Republic Of Sierra Leone
Ministry Of Health

National Surgical, Obstetric and Anaesthesia Plan (NSOAP) 2026 - 2030

"Scaling quality surgical care saves lives and boosts economic development:
A Resilient NSOAP for Sierra Leone's Future."

October, 2025

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October 2025

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Foreword

It is with great pride and a deep sense of responsibility that I present the Sierra Leone National Surgical, Obstetric and Anaesthesia Plan (NSOAP) 2026–2030. This plan represents the first comprehensive national roadmap to strengthen surgical, obstetric, and anaesthesia services in Sierra Leone. It marks a critical milestone in our collective efforts to ensure that every Sierra Leonean has equitable access to safe, timely, and affordable surgical and anaesthesia care across all levels of the health system.

Surgical, obstetric, and anaesthesia services are essential components of Universal Health Coverage and a strong health system. Yet, for too long, access to these life-saving interventions has been uneven, constrained by gaps in infrastructure, skilled workforce, financing, and service delivery capacity. This plan seeks to bridge those gaps through an integrated, sustainable approach that centres on patient safety, quality of care, and system resilience in our national health agenda.

Developed through a highly consultative and evidence-driven process, the NSOAP 2026–2030 embodies the Ministry of Health's commitment to strengthening surgical and anaesthesia care in line with the National Health Sector Strategic Plan, the Hospital Strategy for Service Delivery Transformation, and our broader goal of achieving Universal Health Coverage and the Sustainable Development Goals. This plan is anchored on eight strategic pillars: Workforce Excellence, Service Delivery, Infrastructure, Supply Chain, Information Management, Sustainable Financing, Community Engagement & Ownership, and Governance. Together, these pillars provide a comprehensive framework to guide policy, planning, and investment in surgical, obstetric, and anaesthesia services.

I wish to commend all stakeholders, including government institutions, academic partners, professional associations, and development partners, whose collaboration made this plan possible. It is through our shared commitment and continued partnership that we will translate this plan into tangible results that save lives, prevent disability, and improve the well-being of our people. As we embark on this next chapter, I call upon every healthcare worker, policymaker, and partner to join hands in implementing the NSOAP 2026–2030. Together, we can build a resilient and equitable surgical system that reflects our national values of compassion, integrity, and excellence.

Dr. Austin H. Demby,

Austin Demby

Minister of Health

Remarks

The National Surgical, Obstetric and Anaesthesia Plan (NSOAP) 2026–2030 stands as a testament to our enduring commitment to advancing equitable and high-quality surgical and anaesthesia services in Sierra Leone. It provides a clear, practical, and evidence-based roadmap for strengthening surgical care, from the most peripheral health facilities to our national referral hospitals.

Our country has made remarkable progress in improving access to essential health services. Yet, preventable deaths and disabilities from surgical and obstetric conditions remain a major public health concern. This plan addresses these challenges through a coordinated and phased approach, focusing on system-wide improvements in governance, clinical quality, health workforce training, infrastructure, and financing.

Central to the NSOAP is the recognition that surgical and anaesthesia care are not standalone services, but integral to the broader health system. By aligning this plan with the Hospital Strategy and other national policies, we are ensuring coherence in planning, efficient resource allocation, and strengthened accountability mechanisms.

The process of developing this plan brought together the insights and expertise of clinicians, hospital managers, policymakers, and academic institutions. It also benefited from the active participation of partners and organisations working at the frontlines of surgical and anaesthesia care. Their contributions have helped shape a realistic and actionable plan that reflects our challenges and aspirations.

As Chief Medical Officer, I am deeply committed to ensuring that the NSOAP becomes a living document that drives measurable change, improves patient outcomes, and enhances system resilience. I urge all health professionals, partners, and institutions to take ownership of its implementation. Together, we will strengthen surgical, obstetric, and anaesthesia care as vital pillars of our national health system.

Dr. Sartie Kenneh

Chief Medical Officer

Acknowledgement

The successful development of the Sierra Leone National Surgical, Obstetric and Anaesthesia Plan (NSOAP) 2026–2030 would not have been possible without the dedication, expertise, and collaboration of many individuals and institutions. This plan is the result of a comprehensive, consultative process that brought together a wide range of stakeholders across the health sector.

I extend my deepest appreciation to the Minister of Health, Dr Austin H. Demby, and the Chief Medical Officer, Dr Sartie Kenneh, for their visionary leadership and steadfast commitment to advancing surgical, obstetric, and anaesthesia services in Sierra Leone. Their guidance and encouragement have been instrumental in shaping this plan.

I also acknowledge the invaluable contributions of the technical working group and the thematic leads whose efforts ensured that the plan reflects both national priorities and international best practices. The Ministry further recognises the active engagement of healthcare professionals, training institutions, and individuals whose practical insights and experiences have enriched every stage of the process.

Special thanks go to our development and technical partners for their continued collaboration and support in strengthening surgical and anaesthesia care in Sierra Leone.

As we move toward implementation, I reaffirm the Ministry's commitment to translating the NSOAP into concrete actions that will enhance access, improve quality, and ensure sustainability of surgical, obstetric, and anaesthesia care nationwide. This plan is both a reflection of our progress and a call to collective action to build a health system where no life is lost for lack of safe surgical care.

Dr. Med. Mustapha Sundifu Kabba

Deputy Chief Medical Officer – Clinical Services

List of Abbreviations

CEmONC	Comprehensive Emergency Obstetric and Neonatal Care
CHC	Community Health Centres
CHO	Community Health Officers
CHP	Community Health Posts
CHW	Community Health Worker
COMAHS	College of Medicine and Allied Health Sciences
CPD	Continuous Professional Development
DALYs	Disability Adjusted Life Years
DHIS	District Health Information System
DHS	Demographic and Health Survey
DPS	Directorate of Pharmaceutical Services
ECOWAS	Economic Community of West African States
EVD	Ebola Virus Disease
FHCI	Free Healthcare Initiative
GDP	Gross Domestic Product
HIS	Health Information System
HMIS	Health Management Information System
HRH	Human Resources for Health
IPC	Infection Prevention and Control
KAP	Knowledge, Attitude and Practice
KSLP	King's Sierra Leone Partnership
LCoGS	Lancet Commission on Global Surgery
LMIC	Low- and middle-income countries
LMIS	Logistics Management Information System
MCHP	Maternal and Child Health Post
MoF	Ministry of Finance
MoH	Ministry of Health
MTEF	Medium-Term Expenditure Framework

NA	Nurse Anaesthetists
NGO	Non-Governmental Organisation
NHSCS	National Health Supply Chain Strategy
NHSSP	National Health Sector Strategic Plan
NMSA	National Medical Supplies Agency
NSOAP	National Surgical, Obstetric and Anaesthesia Plan
NSP	National Surgical Plan
OOP	Out of pocket
OT	Operating theatre
PACU	Post-anaesthetic care unit
PASHeF	Pan African Surgical Healthcare Forum
PBB	Programme-Based Budgeting
PCMH	Princess Christian Maternity Hospital
PGMC	Post Graduate Medical Council
PHU	Peripheral health unit
PIH	Partner in Health
POMR	Peri-Operative Mortality Rate
PPP	Public-private partnership
QI	Quality Improvement
SACHO	Surgical Assistant Community Health Officer
SARA	Service Availability and Readiness Assessment
SDG	Sustainable Development Goal
SECHN	State Enrolled Community Health Nurse
SLCPCHS	Sierra Leone Council for Postgraduate Colleges of Health Specialities
SLeSHI	Sierra Leone Social Health Insurance Scheme
SOA	Surgeons, Obstetricians, and Anaesthetists
SOP	Standard Operating Procedures
SRN	State-registered nurse
SSB	Sugar-sweetened beverages

SSI	Surgical site infection
TBI	Traumatic Brain Injury
TWG	Technical working group
UHC	Universal Health Coverage
UNFPA	United Nations Population Fund
USLTHC	University of Sierra Leone Teaching Hospital Complex
WACS	West African College of Surgeons
WASH	Water, Sanitation and Hygiene
WHA	World Health Assembly
WHO	World Health Organisation

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Definition of Key Terms

Catastrophic health expenditure: Refers to Direct out-of-pocket payments of greater than 10% of household income.

Community Health Officer: These are mid-level providers who have received formal training in community health and clinical science and hold a bachelor's degree—they are the primary heads of the community health centres.

Essential surgical care: Refers to necessary surgical care that could otherwise put the patient in danger should they not have it in time. E.g. caesarean section, incarcerated hernia, laparotomies, etc.

Mid-Level Providers: Refers to surgical, obstetric and anaesthetic providers that are not medical doctors, but are adequately trained to a certain level that they are capable of performing designated tasks in the field of surgical care. They include Surgical Assistants, Community Health Officers (SACHO), Surgical Clinical Officers (SCO) and Non-Physician anaesthetists (nurse anaesthetists/CHO anaesthetists)

Non-physician anaesthetists (nurse anaesthetists/CHO anaesthetists): These are nurses or community health officers who, upon graduation, undergo an additional one- or two-year training in anaesthesia and an internship to become qualified to practice.

