NATIONAL HEALTH LABORATORY SERVICE

Annual Performance Plan

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Approved

NATIONAL HEALTH LABORATORY SERVICE

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LIST OF ABBREVIATIONS

AARQA	Academic Affairs, Research and Quality Assurance
AIDS	Acquired Immune Deficiency Syndrome
AG	Auditor-General
CCMT	Comprehensive Care, Management and Treatment
CD4	Immune level indicator
CDC	Centers for Disease Control and Prevention
CSIR	Council for Scientific and Industrial Research
CEO	Chief Executive Officer
DCST's	District Clinical Support Teams
GIS	Geographic Information System
HCT	HIV Counselling and Testing
HIV	Human Immunodeficiency Virus
HPCSA	Health Professions Council of South Africa
ICT	Information and Communication Technology
ISO	International Organisation for Standardisation
LIS	Laboratory Information System
MTSF	Medium Term Strategic Framework
NAPHISA	National Public Health Institute of South Africa
NDP	National Development Plan
NDoH	National Department of Health
NHA	National Health Act
NHI	National Health Insurance
NHLS	National Health Laboratory Service
NICD	National Institute for Communicable Diseases
NIOH	National Institute for Occupational Health
NPP	National Priority Programme
NPPU	National Priority Programme Unit
NSF	National Stakeholder Forum
OHSACT	Occupational Health and Safety Act
PAIA	Promotion of Access to Information Act
PDPs	Personal Development Plans
PHC	Primary Health Care
PMTCT	Prevention of Mother to Child Transmission
POCT	Point-of-Care-Testing
POPI	Protection of Personal Information Act

QMS	Quality Management System
SANAS	South African National Accreditation System
SOPs	Standard Operation Procedures
STATS SA	Statistics South Africa
TAT	Turn Around Times
TB	Tuberculosis
TRIPS	Trade Related Aspects of Intellectual Property Rights
USA	United States of America
WHO	World Health Organization

MINISTER'S FOREWORD

The National Health Laboratory Service's (NHLS) Annual Performance Plan (APP) for the 2019/20 financial year is based on the five-year Strategic Plan (2015/16 – (2019/20), which is aligned to the new mandate of the reformed health sector and the National and Regional Burden of Disease Surveillance. This positions the NHLS to contribute towards the achievements of the Medium Term Strategic Framework (2014-2019); the Sustainable Development Goals; the National Development Plan: Vision 2030; and the National Department of Health strategy.

The NHLS is the main provider of clinical support services to the national, provincial and local departments health through its countrywide network of diagnostic laboratories. It conducts diagnostic tests, produces hig acclaimed research, and provides teaching and training for medical technicians, medical technologists a pathologists. The NHLS also provides surveillance support for communicable diseases, occupational health a cancer.

I am encouraged by the NHLS's commitment to ensure that the entity continues to provide quality, affordable and sustainable health laboratory and related public health services to all public healthcare providers, other government institutions and any private healthcare provider in need of service through this plan.

I thank the NHLS Board and the staff for the development of this APP and wish them success in the executior this plan.

DR ZWELINI MKHIZE, (MP)

MINISTER OF HEALTH

CHAIRPERSON'S FOREWORD

As the medium term 2015-2020 comes to an end, the NHLS continues to provide quality laboratory service to the public health sector at low cost by its skilled staff. The NHLS Strategic Plan is focused on its mandate to provide cost-effective and efficient health laboratory service, support health research and provide training for health sciences education. The NHLS continues to make progress in a number of areas including laboratory services efficiency, financial stability, retention of professional staff and maintaining staff turnover of the less than 5%. There are, however, challenges facing the NHLS going forward. These include increase in personnel and technology expenditure, and meeting increased service demand at lower cost. This Strategic Plan provides a path forward for the NHLS to:

- Ensure accessible pathology service, which subscribes to international standards, aligned to the national goal of modernised and accessible laboratory service.
- Academic excellence as the foundation for meeting its training and research mandates.
- Sound governance and improved stakeholder relations to ensure sound corporate governance and to ensure that regular payments are made by users to the NHLS service.
- Effective, efficient and ethical organisation for improved service delivery and implementation of NHI.
- Efficient financial practices to ensure efficient financial management, policy and practices and strengthen the management of financial resources and procurement processes.
- Skilled, competent and motivated workforce, which is the foundation of any successful organisation.

The NHLS enters this Strategic period with a below inflation annual increase of 5% in tariffs, and a 5.8% budget cut in conditional grants and transfer payments for the 2019/20 financial year. It needs to cover increased costs in the face of the constrained government budgets. While financial performance has improved, more will need to be done to further improve value for money. The NHLS will continue to implement its cost containment plan and improve on operational efficiencies. This Annual Performance Plan sets the path to be followed to enable this.

The NHLS programme to improve the quality and efficiencies in the laboratories will continue, as will efforts to provide pathologist cover across the country. It will also enhance its processes for revenue collection and it billing system to improve cash flow. It will implement its HR plan to ensure effective distribution of human resource across its laboratories and continue to support universities and universities of technology., The NHLS will implement its updated research agenda to increase the knowledge base on disease and influence the decisions taken to diagnose, treat and care for priority

diseases. The implementation of the national procurement and infrastructure plans will provide a basis for the NHLS to continue to provide quality laboratory service timeously.

Information Technology (IT) is integral to enabling effective and efficient patient centred service delivery. It is for this reason that the NHLS shall invest in modernised, innovative and efficient IT systems.

Conclusion.

The NHLS will continue play its essential role in the provision of quality and affordable pathology services to the entire country. We cannot achieve this without the dedication and loyalty of our staff. I would therefore, like to thank the NHLS staff for their dedication and for the contribution they will make to the achievement of the NHLS' strategic goals.

Professor Eric Buch

Chairperson of the Board (NHLS)

OFFICIAL SIGN OFF

It is hereby certified that this Annual Performance Plan was:

- Adopted by the management of the National Health Laboratory Service (Herein under referr as "The NHLS") under the guidance and support of the Board;
- Takes into account all the relevant policies, legislation and other mandates for which the NHI responsible; and
- Accurately reflects the strategic goals and objectives which the NHLS will endeavour to achie over the period 2019/20.

Ms Violet Gabashane
SENIOR MANAGER: Monitoring and Evaluation

Mr Michael Sass
ACTING CHIEF FINANCIAL OFFICER

Dr Karmani Chetty
ACTING CHIEF EXECUTIVE OFFICER

Professor Eric Buch
NHLS BOARD CHAIRPERSON

Dr Zwelini Mkhize (MP)
EXECUTIVE AUTHORITY, MINISTER OF HEALTH

PART A: STRATEGIC OVERVIEW

1. Situational Analysis

1.1 Performance Environment

1.1.1. The Landscape in South Africa

Medical testing laboratories are distributed across the public and private health sector in South Africa. The NHLS was established in 2000 by an Act of Parliament to provide pathology services for the public health sector, servicing over 80% of the population across all nine provinces. The population of South Africa is growing rapidly with recent figures suggesting 56,52 million individuals (STATS SA, July 2017, mid-year population estimates) who require healthcare compared to the 53,7 million estimated in 2014, just prior to the development of the current 5-year strategic plans. The demographics, geographic distribution and prevalence of disease contribute greatly to the type and capacity of laboratory services required.

Gauteng (14,3 million) is the most highly populated province, followed by KwaZulu-Natal (11,1 million). Both provinces are characterised by migration and significant population influxes. South Africa has a population of young people, with at least 29.6% being younger than 15 years of age and only 8% being older than 60 years. Life-expectancy varies across gender and age groups, with males having a significantly lower life-expectancy rate than females at 61,2 years versus 66,7 years, respectively. Nearly 1 million births occur per annum with most occurring to mothers in the 20-24-year age group (31%) and an alarming number in the 10-19 year (13.9%) category (STATS SA, 2016: recorded live births).

The priority diseases in South Africa remain the HIV and TB epidemics, which require significant volumes of testing to support their management, the sheer burden of which is unparalleled globally. With the increased pressure of the HIV 90-90-90 targets and END TB strategies, this is likely to remain an important mandate of the NHLS. The prevalence of HIV is estimated at 12.6% for the general population and rises to 18% in the 15-49-year age group. Over 7 million South Africans are HIV infected with approximately 4,3 million individuals on antiretroviral therapy. The recent WHO report confirms the unique nature of these epidemics in South Africa where high rates of co-infection occur, further challenging diagnostic assay algorithms and needs (WHO, Global Tuberculosis Report, 2017). At least 69% of TB cases are co-infected with HIV. Tuberculosis has shown signs of decline in South Africa, but a prevalence of 380/100 000 (210-590) and incidence of 450/100 000 (400-510) confirm that there is still much to be done. As treatment progress has been made, an inevitable consequence has been the development of both HIV drug resistance and multi/extremely

drug-resistant (MDR/XDR) TB, requiring new technological approaches to diagnosis and monitoring. The rapid acceleration plans for HIV and TB treatment access will have a knock-on effect on the NHLS that will require significant programme review with the automation, modernisation, consolidation and integration of laboratory platforms and services to ensure affordability. The accelerated HIV treatment initiation plan alone will impact heavily on the investment requirements of the NHLS, if the targets of 6 million on treatment by 2019/2020 are to be realised.

The most recent mortality reports reflect that tuberculosis remains the leading cause of natural deaths, followed closely by diabetes and cardiovascular disease. Non-communicable diseases (NCDs) now contribute to 60% of the top ten causes of death (STATS SA, Mortality and causes of death 2015, released February 2017). This will require significant strategic planning for supportive laboratory services.

A wave of non-communicable diseases is likely to add further requirements to laboratory services with Cancer predicted to increase by at least 30% by 2030 with annual figures reaching an estimated 10 million cases (Lancet, 2017). In a recent survey in rural South Africa, high rates of stroke, cardiovascular disease, hypertension and dyslipidemia were noted in addition to HIV, with at least 56% of individuals having two or more of these diseases (Hofman, 2014: SAMJ). By 2030 it is predicted that NCDs will account for over 6-fold more morbidity than Communicable Diseases. Due to the high burden of communicable diseases, NCDs have not been the priority of the National Department of Health and have not received enough attention. However, this is changing as demonstrated by the national public health policies released recently to facilitate national access to diagnosis and care for Cervical and Breast Cancers (NDOH Breast cancer, Prevention and control policy; Cervical cancer policy, August 2017). In addition, occupational, environmental and safety risk factors, including workplace exposures and injuries, are significant contributors to the global burden of diseases and to morbidity and mortality (The Lancet 2016 Vol 388, Issue 10053, p1659-1724). These examples clearly demonstrate the increasing need and greater investment in precision laboratory medicine to facilitate greater prevention in public health. Much needs to be done on the laboratory front where there are only 230 pathologists serving the public sector and only 75 anatomical pathologists [1 per 750 000 of the population (NHLS, 2017)].

This occurs against the backdrop of a decline in economic growth, budget deficits and rising healthcare costs. There is, thus, a huge role for embedding innovation into the culture of the organisation.

1.2 Organisational Environment

1.2.1. Network of Laboratory Services

The NHLS is a national public entity established in terms of the National Health Laboratory Service Act 37 of 2000 to provide quality, affordable and sustainable health laboratory and related public health services to all public healthcare providers, other government institutions and any private healthcare provider in need of service. It was also mandated to support health research and provide training for health science education.

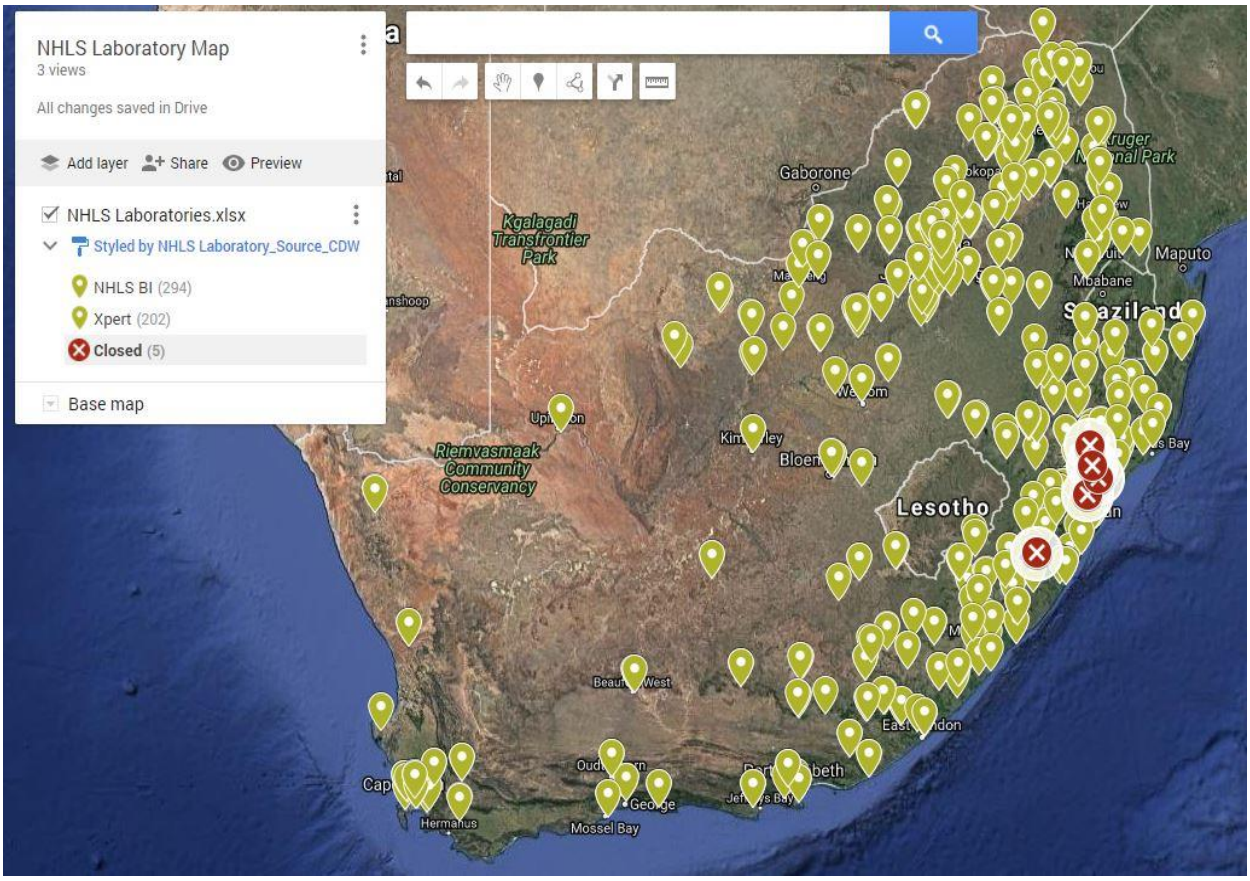
It was designed to be a self-funded body raising funds from the diagnostic tests it provides for provincial health departments. The NHLS is the main provider of clinical support services to the national, provincial and local departments of health through its countrywide network of diagnostic laboratories. It conducts diagnostic tests, produces highly acclaimed research, and provides teaching and training for medical technicians, medical technologists and pathologists. The NHLS also provides surveillance support for communicable diseases, occupational health and cancer, and, thus, the endeavour to align its strategy to both the Department of Health priorities and the National and Regional Burden of Disease Surveillance.

