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Feasibility Assessment of Merging Windhoek Central and Katutura Intermediate Hospitals to Create a National Academic and Referral Hospital in Namibia

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In collaboration with: Training Resources Group

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ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ALOS	Average Length of Stay
ASC	Ambulatory Surgery Center
BOR	Bed Occupancy Rate
C-section	Caesarean Section
COHSASA	Council for Health Service Accreditation of Southern Africa
GHP	German Healthcare Partnership
GRN	Government of the Republic of Namibia
HIV	Human Immunodeficiency Virus
ICU	Intensive Care Unit
ILG	Institutional Leadership Group
KIH	Katutura Intermediate Hospital
MDR-TB	Multi-drug Resistant Tuberculosis
MoE	Ministry of Education
MoF	Ministry of Finance
MoHSS	Ministry of Health and Social Services
MoU	Memorandum of Understanding
MoWT	Ministry of Works and Transport
OPC	Outpatient Center
OPM	Office of the Prime Minister
OR	Operating Room
PHC	Primary Health Care
PMT	Project Management Team
PPHRD	Policy, Planning and Human Resources Development
PSC	Public Service Commission
PSEMAS	Public Service Employees Medical Aid Scheme
SADC	Southern African Development Community
SC	Steering Committee
SoM	School of Medicine (University of Namibia)
SoNPH	School of Nursing and Public Health (University of Namibia)
TB	Tuberculosis
UNAM	University of Namibia
USAID	The United States Agency for International Development
WCH	Windhoek Central Hospital
WISN	Workload Indicators of Staffing Needs

ACKNOWLEDGMENTS

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The assessment team would especially like to express gratitude and thanks to Dr. George Judmann, Medical Superintendent at Katutura Intermediate Hospital, and Dr. Sarah Shalongo, Medical Superintendent at Windhoek Central Hospital, for opening their doors and welcoming the assessment team. Mr. Josia Ihuhwa, Chief Quality Assurance Officer at Katutura Intermediate Hospital, and Mr. Juan Van Wyk, Chief Control Officer at Windhoek Central Hospital, were invaluable in helping the team better understand the facility layout and planning processes. The assessment team also thanks the USAID Health Office, the USG PEPFAR Implementing Partners, and everyone who set aside time to share their visions for the future of the hospitals.

The assessment team spent more than four weeks in Namibia interviewing and meeting with stakeholders who are passionate about the hospitals, the care they provide, and the communities they serve. It is hoped that their voices echo throughout this report and give credence to the ideas for creating a National Academic and Referral Hospital for Namibia.

EXECUTIVE SUMMARY

On June 3, 2013, Ministry of Health and Social Services (MoHSS) Permanent Secretary Mr. A.N. Ndishishi commissioned an assessment of the feasibility for the successful merger of Windhoek Central Hospital and Katutura Intermediate Hospital to create a National Academic and Referral Hospital. The Permanent Secretary endorsed the assessment with a request that the findings and recommendations be made available "before August when we start budgeting for 2014/2015 financial year." The Health Systems 20/20 Namibia project assessment team rapidly mobilized and was in Namibia to begin work on June 25, 2013. The team comprised international and Namibian experts in the areas of health care administration, governance, engineering, financing, and medicine.

The assessment of a hospital merger is an extremely complex task involving research and analysis of governance, human resources, clinical services, infrastructure, academic requirements, costing, and access and equity issues. The recommendations that follow were completed within a six-week time frame; areas remain that will require additional data collection and analysis in order to operationalize these strategic recommendations and these are noted in the report.

The assessment team was tasked with conducting an assessment and feasibility analysis of three specific scenarios:

- Scenario I: Maintaining the Status Quo – Continued Independent Operations
- Scenario II: Realigning of Clinical Services without Merger
- Scenario III: A Full Asset Merger

Based on funding, the assessment team *strongly recommends* the *Full Asset Merger* of the two hospitals under a new governance structure, as described in Scenario III, based on an extensive review of available data, reports and prior studies, the input of key stakeholders from across the two hospitals, ministries overseeing them, and partners such as the University of Namibia (UNAM) School of Medicine. It is only with the creation of a single organizational entity formed by the merger of the two hospitals, governed by a semi-autonomous governing board, that the vision of establishing a National Academic and Referral Hospital will ultimately be realized for Namibia.

It was the unanimous opinion of all key stakeholders and all members of the assessment team that Scenario I, Maintaining the Status Quo, is sub-optimal. The current situation is one of a disjointed and dysfunctional governing structure, a crumbling and neglected infrastructure, duplication and

maldistribution of clinical services across the two institutions, and a sub-optimal level of quality for clinical practicum training for medical and nursing students.

The assessment team concluded that the realignment of clinical services without a change in the hospital governance structure as outlined under Scenario II may lead to efficiency gains, but overall will not contribute to the vision of creating a National Academic and Referral Hospital for the country. From a conceptual standpoint, as a result of realignment of clinical services, one could expect gains in efficiency for staffing and equipment usage, and improved patient access. However, successful implementation of this strategy is unlikely without first fundamental changes made in the authority granted to hospital leadership and their power to manage human resources (hiring, firing, scheduling, assigning, and evaluating staff), direct infrastructure maintenance, renovation, and construction, make programmatic budget decisions, and structure effective partnerships as needed with UNAM SoM to fulfill the goal of providing a strong clinical practicum experience for medical and nursing students.

This report recommends a phased approach for transitioning to the envisioned semi-autonomous governance structure described in Scenario III, beginning with political support for establishing an empowered Steering Committee that launches an overall strategic transformational change process. To be successful, the Steering Committee will need to be composed of members who have the knowledge, expertise, authority, and accountability to productively assume this responsibility. The Steering Committee also will require the support of a strong, experienced, well-trained hospital management team to productively implement identified strategies for ensuring that the citizens of Namibia have access to high-quality tertiary medical care. In addition to launching transformational change, the Steering Committee will begin the detailed strategic planning process for development of a new tertiary care National Academic and Referral Hospital that will serve the nation for decades to come.

Provided below (Table 1, 2, 3) is a summary of the key findings from the feasibility assessment. For each of the scenarios reviewed, the findings and the assessment team's evaluation of the feasibility of each is summarized. The remainder of the report provides detailed discussion of these findings and recommendation.

Table 1. Summary of Recommendations – Scenario I

SCENARIO I **Continued Independent Operations - no governance change; operations continue as they are**	
Main Findings	Impact on Service Delivery
Ineffective governance structure that negatively affects hospital management's decision-making authority and ability.	Current governance structure does not allow the hospital management to efficiently exercise key decisions required improve service delivery, address bottlenecks, and realign services to meet the needs of the communities served. Absence of authority for hospital management to make address regular maintenance and sanitation issues which impact services and quality including human resource decisions, to make administrative decisions regarding maintenance, procurement, logistics, and outsourcing nonclinical services.
Limited collaboration and communication between training institutions and hospitals. This affects the ability of the UNAM School of Medicine to produce adequately trained medical professionals.	Current relationship between training institutes and the hospitals limits the implementation of an effective training program. Care provided to patients by newly trained doctors without adequate supervision and mentorship has a negative impact and compromises the ability of future healthcare providers to offer healthcare services at a high level.
Unattractive employment conditions contribute to chronically unfilled vacancies.	Unfilled vacancies increase the workload for existing staff and also decrease the number of skilled clinicians to provide quality services. Increased workload and lack of incentives depresses morale and likely affect quality of services.
The duplication of services contributes to the inefficiencies in current utilization of medical and administrative staff and of the already limited stock of medical equipment.	Poor utilization of medical staff has a direct impact on service delivery. Staff is often divided between the two hospitals, increasing the risk of poor responses to emergencies. The services provided at both hospitals are not always adequately supported. For example, the absence of a Neonatal Intensive Care Unit at KIH imposes higher risks on new-borns delivered at Katutura hospital as critically ill new-borns have to be transported to incubators at WCH.
The lack of alignment of services and administrative functions represents missed opportunities for financial efficiencies and cost savings in the medium and long term.	Lack of alignment creates a misallocation of scarce resources with a likely impact on the level of care offered at the hospitals. Savings could be used towards necessary maintenance and sanitation activities.
Having the building managed by one ministry (Ministry of Works and Transport) and the clinical functions managed by another (MoHSS) makes it challenging for hospital management teams to address urgent health and safety measures.	Facilities require major renovations to improve patient safety; poor sanitation services and unpredictable water supply increase risk of hospital acquired infections. The current management of highly infectious TB cases at KIH is not aligned with Namibian or International best practices and it presents high risk for patient re-infection and exposure to MDR-TB.
Evaluation: UNSUSTAINABLE	

Table 2. Summary of Recommendations – Scenario II

SCENARIO II **Clinical Services Realignment. No proposed governance change**	
Main Findings	Impact on Service Delivery
Without changing the governance structure and giving decision-making power to the hospital management team, proposed clinical realignment and infrastructure repairs will continue to face the same challenges outlined in Scenario I.	Most negative aspects as in Scenario I would remain. The alignment of clinical services, such as Maternity, would possibly reduce the need for some essential medical staff to be split between the two structures with possible improvement of staff conditions and patient care. Arguably, some savings could be obtained from combining services and the proceeds utilized to improve maintenance and other hospital conditions. The unchanged governance structure does not guarantee, however, the appropriate allocation of available resources.
With responsibility for human resources management remaining under the Public Service Commission, clinical staff realignment will be difficult to achieve and the hoped-for allocation efficiencies will not be realized. Without efficiency gains, the realignment will merely be a physical relocation.	Staff utilization will remain inefficient and patient care will likely continue at current levels of quality.
Without authority to manage and control capital budget decisions, this scenario will be difficult to operationalize; the amount of infrastructure work to be carried out needs a stronger managerial setup than the current structure can afford.	Without the necessary infrastructure work, the issues highlighted above, including location of Infectious Disease unit, management of emergency patients, etc. will not be adequately resolved.
Evaluation: INEFFECTIVE, INEFFICIENT, AND UNSUSTAINABLE OVER THE MEDIUM AND LONG TERM	

Table 3. Summary of Recommendations – Scenario III

SCENARIO III **Full Merger. Phased approach leading to semi-autonomous board and professionally trained hospital management team**	
Main Findings	Impact on Service Delivery
A full merger allows for a direct relationship between training institutions and hospitals.	Potential to improve the feedback mechanism between students, institution and hospital staff and improve the learning conditions of the interns. The hospital staff will be more adequately allocated between teaching and service functions and the quality of graduates will benefit the patient population.
With governance change and a consistent delivery of in-line management and leadership training for middle and senior level cadres, hospital management has an improved ability to allocate and utilize human resources effectively.	This new autonomy, coupled with improved management skills, will allow the implementation of the efficiency gains as expected from the realignment of clinical services. More autonomy on hiring and firing practices should result in a full cadre of health workers, better incentive mechanisms, and overall improvement of clinical services for the patient population.
Elimination of the duplication of clinical services may result in more efficient use of specialists and limited medical equipment, given the increased autonomy of decision makers.	Through autonomy of decision making management will be able to identify redundancy in resources, and use the available resources where most needed.
***Autonomous* management does not translate into an *effective* management without the appropriate information and ability to use it. Financial information and reports are essential to the sustainability of an independent hospital, especially if in direct competition with existing and future private institutions. The introduction of program-based budgeting would afford management the necessary knowledge of the hospital's cost structure, improve probability to increase revenue, and better compete with private institutions for scarce resources.**	Quantity and quality of service delivery is a function of available resources and their efficient allocation. A functioning FMIS at the hospital level will afford management with the knowledge and information necessary to use resources for best results in terms of service delivery and ultimately patient's care.
With the authority to independently make capital investment and building maintenance choices and with the appropriate resident engineering capacity, hospital management can effectively and efficiently make infrastructure improvement decisions.	This is at the base of routine quality control and sanitary conditions for any medical structure. The merged institution should be able to overcome the challenges that are now faced by the two hospitals in terms of maintenance of a clean, functional and safe infrastructure. Patients' quality of life will greatly benefit from a consistent supply of sanitary conditions and safe environment conditions during their stay at the hospital. Personnel morale will also benefit, again to the gain of patients' quality of treatment.
Evaluation: RECOMMENDED	

I. FEASIBILITY ASSESSMENT DESIGN AND RATIONALE

1.1 ASSESSMENT RATIONALE

At independence in 1990, Namibia inherited a fragmented political and social care system based on racial segregation. All aspects of life, including access to essential health care services, were impacted. As a result, the health system's financial, physical, and human resources were disproportionately allocated.

Since independence, Namibia has taken many measures to ensure that each citizen, regardless of race, has access to essential health care services provided at a high-quality level. Attempts have been made to remove economic and social impediments while focusing on providing an equitable distribution of health care services across the country. The Ministry of Health and Social Services (MoHSS) adopted a decentralization policy to improve service provision and management by de-concentrating authority to 13 MoHSS Regional Directorates. Furthermore, the MoHSS has restructured and re-orientated the health sector in line with the Primary Health Care (PHC) approach and broadened health financing options through the introduction of a user fee policy at all facilities with an exemption mechanism for the poor. It also has introduced the principle of managed competition in the area of contracting support services.[1]

In 2008, the MoHSS conducted an extensive review of the health sector to evaluate efficiency and effectiveness of service delivery in Namibia.[2] The results of this review indicated a need for further restructuring of MoHSS systems to reduce health disparities and address unequal allocation of the health services within the current system. This restructuring is still underway; delays were called out in the Presidential Inquiry as a concern.

While the MoHSS has made significant strides in harmonizing and reducing parallel programs at the district level, little has been done about the duplication of services at Katutura Intermediate Hospital (KIH) and Windhoek Central Hospital (WCH).[3] Most services, including surgery, medicine, urology, obstetrics and gynecology, pediatrics, and orthopedics, are currently offered at both

[1] *National Health Policy Framework 2010-2020*, (Windhoek: MoHSS, 2010), pg. 1
[2] ***Health and Social Sciences Review 2008***, **(Windhoek: MoHSS, 2008).**
[3] *Ibid.,* pg. 4

hospitals. This presents a challenge to the MoHSS in terms of dividing its limited resources, especially human resources, between the hospitals.

The University of Namibia's (UNAM's) established School of Medicine (SoM) is now in its third year of operation, and needs clinical training environments so its medical students and interns gain hands-on training and experience. Additionally, the SoM's three-year registered nurse diploma program is creating further demand for a comprehensive plan for student practicums and mentoring at the facility level. A Memorandum of Understanding (MoU) between the MoHSS and UNAM has outlined an agreement to cooperate in principle, but has not been defined in enough detail to ensure that the requisite resources for implementing a high-quality clinical training program at the two hospitals is in place.[4]

The MoHSS outlined its proposal for establishing a National Academic and Referral Hospital by merging WCH and KIH in a July 2012 Draft Proposal document[5]; some of the key considerations include the establishment of a Windhoek-Katutura Hospital Complex management board and the creation of a semi-autonomous governing structure headed by a Chief Executive Officer. The Draft Proposal also recommends that an extensive assessment be conducted to explore the strategic potential of transforming the Windhoek-Katutura complex into a State Corporate Hospital with full autonomy as is the case with other hospitals in the Southern African Development Community (SADC) region. However, because no empirical data existed to either support or contraindicate a merger of the two facilities, the MoHSS asked the Health Systems 20/20 Namibia project to conduct an assessment to explore the feasibility of such a merger and to establish an evidence base for the MoHSS's decision-making process.

1.1.1 ASSESSMENT SCOPE

The MoHSS Directorate for Policy, Planning and Human Resources Development (PPHRD) worked with the Health Systems 20/20 Namibia project assessment team to define the study scope and the MoHSS Permanent Secretary approved the assessment on June 3, 2013. The assessment, which has been funded by USAID, was commissioned to conduct a thorough feasibility analysis of the following three scenarios: Scenario I: Maintaining the Status Quo – Continued Independent Operations; Scenario II: Realignment of Clinical Services without Merger; and Scenario III: Full Asset Merger. Scenario I, continuing independent operations, assessed the viability of maintaining the current operating structures. Scenario II, a clinical alignment without merger, explored the feasibility of aligning some or all existing services but not merging the governance structures. Scenario III, a full asset merger, assessed a combined organization operating under a unified governance structure. The assessment evaluated viability, organizational impact, financial

[4] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. 25
[5] *Windhoek-Katutura Hospital Complex: A National Teaching and Referral Hospital (Draft Proposal)*, Dr. G. Judmann and Dr. S. Shalongo, (Windhoek: MoHSS, 2012).

sustainability, implications for clinical care and quality, and the effective structuring of academic training programs within each scenario. The final output of the assessment, which the Permanent Secretary requested be submitted by the beginning of August 2013, is a set of recommendations for the MoHSS to review in order to make an informed, strategic, and data-driven decision on the optimal way forward with the two hospitals.

The assessment addressed the following key considerations under each of the three scenarios:

a. Governance
b. Academic Integration
c. Clinical Services
d. Human Resource Management
e. Infrastructure
f. Financial Planning and Costs

1.1.2 ASSESSMENT TEAM

The Health Systems 20/20 Namibia project assessment team was responsible for implementing this assessment and for the production of sound recommendations corroborated by a review of previous evaluations, past recommendations, and independent team research and analysis. The assessment team comprised professionals who brought expertise in health care administration, organizational development, service delivery, health care facility design, health care financing, engineering, and familiarity with the Namibia context. Each team member's experience, technical expertise, and role on the assessment team is described in Annex A.

1.1.3 RESEARCH APPROACH

The three scenarios were evaluated by the assessment team reviewing prior studies and reports and then triangulating those findings by conducting extensive key stakeholder interviews, conducting site visits to the two hospitals and analyzing available utilization statistics and financial data. A detailed list of those individuals interviewed can be found in Annex B. A more in-depth look at data techniques used in this assessment is found in Annex C.[6]

After compiling a set of initial findings and recommendations, further conversations were held with key stakeholders in order to conduct a preliminary validation of the proposals developed by the assessment team. The large quantity of existing research and evaluations related to WCH and KIH provided an opportunity to build off existing primary data, data analysis, and prior recommendations (a detailed list of all documents reviewed is in Annex D). The problem at hand is not a dearth of research and evaluations (e.g., 2013 Presidential Inquiry Report, 2008 Health and Social Sciences Report, 2012 German Healthcare Partners (GHP) Plausibility Check Namibia, WCH

[6] Patton, M.Q. *Qualitative Research and Evaluation Methods*, (California: Sage Publications, 2002).

and KIH Annual Reports 2013, USAID 2013 WISN Analysis, 2013 COHSASA Quality Assessment), but rather the implementation of previous recommendations in a unified strategic manner.

The assessment team's time frame was limited to less than six weeks (from start to finish) based on the request of the MoHSS Permanent Secretary to have recommendations completed by early August 2013 in order to be incorporated into the Government of the Republic of Namibia's (GRN's) budget and strategic planning cycle for 2014/15. While the recommendations from this assessment can be used by the MoHSS to select from the three pre-defined scenarios, additional work must be done by a broad group of stakeholders to operationalize the strategic approach selected.

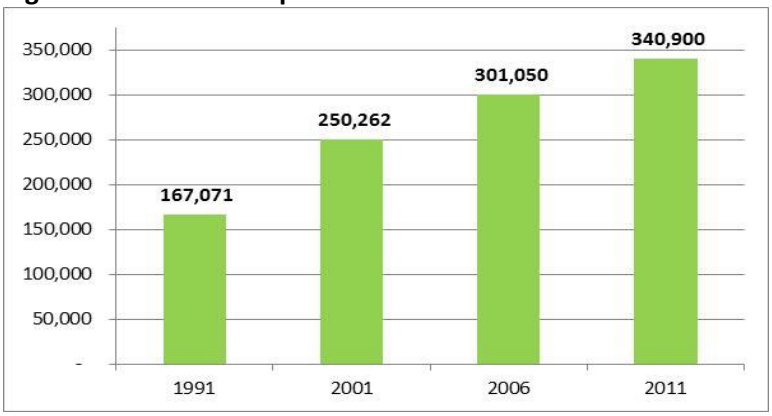
2. BACKGROUND AND CONTEXT

2.1 HISTORY OF NAMIBIA'S HEALTH CARE SYSTEM

Pre-independence, Namibia's health system focused on delivering curative care; it provided minimal preventive health care services which were limited to childhood immunization and maternal health checkups. Its organization reflected the apartheid system of South Africa, from which Namibia became independent in 1990. Upon independence, the GRN inherited a fragmented health system based on racial segregation. Access to basic health services was compromised by the inequitable allocation of health system resources.[7]

In response, the GRN, through the MoHSS, charged itself with providing efficient, equitable, accessible, and affordable health to all and embraced a PHC approach, with the goal to "transform [the] health care system from an urban-based, curative focus, to a curative-based preventive focus."[8] Since independence, Namibia's population has increased by nearly 1 million overall, and the capital city of Windhoek has seen a great influx of residents – its average annual growth rate since 1990 is estimated at 4.2 percent (Figure 1).

Figure 1. Windhoek Population 1991-2011



Source: Namibia 2011 Population and Housing Census[9]

The health infrastructure is increasingly inadequate to meet to this population growth and shift, as well as the changing health needs of the people[10] as both communicable and non-communicable

[7] *National Health Policy Framework 2010-2020*, (Windhoek: MoHSS, 2010).
[8] *Assessment of the National Quality Management System*, (Windhoek: MoHSS, 2012), pg 14
[9] Namibia 2011 Population and Housing Census: Preliminary Results, (Windhoek: MoHSS, 2011).
[10] *Namibia Health Facility Census (HFC) 2009*, (Windhoek: MoHSS, 2009).

diseases pose a growing burden: communicable diseases such as tuberculosis (TB), HIV/AIDs,[11] and malaria in particular tax Namibia's public health sector. The rising prevalence of non-communicable disease such as hypertension, obesity, diabetes and cardiovascular disease make additional demands.

Namibia has been reclassified as an upper income-level country by the World Bank, however, the country, although nearing the committed to 2001 Abuja Target of allocating at least 15% of their annual budget to improve the health sector, has fallen short of this goal dropping from 14.7% of government health expenditure as a total of government expenditure in 2007/2008 to 14.3% in 2008/2009[12]. Thus, health care in Namibia is in general still underfunded, and access to quality care is a significant concern.

Deep structural problems and inefficiencies persist in the health care system. The system is still recovering from many of the inequalities of pre-independence; vestiges of apartheid still exist as evidenced by patient care patterns at the two Windhoek hospitals that are assessed here.

2.2 HISTORY OF THE KIH AND WCH HOSPITALS

Prior to independence, KIH served the Black and Colored population and WCH served the White population and those who could afford to pay for private services[13]. After independence, the newly formed Namibian government combined the hospitals into one management structure to try to ensure access to high-quality health care services for all Namibians. Respondents who worked under this shared management structure described this period as "the golden era."