Surgical Assistant Community Health Officer (SACHO): These are middle-level providers who have received formal training as Community Health officers and also receive an additional 2-year training in essential surgical care, followed by a year of mandatory postgraduate internship in a tertiary and regional hospital.

Surgical care: refers to all care related to surgery, obstetrics and anaesthesia

Surgical Clinical Officers: These are clinical officers who, in their third year of training, branch into the surgical training programme for two years before graduation, followed by a one-year internship at a tertiary and regional hospital.

Surgical workforce: Refers to all individuals (all cadres) who directly provide surgical, obstetric and anaesthetic services to patients in Sierra Leone.

Surgical, obstetric, and anaesthesia providers (SOA): Refer to fully trained physician surgeons, obstetricians, and anaesthetists with membership or fellowship qualifications from a recognised institution.

Executive summary

There is a great need for safe surgery, obstetric and anaesthesia care in Sierra Leone. The health workforce is working tirelessly to meet this need but is currently only able to address one-tenth of the estimated need.

As many as one in four Sierra Leoneans have a condition that may require a surgical consultation. Some of the surgical burden may be prevented through injury prevention and increased community awareness, but a large proportion of surgical disease is non-preventable. Therefore, it may require surgical intervention at the time of its occurrence. The vast unmet need results in a disease burden that affects not only individuals but also the well-being of communities and the country. Against this backdrop, scaling up surgical services has become a priority both internationally and domestically.

As part of Sierra Leone's commitment to implement the World Health Assembly Resolution 68.15 'Strengthening Emergency and Essential Surgical Care and Anaesthesia as a Component of Universal Health Coverage' and being a member of the Pan Africa Surgical Healthcare Forum, the Ministry of Health (MoH) assigned a Surgical Steering Group to revitalize the development of a National Surgical, Obstetric and Anaesthesia Plan (NSOAP) for the country. This document is the result of an extensive consultative process. The NSOAP is intended to be a 5-year plan, coordinated at the national level, with robust monitoring and evaluation processes, including mid-way and end-term evaluation points.

<table>
<tr><td colspan="2">Impact statement
Increase access to safe, timely, high-quality, and affordable surgical care for everyone, regardless of gender, religion, or economic status.</td></tr>
<tr><td>Challenge statement
1. Sierra Leone has a massive unmet need for safe surgery
2. There is inadequate infrastructure and supplies to meet this need</td><td>Outcome
1. A qualified, motivated and contextually appropriate surgical, obstetric, anaesthetic and perioperative workforce is in place in all districts, regional, and</td></tr>
</table>

3. There is a critical shortage of a trained, motivated workforce, and existing staff are unevenly distributed 4. There is insufficient collection and use of data on surgical care, including both routine data and research efforts 5. The high cost of care is a significant barrier to accessing surgical care 6. Many communities are unaware of how to prevent surgical disease, as well as when and where to seek care	tertiary hospitals. 2. There is adequate infrastructure to deliver safe surgical, obstetric and anaesthesia care to every patient seeking surgical care. 3. Surgery, obstetric and anaesthesia services are delivered safely, effectively and with high quality. 4. Surgical data is collected and used for internal decision-making and research. 5. Surgical, obstetric and anaesthesia services are affordable and sustainably financed. 6. Communities are aware and informed about how to avoid surgical diseases and when and where to seek care. 7. Ongoing implementation of activities and ensuring the use of monitoring and evaluation data for continuous development of longer-term plans to strengthen surgical care

CHAPTER ONE

1.0 Background

In 2015, the Government of Sierra Leone was among the signatories to the World Health Assembly Resolution 68.15, titled "Strengthening Emergency and Essential Surgical Care and Anaesthesia as a Component of Universal Health Coverage." This resolution highlights the country's commitment to developing and implementing comprehensive strategies to improve nationwide access to emergency and essential surgical care.

That same year, following a consultative process that included an international conference held in Freetown, the Lancet Commission on Global Surgery (LCoGS) released its landmark report. This report provided a compelling call to action and a strategic roadmap to guide countries in developing national surgical plans that aim to improve surgical care delivery.

In 2016, the MoH in Sierra Leone formally initiated the development of a national policy framework addressing surgery, obstetrics, and anaesthesia. This process began with the inaugural National Surgical Forum held on May 6th, 2016. Throughout 2017, a series of extensive consultations and steering committee meetings were conducted, culminating in the formulation of a zero-draft NSOAP. However, this process stalled due to resource constraints and further disruptions from COVID-19. Since the end of the COVID-19 pandemic, the MoH, through the office of the Deputy Chief Medical Officer – Clinical Services, has re-instituted the process with consultations of key stakeholders. Stakeholder input and findings from a further desk review were used to update the zero draft to reflect changes in the surgical landscape over the years, finalising Sierra Leone's first strategic and comprehensive NSOAP.

Based on extensive stakeholder engagement, primary research, and thorough analysis of relevant reports and publications, this plan articulates the need for a clearly costed NSOAP specific to Sierra Leone. It clearly defines the vision, mission, and overarching goals to enhance surgical care nationwide.

This NSOAP prioritises strategic areas aligned with the indicators set by the LCoGS, including workforce, service delivery, infrastructure, information management, financing, and

governance, while incorporating additional critical thematic areas, such as supply chain management and community engagement and ownership. This integrated approach ensures a holistic framework to address key challenges and drive sustainable improvements in surgical care throughout Sierra Leone.

1.1 Why Sierra Leone Needs an NSOAP?

- 1 in 4 Sierra Leoneans has a condition requiring surgical consultation
- Up to 25% of deaths in Sierra Leone could have been prevented by surgical care
- Approximately 89.9% of the surgical needs in Sierra Leone are currently unmet
- Less than 6% of births are via caesarean – WHO guidelines recommend 10%-15%
- Maternal mortality is still high, 354 per 100,000 live births
- Between 2015 and 2030, surgical disease will lead to $4.76 billion in GDP losses in Sierra Leone (1.33% of total GDP)
- The growing burden of road traffic accidents stresses the need for prevention as well as the availability of surgical care.
- Families accessing surgery are at an 84.7% risk of catastrophic health expenditure
- To align with global resolutions and regional consensus and implementation, including the World Health Assembly (WHA) resolution WHA68.15 and 76.2 and the Pan African Surgical Healthcare Forum Consensus and Implementation Roadmap

1.1.1 Burden of disease

In Sierra Leone, verbal autopsy research suggests that in up to one in every four deaths, the person may have needed surgical attention in the week before death. This indicates that surgical disease could represent a more frequent cause of mortality than malaria, HIV/AIDS, and tuberculosis combined(1). Surgical morbidity likely affects an even larger proportion of the population. In 2012, 25% of the 3645 respondents identified through a cluster-randomised process had a condition requiring at least a surgical consultation(1).

Much of this surgical disease burden is preventable; for example, the estimated incidence of traumatic injury is greater than 1 million per year, primarily due to falls and road traffic accidents (2)Conditions like corrosive oesophageal injury, a condition that affects children in Sierra Leone due to caustic soda ingestion, could be prevented with greater community awareness. The high burden of surgical disease in Sierra Leone places a strain on health facilities. In a study of patients admitted to district hospitals, approximately 20% of patients required surgery, compared with about 12.9% in Malawi. The overall surgical burden coincides with the burden of maternal mortality, which is estimated to be **354 maternal deaths** per 100,000 live births in 2023, still considered to be high, as every life matters and is well above the global target of 70 per 100,000 live births by 2030. This high burden of maternal mortality could be reduced with greater access to surgical care, such as caesarean section.

1.1.2 Met and unmet need

In Sierra Leone, an estimated 505 operations are performed per 100,000 population each year. This means that about 89.9% of the country's surgical needs are not met, including the 4.7% of unmet needs for caesarean sections, in reference to the minimum of 10% set by WHO. (3)

1.1.3 Impact of untreated disease

The impact of untreated surgical disease is profound, affecting the well-being of families and the country's overall economic development. A study suggested that over 300,000 Sierra Leoneans faced significant disability, shame, or inability to work due to surgical disease(4) Between 2015 and 2030, the cumulative economic impact of surgical disease in Sierra Leone is expected to amount to US$4.76 billion in lost GDP, equivalent to 1.33% of the country's total GDP. Traumatic injuries alone account for nearly US$2 billion in lost economic output over the same fifteen-year period. The total welfare losses to health and prosperity from surgical disease in Sierra Leone amount to nearly US$1 billion in net present value every year(5)

1.2 Why should surgery be prioritised in Sierra Leone?

1. Essential component of the Health Benefit package and services delivery – surgical services form part of the health need for the population and hence, a fundamental component of universal health coverage – ensuring the population is covered for quality timely, surgical needs without facing financial hardship.

2. Building a resilient health system that responds to the population's needs is crucial. In Sierra Leone, surgical care plays a vital role in the Ministry of Health's efforts to create such a system. Surgical interventions provide essential benefits across all disease categories (6). These delicate procedures serve as the cornerstone that supports the other pillars of health. As noted, addressing Sierra Leone's significant demand for caesarean sections is essential for further reducing maternal mortality rates.