According to the strategic overview by National Treasury, the NHLS is the largest diagnostic pathology service in South Africa, with a network of approximately 226 pathology laboratories. The NHLS is responsible for most HIV and tuberculosis tests in the public health system and plays a critical role in screening for cervical cancer. HIV and TB treatment depend on accurate and timely tests.

A unique feature of the NHLS is that all 226 public-sector laboratories are networked using a single laboratory information system (LIS) facilitating standardised reporting, monitoring and evaluation (see figure 1). All data are stored in a Central Data Warehouse (CDW), which has become a national resource for programme design, monitoring and evaluation.

The NHLS was formed by bringing together several organisations, namely: The South African Institute for Medical Research (SAIMR), the Institute for Virology (NIV), the National Centre for Occupational Health (NCOH), and all provincial health laboratory services. The NIV and the NCOH are now known as the National Institute for Communicable Diseases (NICD) and the National Institute for Occupational Health (NIOH) respectively. Since the formation of the NHLS in 2000, these institutions have been cross-subsidised with revenues from the NHLS. This was a burden for the NHLS, which itself was facing financial concerns. However, the two institutions (NICD and NIOH) currently receive funding from the Department of Health for teaching, training and research.

Figure1: National Distribution of Laboratories



The NHLS laboratories are predominantly based in the healthcare facilities, in all nine provinces, with their complexity increasing with the level of care in facilities. The highest level of care is provided at the National Central Hospitals and the lowest level at Primary Health Care Facilities.

The complexity of service requirements and the large number of healthcare facilities that require pathology services mean that a renewed focus needs to be placed on innovation and new approaches to laboratory systems across the entire laboratory value chain. A multi-disciplinary approach to the service design and planning will need to be maintained. The increased demands mean appropriate workforce development with staff retention being an important focus as we move forward.

1.2.3. Linkages within the NHLS Laboratories

The National Central Laboratories (Academic) based in all ten (10) National Central Hospitals are: Charlotte Maxeke National Central Laboratories, Chris Hani Baragwanath National Central Laboratories, Dr George Mkhari National Central Laboratories, Tshwane Academic Division National Central Laboratories, Inkosi Albert Luthuli National Central Laboratories, King Edward National Central Laboratories, Groote Schuur National Central Laboratories, Tygerberg National Central

Laboratories, Universitas National Central Laboratories and Nelson Mandela National Central Laboratories. These laboratories offer routine and highly specialised laboratory services and act as referral centres for lower level laboratories. The National Central Laboratories also offer training for health professionals in collaboration with the Medical Universities and the Universities of Technology.

The next level of care is at the Provincial Tertiary Laboratories and the Regional Laboratories. There are 17 Provincial Tertiary and 44 Regional Laboratories, which also offer routine laboratory service and act as referral centres for lower level laboratories. The lowest level of care is provided at District Laboratories, and there are 155 District Laboratories. They offer limited routine laboratory service and some are depots. (Annexure A: All NHLS laboratories and Depots).

1.2.4. National Institute for Communicable Disease

The National Institute for Communicable Diseases (NICD) is a national public health institute of South Africa, providing reference microbiology, virology, epidemiology, surveillance and public health research to support the government's response to communicable disease threats.

The NICD has served and continues to serve as a publicly-trusted source of data on communicable diseases, both during outbreaks and as part of its routine surveillance of priority infectious diseases.

Surveillance and research is conducted for 90% of prioritised diseases in the country, with the focus being on HIV, TB, antimicrobial resistance and influenza. All medical laboratories are SANAS accredited and host a number of WHO reference laboratories for specialised testing. The NICD supports the provinces through the placement of epidemiologists and responds to outbreaks via the Emergency Operations Centre and conducts real-time surveillance of Notifiable Medical Conditions. Staff generate new knowledge and disseminate information through numerous publications such as the Communique and the Public Health Surveillance Bulletin as well as reports, guidelines and scientific journals. Medical and scientific experts advise the NDoH on policy and provide assessment of the impact of interventions, for example, vaccine efficacy. The NICD trains field epidemiologists as well as registrars, scientists and technologists, and hosts local and international workshops and visitors.

1.2.5. National Institute for Occupational Health

The National Institute for Occupational Health (NIOH) is a national public health institute, which provides occupational and environmental health and safety (OEHS) support across all sectors of the economy to improve and promote workers' health and safety. Among its core functions are research and surveillance, and the provision of teaching and training in OEHS.

The NIOH provides discipline-specific advisory services to national and provincial government departments including the Medical Bureau for Occupational Diseases (MBOD) of the NDoH as well as most industrial sectors and the informal economy. Its laboratory work includes asbestos identification and counting; diagnostic lung pathology; analytical chemistry (e.g. for biological monitoring specimens); the identification of components of dusts (respirable crystalline silica in particular); microbial air sampling; allergy diagnostics; nanoparticles and in vitro risk assessments. Discipline-specific specialist services include occupational medicine, HIV and TB at work, occupational hygiene, occupational toxicology, immunology and microbiology, and occupational epidemiology. Information services constitute a core public health activity and involve the production and dissemination of publications on important topical issues, and respond to occupational queries from a multitude of clients. The unique national occupational health library continues to provide support and information well beyond the borders of South Africa. The NIOH currently houses a Biobank in development, oversees the Gender@Work Programme and implements and monitors the innovative Occupational Health and Safety Information System (OHASIS).

1.2.6. South African Vaccine Producers

The South African Vaccine Producers (SAVP), a wholly owned subsidiary of the NHLS, has continued to supply strategic products, with global reach. Excellent feedback was received from as far as Spain and Thailand, including a report from Kenya stating that “the antivenom has saved lives in these serious snakebite areas.’’

1.2.7. Diagnostic Media Products

There are currently three (3) Diagnostic Media Products (DMP) Units within the NHLS, which are responsible for producing microbiological culture media and reagents for use in clinical diagnostic laboratories. The media produced are supplied internally to NHLS laboratories, as well as externally to private laboratories and some laboratories on the African continent.

1.3 National Priority Programme

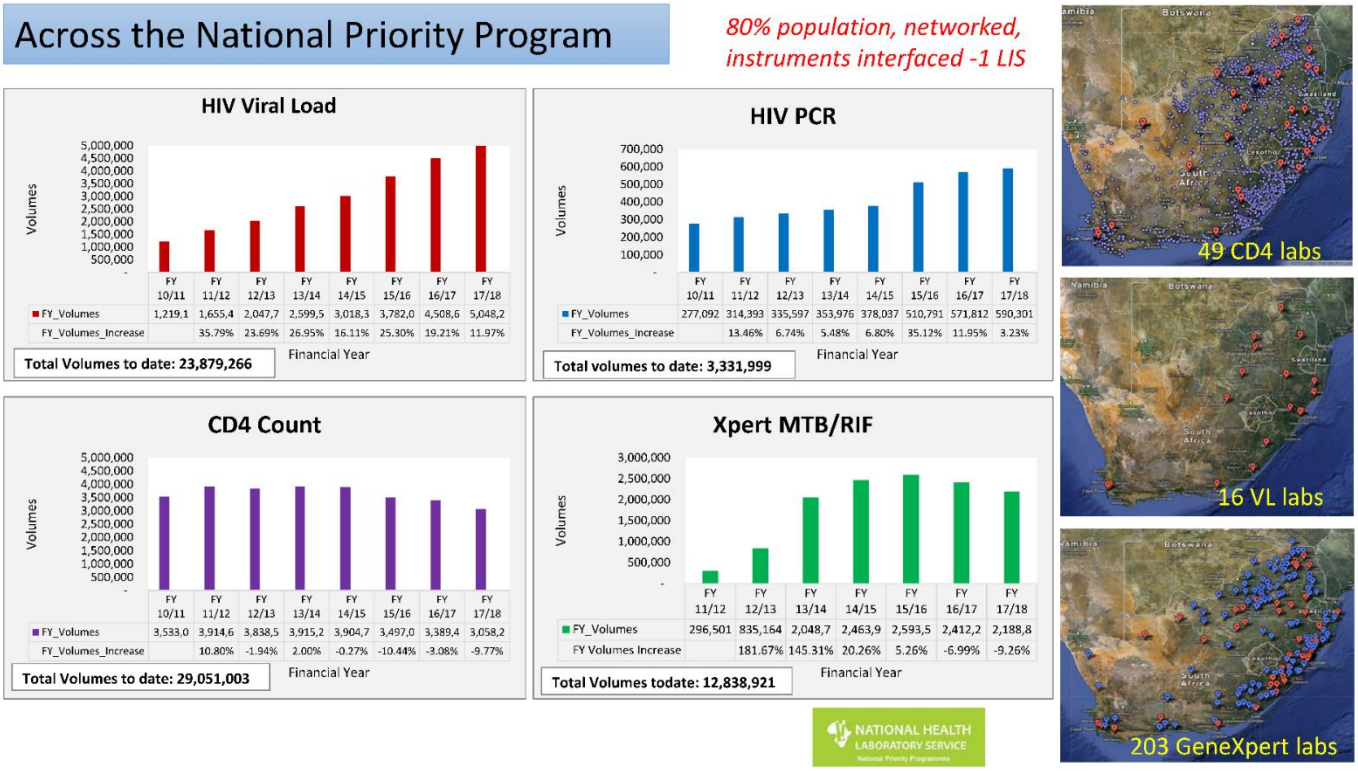
1.3.1. HIV and Tuberculosis (TB)

In line with the priorities of the National Department of Health, HIV and TB are generalised epidemics with high prevalence and incidence rates as previously described. The response by the NHLS to this crisis has been the establishment of a National Priority Programme (NPP) to manage such diseases. The NPP has been tasked to increase the capacity of HIV testing essential for diagnosis and monitoring in adults and infants, increase the capacity for diagnosis of TB and drug resistance, and continuous engagement with the NDoH and other stakeholders such as non-governmental organisations, donors and civil society involved in the execution of HIV prevention and treatment

programmes. These programmes have assisted in the standardisation of assays, platforms, algorithms to facilitate monitoring and evaluation, and to create the ability to scale testing as needed and to leverage on economies of scale. Assays that are core to the HIV programme currently include the HIV PCR assay for early infant diagnosis (EID) of HIV, the HIV viral load (VL) and CD4 assays for monitoring of clinical treatment success and the HIV drug resistance assay (HIV DR). The supporting assays include safety testing for diagnosis of adverse events and diagnosis of other opportunistic infections such as TB and hepatitis, amongst others. The NHLS has been instrumental in providing national access to molecular TB testing through a footprint of laboratories and assays, including the TB Xpert assay for diagnosis of pulmonary and extra pulmonary TB, the line probe assay (LPA) (the first and second-line assays for the diagnosis of MDR and XDR-TB, respectively) and culture-based drug-susceptibility testing, following laboratory triggered testing sequences in line with the NDoH diagnostic and clinical management algorithms.

The HIV programme is highly centralised at 16 laboratories for the VL and 9 laboratories for EID testing. The VL annual capacity of 10 million assays is estimated, provided that the service is running efficiently internally (NHLS CDW data, 2017). There is a footprint of 49 CD4 laboratories within the NHLS. For TB, as per NDoH request, the assays are conducted on the GeneXpert analyser in 203 laboratories nationally. The footprints and volumes are presented in figure 2, which not only provides a commentary on the volume over the period of review, but also provides graphics of the GIS mapped laboratories and that of the healthcare facilities.

Figure 2: National Priority Tests: Volumes and Laboratory Footprint: 2010/11 – 2017/18



During the 2014/2015 financial year (FY), which formed the baseline of the strategic plan development, just over 3 million viral load tests were conducted. In the first two years of this review period (2015/16 and 2016/17), there was an unprecedented increase in annual volumes with 3 782 180 (a 24.5% increase over the baseline), and 4 508 700 (19.2% increase) viral loads conducted, respectively. Virological suppression rates (defined as VL <1000 copies/ml) remain at a national average of 80%, but there is a significant difference in suppression rates geographically between provinces, districts and at a facility level. As predicted by the change in national HIV treatment guidelines, with less reliance on CD4 monitoring and more recently, the implementation of the Universal Test and Treat (UTT) strategy (September 2016), there has been a 14% decline in CD4 volumes over the period of the review. There has been a noticeable increase in CD4 counts >500 cells/µl reflecting an increase in general population wellness, but an alarming 10% are still presenting, nationally, with CD4 counts <100 cells/µl. HIV PCR testing for infants has increased significantly in the same period, which is expected in line with global and national guideline changes, that require both birth and 6- week PCR assays to reduce the early infant mortality rates associated with any delay in treatment initiation.

The TB Xpert assay reached a peak in the 2016/2017 FY where 2,415,954 assays were performed but has shown a subsequent decline of nearly 11% in the 17/18 FY. TB incidence has been declining

steadily year-on-year and the decrease in testing volumes likely reflects this. A more sensitive assay is required for TB testing and the Xpert ULTRA assay (superior sensitivity in smear-negative HIV co-infected individuals) has been implemented nationally, commencing in May 2018.

South Africa's TB and HIV programmatic response is guided by the National Strategic Plan for HIV, TB, and sexually transmitted infections (NSP 2017-2022). To align with the WHO End TB strategy and the Global Plan of the Stop TB Partnership in ending the global TB epidemic, South Africa aims to diagnose at least 90% of individuals with TB disease in vulnerable and key populations, linking them to care, and achieving 90% successful outcomes for those treated for drug-susceptible TB and 75% in those diagnosed with drug-resistant TB. The number of notified TB cases annually is far less than the estimated number of cases, suggesting that to meet the targets, interventions at finding the 'missing TB cases' require intensification. This is linked to the National Health Screening and Testing Campaign, with interventions and strategies recommended as follows: 1. optimise TB screening; 2. efficient contact tracing of index cases; 3. enhance case detection in key populations; 4. improve diagnostic yield through the utilisation of improved diagnostic algorithms and new diagnostic platforms (which includes Xpert MTB/RIF Ultra and implementation of the point of care, urine-lipoarabinomannan [urine-LAM] screening test); and 5. improve the standards for recording, reporting, and patient transfers. These intensified strategies are estimated to result in a ~50% increase in testing volumes for Xpert MTB/RIF Ultra alone, necessitating adequate forward planning and laboratory capacity.

