | | | | | | |
| | Total medical waste management (Handling and colour codes of e.g. sharps containers, blood products, medicines) | | | | | | | |

2. **MECHANICAL, ELECTRICAL AND PERSONAL SAFEGUARDING**

| | DESCRIPTION | | | | Comments Action to be taken or action taken | Responsible person | Reference number | Date |
|---|---|---|---|---|---|---|---|---|
| | Boilers, pressure vessels and compressed gas cylinders | | | | | | | |
| | Hazardous chemical substances (HCS) (Data safety sheets and storage) | | | | | | | |
| | Motorized equipment: checklist, licensing | | | | | | | |
| | Portable electrical equipment (mobile suction machine, phototherapy lights) | | | | | | | |
| | Earth leakage (E/L) relays: Use and check | | | | | | | |
| | Hand tools: e.g. hammers, chisels and trolleys | | | | | | | |
| | Ergonomics (backache, eye strain, muscular problem because of repetitive movements) | | | | | | | |
| | Personal protective equipment (PPE) available | | | | | | | |
| | Hand protection (gloves) | | | | | | | |
| | Eye and face protection (masks) | | | | | | | |
| | Footwear | | | | | | | |
| | Protective clothing | | | | | | | |
| | Notice and signs: Electrical, mechanical, protective equipment, radiation signs and safety signs | | | | | | | |

3. **FIRE PROTECTION AND PREVENTION AND EMERGENCY PLANNING**

| | DESCRIPTION | Acceptable | Not acceptable | Not applicable | Comments / Action to be taken or action taken | Responsible person | Requisition number | Date |
|---|---|---|---|---|---|---|---|---|
| | Fire extinguishing equipment | | | | | | | |
| | Locations marked, floor clear, no obstructions | | | | | | | |
| | Maintenance of equipment | | | | | | | |
| | Storage of flammables/chemicals | | | | | | | |
| | Alarm system | | | | | | | |
| | Fire fighting drill and instruction | | | | | | | |
| | Emergency / Contingency plan available, staff awareness | | | | | | | |
| | Fire prevention and protection coordinator | | | | | | | |
| | Emergency exit signage | | | | | | | |

4. **INCIDENT RECORDING AND INVESTIGATION**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Injury/occupational diseases records and register (COIDA) | | | | | | | |
| | Internal incident investigation | | | | | | | |
| | Statistics (Monthly report) | | | | | | | |

5. **HEALTH AND SAFETY ORGANISATION**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Chief executive officer responsible for health and safety (Section 16.1) | | | | | | | |
| | Person(s) made responsible for occupational health & safety co-ordination (16.2) | | | | | | | |
| | Appointment of health & safety representative | | | | | | | |
| | On-the-job health & safety communication | | | | | | | |
| | Regular reports / inspection | | | | | | | |
| | Safety rep training | | | | | | | |

**GENERAL COMMENTS / SUGGESTIONS / DETAILED REPORT**

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

I have inspected the above premises/area, to the best of my ability.
I have rectified or reported deviations to the relevant persons.

Inspecting Officer name: .....

Designation: ..... Date: .....

(Heath and Safety Representative)

Signature: .....

**SIGN**

Submitted for signature to Head of Department

Name: ..... Date: .....

Designation: .....

Copy received by Chairperson of Health and Safety Committee

Signature: .....

Name: .....

Signature: ..... Date: .....

Acknowledgements: W. Human & G. Lourens

**Annexure 28**

**Paarl Hospital: Occupational Health: 2006 – 2011**

The positive impact of hospital revitalisation on occupational health is evident in the measures put in place by completion. The appointment of a full time Occupational Health Nurse in the last month of this 2nd phase of HRP made a huge impact in address this aspect of Staff Quality Assurance.

The following was put in place during revitalisation:

- Occupational Health and Safety incident register recording workplace injuries and occupational diseases;
- Health and Safety Committee with a representatives for 17 areas chaired by acting Occupational Health nurse;
- Monthly Heath & Safety representatives meetings;
- Quarterly Heath & Safety inspections;
- Access to 24 hour treatment in Emergency centre for needle stick injuries and mucous membrane exposure including ARV starter pack linked to lab tests for target and source clients;
- Training for Heath & Safety representatives;
- Fire training for Heath & Safety representatives;
- Emergency planning;
- Exit route planning;
- Contraception available to staff at post natal ward;
- Risk assessment
    - Noise monitoring and identification of noise zones;
- Occupational health induction on orientation programme;
- Hep B vaccination programme for staff;
- TB training on in service training programme; and
- Occupational Health Practitioner sessions 3 hours / day (2010).

**Paarl Hospital: Occupational Health: 2006 – 2011**

**Health and Safety reporting areas were divided into the following areas**

| Area | Description |
|---|---|
| 1 | Medical and Surgical wards |
| 2 | Family Medicine, Gynecology, Orthopeadics |
| 3 | Midwifery, Post Natgal and Neonatology |
| 4 | X-Rays |
| 5 | Emergency Centre, Porters, Admissions |
| 6 | Switchboard, Medical Records |
| 7 | Mortury |
| 8 | Training, Admin, Student Residence |
| 9 | Central Sterilization Department |
| 10 | Main and Milk kitchen |
| 11 | Stores, Linenbank |
| 12 | Workshop |
| 13 | Creche & Psychiatry |
| 14 | Lower ground & 7th floor |
| 15 | Theatre & High Care |
| 16 | Specialist Out patients |
| 17 | Laboratory |
| 18 | Pharmacy |

Areas which still hadto be addressed by practical completion date

- Annual medicals of drivers;
- Antiretroviral clinic for staff;
- Human Bite protocol;
- Chemical substance data safety sheet controls;
- Ergonomics risk assessment and interventions;
- Exit medicals;
- Fire Training;
- Food trolleys safety solutions;
- Ladder inspections;
- Mandatory, signed with Identity number, Occupational Health and Safety Act induction training and TB awarenessacross the staff component;
- Morbidity& Mortality induction and awareness;
- Noise signage
- Personal Protective Equipment for Plaster of Paris room in Outpatients;
- Oudiometry;
- Pre-placement medicals and periodical medicals;
- Re do Emergency Plan – escape route/emergency with “You are here” charts;
- Records of needle stick injuries show that those staff have received post exposure prophylaxis and have been re-tested. Results of follow up tests not being documented consistently. Register does not match follow up schedule;
- Risk assesment of machines; and
- Staff occupational Heath & Safety records (ie file of each staff member with Hep B info, injuries, lung functions, X-rays, physical examinations, etc.; and
- Vitalographs / lung function tests.