3. Surgery is a highly cost-effective intervention. A small surgical hospital in Sierra Leone can prevent 33,846 disability-adjusted life years (DALYs) annually. The cost per DALY averted ranges from US$33 to US$233(7). This is comparable to the benefits received from antiretroviral therapy for HIV or oral rehydration therapy for diarrhoea(Grimes et al., 2014).

4. Prioritising surgery in Sierra Leone is a valuable investment. Estimates suggest that an annual investment of 8% of total health expenditure is necessary to enhance surgical care in low-income countries by 2030(9) This investment, which would amount to only 0.88% of Sierra Leone's GDP, could help mitigate the 1.33% of GDP lost each year to surgical diseases (5)

1.3 Country profile

Sierra Leone is in West Africa, bordered by Guinea to the north and east, Liberia to the southeast, and the Atlantic Ocean to the southwest. The country boasts a diverse landscape, including coastal areas, mountains, and forests, which contribute to its natural beauty and rich biodiversity. With an estimated population of 9 million people (MoH, 2025 population harmonisation), the capital city, Freetown, is in Western Urban and serves as the political and economic hub of the country.

Sierra Leone is divided into five regions: the Eastern Region, the Southern Region, the Northern Region, the Western Area, and the North-western Region. These regions are further subdivided into sixteen districts, which are organised into chiefdoms, thereby enhancing local governance and administration.

The country has faced significant challenges due to its troubled history, including a devastating civil war from 1991 to 2002. More recently, the Ebola Virus Disease outbreak from 2014 to 2016 and the impacts of the COVID-19 pandemic have heavily strained the nation's already struggling healthcare system.

Despite facing significant challenges, Sierra Leone has made notable improvements in key health indicators. Life expectancy has risen from 49.8 years in 2000 to 61 years in 2023, and the under-five mortality rate has decreased to 94 per 1,000 live births as of 2023. However, this rate still exceeds the Sustainable Development Goal (SDG) target of 25 per 1,000 live births. Additionally, neonatal mortality has declined to 31 per 1,000 live births during the same period, although it remains above the SDG target of 12 per 1,000 live births. From 2000 to 2020, the maternal mortality ratio improved, decreasing from 1,682 to 443 per 100,000 live births, and further to 354 per 100,000 live births in 2023.

While the country has made strides in improving these health indicators, it continues to face significant challenges, particularly in accessing safe, quality and affordable surgical services, resulting in a high level of unmet surgical need. Therefore, addressing access to surgical care is a critical priority for the ongoing development and stability of the country's healthcare system.

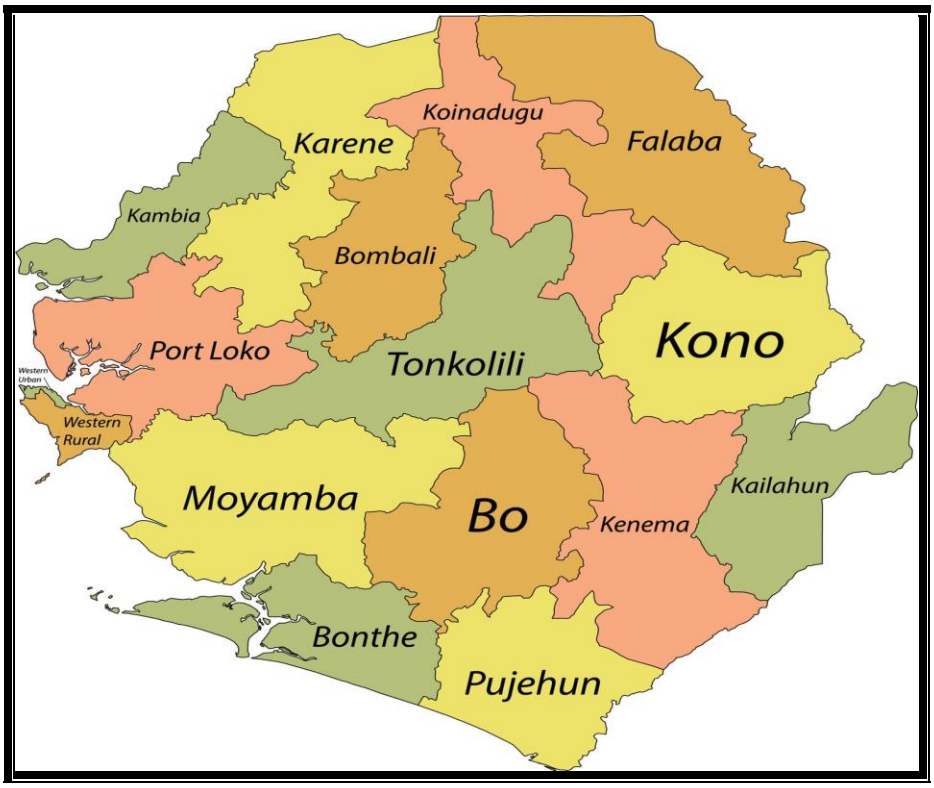


Figure 1. Map of Sierra Leone

1.3.0 Health Sector Profile

Sierra Leone's healthcare system comprises both public and private sectors, with the public system owned by the government and structured into three tiers: primary, secondary, and tertiary care. Primary care is provided through Maternal and Child Health Posts, Community Health Posts, and community Health Centres, focusing on preventive care and the treatment of common illnesses, including minor surgeries. Secondary care is delivered at district hospitals, which offer specialised services, while tertiary care is available at teaching hospitals, which are equipped for advanced surgical care. The private sector comprises faith-based organisations, non-governmental organisations (NGOs), and for-profit entities. They all complement the public system, particularly in urban areas, thereby enhancing access to healthcare services nationwide.

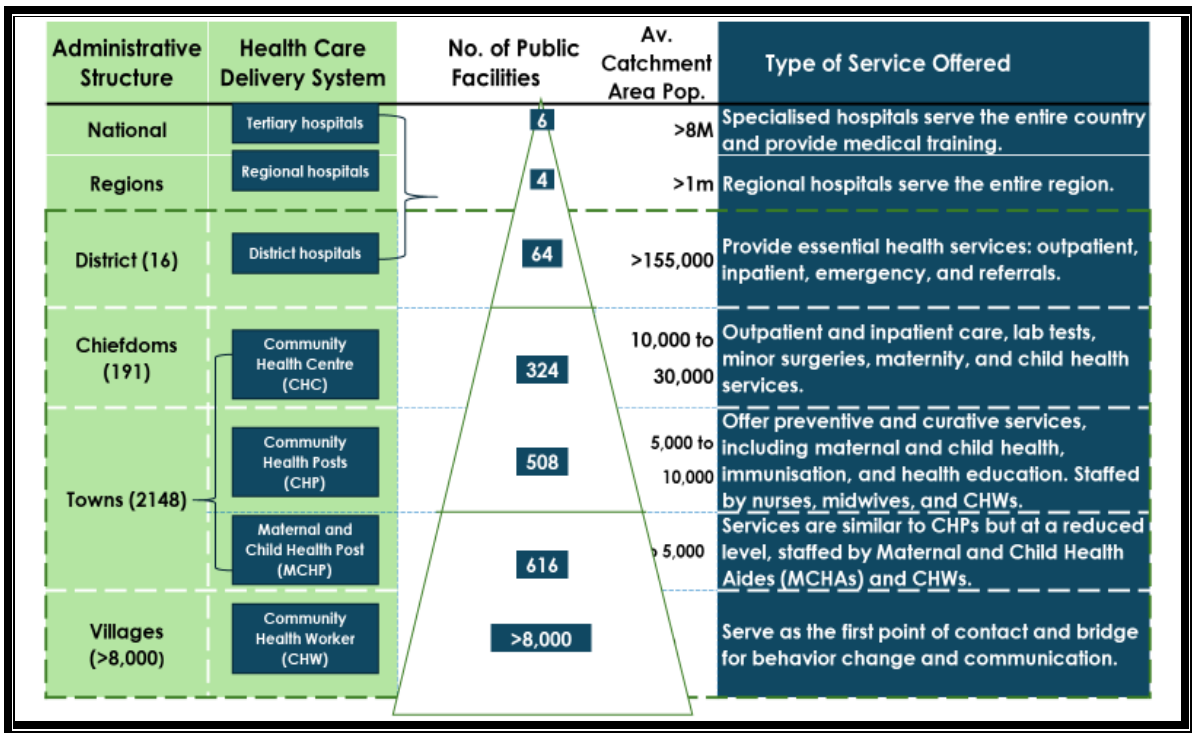


Figure 2. The tiers of the Sierra Leone healthcare system

Table 1. Sierra Leone Healthcare Master Facility Summary List

Sierra Leone Healthcare Master Facility List Summary										
No	District	Total Health Facilities	Ownership			Facility Level				
			Government	Faith Based	Private	Hospital	Clinic	CHC	CHP	MCHP
1	BO	170	155	3	12	10	5	36	42	77
2	BOMBALI	99	85	4	10	4	13	16	52	14
3	BONTHE	94	88	2	4	4	0	20	42	28
4	FALABA	50	50	0	0	0	0	14	18	18
5	KAILAHUN	93	91	1	1	3	2	20	60	8
6	KAMBIA	75	72	2	1	1	5	13	18	38
7	KARENE	63	61	1	1	1	2	14	32	14
8	KENEMA	139	136	1	2	3	2	33	40	61
9	KOINADUGU	73	70	2	1	1	3	10	21	38
10	KONO	113	104	3	6	1	7	24	31	50
11	MOYAMBA	112	105	5	2	3	0	19	35	55
12	PORTLOKO	116	97	5	14	6	9	24	40	37
13	PUJEHUN	104	104	0	0	1	0	23	23	57
14	TONKOLILI	118	113	2	3	5	2	21	15	75
15	W/ RURAL	74	54	6	14	5	12	13	15	29
16	W/URBAN	140	48	15	77	25	50	24	24	17
SIERRA LEONE		**1633**	**1433**	**52**	**148**	**73**	**112**	**324**	**508**	**616**