The rapid acceleration plans for HIV and TB treatment access will have knock-on effects on the NHLS that will require constant programme review with the need for further automation, modernisation, consolidation, and integration of laboratory platforms to ensure affordability.

For HIV, the goal of the Treatment Surge is to accelerate epidemic control in South Africa by placing 6.1 million public health system individuals on treatment by December 2020. The Treatment Surge targets are based on South Africa reaching 90-90-90 goals by 2020 in the public sector, accounting for 90% of those on treatment. This requires that testing for HIV viral loads alone, will increase to 6 million HIV assays in 2018 and over 7.5 million by 2020. Similarly, under this mandate, volume increases of chemistry and haematology tests for monitoring and early detection of adverse and potential drug effects are expected.

Global trends likely to impact on the HIV and TB testing platforms include the need for HPV, HBV and antimicrobial resistance testing, amongst others. The multi disease testing and increasingly random- access capabilities will enable re-purposing of molecular platforms.

1.4. Non Communicable Diseases

Stroke, Heart attacks, Diabetes, Cancer, Asthma and Depression are identified as other Non-Communicable Diseases (NCDs). Little attention has been focused on risk factors associated with NCDs and management thereof [1]. The NHLS plays a role in supporting the Department of Health by:

- Testing for blood glucose level and HbA1c, for management of diabetes;
- Testing for lipids and blood cholesterol levels for the management of heart diseases; and
- Screening for cancer.

1 – Debbie Bradshaw, Krisela Steyn, Naomi Levitt. *Non-Communicable Disease: A race against time*.

1.4.1 National Cancer Registry

The National Cancer Registry's (NCR) primary role is to conduct cancer surveillance on behalf of the National Department of Health. This is achieved through pathology-based and population-based cancer reporting systems.

In the year under review (2017/18), the NCR has stabilised its surveillance infrastructure ensuring more efficient throughput of cancer cases from source to reporting. This has included the implementation of a new cancer coding application and the strengthening of the team of permanent coders, the backbone of our surveillance system. The population-based cancer registry in Ekurhuleni was established with nine surveillance officers visiting private and public healthcare facilities. The first full year of data was collected for the Ekurhuleni Surveillance system, including cases of cancer diagnosed clinically and by radiologic examination. The NCR published annual cancer incidence reports for the year 2013 and 2014, demonstrating that the patterns of cancer for the country have remained relatively stable. Prostate and breast cancers had the highest incidence amongst men and women, respectively. Data from the NCR informed three prevention and control policies for the country, namely the breast and cervical cancer polices, and the National Cancer Control Strategic Framework.

In the financial year 2017/2018, the NCR published key research showing the positive impact of implementing relevant health policies on cancer control in the country. Our studies demonstrated that the expansion of the national ART roll-out has reduced incidence and improved survival of HIV-associated Kaposi sarcoma in recent years. The introduction and expansion of pap-based cervical cancer screening at a Johannesburg HIV clinic led to significant reductions in cervical cancer incidence in HIV-positive women on ART. The NCR also co-authored a review article on global epidemiology of HIV-associated malignancies in children. The NCR work was presented at two international conferences (AORTIC 2017, Kigali, Rwanda and CROI 2018, in Boston,

Massachusetts, USA) as oral, poster and themed discussion presentations. The NCR continued to build cancer epidemiology capacity by giving lectures at local universities and providing supervision and mentorship of nine Masters and three PhD students.

1.5. Human Resources (HR)

Human Resources is one of the greatest challenges in the NHLS. The NHLS is currently facing the following workforce challenges:

- Recruitment and retention of skilled professionals.
- Fiscal constraints which impacts on the filling vacancies.
- Inequitable distribution of Human Resource between rural areas and urban areas within NHLS; and private sector and NHLS.
- Migration of skilled professionals internationally.
- Instability at the leadership level which leads to lack of direction and low staff morale.

An in depth analysis of current and future Human Resource needs, which must be linked to workload and rational use of the organisation's resources, is required to enable the organisation to achieve its set goals. Standards and norms need to be developed to develop the organisational structures across different tiers of laboratory facilities.

The NHLS has a number of HR policies and strategies in order to attract and retain critical and scarce skills. Various strategies on the recruitment, retention, pay progression and proficiency assessment need to be integrated and harmonised.

The roll-out of the Reward and Remuneration Project is one of the interventions that reflects the NHLS' commitment to its employees.

The introduction of the workforce model will play a vital role in HR planning to meet the organisation's mandate. This will be linked to comprehensive HR plan to determine current and future needs, both in service provision and training.

Training and development is one of the mandates of NHLS and provides a pipeline of the talented professionals for the NHLS and South Africa as a whole.

1.5.1. Human Resource Oversight Statistics

Table 1.5.1.1: Percentage changes of staff headcount compared to personnel expenditure –2009 FY to 2017 FY

Year	Staff Headcount	Nominal Increase	Trend % on Staff Headcount	R'000	Nominal Increase R'000	Trend % on Personnel Expenditure
2008/2009	6 458	326	5.3%	1,410,751	246,808	17.5%
2009/2010	6 619	161	2.5%	1,424,235	13,484	0.9%
2010/2011	7 020	401	6.1%	1,755,575	331,340	18.9%
2011/2012	6 826	-194	-2.8%	1,910,695	155,120	8.1%
2012/2013	7 087	261	3.8%	2,131,458	220,763	10.4%
2013/2014	7 023	-64	-0.9%	2,212,252	80,794	3.7%
2014/2015	6 695	-328	-4.7%	2,268,476	56,224	2.5%
2015/2016	6 987	292	4.4%	2,565,987	297,511	11.6%
2016/2017	7 369	382	5.5%	3,228,470	662,483	20.5%
2017/2018	7 615	246	3.2%	3,326,192	97,722	2.9%

The table above indicates the stable workforce over the ten-year period. The personnel expenditure has been relatively steady in the past five (5) years except for the financial year 2016/17 where it increased by 20.5%. This is due to annual salary increases and the reward and remuneration project, which started in 2014/15 and was concluded in 2016/17 financial year.

The NHLS has utilised various pay grading systems over the years. The Equates system was implemented during the transition process. The Hay system was thereafter implemented and then changed over to Paterson system.

Our key figures in the years 2012/13 to 2017/18 reveals that our total labour numbers are remaining within the 7 615. The average total number of personnel for the previous 5 years, i.e. March 2013 – March 2018 is 7 129, while the total cost of compensation over total expenditure is 47% as at the end of March 2018.

1.5.2. Academic Affairs, Research and Quality Assurance

Academic Affairs, Research and Quality Assurance (AARQA) incorporates the Academic Affairs and Research (AAR) and the Quality Assurance (QA) Units. It oversees the teaching, training and research mandate of the NHLS and oversees the quality assurance support and management programmes for the organisation. The delivery of the teaching and training mandate is a shared responsibility between the Academic Affairs and Research Unit and the Learning Academy, which is housed in the human resources department. Through the QA Unit, AARQA strives to ensure consistent adherence to accreditation and compliance measures across all the laboratories through implementation of quality assurance standards for the NHLS. The in-house Health Technology Assessment (HTA) programme focuses on the evaluation of *in vitro* Diagnostic Devices in order to facilitate the effective and reliable introduction of technology advancement in the service platform and provide an opportunity for competitive and open selection of reliable diagnostic technology.

AARQA has continuously supported these activities in conjunction with its academic partners to contribute towards the NHLS mission and to promote excellence in the delivery of high quality pathology services. A formal relationship between AARQA and the ten South African Medical Universities and the eight Universities of Technology is endorsed through an “Umbrella Agreement” signed by all institutions.

In December 2016, the NHLS was included as a Schedule 1 Institution in terms of the Intellectual Property Rights from Publicly Financed Research and Development Act, No. 51 of 2008. This strengthens the position of the NHLS and the role it plays in research within the country.

1.5.3. Quality Management System

The NHLS has a well-developed quality management system that is compliant with the requirements of the following:

- ISO 15189 for Medical laboratories;
- ISO/IEC 17025 for testing and calibration laboratories;
- ISO/IEC 9001 for production and support service departments;
- ISO/IEC 17043 for PT scheme providers;
- ISO 13485 for manufacturing of medical devices; and
- ISO/IEC 22870 for point of care testing.

And other regulatory authorities:

The office is managed centrally by the QA Unit, which is a national office that oversees the overall organisational Total Quality Management in the following services:

- Support for accreditation and certification.
- Health Technology Assessment (HTA) of in vitro diagnostic (IVD) devices.
- Management of the electronic quality management software (Q-Pulse), including policies and procedures.
- Proficiency testing schemes (PTS).
- Quality monitoring and compliance (QMC).
- Quality related Projects.
- International Quality Affairs.

The percentage of accredited laboratories per tier at the end of March 2018 was as follows:

- 92% (48/52) of national central laboratories.
- 71% (12/17) of provincial tertiary laboratories.
- 27% (12/42) of regional laboratories.

NHLS Proficiency Testing Scheme (PTS) is ISO 17043 accredited. It provides PTS to all internal laboratories and external laboratories in South African private market and other countries. The following schemes are provided, Bacteriology, Blood gas, Cardiac, CD4 (Flow cytometry), Cryptococcus Antigen, C Reactive Protein, Chemistry, Endocrinology, Erythrocyte Sedimentation Rate, Hematology (full blood count), HIV Early Infant Diagnosis, HIV Serology, Hepatitis B Surface Antigen, Malaria Rapid Diagnostic Test, Morphology (Blood), Mycology Moulds, Mycology Yeast, Non Treponemal Syphilis, Treponemal Syphilis, TB Culture, TB Line Probe Assay, TB Microscopy, Parasitology Blood, Parasitology Stool, *Pneumocystis jerovecii* and Therapeutic Drug Monitoring. There were 25 countries with laboratories enrolled in NHLS Proficiency Testing Schemes during 2017/18 financial year namely: Angola, Botswana., Burkina Faso, Cameroon, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Ivory Coast, Kenya, Lesotho, Malawi, Namibia, Niger, Nigeria, Sierra Leone, South African Private Laboratories, Swaziland, Tanzania, Uganda, Mozambique, United States of America, Zambia, and Zimbabwe.

As part of the quality management system, turnaround times of test results are critical in service delivery. Below is a list of crude performance indicators for service delivery for national priority tests. The turnaround times for national priority tests performed continued to show an improvement. Additions have been made to address services beyond NPP and include full blood count and urea, and electrolytes turnaround times.

On average, all tests were performed within the defined time-frames in the 2017/18 financial year, as indicated for some of the key tests in the table below:

Table: 1.5.3.1. Crude Performance Indicators for Service Delivery for national priority tests

Performance Indicator	2014/15	2015/16	2016/17	2017/18
Percentage TB GXP tests performed within 48 hours [1]	92%	91%	96.68%	91.25%
Percentage CD4 tests performed within 48 hours[1]	89%	89%	94.44%	91.58%
Percentage Viral Load tests performed within 96 hours [1]	81%	64%	87.3%	82.70%
Percentage HIV PCR tests performed within 96 hours	70%	73%	81.90%	76.85%
Percentage Cervical Smear tests performed within 5 weeks [1]	57%	48%	96.87%	90.39%

1 – the TB GXP and CD4, testing within 48 hours in 2014/15 and 2015/16 as opposed to 40 hours in 2016/17 going forward. The cervical smears were measured within 13 days in 2014/15 and 2015/16 as opposed to 5 weeks in 2016/17 going forward.

1.5.4. Teaching, Training and Research

The NHLS's commitment to its teaching training and research mandate is undisputable. There is commitment to the development of staff and the capacitation of new staff, with the intent of fulfilling the current capacity development needs and to extend need ahead of demand. This is accomplished through regular training for learnerships and professional registrations.

The NHLS is the main platform for training and development of pathology professionals in the country. This includes pathology registrars, intern medical scientist, student medical technologist and student medical technicians. On average between 2012/13 and 2017/18, the NHLS trained between 225 and 242 registrars per year in collaboration with its academic partners. Of these, the majority are in the following disciplines, Anatomical Pathology (78), Medical Microbiology (46), Haematology (44)., and Chemical Pathology (30) with low intakes in Human Genetics (2), Clinical Pathology (12) and Medical Virology (19). Furthermore, the unit is reviewing the training platforms to strengthen infrastructure and training capacity.

The NHLS will, in future, look into training outputs versus employment opportunities for trainees to contribute towards creation of employment.

1.6. Planning, Monitoring and Evaluation

The constitution of South Africa, 1996, section 195 (b) and (g) stipulates the principles of efficient, economic and effective use of resources and that transparency must be fostered in providing the public with timely, accessible and accurate information.

Since 2007, the government has developed policies to guide monitoring and evaluation of all government programmes. The following policies were developed; The Policy Framework for the Government – wide Monitoring and Evaluation System (The Presidency, 2007); and the Framework for Managing Programme Performance Information (National Treasury, 2007).

Monitoring and Evaluation processes are important in that they can assist the organisation to measure its performance and to identify factors which contribute to its service delivery outcomes (GWME Framework). It aims at informing policy makers (The Board) about the progress made towards achieving targets as set in the annual performance plans and assist managers in making proper decisions.

1.7. NHLS Roadmap

The NHLS aims to enhance efficient use of its resources and to align laboratory services with the Department of Health's National Health Insurance's (NHI) 10-point plan. The imperative of NHI is to provide equitable, cost effective and accessible health care.