## Needle Stick injury or occupational exposure reporting

**Annexure 29**

Check list for needle stick and occupational exposure reporting

**RECORDKEEPING**

| | |
|---|---|
| Incident Report (Annexure 1) written in triplicate | |
| WCL 2 (Employers report) form completed | |
| Consent for HIV Testing—Signed by Health Care Worker at risk | |
| Consent for HIV Testing—Signed by Source person | |
| WCL 4 (First Medical Report) completed by Medical Officer in duplicate | |

**PROPHYLAXIS**

| | |
|---|---|
| Consent / Refusal to undergo Prophylaxis | |
| Anti Retroviral Script from attending Medical Officer | |

**BLOODS**

**SOURCE CLIENT INITIAL**

| | |
|---|---|
| HIV (Rapid and Combination Assay) | |
| RPR (VDRL) | |
| HEP. B & C | |

**STAFF MEMBER INITIAL**

| | |
|---|---|
| HIV (Elisa) | |
| RPR (VDRL) | |
| HEP. B | |
| AST | |
| ALT | |
| CREATININE | |
| WBC | |
| HB | |

**2 WEEKS (only if on ARV's)**

| | |
|---|---|
| AST, ALT, CREATININE, WBC & HB | |

**4 WEEKS (only if on ARV's)**

| | |
|---|---|
| AST, ALT, CREATININE, WBC & HB | |

**6 WEEKS**

| | |
|---|---|
| HIV | |

**3 MONTHS**

| | |
|---|---|
| HIV | |

**6 MONTHS**

| | |
|---|---|
| HIV | |

Compiled by Guin Lourens & Ronel Sherriff
June 2008

**Contact person: Occupational Health, (021) 8602839**

4

**Annexure 29**

**PAARL HOSPITAL**
**Hospital Street, PAARL, 7646**

**Phone number: 021-8602500**

**OCCUPATIONAL HEALTH**

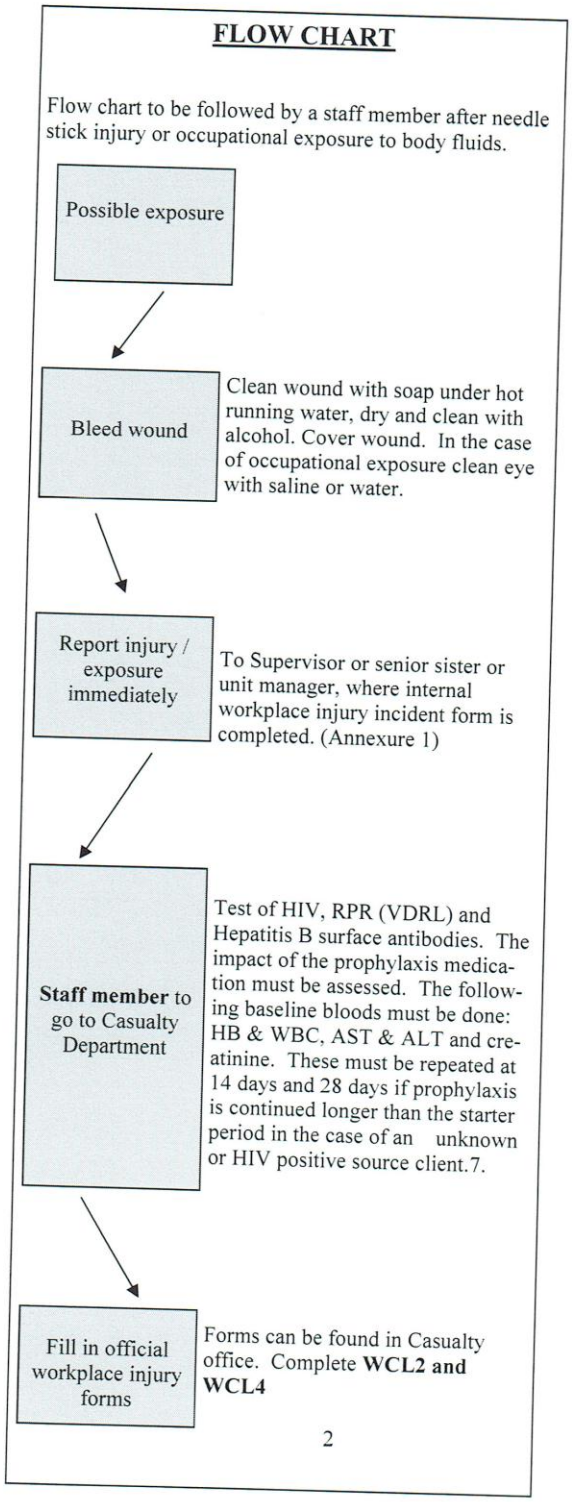
**NEEDLE STICK INJURY**

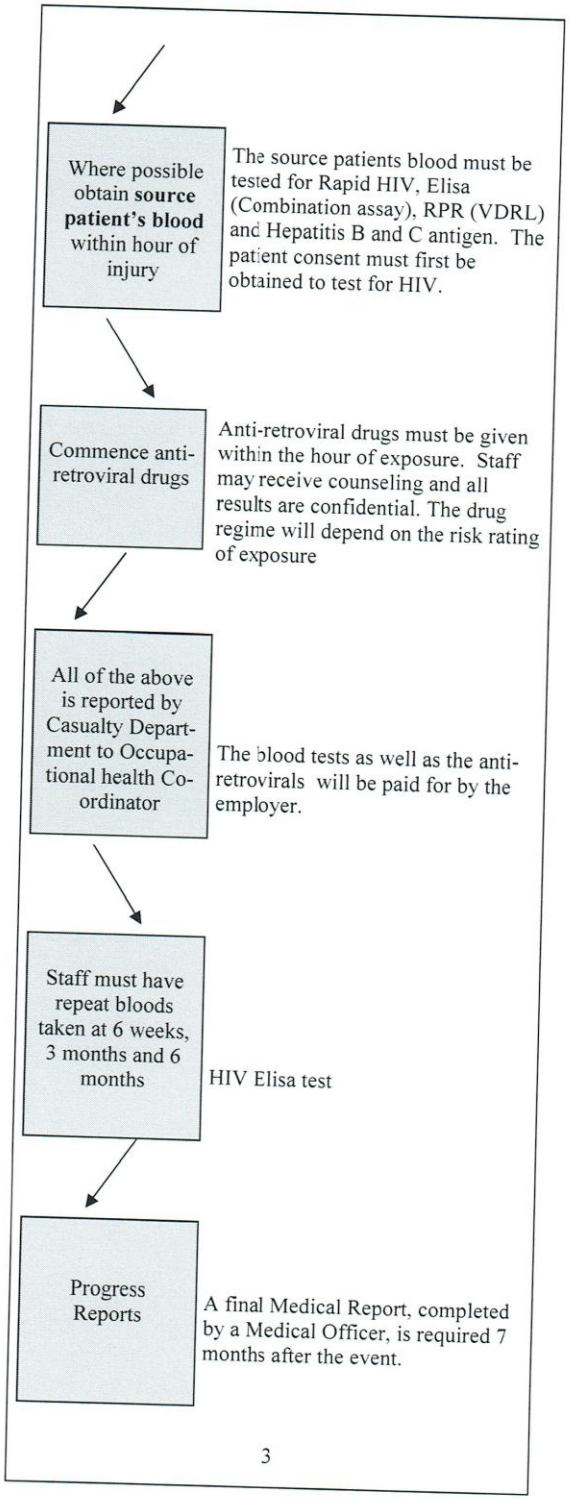
**OR**

**OCCUPATIONAL EXPOSURE REPORTING**

1

## Needle Stick injury or occupational exposure reporting



**Guidelines for staff on ARV's**

## BLOODS

### SOURCE CLIENT INITIAL

| | |
|---|---|
| HIV (Rapid and Combination Assay) | |
| RPR (VDRL) | |
| HEP. B & C | |

### STAFF MEMBER INITIAL

| | |
|---|---|
| HIV (Elisa) | |
| RPR (VDRL) | |
| HEP. B | |
| AST | |
| ALT | |
| CREATININE | |
| WBC | |
| HB | |

**2 WEEKS (only if on ARV's)**

| | |
|---|---|
| AST, ALT, CREATININE, WBC & HB | |

**4 WEEKS (only if on ARV's)**

| | |
|---|---|
| AST, ALT, CREATININE, WBC & HB | |

**6 WEEKS**

| | |
|---|---|
| HIV | |

**3 MONTHS**

| | |
|---|---|
| HIV | |

**6 MONTHS**

| | |
|---|---|
| HIV | |

**SOURCE CLIENT DATA**

Paste the source client sticker in here and get a telephone number from the client. This is vital for follow up enquiries.

Compiled by Guin Lourens & Ronel Sherriff
June 2008

**Contact person: Occupational Health**
**(021) 8602839**

4

Annexure 30

**PAARL HOSPITAL**
**Hospital Street, PAARL, 7646**

**Phone number: 021-8602500**

# GUIDELINES FOR STAFF ON ARV'S

**NEEDLE STICK INJURY**

**OR**

**OCCUPATIONAL EXPOSURE REPORTING**

**Guidelines for staff on ARV's**

## LAMZID

(Combination of 150 mg Lamivudine and 300 mg Zidovudine)

*(Used alone for a lower risk occupational exposure which includes mucosal splash or non intact skin exposure)*

1 tablet bd (12 hourly)

**COMMON SIDE EFFECTS**:

Headache, nausea and vomiting, weakness and tiredness, skin rashes, fever, insomnia, abdominal pain

**FOOD EFFECTS**

- Take after a low fat meal

**OCCUPATIONAL EXPOSURE TO BODY FLUIDS**

Applies to :
- sharps injuries