In 1998, the two facilities were again separated as the Khomas region required a district hospital due to MoHSS restructuring. KIH was designated to serve this function requiring the hospitals joined post-Independence to operate under separate governance structures with different managing bodies. Since then, management of KIH has been under the Director of the Khomas Regional Directorate, and management of WCH has been under the Directorate of Tertiary Health Care and Clinical Support Services. A key respondent described this restructuring as "a divorce … resulting again in two hospitals with two management structures, and wasting resources…. Decisions were made based on politics and race, not function. These hospitals are the legacy of our political past – a disjointed past. We have created a disjointed governing structure and bureaucratic overlap." No stakeholders interviewed for this assessment felt that this restructuring was conducive to providing the best hospital care.

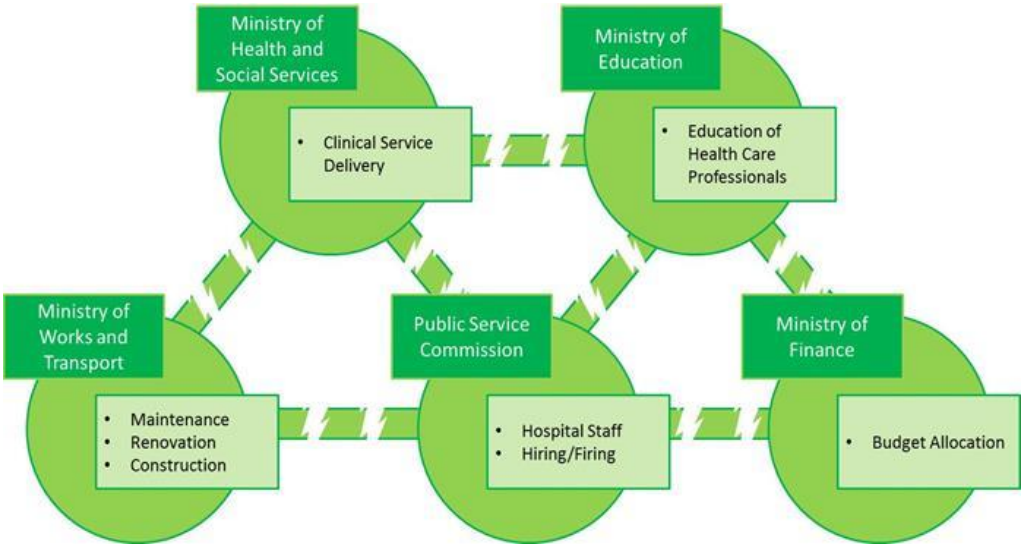
[11] Commendably Namibia's commitment to address the HIV/AIDS pandemic has been largely successful in reducing prevalence rates in the Khomas region, falling from 16.3 percent in 2010 to 12 percent in 2012.

[12] *Namibia Health and HIV/AIDS Resource Tracking: 2007/08 & 2008/09*, (Windhoek: MoHSS, 2010), pg. 21

[13] Bell, R., Ithindi, T., Low, A., *Improving equity in the provision of primary health care: lessons from decentralized planning and management in Namibia*, (Bulletin of the WHO, 2002), 80 (8), pg. 676

The overall governance and management of each hospital is also separated by function (Figure 2). The MoHSS manages clinical service delivery; the Ministry of Works and Transport (MoWT) independently controls all activities related to hospital infrastructure maintenance, renovation, and construction and owns the hospital structures themselves; the Ministry of Finance (MoF) allocates budgets; the Ministry of Education (MoE) is responsible for the education of health care professionals; and the Public Service Commission (PSC) is directly responsible for all staff-related measures in the hospitals. The inherently interconnected responsibilities are instead divided among multiple agencies making the system cumbersome, disjointed, and inefficient.

Figure 2. Current Hospital Management and Operations



2.2.1 KATUTURA INTERMEDIATE HOSPITAL

KIH was commissioned in 1973 and since then has played an integral role in the delivery of essential health care to Namibians, particularly to the Black population. Prior to 1990, the city of Windhoek was partitioned into race-based blocks, with Katutura Township (where KIH is located) designated for the Black population, Khomasdal Township for the Colored population, and the remaining urban areas for the White population.[14] Because there is no district hospital in the Khomas region, site of Khomasdal Township, KIH serves as a district hospital providing extensive PHC services in addition to fulfilling its role as an Intermediate referral hospital. As a result, KIH is one of the busiest and largest hospitals in the country.[15]

[14] Bell, R., Ithindi, T., Low, A., *Improving equity in the provision of primary health care: lessons from decentralized planning and management in Namibia*, (Bulletin of the WHO, 2002), 80 (8), pg. 676
[15] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 8

KIH has nine medical departments available 24 hours per day and a total of 882 beds with a bed occupancy rate (BOR) of 90 percent.[16] Medical departments are: General Surgery, Head Injury, Internal Medicine, TB Unit, Gynecology, Orthopedics, Pediatrics, Maternal and Newborn Care, and Acute Care. Apart from functioning as a public hospital, KIH admits both private patients and Public Service Employees Medical Aid Scheme (PSEMAS) members.[17] Like WCH, KIH is designated as a teaching hospital for the UNAM SoM, but in practice no effective framework exists to facilitate this.

2.2.2 WINDHOEK CENTRAL HOSPITAL

WCH was commissioned in 1982 and became fully operational in 1984. Prior to 1990, WCH provided advanced health care services at a high level of quality to a predominantly White population. Since independence, WCH has transitioned into a national referral hospital that focuses on providing specialized health care services. Like KIH, WCH serves a catchment area outside of its home region of Khomas, but unlike KIH, it does not provide PHC services. As the highest-level tertiary hospital in Namibia, it accepts both private patient referrals and state referrals from KIH.

WCH has a total of 831 beds with an overall BOR of 75 percent.[18,19] Patient services offered include Surgery, Internal Medicine, Cardiac Unit, Pediatrics, Casualty,[20] Intensive Care, Orthopedics, Ophthalmology, Obstetrics and Gynecology, Anesthesiology, Mental Health Care, and Oncology.[21]

There are currently five private consulting rooms and 29 limited private practices *within* WCH. There is a widely held perception that an unequal distribution of time is spent by doctors on medical care for state and private patients[22] strongly favoring the private patients. The WCH Casualty Unit is currently accessible only to private patients.

The infrastructure of the hospital has not been substantially renovated or adapted since commissioning almost a quarter century ago. Similar to Katutura, there is need for the repair of basic building infrastructure systems to satisfy health and safety requirements. Electrical, air-handling, water and sewer, and fire safety systems all need to be repaired and upgraded.

[16] *Ibid*
[17] *Ibid*, pg. 10
[18] *Situational Analysis: Intermediate Hospital Katutura*, (Windhoek: MoHSS, 2012).
[19] Key respondents reported significant discrepancies in occupancy rates at WCH, with the psychiatric ward being over capacity and the private beds (50 percent of total) being at only 30 percent.
[20] Per the WCH 2012-2013 report, this casualty unit is not used for state patients.
[21] *GHP Plausibility Check Namibia*, (Berlin: GHP, 2012), pg. 14
[22] *Annual Report: Division of Windhoek Central Hospital*, (Windhoek: MoHSS, 2013), pg. 14

2.3 MEDICAL AND HEALTH TRAINING

Addressing the critical shortage of health professionals in Namibia is a key concern as the country continues to suffer from a shortage of skilled health professionals in the public sector. Formal training is offered primarily at three institutions: UNAM's SoM and School of Nursing and Public Health (SoNPH), the Polytechnic of Namibia, and the Training Network housed under the MoHSS. The scope of this assessment covers only the integration of SoM student training; additional efforts will need to be focused on a holistic training program for all health professionals.

As noted above, the SoM was established in 2010. It offers Bachelor's Degree programs in Medicine and in Pharmacy. The SoM and its nurse training counterpart, the SoNPH, are housed within the Faculty of Health Sciences at UNAM. The SoNPH trains future nurses through a four-year Bachelors of General Nursing and Midwifery program and three-year General Nursing and Midwifery program. There is an increasingly large demand for advanced medical training in Namibia. Over the past three years, the SoM has seen a surge of qualified applicants, leading to a fivefold increase in the number of admitted students. The development of the SoM and the SoNPH are vital steps forward in locally producing much needed human resources for health in the country, as well as the newly introduced MoHSS enrolled nurse training program.

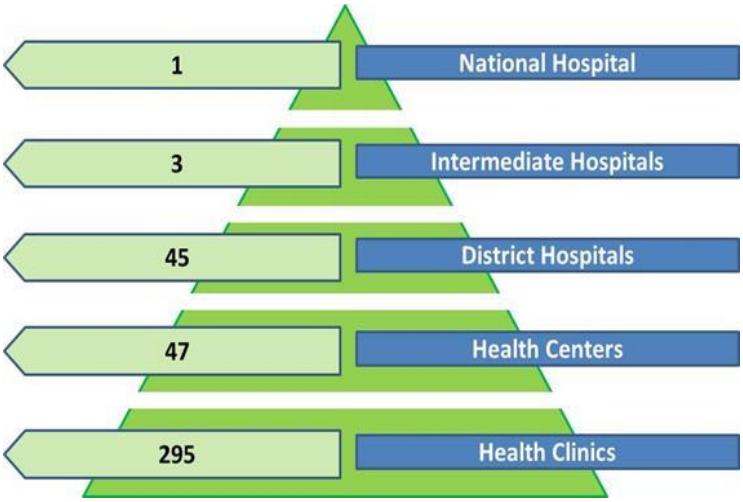
As also noted above, KIH and WCH are designated teaching hospitals where medical students gain practical experience through clinical internship programs. A MoU exists between the MoHSS and the UNAM SoM, but it is not operational. There are limited opportunities for UNAM lecturers to clinically supervise medical students in the hospitals. The Presidential Inquiry Report underscored the need for clarification and strengthening of the relationship between the hospitals and the UNAM SoM. It was noted that "The absence of legally binding arrangement between the two teaching hospitals of KIH and WCH and lack of opportunities of UNAM lecturers to do clinical supervision of students in training at teaching hospitals. This has a negative impact on the training of medical students who are left at the mercy of the nurses who are usually overworked."[23]

[23] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. iv

2.4 HEALTH SYSTEM STRUCTURE

Namibia's health care system is composed of distinct services at the district, regional, and national level. Post-independence, Namibia was sectioned into 13 regions as part of a 1992 recommendation by Judge President Johan Stydom, and in 2003 Namibia formed 13 Regional Health Directorates.[24] As of August 2013, Namibia has been partitioned into 14 regions, with the region of Kavango split into East and West regions, which all oversee an existing 34 health districts.[25]

Figure 3. Namibia Health Care Infrastructure



Source: MoHSS, Assessment of the National Quality Management System (2012)

Presently, the Namibian health system consists of one national referral hospital, three intermediate hospitals, 45 district hospitals, 47 health centers, and 295 health clinics (Figure 3).[26] WCH serves as the national referral hospital, while KIH in Windhoek, Oshakati Hospital in the north central part of the country, and Rundu Hospital in the northeastern part of the country are classified as intermediate referral hospitals. WCH, as the national referral hospital, provides specialized tertiary-level health care while the intermediate referral hospitals provide some specialized care and general medical services. Although Namibia has 45 district hospitals, the largest region by population, Khomas, does not have a district-level hospital.

At the national level, the MoHSS is split into eight directorates: Atomic Energy and Radiation Protection Regulator, Developmental Social Welfare Services, Finance and Logistics, Human Resource Management and General Services, Policy, Planning and Human Resource Development, Primary Health Care, Special Programs, and Tertiary Health Care and Clinical Services.[27] Currently the MoHSS is undergoing a change of its organizational structure, which is yet to be finalized.[28]

[24] Khomas Region, a constitutional, political and geographical hybrid." (Matundu-Tjiparuro, Mae. 2011), pg. 3
[25] *Namibia Health Facility Census (HFC) 2009*, (Windhoek: MoHSS, 2009), pg. 19
[26] *Assessment of the National Quality Management System*, (Windhoek: MoHSS, 2012), pg. 14
[27] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. 8
[28] *Ibid*., pg. ix

The MoWT is responsible for capital expenditures on hospital buildings and other physical infrastructure, which impinges on the hospitals' ability to effectively manage their operations. While there is a Cabinet Directive No. 22nd/11.12.07/006 on decentralization of maintenance of government buildings and infrastructure to Offices/Ministries/Agencies,[29] this directive is limited to minor maintenance work and not to capital improvement projects, such as the major infrastructure renovations that are required. A key stakeholder consulted for this assessment stated that this directive simply allows the line ministries to "change a light-bulb" without having to work through the MoWT, nothing more. Nevertheless the MoHSS is developing budgets and defining design requirements for renovation and construction plans. The MoWT is responsible for implementation. The complexities of this relationship make facility management of the hospitals excessively difficult and have historically resulted in significant delays in critical infrastructure work.

2.5 COHSASA ASSESSMENT

In 2013, the Council for Health Services Accreditation in Southern Africa (COHSASA)[30] conducted baseline assessments at both KIH and WCH. The process was initiated by the MoHSS in partnership with USAID-funded Building Local Capacity Project and a project of Management Sciences for Health and Synergos. COHSASA looked at a vast number of criteria, many of which are cited throughout this report. A key finding was the lack of policy, guidelines, and standard operating procedures within the facilities, which greatly impacts all areas evaluated here. Of note, this assessment team calls out the following key areas that should be addressed under any scenario.[31]

- Urgent attention is needed to accelerate the revision of important documentation such as informed consent, refusal of hospital treatment, patient registers in the Outpatient and Emergency departments, and patient records in the Emergency Department.
- Attention should be paid to ensuring that the hospital does not contravene patients' rights by ensuring privacy and confidentiality in all departments.
- There is no ethics committee. Patient rights charters are available, but there is no evidence of implementation.

Work is already being done at both hospitals to address all the key findings from the COHSASA report through the COHSASA and BLC Quality Improvement Program.

2.6 FUTURE DIRECTION AND PLANNING

During the assessment data collection, many key stakeholders noted that additional health facility plans have been proposed or are being implemented. This is of critical importance as the

[29] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. xi
[30] *Annual Report: Division of Windhoek Central Hospital*, (Windhoek: MoHSS, 2013).
[31] COHSASA, *Intermediate Hospital Katutura: Baseline Report*, (Cape Town: COHSASA, 2013).
COHSASA, *Windhoek Central Hospital: Baseline Report*, (Cape Town: COHSASA, 2013).

population in Windhoek is expanding rapidly. In order to limit the variables influencing the outcome of this assessment, the team decided to limit its recommendations to the plans it was able to validate. It is the recommendation of the assessment team that in any future strategic planning process, special attention be paid to the variables not included in this report.

Respondents reported that a district hospital for Khomas region is being planned and is expected to be built and operational in the next three years. Alleviating the demands on KIH is indeed a matter of grave urgency. Building a district hospital was strongly endorsed by key stakeholders as well as explicitly recommended by the Presidential Inquiry Report. Key stakeholders also highlighted potential planning for a military hospital as well as an ambulatory care center at the SoM. These plans will need to be considered when moving forward in establishing a National Academic and Referral Hospital.

Key stakeholders and the Presidential Inquiry Report also stressed the need to construct an infectious disease hospital with modern isolation facilities. At KIH, the unit for multi-drug-resistant (MDR)-TB patients is immediately adjacent to the Maternity Ward, with no proper air-handling system to prevent cross-infection. According to a key respondent, planned expansion of the existing unit does not address critical infection control issues. While some key stakeholders told the assessment team that an infectious disease hospital was being planned, this could not be formally confirmed.

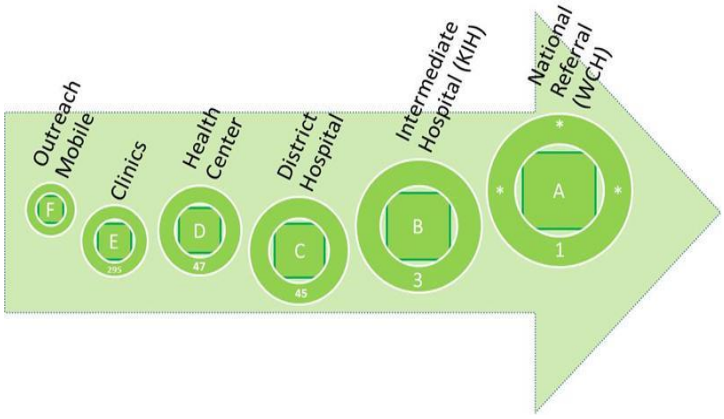
Professional architectural and engineering consultants interviewed during this assessment agreed that both KIH and WCH buildings have reached the end of their normal lifespan, and their problems are compounded by years of neglected maintenance. As stressed in the Presidential Inquiry Report, the MoHSS needs to "develop a master plan for upgrading health facilities that need upgrading; the plan should be costed to cover both capital and recurrent expenditure over a medium to long term period of about 10 years."[32] The assessment team notes that in April 2013, the MoHSS tendered a "uniform technical appraisal of medical facilities in Namibia"[33] including KIH and WCH.

2.7 REFERRAL SYSTEM

Namibia's health sector has an extensive referral system beginning at the district level, moving to the regional level, and ending at the national level (Figure 4). By design, patients should first seek health care at primary- and secondary-level health facilities; if needed, they are referred to an intermediate hospital. The ultimate referral point for tertiary care is the WCH.

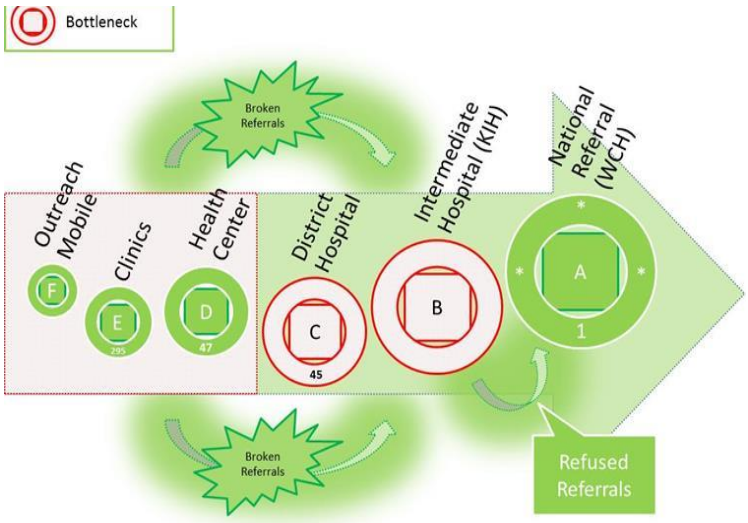
[32] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. 81
[33] http://www.tendersinfo.com/details-15492014.php

Figure 4. Referral Flow Chart: In Theory



However, key respondents interviewed for the assessment indicated that this referral system is broken. Many individuals circumvent the initial stages of referral, going directly to district or intermediate hospitals as patient perception is that they will receive better care at the hospitals.[34] This causes significant delays at these individual facilities and clogs up the system as a whole (Figure 5). One respondent, from the MoHSS, indicated that the acceptance rate at WCH for referrals from the regions is very low due to the dedicated private service beds at WCH. The 2012-2013 WCH Annual Report notes that it accepted only 9,962 of the over 15,000 annual referrals, and stressed the need to finalize the draft referral policy.[35]

Figure 5. Referral Flow Chart: In Practice



In the Khomas region, bottlenecks at KIH are commonplace as all national referrals are initially sent to KIH, which is overcrowded and often has limited bed availability. This results in delays in providing care. Almost every assessment respondent stressed the urgent need to immediately build a district hospital to relieve the inpatient bed demand in the Khomas region and allow KIH to function as a true referral hospital. Key MoHSS stakeholders confirmed that the new district hospital is "fairly along in the planning and approval process, but the current hold-up is a disagreement over location for the new hospital."

Although a revised payment schedule has been created to disincentivize people directly accessing secondary and tertiary facilities, it has been unsuccessful in abating bottlenecks at higher-level

[34] *Health and Social Sciences Review 2008*, (Windhoek: MoHSS, 2008), pg. 85
[35] *Annual Report: Division of Windhoek Central Hospital*, (Windhoek: MoHSS, 2013), pg. 62

hospitals. This is in part due to individuals' willingness to pay for premium services, but also, more importantly, the fee charge is contingent on one's ability to pay. Those patients who do not have the means to pay for health care services qualify for a fee waiver. Although this helps those people lacking financial resources, it also undermines the fee structure and therefore the hierarchy and flow of the referral system.

2.8 PRIVATE HEALTH SECTOR

A small portion of Namibian health facilities are privately run and operated. As of 2006, 844 private health facilities and private medical practitioners were registered with the MoHSS.[36] This includes 13 hospitals, 75 primary care clinics, 8 health centers, 557 medical practitioners inclusive of dentists, psychologists, and physiotherapists, and 75 pharmacies.[37] Their distribution is uneven; more than 50 percent of private practitioners are located in Windhoek, and the city has four large, high-quality, and successful privately owned hospitals.[38] There also is a concentration of private facilities in Swakopmund. These providers compete for a small high-income clientele that either can afford to pay out-of-pocket or, more commonly, are covered by a health insurance scheme.[39]

2.9 HUMAN RESOURCES

The scarcity of qualified health care professionals is a critical challenge. As of 2008, Namibia counted 7,697 health workers nationwide. While the public sector continues to be the primary employer of health care workers (53 percent), the private sector also attracts a large percentage (47 percent). The private sector employs the majority (three-quarters) of physicians. Two professional groups that work predominantly in the private sector are pharmacists and social workers: nine out of 10 pharmacists and seven out of 10 social workers work in the private sector.

The Health and Social Services Review 2008 gives the overall vacancy rate in the public sector at 27 percent with that for doctors at 36 percent, registered nurses at 21 percent, and enrolled nurses at 24 percent.[40] The reasons for the high vacancy rates are the shortage of health professionals in the market, the long public service recruitment process, the long process for issuing work permits, strict criteria for registration of foreign qualifications, and low salary scales compared with the private sector.

Health workers are exposed to high levels of medical hazards and other work-related problems. Risks include exposure to biological hazards, HIV/AIDS, TB, and hepatitis B. Furthermore, staff

[36] *Namibia Health Facility Census (HFC) 2009*, (Windhoek: MoHSS, 2009), pg. 21
[37] *Health and Social Sciences Review 2008*, (Windhoek: MoHSS, 2008), pg. 34
[38] GHP Expert Team, *GHP Plausibility Check Namibia*, (Berlin: GHP, 2012), pg. 4
[39] Namibia Private Health Sector Assessment, Brief: *Strengthening Health Outcomes through the Private Health Sector Project*, (Bethesda, MD, Abt Associates, 2012).
[40] *Health and Social Sciences Review 2008*, (Windhoek: MoHSS, 2008), pg. 8

members sometimes fall on slippery and/or wet floors, and frequent back injuries are caused as a result of lifting patients.[41] Staff and patients complained to the assessment team about the lack of security for their personal protection, both on the wards and particularly in casualty units where handguns are common according to the KIH 2012-2013 Annual Report.