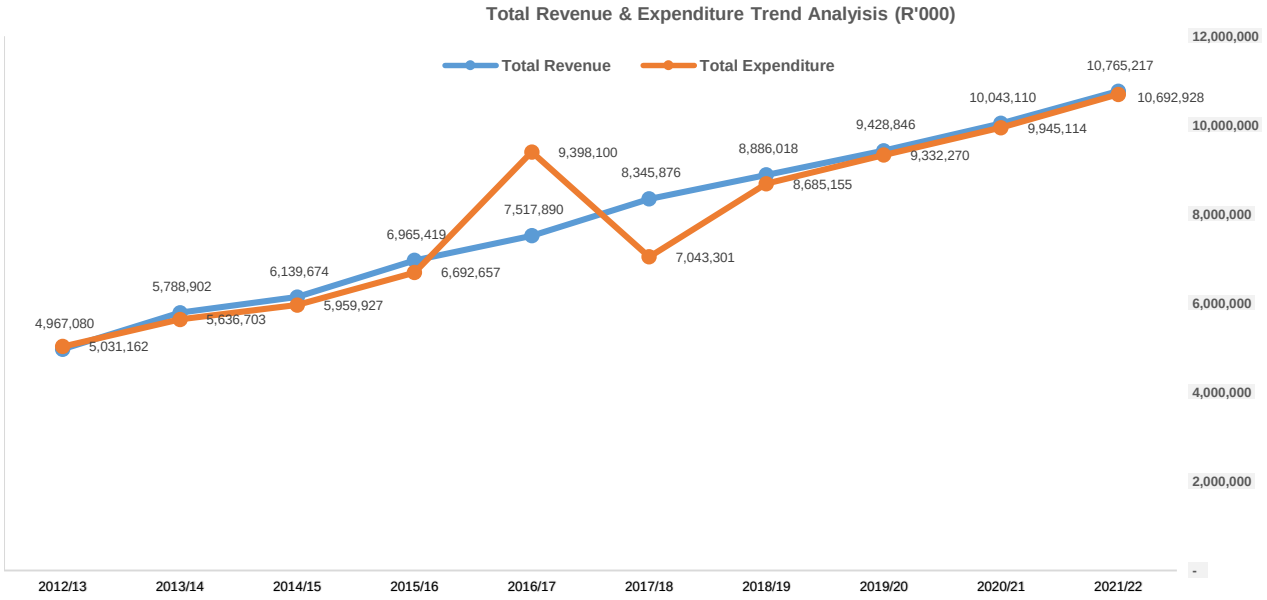
Although there has been considerable development and improvement in the laboratory services within the last decade, additional refinement and cost controls are essential to keep pace with the significant development of clinical health services envisaged by NHI. Critical appraisal of current laboratory service delivery identified the ongoing deficiencies due to the following:

- Historic constraints and inequities due to previous political structures, resulting in a mismatch of service.
- Inappropriate test baskets for the clinical requirements – either too little, inappropriate or excessive.
- Inheritance of multiple laboratories with variable levels of quality.
- Duplication of services in some instances, resulting in wasteful expenditure.
- Failure to keep pace with international trends and norms in laboratory services. The NHLS has more laboratories per capita than any other country in the world.
- Lack of standardisation of laboratory information technology – impeding effective national reporting of laboratory results to the DoH.
- Mismatch of the laboratory services with the development plans of healthcare nationally.

The current historical laboratory service model of high numbers of laboratories is unsustainable in terms of finance, quality and standardisation of practice. The recent technological advancements employed in modern laboratories, provide the opportunity for substantial process improvements and delivery of results to clinical services. The NHLS must develop a model which will improve national coverage by pathologists, service delivery and rational utilisation of services with consequent savings to the NDoH.

1.8. Financial Performance

Graph 1.8.1.: Total Revenue and Expenditure Trend Analysis



The graph above illustrates that the expenditure increased remarkably in 2016/17 due to provisions made for the KwaZulu-Natal and Gauteng historical debt. The revenue generated in the 2017/18 financial year exceeded the expenditure. This is an indication of the managements' continuous intervention-through robust cost containment measures, a carefully managed post-filling plan and reasonable capital expenditure programme. Projection for 2018-2020 indicate that expenditure in relation to revenue will be managed better.

The NHLS reported a surplus for the year 2017/18 amounting to R1.3 billion compared to a restated R1.9 billion deficit in the previous financial year. This was due to the reversal of the provision of doubtful debt and an increase in test revenue.

The NHLS is forecasting to generate approximately R 7.5 billion in test revenue for the 2018/19 financial period. The NHLS still faces the challenges of recovering debt in arears. The NHLS has

either successfully negotiated or is in the process of negotiating settlement agreements with provinces to address this outstanding debt. The organisation has only been able to provide a maximum cash cover of two months at best during the current financial period. To operate effectively the organisation would require a minimum 3 months' cash cover and this will require an amount of R 1.9 billion in cash to be on hand.

The NHLS has been engaging the NDoH around a new funding model that will generate a simpler, more meaningful and shared risk tariff or reimbursement, the modified capitation reimbursement model (MCRM). It is expected that this funding model resonate with the budgetary constraints within the Public Sector; otherwise, this will result in unaffordable and unsustainable services in the long term.

The NHLS received a qualified audit opinion for the 2017/18 financial year with three (3) qualifications on commitments, irregular expenditure and accrued expenses. The NHLS has put measures in place to strengthen internal controls to avoid the recurrence of similar findings.

The NHLS has improved sustainability both in terms of service delivery and financial performance, while the financial position of the organisation has improved.

The NHLS currently owes R 334 million to its suppliers at the end of October 2018. For the current financial year, the NHLS has been invoiced for R 1.5 billion worth of goods and services and the organisation paid R 1.9 billion to all suppliers. This effectively means that the NHLS has paid R 400 million to its prior year debt.

The following NHLS strategic drivers informs the finance strategy roadmap for 2018 – 2022:

1) Best Total Cost Value proposition (Customer perspective).
2) Affordable Pathology Services (Financial perspective).
3) Operational, Technological and Governance excellence (Internal perspective).
4) People-first culture (Learning & Growth perspective).

To become the Best Total Cost Value proposition, the NHLS should become the lowest cost supplier. Affordability of pathology services will require the NHLS to develop new sources of revenue, improve revenue collection, and find alternative billing models for the service offered.

Operational excellence should be underpinned by the centralisation of planning and control, process engineering and automation, shared services, supplier management, equipment utilisation as well as standardisation and costing.

The need for technological excellence should be built on the priority of stabilising and improving our Oracle system. Sound governance should be based on sustainability. Our 'people first' culture rests on our ability to attract, retain and grow high-performing staff. Staff should in turn be fit for the role they are employed for and should be coached and supported by the NHLS.

How will the NHLS finance department support the NHLS strategy?

The mission of the NHLS finance department is to provide support services for Accounting, Finance, Procurement and General Services to the NHLS.

This mission is supported by our need to be recognised as a valued and effective Finance Department and underpins our efforts to meet the key strategic initiatives of the NHLS. Our strategic outcomes are as follows:

1) To have delighted customers;
2) To have a satisfied stakeholders and Board;
3) To have efficient and effective processes; and
4) To have a motivated and prepared workforce.

In achieving these key objectives, the following KPIs have been selected to measure our success in support of the NHLS Strategy and Annual Performance Plan.

1.9. Governance

The Board as the Accounting authority must provide oversight with regard to compliance with PFMA 1 of 1999. According to the King IV Report on Governance for South Africa, 2016, the governing body should lead ethically and effectively. They should:

- Offer leadership that result in the achievement of strategy and outcomes over time.
- Exhibit characteristics of integrity, competence, responsibility, accountability, fairness and transparency and govern the ethics of the organisation in a way that supports the establishment of an ethical culture.
- Steer and set the direction, purpose and strategy of the organisation.

- Ensure that the reports issued by the organisation enable stakeholders to make informed assessments of the organisation's performance, and its short-term, medium and long-term prospects.

The Board in playing its oversight role, with regard to good governance, has implemented a fraud prevention and response plan. The plan is designed to assist staff in making sound decisions regarding the reporting of fraud, corruption and other criminal offences which might impact the NHLS in its operations. Whistle blowers are protected through the tip off anonymous fraud hotline, which is managed by an independent service provider. The Board received a tip off on a number of alleged misconduct issues and immediately conducted investigations and reported these irregularities to the AG's office.

1.10. Information Technology

The NHLS' Corporate Data Warehouse (CDW) is a national investment from which the following has emerged: the ability to produce Business Intelligence Reports, surveillance, dashboards for monitoring service delivery, and dashboards for monitoring priority diseases such as HIV and TB.

The NHLS, on request by the NDoH, has put measures in place to reduce the inappropriate ordering and repeat of laboratory tests in a form of Electronic Gate Keeping (eGK) in order to curb laboratory expenditure and promote the rational use of laboratory services. A set of rules has been configured on the Laboratory Information System against which requests are evaluated and cancelled if the rules are not met. These rules are the culmination of significant work in defining best pathology practice undertaken by the NHLS Expert Committees and appropriate engagement of clinical stakeholders.

National eGK rules were implemented successfully from October 2017. Only Northern Cape has elected to implement eGK at a later date. A joint pilot project with the CSIR and the NDoH has been implemented to support the rollout of the patient unique identifier. The ability to access electronic results is being improved with additional channels of access via direct interfaces to systems, i.e. the Meditech Hospital Information System in KwaZulu-Natal and Tier.Net. Direct lookup of results via the Internet continues to increase month-on-month.

The NHLS IT infrastructure continues to be a challenge. Priority has been given to projects that are upgrading and replacing old and obsolete equipment. The aim is to build a strong IT foundation based on robust and agile infrastructure with core laboratory and enterprise capabilities and innovative solutions that help build state of the art laboratory services in the country. Successful disaster recovery tests were conducted.

The ability to recruit and retain the required skilled staff remains a significant challenge. The IT organisational structure will be reviewed in line with the development of a long-term IT Strategy for the NHLS. The plan is to review the IT service delivery model and staffing and adopt an approach that will best enable the IT Strategy.

1.11 The Private Pathology Market

1.11.1 Defining the Market

The three largest private pathology practices in South Africa are Ampath, PathCare, and Lancet, which comprise about 90% of the market. Other smaller pathology practices in South Africa are spread throughout the country (National Pathology Group report, Submission to the Competition Commission of Health Market Enquiry into Private Health Care, 2016).

According to PathCare pathology practice, the market for pathology services is determined by the urgency of the test results required (PathCare Submission to the Competition Commission of Health Market Enquiry into the Private Health, 2016). The more urgent the test result is, the smaller the market and the potential competitors in the market, and the less urgent the test result, the larger the market with more potential competitors. Urgent pathology tests have a less than 2-hour turnaround time requirement and the laboratory must be in close vicinity to where the specimens were taken. Hospitals will require an in-house laboratory facility to process tests for their patients in cases where a turnaround time ranging from 2-24 hours is required. The market will therefore be limited to pathology service providers that have either a laboratory or depot facility within the hospital and can deliver the test result within the turnaround time required.

The private sector provides its services through laboratories and depots. A laboratory is a scientific centre and has the ability to analyse blood and other samples and deliver the results within that facility. Depots are typically facilities staffed by one or two nurses where patient samples are taken and received, and then forwarded to a laboratory. Depot facilities can generally be found in a wide variety of areas within managed care facilities, shopping centres, hospitals or close to specialist and general practitioner consulting rooms.

1.11.2 Comparisons between Private and Public Sectors

According to a submission made to the Health Market Inquiry, Pathcare employs approximately 2 600 employees who include 79 pathologists, 206 medical technicians, 299 medical technologists, 342 nurses, 13 scientists, 100 laboratory assistants and 134 phlebotomists throughout the country. Pathcare has 63 laboratories and 116 Depots.

Lancet's submission to the Health Market Inquiry, states that Lancet employs approximately 4 600 employees who include 130 pathologists. Lancet processes 1,8 million tests per month.

Ampath employs approximately 4 500 employees who include 130 pathologists. Ampath has 117 laboratories and 184 Depots (Submission to Health Market Enquiry, 2016).

In a presentation to the Competition Commission Health Market Inquiry on 18 May, 2016, the National Pathology Group (NPG) which is the official subgroup of the South African Medical Association (SAMA), presented the following statistics: the total number of employees is reported to be 10 295, of which 295 are Pathologists, 50 Medical Scientists, 3 000 Medical Technologists, 1 000 Medical Technicians, 200 Phlebotomy Technicians, and 3 000 Nursing Sisters. The number of tests performed per day are reported to be 3 000, which when calculated over a year give a total of 78 million.

On the other hand, NHLS has reported in the annual report 2016/17 the following statistics: a total of 7 101 employees, of which 203 are Pathologists, 224 Medical Scientists, 1 473 Medical Technologists, 859 Medical Technicians, 248 Phlebotomy Technicians, and 42 Nursing Sisters. The total number of tests performed per annum is reported to be 91 302 409.

According to the Council of Medical Schemes, the expenditure of approximately R8.1 billion was incurred in the private sector as opposed to approximately R7.0 billion spent by the NHLS.

This comparison is quite interesting as it shows the inequities between the private and public sectors. The NHLS services approximately 80% of the population which is mainly public sector and the private laboratories service the other 20% of the population. However, the resources for the 20%, both for human resources and financial resources are more than the NHLS's, which is in keeping with the trends seen in the private sector.

It must be noted that the expenditure for the NHLS includes the cost of training health professionals.

1.12 The complete SWOT analysis is provided below

Table 1: Strengths, Weaknesses, Opportunities and Threats

Strengths	Weaknesses
• Strong academic base and sustainable partnerships thorough relevant research outputs; • Internationally renowned intellectual capital; • Trendsetting in quality assurance initiatives; • National pathology laboratory footprints; • Exclusive national integrated data warehouse; • Leveraging on the NHLS powers in the Act; • Largest employer of pathology related services in the country; • Sustainable partnerships with (NDoH and other agencies, Universities and UoTs); • Influence in the National and Regional Societies on laboratory medicine; • Competitive remuneration structure; and • Africa leader in laboratory medicine.	• Lack of succession planning and pipeline development due to scarce skills, both qualitatively and quantitatively; • Lack of workload standards; • Inadequate technology and ICT infrastructure capacity; • Lack of ownership of value chain from collection of samples to return of results; • Poor communication both internally and externally; and • Leadership instability.

Opportunities	Threats
• Multi sectorial partnerships to enhance sharing of intellectual capacity; • Other source of income which can diversify our revenue stream such as GEMS and other Medical Aids; • Existing footprint in terms of the branch/regional laboratory network (enhance ownership of POCT); • Introduction of the National Health Insurance (NHI); • Trusted service provider by the health professionals;	• International reduction in grant allocation; • Private sector competition (Anatomical pathology); • Medical inflation in relation to goods and services – more than 80% of NHLS costs are directly related to health. Due to increasingly high growth in burden of diseases and increased demand for healthcare, medical inflation which is generally higher than CPI has become unpredictable;

Opportunities	Threats
• Integrated IT systems with external stakeholders; • Additional work to be performed within the SADC region to generate additional revenue; • Increased volumes through universal test and treat (UTT) policy; • Utilise media coverage to promote our brand / corporate image; • Remote oversight of laboratories by pathologists; and • Opening of new medical schools will expand the teaching platform.	• Exchange rates, i.e. equipment purchased from overseas; • Inadequate training platforms in Virology, Human Genetics and Haematology; • High debtors level; • Lack of investment on IT infrastructure; and • Opening of new medical schools, the NHLS may not have enough resources to cover the need.

1.13 Revisions to legislative and other mandates

1.13.1 National Public Health Institutes of South Africa

The envisaged establishment of the National Public Health Institutes of South Africa (NAPHISA) will have a significant impact on the operations and budget allocation from National Treasury on NHLS. Move the NAPHISA legislation will result in the following divisions dealing with the following from the NHLS:

(a) Communicable Diseases;
(b) Non-Communicable Diseases;
(c) Cancer Surveillance;
(d) Injury and Violence Prevention; and
(e) Occupational Health.