- non-intact skin
- mucous membrane (eye/mouth/nose) exposure

Exposed to :
- blood
- CSF
- semen
- vaginal secretions
- synovial/pleural/pericardial/peritoneal/ amniotic fluid
- breast milk

Does NOT apply to :
- vomitus
- urine
- faeces
- saliva
- sweat

UNLESS blood-stained

2

## ALUVIA

(Combination of 200 mg Lopinavir and 50 mg Ritonavir)

*(Used with Lamzid for a high risk occupational exposure which includes percutaneous exposure with solid sharp or hollow bore needle from a blood vessel)*

2 tablets bd (12 hourly)

**COMMON SIDE EFFECTS**:

Diarrhoea, abdominal (stomach) pain, headache, abnormal stool, nausea, vomiting, insomnia, skin rashes and feeling weak or tired

**FOOD EFFECTS**

- Take with or without food
- Tablets are swallowed whole and not chewed, broken or crushed

**ALLERGIC REACTIONS**

Please report back to Casualty if you experience any allergic reactions e.g. wheezing, tight chest, swollen face or lips.

**WATER INTAKE**

It is recommended to drink plenty of water (1,5 litre per day) while on ARV's.

## OTHER INFO

**CONTRA INDICATIONS**
- Pregnant or breastfeeding women
- Hepatic or renal pathology
- Avoid Paracetamol while on ARV's

**SAFE SEX**

Safe sex (Condoms) is recommended for 3—6 months after exposure.

**Annexure 31**

## Paarl Hospital

## Quality Assurance

## Transport services survey

Please reflect on your last official transport usage experience:

Name (optional): …….

Date: ……..... Time: ……

Car registration number: ……

| | YES | NO | COMMENTS |
|---|---|---|---|
| Was a transport official available in the office? | | | |
| Was a vehicle readily available after trip authority documents sent? | | | |
| Was access to car keys and logbook a smooth process? | | | |
| Where the logbook and keys clearly marked? | | | |
| Was the car easily accessible from the parking area? | | | |
| Was there petrol in the car? | | | |
| Was the car clean? | | | |
| Was the car in a roadworthy condition? | | | |

Indicate any faults in comments

**Any other comments/recommendations**

……

……

…….....

..……

Acknowledgements:

G. Lourens & R. Sherriff

**Annexure 32**

**Staff Satisfaction Survey Specifications**

**Paarl Hospital : 2006 - 2009**

A staff satisfaction survey was conducted annually at Paarl Hospital focusing on all 667 staff members.

The survey results informed the organisation what staff thought about the organisation. Staff were asked standardized questions about their work experiences at Paarl Hospital.

The surveys included questions about seven domains of staff experience:

- Opinion of the organization
- Communication and consultation within the Organization
- Service provided by Administrative components
- Immediate working environment
- Physical work environment, Safety and Security
- Performance appraisal / evaluation
- Education and Training

The survey highlighted areas that needed improvement in order to provide a better experience for staff. Survey feedback was used to initiate quality improvements and guide management strategy.

Questionnaires were processed and the contracted consultants were expected to capture data, submit a written report and present findings to the Broad Management at Paarl Hospital.