The above examples show how the limited government budget, which produces overcrowded facilities and overworked/underpaid professionals, and the lack of regulation and a proper incentive structure, pushes individuals to devote scarce resources to activities that yield higher private benefits. Frequent movement of Registered and Enrolled Nurses from public institutions to private institutions as well as consistent vacancies in high-level senior medical positions highlights the challenge Namibia's public health sector has to compete with the private one. However, the aforementioned negative impacts due to competition with the private sector may be mitigated by encouraging the formation of public-private partnerships. This model has been embraced by the GRN to take advantage of the private sector's ability to handle certain advanced referral services that the public sector cannot respond to currently and leveraging on the private sector's expertise over the public in cutting edge advanced medical technology.

2.10 HEALTH SYSTEM FINANCING

Namibia's health system is dominated by the public sector, which provides universal coverage for a limited set of services and is financed predominantly through general taxation. Some services, such as routine immunization for infants, are free in government facilities. All facilities are expected to charge some form of user fee, introduced to enhance efficiency by discouraging unneeded utilization of services and encouraging patients and clients to enter the health services at lower-level facilities and hence help decongest secondary- and tertiary-level facilities. The user fees also were designed to improve the patient's understanding that he or she needs to value the services received, leading to better compliance, cooperation, and quality assurance. Exemption from the payment of user fees is provided for certain services such as testing for reportable diseases, preventive and promotive services, chronic diseases, and for vulnerable groups, war veterans, and pensioners. However, providing exemptions or discounts for low-income clients can result in budget shortages in facilities if there is no system for reimbursing provision of the exempted or discounted services. A further source of revenue for the hospitals are the fees charged for private services, which are either paid by the patient directly or by their medical aid scheme.

The GRN implements a medical scheme for civil servants, the aforementioned PSEMAS, which is the largest insurance program in Namibia. PSEMAS is financed both by employees and by the National Treasury. It covers government employees on a voluntary basis and only 51 percent of civil servants are currently enrolled. PSEMAS patients have access to the private services provided by public

[41] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 66

health facilities and they are expected to go to such facilities for health care services. They can only directly access health care in private facilities when the public facilities cannot provide the required services or if they pay a co-payment of five percent in the private facility. The fees charged by the health facilities under MoHSS for services provided to private patients are defined in the Government Notice of the Ministry of Health and Social Services in 2010.[42] These fees vary according to the type of health facility where the services are provided. No details on the usage of health care services in public versus private health facilities by PSEMAS and low-cost private medical aid patients could be obtained during this assessment, and further analysis may be warranted to better understand the revenue sources of the two hospitals being studied for merger.

It is important to note that although PSEMAS is classified as a medical scheme, it is not run on the same financial basis as other medical insurance schemes. GRN employees can join the fund on a voluntary basis and are required to pay a standard monthly fee to the fund regardless of their age, health history and usage of medical services. These monthly fees are pooled and used to make payments to service providers, while the reminder of the scheme's costs and service provider payments are covered by funds provided directly by Treasury.

As a result of this set up, the scheme is not required to comply with the same solvency requirements as other medical aid schemes in Namibia. The standard premium paid by the GRN employees is substantially lower than those paid under general medical aid schemes, even though PSEMAS pays the same or slightly higher tariffs for certain medical procedures (mostly outpatient, since inpatient services available only in the private wards of public hospitals) than the standard tariffs that are set by the Namibian Association for Medical Aid fund. PSEMAS has outsourced the scheme administration of Prosperity Health and the claims payment system is subcontracted to Methealth in an effort to better control expenditures.[43] However, since PSEMAS is heavily subsidized by the Ministry of Finance, as the contributions charged are minimal and insufficient to costs, the sustainability of PSEMAS is likely to come under increased pressure going forward.[44]

[42] MoHSS, *Regulations relating to the classification of state hospitals, the admission of patients to, and the fees payable by, a patient receiving treatment in, at or from, a state hospital*, (Windhoek: MoHSS, 2010).

[43] Feely, F., De Beer, I., Rinke de Wit, T., Van der Gaag, J., *Health Insurance Industry in Namibia: Baseline Report*, (Amsterdam: University of Amsterdam, Institute for International Development, Pharmaccess International, 2006).

[44] *Social Security Commission National Medical Benefit Fund: Actuarial Report on the Design of the NMBF – Final Draft* (Actuarial and Analytical Solutions at Deloitte, July 2012).

3. SCENARIO I – MAINTAINING STATUS QUO

3.1 SCENARIO I SUMMARY

Scenario I, Maintaining Status Quo, evaluated the current landscape of KIH and WCH in the key areas outlined in the scope of the assessment. In summary, the current governance structure does not allow the hospital leadership and management to efficiently exercise key decisions required to efficiently and effectively operate the hospital facilities. The integration of academic training greatly suffers under the current structure. Clinical services are duplicated between the two hospitals, resulting in an inefficient use of both human and financial resources. The lack of an on-site and hospital-managed maintenance department and preventive maintenance program has resulted in a marked deterioration of the physical facilities. Without changing the governance structure of the two hospitals and allowing the hospitals to work together with some autonomy, this scenario will not allow the hospitals to provide the most efficient, quality, and accessible health care services for the populations they serve. Therefore, the scenario was not endorsed as the desirable course of action in any data-gathering interviews. Table 4 below summarizes the key findings of Scenario I.

Table 4. Scenario I – Summary of Key Findings

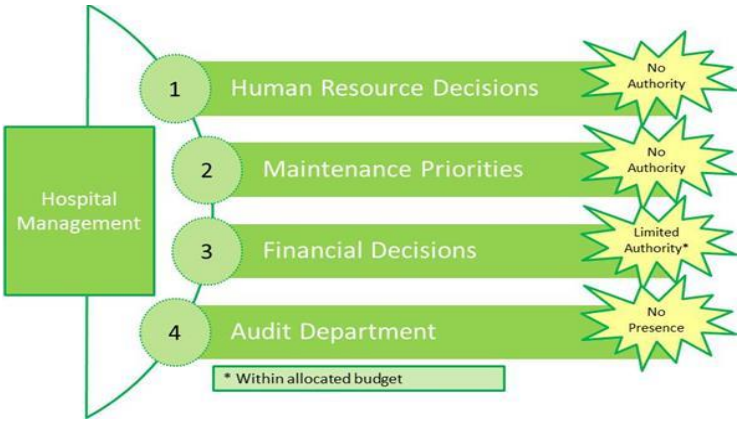
SCENARIO I **Maintaining the Status Quo. Continued Independent Operations - No governance change; operations continue as they are**	
Main Findings	**Impact on Service Delivery**
Ineffective governance structure that negatively affects hospital management's decision-making authority and ability.	Current governance structure does not allow the hospital management to efficiently exercise key decisions required improve service delivery, address bottlenecks, and realign services to meet the needs of the community Absence of authority for hospital management to make address regular maintenance and sanitation issues which impact services and quality including human resource decisions, to make administrative decisions regarding maintenance, procurement, logistics, and outsourcing nonclinical services.
Limited collaboration and communication between training institutions and hospitals. This may affect the ability of the UNAM SoM to produce adequately trained medical professionals.	Current relationship between training institutes and the hospitals limits the implementation of an effective training program. Care provided to patients by newly trained doctors without adequate supervision and mentorship has a negative impact and compromises the ability of future healthcare providers to offer healthcare services at a high level.
Unattractive employment conditions contribute to chronically unfilled vacancies.	Unfilled vacancies increase the workload for existing staff and also decrease the number of skilled clinicians to provide quality services. Increased workload and lack of incentives depresses morale and likely affect quality of services.

The duplication of services contributes to the inefficiencies in current utilization of medical and administrative staff and of the already limited stock of medical equipment.	Poor utilization of medical staff has a direct impact on service delivery. Staff is often divided between the two hospitals, increasing the risk of poor responses to emergencies. The services provided at both hospitals are not always adequately supported. For example, the absence of a Neonatal Intensive Care Unit at KIH imposes higher risks on new-borns delivered at Katutura hospital as critically ill new-borns have to be transported to incubators at WCH.
The lack of alignment of services and administrative functions represents missed opportunities for financial efficiencies and cost savings in the medium and long term.	Creates a misallocation of scarce resources with a likely impact on the level of care offered at the hospitals. Savings could be used towards necessary maintenance and sanitation activities.
Having the building managed by one ministry (Ministry of Works and Transport) and the clinical functions managed by another (MoHSS) makes it challenging for hospital management teams to prioritize urgent health and safety measures.	Facilities require major renovations to improve patient safety; poor sanitation services and unpredictable water supply increase risk of hospital acquired infections. The current management of highly infectious TB cases at KIH is not aligned with Namibian or International best practices and it presents high risk for patient re-infection and exposure to MDR-TB.
Evaluation: UNSUSTAINABLE	

3.2 GOVERNANCE

KIH and WCH are the cornerstones for the hospital structure on which the MoHSS relies to successfully pursue its stated Mission and Vision. WCH is within the Tertiary Care Directorate and the KIH is placed with a Regional Directorate. At present, there is an absence of a coordinated system to ensure that there is productive attention to overall governance, leadership, management, and day-to-day administration of the hospital (Figure 6).

Figure 6. Absent Powers in Hospital Leadership



The Presidential Inquiry Report highlighted the absence of effective governance in its findings, emphasizing that deficiencies contributed to poor-quality patient care. Those deficiencies include a lack of an appropriate governance structure with skills and capacity to prudently plan, implement policies, and use resources (finance and human). In reference to KIH, a key respondent stressed “Even a skilled manager and leader would not be able to effectively lead the hospital operations within the present system….the power and authority are not there.”

The Presidential Inquiry Report also underscored the need to clearly define the management /organizational structures of the hospitals, particularly noting the need to establish hospital management boards for the national and intermediate hospitals.[45] This recommendation follows the 2008 Health and Social Services System Review where it was also recommended to "consider the creation of hospital management boards for the hospitals to be run as body corporate(s)."[46] Key stakeholders continued to identify as an urgent need the establishment of a semi-autonomous governance structure along with empowered hospital management. They repeatedly spoke directly to the indispensable need for a transformed governance process accompanied by strong hospital management skills for the most effective and efficient hospital operations. One respondent emphasized that: "Merger or other changes will solve nothing without a new governance structure…a structure that has the authority over the hospitals…" This need for transformation of the governance process as a pre-requisite for enhanced hospital care emerged as the overriding theme in the discussion of all three scenarios.

While the hospitals' Medical Superintendents communicate regularly and try to collaborate in other ways, hospital respondents imparted an overwhelming sense that the dual governance structures without any empowered authority prohibit the hospital managers from making any real change. Hospital management leadership was emphatic that the present system shackles them with major responsibilities without the authority and control needed to fulfill them. More specifically, hospital management pointed to the absence of authority to make human resource decisions, to make administrative decisions regarding maintenance, procurement, logistics, and outsourcing nonclinical services, and to make financial decisions outside of small adjustments within the centrally allocated budget.

3.3 ACADEMIC INTEGRATION

The relationship between the MoHSS, the hospitals, and UNAM has been discussed at length in both the literature review and was highlighted by key stakeholders as a continued barrier and challenge. The assessment team found, in line with the Presidential Inquiry Report, that the lack of a legal or administrative instrument that mandates or defines KIH and WCH as a teaching complex is exceptionally problematic. There is a high demand for mentors for the students to do their practical attachments. The SoM is in its third year of operation and will soon be producing its first round of graduates, who need sound clinical experience and mentorship. Some key stakeholders are concerned that the SoM may suspend enrollment for one year due to a serious shortage of officers for supervision based on enrollment figures over the past four years, or send trainees to non-accredited district hospitals that lack adequate supervision. In addition, the MoHSS is piloting a six-

[45] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. 80
[46] *Health and Social Sciences Review 2008*, (Windhoek: MoHSS, 2008), pg. 15

year program of a three-year diploma-level registered nurse curriculum that will greatly increase the mentorship needs of, as well as the burden on, clinical staff unless properly addressed.

Problems in governance, infrastructure, and staff mentorship all need to be addressed and solved using creative collaborative methods. A key finding and recommendation of the Presidential Inquiry Report was to "enact legislation to officially establish a teaching hospital complex."[47] Respondents unanimously agreed with this recommendation stating, for example, that "The hospital and SoM should have the power to sit together and work out a MoU that really works to share resources."

The 2012-2013 KIH Annual Report calls for the need by stating:

> "The clinical teaching and training functions and resulting responsibilities, including the School of Medicine's and Medical Interns Programme's needs, between the two mother ministries (Health and Social Services and Education) have to be clarified and agreed upon."[48]

The signed MoU between the MoHSS and UNAM establishes a relationship between KIH and WCH and the SoM. It requires the MoHSS to fulfill a range of commitments that include the following:

- Upgrading WCH and KIH to Academic Teaching Hospitals for training, research, and provision of clinical services
- Reviewing job descriptions of clinical and specialist staff to include teaching and supervision of students
- Equitably allocating and coordinating clinical duties of the specialists from the University teaching and training in Academic Teaching Hospitals and other health facilities designated for teaching and training
- Committing itself to provide the Academic Teaching Hospital and other health facilities designated for teaching with additional resources in order to offset expenses for consumables and supplies utilized in student training[49]

However, there is no implementation document that translates the MoU into action.[50] Key stakeholders confided that the original agreements are not being adhered to and the relationships are strained. This is greatly impacting the quality of academic training.

[47] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg.32
[48] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 12
[49] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. 26
[50] *Ibid.,* pg. 25

Both the Presidential Inquiry Report and the KIH 2012-2013 Annual Report observed that the hospital management does not feel that it has the authority to enforce or modify the MoU:

> "Formal and informal communication mechanisms between the KIH and University of Namibia (UNAM), School of Nursing and SoM, for which the hospital functions as main clinical training facility, are not well established. This situation results from the fact that the overall strategy and structural framework of co-operation between the MoHSS and UNAM is not solved. The existing memorandum of understanding between MoHSS and SoM is insufficient in that context. However, any changes to such agreement and the resolution to the system and structural shortfalls are beyond the scope of KIH's management."[51]

Respondents at both the hospitals and the SoM echoed the need for the existing MoU to be refined and more explicitly state the actions that are needed to establish a truly functional, effective, and collaborative relationship between the institutions. The practical impact of not having an operational MoU between the MoHSS and the SoM is that the hospital staff do not have official permission to lecture at the SoM and conversely the SoM faculty cannot offer clinical services to the hospital. "We are not getting the best out of the SoM and hospital relationship… we need free movement between the hospitals and the schools."

Key stakeholders expressed great concern that the students and interns are not receiving the appropriate medical training and will not be fit to provide quality medical care for the Namibian health system. In addition, a key respondent stated "We have to improve these hospitals – otherwise how will we even teach the students? I emphasize the need for good "teaching" hospitals and quality hospital services … we need the authority to work together to make that happen with the Med school."

Concerns were also expressed by hospital staff and faculty implementing training that the physical space does not meet the international standards. A key respondent mentioned that "Though the hospital structures have adequate space, there are no designated training facilities to meet international standards in terms of lecture rooms and simulation laboratories and no designated staff to attend to trainees during practical sessions."

Achieving maximum academic integration will have cost implications that will require critical analysis and appropriate response. Similarly, there will be staffing and workload implications. Although it is outside of the scope of this assessment, expanding academic integration will also require looking at staff accommodations and housing, issues that have been highlighted in the Presidential Inquiry Report and remain unimplemented.

[51] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 15

3.4 CLINICAL SERVICES

WCH and KIH face many operational challenges in meeting the daily needs of their patients. The challenges range from an overburdened Casualty Department at KIH (which sees approximately 250,000 visits per year[52]) to the duplication of services across the two hospitals (such as maternity services) with a single set of specialists having to provide care at both.

The assessment in this area is limited to the priority areas identified by key stakeholders and is not exhaustive. As currently structured, there are a number of major deficiencies in the organization of clinical services. Key concerns expressed and addressed in this section include: KIH casualty overutilization, maternity with no duplication of neonatal intensive care, management of infectious disease inpatients, and provisions for intensive care at KIH.

3.4.1 CASUALTY DEPARTMENT OVERUTILIZATION

Numerous clinical issues appear when examining problems with the current handling of casualty patients at KIH and WCH. During the last year, KIH Casualty department cared for over 250,000 patients, many of whom did not need emergency care.[53] This results in major inefficiencies given the higher cost of providing PHC services in a hospital setting, and negatively impacts the hospital's ability to attend to more urgent cases. There is tremendous overcrowding in the KIH Casualty Department and limited use of the WCH Casualty. According to the 2012-2013 WCH Annual Report, the WCH Casualty is used only for private-paying emergencies and a circumcision program.[54] There are several reasons for the significant overcrowding at KIH: WCH does not operate a public Casualty Department and there is no district-level hospital in the Khomas region to manage lower-level cases. A respondent captured this by saying "Over the past year, there has been an alarming increase in numbers of non-emergency cases presenting to the department. This trend has resulted in the overcrowding of the department and a need to have more doctors on duty per shift, in order to cope with the numbers."[55]

Compounding these factors is the more than doubling of the number of people living in the Khomas region over the last past 20 years (from 168,000 in 1991 to more than 340,000 today, see Figure 1. Windhoek Population 1991-2011).

Numerous interviewees indicated that patients in the Khomas catchment area do not have routine access to local, publicly managed PHC centers after 17h00 and therefore seek after-hours care at the KIH Casualty Department. Clinic hours were also called out as a concern in the Presidential

[52] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 42
[53] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013),pg. 42
[54] *Annual Report: Division of Windhoek Central Hospital*, (Windhoek: MoHSS, 2013).
[55] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 39

Inquiry Report as well as the 2008 Health and Social Services System Review[56,57]. Respondents expressed concern that the KIH Casualty Department functioning as an after-hours outpatient clinic is overwhelming the unit with non-urgent patients and inhibiting its ability to serving its intended function:

> "The current number of doctors in the Casualty department is still far from enough to handle the large volumes of patients and relatives presenting to the department…. Doctors get very exhausted on a daily basis, attending to the great multitudes of patients presenting to the department, resulting in the doctor developing chronic fatigue and burnout. Other areas of the doctor's life, including family and professional and career development begin to suffer. Consequently the doctor develops resentment, apathy and poor attitudes towards work and the innocent patients suffer."[58]

Non-urgent PHC patients also slow down the triage of emergency cases. The assessment team was told that on the last Friday night of the month, the KIH Casualty Department caseload can be as high as 700 patients compared with the monthly average of 300 patients per night. This is reportedly due to a 'pay day' phenomenon leading to higher-risk behaviors that result in an increased number of accidents – and increased demands on the department.

This issue cannot be solved solely by the realigning of services. The MoHSS discussed with the assessment team plans for the construction of a district hospital in the Khomas region that would alleviate some, though not all, of the pressure on KIH.

3.4.2 MATERNITY AND NEONATAL SERVICES

The clinical service alignment of maternity services between KIH and WCH represents an inefficient allocation of staff and space. Maternity services are currently provided at both facilities by a single set of obstetricians and gynecologists. As both hospitals provide maternity services, there is a duplication of equipment that is expensive to procure and to operate. However, of greatest concern is that there is only one Neonatal Intensive Care Unit for the two hospitals. Deliveries being done at KIH that result in a neonatal case needing intensive care require a newborn incubator transfer to WCH. This transport of a critically ill newborn can be dangerous and difficult. Specialized services in neonatal surgery are located at WCH, which also may necessitate transferring high-risk pediatric patients during a clinically unstable period.

[56] *Health and Social Sciences Review 2008*, (Windhoek: MoHSS, 2008), pg. 10
[57] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. 11
[58] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 41

3.4.3 INFECTIOUS DISEASE CASE MANAGEMENT

Namibia has one of the highest per capita prevalence rates for TB in the world. In 2011, it ranked fourth in the world in terms of TB notification rates per 100,000 population.[59] The current facility and equipment management for the large number of highly infectious TB cases treated in KIH (about two-thirds of all cases) is not aligned with Namibian or international best practice. Inpatient treatment for TB presents high risk for patient re-infection and exposure to multi drug resistant TB.[60] The Namibian TB Management Plan 2011 indicates that all "infectious TB patients should be isolated from non-TB patients as well as from other TB patients." The guide further states the need to "establish separate wards, areas, or rooms for confirmed infectious TB patients." Currently a large volume of MDR-TB cases are admitted in a location without the proper building systems to isolate these cases, creating a significant health hazard for other patients – the KIH Infectious Disease Unit is immediately adjacent to KIH maternity and newborn patients. In addition, there is no dedicated mobile radiology unit and so MDR-TB patients share the radiology equipment used by all other patients. Nor is there an air-handling system that isolates the unit's circulating air from all adjacent spaces, a serious issue that makes simply expanding the unit inadvisable.

A separate infectious disease unit designed with the proper engineering infection control systems is required, including a dedicated radiology capability to eliminate the mixing of infectious patients in the main radiology department (this was also recommended during the 2012 facility assessment[61]). KIH key stakeholders stressed that TB patient needs, especially those with MDR and XDR strains, need to be addressed by developing a standalone infectious disease unit in line with international treatment protocols.

3.4.4 ICU SERVICE AT KIH

Approximately 8,900 surgeries were done at KIH last year.[62] This number increased by approximately 2,200 over the past three years. KIH does not have an intensive care unit (ICU) to support the surgical case load. The only ICU is at WCH. KIH offers eight acute care beds that do not meet international standards for an ICU. With the high number of surgeries and the volume of casualty visits, there is a need to reexamine the intensive care provisions at KIH to ensure appropriate quality of care.

[59] *Global Tuberculosis Report 2012*, (Switzerland: Who Press, 2012).
[60] *Transmission: Hospitals as MDR TB Factories,* Tomsk, Siberia Glemanova, et al., Bull WHO, 2007; 85:703-711
[61] *GHP Plausibility Check Namibia*, (Berlin: GHP, 2012), pg. 10
[62] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 41

3.5 HUMAN RESOURCES

The 2008 Health and Social Services Review and the Presidential Inquiry point to the need to rapidly address the chronic staff shortage among frontline workers (i.e. doctors and nurses). In the MoHSS Strategic Plan 2009,[63] the Ministry recommended streamlining the fragmented services/programs and core functions, removing duplications, and upgrading the existing structure to meet current demand for services, and the MoHSS has embarked on a restructuring of the whole Ministry that includes the organizational restructuring of the KIH and WCH. However this has not yet been finalized.