The NAPHISA bill has been approved by the National Council of Provinces and has been submitted to Parliament.

1.13.2. National Health Laboratory Amendment Bill

The NHLS was created with the objective to:

a) Address equity access to laboratory services;
b) Address capacity with respect to the ability to recruit specialised skills from former disadvantaged areas; and

c) To become the platform for teaching, training and research, and to build and sustain a network of pathology services to meet the public health needs of South Africa.

Whilst the NHLS achieved most of its objectives, the overall leadership and governance of NHLS had to be reviewed. This resulted in the amendment of the NHLS Act. The following amendments have been made:

a) In terms of the Composition of the Board, it will consist of members appointed by the Minister of Health. Instead of a 22-member board with representatives from all nine provinces, the new NHLS Board will be smaller in size and have a significant number of members with technical expertise. It will have no representatives from the provinces. The Chief Financial Officer and a representative from Organised Labour will be part of the Board.

b) The Bill also proposed that the appointment and remuneration of the Chief Executive Officer will be determined by the Board in consultation with the Minister of Health.

c) The Minister of Health, in consultation with the Finance Minister, must prescribe a financing mechanism for the Service in order to ensure that the Service is adequately and sustainably funded, and thereby enabling the Service to achieve its mandate.

The NHLS amendment Bill has been approved by the National Council of Provinces (NCOP) and has been submitted to the Parliament.

1.13.3 Presidential Health Summit Compact.

NHLS will support the Presidential Health Summit Compact by strengthening:

a) Human Resources by development and implementation of the Human Resources plan, and the recruitment and retention strategy.
b) Supply Chain Management, by implementing an electronic contract management system and improving the turnaround time for awarding tenders.
c) Financial Management, developing the financial management policies and reviewing them annually. In addition, to implement a strict fraud prevention plan with zero tolerance to fraud and corruption.
d) Maintenance of equipment and infrastructure by implementing the infrastructure and procurement plan. Have service level agreements with service providers with clear deliverables and penalties.

2 OVERVIEW OF 2018 BUDGET AND MTEF ESTIMATES

2.1 2017/18 NHLS Materiality and Significance Framework Background

BACKGROUND

Treasury Regulation Section 28.3.1 states: "For purposes of material [sections 55(2) of the Public Finance Management Act (PFMA)] and significant [section 54(2) of the PFMA], the accounting authority must develop and agree on a framework of acceptable levels of materiality and significance with the relevant executive authority.

The purpose of this document is to record the level and reasoning for the suggested levels of materiality and significance for consideration by the governance structures of the NHLS and for submission to and approval by the executive authority.

The International Standard on Auditing (ISA) 320 defines materiality as follows:

- Misstatements, including omissions, are considered to be material if they, individually or in the aggregate, could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements;
- Judgements about materiality are made in light of surrounding circumstances, and are affected by the size or nature of a misstatement, or a combination of both; and
- Judgements about matters that are material to users of the financial statements are based on a consideration of the common financial information needs of users as a group. The possible effect of misstatements on specific individual users, whose needs may vary widely, is not considered.

Accordingly, we will be dealing with this framework under two main categories, being quantitative and qualitative aspects.

Materiality can be based on a number of financial indicators. Detailed below is an indicative table of financial indicators of the type that is widely used and accepted in the accounting profession as a basis for calculating materiality.

Basis	Acceptable Percentage Range
Gross revenue	0.25 – 1%
Gross profit	1 – 2%
Net income	2.5 – 10%
Equity	2 – 5%
Total assets	0.5 – 2%

NHLS will use 0.5% of gross revenue and 0.5% of total assets to determine materiality. In determining the materiality value as 0.5% we have considered the following factors:

2.1.1. Nature of the NHLS's business

The NHLS is the main provider of clinical support services to the national, provincial and local departments of health through its country wide network of quality assured diagnostic laboratories. The NHLS also provides surveillance support for communicable diseases, occupational health and cancer, and thus, the endeavor to align its strategy to both the Department of Health priorities and the National and Regional Burden of Disease.

The NHLS delivers services throughout the public sector from Primary Health Care level to tertiary/quaternary hospitals. The level of complexity and sophistication of services increases from the peripheral laboratories to the central urban laboratories (with specialized surveillance infrastructure existing at isolated sites).

2.1.2. Statutory requirements laid down on the NHLS

The National Health Laboratory Service (NHLS) is a national public entity established in terms of the National Health Laboratory Service Act 37 of 2000 to provide quality, affordable and sustainable health laboratory and related public health services.

The NHLS is managed according to the provisions of the National Health Laboratory Services Act 37 of 2000, as well as the NHLS Rules, gazetted in July 2007, and the Public Finance Management Act No. 1 of 1999. It is a Schedule 3A public entity state governed by a Board and a Chief Executive Officer.

2.1.3. The control and inherent risks associated with the NHLS

In assessing the control risk of the NHLS, and concluding that a materiality level higher than 0.25% can be used due to a good control environment being present, cognizance was given to amongst others:

- Proper and appropriate governance structures have been established;
- An audit and risk committee that closely monitors the control environment of the NHLS was established;
- The function of internal audit was established and some of the projects are co-sourced with the external audit functions;
- A three-year internal audit plan, based on annual risk assessments being performed, is annually reviewed and agreed by the audit and risk committee;
- In compliance with governance principle 8.59F of the King 1V Code of governance principles, the audit and risk committee's views on the effectiveness of the CFO and the finance function;
- The recent internal audit report highlighted material risk that requires immediate attention i.e. irregular expenditure reported in the annual report; and
- Supply Chain Unit is in the process of implementation of the contract management module on Oracle. This will address the weakness in financial reporting and internal controls that resulted in the irregular expenditure and incomplete commitments list.

3. QUANTITATIVE ASPECTS

3.1. Materiality Level for Consideration:

The level of materiality for 2018/19 has been set as follows:

- Assets R4, 068,435 x 0.5% = R20, 342,175 for transactions in the Statement of Financial Position, the 2017/18 audited total assets balance was used.
- Gross revenue R6, 515,584 x 0.5% = R32,577,920 for classes of transactions in the Statement of Financial Performance, the 2017/18 budget was used.

3.1.1. Qualitative Aspects

Materiality is not merely related to the size of the entity and the elements of its financial statements. Obviously, misstatements that are large either individually or in the aggregate may affect a "reasonable" user's judgement. However, misstatements may also be material on qualitative grounds. These qualitative grounds include amongst others:

- New ventures that the NHLS has entered into.
- Unusual transactions entered into that are not of a repetitive nature and are disclosable purely due to the nature thereof and knowledge thereof affecting the decision making of the user of the financial statements.
- Transactions entered into that could result in reputational risk to the NHLS.
- Any fraudulent or dishonest behaviour of an officer or staff of the NHLS.
- Procedures/processes required by legislation or regulation (e.g. PFMA and the Treasury Regulations).

3.1.2. Statutory Application

PFMA Section	Quantitative [Amount]	Qualitative [Nature]
Section **55 (2)**	**The annual report and financial statements … must -** (b) include particulars of: (i) any material losses through criminal conduct and any irregular expenditure and fruitless and wasteful expenditure that occurred during the financial year.	Both quantitative and qualitative aspects as referred to in sections 2.1 and 3, define materiality for purposes of losses through criminal conduct. All losses relating to irregular and fruitless, and wasteful expenditure are regarded as material due to the application of the nature of these losses (qualitative aspects).

Section **54 (2)**	**Information to be submitted by accounting authorities** (1) Before a public entity concludes any of the following transactions, the accounting authority for the public entity must promptly and in writing inform the relevant treasury of the transaction and submit relevant particulars of the transaction to its executive authority for approval of the transaction: (a) establishment or participation in the establishment of a company; (b) participation in a significant partnership, trust, unincorporated joint venture or similar arrangement; (c) acquisition or disposal of a significant shareholding in a company; (d) acquisition or disposal of a significant asset; (e) commencement or cessation of a significant business activity; and (f) a significant change in the nature or extent of its interest in a significant partnership, trust, unincorporated joint venture or similar arrangement.	Subject to approval by the Minister of Health and in line with the provisions set out in the NHLS Act and the NHLS rules: • Any transaction that quantitatively the Board has to approve in terms of the Delegation of Authority. • Qualifying transactions exceeds R28.6m. • Greater than 20% of shareholding • Qualifying transactions exceeds R28.6m. • Any transaction where the income from or the investment in the business activity exceeds the amount determined in section 2.1 and section 3. • Where the change in the interest results in a change in the accounting treatment of the arrangement.

3.2 NHLS Cost Containment Plan

3.2.1 Introduction

Cost containment involves a detailed plan and process of maintaining NHLS cost and purchased prices within certain specified target limits over a period of time. The NHLS faces a number of challenges in today's economic climate. These include internal expectations requiring cost reduction results but without disruption to NHLS, operations and which require collaboration among functional teams. It is understood that policy can drive cost reductions and in most cases, these are just as important as "price reductions".

This plan identifies two types of cost containment areas (see scope below):

- Goods and services.
- People and processes.

3.2.2 Approach:

Containing costs is most successfully achieved by following an organised and strategic, but practical approach. To implement the NHLS cost containment plan, it is recommended that one or more of the following steps are applied:

- Validate costs and review spend detail and agreements.
- Optimise functions and/or technology.
- Create efficiencies (via people and/or technology).
- Reprioritise and consolidate efforts.
- Implement/revise policies and procedures.
- Outsource / in-source.

Challenges identified include:

- Resources (people) constraints (budget).
- Limited budget funds for professional development.
- Flexibility to quickly change sourcing strategies to rapidly changing market conditions.
- Margin pressures and pressures on NHLS staff to provide substantial cost improvements/ reductions.
- Finding and retaining employees with high leadership and process improvement skill sets.
- Resources and budget funds to implement systems.

3.2.3 Plan Objectives

- Contain spend and reduce costs in line with the Cost containment measures outlined in National Treasury Instructions No 02 and No 3 of 2016/17.
- Achieve results without interrupting critical business operations.
- Targets need to be achieved in a timely manner.

Accomplishing these cost containment reduction objectives requires:

- Experience.
- Functional Knowledge.
- Strong project management.
- Correct business analysis skills.
- Ability to effectively manage the change and make it stick.

3.2.4 Planned Scope

3.2.4.1. Goods and Services

1. Revisit core spend areas and agreements:

a) Review existing agreements to ensure that pricing is in line with current market conditions

b) If appropriate, re-negotiate current agreements. Factors include:

- Pricing.
- Performance metrics (quality, service levels).
- Specifications (are they too tight and rigid or out-of-date).
- Provide incentives to incumbent suppliers to offer savings ideas and share in the savings achieved.
- Payment terms and conditions.

2. Identify and address areas of spend that have not been previously evaluated:

a) Work collaboratively with business units where spend may have been considered off limits (i.e. legal services, events, benefits etc.).

b) Look for areas that have a short implementation and a short payback period.

3.2. Capital projects

a) Options to consider:

- Proceed with scheduled work.
- Delaying the capital project.
- Reduce the scope of work to be accomplished.
- Cancelling the work altogether.

3.4 People and processes

a) Optimise inventory:

- Optimise individual business unit inventories – too many and are they in the correct locations?
- Update policies for inventory management.

b) Procure-to-pay process improvement:

- Implement sustainable, standardised and simplified processes.
- Remove bottlenecks in the process.
- Increase service level response to internal customers.
- Reallocate personnel.
- Maximise efficiency of personnel.
- Perform service functions at reduced cost (reduced overhead).

c) Supplier relationships:

- Check to see if NHLS is being billed at the agreed to pricing.
- Are methods for price increases/decreases verified for correctness in the invoicing and payment process.

d) Information technology:

- Project and spending transparency – what projects are being prioritised and worked on. Prioritise using ROI.
- Selective control – Relocate spending to high value areas.
- Process and system optimisation - review all non-revenue generating processes and the supporting systems for inefficiency.
- Lifecycle management – retire underperforming hardware and software.
- Eliminate unnecessary system reports.
- Reduce implementation time by becoming better at project management.

3.5 Expenditure Estimates

a) 2018/19 Budget Request:

- The National Health Laboratory Service receives its income from providing laboratory tests to patients predominantly from public hospitals. Revenue from the provincial hospitals is approximately 95% of the total revenue received. The tariff increase for the laboratory tests is approved by the Minister of Health. The entity had produced a surplus of R272 million in

the financial year 2015/16 compared to a deficit of R1.880 billion in 2016/17. This can be attributed the debt impairment of R2.515 billion.

b) Goods and Services:

- Goods and services expenditure will increase by 15% year-on-year from R1.56bn in 2017/18 to R1.796bn in 2018/19 due to under spend in 2017/18. The volume will increase by 1% overall due to gate keeping initiatives by the provincial department of health.
- The tariff price increase is requested at 5.7% as per the Medium Term Framework Guidelines set by the National Treasury.

c) Personnel Costs:

- Personnel expenditure will increase by 17% year-on-year from R3.3bn in 2017/18 to in 2018/19 R4.1bn. Personnel cost is projected to be underspent by 4% within the current year due to cash flow constraints.
- Insourcing of Gardening and Cleaning and Security has been included in personnel costs.
- Personnel increase is requested at 7.4% which aligns with historical trends within the NHLS.

3.6 Operational Efficiency

Health systems, including laboratory services, are undergoing major reviews with the aim of optimisation of resources, improving quality and ensuring a more affordable and sustainable service. This is even more relevant in our own country with the introduction of National Health Insurance (.

It is against this background that the task team was put together to:

Provide a clinically acceptable diagnostic pathology service on a national basis, vested in good laboratory practise and improved quality, effectively lifting the bar of diagnostic pathology services on a national level, and also to position, at the core of transformation, the teaching and research mandates of the NHLS.