**Annexure 33**

**Staff Satisfaction Survey overview : 2006 – 2009**

**Paarl Hospital Quality Assurance**

| Positives | Areas for improvement |
|---|---|
| **2006** | |
| Sense of pride and loyalty towards Paarl Hospital. | Valuing and caring about employees |
| A commitment to Quality of Care | Fostering a sense of belonging |
| General high job motivation | Respect |
| Administrative Service viewed as: | Putting employees ideas into practice |
| - *Accesible* | Access to Hospital Management |
| - *Efficient, competent, prompt* | Environment, Safety and Security in terms of: |
| Satisfaction with Childcare facilities | - *Safety and Security day and night* |
| | - *Restrooms and tea rooms* |
| | - *Physical & verbal abuse from clients* |
| | Employees are informed about changes |
| | Feedback and ideas encouraged |
| | Communication and consultation to be: |
| | - *Timeous, informed, involved* |
| | HR department enquiries |
| **2007** | |
| Sense of pride and loyalty towards Paarl Hospital. | Enhancing a sense of belonging and worth/esteem amongst staff. |
| A commitment to Quality of Care | Communication and consultation |
| Employees informed about changes | Access to Hospital Management |
| Feedback boxes | Safety and Security in terms of: |
| Efficient administrative component assistance | - *Safety at night* |
| Satisfactory Child care facilities | - *Personal belongings* |
| General job satisfaction | - *Physical & verbal abuse from clients* |
| OHSA compliance | Performance Appraisal (bi-annually) |
| | Education and training: access to one session per year. |
| | Change Management |
| **2008** | |
| Sense of pride and loyalty towards Paarl Hospital. | Putting employees ideas into practice |
| A commitment to Quality of Care | Access to Hospital Management |
| Employees are informed about changes | Environment, Safety and Security in terms of: |
| Feedback and ideas encouraged | - *Safety and Security day and night* |
| General high job motivation | - *Restrooms and tea rooms* |
| Administrative Service: | - *Physical & verbal abuse from clients* |
| - *Efficient, competent, prompt* | Feedback from Supervisor on Performance Appraisal (bi-annually) |
| Communication and consultation: | Education and training: skills development plan and equal access to one training session per year. |
| - *Timeous, informed, involved* | Change Management – willingness and inspiration to change. |

**Staff Satisfaction Survey overview : 2006 – 2009**

| Positives | Areas for improvement |
|---|---|
| **2009** | |
| Sense of pride and loyalty towards Paarl Hospital. | Administrative Service: Satisfaction has declined |
| Employees are informed about changes | |
| General high job motivation | |
| Communication and consultation | |
| Timeous, informed, involved | |
| Feedback from Supervisor on Performance Appraisal (bi-annually): satisfaction has improved | |
| Education and training: skills development plan and equal access to one training session per year: satisfaction has improved | |

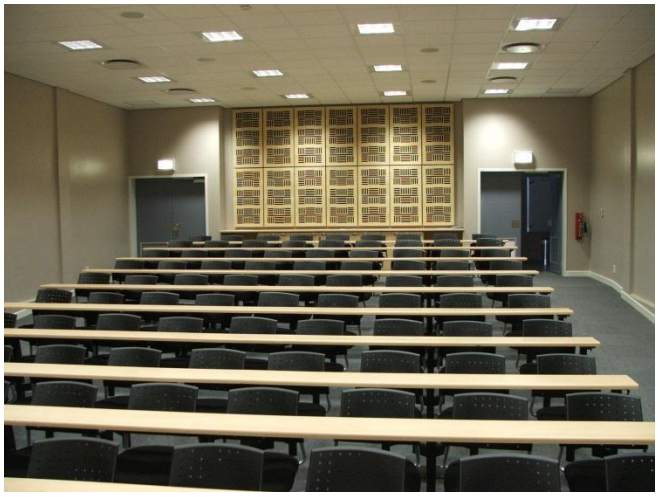
Surveys were not required to be conducted annually from 2010, but every second year only, so the next one was due in 2011. The policy changed and the Staff Satisfaction Survey had to be conducted by the Human Resource Department at DoH Head Office. At the conclusion of this study data collection period no results were available yet for 2011.

**Annexure 34**

**Staff Quality Photographs**

Facility outside for staff quality of work life includes a swimming pool and barbeque facilities.

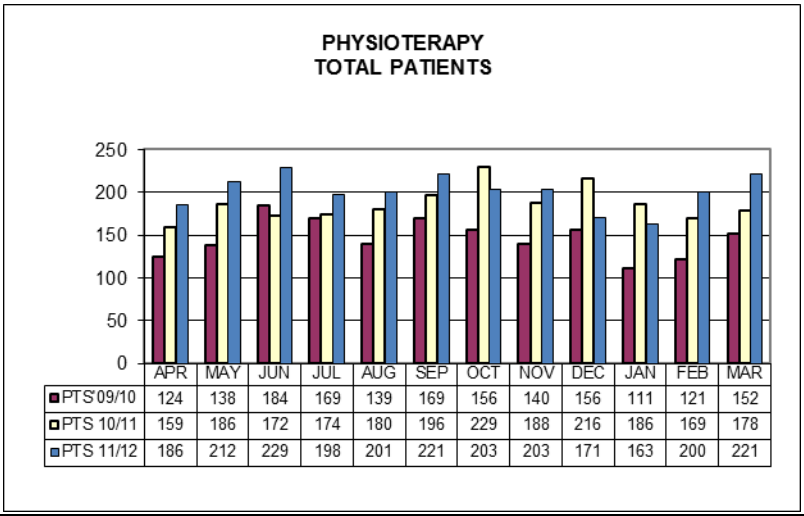
New staff lounge providing comfortable relaxation facilities for staff and enhancing staff quality.



Staff training facilities were upgraded to include an auditorium and two lecture rooms, a library and a skills lab.