Most facilities provide minor surgical services, followed by Comprehensive Emergency Obstetric and Neonatal Care (CEmONC) Clinics, District, Regional, and Tertiary facilities. According to the most recent data, 78 hospitals nationwide offer major surgical services. The government is one of the largest providers of surgical services in the country, followed by private non-profit organisations (including faith-based and NGOs) and private for-profit providers.(3)

1.3.1 Free health care initiative (FHCI)

In 2010, the country launched its free health care initiative, aimed at increasing access to health care for the most vulnerable and improving the country's health indicators. The targeted group were pregnant women, lactating mothers, children under five years and people with disability. After the Ebola outbreak, survivors of Ebola were also included in the free health care categories. This initiative has been leveraged upon by many other health programmes in the ministry to ensure service delivery is optimised.

1.3.2 Hub and Spoke model and life stage approach

The hub-and-spoke model serves as a strategic framework for enhancing healthcare delivery by designating specific hospitals as central hubs while aligning surrounding peripheral health units (PHUs) as spokes in a comprehensive network. This innovative approach aims not only to strengthen the capacity of these hospitals but also to bolster the functionality and accessibility of PHUs. By redistributing specific patient loads and healthcare responsibilities from overburdened hospitals to local health units, this model enhances overall healthcare efficiency and improves access for patients in underserved areas.

In 2023, the Ministry of Health introduced the Life Stages Approach to Health Service Delivery, reflecting a significant shift towards holistic, person-centred, and family-focused care for individuals across all age groups. This initiative aims to ensure that healthcare services are inclusive and equitable, leaving no one behind. Central to this approach is the recognition of early "upstream" determinants of health. This Life Stages Approach seeks to create positive health trajectories from infancy through old age. For instance, targeted interventions in early childhood can prevent the onset of chronic diseases later in life, thereby reducing healthcare inequities. Moreover, this approach emphasises continuity in care, facilitating smooth transitions as individuals progress through different life phases.

In practice, this means healthcare professionals at both hubs and PHUs will be equipped to provide tailored interventions that consider individuals' diverse needs and circumstances at each life stage, ensuring that the community is carried along.

1.4 Sierra Leone's Surgical Landscape: The Hard Truths

Sierra Leone's surgical system operates within the context of a fragile yet resilient health system that has been devastated by an 11-year civil war (ended in 2002) and further tested by outbreaks of Ebola and the COVID-19 pandemic. A critical shortage of human resources, inadequate infrastructure, and skewed distribution of the surgical workforce characterise its landscape. However, an innovative task-sharing programme in surgical care emerged as a key strategy for improvement, but it was not intended to replace specialist training.

Severe Specialist Shortage**:** The country faces a dire shortage of specialist surgeons, obstetricians, and anaesthetists (SAOs), with a density of 1.6 per 100,000 population in 2023(3), which is well below the Lancet Commission on Global Surgery 2015 benchmark of 20 per 100,000. (9) This places Sierra Leone among the countries with the most severe surgical workforce shortages globally. This shortage of specialist providers spans many sub-specialities, including, but not limited to, radiology, dental surgery and ENT.

In response to the severe shortage of specialist providers, the MoH and CapaCare (a Norwegian NGO) initiated a surgical task-sharing programme in 2011. This programme trains non-physician clinicians (e.g., Community Health Officers and Clinical Officers) to perform essential surgeries, thereby increasing the density of ~5 surgical providers (across all cadres) per 100,000 people.(3)

The impact has been transformative: By 2023, these non-physician clinicians performed 41% of all surgical procedures nationwide. They became the primary surgical providers in rural areas, accounting for 55.1% of all operations and primary performers of caesarean sections (57.6% nationally)(3), which has contributed to improving access to emergency obstetric care.

The total surgical providers (all cadres) more than doubled from 2012 to 2023 (165 in 2012 to 347 in 2023). However, productivity (surgeries per provider per week) remains low (2.2 in 2023)(3), indicating that increasing numbers alone is not enough without addressing systemic barriers.

Increasing Volume: National surgical volume has grown from 400 to 505 procedures per 100,000 population between 2012 and 2023, and the public sector has become the leading

provider, performing 56.0% of all operations in 2023 (3). This growth is driven mainly by a 126% increase in obstetric and gynaecological surgeries, particularly caesarean sections. Government and partner priorities have successfully focused on reducing maternal mortality. The national caesarean section rate increased from 1.4% to 5.3% of live births between 2012 and 2023, still below half of the WHO's recommended minimum (10-15%), indicating that emergency obstetric services and routine antenatal diagnostics, such as ultrasound, which can prevent the occurrence of emergencies, require further strengthening.

Despite this progress, the unmet need for surgery remains 89.9%. The current volume (505) is far below the average for low- and middle-income countries (LMICs) (877 per 100,000) and falls short of the Lancet Commission's target of 5,000 procedures per 100,000 population.

Access to surgery is highly unequal. While rural surgical volume increased by 77.6% over the past decade (a greater increase than in urban areas), the rate of surgery per capita did not improve. Due to higher population growth in rural areas, an urban resident is still 3.5 times more likely to receive surgery than a rural resident (Furre et al., 2025), with up to 70% of the population having access to health facilities that provide surgical services (minor and major) within a two-hour radius. However, only about 30% of facilities, both government and private, provide the bellwether procedures (Laparotomy, caesarean section, and open fracture management), underscoring inadequate access to essential surgical care.

Over 60% of operating theatres lack a reliable supply of oxygen, water, and electricity. This chronic shortage of essential infrastructure and supplies (e.g., equipment, sutures, consumables, and blood for transfusion) poses a significant barrier to enhancing the volume, quality, and safety of surgical care.

This is further compounded by the lack of a national registry for surgical outcomes and the inability to track the surgical workforce, which hinders efforts to oversee quality, ensure patient safety, and evaluate the long-term effects of interventions such as task-sharing. The issue of underreporting and non-reporting by private facilities further complicates the creation of a national surgical database, underscoring the vulnerability of the country's health data systems.

1.5 Key Health Sector Legislation, Policies and Strategies Relating to Surgical Care

1.5.1 Global

Access to safe, affordable, and timely surgical care is a vital part of universal health coverage (UHC) and an essential aspect of the right to health. In Sierra Leone, the significant burden of surgical diseases, including injuries, contributes to preventable deaths, disabilities, and increased poverty.

According to the evidence and framework established by the LCoGS in 2015, approximately 5 billion people worldwide lack access to safe surgical and anaesthetic care, and at least 143 million surgeries are required each year in low- and middle-income countries (LMICs)(9). Mindful of the commitments under World Health Assembly Resolution WHA68.15 (2015) and Resolution WHA76.2 (2023) our approach is aligned with our national commitment to the 2030 Agenda for Sustainable Development, particularly:

- SDG 3 (Good Health and Well-being): Targeting the reduction of maternal mortality (3.1), ending preventable newborn and child deaths (3.2), reducing by one third premature deaths from Non-Communicable Diseases (3.4), decreasing road traffic injuries (3.6), and achieving UHC (3.8).
- SDG 5 (Gender Equality): Ensuring access to life-saving diagnostic and surgical care is crucial for achieving gender equity, as it empowers women and girls by protecting their health and lives.
- SDG 9 (Industry, Innovation, and Infrastructure): Committing to building resilient infrastructure by enhancing the physical facilities, equipment, and technological systems in our surgical care framework.
- SDG 10 (Reduced Inequalities): Striving to eliminate geographic, economic, and social barriers that hinder the most vulnerable populations, including the rural poor, women, and children, from accessing essential surgical services.

This recommendation and commitment align with the MoH's ambition to have a clear blueprint for strengthening the surgical system, thereby delivering high-quality, safe, and affordable surgical care across all stages of life.

1.5.2 Regional

Important agreements such as the Abuja Declaration on Health Finance (2001), the Dakar Declaration on Strengthening Surgical Systems in Africa (2022), and the Africa Health Strategy (2016-2030) aim to improve health outcomes across the continent by strengthening health systems, addressing health determinants, and promoting health research and innovation. The recent consensus from the Pan African Surgical Healthcare Forum (PASHeF) in 2023 also underscores the need for an NSOAP.

These regional documents clearly indicate that Sierra Leone requires a realistic blueprint to ensure that health investments specifically target the closure of gaps in surgical care, thereby improving and strengthening the healthcare system. Investment in surgery is recognised not only for saving lives and preventing disabilities, but also for enhancing economic productivity, making it a wise choice for human capital development.