Income & Expenditure Statement

Statement of Financial Performance	Audited	Audited	Budget	Forecast	Medium-Term Estimate		
Budget 2019/20	**2016/17**	**2017/18**	**2018/19**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Volumes (Units)	91,302,407	92,468,360	94,156,184	93,977,952	94,933,377	96,413,882	98,809,581
Volume Increase	5%	1%	2%	0%	1%	2%	2%
Tariff Increase	4%	5%	6%	6%	5%	5%	5%
Labour Increase	8%	7%	7%	9%	9%	9%	9%
Goods & Services	7%	6%	6%	6%	6%	6%	6%
Average Test Price	69.63	76.38	80.73	80.73	84.77	89.01	93.46
Revenue (R000's)							
Test Revenue	6,357,324	7,062,494	7,578,661	7,527,114	7,988,901	8,525,603	9,161,561
NICD - Other Revenue	16,673	24,814	24,132	21,578	26,400	27,720	29,106
NIOH - Other Revenue	5,638	10,910	10,812	15,907	16,886	17,730	17,730
Grants and Other	269,119	398,257	248,395	373,450	396,552	421,535	448,513
Interest Received	153,866	102,936	68,000	158,210	166,121	176,088	186,653
Transfers received	715,270	746,464	789,759	789,759	833,986	874,434	921,654
Total revenue	**7,517,890**	**8,345,876**	**8,719,759**	**8,886,018**	**9,428,846**	**10,043,110**	**10,765,217**
Expenses							
Compensation of employees	3,242,741	3,326,192	3,868,630	3,879,847	4,229,034	4,609,647	5,024,515
Goods and services	6,155,359	3,717,109	4,615,115	4,805,307	5,103,236	5,335,467	5,668,413
Total expenses	**9,398,100**	**7,043,301**	**8,483,745**	**8,685,155**	**9,332,270**	**9,945,114**	**10,692,928**
Surplus/(Deficit)	**- 1,880,210**	**1,302,575**	**236,014**	**200,863**	**96,575**	**97,996**	**72,289**

PART B: PROGRAMME AND SUB-PROGRAMME PLANS

4. PROGRAMME 1: ADMINISTRATION

Programme Purpose

The administration programme plays a crucial role in the delivery of the NHLS services through the provision of a range of support services, such as organisational development, HR and labour relations, information technology, property management, security services, legal, communication and the integrated planning function. NHLS depends greatly, eight on the effective management of financial resources and procurement process as administered within the financial department. Generating sufficient revenue remains a critical focus area for NHLS to ensure financial viability and sustainability. There are four sub-programmes, namely:

- **Financial Management -** The purpose of this sub-programme is to improve the cash flow position of the NHLS.
- **Governance and Compliance -** The purpose of this sub-programme is to provide support services and ensure compliance with relevant legislation.
- **Information Technology (IT) -** The purpose of this sub-programme is to build a robust and agile IT infrastructure and innovative digital solutions to facilitate and enable state of the art laboratory services at NHLS by 2020.
- **Human Resources Management –** The purpose of this sub–programme is to provide effective services through efficient processes and adequate Human Resources.

4.1. Sub-Programme – Financial Management

Sub-Programme –Financial Management	
Strategic Objective 1.1	Effective financial management systems, policy and practice
Objective Statement:	Develop systems and policies which will govern effective financial management and good practices.
Strategic Objective 1.2	Improve revenue collection, billing systems and the liquidity position of the NHLS
Objective Statement	Develop a revenue collection plan and produce comprehensive invoices that meet the acceptable standards.
Strategic Objective 1.3	Develop and Implement the National Procurement Plan
Objective Statement	The NHLS shall have active supplier contracts, appropriate and functional equipment and supplies to supply uninterrupted service delivery.

4.1.1. Programme performance indicators and annual targets for 2019/20

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
1.1.1	Review all finance policies.	New	New	**New**	New	15	15	15
1.2.1	*Ratio of current assets to current liabilities	2.4 times	2.7 times	***1.9 times**	2.6 times	2:1	2:1	2:1

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
1.2.2	*Cash flow coverage (Operating cash in-flows / total debt)	2.2 times	2.0 times	***2.3 times**	1.5 times	1.5:1	2:1	2:1
1.2.3	*Percentage of material cost to revenue	38% (44%)	39% (44%)	***43%**	43%	43%	43%	43%
1.2.4	*Number of Creditors days	95	68	***51**	60	60	60	60
1.2.5	*Number of Debtors days	199	164	***260**	150	250	225	200
1.3.1	Percentage turnaround time for awarding tenders within 90 days.	New	New	**New**	80%	80%	85%	90%

***The actual figures have been restated on the basis of revised ratio calculation to bring them in line with more accepted ratio standards calculations. Due to these restatements, it has also been necessary to restate the planned targets to bring them in line with the relevant ratio calculations.*

4.1.2. Quarterly targets for 2019/20

Performance indicator		Reporting period	Annual target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
1.1.1	Review of all finance policies	Annually	15	N/A	N/A	N/A	15
1.2.1	Ratio of current assets to current liabilities	Quarterly	2:1	1.5:1	1.3:1	1.8:1	2:1
1.2.2	Cash flow coverage (Operating cash flows / total debt)	Quarterly	1.5:1	1.5:1	1.3:1	1.1:1	1.5:1

Performance indicator		Reporting period	Annual target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
1.2.3	Percentage of material cost to revenue	Quarterly	43%	43%	43%	43%	43%
1.2.4	Number of Creditors days	Quarterly	60	60	60	60	60
1.2.5	Number of Debtors days	Quarterly	250	270	260	255	250
1.3.1	Percentage turnaround time for awarding tenders within 90 days	Quarterly	80%	80%	80%	80%	80%

4.2. Sub-Programme – Governance and Compliance

Sub-Programme – Governance and Compliance	
Strategic Objective 1.4	Audit opinion of the Auditor General.
Objective Statement:	Clean audit outcome by ensuring continuous management practices through compliance with standards operating procedures and systems within the NHLS.

4.2.1. Programme performance indicators and annual targets for 2019/20

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium-term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
1.4.1	Unqualified audit opinion of the Auditor General	Unqualified	Qualified	**Qualified**	Unqualified	Unqualified	Unqualified	Unqualified

4.2.2. Quarterly targets for 2019/20

Performance indicator		Reporting period	Annual target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
1.4.1	Unqualified audit opinion of the Auditor General	Annually	Unqualified	N/A	N/A	N/A	Unqualified

4.3. Sub-Programme – Information Technology and Communication

Sub-Programme – Information Technology and Communication	
Strategic Objective 1.5	Modernised and efficient IT systems
Objective Statement	Invest in modernised, innovative and efficient IT systems that are patient centred.

4.3.1. Programme performance indicators and annual targets for 2019/20

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
1.5.1	Number of dashboard, analytics and customer channels projects implemented	New	New	**4**	4	4	4	4
1.5.2	Percentage System Uptime for Critical Systems at facility level	99%	99%	**99%**	99%	99%	99%	99%
1.5.3	Number of Modernisation Projects completed	New	New	**4**	10	10	10	15

4.3.2. Quarterly targets for 2019/20

Performance indicator		Reporting period	Annual target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
1.5.1	Number of dashboard, analytics and customer channels projects implemented	Quarterly	4	1	1	1	1
1.5.2	Percentage System Uptime for Critical Systems at facility level	Quarterly	99%	99%	99%	99%	99%
1.5.3	Number of Modernisation Projects completed	Quarterly	10	2	3	3	2

4.4. Sub-Programme – Human Resource Management

Sub-Programme – Human Resource Management	
Strategic Objective 1.6	Appropriately trained human resources in adequate numbers to staff the service
Objective Statement:	Provide effective services through efficient processes and adequate human resources. To improve the motivation and performance levels of all employees.
Strategic Objective 1.7	Human Resource Workforce planning tool to determine staffing norms and training needs
Objective Statement	Ensure that the laboratory service and supporting services have adequate number of staff necessary to provide service.

4.4.1. Programme performance indicators and annual targets for 2019/20

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
1.6.1	Staff Turnover ratio	New	New	**New**	5%	5%	5%	5%
1.6.2	Average staff recruitment turnaround within 90 days	New	New	**New**	80%	80%	85%	90%
1.6.3	Percentage of Employment Equity achieved across grade C,D & E relative to EAP	82%	89%	**88%**	85%	85%	85%	85%
1.6.4	Percentage of employees with approved and evaluated performance agreements	49%	63%	**80%**	95%	95%	95%	99%

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
1.7.1	Percentage of employees trained as per the approved training plan (WSP)	New	New	**New**	90%	90%	90%	90%

4.4.2. Quarterly targets for 2019/20

Performance indicator		Reporting period	Annual target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
1.6.1	Staff Turnover ratio	Quarterly	5%	5%	5%	5%	5%
1.6.2	Average staff recruitment turnaround within 90 days	Quarterly	80%	80%	80%	80%	80%
1.6.3	Percentage of Employment Equity achieved across grade C,D & E relative to EAP	Annually	85%	N/A	N/A	N/A	85%
1.6.4	Percentage of employees with approved and evaluated performance agreements	Semester	95%	N/A	95%	N/A	95%
1.7.1.	Percentage of employees trained as per the approved training plan (WSP)	Quarterly	90%	20%	40%	40%	90%

4.5. Programme 1 - Reconciling performance targets with the Budget and MTEF

Expenditure Estimates

Programme 1							
Administration	**Audited**	**Audited**	**Budget**	**Forecast**	**Medium-Term Estimate**		
R000's	**2016/17**	**2017/18**	**2018/19**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Expenses	1,202,615	380,271	920,302	1,077,127	1,152,762	1,233,884	1,320,903
Compensation of employees	200,460	267,955	331,110	316,185	344,642	375,660	409,469
Goods and services	1,002,155	112,316	589,192	760,942	808,120	858,224	911,434

5. Programme 2: Surveillance of Communicable Diseases

5.1. Programme Purpose

The National Institute for Communicable Diseases is a national public health institute for South Africa providing reference microbiology, virology, epidemiology, surveillance and public health research to support the government's response to communicable disease threats.

5.2. Strategic objectives

Programme – Surveillance of Communicable Diseases	
Strategic Objective 2.1	A robust and efficient communicable disease surveillance system and outbreak response
Objective Statement:	Maintain comprehensive communicable diseases surveillance programs for leading infectious disease, and maintain an effective response time.
Strategic Objective 2.2	Training and Research in Surveillance and Communicable Diseases
Strategic Statement	To conduct relevant public health related research and train qualified professionals in communicable diseases.

5.2.1. Programme performance indicators and annual targets for 2019/20

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
2.1.1	Number of GERMS-SA reports produced.	New	New	New	New	1	1	1
2.1.2	Percentage of outbreaks responded to within 24 hours after notification	100%	100%	**100%**	100%	100%	100%	100%
2.1.3	Percentage of SANAS accredited NICD laboratories	100%	100%	**100%**	100%	100%	100%	100%
2.1.4	Annual report of population - based cancer surveillance	New	New	**New**	1	1	1	1
2.1.5	Number of NICD laboratories with WHO reference status	New	New	**New**	Maintenance	7 laboratories with WHO reference status	7 laboratories with reference status	7 laboratories with who reference status
2.2.1	Number of articles published in the peer reviewed journals	120	128	**148**	130	130	140	150
2.2.2	*Number of field epidemiologists qualified	5	14	**8**	7	7	7	7

***** *Number of qualified epidemiologists was 14 in 2016/17 because of a high number of repeating students*

5.2.2. Quarterly targets for 2019/20

Performance indicator		Reporting period	Annual target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
2.1.1	Number of GERMS-SA reports produced.	Annually	1	N/A	N/A	N/A	1
2.1.2	Percentage of outbreaks responded to within 24 hours after notification	Quarterly	100%	100%	100%	100%	100%
2.1.3	Percentage of SANAS accredited NICD laboratories	Annually	100%	N/A	N/A	N/A	100%
2.1.4	Annual report of population - based cancer surveillance	Annually	1	N/A	N/A	N/A	1
2.1.5	Number of NICD laboratories with WHO reference status	Annually	7 laboratories with WHO reference status	N/A	N/A	N/A	7 laboratories with WHO reference status
2.2.1	Number of articles published in the peer reviewed journals	Quarterly	130	25	30	40	35
2.2.2	Number of field epidemiologists qualified	Annually	7	N/A	N/A	N/A	7

5.3. Reconciling performance targets with the Budget and MTEF

Expenditure Estimates

Programme 2							
Surveillance of communicable diseases	**Audited**	**Audited**	**Budget**	**Forecast**	**Medium-Term Estimate**		
R000's	**2016/17**	**2017/18**	**2018/19**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Expenses	271,645	352,693	352,518	428,783	462,689	499,356	539,015
Compensation of employees	130,223	213,531	216,433	261,485	285,019	310,670	338,631
Goods and services	141,422	139,162	136,086	167,298	177,670	188,686	200,385

6. Programme 3: Occupational and Environmental Health and Safety

Environment in this context refers to the environment that is contaminated through workplace activities or that can be protected from contamination through workplace interventions. Safety in this context refers to the synergies between occupational health and occupational safety such as in risk assessments, ergonomic assessments, teaching and training and surveillance of occupational diseases and injuries.

6.1 Programme Purpose

The National Institute for Occupational Health (NIOH) is a National Public Health Institute, which provides occupational and environmental health and safety support across all sectors of the economy to improve and promote workers' health and safety. National and provincial government departments and public entities are important clients, including the Medical Bureau for Occupational Diseases (MBOD) of the NDoH. The Institute achieves this by i) providing occupational medicine, hygiene, advisory, statutory pathology and laboratory services, ii) conducting research and iii) providing teaching and training in occupational and environmental health and safety.

6.2. Strategic objectives

Programme – Occupational and Environmental Health services	
Strategic Objective 3.1	Robust and efficient Occupational and Environmental Health Services
Objective Statement:	Provide and improve Occupational and Environmental Health services including laboratory testing, hazard and health assessments surveillance reports, and NHLS OHS audits.
Strategic Objective 3.2.	Research and Training in Occupational and Environmental Health and Safety
Objective Statement	Promote and conduct research on occupational and environmental health, including gender issues, in South Africa; and advance capacity building to strengthen human resources in occupational and environmental health and safety.