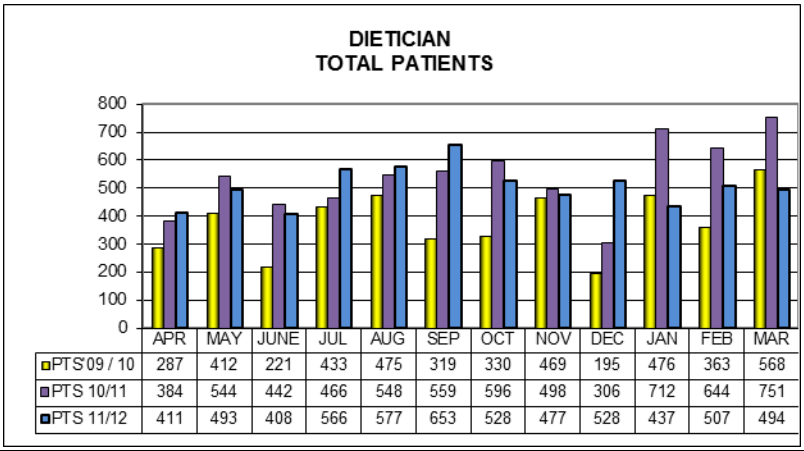
**Annexure 35**

## Allied Health Services



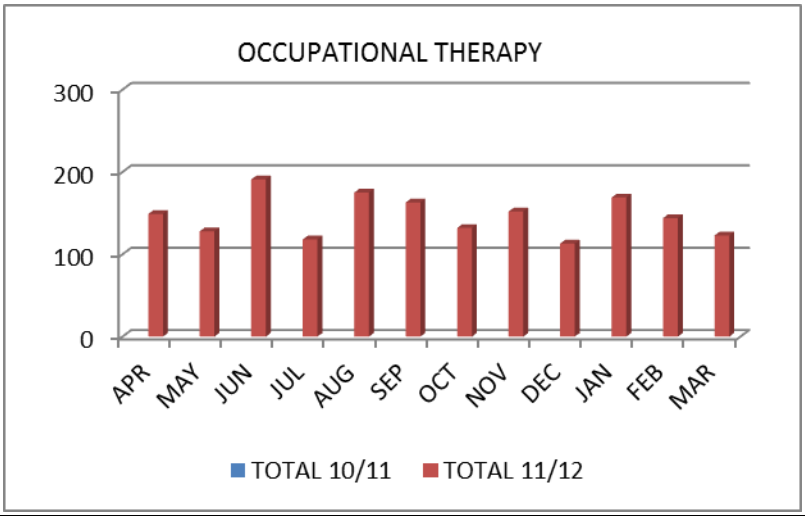

| | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PTS'09/10 | 124 | 138 | 184 | 169 | 139 | 169 | 156 | 140 | 156 | 111 | 121 | 152 |
| PTS 10/11 | 159 | 186 | 172 | 174 | 180 | 196 | 229 | 188 | 216 | 186 | 169 | 178 |
| PTS 11/12 | 186 | 212 | 229 | 198 | 201 | 221 | 203 | 203 | 171 | 163 | 200 | 221 |

Physiotherapy patient contact increased significantly from 2009 to 2012, as both posts were filled.



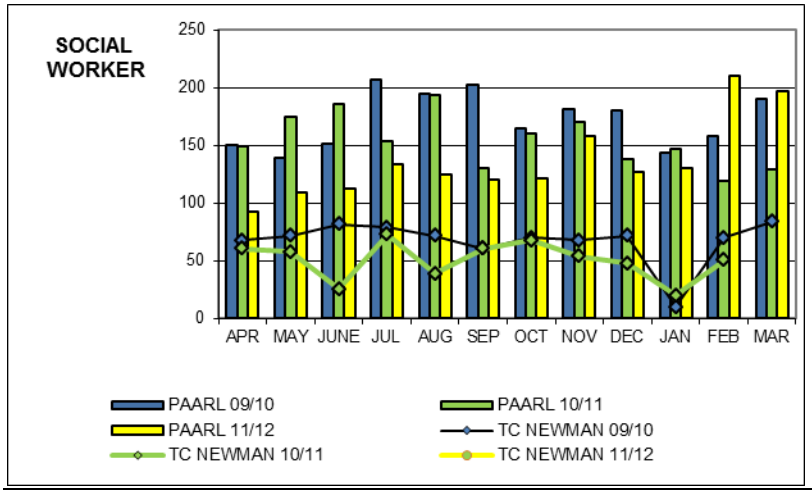

| | APR | MAY | JUNE | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PTS'09 / 10 | 287 | 412 | 221 | 433 | 475 | 319 | 330 | 469 | 195 | 476 | 363 | 568 |
| PTS 10/11 | 384 | 544 | 442 | 466 | 548 | 559 | 596 | 498 | 306 | 712 | 644 | 751 |
| PTS 11/12 | 411 | 493 | 408 | 566 | 577 | 653 | 528 | 477 | 528 | 437 | 507 | 494 |

By practical completion an average of 500 clients were being seen by a dietician on a monthly basis.

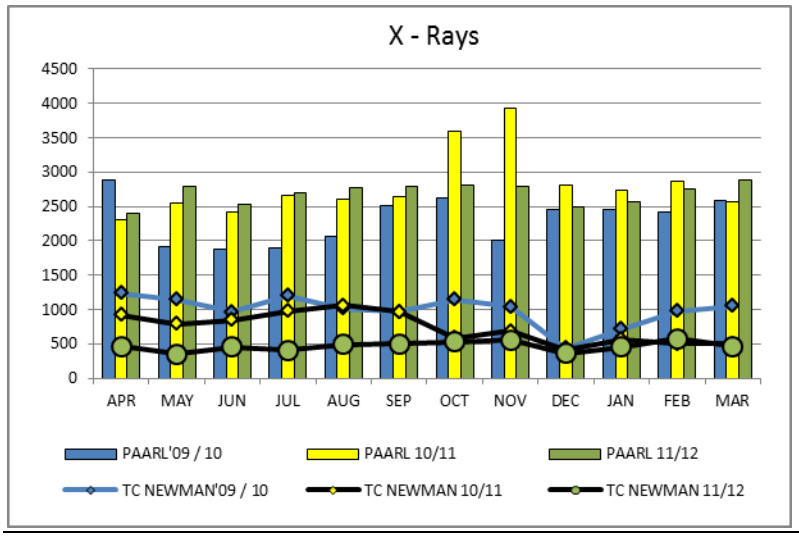



Occupational therapy was introduced in 2011.

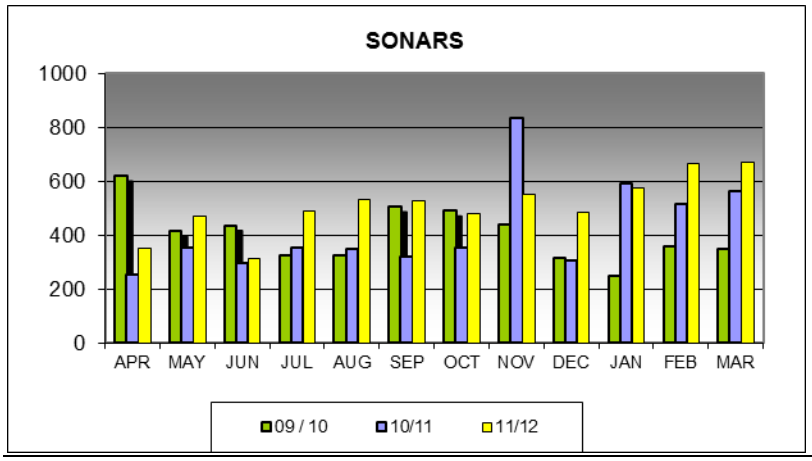
## Allied Health Services




A second social worker was appointed during revitalisation, enhancing client support.




Radiography service demand remained high throughout and many new services were introduced, such as CT scan and mammography.