3.5.1 HUMAN RESOURCE MANAGEMENT ISSUES AND CONCERN

Human resource management was expressed as a significant frustration by respondents. Hospital staff is not pleased with their working conditions; management finds it difficult to address staff concerns. Within their respective annual reports, the KIH and WCH expound on the problems caused by these dependencies. In the WCH 2012-2013 Annual Report, the following issues were highlighted as major challenges to the hospital[64]:

- Inadequate staffing
- High staff turnover
- Cumbersome recruitment process
- Unattractive salary packages
- Scarce specialized skills

The current structure, where the PSC holds authority overall human resource matters, greatly impacts the ability of WCH and KIH to effectively manage the human resources that are available, improve efficiencies, and facilitate a conducive and support environment for employees. The PSC is responsible for the recruitment and retrenchment/dismissal of all personnel employed at the hospitals. As such, the organogram, number of positions, salary scales, and benefits are not decided on by the hospitals themselves, but instead are defined by the PSC. This constraint limits the hospital's ability to effectively manage its staff and ensure that it has the human resources required. For example, in the 2012-2013 WCH Annual Report, it highlighted that "Inadequate staffing remains a major problem the existing Staff Establishment make provision for only one staff to deal with all procurement administration for the entire hospital which is not practically possible."[65]

This also has implications for the management of the hospital budgets. Respondents expressed frustration that decisions on recruitment, remuneration, and retention made by the Office of the

[63] *Strategic Plan 2009-2013*, (Windhoek: MoHSS, 2009).
[64] *Annual Report: Windhoek Central Hospital*, (Windhoek: MoHSS, 2013).
[65] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 24

Prime Minister (OPM)/PSC take too long. A key respondent explained that the hospital plans for a long recruitment for any position – on average it takes 226 days to fill an advertised position and/or promotion, and up to 309 days if the person recruited is a foreign specialist. Key clinical positions that need to be quickly filled must go through the lengthy recruitment process – in the same manner that a position for a cleaner must be recruited. The 2012-2013 KIH Annual Report made note in reference to the current restructuring process in relationship to hospital and human resource management:

> "It was the hope that this restructuring would open new avenues in managing such hospital complex, for example as a semi-autonomous entity in form of a state owned enterprise or section 21 company. However, with the latest version of the proposed structure of the National Academic and Referral Hospital, which was approved by the National Restructuring Committee, this expectation seems to vanish as the proposed hospital complex will function within the given managerial and administrative limitations of Public Service rules and regulations."[66]

A 2013 COHSASA report provided scores expressed in percentages to indicate how well the hospital is performing under each category. In overall management and leadership, KIH scored 27 percent and WCH scored 33 percent. In the areas of Human Resource Management, KIH scored 17 percent and WCH scored 14 percent.[67] Without the ability to independently manage the human resource functions, it is likely that these scores will not improve.

3.5.2 VACANCIES AND STAFF SHORTAGES

The two hospitals, like other public institutions, are facing a shortage of skilled staff, which is attributed to the excessive workloads and low salaries that are not market related – a situation confirmed by the recently conducted Presidential Inquiry.[68] Filling vacancies for skilled health workers is exceptionally challenging for the public health sector. Resignation of skilled health professionals is problematic for hospital operations; KIH reported a loss of 42 nursing staff in one year.[69] High levels of vacancies add additional stress to staff, leading to burnout and compassion fatigue. A key respondent stressed "it's just us old people that are remaining here at the public hospitals … all the young people are leaving to the private sector."

[66] *Ibid,* pg. 12
[67] *Intermediate Hospital Katutura: Baseline Report*, (Cape Town: COHSASA, 2013).
Windhoek Central Hospital: Baseline Report, (Cape Town: COHSASA, 2013).
[68] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013).
[69] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013).

In the 2012-2013 WCH Annual Report, key vacancies were noted in the hospital:

Table 5. WCH Vacancies by Post 2012-2013[70]

Professional Category	Filled Posts	Vacancies	% Filled
Medical Doctors	57	5	92%
Medical Interns	22	12	65%
Radiographers	19	5	80%
Pharmacists	15	2	88%
Nurses	637	100	86%

Table 6. KIH Vacancies by Post 2012-2013[71]

Professional Category	Filled Posts	Vacancies	% Filled
Medical Doctors	63	18	78%
Medical Interns	38	0	100%
Radiographers	8	1	89%
Pharmacists	2	3	40%
Nurses	482	49	91%

Results of Workload Indicators of Staffing Needs (WISN) carried out by IntraHealth's USAID-funded Capacity*Plus* project as part of the ongoing MoHSS restructuring process showed that there is little relationship between workload and staffing in facilities. In addition, the above vacancies are based on the approved staff establishment – not necessarily based on the workload need as introduced in the WISN assessment. There is often a shortage of pharmacists, resulting in informal task shifting to nurses, that is, nurses carry out the duties of pharmacists.[72]

The assessment team recommends additional workload assessments be conducted at both KIH and WCH to best determine the staffing establishment needs. Initial results from the WISN study support the concerns of staff shortages; for example, at both WCH and KIH the ratio of required internal medicine doctors (based on workload) to those currently present at the hospitals are 0.54 and 0.24, respectively. In absolute terms, this indicates an estimated shortage of approximately 4.22 internal medicine doctors at WCH and an estimated shortage of 34.28 at KIH. The WISN assessment found a particularly acute shortage of obstetrics and gynaecology doctors at both institutions, with estimated shortages of 12.92 doctors at WCH and of 22.39 at KIH.[73]

[70] MoHSS, Directorate Tertiary Health Care and Clinical Support Services, *Annual Report: Division of Windhoek Central Hospital*, (Windhoek: MoHSS, 2013), pg. 13
[71] MoHSS, Khomas Regional Directorate, *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 27
[72] CapacityPlus, WISN National Results; Strategic Management Presentation July 2013.
[73] CapacityPlus, WISN National Results; Strategic Management Presentation July 2013.

3.5.3 MANAGEMENT SKILLS

The Health and Social Services Review 2008 found that most hospitals are currently managed by medical personnel who are not necessarily skilled or trained in hospital management.[74] In Namibia, by law hospitals have to be headed by a Medical Superintendent who is a Medical Doctor. It is not required that superintendents be trained as managers. It was recommended in the 2008 Social and Health Service System Review as well as the 2013 Presidential Inquiry that this law be changed, and that hospitals employ non-medical chief executive officers.[75]

During key respondent interviews, the lack of supervisory skills among middle management was flagged as a concern in addition. There is a strong perception that with improved supervision the hospitals would be able to achieve more with the same level of human resources. Many respondents echoed the need for enhanced management, particularly through the appointment of trained managers rather than clinicians in senior leadership. A respondent stated "Doctors are trained to be successful clinicians; they are not trained on how to run a productive business operation. That type of experience and expertise is needed for the hospitals to be run most effectively and efficiently."

3.6 INFRASTRUCTURE

From an infrastructure perspective, Scenario I, Status Quo, is sub-optimal. Both KIH and WCH are plagued by years of neglected maintenance, which impacts not only building function, but patient health and safety.[76] The dilapidated and decaying condition of the hospitals has been documented extensively in multiple reports, notably the 2013 Presidential Inquiry Report and 2008 Health and Social Systems Review.

3.6.1 MANAGEMENT OF FACILITY INFASTRUCTURE

The Presidential Inquiry Report points to the poor physical condition of hospitals as being attributable to "inadequate funding, failure of material and finishes, poor supervision and maintenance, and confusion regarding responsibility between the MoHSS and the Ministry of Works and Transport." This follows the key findings in the 2008 Health and Social Services System review that attributed the poor maintenance of public health facilities to "inadequate funding, failure of material and finishes, poor supervision, and unclear lines of responsibilities between the MoHSS and MoWTC."[77] These themes were reinforced during key respondent interviews, with many respondents citing extreme frustration and concern over the handling and control of the maintenance functions. While the MoHSS currently plans to absorb the maintenance of the facilities

[74] *Health and Social Sciences Review 2008*, (Windhoek: MoHSS, 2008).
[75] *Ibid*, pg. 86
[76] Staff and student accommodation concerns are discussed in the Presidential Inquiry and are outside the scope of this assessment.
[77] *Health and Social Sciences Review 2008*, (Windhoek: MoHSS, 2008), pg. 16

in accordance with the Cabinet Action Letters of 25 January and 05 February 2008 authorizing the decentralization of maintenance to the ministries, this restructuring process has still not been finalized. Capital improvements and upgrades will still lie with the MoWT. The grave infrastructure issues highlighted in this assessment report illustrate the dysfunctional nature of this arrangement.

Key stakeholders expressed considerable concern that neither the MoHSS nor the MoWT has the technical capacity to make hospital engineering decisions or plans. The 2008 Health and Social Services System Review noted "the most significant constraint within the infrastructure component is the lack of professional staff and maintenance staff within the facilities and maintenance areas. There are no architects, clerk of works, quantity surveyors or even accountants."[78] The GHP assessment revealed a "severe lack in adequate technical skills and competences to conduct even basic technical repairs, not to mention minor repairs at medical equipment. Building up a workforce for technical issues would lead to an essential improvement in the workflow and equipment usage."[79]

Key stakeholders expressed concerns about the ongoing renovations currently contracted – both regarding the capacity of the contractors but also the procurement procedures. The KIH 2012-2013 Annual Report highlights the failed procurement process and oversight of contractors, including lack of commitment and capacity from the main contractor, failure to meet deadlines, disregard of the environment, and lack of professionalism.[80] Respondents stressed the need for hospital management to have some control over the identification, management, and performance review of the contractors to ensure accountability and high-quality work. In line with the Presidential Inquiry Report and the 2008 Health and Social Services Review, respondents continued to express concerns that end users in the hospitals are not involved or consulted in the infrastructure planning process. The 2012-2013 KIH Annual Report highlighted frustrations with the process of expressing need for improvements and upgrading, stating:

> "The hospital made recommendations to national level for parallel projects (big room, casualty/gastro unit, burns unit, hospital entrance and theatre 8/laparoscopic theatre) to speed up the upgrading of the hospital, but this request was not considered…."[81]

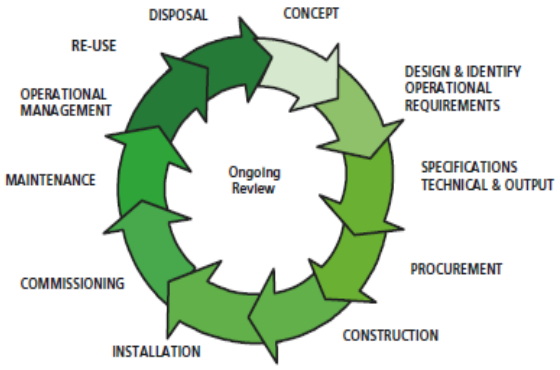
3.6.2 CONDITION OF INFRASTRUCTURE

Significant infrastructure improvements are necessary just to make the buildings safe for patients and staff. Permanent Secretary Mr. Ndishishi echoed the concerns of the Presidential Inquiry that

[78] *Health and Social Services Review 2008*, (Windhoek: MoHSS, 2008), pg. 16
[79] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013).
[80] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 17
[81] *Ibid*, pg. 25

the facilities are overburdened and lack isolation facilities.[82] The Presidential Inquiry specifically emphasized that the outpatient departments at WCH and KIH lacked proper ventilation and that "inadequate facilities to isolate patients suffering from infectious disease – raising the risk of cross infection" (pg. vii). Other concerns are sewage leakages and lack of hot water and that the main boiler at WCH has not been operational for the past 10 years. A key respondent stated during a facility tour, "it would cost us over a billion to renovate this now, but it would not have been like that if we had just had the power to maintain it."

Figure 7. Health Care Building Life-Cycle



In order to provide a useful complement to the discussion on the available scenarios, the assessment team analyzed a period of 10 years. This period coincides with the KIH building reaching 50 years of age; buildings made of reinforced concrete can safely last for a period of up to 100 years, but a safe estimate for a building built before 1975 would be between 40 and 60 years.[83] After that length of time, concrete buildings are believed to be too difficult to maintain and repair and usually need to be torn down and rebuilt (Figure 7). Utilizing the facilities of KIH and WCH during the next 10–15 years will allow the necessary time to transition to align services and possibly to reform and unify a system of governance together with WCH. The additional implication for the useful life of KIH is the fact that the benefit of paying for structural works and additions should be evaluated based on a usable period of up to 10 years, to avoid funding a project that might be demolished before it has been fully depreciated.

Continued under-budgeting of maintenance and the lack of any preventive maintenance program is an urgent issue separate from the question of any realignment of clinical services and/or a merged governance of the two facilities. A prioritization of the absolutely minimal essential renovation work required to ensure patient and staff safety needs to be revaluated and carefully implemented.

Priority needs to be given to allocating the limited capital budget funds to upgrading and repairing building systems before existing departments are expanded or new departments are constructed. The Presidential Inquiry notes that "… while every hospital ... has plans or at least a promise to

[82] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. 107
[83] *Useful Life of Buildings*, (W.P.S Dias, Moratuwa: University of Moratuwa, 2003).

upgrade/renovate … this is being doing in a rather haphazard, piece meal way with small components of the upgrading being undertaken in various facilities at a time." It is critical to reassess and re-plan the renovation and upgrade strategy in alignment with the future vision of the tertiary health care system to avoid waste of resources and ensure the basic health and safety needs of the patients are met immediately.

3.6.2.1 KATUTURA INTERMEDIATE HOSPITAL

The COHSASA report states "this solid, well-built structure is decaying under the maintenance of the Ministry of Works and Transport… roofs are collapsing, walls peeling, four out of six lifts are working, there is inadequate lighting in the corridors, dirty floors and condemned equipment lying around."[84] One specific adjacency is especially problematic in the current structure. Highly infectious TB patients are in a medical unit immediately next to the maternity unit. There is no air-handling system to prevent cross-exposure. There are no positive-pressure or negative-pressure isolation rooms for immune-compromised or infectious patients in KIH.

A 2012 GHP report noted that, "The status of civil installations, especially the air-condition system, the electrical cabinets, wall-, ceiling-, and floor conditions, water supply and sewage system, IT-structure as well as the lack of preventative maintenance of the medical equipment does not follow the minimum requirements for a potential teaching hospital and do not match the relevance of the hospital. Nearly all technical systems need to be updated and upgraded as well as partial refurbishment efforts have to be conducted, e.g. solar collectors on the roof top are immaterial as long the whole piping and control system is not adapted accordingly." The report also noted that undertaking major reconstruction in the existing facility potentially poses great risk.[85] The amount of mold, mildew, and other contaminants that will be released during major construction work adds significant complexity to the repair work.

A major capital improvement project is currently underway at KIH, but its status is described by key stakeholders as "a mess." The general contractor's performance has been called into question as the project is years behind schedule. The project engineers and architects should immediately review the project's renovation and construction activities, determine if there are components that have not yet started, and recommend to the MoHSS how currently budgeted capital improvement funds could be reallocated to cover repair of critical health and safety issues in the facility.

3.6.2.2 WINDHOEK CENTRAL HOSPITAL

The 2013 COHSASA assessment declared that this facility was not "fire safe" and that "risk management requires urgent attention, especially issues of fire safety and security. The lives

[84] *Intermediate Hospital Katutura: Baseline report*, (Cape Town: COHSASA, 2013), pg. 7
[85] *GHP Plausibility Check Namibia*, (Berlin: GHP, 2012), pg. 11

personnel and patients are at risk."[86] The WCH Annual Report 2012-2013 noted renovation projects in progress or recently completed. As recommended for KIH, a re-evaluation of priorities for renovation and construction should be done to address existing health and safety facility issues before any clinical department expansions or renovations begin.

3.7 COSTING AND FINANCIAL PLANNING

Scenario I assumes that the operations of the hospital are maintained in their current state with each hospital operating independently and each being responsible for its own finances, including budgets, operational and capital expenditure, and revenue collection. This section explores the financial systems of the two hospitals, and highlights the challenges faced by the hospitals as a result of those systems. Furthermore, in terms of the costing of Scenario I, this section focuses on an analysis of the financial operating expenditure incurred to run the two hospitals independently, and the incremental costs relating to the expansion and formalization of a medical student training program.

3.7.1 BUDGETING

Currently KIH and WCH operate as financially independent entities that receive their annual budget allocations through the MoHSS from the MoF. Although patient numbers and the types of services required by the catchment population of the hospitals are considered and accommodated to a limited extent, MoHSS budgets, including those of the hospitals, are not prepared using program-based budgeting but rather on a historically incremental basis.[87] As a result, actual resource needs of the hospitals – due to factors such as population growth and increased urbanization, changes in disease trends and burden, and increased utilization of health services – are often not reflected in the budget. For example, in 2012/13, ceiling amounts were limited to the 2011/12 budget less 15 percent savings.

Furthermore, several of the complexities already discussed in this report have an impact on the management of hospital finances and budgets. As will be shown in the analysis of operational expenditure in the next section, remuneration alone (excluding government pension contributions and other payments relating to conditions of service) amount to approximately 60 percent of total expenses. Because the hospitals have no leverage to manage those costs, the required 15 percent cost savings in the current financial year had to be identified in other areas, which tended to be items such as infrastructure maintenance and procurement of equipment. The 2008 Health and Social Services Review explicitly criticized "low priority given to capital projects as reflected in the budget allocation, compounded by the centralization of the budget for construction/maintenance

[86] *Intermediate Hospital Katutura: Baseline report*, (Cape Town: COHSASA, 2013), pg. 7

[87] Ministry of Health and Social Services (MoHSS) and World Health Organization (WHO), "Equity in health care in Namibia: developing a needs-based resource allocation formula using principal components analysis," International Journal for Equity in Health 6(2007): 3, accessed July 8, 2013, doi: 10.1186/1475-9276-6-3.

of health facilities."[88] This in turn has had a detrimental effect on patient and staff safety and on the quality of service provision.

3.7.2 EXPENDITURES

Hospital financial management systems and budgeting do not allow for funds to be allocated to specific departments within the hospitals. A key respondent stressed that resources are not efficiently utilized and that expenditures are not prioritized effectively due to the current system.

In terms of capital expenditure, the procurement of equipment is managed through the MoF Tender Board. While this approach provides robust systems and structures to ensure competitive and transparent bidding, many stakeholders have expressed their concerns about the significant delays these bureaucratic processes are causing. One respondent mentioned a delay of more than a few years in procuring ventilators and similar equipment, while another described needing to process paperwork through 18 different steps before receiving permission to procure a fax machine for the hospital (Annex F). A dire need to expedite some of the procurement processes and make these systems more efficient was mentioned repeatedly. The lack of medical technical expertise of the Tender Board and the lack of consultation with the end users of the medical equipment procured was also highlighted as a key finding in Presidential Inquiry Report, as it has resulted in "procurement of equipment that is redundant, or that users cannot operate, or is of poor quality."[89]

3.7.3 REVENUE COLLECTION

Revenue collection is handled differently by the two hospitals due to the different information systems used. KIH does not have an electronic patient management system that automatically does the billing and invoicing of patients. WCH recently introduced the e-Health system, which has a patient billing and invoicing component. WCH respondents noted that the hospital's revenue collection improved substantially after the e-Health system was implemented and billing information generated automatically. This improvement in revenue collection is also evident from the fact that WCH managed to exceed its estimated revenue for 2012/13 by N$2.845 million.[90] It was noted that there are still some challenges in the revenue collection of KIH, but no details of those challenges could be provided.

Since WCH provides considerably more – and more complex and costly – services to private patients, it collects significantly more revenue than KIH.

[88] *Health and Social Services Review 2008*, (Windhoek: MoHSS, 2008), pg. 16
[89] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. 47
[90] Comparison of expected and collected revenue provided by the Chief Accountant of WCH.

Table 7 shows revenues collected by WCH and KIH in 2012/13:

Table 7. KIH and WCH Revenue Sources ($N)[91]

Revenue Source	WCH	KIH
Health Services	16,835,115	2,600,369
Board & Lodging	179,663	95,800
Inspection Fees	2,370	-
Mortuary Fees	38,490	-
Ambulance Fees	108	771
P/Telephone Calls	-	-
Miscellaneous	1,656,268	4,725
Remuneration	-	62,615
Incineration	-	1,258,817
Medical Reports	-	146,609
Total	**18,712,014**	**4,169,708**

3.7.4 OPERATIONAL COSTS OF WCH AND KIH

To better understand the financial implications of maintaining the status quo, the assessment team analyzed the expenditures incurred by the two hospitals separately and attempted to forecast future costs based on past trends, and the estimated additional costs incurred as a result of the increasing number of medical students trained at the facilities. Operational costs and capital costs were examined separately.

For the operational costs, it was assumed that both hospitals will continue operations as is. This implies that the services currently provided by each of the hospitals remain the same. That is, no projections on changes in patient loads and services were made in estimating the operational costs. Unfortunately, salary information for the different positions within the hospital could not be obtained, so the financial information could only be analyzed using historical costs. While it would have been more appropriate to assume that all current vacancies in both hospitals will be filled in order for the hospitals to operate effectively under this scenario, it was not possible due to the lack of information.

[91] *Annual Report, Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013) and *Annual Report: Division of Windhoek Central Hospital*, (Windhoek: MoHSS, 2013).

The financial expenditures for 2012/13 for both hospitals are presented in Table 8 and can be used as indicators of the expected costs for continued operations:

Table 8. Hospital Budget Allocation and Expenditures 2012/2013 ($N)

Hospital	**Windhoek Central Hospital**		**Katutura Intermediate Hospital**	
Type	*Budget Allocation*	*Expenditure*	*Budget Allocation*	*Expenditure*
Remuneration	214,804,000	234,151,887	138,865,000	192,049,776
Government Pension Contributions	7,214,000	18,488,548	14,947,000	15,134,347
Other Conditions of Service	6,632,380	8,876,069	3,899,000	4,022,459
Travel & Subsistence	2,255,000	2,228,815	1,772,000	1,203,686
Materials & Supplies	60,100,000	59,598,918	62,460,000	62,246,858
Transport	1,051,620	1,005,098	2,428,220	1,485,460
Utilities	1,568,285	1,543,844	14,470,000	8,722,961
Maintenance Expenses	5,600,000	5,360,661	6,975,780	3,541,849
Other Services	40,462,000	39,446,122	36,247,000	32,265,194
Furniture/Office Equipment	2,375,360	2,262,335	765,000	236,318
Operational Equipment	20,000,000	13,090,607	1,000,000	278,415
Total	**362,062,645**	**386,052,904**	**283,829,000**	**321,187,327**

Table 8 shows that the greatest cost to the hospitals is remuneration, which amounts to approximately 60 percent of total hospital expenditure. Materials and supplies are the second highest cost, 15.4 percent of total hospital expenditure at WCH and 19.4 percent at KIH. Interestingly, the third largest cost is the “other services” category, which includes all services that have to be outsourced by the hospitals to private facilities due to lack of equipment and skills in-house. These costs represent approximately 10 percent of total costs for both hospitals.