6.2.1 Programme performance indicators and annual targets for 2019/20

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
3.1.1	Percentage of occupational and environmental health laboratory tests conducted within predefined turn-around time	77%	93%	**86%**	90%	90%	90%	90%
3.1.2	Number of occupational and environmental health and safety assessments completed	17	22	**29**	30	30	35	40
3.1.3	Number of surveillance reports produced	New	New	**2**	3	4	4	4
3.1.4	Percentage of NHLS laboratories audited for health and safety which were below targeted compliance in 2018/19	New	New	**98%**	95%	95%	95%	95%
3.2.1	Number of articles published in the peer reviewed journals	23	24	**25**	27	27	30	35
3.2.2	Number of students, interns, registrars under supervision.	23	24	**28**	26	26	30	30

6.2.2. Quarterly targets for 2019

Performance indicator		Reporting period	Annual target 2019	Quarterly targets			
				1st	2nd	3rd	4th
3.1.1	Percentage of occupational health and environmental health laboratory tests conducted within predefined turn-around time	Quarterly	90%	90%	90%	90%	90%
3.1.2	Number of occupational and environmental health and safety assessments completed	Quarterly	30	5	10	15	30
3.1.3	Number of surveillance reports produced	Annually	4	N/A	N/A	N/A	4
3.1.4	Percentage of NHLS laboratories audited for health and safety which were below targeted compliance in 2018/19	Quarterly	95%	10%	30%	30%	25%
3.2.1	Number of articles published in the peer reviewed journals	Quarterly	27	5	5	8	9
3.2.2	Number of students, interns, registrars under supervision	Annually	26	N/A	N/A	N/A	26

6.3. Reconciling performance targets with the Budget and MTEF

Expenditure Estimates

Programme 3							
Occupational health	**Audited**	**Audited**	**Budget**	**Forecast**	**Medium-Term Estimate**		
R000's	**2016/17**	**2017/18**	**2018/19**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Expenses	90,101	114,872	125,126	133,890	145,214	157,511	170,868
Compensation of employees	45,607	84,787	87,228	107,944	117,659	128,248	139,791
Goods and services	44,494	30,085	37,898	25,946	27,555	29,263	31,077

7. Programme 4: Academic Affairs, Research and Quality Assurance

7.1. Programme Purpose

The main purpose of this programme is to strengthen the mandate of the NHLS of maintaining and providing quality assured and accredited laboratory medicine and the academic platform. Two of the focus areas within this programme are to ensure that research is conducted to contribute to service delivery improvement and quality, and to ensure national coverage by NHLS pathologists. The aim is to oversee and collaborate with various training institutions that contribute to the development of qualified and skilled people operating within the scientific field of pathology services.

- **Sub-Programme - Quality Assurance -** The purpose of this sub-programme is to improve Total Quality Management systems within laboratories and support structures to improve the quality of results issued by NHLS laboratories.

- **Sub-Programme - Academic Affairs -**The purpose of this sub-programme is to promote capacity building of health professionals to strengthen a business case for sustained development for the NHLS through the development of Pathologists, Medical Scientists, Medical Technologists and Medical Technicians.

- **Sub-Programme – Research and Innovation -** The purpose of this sub-programme is to increase the knowledge base on diseases and influence the decision taken to diagnose, treat and care for these diseases through research outputs and articles published.

7.2. Sub-Programme – Quality Assurance

Sub-Programme – Quality Assurance	
Strategic Objective 4.1	Improved Quality Management Systems
Objective Statement:	Improve Total Quality Management systems within laboratories and support departments to increase certification of support structure and accreditation of laboratories.

7.2.1. Programme performance indicators and annual targets for 2019

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
4.1.1	Percentage compliance achieved by laboratories during annual quality compliance audits	81%	83%	**90%**	85%	90%	95%	98%
4.1.2	Number of National Central laboratories that are SANAS Accredited	86%	90%	**94.3%**	97%	53	53	53
4.1.3	Number of Provincial Tertiary laboratories that are SANAS Accredited	52%	47%	**70.6%**	75%	13	14	15
4.1.4	Number of Regional laboratories that are SANAS Accredited	37%	11%	**27%**	8	12	16	20
4.1.5	Number of District laboratories that are SANAS Accredited	New	2	**5**	5	10	14	18

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
4.1.6	Percentage of laboratories achieving proficiency testing scheme performance standards of 80%	80%	87%	**82%**	94%	90%	95%	98%

7.2.2. Quarterly targets for 2019

Performance indicator		Reporting period	Annual target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
4.1.1	Percentage compliance achieved by laboratories during annual quality compliance audits	Annually	90%	N/A	N/A	N/A	90%
4.1.2	Number of National Central laboratories that are SANAS Accredited	Annually	53	N/A	N/A	N/A	53
4.1.3	Number of Provincial Tertiary laboratories that are SANAS Accredited	Annually	13	N/A	N/A	N/A	13
4.1.4	Number of Regional laboratories that are SANAS Accredited	Annually	12	N/A	N/A	N/A	12
4.1.5	Number of District laboratories that are SANAS Accredited	Annually	10	N/A	N/A	N/A	10

Performance indicator		Reporting period	Annual target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
4.1.6	Percentage of laboratories achieving proficiency testing scheme performance standards of 80%	Quarterly	90%	90%	90%	90%	90%

7.3. Sub-Programme – Academic Affairs

Sub-Programme –Academic Affairs	
Strategic Objective 4.2	Increase pool of available pathology health professionals and pathologist national coverage
Strategic Objective 4.3	Improved Training Platform
Objective Statement	Promote capacity building of health professionals to strengthen a business case for sustained development for the NHLS through the development of pathologists, medical scientists, medical technologists and medical technicians. Ensure adequate and relevant contribution to diagnose laboratory services outside Academic centres, access by and clinical interaction with clinicians outside academic centres and contribution to the improvement of service delivery across the NHLS platform by pathologists.

7.3.1. Programme performance indicators and annual targets for 2019

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
4.2.1	Number of pathology registrars admitted and trained in NHLS	New	New	**63**	30	30	30	30
4.2.2	Number of intern medical scientists admitted and trained in NHLS	New	New	New	50	50	50	50
4.3.1	Number of intern medical technologists and student medical technicians admitted and trained in NHLS	New	New	New	*100	*200	200	200
4.3.2	Number of bilateral or umbrella agreements signed with universities and the universities of technology	New	New	New	16	18	N/A	N/A

** The indicator for medical technologists and medical technicians has been combined in 2019/20, hence the target has been recalculated from 100 to 200.*

7.3.2. Quarterly targets for 2019

Performance indicator		Reporting period	Annual target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
4.2.1	Number of pathology registrars admitted and trained in the NHLS	Annually	30	N/A	N/A	N/A	30
4.2.2	Number of medical intern scientists admitted and trained in the NHLS	Annually	50	N/A	N/A	N/A	50
4.3.1	Number of intern medical technologists and student medical technicians admitted and trained in the NHLS	Annually	200	N/A	N/A	N/A	200
4.3.2	Number of bilateral or umbrella agreements signed with universities and the universities of technology	Annually	18	N/A	N/A	N/A	18

7.4. Sub-Programme – Research

Sub-Programme –Research	
Strategic Objective 4.4	Develop and implement a national research agenda for laboratory service for the NHI
Objective Statement:	Increase the knowledge base on diseases and influence the decisions taken to diagnose, treat and care for these diseases through research outputs and articles published and explore opportunities for innovation.

7.4.1 Programme performance indicators and annual targets for 2019

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	**2016/17**	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
4.4.1	*Number of articles published in the peer reviewed journals	500	570	**588**	590	600	650	700

**Number of articles published by the NHLS includes the number of articles published by NICD, NCR and NIOH. The total number of articles published will be revised after the formation of NAPHISA.*

7.4.2. Quarterly targets for 2019

Performance indicator		Reporting period	Annual Target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
4.4.1	Number of articles published in the peer reviewed journals	Quarterly	600	100	200	200	100

**Number of articles published by the NHLS includes the number of articles published by NICD, NCR and NIOH. The total number of articles published will be revised after the formation of NAPHISA.*

7.5 Reconciling performance targets with the Budget and MTEF

Expenditure Estimates

Program 4							
AARQA	**Audited**	**Audited**	**Budget**	**Forecast**	**Medium-Term Estimate**		
R000's	**2016/17**	**2017/18**	**2018/19**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Expenses	190,821	221,475	458,693	241,946	258,730	276,715	295,990
Compensation of employees	58,628	68,911	91,913	63,678	69,409	75,656	82,465
Goods and services	132,193	152,565	366,780	178,268	189,321	201,058	213,524

7.6. Programme 5– Laboratory Service

7.6.1. Programme Purpose

This programme represents the core business of the NHLS as mandated by the NHLS Act, to provide cost-effective and efficient health laboratory services to all public sector health care providers; any other government institution inside and outside of South Africa that may require such services; and any private health care provider that requests such services. It is anticipated that the NHLS should provide a comprehensive, accessible, quality and timeous pathology service resulting in improved patient care. There are two sub-programmes, namely:

Sub-Programme – Operational Efficiency - The purpose of this sub-programme is to Increase the overall turnaround times of all tests within every laboratory across South Africa and improve levels of quality of tests performed in the laboratories.

7.7 Sub-Programme – Operational Efficiency

Sub-Programme – Operational Efficiency	
Strategic Objective 5.1	Improved Turnaround times
Objective Statement:	Increase the overall turnaround times of all tests within every laboratory across South Africa.
Strategic Objective 5.2	Laboratory Service equipped, and functioning at a level that provides accurate, reliable results timeously
Objective Statement	All laboratories shall have appropriate functional equipment and adequate supplies to support uninterrupted delivery of service.

7.7.1. Sub Programme performance indicators and annual targets for 2019

Programme performance indicator		Audited/Actual historical and planned performance				Estimated performance	Medium term targets	
		2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
5.1.1	*Percentage TB Microscopy tests performed within specified turnaround time	91% (48 hours)	95.72% (48 hours)	**93.91% (40 hours)**	90% (40 hours)	95% (40 hours)	98% (40 hours)	100% (40 hours)
5.1.2	*Percentage TB GeneXpert tests performed within specified turnaround time	New	96.68% (48 hours)	**91.25% (48 hours)**	90% (40 hours)	90% (40 hours)	93% (40 hours)	95% (40 hours)
5.1.3	*Percentage CD4 tests performed within specified turnaround time	89% (48 hours)	94.44% (48 hours)	**91.58% (40 hours)**	90% (40 hours)	90% (40 hours)	93% (40 hours)	95% (40 hours)
5.1.4	Percentage HIV Viral Load tests performed within 96 hours	64%	87.30%	**82.70%**	75%	75%	80%	85%
5.1.5	Percentage HIV PCR tests performed within 96 hours	73%	81.90%	**76.85%**	80%	85%	90%	95%
5.1.6	Percentage Cervical Smear tests performed within 5weeks.	48%	96.87%	**90.39%**	80%	90%	95%	98%
5.1.7	Percentage of laboratory tests (FBC) performed within 8 hours	New	New	**94.48%**	90%	95%	98%	98%
5.1.8	Percentage of laboratory tests (U&E) performed within 8 hours	New	New	**91.72%**	90%	93%	95%	98%

7.7.2. Quarterly targets for 2019

Performance indicator		Reporting period	Annual target 2019/20	Quarterly targets			
				1st	2nd	3rd	4th
5.1.1	Percentage TB Microscopy tests performed within specified turnaround time	Quarterly	95% (40 hours)	95%	95%	95%	95%
5.1.2	Percentage TB GeneXpert tests performed within specified turnaround time	Quarterly	90% (40 hours)	90%	90%	90%	90%
5.1.3	Percentage CD4 tests performed within specified turnaround time	Quarterly	90% (40 hours)	90%	90%	90%	90%
5.1.4	Percentage HIV Viral Load tests performed within 96 hours	Quarterly	75%	75%	75%	75%	75%
5.1.5	Percentage HIV PCR tests performed within 96 hours	Quarterly	85%	85%	85%	85%	85%
5.1.6	Percentage Cervical Smear tests performed within 5 weeks	Quarterly	90%	90%	90%	90%	90%
5.1.7	Percentage of laboratory tests (FBC) performed within 8 hours	Quarterly	95%	95%	95%	95%	95%
5.1.8	Percentage of laboratory tests (U&E) performed within 8 hours	Quarterly	93%	93%	93%	93%	93%

7.8 Reconciling performance targets with the Budget and MTEF

Expenditure Estimates

Programme 5							
Laboratory Service	**Audited**	**Audited**	**Budget**	**Forecast**	**Medium-Term Estimate**		
R000's	**2016/17**	**2017/18**	**2018/19**	**2018/19**	**2019/20**	**2020/21**	**2021/22**
Expenses	7,642,918	5,973,989	6,627,105	6,803,408	7,312,875	7,777,647	8,366,153
Compensation of employees	2,793,552	2,691,008	3,130,196	3,130,555	3,412,305	3,719,412	4,054,159
Goods and services	4,849,366	3,282,381	3,496,909	3,672,859	3,900,570	4,058,235	4,311,993

ANNEXURE D

Vision

Efficient Patient Centred Services and Global Centre of Excellence for Innovative Laboratory Medicine.

Mission

To provide quality, affordable and sustainable health laboratory services through an integrated network of laboratories, the provision of training for health science education and the execution of innovative and relevant research with focus on patient care.

Values

The NHLS has identified the following values as the principles that will govern behaviour of all employees within the organisation:

#	Value	Description
3.1	Care	*The primary goal of the NHLS is to ensure the overall care and well-being of patients by supporting a strong and effective public healthcare system. In addition, we also care about the environment and society*: This involves consideration of our impact on the environment and local communities, acting with concern and sensitivity. We are committed to behave ethically and contribute to the economic development of the workforce, community and society at large. It's about giving back to the society and the environment as well as capacity building for a sustainable future.
3.2	Unity of Purpose	*All Working together towards a common goal*: All employees should be united by a common vision and support each other in contributing to a beneficial and safe working environment. Teamwork and cohesion are key and collaboration should include pooling resources and communicating about each other's roles. We foster trust and honesty in interactions with colleagues and behave professionally. We value all contributions, treat everyone consistently and fairly and capitalise on diverse viewpoints. We will address and resolve conflicts effectively. We will listen to others to fully understand and give clear, concise information

#	Value	Description
		when communicating expectations and accountabilities and providing feedback during coaching. We will make the NHLS' goals a priority, use NHLS' resources wisely and effectively and take responsibility for our work
3.3	Service Excellence	V*aluing good work ethics and striving towards service excellence for customers*: This represents being committed to working with customers and building good relationships with them by understanding their needs, responding quickly and providing appropriate solutions. We will treat them with respect at all times; we are helpful, courteous, accessible, responsible and knowledgeable in our interactions. We understand that we have internal and external customers that we provide services and information to. This information should be presented in a clear and concise form, where the message is adapted to the audience.
3.4	Transformation	*Looking forward to the future and growing together*: We will encompass investing in professional growth of staff by sharing knowledge and experience, peer networking, education through training and seeking opportunities to develop. We will enable equitable representation of Race, Gender and People with Disabilities across all occupational levels within the organisation. This covers creative problem solving, informed risk-taking, learning from our mistakes and experiences and behaving professionally. We should adapt to change timeously and positively, address setbacks and ambiguity and adapt our thinking/approach as the situation changes to ensure long-term sustainability of transformation. Our ideas will be shared and implemented effectively. Leaders should develop innovative approaches and drive continuous improvement as well as effective and smooth change initiatives
3.5	Innovation	*Pioneering relevant research to address health challenges:* We are committed to fostering an environment that supports research, with particular emphasis on innovative approaches to diagnostics, surveillance and health systems strengthening to support national programs. We will work on identifying needs for

#	Value	Description
		priority health challenges in South Africa within the laboratory and at the clinical-laboratory interface. We will encourage operational research with an emphasis on measuring the impact of diagnostic interventions on patient care, ensuring these are cost effective, affordable, accessible and evidence-based. We will support the investment in the analysis of "big data' for surveillance of public health needs but also for addressing individual and community based healthcare needs. We will encourage social entrepreneurship and support innovative ideas and individuals to enable translation of new products and processes into clinical practice. We will encourage pioneering personalities to operate outside the classic research paradigm and generate intellectual property for which they are rewarded and adequately acknowledged. Partnerships with various universities, donors, NGOs and relevant government departments are critical to creating the needed space, funds and sustainability. Mentoring and communication with senior managers to change the way they view laboratory services will be a necessity. Novel approaches to training will be considered in the face of scarce skills, a large laboratory footprint and the ever-changing economic pressure on traditional learning structures.
3.6	Integrity	*Working with integrity, ethics and responsibility:* We will set and achieve goals, consistently delivering business results while complying with standards and meeting deadlines. We will display commitment to organisational success and ethical behaviour; proactively identifying ways to contribute and taking initiative to address problems/opportunities. We will build efficiencies in the best use of public resources. We will ensure integrity of financial information, and annual financial statements.