A sonographer was employed and ultra sound health technology procured to provide this valuable service to the community.

**Clinical Audit**

Annexure 36

# PROVINCIAL GOVERNMENT OF THE WESTERN CAPE
# DEPARTMENT OF HEALTH
# PAARL HOSPITAL
# CLINICAL AUDIT
# POST-OPERATIVE PATIENT CARE

Audit tool for the management of the post-operative patient.

- DEPARTMENT _____
- DATE _____
- WARD _____
- NAME OF PERSONS CONDUCTING AUDIT _____
- DESIGNATION _____
- SIGNATURE/S _____

**DISCIPLINE IN WHICH AUDIT CONDUCTED**
(tick appropriate block)

| MEDICAL | ORTHOPEADICS | OBS & GYNAE | PEADIATRICS | SURGICAL | OTHER |
|---|---|---|---|---|---|

**LEGEND**

| | |
|---|---|
| N / A | NOT APPLICABLE |
| NC (0) | NON COMPLIANT |
| PC (1) | PARTIALLY COMPLIANT |
| C (2) | COMPLIANT |

PATIENT STICKER

Critical points are in bold

| TYPE OF ANEASTHETIC: | GENERAL | SPINAL | OTHER |
|---|---|---|---|

TYPE OF OPERATION:

## (1) POTENTIAL SHOCK

| | CRITERIA | N / A | N C (0) | P C (1) | C (2) | COMMENTS |
|---|---|---|---|---|---|---|
| 1 | Standard Care Plan (SCP) written and appropriate | | | | | |
| 2 | **Blood pressure monitored, recorded and reported, as per SCP** | | | | | |
| 3 | **Pulse monitored, recorded and reported, as per SCP** | | | | | |
| 4 | **Temperature monitored, recorded and reported, as per SCP** | | | | | |
| 5 | **Hemoglobin monitored, recorded and reported, as per SCP** | | | | | |
| 6 | **Wound drainage/blood loss monitored, recorded and reported, as per SCP** | | | | | |
| 7 | Skin colour monitored, recorded and reported as per SCP | | | | | |
| 8 | **Fluid intake, and output monitored, recorded and reported as per SCP (e.g. less than 30 ml output per hour reported); including IV lines** | | | | | |
| 9 | Record of reports of any significant changes in condition | | | | | |

4.3 (2) **POTENTIAL ASPHYXIA**

| | CRITERIA | N / A | N C (0) | P C (1) | C (2) | COMMENTS |
|---|---|---|---|---|---|---|
| 10 | Respiratory rate and rhythms monitored and recorded as per SCP (e.g. fast, superficial) | | | | | |
| 11 | Secretion and suctioning monitored and recorded | | | | | |
| 12 | O2 administered as prescribed. | | | | | |
| 13 | Positioning of patient for open airway and comfort recorded | | | | | |

(3) **WOUND**

| | CRITERIA | N / A | N C (0) | P C (1) | C (2) | COMMENTS |
|---|---|---|---|---|---|---|
| 14 | Oozing/discharge/redness or swelling monitored and recorded as per SCP | | | | | |

(4) **PAIN**

| | CRITERIA | N / A | N C (0) | P C (1) | C (2) | COMMENTS |
|---|---|---|---|---|---|---|
| 15 | Pain pattern monitored and recorded as per SCP | | | | | |
| 16 | Analgesia administered as per prescription | | | | | |
| 17 | Effect of type of analgesia included in SCP | | | | | |
| 18 | Analgesia schedule indicated on prescription | | | | | |
| 19 | Analgesia schedule/generic name indicated on prescription and prescription complies with legibility, validity and authenticity | | | | | |
| 20 | **Patient's response to the effects of analgesia monitored, recorded and reported.** | | | | | |

(5) **RECORDKEEPING**

| | CRITERIA | N / A | N C (0) | P C (1) | C (2) | COMMENTS |
|---|---|---|---|---|---|---|
| 21 | The documents are within legal parameters (legibility, black ink, date, time, signature, designation) | | | | | |
| 22 | Tangible recorded evidence of all clinical actions | | | | | |
| 23 | Indemnity form signed for liability | | | | | |
| 24 | Record of valuables returned to client post-operatively | | | | | |
| 25 | Average post operative length of stay is within acceptable limits (comment) | | | | | |

| | N / A | N C (0) | P C (1) | C (2) | COMMENTS |
|---|---|---|---|---|---|
| TOTAL | | | | | |

MAXIMUM - NOT APPLICABLE X 2 = DENOMINATOR

MAXIMUM (PC + C) = ..... / 50

**RESULT**

..... / ..... x 100/1 = ..... %

**GENERAL COMMENTS**

**CRITICAL POINTS COMMENTS (2, 3, 4, 5, 6, 8 & 20)**

Author: G. Lourens & A. Aanhuizen

**Adverse Incident Report**

**Annexure 37**

ANNEXURE 37

## DEPARTMENT OF HEALTH
## ADVERSE INCIDENT REPORT FORM

**1 FACILITY DETAILS**

| | | | |
|---|---|---|---|
| **Region** | | **District** | |
| **Facility** | | **Sub-District** | |
| **Area/Ward** | | | |

**2 PATIENT DETAILS** (*Not Name*)

| | | | |
|---|---|---|---|
| **Folder nr.** | | **Inpatient** | |
| **Age** | | **Outpatient** | |
| **Gender** | | **Day patient** | |
| **Description:** (If required) | | **Other** (specify) | |

**3 DETAILS OF INCIDENT**

**Date:** **Time:**

3.1 **Categorisation** — **Adverse Event** / **Near miss**

3.2 **Description of the incident / Near Miss** (Only facts): *Include the type of injury/harm inclusive of medical devices and medications involved.*

3.3 **Possible cause if known:**

3.4 **Immediate action taken following the incident:**

3.5 **Contributing factors**: (i.e. problems with equipment)

**4 RISK ASSESSMENT** **

| | **Consequence/Severity/Outcome** | | **Likelihood** | |
|---|---|---|---|---|
| 4.1 | Minimum | | Frequent | |
| | Minor | | Likely | |
| | Moderate | | Possible | |
| | Major | | Unlikely | |
| | Serious | | Rare | |
| 4.2 | **Risk Code** | | | |

**5 SUMMARY**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Incident report completed? | YES | | NO | | Referred to M & M | YES | | NO | |
| Matter investigated? | YES | | NO | | Referred from M & M | YES | | NO | |
| Was appropriate action taken? | YES | | NO | | | | | | |

**6 ADDITIONAL COMMENTS**

**7 PERSON COMPLETING FORM**

| | |
|---|---|
| Signature | |
| Name in block letters | |
| Designation | |
| Date | |