1.5.3 National

The National Health Sector Strategic Plan (NHSSP) 2021–2025 aims to strengthen surgical care in Sierra Leone through a comprehensive approach that addresses infrastructure, human resources, quality, and financing. This plan aligns with the broader objectives of UHC and health security, ensuring that surgical services are accessible, safe, timely, and affordable for all.

A critical component of this effort is the Human Resources for Health (HRH) Strategy 2017-2021, which emphasises not just increasing the number of healthcare staff but also ensuring quality, equitable distribution, and sustainable management of the workforce. This strategy recognises the significant staffing shortages exacerbated by the 2014-2015 Ebola epidemic and prioritises evidence-based planning, strengthening training institutions, and enhancing retention mechanisms. Therefore, a National Surgical Plan must build on this HRH foundation, targeting the development of surgical personnel within these broader health objectives.

Additionally, the Sierra Leone National Hospital Strategy for Service Delivery Transformation (2025-2030) provides a robust framework for integrating the NSOAP. This strategy aims to address the critical components of a surgical system, including governance, infrastructure, workforce, service delivery, information management, and financing.

The NSOAP will serve as a specialised operational plan that complements and provides detailed guidance for the more extensive hospital strengthening initiatives outlined in the national strategy. Implementing the NSOAP is crucial for the MoH's mission to transform hospitals into centres of excellence, delivering quality, safe, and integrated healthcare services at all stages of life for every Sierra Leonean.

CHAPTER TWO

2.0 Situational analyses by key thematic areas

Understanding how far we have come as a country and recognising our current resources are crucial steps in our intentional effort to improve the surgical ecosystem in Sierra Leone. Since 2018, there has been an ongoing effort to develop a comprehensive national surgical plan to enhance surgical services nationwide. This initiative is not just about recognising the existing gaps but also about strategically planning for a better future in surgical care. Our analysis utilises existing data while also updating and refining it where necessary. By doing so, we aim to create a more accurate picture of the current surgical landscape in Sierra Leone. Therefore, it focuses on key thematic areas: workforce, service delivery, infrastructure, information management, and finance.

2.1 Workforce

- Currently, there is partial accreditation of postgraduate training available in the country for surgery and anaesthesia, and full accreditation for obstetrics and gynaecology through the West African College of Surgeons (WACS) and local postgraduate training through the Sierra Leone College of Physicians and Surgeons.
- Specialities, like Radiology, are in the advanced stages of accreditation.
- Task-sharing is implemented to improve the surgical workforce density as a short-to-medium-term measure.
- A demotivated surgical workforce is identified as a key barrier to accessing safe, timely, quality surgical care in public facilities.
- There is a deficit of trained specialist providers across all sub-specialities, and their distribution is highly skewed toward Freetown.

2.1.1 Introduction

Sierra Leone has one of the lowest healthcare workforce densities in the world, with only 3 physicians per 100,000 people (HRH 2017-2021). This represents a significant barrier to increasing access to safe surgical care in the country. The health workforce has faced severe

challenges due to the prolonged civil war (1991-2002) and the recent Ebola Virus Disease (EVD) outbreak. Many healthcare workers migrated abroad due to the war. During the Ebola outbreak, 152 healthcare workers lost their lives, including 10 doctors, who accounted for 25% of the surgeons at Connaught Hospital at the time of the outbreak, and were transferred to the country's tertiary referral hospital for surgery and internal medicine(10)

In 2023, data from 69 facilities performing surgery in Sierra Leone reported an overall density of approximately 5 surgical providers (across all cadres) per 100,000 population. This represents an increase from 2.8 to 4.2 per 100,000 population between 2012 and 2017. A significant portion of surgical specialists are expatriates, highlighting the country's reliance on the international community. Fewer than 25% of surgical providers work in rural areas, and only 9.1% of specialists practice there. The ratio of specialists is 0.12 per 100,000 in rural areas, compared to 3.21 per 100,000 in urban areas(11).

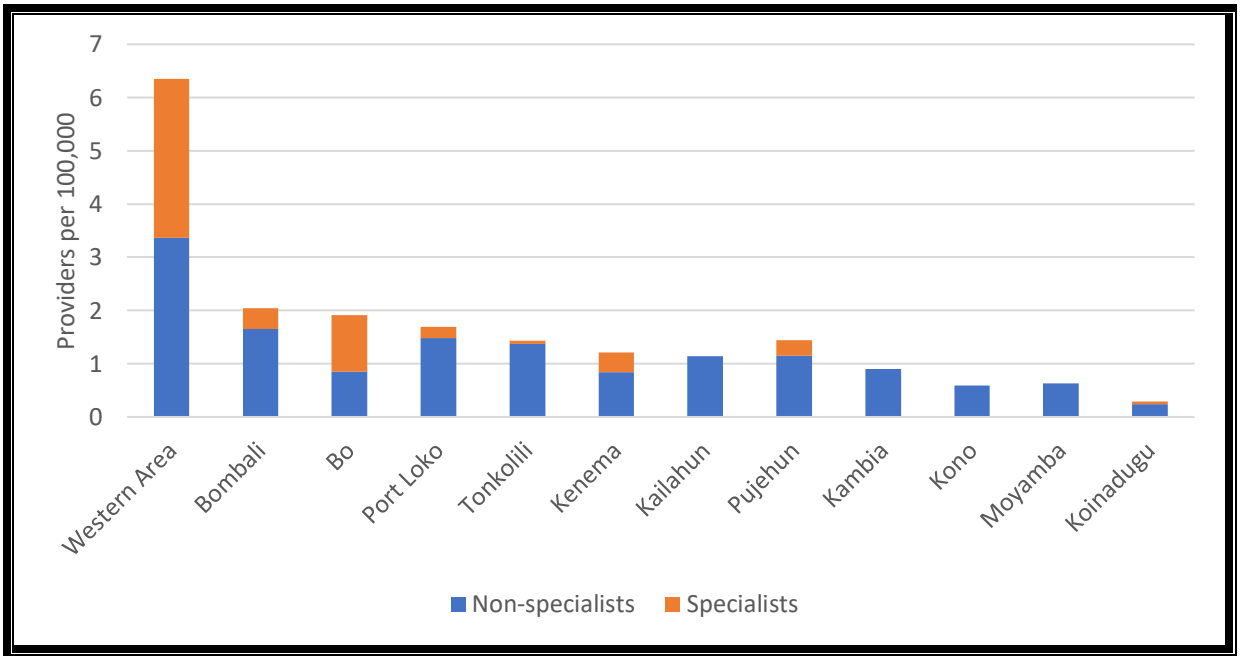


Figure 3. Density of surgical providers per district in 2016 (Source: Bolkan 2016)

2.1.2 Composition of the surgical workforce

The surgical workforce in Sierra Leone comprises various clinical roles that provide surgical and perioperative care throughout the country. Within this clinical health workforce, state-enrolled community health nurses (SECHN) and state registered nurses (SRN) are the largest group who take on responsibilities in perioperative care. Surgical procedures are carried out by physicians, which include specialists, non-specialist medical officers, and surgical assistant community health officers/clinical officers.

As of 2023, the country has 347 surgical providers actively performing surgeries. However, there is a significant shortage of anaesthesia providers, with only 60 nurse anaesthetists spread throughout the nation and just five physician anaesthetists based at the University of Sierra Leone Teaching Hospital Complex (USLTHC). Consequently, anaesthesia services are predominantly delivered by nurse anaesthetists and anaesthetic technicians.

Information about the workforce in radiology and pathology, which are both critical to surgical care and diagnostics, is limited and will therefore require a comprehensive roadmap. In Connaught Hospital, there are two consultant histopathologists, two consultant radiologists, and one specialist radiologist, with two additional residents set to start radiology training soon.

The country's capacity in biomedical engineering is notably low, with only three biomedical engineering consultants, two of whom are government employees. They are supported by 55 medical equipment technicians, who hold diplomas or certificates in electrical and electronic technology and are responsible for maintaining essential medical equipment. Furthermore, a critical gap exists in sterile processing: many facilities lack a dedicated sterile processing workforce, underscoring the need. Support staff, including designated porters, are also needed to improve theatre management and function.

This workforce scenario highlights significant challenges in accessing specialists, particularly in anaesthesiology, radiology, pathology, and other diagnostic services. It underscores the urgent need for capacity-building initiatives across all aspects of Sierra Leone's surgical ecosystem.

2.1.3 Undergraduate training (Pre-service Training)

The College of Medicine and Allied Health Sciences (COMAHS) at the University of Sierra Leone has been the only institution offering a physician training programme since 1989. The medical training programme lasts 6 years, followed by a 2-year post-medical internship known as housemanship. Currently, COMAHS graduates approximately 80 physicians each year. The curriculum includes subjects such as surgery, obstetrics, and other subspecialties, including anaesthesia, radiology, ophthalmology, dentistry, and ENT, all within the Department of Surgery at COMAHS. Unfortunately, the lecture and contact time allocated to these specialities is minimal for medical students. In 2023, Njala University established a pre-medical school, set to launch its medical training programme in 2026. This will serve as the country's second medical school.