Finally, the incremental costs of student interns needs to be considered as part of the analysis of the operational costs under Scenario I, since the number of student interns is expected to continue increasing as a result of the graduates produced by the UNAM SoM. During our interviews, the assessment team came across an internal assessment done at KIH that estimated the marginal cost of having an intern at the hospital was approximately N$95,000 per month (Annex G). This number, multiplied by 12 for a year and for a hypothetical number of 100 interns (the projected output of student interns from UNAM in 2015/16) would be N$114 million. At 2012/13 expenditure levels for, say, KIH (N$321.1 million), this would represent an increase in total expenditures of over 33 percent. The finding, while in need of confirmatory analyses, is not inconsistent with findings of

studies carried out in the US, where differences up to 33 percent in costs sustained by teaching hospitals versus non-teaching hospitals were identified.[92]

3.8 SUMMARY

After evaluating the current landscape of KIH and WCH in the key areas as outlined in the scope of the assessment, it is the assessment team's recommendation that Scenario I is sub-optimal and not sustainable. Under the current governance structure, hospital management is not equipped with the necessary authority to make key decisions that are required to effectively operate the hospital facilities. Under the current structure, academic training and student enrichment is not sufficiently provided for, leading to an ill-equipped medical student population while simultaneously mortgaging the future quality of Namibia's primary healthcare system. Clinical services are duplicated between KIH and WCH, resulting in inefficient use of human and financial resource, and the lack of a bona-fide maintenance department and preventive maintenance program has resulted in observable deterioration of the hospital's infrastructure. If the governance structure is not altered to lend some autonomy to hospital management and authority is not extended to the in the decision making process at KIH and WCH, this scenario will prohibit the ability of these hospitals to provide the most efficient healthcare services at a quality level that is accessible to the populations they serve. This scenario did not receive the endorsement of those interviewed in the data gathering process and after careful analysis does not receive the endorsement of the assessment team as an optimal and sustainable path forward.

[92] F.A. Sloan and J. Valvona, "Uncovering the high costs of teaching hospitals," Health Affairs, 5 (1986): 3, pg. 68-85

4. SCENARIO II – CLINICAL SERVICE ALIGNMENT

4.1 OVERVIEW AND BACKGROUND

Scenario II assessed any potential efficiencies gained from clinical service alignment. Under the scope of this scenario, the current governance structure does not change, which greatly inhibits the ability to exercise an alignment of services. Redeploying staff to affect the clinical realignment will not prove feasible if human resource management remains under the PSC. Achieving effective construction and maintenance of the facilities will continue to be extremely problematic under the current governance structure, which relies on collaboration with the MoWT and MoF in the management and budgeting of capital improvements and renovations. Despite potential efficiencies gained from clinical service alignment, many of the same constraints addressed in Scenario I are present under this analysis. Without changing the governance structure of the two hospitals, and allowing the hospitals to work together with some autonomy, this scenario does not ensure provision of the most efficient, high-quality, and accessible health care services for the populations they serve.

Table 9. Scenario II – Summary of Key Findings

SCENARIO II Clinical Services Realignment. No proposed governance change	
Main Findings	**Impact on Service Delivery**
Without changing the governance structure and giving decision-making power to the hospital management team, proposed clinical realignment and infrastructure repairs will continue to face the same challenges outlined in Scenario I.	• Most the negative aspects as in Scenario I would remain. The alignment of clinical services, such as Maternity, would possibly reduce the need for some essential medical staff to be split between the two structures with possible improvement of staff conditions and patient care. • Arguably, some savings could be obtained from combining services and the proceeds utilized to improve maintenance and other hospital conditions. The unchanged governance structure does not guarantee, however, the appropriate allocation of available resources.
With responsibility for human resources management remaining under the Public Service Commission, clinical staff realignment will be difficult to achieve and the hoped-for allocation efficiencies will not be realized. Without efficiency gains, the realignment will merely be a physical relocation.	• Staff utilization will remain inefficient and patient care will likely continue at current levels of quality.

Without authority to manage and control capital budget decisions, this scenario will be difficult to operationalize; the amount of infrastructure work to be carried out needs a stronger managerial setup than the current structure can afford.	• Without the necessary infrastructure work, the issues highlighted above, including location of Infectious Disease unit, management of emergency patients, etc. will not be adequately resolved.
Evaluation: INEFFECTIVE, INEFFICIENT, AND UNSUSTAINABLE OVER THE MEDIUM AND LONG TERM	

4.2 GOVERNANCE

As underscored in Scenario I, transformation of the governance process and empowerment of hospital management is a prerequisite to achieving quality service delivery. Thus from a governance perspective, the limitations outlined in Scenario I apply to the analysis conducted under Scenario II because the scope did not include any change in the governance process. As originally drafted, Scenario II focuses on the benefit and value of better aligning services between KIH and WCH. While acknowledging the potential benefits of better alignment, the recurring message in the interviews was that there are substantial governance impediments to pursing that outcome. One striking observation was: "Yes, there are some areas that can be better aligned. Yet even if the hospitals develop and agree upon a plan, we do not have the authority to implement it. This is another instance where our hands are tied and keep us from delivering the best hospital care."

The MoHSS' provision of comprehensive strategic direction and policies to facilitate the optimal contribution of each hospital is substantially impeded. By illustration, the hospital management's absence of authority in hiring, human resources management, and maintenance impose severe barriers to the productive fulfillment of their responsibilities. This prevents the most sound employment decisions and timely attention to infrastructure maintenance issues. It also serves to impact negatively on the moral of the staff.

> "The bureaucratic process is so trying and cumbersome; it takes forever to get anything done … you have to go through so many stressful hoops to get anything…. Simple things are so drawn out …. We have no power to just get things done."
>
> "Endless fights with the Public Service Commission – trying to fill positions – is the biggest management issue for the hospital."
>
> "The arrangement for having to go through Works for maintenance and equipment repairs is not working at all…. I have no confidence that we will get anything done through them."

However, it has to be stressed that, in line with the findings on management skills outlined in Scenario I, the change in Governance structure and the expansion of the autonomy and authority of management, although necessary, will not be a condition sufficient to the improvement of service delivery. The recommendation, valid for all scenarios, is that there is continued in-service management and leadership training conducted for mid-level and senior levels of the two institutions and the future merged one.

4.3 ACADEMIC INTEGRATION

The present system lacks an official process between the MoHSS and the MoE that will produce a clear interface between the hospitals and the UNAM SoM. Thus, collaboration and communication between the training institutions and hospitals consists only of informal consultations that are neither effective nor efficient, and prevent establishment of a supportive learning environment for students in all medical disciplines. As one key respondent noted:

> "Not having a real operational agreement between the hospitals and the SoM makes no sense…. This is something that needs to be fixed right away. It is another reason that we need a semi-autonomous Board and empowered management…. That is the only way to fix these things and give students the best learning opportunity."

A second concern arises from understaffing at the SoM, which results in too few faculty members to supervise the number of students enrolled. This results in an overburdened hospital staff being asked to fill this supervision void. Stakeholders noted during interviews that the current division into two separate hospitals is "not working so well for the training mission of the two facilities. There is not uniformity as to how and what the students are taught at the two institutions [and] that causes confusion." A governance change is needed to address this issue and develop responsive strategies.

4.4 CLINICAL SERVICES

Under Scenario II, the scope of the assessment was to evaluate areas of clinical duplication and inefficiencies and examine options for clinical realignment. The assessment team has provided such an analysis and recommendations but cautions that further analysis is needed before operationalizing the recommendations. The analysis is not exhaustive and key clinical service issues have not been addressed[93] due to a variety of factors including lack of information and lack of appropriate data. Notably, the assessment team has not provided a comprehensive clinical assessment evaluating every medical specialty service patient demand, volume, cost of service, and

[93] For example, the lack of a specialized burn unit and dialysis.

services not provided. Analysis is based on indicative numbers and assumptions and should not be used to make final decisions but rather give an opportunity for discussion.

A detailed analysis of the patient services provided at WCH and KIH, beyond the scope of this assessment, is needed to determine the most efficient distribution of caseloads between the two institutions to evaluate duplications and realignment strategies based on patient admissions by diagnosis and average length of stay (ALOS) by diagnosis. Surgical caseloads by type of procedure and length of procedure need to be studied to calculate in detail surgical time and resource loads in the operating room (OR). These types of data can help evaluate how caseload demands match OR capacity at each hospital. A detailed understanding of the availability of expensive OR equipment for specialty services, specially trained OR staff, and radiology and laboratory support services can also help to then determine the most efficient way to distribute surgical cases (by specialty) between the two hospitals.

With the data and information made available to the team for analysis, such shifts could introduce efficiency gains, to include:

- Sharing of expensive equipment, reducing the need to replace and maintain machines;
- Reducing the administrative burden by avoiding duplication of certain support activities such as accounting, payroll, maintenance, and kitchen;
- Rotating staff for more efficient training cycles while maintaining adequate coverage of patients' needs;
- Creating an opportunity to identify and disseminate good practices between the two hospitals to a net advantage for the management of the combined patient load;
- Making better use of underutilized beds at WCH (current estimated average BOR is 75 percent)[94]

Based on a review of available hospital statistics and interviews with clinical staff at both hospitals, a number of clinical realignment recommendations and opportunities are recommended for immediate consideration to improve the flow of services, improve quality of care, and reduce inefficiencies, including:

1. Create an Outpatient Center (OPC) with an Observation Unit at KIH
2. Consolidate obstetrical and neonatal services at WCH
3. Renovate the vacated maternity building at KIH into an Ambulatory Surgery Center (ASC)
4. Provide an ICU at KIH

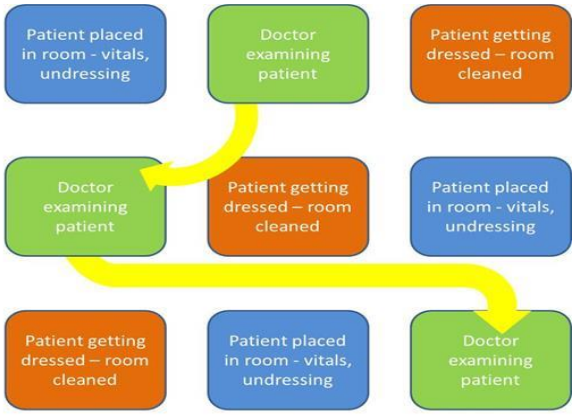
[94] *Staff Establishment Report: Windhoek Central Hospital*, (Windhoek: MoHSS, 2013), pg. 2

4.4.1 OUTPATIENT CENTER AT KIH

To ameliorate the overload of patient care in this "busting-at-the-seams" department, it is recommended that an OPC be built adjacent to the hospital. The current outpatient facilities, as described by Permanent Secretary Mr. Ndishishi in the Presidential Inquiry Report "lack space especially at OPD where two doctors may share one consulting room, compromising the patients' privacy and confidentiality."[95]

The OPC would operate from noon to midnight and alleviate much of the Casualty department's current overcrowding, attributable in great part to inappropriate non-emergency visits. Decompressing the volume of visits to the department will allow for increased utilization of emergency medicine nurses and physicians, and increase the speed of patient triaging.

Figure 8. Outpatient Center Pod Model



The assessment team recommends that a three-pod model for an OPC should be considered. It will maximize provider efficiencies by reducing the inefficiencies of the currently used, outdated OPC model. The proposed three-pod model is depicted in Figure 8. A new OPC would have four sets of three-pod models, for a total of 12 new consultation rooms. In addition, the assessment team recommends that the new OPC include a 10-bed Observation Unit so that patient observation of up to 24 hours can be used to determine whether or not an admission is needed. If the patient improves after medication and/or fluids and some rest, the patient can be discharged home and an expensive hospital inpatient stay avoided. Such action will divert those patients who have non-emergency ailments away from Casualty to a less expensive albeit perfectly appropriate care alternative – and improve efficiency and patient care for those patients with true medical emergencies that require Casualty care and inpatient admission. As shown in Table 10 below, this recommendation has the potential to reduce the current volume of patients admitted from KIH's Casualty Department by up to 60 percent.

This simple, cost-effective approach does not obviate the need to build a district hospital in the Khomas region, but in the short and medium term will improve quality of care in the KIH Casualty Department.

[95] *Report of the Presidential Commission of Inquiry*, (Windhoek: MoHSS, 2013), pg. 107

A second alternative to the construction of a new OPC/observation room is to relocate the Infectious Disease Unit (see below) and use the space it currently occupies. Determining the most appropriate space plan for an OPC should be done as part of a strategic planning process.

Table 10. Potential Impact of OPC on KIH Casualty Department

Type	Value	Description
Rooms	12	Number of recommended rooms as part of OPC (4 3-pod rooms)
Average Length of Visit (min)	15	Value based on generally accepted visit times in Western countries
Average Length of Day (min)	720	12-hour consultation room availability (12 pm-12 am)
Patient/Day per room	48	Average length of day/Average length of visit
Total Available Days (Annual)	250	5 available working days; 50 working weeks per year (accounting for holidays and time allowances)
Total Patient Volume (Annual)	144,000	Total Patient Volume (Annual)
Current KIH Casualty Volume (Annual)	251,763	2012/2013 KIH Casualty volume
Potential KIH Casualty Reduction	**57.20%**	**Percent Reduction in KIH Casualty Department due to OPC**

4.4.2 CONSOLIDATION OF OBSTETRICAL AND NEONATAL SERVICES

To evaluate the space and logistical implications of consolidating the obstetrical services at one hospital, basic utilization data are necessary. However, the assessment team found great disparities in the information available. The summaries below were drafted using data in the following documents[96]:

- 2012-2013 Annual Reports for WCH and KIH
- 2011 Workload Indicators of Staffing Needs (WISN) studies
- 2010 Situational Analysis for WCH

One major limitation in calculating the correct number of maternity beds needed upon consolidation is the lack of a detailed breakdown in the type of beds utilized in the maternity wards of both WCH and KIH (ante-natal, post-partum, neonatal). Given this, the numbers indicated in the

[96] Source for each of the numbers is provided in the tables.

tables and calculations below have to be considered as **purely indicative of the calculation process and not as a final recommendation.**

Data on WCH Maternity Ward utilization in 2012 was affected by the fact that the ward was closed for renovation for six months; during that time, maternity patients were treated in various locations throughout the hospital. Also, detailed ALOS data for patients in the maternity wards of both hospitals were not readily available. For this reason, the team used a normative average of three days for normal deliveries and five days for Caesarian Sections (C-sections) to estimate the need for beds and space in a consolidated maternity unit at WCH.

4.4.2.1 WCH MATERNITY STATISTICS: BED-DAYS AND BEDS NEEDED TO ACCOMMODATE CURRENT DELIVERIES

Using the ALOS assumptions mentioned above, multiplied by the number of deliveries reported in the WCH Annual Report for FY 2012-2013, the number of bed-days expected to support deliveries at the hospital is 16,405 (Annex H, Table H1). Assuming a desirable occupancy rate of 90 percent, this expected number of bed-days could be serviced by a total of 50 beds.[97]

It is worth noting that, if the expected number of beds needed (50) is compared to the number of beds currently reported in the WCH Maternity Unit (103), the result would be a BOR of 48 percent, consistent with overall BOR calculated at WCH for nursing services (58 percent) but substantially lower than total average BOR reported in the 2010 Situational Analysis document (75 percent).[98] The likely explanation for this discrepancy is that the actual length of stay in the unit is much higher than the estimates below (the Situational Analysis gives an ALOS of seven days). It is also influenced by the calculation of number of beds in use including neonatal bassinets and the Neonatal ICU.

For KIH, the number of beds available in the Maternity Ward is stated in the annual report, whereas the number of C-sections for FY2012/13 had to be estimated applying the ratio of C-sections to total deliveries in the 2011 WISN report. When the ALOS assumptions of three days for normal deliveries and five days for C-sections are applied to KIH, the expected number of beds to accommodate 23,732 bed-days (Annex H, Table H1) are 72, assuming a desirable BOR of 90 percent. Again, it is noticeable that if the expected number of beds needed in the KIH Maternity Unit of (72) is compared to the number of beds currently reported (112) the result would be a BOR of 65 percent, inconsistent with a reported total average BOR of 90 percent.[99] Here also, the likely explanation for the discrepancy lies with the difference between the length of stay assumptions that were made in the calculations and the hospital's overall ALOS of eight days as reported in the

[97] 16,405/365/0.90
[98] *Annual Report: Division of Windhoek Central Hospital*, (Windhoek: MoHSS, 2013), pg 13 ; *Situational Analysis: Intermediate Hospital Katutura*, (Windhoek: MoHSS, 2012).
[99] *Annual Report: Katutura Intermediate Hospital*, (Windhoek: MoHSS, 2013), pg. 42.

FY2012-2013 Annual report. An additional factor might be that the bed count most likely includes neonatal beds that would not be normally included in the calculations.

Once the outputs from the two hospitals are aggregated (Annex H, Table H3), there is an estimated need for a total of 122 beds (50 needed at WCH and 72 to support deliveries previously at KIH), at a desired 90 percent occupancy rate. Assuming all 103 beds now reported for the Maternity Ward at WCH are available, the deficit in beds needed to sustain the combined deliveries at WCH would be of 19 beds. It has to be stressed that these calculations depend on an ALOS of three days for normal deliveries and five days for C-sections. Increases or decreases in ALOS will influence the need for additional beds. Also, the estimated number of deliveries will likely increase in the future, due to the localized growth in population in the Khomas region. The purpose of the consolidated maternity (Annex H, Table H4) is to alert stakeholders to the possible space and cost implications due to the likely increased need for beds in the consolidated maternity ward. The final calculations and actions necessary to cope with such a potential outcome will have to be more thoroughly considered through verification of available space at WCH and an assessment to verify the current actual management and distribution of beds at WCH.

One additional consequence of consolidating the maternity services at WCH is the effect the increased number of C-section deliveries will have on the management of the OR used for C-sections at WCH.

As can be seen in Annex H, Table H4, assuming standard times for OR use of 1.5 hours per C-section, the existing OR dedicated to C-sections currently at WCH would not sustain the combined volume. The deficit in available OR time, plus the need for redundancy of operating facilities to handle possible concurrent emergency care needs for deliveries, are strong factors in recommending the rehabilitation of existing space at WCH into an additional OR dedicated to C-sections and emergency surgeries. The potential costs associated with a new OR are estimated in the financial section of Scenario II.

4.4.3 AMBULATORY SURGERY CENTER AND ICU SERVICE AT KIH

Should maternity services be moved to WCH as recommended, the opportunity exists to use the vacated maternity ward for an ASC. Such a center would allow the hospital to update its surgical capacity to accommodate less-invasive techniques that do not require a hospital admission – and save resources and improve patient care because of faster recoveries and lowered risk of infection. The savings, although impossible to estimate with data available to the assessment team, will be real and help justify the cost of building an ASC.

Hospitals built 40 years ago were not designed for the efficient staff and patient traffic flows for ambulatory surgery such as patient locker rooms and transition spaces from stretcher to sit-up recovery before discharge. In addition, an ASC could absorb an expansion of endoscopic and

laparoscopic surgeries for increasingly relevant procedures such as inguinal, ventral, and incisional hernia, bowel surgery, and bariatric surgery. The clinical advantages may include reduced mortality and infection and the expected financial gains from fewer inpatient hospital admissions.

With the anticipated renovation of the ORs at both WCH and KIH, a detailed assessment of the current and the anticipated surgical caseloads by specialty should be done to determine the most efficient split of specialty surgical cases between the two institutions. For example, cardiac surgery, neurosurgery, and renal surgery may best be consolidated at WCH and the bulk of general surgery handled at KIH. This analysis must also factor in the revised inpatient surgical care numbers that will be significantly changed with the development of an ASC at KIH.

KIH needs to address its lack of an ICU. KIH currently has eight acute (step-down level) care beds but no ICU. Not having an ICU for a hospital with an extremely heavy Casualty Department volume and a surgical caseload of almost 8,900 cases, a number that has reportedly increased by approximately 2,200 over the past three years,[100] is a major quality of care issue. The assessment team strongly recommends the development of 10 ICU beds at KIH to handle the heavy surgical load and reduce any need to transport critical patients to the ICU at WCH.

4.4.4 MENTAL HEALTH SERVICES

The clinical service component of WCH currently includes a very large psychiatric service. Per the WCH 2012-2013 Annual Report, last year over 5,000 psychiatric outpatients were treated and 1,378 patients admitted to the service. In addition, the Forensic Psychiatry service cared for over 70 patients.

Managing such a large and complex volume of psychiatric patients is a challenging task requiring the special expertise of a psychiatric hospital administrator, and ideally, the primary psychiatric facility would be organizationally linked to the network of mental health service centers caring for patients throughout the country.

The assessment team supports the recommendation from the 2008 Health and Social Service System Review to disaffiliate the Mental Health Care Centre at WCH to become an independent division.[101] The assessment team supports consolidating all Mental Health Services under one MoHSS Directorate for better coordination and rationalization of levels of care and utilization of resources. Importantly, the current organizational structure within WCH results in this unit being forced to compete with services such as cardiology or neurosurgery for scarce resources.

[100] Number reported during a key stakeholder interview.
[101] *Health and Social Services Review 2008*, (Windhoek: MoHSS, 2008), pg. 79

4.5 HUMAN RESOURCES

Scenario II may marginally address the high vacancy rates at both the hospitals. In this scenario, the existing challenges will remain as a result of the governance-related root cause: ineffective performance evaluation, unattractive conditions for employment, and inability of hospitals to hire and fire staff efficiently. Without authority over human resources, these decisions remain with the PSC and key respondents expressed frustration that human resource process improvements take years, if they happen at all.

Any realignment of divisions, sub-divisions, and sections within the hospitals will require approval from the OPM/PSC and a proper proposal will have to be presented to the OPM with detailed justification**.** The process of getting the "restructuring proposal" approved under the present structure will take a long time (up to three years) and no immediate results may be realized from any attempts to align services. It also assumes an effective integration of KIH staff into WCH organizational structure, culture, and systems. In addition, this would require the ability of WCH management to provide appropriate support and leadership to successfully complete the integration phase when clinically aligning services.

Scenario II does not offer the opportunity to change human resource practices that would improve staff morale and therefore service delivery. Nor does it address the provision of skills training during practical attachments at the hospitals. Conditions for staff development are outlined in the Public Service Act and policies such as the National Human Resources Development Policy. Currently, any realignment of services (restructuring) without addressing the other parts of the Human Resources Management System – recruitment, discipline, staff development, pay, and benefits – is also unlikely to result in improved service delivery. Better human resource management opportunities can only be achieved when the hospitals are empowered with a semi-autonomous governance structure.

While there are some potential efficiency gains from optimizing staff utilization, the increased volume of patients in WCH can be partially absorbed by the current underutilization of the hospital's facilities and by a more efficient deployment of staff. Additional human resource efficiencies should be evaluated using the WISN tool based on the acceptance of any clinical recommendations.

4.6 INFRASTRUCTURE

As noted in Scenario I, the current physical infrastructure at both KIH and WCH present major health and safety issues. A priority for capital expenditure funds must be the repair and upgrade of infrastructure systems with a focus on safety – fire safety planning, equipment, signage, evacuation zones, and staff safety training is all needed, especially in tower buildings. A system-by-system repair approach is not recommended. A carefully planned and managed floor-by-floor repair

program should be executed to minimize the time a unit is closed for repairs, to minimize re-work of repairing walls and ceilings damaged during the repair work, and most important, to contain the contaminants that will be released during the work.

A summary of necessary and immediate infrastructure repair items was developed by the assessment team consulting engineer to meet the urgency for guaranteeing patient and staff health and safety. The team recognizes that it is nearly impossible to determine if, for example, repair to the water and sewer system (such as that necessitated by the July 2013 crisis at WCH) is more critical than fire safety system repairs. Strong coordination and construction management of the repairs can get the work done, floor-by-floor. Below are key areas of the infrastructure repair work, although the extent of which is needed for each building level is yet to be determined.