**AREA MANAGER:**

** **SEVERITY ASSESSMENT CODE (SAC) MATRIX (for Risk Assessment)**

| | | CONSEQUENCE | | | | |
|---|---|---|---|---|---|---|
| | | SERIOUS | MAJOR | MODERATE | MINOR | MINIMUM |
| Likelihood | Frequent | High | High | Moderate | Low | Low |
| | Likely | High | High | Moderate | Low | Very Low |
| | Possible | High | Moderate | Moderate | Low | Very Low |
| | Unlikely | High | Moderate | Low | Very Low | Very Low |
| | Rare | Moderate | Low | Low | Very Low | Very Low |

**RISK** High (Red) Moderate (Orange) Low (Yellow) Very Low (Green)

**Annexure 38**

Patient Sticker

## Paarl Hospital

## Morse Fall Scale

| Variables | Numeric Values | Score |
|---|---|---|
| **1.** History of falling | No 0<br>Yes 25 | _____ |
| **2.** Secondary diagnosis | No 0<br>Yes 15 | _____ |
| **3.** Ambulatory aid<br>None/bed rest/nurse assist<br>Crutches/cane/walker<br>Furniture | <br>0<br>15<br>30 | _____ |
| **4.** IV or IV Access | No 0<br>Yes 20 | _____ |
| **5.** Gait<br>Normal/bed rest/wheelchair<br>Weak<br>Impaired | <br>0<br>10<br>20 | _____ |
| **6.** Mental status<br>Oriented to own ability<br>Overestimates or forgets limitations | 0<br>15 | _____ |

Morse Fall Scale Score = **Total** _____

If patient has a final score **> 55**, or if nurse's assessment indicates a high risk for falls regardless of Morse Risk score, implement **Fall Prevention Plan of Care** (see separate care plan)
If patient has a final score **<55**, implement **standard fall precautions** listed below:

- Provide patient and family **orientation** to environment and routine
- Ensure **call bell** is in reach, patient able to use. Answer calls for assistance promptly
- Offer frequent **toileting** and other assistance
- Keep **bed** in lowest position, **cot sides** on
- **Lock** wheels of bed, wheelchair, etc.
- Keep all **assistive devices** (glasses, walker, etc.) available to patients
- Provide adequate **lighting**
- Provide **non-slip footwear**
- Arrange furniture and objects so they are **not obstacles** and remove unnecessary furniture in rooms

**Date: _____ Time: _____ Signature : _____**

# Morse Fall Scale

## Morse Fall Scale Variable Descriptions and Scoring Hints

1. **History of falling**
   - This is scored as 25 if the patient has fallen during the present hospital admission or if there was an immediate history of physiological falls, such as from seizures or an impaired gait prior to admission. If the patient has not fallen, this is scored 0. Note: If a patient falls for the first time, then his or her score immediately increases by 25.
2. **Secondary diagnosis**
   - This is scored as 15 if more than one medical diagnosis is listed on the patient's chart; if not, score 0.
3. **Ambulatory aid**
   - This is scored as 0 if the patient walks without a walking aid (even if assisted by a nurse), uses a wheelchair, or is on bed rest and does not get out of bed at all. If the patient uses crutches, a cane, or a walker, this variable scores 15; if the patient ambulates clutching onto the furniture for support, score this variable 30.
4. **IV or IV Access**
   - This is scored as 20 if the patient has an intravenous apparatus or a saline/heparin lock inserted; if not, score 0.
5. **Gait**
   - The characteristics of the three types of gait are evident regardless of the type of physical disability or underlying cause.
     1. A normal gait is characterized by the patient walking with head erect, arms swinging freely at the side, and striding without hesitation. This gait scores 0.
     2. With a weak gait (score10), the patient is stooped but is able to lift the head while walking without losing balance. If support from furniture is required, this is with a featherweight touch almost for reassurance, rather than grabbing to remain upright. Steps are short and the patient may shuffle.
     3. With an impaired gait (score 20), the patient may have difficulty rising from the chair, attempting to get up by pushing on the arms of the chair and/or bouncing (i.e., by using several attempts to rise). The patient's head is down, and he or she watches the ground. Because the patient's balance is poor, the patient grasps onto the furniture, a support person, or a walking aid for support and cannot walk without this assistance. Steps are short and the patient shuffles.
     4. If the patient is in a wheelchair, the patient is scored according to the gait he or she used when transferring from the wheelchair to the bed.
6. **Mental status**
   - When using this Scale, mental status is measured by checking the patient's own self-assessment of his or her own ability to ambulate. Ask the patient, "Are you able to go to the bathroom alone or do you need assistance?" If the patient's reply judging his or her own ability is consistent with the activity order on the Kardex, the patient is rated as "normal" and scored 0. If the patient's response is not consistent with the activity order or if the patient's response is unrealistic, then the patient is considered to overestimate his or her own abilities and to be forgetful of limitations and is scored as 15.

**How will the Morse Fall Scale be used?**

- On admission.
- Daily on the day shift.
- When a patient's condition changes or there has been a change in the patient's medication regimen that could put the patient at risk for a fall.
- When a patient is transferred to another unit.
- After a fall

# Morse Fall Scale

## Fall Prevention Plan of Care:

| Interventions | Tick box |
|---|---|
| **Sign** placed on patient board above bed | |
| **Call bell** is in reach | |
| **Cot sides** in position | |
| **Educate** patient and family when there is a risk of falling and reinforce as much as possible to call for assistance with ambulating and toileting | |
| Use **dim light** at night | |
| **Elimination needs** assessed & **assistance** offered every **2 hours** while awake | |
| Door to room **open**, unless isolation or privacy required | |
| **Communicate** to other departments patient is at high risk for falls | |
| Encourage / assist with **short walks** frequently to build strength and endurance | |
| Request referral to **Physical Therapy** if patients' gait or balance is impaired | |
| Frequently **observe** patients at high risk for falls | |
| Review **medications** that can place the patient at risk for falling, and communicate concerns to physician | |
| Date: Signature: | |