For the two-year post-medical internship, doctors are required to complete a one-year mandatory rotation at hospitals in Freetown, during which they spend three months each in surgery, medicine, paediatrics, and obstetrics and gynaecology. The second year is typically spent at district hospitals. After completing this two-year post-medical internship, doctors can continue to work as medical officers or enrol in a postgraduate residency training programme for specialist training.

Several nursing training schools exist, offering primarily general training. This includes modules and clinical placements in surgical wards. Nursing programmes vary in level, ranging from higher to lower levels, including Bachelor of Nursing, SRN and SECHN. Some training schools have recently begun offering subspecialty training within their bachelor's programmes.

Additionally, Community Health Officers (CHOs) undergo a three-year clinical and management training course for their Higher Diploma and a four-year programme for their bachelor's degree at Njala University, followed by a one-year postgraduate internship. Upon graduation, they are primarily deployed to staff primary healthcare units but are also assigned to district hospitals.

The clinical officer training is also a three-year programme, followed by a two-year training in either surgery, medicine, or paediatrics. Upon completion, they are awarded a bachelor's degree.

2.1.4 Postgraduate training

There are currently two postgraduate surgical training institutions in Sierra Leone: the University of Sierra Leone Teaching Hospital Complex (USLTHC), established by an Act of Parliament in 2016, and the Sierra Leone Council for Postgraduate Colleges of Health Specialities (SLCPCHS), also established by an Act of Parliament in 2016. They both play complementary roles in developing local surgical, obstetric and anaesthesia (SOA) training. The SLCPCHS develops the curricula, accredits the programmes, and administers the examinations, while the USLTHC conducts the actual training. SLCPCHS has a faculty of surgery, anaesthesia, obstetrics and gynaecology (O&G), and radiology, which are all in their early stages of development.

The USLTHC oversees residency programmes in surgery, O&G, and anaesthesia, holding full accreditation for membership in these fields of surgery and O&G and a partial accreditation for anaesthesia membership, as well as partial accreditation for fellowship training in surgery and anaesthesia. In O&G, the programme is fully accredited for both membership and fellowship. WACS accredits all programmes. successful completion of the initial three-year phase of the programme leads to WACS membership, with the option to continue into fellowship training.

Although cardiothoracic surgery and neurosurgery are requirements of the programme, these specialities are currently not available within the country. As a result, trainees must go to Ghana for those placements. In addition, medical officers seek training programmes abroad, such as those in Ghana and Nigeria, or even further afield in the UK or the USA, partly due to the lack of availability, accessibility, and/or accreditation of local programmes.

There is widespread task-sharing in Sierra Leone. From 2001 to 2019, a training programme for nurse anaesthetists was offered at PCMH. The scheme trained 200 nurse anaesthetists, but only approximately 70 are still working in anaesthesia. In 2024, nurse anaesthetist training resumed through a partnership among the MoH, USL, and Mercy Ships.

There is no formal training of perioperative nurses in the country. Mercy Ships conducted ad hoc training for nurses at Connaught Hospital in 2024. Plans are in place to start a Diploma in Perioperative Nursing at USLTHC by 2026, and to develop a similar MSc in medico-surgical nursing at COMAHS. In addition, there is only 1 nurse currently trained in critical care at Connaught Hospital, and no in-country training is available.

Since 2011, CapaCare has offered a two-year, largely practical based surgical training programme with an additional one-year mandatory internship. The training is open to CHOs with at least 2 years of clinical experience or medical doctors who have completed their housemanship training. Recently, it has also included Physician Assistants from the Makeni School of Clinical Science. As of the 2024 report, this programme has graduated 109 candidates, including 11 females, 86% of whom now serve in rural hospitals, where the need is greatest.

In a survey of surgical care providers, 89% reported a need for continued surgical education, and many reported low confidence in procedures they performed regularly (12). There are currently

no national (CPD) guidelines; however, CapaCare runs an extensive CPD programme for its graduates and medical officers, aiming to keep their skills up to date while addressing knowledge gaps in specific areas.

2.1.5 Workforce exit and migration of the surgical workforce

A significant number of doctors in Sierra Leone are seeking better training opportunities, higher salaries, and an improved standard of living abroad. This trend reduces the number of residents in training within the country and, ultimately, the number of specialists available. Some doctors migrate and leave the surgical field, choosing other career paths instead. Those who do return often find themselves dissatisfied with the working conditions. This situation also applies to other healthcare professionals, such as nurses, who may leave their roles to pursue different fields of study and opportunities elsewhere.

2.1.6 Current remuneration and retention strategies

Although there are no specific studies on the salary levels of SOA providers and their motivation, general studies on the healthcare workforce indicate low motivation and widespread discontent due to low salaries. This is an issue for all cadres of health workers; long hours of work and limited remuneration make surgery an unattractive option. The lack of availability of equipment and diagnostics is also cited as making working conditions challenging and unfriendly.

Improved remuneration, financial incentives, and opportunities for professional development are key strategies for reducing attrition and enhancing motivation. The HRH Strategy 2017-2021 recommends the reintroduction of the rural allowances scheme, which supplements the salaries of those willing to work in rural areas and also addresses the use of volunteers.

2.2 Service delivery

- Approximately 89.9% of the surgical needs in Sierra Leone are currently unmet.
- Less than 6% of births are via caesarean section
- Maternal mortality stands at 354 per 100,000 live births (2023)
- Resource limitations (financial, equipment and supplies) are major barriers to quality improvement and the safety of patients and surgical providers

2.2.1 Introduction

The ability to deliver surgical services depends on patient access, facility and provider capacity. Understanding the challenges to surgical service provision is crucial to efficiently scaling up Sierra Leone's surgical system. The first factor, patient access, can be viewed through the 'four A' framework (Availability, Acceptability, Affordability and Appropriateness):

- **Availability** – Sierra Leone's surgical system suffers from critical shortages of competent surgical and anaesthetic providers in both numbers and skill mix. The availability of services is also limited by equipment and infrastructural shortages.
- **Acceptability** – Health-seeking behaviour in Sierra Leone is conditioned by cultural, social and economic factors, which also directly influence perception and acceptance of surgical care. In focus group discussions, Groen and collaborators (2014) found that fears related to being ''half human" after surgery, financial burden associated with surgery and stigma from the surgical scars were some of the limitations to people seeking and accepting surgical care when needed.
- **Affordability** – Surgery in Sierra Leone is not affordable to the majority of Sierra Leoneans (13); A 2012 household survey found that service affordability is the most significant barrier to surgical access in Sierra Leone. Most individuals and families are pushed into poverty when trying to obtain surgery(14).
- **Appropriateness** – Surgical procedures offered do not match the current burden of surgical diseases.

The three-delays framework provides an additional dimension to describing barriers to access:

1. **Delay in seeking care** – One study of patients with surgical disease showed that one in five did not seek care before they died, usually because of high cost and lack of timeliness in making the decision. In addition to high costs, patients may perceive that facilities are under-equipped and under-staffed, and waiting times may be long (15). Alternative options, such as traditional medicine or seeking care at a pharmacy, may be considered more accessible, culturally appropriate, and economically feasible.
2. **Delay in reaching care** – Although one study found that 70.3% of Sierra Leone's population lives within two hours of a surgical provider(16), road quality may significantly decrease this percentage, especially during the rainy season (12,15), and the cost of transportation may also be a barrier
3. **Delay in receiving care** – Once patients reach a facility, it is not guaranteed that they will receive timely, quality, or affordable surgical care. Among patients who died of surgical disease after seeking care at a facility, 44.8% were assessed at the facility as not needing surgery, indicating a possible failure of diagnostics. A further 33% did not receive care due to a lack of funds, 13.2% due to delays in care, and 7.9% because no surgery was available at the facility(17).
4. **Delay of follow-up care** – The fourth delay refers to the availability of short and long-term follow-up care, including rehabilitation. Little data is available about the availability or quality of follow-up care in Sierra Leone.

2.2.2 Surgical Volume

In 2012, approximately 92% of surgical needs in Sierra Leone were unmet, indicating that an additional 283,000 surgical procedures were necessary each year(4) By 2023, this unmet need had decreased slightly to 89.9%, a reduction of 2.2 percentage points since 2012 (3). Currently, only about 6% of births in Sierra Leone are delivered by caesarean section, which is below the World Health Organisation's recommended minimum of 10%-15% (WHO, 2015).

Surgical volume varies significantly between facilities, with government hospitals surpassing private for-profit and non-profit institutions in the past decade. (3). While we have made some progress, the overall volume of surgeries, which is 505 per 100,000, remains below the average of 877 surgeries per 100,000 population found in low- and middle-income countries (LMICs). Furthermore, it is still far below the international target set by the LCoGS, which recommends 5,000 procedures per 100,000 population annually.(9).