Water and sanitary systems: There is an immediate need to repair sanitary and sewer piping as well as repair the domestic hot and cold water service to each area, ward, and service riser. Need to operationalize bonding/earthing of sanitary fittings and drainage pipe work is needed.

Fire safety and evacuation: Fire alarm and detection systems need to be reactivated; there is an urgent need to review and update the fire safety plan for protected zones, designated lifts, evacuation routes, and signage. There is a need to re-operationalize mechanical ventilation systems with fire dampers at each floor and a fire barrier at the lift lobby, and interlock them with the fire and smoke alarm system. Additional recommendations include installing fire-fighting equipment in break-glass cupboards, providing a dry riser with couplings for fire department use at each floor giving the correct coverage (two per ward floor), and ensuring that the lightning protection system is fully operational and secure.

Electrical wiring, lighting, and nurse call system: An overhaul of the electrical system is needed, including rewiring of floors and distribution boards with new circuit breakers and earth leakage units to provide electrical safety. Light fittings need to be replaced for safe working conditions and emergency evacuation. Broken switches and cover plates should be replaced to ensure safety of patients, staff, and visitors. The nurse call system needs to be re-operationalized.

Air handling: A complete building survey is needed to identify areas where the mechanical air ventilation system has failed and the number of air exchanges per hour is below that required for patient, staff, and visitor safety.

Contaminants: There is a serious need to conduct an asbestos and lead survey. Vinyl-asbestos wall covering and vinyl-asbestos flooring should be repaired, as well as damaged ceilings, partitions, brickwork, and plasterwork.

In addition, the proposed Scenario II alignment of clinical services will require some renovation and new construction to achieve the anticipated efficiencies and improved patient access. The infrastructure work that is necessary includes consolidation of maternity and neonatal care services, construction of an ASC, construction/renovation of an OPC and Observation Unit, and the renovation of 10 beds into an ICU.

4.7 COSTING AND FINANCIAL PLANNING

This section explores, to the extent possible, the financial implications of the clinical realignment and related infrastructure changes as proposed under Scenario II in order to provide some concrete evidence and practical discussion points for decision makers. The analysis is limited to the most obvious consequences of the realignment proposal and provides indications of and comments on potential and/or not-yet-quantifiable cost implications, both positive and negative.

It must be noted, however, that the current governance structure makes it impossible to guarantee the implementation of the changes and therefore to quantify their value. Firmly estimating the potential gains from a more efficient use of resources would require a paradigm shift in terms of governance, management, and leadership at all level of the institutions.

4.7.1 BASIC HEALTH AND SAFETY INFRASTRUCTURE UPGRADES

For the capital costs, the assumption is that basic infrastructure renovations will have to be undertaken first, in order to ensure the safety of patients and staff. Renovation costs are calculated based on the methodology outlined in Annex I.

The estimated costs relating to the renovation of each floor of patient wards at KIH amounts to N$17.9 based on the square meters of each patient floor. KIH currently has eight floors of patient wards, which means that the total cost of renovations of the patient wards would be approximately N$143.8 million. In addition, it is critical that all passenger and service elevators at KIH are replaced, for an additional cost of approximately N$9 million. Therefore, the total cost of renovations to ensure the safety of patients and staff at KIH would amount to approximately N$153 million.

For WCH, the renovation costs are estimated to be N$14.9 million based on the average square meters of each patient ward at this hospital. WCH currently uses six floors for patient wards, which means that the total cost for renovations of the patient wards would be approximately N$89.8 million.

The total cost for renovating the two hospitals to ensure the safety of staff and patients is therefore estimated to be N$242.7 million.

4.7.2 CLINICAL SERVICE ALIGNMENT

Based on the estimated available beds and current BOR (see clinical section), WCH could absorb the increased volumes in obstetric cases. To cope with daily fluctuation, additional beds need to be added or other spaces converted to maternity ward however costs are undefined at this stage.

For the consolidation of maternity and neonatal care at WCH, the relevant cost implications relate to the need for an additional OR dedicated to C-sections to cope with an increase in volume estimated at more than 100 percent.[102] The creation of the new (or refurbishment of existing) OR will create additional capacity and redundancy in order to cope with fluctuations and malfunctions in other ORs. Here as well, the estimate of the cost depends on an incredible number of building variables, but to give at least the correct order of magnitude, building activities, labor material, and equipment for a new OR at KIH and the approximate value amounts to N$8.1 million adjusted for inflation in 2014.

As discussed in the Clinical Section of Scenario II, if the existing KIH Maternity Unit is vacated due to the consolidation of maternity services at WCH, an ASC could be established. This would greatly enhance the ability of the hospital to perform less-invasive same-day surgery, and thus alleviate the space and cost implications of inpatient care. However, the change would introduce additional maintenance, logistic, operational, and staff costs that could vastly override any potential savings from shortening patients' lengths of stay. Additional analysis of the financing and cost structure at the two hospitals needs to be done to make the correct economic evaluation for moving forward with the additional expense. The overall cost of building and operationalizing the ASC within the vacated maternity space at KIH is estimated at approximately N$78.6 million (Annex J).

The assessment team estimated costs for building an OPC. Constructing a new building to serve as the OPC is estimated to cost approximately N$45.2 million, considerably more than the cost of renovating the KIH TB ward; this cost estimate does not include provision for additional teaching facilities. Renovating the TB ward for an OPC, an observation unit *and* providing space for educational enrichment for medical and nursing students would cost an estimated N$24.2 million. The costs and underlying assumptions for these renovation and construction proposals are included in Annex K.

The renovation of existing space within KIH to establish a 700 m, 10-bed ICU would cost N$8.5 million[103]. This cost only covers the renovation of space to create an ICU, including a

[102] WISN Assessment 2011: C-sections at KIH were 1,461 versus 1,205 at WCH.

[103] This is based on the same square meter cost estimate used for the renovation of vacated maternity at KIH into an ASC (N$12,169.40) given the similarities of the renovation requirements. To corroborate, figure was cross-checked with Richard Frankle & Partners Quantity Surveyors for renovating a recovery room for the laparoscopic theatre at KIH which provided a similar renovation estimate.

separate nurses' station but excluding any renovations to the existing acute care unit or ancillary spaces.

The relocation of the Infectious Disease Services from its current location at KIH to a new location is a patient safety imperative. Until the space requirement and the exact location are determined, it is not possible to provide a cost estimate.

With a realignment of clinical services there are potential gains from the consolidation of machines and equipment. This depends on the current valuation of the state of equipment, their current depreciation, and the managerial ability to find best procedures for sharing the resources.

4.8 SUMMARY

In Scenario II, Realignment of Clinical Services without Merger, the assessment team evaluated where potential efficiencies could be gained by aligning clinical services between KIH and WCH. Under the scope of this scenario, as akin to Scenario I, the current governance structure remains unaltered which in return greatly inhibits the alignment of clinical services while additionally forestalling this exercise before the inception of alignment can even begin.

As in Scenario I, challenges will continue to be faced and left unmet if the governance structure remains unchanged and decision making power is not granted to the hospital management team. In addition, reallocating staff to affect the clinical service realignment will prove infeasible if human resource management remains under the authority of the PSC. Effective construction and maintenance of the facilities as recommended in this scenario will be highly problematic under the current state of hospital governance, relying heavily upon collaboration with the MoWT and MOF in the management and budgeting of capital improvements and renovations. Despite the many potential benefits to be reaped from aligning clinical services, nearly identical constraints remain that will stagnate progress and ultimately sideline the realization of true achievements resulting in efficiency gains and a more optimal provision of healthcare services at KIH and WCH. To emphasize, some autonomy and extended authority at the hospital leadership and management level is needed to ensure the provision of the most efficient, high-quality health care services that are accessible to the populations they serve.

5. SCENARIO III – FULL ASSET MERGER

5.1 OVERVIEW AND BACKGROUND

The inclusion of a unified governance structure as the central component of Scenario III creates the needed enabling environment to develop a strong National Academic and Referral Hospital. Scenario III was recommended almost unanimously by the stakeholders interviewed for this assessment as the only viable option to address the complex challenges in governance, management, and service delivery. A full asset merger with a semi-autonomous governance structure gives decision-making power to the hospital management to efficiently and effectively address hospital administration issues.

The 2012-2013 KIH Annual Report provides a strong voice – and a strong case – for moving forward with Scenario III.

> "The restructuring of the Windhoek National Academic and Referral Hospital Complex needs not only to be finalised but should reconsider to run that complex as "pilot project" by installing as much as possible decision making powers and autonomy; especially in the areas of governance, management and leadership as well as administration (General Administration, Human Resource Development & Management, and Financial and Asset Management) the current system and structures of the ministry and Public Service are not only hindering development and meaningful change, but also resulting in substandard quality of care to patients."

There is resounding support for the vision of a unified hospital proposed by the MoHSS in the Draft Proposal.[104] As summarized by a respondent, "The case for the merger is more effective governance, service integration, and reduced duplication, better allocate resources, improved quality, time to teach and professional leadership and management." It is the strong recommendation of the assessment team that that the MoHSS proceed with Scenario III as it provides the most enabling framework to capitalize on the opportunities present while addressing the current challenges. There are numerous decision points in charting the path forward and many issues outlined in this report need to be further explored (Annex L).

[104] *Windhoek-Katutura Hospital Complex: A National Teaching and Referral Hospital (Draft Proposal)*, Dr. G. Judmann and Dr. S. Shalongo, (Windhoek: MoHSS, 2012).

Table 11. Scenario III – Summary of Key Findings

SCENARIO III Full Merger. Phased approach leading to semi-autonomous board and professionally trained hospital management team	
Main Findings	**Impact on Service Delivery**
A full merger allows for a direct relationship between training institutions and hospitals.	• This has the potential to improve the feedback mechanism between students, institution and hospital staff and improve the learning conditions of the interns. The hospital staff will be more adequately allocated between teaching and service functions and the quality of graduates will benefit the patient population.
With governance change, hospital management has an improved ability to manage human resources effectively including performance management, rapidly hiring for key vacant positions and implementing appropriate staff retention strategies.	• This new autonomy will allow the implementation of the efficiency gains as expected from the realignment of clinical services. More autonomy on hiring and firing practices should result in a full cadre of health workers, better incentive mechanisms, and overall improvement of clinical services for the patient population.
Elimination of the duplication of clinical services may result in more efficient use of specialists and limited medical equipment, given the increased autonomy of decision makers.	• Through real autonomy of decision making management will be able to identify redundancy in personnel and materials, and use the available resources where most needed. This could allow for an allocation of resources skewed towards the improvement of the services provided to patients.
Autonomous management does not translate into an *effective* management without the appropriate information. Financial information and reports are essential to the sustainability of an independent hospital, especially if in direct competition with existing and future private institutions. The introduction of program-based budgeting would afford management the necessary knowledge of the hospital's cost structure, improve probability to increase revenue, and better compete with private institutions for scarce resources.	• Quantity and quality of service delivery is a function of available resources and their efficient allocation. A functioning FMIS at the Hospital level will afford management with the knowledge and information necessary to use resources for best results in terms of service delivery and ultimately patient's care.
With the authority to independently make capital investment and building maintenance choices and with the appropriate resident engineering capacity, hospital management can effectively and efficiently make infrastructure improvement decisions.	• This is at the base of routine quality control and sanitary conditions for any medical structure. The merged institution should be able to overcome the challenges that are now faced by the two hospitals in terms of maintenance of a clean, functional and safe infrastructure. Patients' quality of life will greatly benefit from a consistent supply of sanitary conditions and safe environment conditions during their stay at the hospital. Personnel morale will also benefit, again to the gain of patients' quality of treatment.
Evaluation: RECOMMENDED	

5.2 GOVERNANCE

The need to progress to a consolidated semi-autonomous governance system with empowered and accountable leadership and management was the theme repeatedly articulated throughout the data-gathering process. Key stakeholders stressed "Nothing that you recommend will happen unless the new governance model is established … with leadership and power."

The Presidential Inquiry Report highlighted this absence of effective governance in its findings noting a: "Lack of the appropriate governance structure that will have skills to plan, implement policies and use resources (finance and human) prudently."[105] In a later section of its report,[106] the Presidential Commission underscored the need to:

- Clearly define the management/organizational structures of the national and intermediate hospitals.
- For efficient management of national and intermediate hospitals, establish hospital management boards.

The assessment team fully supports the above recommendations, and further emphasizes that an effective semi-autonomous board should be responsible for and given the authority to set strategic direction, establish policy, approve the operating budget, and measure/evaluate the organization's progress in meeting its goals.

In pursuing those responsibilities, it will be imperative for a hospital management board to:

- Conduct its activities with impeccable integrity consistent with a code of ethics and be above even the appearance of impropriety
- Engage in transparent decision making
- Interact with a variety of stakeholders to secure their input and feedback
- Establish a collaborative relationship with the hospital management featuring on-going communication

Achieving the maximum benefits will require the transformation into an independent legal structure, led by a governing board and a chief executive officer with the ability to maximize returns on human and physical capital.

5.3 ACADEMIC INTEGRATION

A full merger allows for a direct relationship between training institutions and hospitals. An empowered semi-autonomous governance structure can quickly address the need to for a well-defined operational agreement between the hospitals and the UNAM SoM. The interrelationship between the MoHSS, the hospitals, and the SoM has been identified in prior reviews and highlighted by a key respondent as an opportunity to be capitalized on:

[105] *Report of the Presidential Commission of Inquiry,* (Windhoek: MoHSS, 2013), pg. 14
[106] *Ibid.,* pg. 80

> "It's crazy to have two medical hospitals and one medical school. Let's merge and bring in UNAM. Because of the constraints of management, I suggest a parastatal hospital – the Government is still main shareholder but the management is run on a business model. The hospital is supported by a board of trustees and a board of directors. Bring in UNAM as a partner, so that we have all of our services under one umbrella to provide quality service, teaching facility, and act as a research institution. We need to focus on service, teaching, and research."

It also creates a valuable opportunity for a significant increase in teaching and practicum resources through self-funding to provide better facilities for clinical training of students and subsequently increased enrollments.

5.4 CLINICAL SERVICES

The benefit of the realignment of clinical services recommended in Scenario II is the same in Scenario III. Most critical, however, is that under the new governing structure proposed in Scenario III, the chances for effectively and efficiently accomplishing the renovation and construction and the staffing realignment required to realign clinical services has a dramatically improved chance of success.

Developing additional options and refinements of the alignment of clinical services is a continuing process. As previously noted, with the development of an ASC, the volume and distribution of main OR cases will change significantly. Planning based on actual experience will enable hospital management to refine the distribution of surgical cases based on specialty. Similarly, changing lengths of stay will change clinical service bed distribution patterns and allow management to change bed allocations by service to improve the utilization of scarce human resources.

Clinical needs and health patterns are also anticipated to change significantly over the next decade with the increase in cases of non-communicable diseases such as cancer, cardiovascular disease, diabetes, and chronic respiratory diseases. In Namibia, diabetes and cardiovascular disease rank among the top 10 diseases and among the top 15 inpatient causes of death, and recently the President has addressed concerns about dealing with these changing health patterns.[107] A merged hospital system under good governance and strong management will be able to respond to a constantly changing and dynamic medical environment over the next decade while visionary and long-range strategic planning formulates plans for a new National Academic and Referral Hospital.

[107] Accessed August 2, 2013: http://www.afro.who.int/en/namibia/press-materials/item/4367-namibia-takes-action-against-ncds-on-the-commemoration-of-healthy-lifestyles-day.html.

5.5 HUMAN RESOURCES

With governance change, hospital management has an improved ability to manage human resources effectively including performance management, rapidly hiring for key vacant positions, and implementing appropriate staff retention strategies. Scenario III with its semi-autonomous governance structure and empowered management allows the hospitals to offer better conditions of service and address the root causes of staff turnover. This scenario offers the best opportunity to review conditions of service for staff. Moreover, the scenario facilitates a more responsive and creative approach to staff development. A semi-autonomous governance and empowered management approach should be a catalyst for the implementation of a productive performance management program. That program will be a conduit for validating and sustaining successful performance and highlighting areas for performance improvement. The ultimate impact should be an enhancement of hospital client care.

5.6 INFRASTRUCTURE

Key respondents echoed the concerns outlined in the 2008 Health and Social Services System Review that "the MoHSS does not have the staff to vet architectural/construction drawings, nor does it have the staff to monitor ongoing work, or completed facility. The lack of an empowered institution that can properly plan, manage, and maintain the facilities is the primary weakness in the infrastructure sector."[108] With the authority to independently make capital investment and building maintenance choices and with the appropriate resident engineering capacity, Scenario III offers the best opportunity to effectively and efficiently make infrastructure improvement decisions. This may include the consideration of contracting out engineering services to support the needs of the hospitals.

Major capital expenditures on the existing hospital buildings that have reached their useful life should be minimized, however, there is a need to address the age and infrastructure needs of the facilities. Key stakeholders expressed that the two hospitals facilities do not currently meet the medical needs of the patients; facility limitations and problems will only be compounded over the next decade by the rapid advancement of new surgical techniques, telemedicine, electronic medical records, and a rapid increase in non-communicable diseases. Detailed functional program planning for a new tertiary care academic medical center needs to take into account other significant strategic planning facility developments including one or two new district hospitals in Khomas region and a new infectious disease facility.

[108] *Health and Social Services Review 2008*, (Windhoek: MoHSS, 2008), pg. 16

5.7 COSTING AND FINANCIAL PLANNING

In Scenario III, favored by all interested parties, the ideal process that should take the two hospitals from the status quo to the new, legally merged entity, will stretch over a number of years. The process will also involve the almost inescapable necessity to construct a new building to accommodate the new vision a National Academic and Referral Hospital to replace the existing separate structures of KIH and WCH, respectively 40 and 30 years old. Along the way, during the transformation process, there will be many options and many paths, each with its cost and financial consequences. The assessment team cannot forecast and evaluate now all of the possible outcomes of the process, but it can outline the principal key factors that will impact the cost and the benefits involved with some of the major decision points.

The decision points evaluated in the rest of this section relate to the new entities:

- Physical structure
- Legal structure as outlined above
- Governance structure as outlined above

Potential costs involved with renovation of the two hospitals have been identified in Scenario II. However, the final cost of rehabilitating the two hospitals for the long term or building an entirely new structure will ultimately depend on size and layout, and that will depend on the number of beds necessary to cope with the need for tertiary services in Namibia. Most of the services provided at KIH today are there to compensate for the lack of a district hospital serving the Khomas region. Should a district hospital be constructed relatively soon, the number of beds necessary for a new structure would be substantially lower than simply the sum of the beds now available at KIH and WCH**.** The final decision on the physical structure of the new complex, and its final price tag, cannot be taken in isolation, but must be part of a consolidated plan for the reform of the hospital system of Khomas region at least, but ideally of the whole of Namibia.

As the details of the new physical structure for a merged hospital are defined, MoHSS stakeholders will also need to take into consideration other potential cost elements such as:

1. The availability and cost of land for a new building or for expanding one of the existing structures;
2. The distance and ease of accessibility of the location for the majority of the staff and the patients (the cost to the patients and to the staff should be considered);
3. The expected time of completion for new construction versus the time and interruption of services required for the expansion of an existing building.

The size of the new structure will have to account for the influx of medical students. The estimate of the number of students to be accommodated by the new hospital will have cost consequences.

Whichever strategy is chosen in terms of ratio of medical students trained in country versus abroad will have to be carefully evaluated for impact because that will drive up or down the cost of the teaching facilities needed. The cost implications tied to the chosen legal structure are hard to quantify at this stage; the management structure, legal parameters, a financing strategy, all have cost implications. The evident implications in terms of financing, however, relate to the non-profit versus for-profit status of the new entity and the assumption of responsibility of the GRN in terms of ensuring the financial solvency of the entity and or contribution to its budget.

The governance aspects of the new entity have cost consequences that are not quantifiable at the moment. An important question for stakeholders in charting the course for the new medical complex is: Will this hospital be in competition with private structures? This is not a trivial question, especially since in a more competitive governance structure, such as a State Owned Enterprise, the human resources would not be bound to work for their employer incentivized by tenure and pension considerations, as might be the case now for government workers. Instead, they will be free to choose work at the best economic conditions, in essence opening up the new hospital to the same labor market now faced by private structures in Namibia.

5.8 SUMMARY

The assessment team emphatically and unequivocally recommends the merger of KIH and WCH as the optimal choice under a semi-autonomous governance structure, as well as the the subsequent long-term goal of erecting a new National Academic and Referral Hospital. As mentioned above, a full asset merger with a semi-autonomous governance structure gives decision-making power to the hospital management to efficiently and effectively address hospital administration issues ensuring optimal health care service provision. Key respondents expressed a decided preference for merging the two hospitals as a pathway to ultimately create a new National Academic and Referral Hospital:

- “This does require major change…strong political leadership and commitment.”
- “This where we need to go …. it will take risks to get there yet we need to if we are going to give our patients the best service.”
- “I see this as the way to move to come closer to a real Medical Academic and Research Center.”
- “It is time for a change; a new governance approach, merged hospitals and empowered management is what we need.”

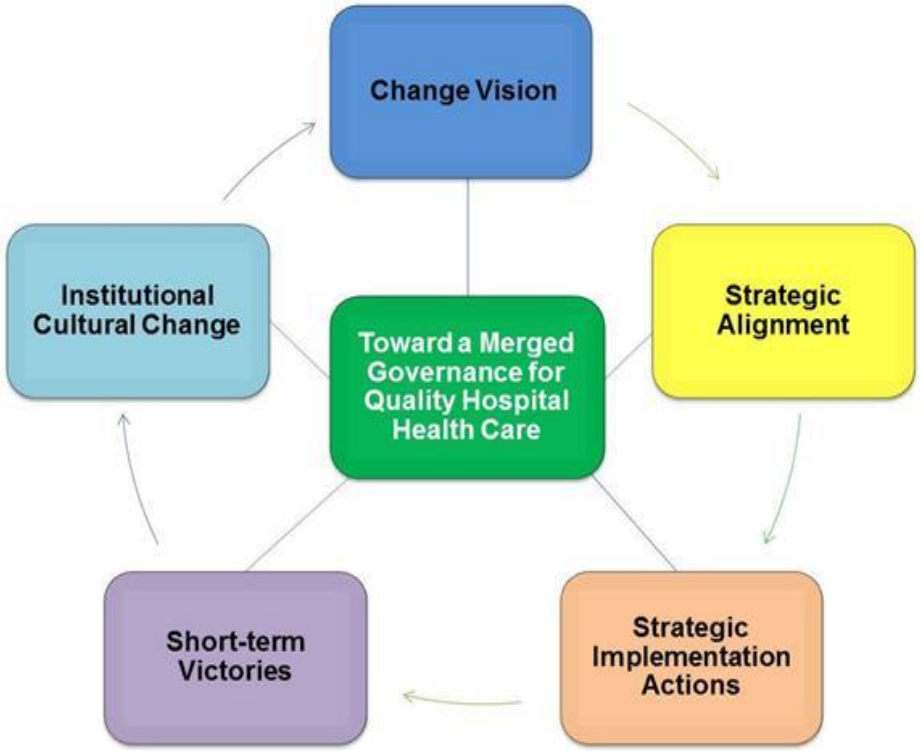
In line with the findings from the assessment, the final recommendations and conclusions to advance Scenario III – full asset merger of WCH and KIH – require that all stakeholders be involved in implementing the vision to achieve the proposed National Academic and Referral Hospital. This

will require the support and involvement all stakeholders including, but not limited to, the OPM, MoHSS, MoE, MoF, MoWT, PSC, National Planning Commission, State-Owned Enterprises Governing Council, international partners supporting key components of the two hospitals (e.g., I-TECH on academic integration, Management Sciences for Health on quality assurance, and IntraHealth on staffing norms), the hospital clinical and administrative staff, and representatives of the communities served (Annex M). The assessment team recognizes and appreciates that this is a complex and multi-faceted effort and as a result have outlined the next immediate steps that need to be taken in order to ensure an expeditious and effective merger of KIH and WCH resulting in a National Academic and Referral Hospital.