Acknowledgements: Y van Zyl

**Annexure 39**

## Quality Housekeeping Audit

**DATE: ……..**

FOCUS AREA: BATHROOM CLEANLINESS

DEPARTMENT / WARD _____

LOCATION DETAILS _____

DATE _____

TIME _____

AUDITOR (PRINT NAME) _____ SIGN _____

ASSISTED BY SIGN

| NO | AREA | CLEAN/ | DIRTY | DUSTY | COBWEBS | NOT APPLICABLE | OTHER | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 1 | Ceiling | | | | | | | |
| 2 | Walls | | | | | | | |
| 3 | Mirrors | | | | | | | |
| 4 | Floors | | | | | | | |
| 5 | Skirting | | | | | | | |
| 6 | Toilet roll holder | | | | | | | |
| 7 | Hand towel holder | | | | | | | |
| 8 | Windows | | | | | | | |
| 9 | Outlet pipes | | | | | | | |
| 10 | Basins | | | | | | | |
| 11 | Toilet Bowl | | | | | | | |
| 12 | Toilet Cistern | | | | | | | |
| 13 | Toilet Lid | | | | | | | |
| 14 | Toilet Seat | | | | | | | |
| 15 | Dustbin | | | | | | | |
| 16 | Door and Doorhandle | | | | | | | |
| 17 | Bath | | | | | | | |
| 18 | Taps | | | | | | | |
| | **SUB-TOTAL/TOTAAL** | | | | | | | |

| | | **YES** | **NO** |
|---|---|---|---|
| 19 | Toilet paper | | |
| 20 | Hand towel | | |
| | **TOTAL** | | |

PERCENTAGE _____

**Annexure 40**

## Health Technology Guidelines

## Paarl Hospital - Technicians / Technical Support

The following proposal is put forward for guidelines to be given to Technicians repairing/maintaining equipment in hospital wards/ treatment areas.

Access control

Due to security and safety of clients and staff, technicians should wear identification and introduce themselves to the person in charge of the unit to be visited.

Time management

Medical staff should be informed of an approximate time that the maintenance/repairs will take, thus assisting them to plan for the unavailability of equipment and prevent violation of patient privacy.

Risk management

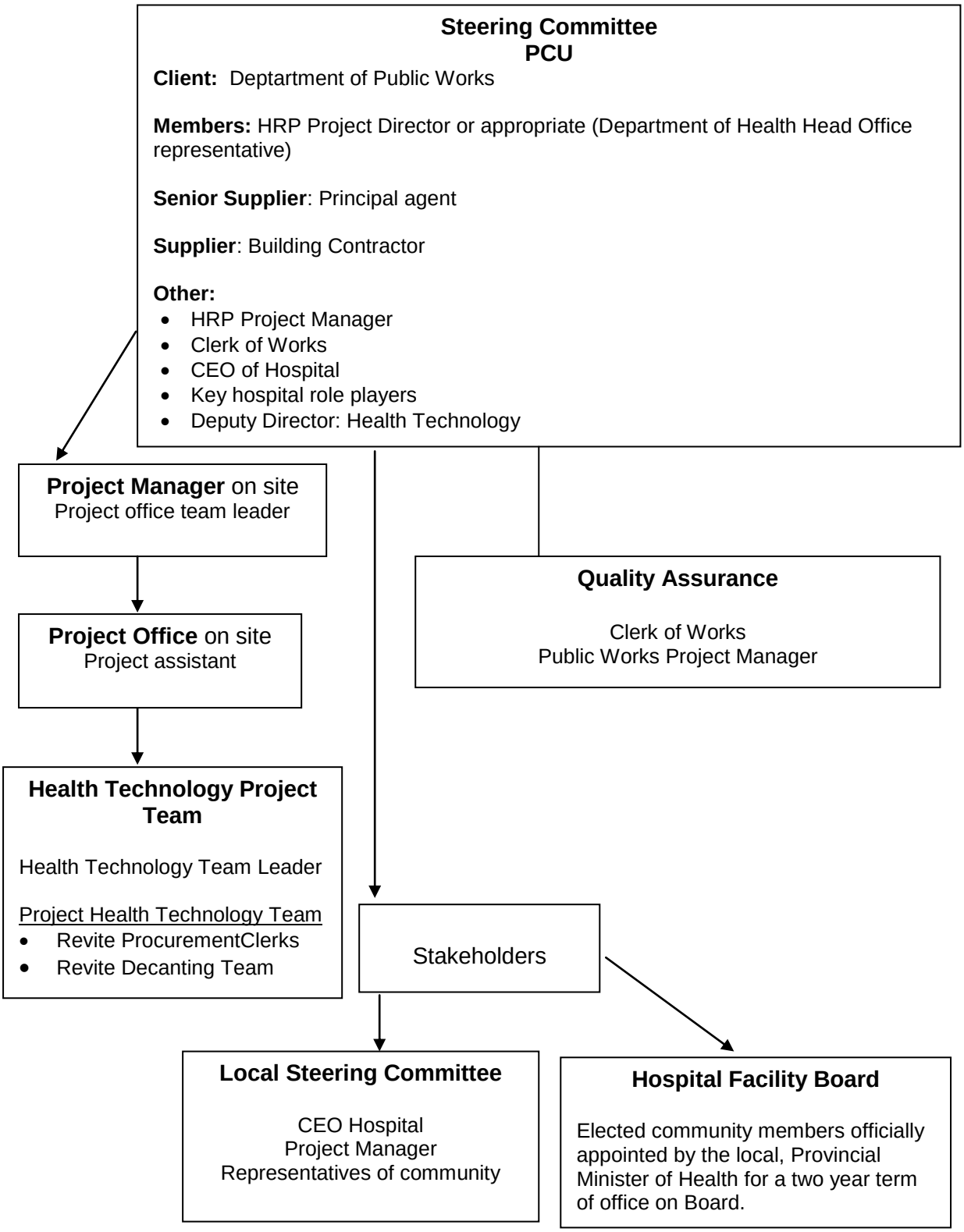
Repairs/Maintenance should be conducted in such a way that the risks (e.g. noise, dust, dangerous equipment) are minimized for staff and clients and consider that higher risk repairs (e.g. welding) should be taken back to a workshop.

Communication

Liaison between Medical/Nursing Staff and Technical Staff is crucial to facilitate planning for optimum functioning of client services.

**Annexure 41**

**Paarl Hospital Revitalisation Programme project structure**



**Annexure 42**

**Induction Training**

**Occupational Health and Safety**

**Visitor's site induction**

**Safety rules**

1. **Obey all rules**
2. **PPE** (Personal Protective Equipment)
   Hard hat
3. **Unauthorized / restricted area**
   No visitors are allowed on site unless he/she is accompanied by a responsible person from the site.
4. **Physical health**
   Visitors must report all disabilities before entering any of our sites – (Asthma, allergies, diabetic, colour blindness, etc.)
5. **Banned substances**
   No one will be allowed to go on any of the open cast sites, if he/she under the influence of banned substances (alcohol, drugs or dagga)
6. **Environment**
   Do not litter when visiting the site
7. **Horse play**
   Horse play is not allowed on site
8. **Pedestrians**
   Maintain good visibility for bigger machines. Do not walk around on site unnecessary.
9. **Think safe and act safe**