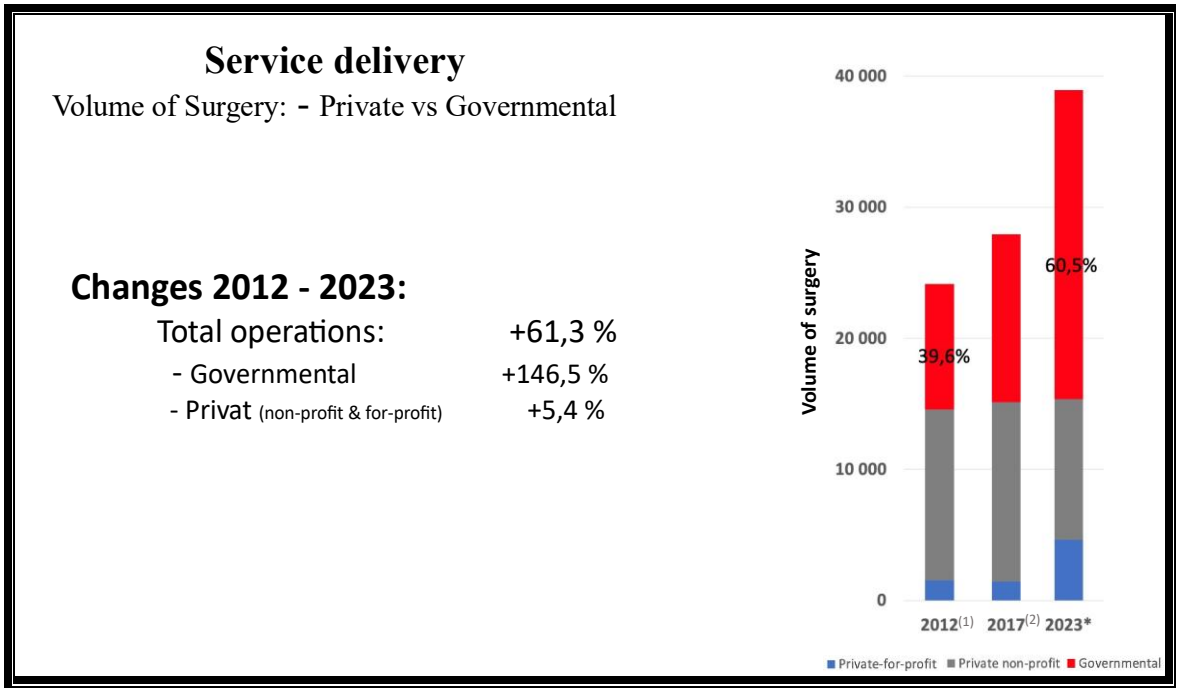


Figure 4. Changes in the volume of surgeries between government and private facilities 2012-2023

Service delivery

Scope of service

Changes 2012 – 2023:

General surgery:	+3.1%
Gyn/obst:	+126.2%
Orthopedics:	-27.6%
Opthalmology:	+12.2%

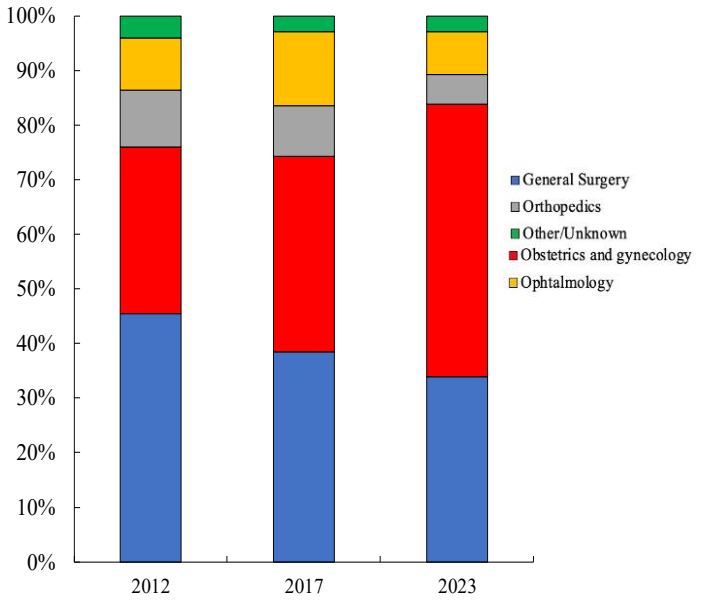


Figure 5. Changes in the volume of delivery services 2012-2023

2.3 Infrastructure

- Hospital upgrades involve installing an oxygen plant in five hospitals, a CT scanner in one teaching and one regional hospital, and ten high-end ultrasound machines in two teaching hospitals and seven district hospitals.
- Ongoing solarisation of health facilities around the country and the extension of the main power grid to some districts.
- Key challenges are inadequate or inappropriate equipment, electricity, water and sterilisation facilities.
- Limited Accident and Emergency spaces across health facilities
- Facility shortfalls delay access to surgery, limit surgical procedure capacity, and reduce the standard of surgical care in Sierra Leone.
- Referrals are challenging for patients outside the free health categories

2.3.1 Introduction

Adequate infrastructure is crucial for ensuring access to safe, timely, high-quality, and affordable surgical care. When facilities lack the necessary resources, patients experience delays in receiving care, hospitals face limitations in their surgical capacity, and the overall quality of care declines. The most significant challenges include, but are not limited to, insufficient electricity, an unreliable water supply, inadequate oxygen availability, and the absence of post-anaesthesia care units (PACU) and sterilisation systems due to either non-functional equipment or unstable electricity supplies, resulting in delays during emergencies. Additionally, the lack of proper diagnostic services further hinders the delivery of safe surgical care. The table below presents some of the most significant facility challenges identified by surgical providers and the literature in Sierra Leone, along with their effects.

Table 2. Facility challenges identified by surgical providers and the literature in Sierra Leone

Challenge	Effects
Limited and poor-quality surgical instruments and equipment	• Limits the procedure capacity • Increased surgical trauma • Increased time in surgery • Poorer surgical outcomes
Interrupted oxygen supply	• Compromises patient outcome • Makes anaesthesia practices difficult
Low availability of anaesthesia equipment and drugs, and general anaesthesia is unavailable.	• Limits procedure capacity • More difficult abdominal surgery • Prolonged recovery time (ketamine)
Limited sterilisation equipment	• Delays operating theatre preparation • Increases infection risk
Inadequate monitoring equipment	• Poorer surgical outcomes • Limits intensive care capacity

(e.g. ECG, pulse oximeter)	
Limited diagnostic equipment (e.g. haematology labs, ultrasound machines)	• Delays to diagnosis • Poorer surgical outcomes
Blood banks are limited by low donation rates and inadequate equipment	• Delays in starting surgery • Poorer surgical outcomes
Unavailability of PACU in most facilities	• Compromises postoperative monitoring of the patients
Inconsistent water and electricity supply	• Delays to surgery (waiting for autoclave, operating theatre lights, water source)

Sources: (Wilson, 2017; SARA, 2011; SARA, 2012; Kushner et al., 2012; Koka et al., 2016)

Sierra Leone's peripheral health units include clinics, Community Health Posts (CHPs), Maternal and Child Health Posts (MCHPs), and Community Health Centres (CHCs), with the latter providing more advanced care, such as obstetric services. These facilities are often the first point of care for individuals with surgical diseases and provide post-surgical follow-up (MOHS, 2015). However, most of these facilities lack adequate space for even basic surgical procedures and also lack the requisite surgical equipment and sterilisation facilities.

District and regional hospitals in Sierra Leone are expected to provide comprehensive surgical services, including the LCoGS bellwether procedures; however, inadequate and a lack of specialised theatre spaces and other infrastructure, as mentioned above, remain a common challenge across the country.

Tertiary facilities are equipped to provide comprehensive and specialised services; however, most are located in the city, except for the Maternal Center for Excellence, which is in the far

eastern part of the country and operates in partnership with Partners In Health (PIH). Tertiary facilities serve as the central training hubs for the residency programmes at the USLTHC.

2.3.2 Facility distribution and referral

The distribution of health facilities in Sierra Leone is generally good, with almost 70% of the population able to reach a healthcare facility within 2 hours. However, the CHCs that serve as the first point of surgical patient care before referral for advanced or specialised surgical services often lack an accident and emergency space and the necessary equipment, which compromises the first-level response before referral.

Referrals from certain CHCs and district hospitals can be complicated by factors such as distance, transportation options, and costs, especially for patients who do not qualify for free health care. Additionally, few formal procedures are in place for surgical referrals between hospitals. As a result, surgeons often have to reach out to colleagues they know at the referral hospital. This can lead to facilities receiving patient transfers without sufficient preparation and coordination.

2.4 Information Management

- DHIS2 does not capture detailed surgical, obstetric and anaesthetic care data.
- Private providers often do not report to the MoH health information system
- Limited utilisation of available data for academic research

2.4.1 Introduction

Data are increasingly collected within the Sierra Leone health system, both as routine data and through research and surveys on the burden of disease, service availability, and related topics. Surgery is largely absent in many of these efforts. However, with the data collection mechanisms (Hospital dashboard in DHIS2), which are intended to help visualise data in real time, the NSOAP aims to leverage this existing system to increase the indicators reported and monitored in real time to support decision-making.