6. SUGGESTED NEXT STEPS

Based on the comments received from many key stakeholders interviewed for this assessment, the assessment team recommends a phased but full-fledged, transformational organizational change process. The process involves a comprehensive and strategic approach to envisioning necessary changes, developing action plans, and successfully facilitating implementation. This process is designed to establish a new National Academic and Referral Hospital and ultimately enhance the delivery of hospital care in Namibia. Figure 9 outlines the key elements ideally involved in orchestrating this transformational change process in an effort to move toward merged governance for quality hospital health care.

Figure 9. Key Elements Toward a Merged Governance for Hospital Care



The transformational process is composed of three phases as outlined below and will be explained throughout the next sections in detail:

- Envision Change
- Develop Action Plan
- Facilitate Implementation

6.1 PHASE 1 - ENVISION CHANGE

The first phase is the most delicate. It will require strong leadership and a genuine desire to change and accomplish the goals/action points recommended in this feasibility assessment. The first step in Phase 1 is securing the support of the government's top leadership to endorse and fully support the transformational change process and recommended steps forward. This requires the present report and its recommendations to be formally introduced to the leadership of Namibia represented in the Office of the Prime Minister (OPM) by the MoHSS. From an objective standpoint, the topic of merging Windhoek Central Hospital and Katutura Intermediate Hospital is of national importance and it should be treated commensurately as a national priority.

As second step, the assessment team recommends the Namibian leadership through the OPM establish and lead an empowered Steering Committee (SC), a group entrusted with the leadership of the change process, to head and guide the process of creating the National Academic and Referral Hospital as discussed in Scenario III.

The remaining steps in Phase 1 and immediate tasks for the SC are:

- Define and approve the new governance structure for the National Academic and Referral Hospital;
- Define and approve the final vision for the National Academic and Referral Hospital;
- Define and approve the expected cost and source mix of funding to achieve the goal of a National Academic and Referral Hospital.

6.1.1 BROAD TERMS OF REFERENCE OF THE STEERING COMMITTEE

The Steering Committee should be given the responsibility and authority to promptly address and facilitate the urgent changes identified in Scenarios I and II - health and safety issues, realignment issues, and medical training integration. The SC should also be responsible for formulating an overall change vision and orchestrating a strategic planning process. That process will generate an action plan with precise steps as well as time-based benchmarks. This will require a transparent and consultative process for necessary alignment and buy-in by various stakeholders. Furthermore, the SC will lead the process for the formation of the semi-autonomous and empowered hospital management board and outline board roles and responsibilities, authority, accountability, and so forth. The SC will need to propose a management structure for the merged hospitals. Throughout this process, there will be numerous choice points that will require careful consideration (Annex L).

Finally, the SC will launch the long-range plan for the establishment of a new National Academic and Referral Hospital. SC members should have the knowledge, skill, and expertise to accomplish all the tasks highlighted above. To achieve success, the SC will need to work collaboratively and will require the proper authority and standing to positively establish supportive interactions within the multi-ministerial context. To operationalize the transformational change vision and implementation strategy, the SC will need to establish and oversee strong project management teams.

6.1.2 COMPOSITION OF THE STEERING COMMITTEE

It is the assessment team's recommendation that the OPM chairs the SC to ensure the independence and the decisional authority of the said committee. In virtue of its mandate, the OPM can provide the technical guidance on the process and protocols for the establishment of a semi-autonomous body (through their role under the State-owned enterprises governing council) if that is the ultimate decision in terms of governance structure. Without saying, the MoHSS is a key stakeholder and should clearly nominate a member for the SC (i.e. PS or a person delegated by the PS). Other members that should be part of the SC include individuals from the UNAM SoM and Polytechnic of Namibia (to ensure that their training requirements can be fulfilled in the new combined structure of the hospital), the PSC (to ensure that the interests of the current employees are protected), the MoWT (to provide technical guidance on how the maintenance and construction responsibilities are taken over), MoF (as very critical questions regarding the financing and sustainability of the hospital will need to be answered) and the Health Professions Council.

The SC should include members of civil society and the private sector, with final membership to be discussed with Namibian leadership. It is also recommendable that key development partners are represented on the SC. Their role would be to provide technical guidance to the process and to be the "secretariat" of the said committee and act as record and time keepers of the whole process.

6.2 PHASE 2 - DEVELOP ACTION PLAN

For Phase 2, while the leadership and overall guidance comes from the SC, it is necessary to introduce a new team of "doers", in charge of developing an action plan for the consideration and validation of the SC.

As first step in Phase 2, The SC should establish a Project Management Team (PMT) composed of specialists and experts in medical education, logistics, engineering, medical architecture, hospital management, finance, etc. that would bring the expertise and the time necessary to successfully devise the action plan. The PMT should draw from the private and public sector and its members should be committed for the duration of the process. The PMT would also, ideally, benefit from technical assistance provided by development partners as key and vested stakeholders in the success of a National Academic and Referral Hospital. The PMT would follow up with most of the steps involved in the rest of Phase 2, which include:

- Recognize, prioritize and quantify in financial terms the structural changes identified in Scenario I and II;
- Recognize and prioritize the alignment changes identified in Scenario II;
- Recognize and prioritize the elements leading to medical training integration.

Additionally, as part of Phase 2, the SC would nominate an Institutional Leadership Group (ILG). The ILG would be comprised of Medical Superintendents, hospital management and MoHSS management to advise the work of the PMT while ensuring the interest and the expertise of WCH and KIH are taken into consideration and leveraged for a successful planning and implementation phase.

6.3 PHASE 3 - FACILITATE IMPLEMENTATION

In the third and final phase, the PMT, advised by the ILG, will be responsible for the implementation of the steps involved with the actual development of the National Academic and Referral Hospital. As a way to exemplify, see below a non-exhaustive list of the steps that should be taken in this final phase:

- Oversee the implementation of short term structural changes to existing hospitals;
- Oversee the implementation steps of the alignment changes;
- Lead the definition of the requirements for the integrated institution as per Scenario III, for bidding purposes;
- Lead the bidding process for new Institution and successful bidder is approved by SC;
- Oversee the implementation of building the National Academic and Referral Hospital;
- Phase-out the old hospitals and phase-in of a facility.

During the third Phase, the SC and the ILG will define the new Management and Medical organizational structure to lead and manage the new National Academic and Referral Hospital. As a way to illustrate the ideal process and provide an estimate of the timeline involved, Table 12 on the next page summarizes the steps aforementioned above.

Table 12. Recommendations – Immediate Timeline

			Year 1				Year 2				Year 3	Year 4	Year 5	Year 6	Year 7
			Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8					
Phase 1: Envision Change	1	MoHSS to facilitate OPM endorsement for Scenario III: Full Asset Merger	X												
	3	MoHSS and OPM faciliate a stakeholder facilitation processs													
	4	OPM to create and lead the Steering Committee (SC)		X											
	5	SC to define and approve new governance structure		X	X										
	6	SC to define and approve the final vision for the National Academic and Referral Hospital		X	X										
	7	SC to define and approve the expected cost and source mix of funding to achieve the vision		X	X	X									
Phase 2: Develop Action Plan	8	SC to establish a Project Management Team (PMT) composed of non-government specialists and experts in medical education, logistics, engineering, medical architecture, hospital management, finance, etc.			X	X	X								
	9	PMT to recognize, prioritize, and quantify in financial terms the structural changes identified in Scenario I and II					X	X							
	10	PMT to recognize and prioritize the alignment changes identified in Scenario II						X	X	X					
	11	PMT to recognize and prioritize the elements leading to medical training integration							X	X					
	12	SC to define and approve the Institution's Leadership Group (ILG) - the future leaders of the integrated management structure					X	X							
	13	PMT and ILG to define the implementation steps of the integrated institution							X	X					
Phase 3: Facilitate Implementation	14	PMT to oversee the implementation of short term structural changes and improvements to existing facilities							X	X	X				
	15	PMT and ILG to oversee the implementation steps of the alignment changes									X				
	16	PMT to lead the definition of the requirements of the integrated institution as per scenario III for bidding purposes									X				
	17	PMT Leads the bidding process for new Institution and successful bidder is approved by SC										X			
	18	SC and ILG define the new management and medical organizational structure											X	X	X
	19	PMT oversees the implementation of building the new Institution												X	
	20	Medical services at the old facilities are phased out and transitioned to new structure													X

ANNEX

ANNEX A: TEAM MEMBER BIOGRAPHIES

Louise Myers, technical lead, has extensive experience in health care leadership, governance, and management. She has provided technical support to advisory boards and board of directors, and has supported the development of management capacity for health care leaders through numerous international consultancies. Ms. Myers has over 20 years of experience as a hospital administrator at a major US academic teaching hospital. She has also provided consultation on health care facility design and construction in the Republic of Georgia, Albania, Argentina, and Tanzania and was the project director of Facility Design & Construction for a $95M not-for-profit private 200-bed tertiary-level hospital in Gaborone, Botswana. She holds a MSW in Social Work Administration and Policy and a Post-Masters Graduate Certificate in Health Care Administration.

Jean Margaritis, technical coordinator, has worked at the national and provincial levels in southern Africa and Asia to facilitate national ownership of health programs and has provided technical assistance in the areas of structural and organizational design with a particular focus on the inclusion of socio-economic and cultural considerations. During her five years working in Lesotho, where she worked with district health facilities and programs, she was an advisor to the District AIDS Coordinator in Lesotho. She was also the Director of Programs for a local nonprofit that interfaced with health facilities to improve service delivery and health financing for vulnerable populations by addressing socio-economic barriers. She holds a MSc in Social Development and Health and a Post-Masters Graduate Certificate in Health Care Management.

Peter Cowley, Sr. technical advisor, recently headed the Abt-managed and USAID-funded Health Systems Strengthening Project in the Republic of Georgia. Prior to moving to Georgia, he worked in Cambodia where he coordinated efforts to combat HIV/AIDS in a concentrated epidemic setting in addition to overseeing, monitoring, and evaluating TB and malaria control activities. Dr. Cowley's previous in country work has concentrated on working on HIV/AIDS in the Ugandan business sector and running a large integrated private sector and health initiative. Prior to moving to Uganda, Dr. Cowley worked at the World Bank where he authored numerous peer reviewed articles concentrating on the cost-effectiveness of health interventions. Dr. Cowley is a physician with deep technical skills especially around HIV/AIDS, cost-effectiveness and engaging the private health care sector. His technical skills are augmented by practical experiences leading large health projects in the developing world.

Donald Hlahla, Sr. technical advisor in the areas of academic integration and human resources, is an experienced organizational development professional with extensive regional experience working with Ministries in the areas of change management, stakeholder relationships, organizational restructures and human resources. He has worked with numerous regional Ministries to develop human resource management systems and performance management. He was the Dean of Graduate Studies at the International University of Management in Namibia and has managed human resource departments and divisions. He holds diplomas in Human Resource Management as well as Education, in addition to a Master's in Business Administration and Bachelors in Education. Mr. Hlahla is based in Windhoek, Namibia.

Claire Jones, Sr. technical advisor in the area of finance and planning, has extensive experience providing assessments of financial management systems, reviews of financial policies and procedures, internal audit services, development of strategic plans and business plans, monitoring and evaluation, impact assessments, reviews of budgets, and development of logistical frameworks. As the Country Manager for Health Systems 20/20, Ms. Jones has been involved in the institutionalization of resource tracking, development of a health care financing strategy, organizational development support for the Health Information Systems Directorate, revision of Namibia's Health Facilities Norms and Standards document as well as support to the development of standardized criterion for resource allocation in the public health sector. She holds a Master of Commerce in Financial Management Sciences and is based in Windhoek, Namibia.

Dylan Lukes, team member, is currently finishing his Master's in Public Policy (MPP) from the University of Chicago with academic interests in econometric techniques, program evaluation, human capital acquisition, and microeconomic foundations. Prior to working for Abt Associates he attended the University of Edinburgh where he attained a Master's in Economics (MSc). Subsequently, Dylan worked as a consultant for a TMT advisory and investment firm in the Middle East where he was extensively involved in project management and strategic operations for the post-paid retail sector in Saudi Arabia. Dylan's passion for international development stems from his intimate experience with South African politics and many of those involved in the anti-apartheid movement pre-South Africa Independence.

Jawara Lumumba, Sr. technical advisor in the areas of governance and academic integration, and has over 20 years of experience assisting institutions to undertake transformational change through strategically planning in order to achieve organizational result. He has extensive regional experience working with Ministry departments in their decision-making processes to undertake realignment approaches consistent with clarified visions and new strategic direction, including facilitating interventions to help staff clarify roles and responsibilities for adjusting to new organizational structures, and providing executive coaching to key senior leaders. Mr. Lumumba has a J.D. from Stanford University.

Michael P. Rodriguez, Sr. technical advisor for data and information use, has extensive experience leading reviews of hospital, clinic, and national level health information systems in Southern Africa and in the United States. Mr. Rodriguez has worked collaboratively with health facilities to improve their data and information management processes to focus on achieving quality outcomes, both through the implementation of peer-learning collaboratives and of team-oriented performance incentive programs. He wears two hats for this activity: as a technical advisor for the feasibility study and as the Team Lead for the Health Systems 20/20 Namibia project, under which this activity falls. Mr. Rodriguez holds an MA in Political Science.

Naz Todini, Sr. technical advisor in the areas of finance and planning, is an International Public Financial Management professional with more than 20 years of experience, focusing on the establishment, maintenance, and review of Financial Management systems in Ministries of Health. He has extensive experience supporting Ministries of Health in the preparation of plans and budget submissions, with particular attention to creating the appropriate linkages between the planned activities, the overall MoH strategy and the Health Sector budget. He also has significant experience managing USAID, Global Fund, and World Bank programs and activities with a focus on financial modeling of cost scenarios. Mr. Todini has an MSc in Accounting.

Rod Wilson, technical consultant, has spent a major part of his career as a building services design consultant in Namibia and the UK. He came to Africa in the mid-1970s, having had experience on the operating theatre design at the Royal Mansfield Hospital in the UK, to design and supervise the construction of the major hospitals in Namibia. He went on to be the resident engineer on the University of Namibia and the Princess Marina hospital in Gaborone, Botswana. Mr Wilson has twenty-five years of experience in the design, supervision, and construction management of hospital facilities culminating in the design and construction of many regional clinic mortuaries throughout Namibia. He holds a Post Graduate Diploma (MSc) in Environmental Engineering from South Bank University, London.

ANNEX B: LIST OF STAKEHOLDERS INTERVIEWED

Name	Position
A.N. Ndishishi	Permanent Secretary; MoHSS
Anna Isaks	Chief Human Resource Practitioner
Bertha Katjivena	Director; PPHRD
Charmaine M. Jensen	Head of Environmental Health Sciences
Deqa Ali	I-Tech Namibia Project Director Officer
Dr. A.C. Obolzer	Chief Medical Officer; WCH - MoHSS
Dr. Amagulu	Chief Medical Officer OB/GYN – MoHSS
Dr. Basernero Apollo	Quality Assurance Unit – MoHSS
Dr. Elizabeth Shino	HOD Human Sciences Department
Dr. Judmann	Katutura Medical Superintendent - MoHSS
Dr. K.H. Kakangombe	Chief Medical Officer, Paramedical, Windhoek Central Hospital; MoHSS
Dr. Katjitae	KIH & WCH Head of Internal Medicine
Dr. L.L. Ndaningiwa	Chief Medical Officer
Dr. Manoju Kamble	Chief Surgeon; WCH & KIH
Dr. N.T. Hamata	Deputy Special Advisor to MoHSS
Dr. Norbert Forster	Deputy Permanent Secretary; MoHSS
Dr. Pretorius	Coordinator, Clinical Education Unit
Dr. S. Amadhila	Specialist; Rhino Park Hospital
Dr. Sarah Shalongo	Medical Superintendent, WCH; MoHSS
Dr. T. Ithindi-Shipanga	Under Secretary; Department of Regional Health & Social Welfare Services; MoHSS
Dr. Timothy Rennie	Associate Dean of UNAM School of Pharmacy
Eunice A Gonzo	Clinical Psychologist
Ihuhwa Josia	Chief Quality Assurance Officer; KIH
Jennifer Katekaine	USAID, Health Systems Strengthening Advisor
Juan Van Wyk	Chief Control Officer
Julie Neumbo	Senior Matron, WCH; MoHSS
Julie-Anne Clarke	Clarke Architects Principal
K Hofnie-Hoebes	Acting Associate Dean; UNAM Medical School
Kasee Ithana	Director Synergos
L Kalondo	HOD; Allied Health
L Van Der Westhuizen	Deputy Associate Dean; School of Nursing & Public Health
Len le Roux	Senior Director
Matt Rosenthal	USAID/Namibia
Melissa Jones	USAID/Namibia
Mr. A.K. Mwazi	Under Secretary; Department of Works

Mr. Hendricus Beukes	Director; Finance & Logistics
Mr. Ihuhwa Josia	Chief Quality Assurrance Officer, Katutura
Mr. Juan Van Wyk	Chief Control Officer - Windhoek Central Hospital
Mr. P. K. Ndaitwa	Under Secretary of Policy Development & Resource Management
Mr. Peter Mwatile	Permanent Secretary; MoWT
Mr. Thomas Mbeeli'	Deputy Director; PPHRD
Mr. Weyulu	Registrar of Health Professions Council
Ms. Celine Usiku	Usiku Director, HRM & General Services; MoHSS
Ms. Elizabeth Muremei	Director of Khomas Region
Ms. Ella Shihepo	Director of Special Programs; MoHSS
Ms. Kufuna	Acting Director of Health & Social Welfare Services
MS. L. Karises	Deputy Director; MoF
Ms. P.K. Nghipandulwa	Director of Tertiary Care; WCH
Ms. Erica Shafudah	Permanent Secretary; Ministry of Finance
Mwitumwa Mungandi	Deputy Director of Architectural Services; MoWT
P Angula	HOD, Public Health
Pamela McQuide	COP; IntraHealth
Permanent Secretary	State Owned Enterprises Governing Council
Professor C. Pieper	Medi Clinic Consulting Room
Professor John Matthews	Associate Professor & Head of Section
Professor Mchombu	Dean of UNAM Faculty of Social Sciences
Professor Peter M. Nyarango	Founding Dean; Namibia School of Medicine
Professor S. Moyo	Dean of PolyTechnic Faculty of Health & Applied Sciences
Rebecca Basirika	Technical Advisor, Capacity Building; MSH
Ronald Mugandiwa	Chief Architect; MoWT
S Kuugongelwa	HOD, Nursing Science
Sister Jacobs	RN, Psychiatric Department; WCH
Vincent Nowaseb	Head of Biomedical Department

ANNEX C: DATA TECHNIQUES

Respondent Validation

Respondent feedback, also referred to as a “member check” or “informant feedback”, involves a return to respondents with an account of the provisional findings. The team used this technique to gain clarity, improve accuracy and establish validity of a study. Respondent validation is based on the premise that those being interviewed, separate from the researchers themselves, may have a deeper understanding of the nuanced aspects of the problem being evaluated through positioned understanding, formulation of policy or experience.

Methodological Triangulation

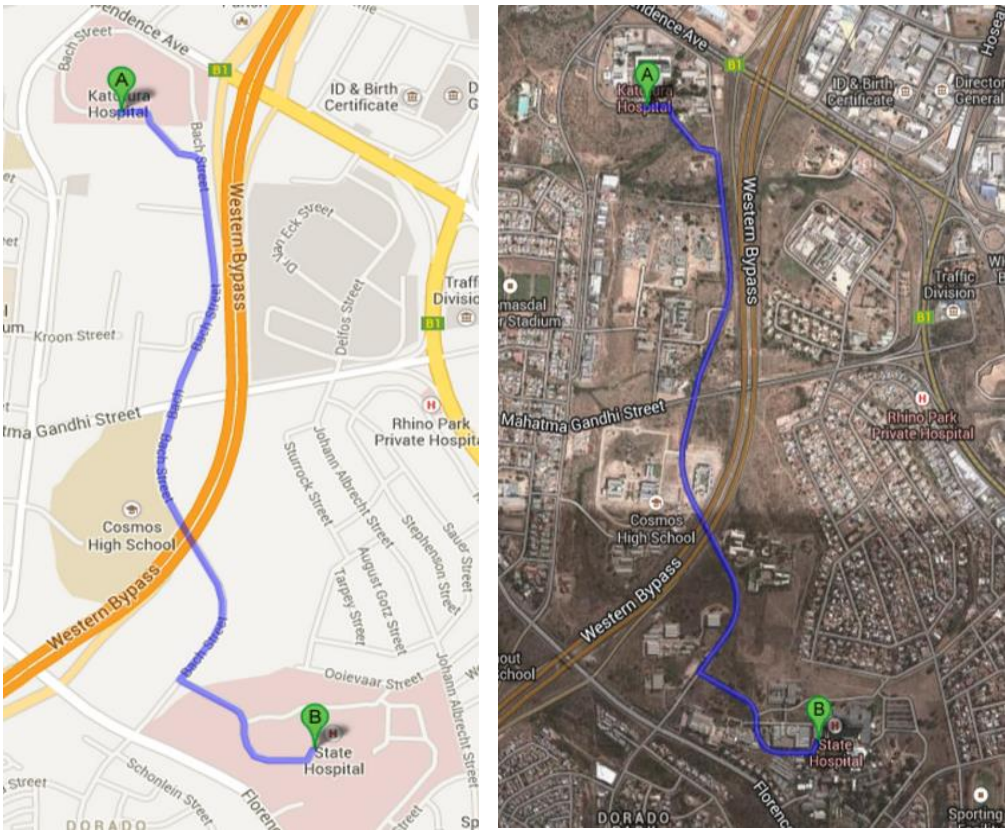
Methodological triangulation uses multiple qualitative and/or quantitative methods to evaluate a program. Results from interviews, surveys, focus groups, literature reviews and/or quantitative data are assessed and compared to ascertain whether or not similarities exist in outcomes thus establishing validity through cross-source corroboration and providing deeper insight and understanding to the problem and its many facets.