Strategic Outcome Orientated Goals

The goal statements and descriptions of each of the strategic outcome orientated goals (SOOG) are shown in the table below:

Goal	Goal Statement
Goal 1: **Modernised and Accessible Laboratory Service**	The vision for the NHLS is to provide 100% of hospitals at regional or above level with pathologist cover by 2020 and to provide a comprehensive, quality, cost effective and timeous pathology service which subscribes to international standards. This requires that all tests be carried out according to International Best Practice and that optimal use is made of technology to provide improved turnaround time.
Goal 2: **Academic Excellence in Training and Research**	To produce highly competent pathology health professionals who spearhead service delivery and locally relevant research. It is the ultimate strategic intent of the NHLS to ensure that research ultimately strengthens laboratory systems and influences policy development for improvement of health outcomes.
Goal 3 **Sound Governance and Improved Stakeholder Relations**	The NHLS must show accountability and transparency through communicating more frequently with its stakeholder on its strategic initiatives and key decisions, both internally and externally. The NHLS will ensure sound corporate governance through strict adherence and compliance with all relevant legislation, financial regulations, directives, policies and procedures.

Goal 4 **Effective, Efficient and Ethical Organisation for improved service delivery and implementation of NHI.**	Ensure effective management of the NHLS through efficient use of resources, integrated systems and improved monitoring and evaluation. With the introduction of National Health Insurance (NHI), it is essential that there is optimisation of resources. For this reason, a comprehensive review of the NHLS in its entirety, including but not limited to governance, service model, financial and funding models and workforce planning models is being undertaken. The NHLS must be transformed into an even more dynamic, effective and efficient entity which meets the need of its patients, builds capacity and grow the NHLS footprint.
Goal 5 **Efficient Financial Practices**	NHLS must ensure effective financial management, policy and practice and strengthen the management of financial resources and procurement processes. The NHLS must generate sufficient revenue to ensure financial viability and sustainability.
Goal 6 **Skilled, competent and motivated workforce**	Competent and motivated staff plays a vital role in ensuring organisational success. It is the intended goal of the NHLS to have the right number of staff with the right skills mix, at the right level available and employed in appropriate positions within the organisation.

Reviewed Organisational Structure

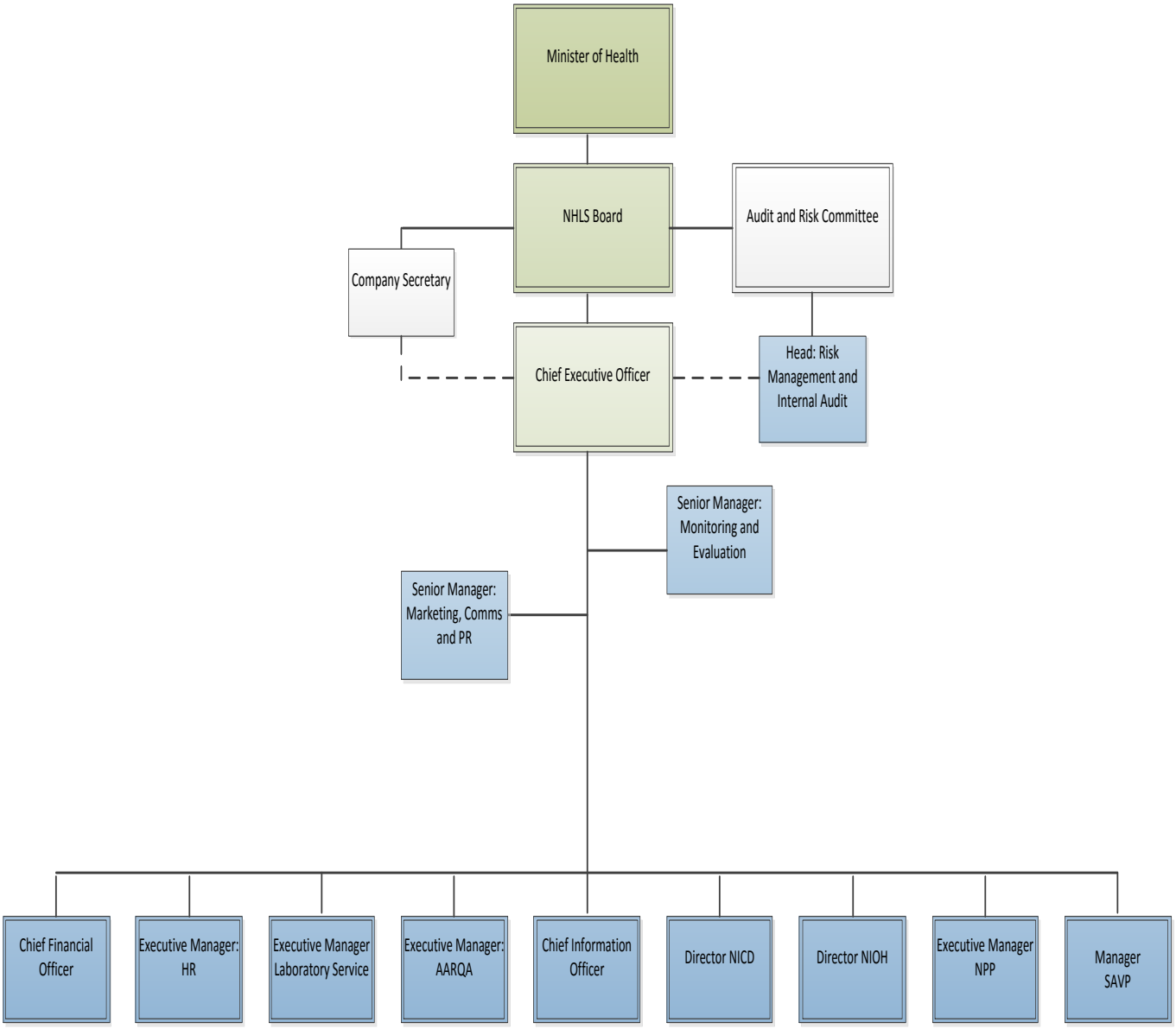
5.1. Organisational Structure – Management Structure

The NHLS Board of Directors (The Board) is the accounting authority of the NHLS in terms of the NHLS Act (Act 37 of 2000). Members of the Board are appointed by the Minister of Health.

The CEO is appointed by the Board. The Board further appoints the Executive Managers and they are accountable to the CEO. The-Board Secretary and the Manager: Audit and Risk have dual reporting lines. They are accountable to the Board and the Audit and Risk sub-committee respectively. They are both accountable to the CEO administratively.

The CEO appoints managers to his/her office for effective running of the office. The following managers are accountable to the CEO: Senior Manager: Monitoring and Evaluation; and the Senior Manager: Communications, Marketing and Public Relations.

The diagram below provides an indication of the high level organisational structure within the NHLS.



ANNEXURE F: Changes made to the Strategic Plan

Changes made to the first draft of the Strategic Plan and Annual Performance Plan		
Programme 1 – Administration		
Sub – Programme – Financial Management		
2018/19 (current)	**2019/20 (proposed change)**	**Reasons (motivation for change)**
KPI 1.1.1: Develop and implement the financial management policy and plan.	Review all finance policies	The financial management policy will have been developed and implemented. This will be reviewed annually to align with changes made to Treasury Regulations.
Sub-Programme – Governance and Compliance		
2018/19 (current)	**2019/20 (proposed change)**	**Reasons (motivation for change)**
KPI 1.4.1: Clean audit opinion of the Auditor General	Unqualified audit opinion of the Auditor General	Clean audit is over ambitious for 2019/20, since we need more time to clear findings raised in 2017/18 audit.
KPI 1.5.1: Effective monitoring tool to measure compliance with Board decisions and resolutions	Removed	This will be achieved in current financial year
KPI 1.6.1: Develop and implement methodology to collect and collate information to establish an effective monitoring and evaluation system	Removed	This will be achieved in the current financial year
KPI 1.6.2: Develop and implement an integrated reporting system to show compliance with key indicators and governance practices	Removed	This will be achieved in the current financial year
Strategic Objective 1.5: Strengthen oversight of the Board and Strategic objective 1.6: Effective monitoring and evaluation system.	Removed	The KPIs aligned to these objectives have been removed because they will be achieved in the current financial year.
Sub-Programme – Information Technology		
2018/19 (current)	**2019/20 (proposed change)**	**Reasons (motivation for change)**
Development of IT Strategy completed	Removed	This will be achieved in the current financial year.
Development of the IT roadmap in alignment with the IT strategy	Removed	This will be achieved in current financial year

Sub-Programme –Human Resources		
2018/19 (current)	**2019/20 (proposed change)**	**Reasons (motivation for change)**
KPI 1.9.1: Develop and implement Human Resource plan and the workforce model	Removed	The Human Resource plan will be developed and implemented in the current financial year. The workforce model will be integrated into the HR plan.
KPI 1.10.1: Develop and implement integrated performance management system	Removed	This will be achieved in the current financial year.
Strategic Objective 1.10: Implementation of the integrated performance management system to retain staff.	Removed	The KPI aligned to this strategic objective has been removed because it will be achieved in the current financial year.
Programme2: National Institute for Communicable Diseases		
2018/19 (current)	**2019/20 (proposed change)**	**Reasons (motivation for change)**
Percentage of identified prioritised diseases under surveillance	Number of GERMS-SA reports produced	The indicator was difficult to measure because it is too technical. The indicator will be included in the operational plan.
Maintain WHO reference laboratories status	Number of NICD laboratories with WHO reference status	It is easier to measure quantitative indicators instead of qualitative ones.

Programme 4: Sub- Programme: Academic Affairs		
2018/19 (current)	**2019/20 (proposed change)**	**Reasons (motivation for change)**
KPI 4.3.1: Number of student medical technologists admitted and trained in the NHLS.	KPI 4.3.1: Number of student medical technologists and medical technicians admitted and trained in the NHLS.	Medical technologists and Medical Technicians were combined because the intake of medical technicians is very low and practice within a limited scope.
KPI 4.3.2: Number of student medical technicians admitted and trained in the NHLS		
Prepare gap analysis and work plan to prepare support service departments and laboratories for certification and accreditation processes in preparation for the NHI.	Removed	It will be achieved in the current financial year.
Programme 5: Laboratory Service		
2018/19 (current)	**2019/20 (proposed change)**	**Reasons (motivation for change)**
KPI 5.2.1: Review all laboratory facilities to determine infrastructure and equipment needs.	Removed	This will be achieved in the current financial year.

Programme 5: Laboratory Service		
2018/19 (current)	**2019/20 (proposed change)**	**Reasons (motivation for change)**
KPI 5.2.2: Implementation of the pilot specimen tracking system	Removed	This will be achieved in this financial year.
KPI5.3.1: Develop the laboratory structure per level of care (organogram)	Remove	This will be achieved in the current financial year.
Strategic Objective 5.2: Laboratory Service Equipped, and functioning at a level that provides accurate, reliable results timeously, and Strategic Objective Enhance planning, management and operational capacity of the laboratory services, including laboratory structure, roles, responsibilities and reporting lines for the provision of efficient and quality service for NHI.	Removed	The KPIs aligned to these strategic objectives have been removed for 2019/20 because they will be achieved in the current financial year.

Amendments to performance as they appear in the 2018 – 2020 revised Strategic Plan		
Programme 1 – Administration, Sub-Programme: Financial Management		
Current (2018 – 2020)	**2019/20 (proposed change)**	**Reasons (motivation for change)**
Ratio of current assets to current liabilities. The target in the Strategic Plan was sated as 2.6 times for 2019/20.	The target has been reviewed to 2.0 times in 2019/20 APP.	The actual figures for 2017/18 have been restated on the basis of revised ratio calculations to bring them in line with more accepted ration standard calculations. Due to these reinstatements, it has also been necessary to restate the planned target to bring them in line with relevant calculations.
Number of Debtors days was stated as 150 days in the Strategic Plan for 2019/20.	The target has been reviewed to 250 days in 2019/20 APP.	
Percentage of material costs to revenues. The target in the Strategic Plan was stated as 38% for 2019/20.	The target has been reviewed to 43% in 2019/20 APP.	
Sub - Programme: Information Technology and Communication		
Number of modernised projects completed. The target for 2019/20 was stated as 16 in the Strategic Plan.	The target has been reviewed to 10 in 2019/20 APP.	The target was reviewed so that it is more realistic.
Programme 2: National Institute for Communicable Diseases.		
Maintain WHO reference laboratories status. The target was stated as 100% maintenance in the Strategic Plan.	The target has been reviewed to 7 laboratories (number of laboratories with WHO reference status) in the 2019/20 APP.	The target has been reviewed because it is easier to measure quantitative indicators than qualitative once.
Number of field epidemiologists qualified. The target was stated as 5 in the Strategic Plan.	The target has been reviewed to 7 in the 2019/20 APP.	The target has been revised to align to the demand for epidemiologists.

Programme 4: Academic Affairs, Research and Quality Assurance		
Sub – Programme: Quality Assurance		
Number of National Central laboratories that are SANAS accredited. The KPI has been reworded to be expressed in number instead of percentage. The target was stated as 100% in the Strategic Plan.	The target has been reviewed to be expressed in a number instead of percentage (from 100% to be expressed as 53 laboratories.	The review was to maintain consistency with the regional and district laboratories.
Number of Provincial Tertiary laboratories that are SANAS accredited. The KPI has been reworded to be expressed in number instead of percentage. The target was stated as 80% in the Strategic Plan.	The target has been reviewed to be expressed in a number instead of percentage (from 80% to be expressed as 13 laboratories.	The review was to maintain consistency with the regional and district laboratories.