ANNEX D: DOCUMENTS REVIEWED

Document Name
African Development Bank: Namibia Country Strategy Paper 2009- 2013
Baobab Research & Training Institute Final Draft Report: Assessment of the National Quality Management Systems Used to Monitor & Improve Quality in Health Service Provision in Hospitals & Health Centers in Namibia; 2012
COHSASA Comments and Recommendations Report: Intermediate Hospital Katutura
COHSASA Comments and Recommendations Report: Windhoek Central Hospital
COHSASA: Intermediate Hospital Katutura Baseline Report 2013
COHSASA: Windhoek Central Hospital Baseline Report 2013
German Healthcare Partnership: Plausibility Check Namibia 2012
German Healthcare Partnership: Plausibility Check Namibia 2012, Debriefing
Government Gazette of the Republic of Namibia Council for Health and Social Services Professions Act 29; 1993
Government Gazette of the Republic of Namibia: Allied Health Profession Act 7; 2004
Government Gazette of the Republic of Namibia: Allied Health Services Professions Act 20; 1993
Government Gazette of the Republic of Namibia: Medical Aid Funds Act 23; 1995
Government Gazette of the Republic of Namibia: Medical and Dental Professions Act 21; 1993
Government Gazette of the Republic of Namibia: Namibia Nursing Association Act 28; 1993
Government Gazette of the Republic of Namibia: Namibia Water Corporation Act 12; 1997
Government Gazette of the Republic of Namibia: National Welfare Amendment Act 20; 1994
Government Gazette of the Republic of Namibia: Nursing Professions Act 30; 1993
Government Gazette of the Republic of Namibia: Pharmacy Profession Act 23; 1993
Government Gazette of the Republic of Namibia: Pharmacy Profession Amendment Act 22; 1994
Government Gazette of the Republic of Namibia: Social and Social Auxiliary Workers Professions Amendment Act 9; 1994
Government Gazette of the Republic of Namibia: State Owned Enterprises Governance Act; 2006d
Health Systems 20/20: Standard & Norms Analysis, 2012
Heating and Ventilation Systems - Health Technical Memorandum 03-01: Specialized Ventilation for Healthcare Premises
Human Resources for Health Draft Strategic Plan; 2012-2021 March 2012
I - TECH Namibia: Program Summary
Intermediate Hospital Katutura Situational Analysis 2012
Intermediate Hospital Katutura: Staff Establishment Chart
IntraHealth: WISN National Results
ITECH assessment of the School of Medicine
Katutura Intermediate Hospital: Annual Report 2012 – 2013
Katutura Intermediate Hospital: Staff Establishment Chart
Katutura Intermediate Hosptial: Staff Structures

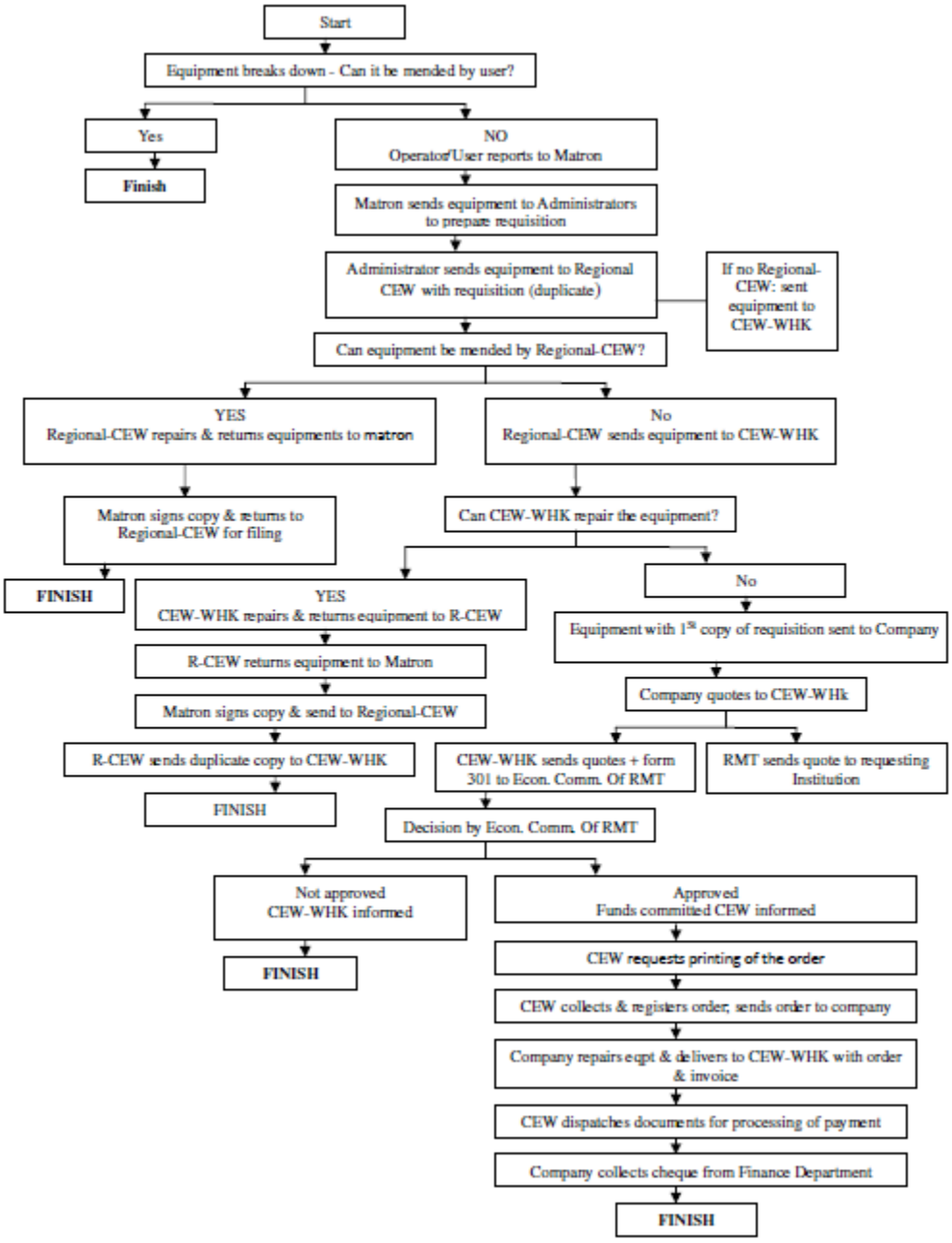
Key observations from analyzing national WISN data from Namibia; April 2013
Key observations from analyzing national WISN data from Namibia; June 2013
Medium Term Expenditure Framework 2012/2013 to 2014/2015
MoHSS - Referral System (2008, 2009, 2010)
MoHSS Annual report 2008/2009
MoHSS ARV Treatment: Pharmaceutical Management Information System Feedback Report
MoHSS National Health Policy Framework 2010-2020
MoHSS Organizational Chart; 2011
MoHSS Strategic Plan 2009 – 2013
MoHSS Training Network Assessment Report 2013
MoHSS: Assessment of National Health Information Systems 2012
MoHSS: Health and Social Services Review 2008
MoHSS: Proposed Structures of WCH and KIH
MoHSS: Report of the Presidential Commission of Inquiry 2013
MoHSS: Statement for 2012/2013 Budget
MoHSS: The Referral System 1998
MoHSS: Training Capacity Report, August 2012
Namibia Health Facility Census (HFC) 2009
Namibia National Health Accounts: 2001- 2006
Namibia National Health Accounts: 2007 – 2009
Namibia WISN analysis by region RLKA 2013
Namibia: UNAM's Medical School Strives for Excellence
Namibian WISN Brief for USAID
National Planning Commission: Namibia 2011 Population and Housing Census Preliminary Results
National Referral Policy and Guidelines
Operating Budgets /Cost Information on Hospital Operations for Windhoek / Katutura
Policy on Establishing New Health & Social Welfare Facilities or Services October 2000
Report of the Auditor-General of the Accounts of MoHSS 2012
Report of the Auditor-General of the Accounts of MoHSS: Provision of Health Services (2006, 2007, 2008)
Republic of Namibia: Namibia's Fourth National Development Plan 2012/2013 - 2016/2017
Richard Frankle & Partners Quantity Surveyors: Costing Estimates of Laparoscopic Theater
Synergos: Reviving an ambulance service
The Namibian: Trainee Doctors Set for the North
USAID: Namibia Private Health Sector Assessment
WCH Annual Report 2012 – 2013
WCH Mater Plan: Hospital Priorities for the Period of 2008- 2013
WCH: Extract of Master Plan; Urgent Facility Development Priorities for 2011-2013 Financial Year
WCH: Staff Structures
WCH Proposed Organizational Chart: June 2013

ANNEX E: KATUTURA AND WINDHOEK LOCATION



Google Maps: Total Distance: 2.7 km: Trip Time: 4 minutes (by vehicle)

ANNEX F: PROCUREMENT CHART FOR BORKEN EQUIPMENT



ANNEX G: ESTIMATED COSTS OF MEDICAL INTERN AT KIH

Type of Costs (Estimated per Intern)	N$/Month (per Intern)
Diagnostics (Laboratory, X-Rays, etc.)	38,000
Therapy (Medicines, Length of Stay, etc.)	20,000
Accommodation, S&T, etc. when in WDH and OKH and RHB (average)	7,800
Salaries and Benefits	28,360
Other Conditions of Service (Petrol fees for transport usage during stay)	1,345
Total	95,805

Source: Internal Budget Memo MoHSS, Office of the Senior Medical Superintendent, pg. 5

ANNEX H: ANALYSIS OF KIH AND WCH MATERNITY CONSOLIDATION

Table H1. WCH FY 2012/2013 Maternity Statistics

Type	Value	Description
Maternity Beds in Use	103	2010 Situational Analysis document
Beds Needed to Accommodate Existing Volume	50	Calculation, at 90% BOR.
Calculated Number of Bed-Days for Deliveries	16,405	Based on 3 days average stay for normal deliveries and 5 for C-sections
Maternity Occupancy Rate	48%	Implicit occupancy rate
Total Annual Deliveries	4,447	2013 WCH Annual Report
Annual Normal Deliveries	2,915	Manual Calculation
Annual Caesarian Sections	1,532	2013 WCH Annual Report

Table H2. KIH 2012/13 Maternity Statistics

Type	Value	Description
Maternity beds in use	112	From 2010 Situational Analysis
Beds needed to accommodate existing volume	72	Calculation, at 90% BOR
Number of bed-days for deliveries	23,732	Based on 3-day ALOS for normal deliveries and 5-day for C-sections
Maternity occupancy rate	65%	Implicit occupancy rate
Total annual deliveries	6,847	2013 KIH Annual Report
Annual normal deliveries	5,251	Manual calculation
Annual caesarian sections	1,596	Based on 2011 WISN % ratio

Table H3. Projected Consolidated C-sections WCH

Type	Value	Description
Maternity beds currently available at WCH	103	From 2010 Situational Analysis document
Beds needed to accommodate combined existing volume	122	Calculated
Number of additional bed-days	19	Calculated

needed to support combined deliveries		
Maternity occupancy rate	90%	Goal
Total annual deliveries	11,294	Calculated
Annual normal deliveries	8,166	Calculated
Annual caesarian sections	3,128	Calculated

Table H4. Consolidated C-sections WCH

Type	Value	Description
Time needed for C-section	4	Hours (WISN activity standard, 2011)
Time spent in OR	1.5	Hours including preparation and cleaning[109]
Theoretical maximum yearly C-section per OR	5,840	Calculated
Annual caesarian sections expected	8,166	Calculated
Deficit of available OR time	28.5%	Calculated

[109] Professional estimate. Average length of procedure 35-40 minutes in literature.

ANNEX I: HEALTH AND SAFETY RENOVATION COST ASSUMPTIONS

Table I1. KIH Health and Safety Renovation Costs (One Floor)

Renovation Activity	Area m2	N$ cost per m2	Total N$
Building Works *excluding* structural work ▪ Ceilings ▪ Partitions ▪ Flooring ▪ Glazing ▪ Doors	2,192	4,467	9,791,632
Strip-Out ▪ Demolition ▪ Removal ▪ Disposal	2,192	500	1,096,000
Services ▪ Medical gases ▪ Ventilation ▪ Electrical ▪ Fire protection ▪ Water and sewage	2,192	1,162	2,546,568
Nursing call station			3,612
Professional Fees ▪ Architect ▪ Structural engineer ▪ M&E engineer ▪ Quantity surveyor	2,192	1,162	2,546,568
Total		**8,203**	**$17,983,927**

Table I2. KIH & WCH Health and Safety Renovation Costs (Total)

Health and Safety Renovation			
Description	**Estimated cost**		
	WCH	**KIH**	**TOTAL**
Patient Wards Renovations	89,840,000	143,871,416	233,711,416
Passenger and Service Elevators	-	9,000,000	9,000,000
Subtotals	**89,840,000**	**152,871,416**	**242,711,416**

ANNEX J: AMBULATORY SURGERY CENTER COST ESTIMATES

Assumptions:

- ASC to be placed in the space vacated by maternity at KIH
- Operating rooms to be located in the space that is used as OR's for maternity (on upper ground floor of maternity building)
- Allocated OR space allows for 4 ambulatory surgery rooms and 1 endoscopy room as well as prep rooms, scrub rooms, etc.
- Current postnatal care, neonatal intensive care unit, and prevention of mother-to-child transmission (PMTCT) and antenatal care space on basement floor of KIH Maternity Unit to be converted into the following:
    - Registration area
    - Changing rooms
    - Anaesthesia interview rooms
    - Recovery rooms
    - Annual inflation rate used to adjust historical cost estimates: 5%

J1. Ambulatory Surgery Center

Space	Estimated sqm	Estimated Renovation Cost per sqm	Total Estimated Cost
Registration Reception Area	65	6,719.74	436,782.94
Offices	55	6,719.74	369,585.56
Nurses Station	34	6,719.74	228,471.08
Circulation	650	6,719.74	4,367,829.38
Changing Rooms	194	6,719.74	1,303,629.08
Anesthesia Pre-Med Rooms	66	6,719.74	443,502.68
Anesthesia Interview Room	66	6,719.74	443,502.68
4 Ambulatory Surgery Rooms including Prep & Scrub Rooms	184	12,169.40	2,239,168.68
1 Laparoscopic Surgery Room including Prep & Scrub Rooms	45.3	12,169.40	551,273.59
Sub-Total for Building Work	***1,359.00***		***10,383,745.65***

J2. Lower Ground Floor Ambulatory Center Post-Op Recovery (Stretcher)

Space	Estimated sqm	Estimated Renovation Cost per sqm	Total Estimated Cost
Nurses Station	20	6,719.74	134,394.75
Circulation	150	6,719.74	1,007,960.63
Toilets	35	6,719.74	235,190.81
Post-Op Recovery Room (Stretcher)	430	6,719.74	2,889,487.13
Treatment and Examination Rooms	198	6,719.74	1,330,508.03
Ancillary Accommodation	170	6,719.74	1,142,355.38
Sub-Total for Building Work	***1,003.00***		***6,739,896.71***

J3. Lower Ground Floor Ambulatory Center Testing and Waiting

Space	Estimated sqm	Estimated Renovation Cost per sqm	Total Estimated Cost
Waiting Room	60	6,719.74	403,184.25
Circulation	25	6,719.74	167,993.44
Duty Room	25	6,719.74	167,993.44
Testing Room	50	6,719.74	335,986.88
Treatment and Examination Rooms	100	6,719.74	671,973.75
Ancillary Accommodation	64	6,719.74	430,063.20
Sub-Total for Building Work	***324.00***		***2,177,194.95***

J4. Lower Ground Floor Ambulatory Center Post-Op Recovery (Sit-Up)

Space	Estimated sqm	Estimated Renovation Cost per sqm	Total Estimated Cost
Nurses station	20	6,719.74	134,394.75
Circulation	344	6,719.74	2,311,589.70
Toilets	35	6,719.74	235,190.81
Post-Op Recovery Room(Sit-Up)	430	6,719.74	2,889,487.13
Treatment and Examination Rooms	200	6,719.74	1,343,947.50
Ancillary Accommodation	170	6,719.74	1,142,355.38
Sub-Total for Building Work	***1,199.00***		***8,056,965.26***

J5. Equipment & Installation Cost Estimate for Surgery Rooms*

Equipment	No. of Units	Estimated Unit Cost	Total Estimated Cost
Scrub-Up Units (2 units per Theatre)	10	38,036	380,362
Digital Theatre	5	5,714,880	28,574,403
Anesthesia Machine	5	886,053	4,430,265
Theatre Table	5	530,307	2,651,538
Theatre Lights	5	706,135	3,530,676
Pendants & Medical Panel	5	2,315,237	11,576,186
Laparoscopic Set	1	354,894	354,894
Sub-Total for Building Work			***51,498,328***

**estimate is based on quotation provided by Richard Frankle & Partners Quantity Surveyors for a Laparoscopic theatre at KIH*

Costing Notes

Renovation costs for OR and non-OR spaces costs per square meter are based on the quotation provided by Richard Frankle & Partners Quantity Surveyors for the renovation of one of the ORs at KIH to convert it to a laparoscopic theatre.

The Richard Frankle document provided different figures for the renovation of the OR and non-OR spaces. We have used the OR renovation costs for the Ambulatory Surgery rooms and the Endoscopic Surgery room, while we have adapted the renovation costs for non-OR spaces to serve as our basic renovation cost for non-OR spaces throughout.

These rates have been adjusted for inflation for two years using an inflation rate of 5%.

The rate for basic renovations is different to the renovation costs included in Scenario I as it does not include all of the more substantial mechanical and electrical work outlined in Scenario I.

Current Lower Floor at KIH Maternity:
The cost applied to the renovation of this space is limited to basic renovation (as referred to above) and none of the testing equipment has been included.

ANNEX K: OUTPATIENT CENTER COST ESTIMATES

Option 1: Renovation - located in the space vacated by relocating the current TB ward at KIH

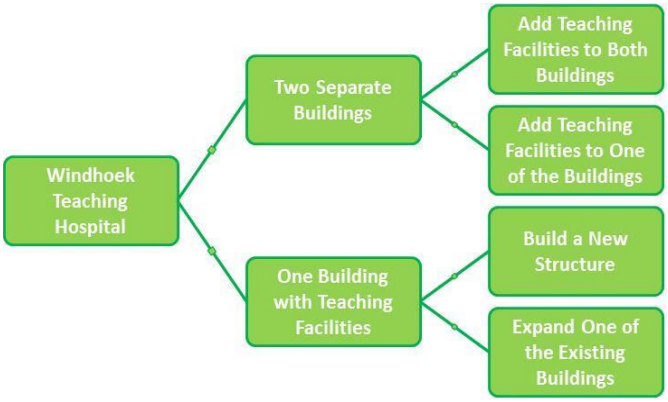
Space	Estimated sqm	Estimated Renovation Cost per sqm	Total Estimated Cost
Registration Building	600	6,719.74	4,031,842.50
Waiting area	335	6,719.74	2,251,112.06
Nurses station	72	6,719.74	483,821.10
Offices	412	6,719.74	2,768,531.85
Passages	750	6,719.74	5,039,803.13
Supply & Ancillary	400	6,719.74	2,687,895.00
Toilets	88	6,719.74	591,336.90
Trash holding area	50	6,719.74	335,986.88
Observation room - 10 beds	112	6,719.74	752,610.60
12 consultation rooms	287	6,719.74	1,928,564.66
Teaching Space	494	6,719.74	3,319,550.33
Total Estimated Renovation Cost	***3,600.00***		24,191,055.00

Option 2: New Construction

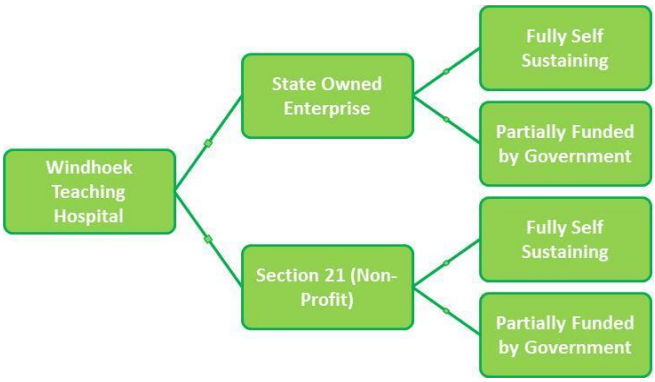
Space	Estimated sqm	Estimated Renovation Cost per sqm	Total Estimated Cost
Registration Area	400	17,649	7,059,600
Waiting Area	300	17,649	5,294,700
Nurses Station	72	17,649	1,270,728
Offices	400	17,649	7,059,600
Passages	500	17,649	8,824,500
Supply & Ancillary	400	17,649	7,059,600
Toilets	88	17,649	1,553,112
Trash Holding Area	50	17,649	882,450
Observation Room - 10 beds	144	17,649	2,541,456
4 Pods of 3 Consultation Rooms Each	204	17,649	3,600,396
Total Estimated Renovation Cost	***2,558.00***		45,146,142

ANNEX L: CHOICE POINTS

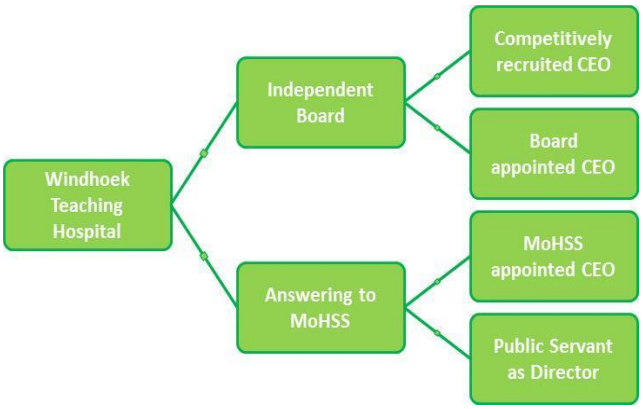
Decision Point 1: The Physical Structure of the New Entity



Decision Point 2: The Legal Structure of the New Entity



Decision Point 3: The Governance Structure of the New Entity



ANNEX M: STAKEHOLDER MATRIX

Group	Description
Prime Minister	Office of the Prime Minister
Commissions	National Planning Commission
	Public Service Commission
Ministries	Ministry of Education (MoE)
	Ministry of Finance (MoF)
	Ministry of Health and Social Services (MoHSS)
	Ministry of Home Affairs & Immigration (MHAI)
	Ministry of Works and Transport (MoWT)
Other	Community Members
	International Partners
	Medical Aid Schemes
	Private Sector
	Professional Councils
	Training Institutions

NB: Not an exhaustive list