2.4.2 Routine data

Sierra Leone has a Health Information System (HIS) that gathers routine data into a single system, hosted on the open-source DHIS 2 platform. The HIS encompasses data from the Health Management Information System, the Integrated Disease Surveillance and Response, Vital Registration for births and deaths, the Human Resource Information System, and the Logistics Management Information System. Currently, DHIS2 contains routine data on the number of caesarean sections, appendicitis cases, hernias/hydroceles, and ophthalmic surgeries, as well as the number of surgical admissions in government facilities.

Table 3. Selected surgical indicators currently collected in DHIS 2

• Sterilisation equipment	• Acute Abdomen	• Congenital Abnormality
• Autoclave	• Appendicitis	• Burns
• Incinerator	• Caesareans	• Obstructed Labour
• PPE	• Herniae	• Ectopic Pregnancy
• Diazepam injection	• Tumour/Cancer	• Ruptured Uterus
• Wounds	• Hydrocele	

The quality of reporting is improving continuously, but low staff capacity, time constraints for busy clinicians, and a lack of infrastructure for data collection (including electricity and internet availability) still pose significant barriers to the health information system.

2.4.3 Research needs

Sierra Leone is relatively well-researched in terms of surgical diseases and surgical care. Key studies include investigations of the burden of surgical disease, barriers to care, surgical procedures, surgical provider productivity, and surgical outcomes. However, some studies require repetition to provide updated information for informed decision-making.

2.5 Financing

- Rates of Caesarean section and paediatric surgery increased markedly after the implementation of the Free Health Care Initiative in 2010.
- Except for the free healthcare categories (pregnant women, lactating mothers, children under five, Ebola survivors, people with disabilities), surgical care is to a large extent paid out of pocket, presenting an important barrier to access
- 84.7% of Sierra Leone's population is at risk of catastrophic expenditure due to surgical disease
- GDP losses due to surgical disease will amount to 1.33% of total GDP between 2015 and 2030

2.5.1 Introduction

Healthcare in Sierra Leone is mainly financed through out-of-pocket payments, which make up 46.5% of the country's total healthcare expenditure (NHA, 2023). This places Sierra Leone among the countries with the highest levels of out-of-pocket payments in the region. The remaining funding comes from external partners and the government, which allocates approximately 9% of its budget to healthcare (Budget Speech, 2025). The heavy reliance on out-

of-pocket payments significantly impacts access to care, with 70% of Sierra Leoneans identifying fees as their greatest barrier to receiving care(18). This issue also extends to surgical care, as previously noted.

2.5.2 Financing surgery

Surgery has traditionally not been treated as an independent area within the MoH, resulting in a lack of dedicated budget allocation or funding specifically earmarked for surgical services in the National Health Sector Strategic Plan (NHSSP 2021-2025). This oversight reflects a broader trend in which surgical care is often viewed as secondary to other health priorities.

Nonetheless, various essential components of surgical care have secured funding through multiple programmes. For instance, initiatives focused on maternal and child health have provided critical support, recognising that safe surgical interventions are vital for treating complications that may arise during childbirth. Additionally, investments in hospital upgrades have aimed to improve infrastructure, which indirectly enhances surgical capabilities.

Despite these efforts, it is clear that there is still a need for a more focused approach to surgical care, ensuring that it receives the attention and resources it deserves within the broader health system. Prioritising surgery could significantly improve health outcomes and enhance the overall quality of care.

The Zambian National Surgical Plan proposes a budget of US$333,513,000 (approximately 2,500 billion Kwacha) to implement its national surgical plan over five years (NSOASP 2017), which is approximately 10-15% of its total health expenditure. The recent Ghanaian NSOAP costs US$502,600,879 to be implemented over its five-year period. Indicating the cost implication of implementing an NSOAP to ensure accessible, affordable, timely and quality surgical care.

2.5.3 Financial impact of surgical disease

The average out-of-pocket cost for major surgery in Sierra Leone is US$117.60 (19). This represents about 19% of the country's gross national income per capita of US$620 in 2015.

Only about 2% of Sierra Leoneans have health insurance (DHS, 2013). Thus, an estimated 84.7% of Sierra Leone's population is at risk of catastrophic expenditure due to surgical disease.

Catastrophic expenditure is defined as 10% of a person's total annual income, or 40% of their total ability to pay for healthcare. An estimated 73.3% of the population is at risk of impoverishing expenditure from surgical disease, meaning that a surgical illness would push them below the poverty line in Sierra Leone.(19).

Table 4. Financial impact of surgical disease on the Sierra Leone economy

GDP losses	**US$317 million per year** between 2015 and 2030 (1.33% of total GDP)
Total welfare losses to households	**US$939 million per year** in net present value

Source: Shrime et al. 2016

2.5.4 Financial impact of delivering surgical care

Delivering surgical care in Sierra Leone is highly cost-effective for reducing death and disability. Gosselin et al. found that a single small surgical hospital in Sierra Leone can prevent 33,846 disability-adjusted life-years (DALYs) per year. The cost per DALY averted ranges from just US$33 to US$233 (7). This makes surgery in Sierra Leone hospitals a very cost-effective intervention, comparable to the benefit from anti-retroviral therapy for HIV or oral rehydration therapy for diarrhoea (8).

2.5.5 Ongoing work on health care financing

Sierra Leone Social and Health Insurance Scheme (SLeSHI) is currently being developed. Once implemented, this universal health insurance scheme could ease the financial burden on patients requiring surgical care in the country.

2.5.6 SWOT analysis of the surgical sector in Sierra Leone

Table 5. Summary of the situational analysis using SWOT.

Strengths (Internal – Positive)	**Weaknesses (Internal – Negative)**
• Ministry of Health's ownership and support of the process of developing the NSOAP • Policy foundation- Existing NSOAP draft, aligned with WHO WHA68.15 and integrated into HRH 2017-2021, NHS 2025-2030 and NHSSP 2021-2025 • Existence of postgraduate training in general surgery, obstetrics & gynaecology, and anaesthesia under the USLTHC • Task-sharing success – Proven model with Surgical Assistant CHOs (SACHOs) and nurse anaesthetists increasing rural access (+52.3% surgical volume since 2012). • Strong partnerships with UN agencies, NGOs and training institutions	• Workforce gaps – only ~5 surgical providers(all cadres)/100,000 in comparison with LCoGS target of 20/100,000 • Skewed distribution of available SOA providers in favour of urban settings • Fragmented financing – Heavy reliance on out-of-pocket payments for surgical services (84%). • Infrastructure deficits – the majority of government facilities do not offer all the Bellwether procedures that serve as indicators for access to surgical, obstetric, and anaesthesia care. • Data limitations – Weak surgical outcome tracking and inconsistent private-sector reporting.
Opportunities (External – Positive)	**Threats (External – Negative)**
• SLeSHI Expansion – national health insurance to reduce financial barriers to accessing surgical care.	• Economic instability – High inflation may limit government health spending.

• Post-Ebola & COVID Resilience – Increased focus on health system strengthening and surgical preparedness. • Digital Health Advances – Potential for telemedicine, DHIS2 upgrades, and mobile surgical data tools and a timely dashboard for monitoring surgical services nationwide. • Global Surgery Momentum – Leverage partnerships with Operation Smile, Mercy Ship, CapaCare, Centre for Equity in Global Surgery (CEGS-UGHE), Programme in Global Surgery and Social Change. (PGSSC) for funding and technical support.	• Brain drain – Continued emigration of skilled SOA providers. • Unfavourable conditions of service, leading to SOA providers seeking multiple private practices, which decreases their time in the government facility • Disease and environmental risks – landslides, outbreaks (Ebola, COVID-19, M-pox) disrupt surgical services. • Donor dependency – Unsustainable if external funding declines without domestic financing mechanisms.

2.6 Previous Initiatives

In July 2008, a joint WHO-MoH meeting was held, entitled 'Reducing Deaths: Enhancing the Capacity of Regional and District Facilities for Emergency and Essential Surgical Care'. This meeting began a process to study the surgical system in Sierra Leone, conduct facility visits, and develop an action plan for surgical development. It laid the groundwork for important training programmes, such as partial accreditation with the WACS for the country's postgraduate surgical training programme. Many priorities identified during the meeting, such as the need for specialists at district hospitals and the need for improved equipment in facilities, remain significant challenges across the country to this day (WHO, 2008).

2.7 Nurse Anaesthesia training

From 2001 until 2019, the MoH trained approximately 200 nurse anaesthetists, supported by UNFPA, based at PCMH. Despite this success, the country has experienced a net decline in anaesthetic providers due to a critical lack of upward mobility within the anaesthesia career ladder. With no clear promotion path, approximately 70 graduates remain in the field. The majority have sought career advancement by obtaining degrees in other areas, such as general nursing or public health, effectively leaving the anaesthesia workforce despite their critical training.

2.8 CapaCare – surgical task shifting/sharing programme

In 2011, the NGO CapaCare, UNFPA, and the MoH initiated a collaborative project to train medical doctors and community health officers in the safe performance of the most common surgical procedures. CapaCare's initial plan was to train 60 surgical mid-level providers by 2019 (CapaCare, 2015). However, with support from its partners, including the UNFPA and the government of Sierra Leone, they have been able to graduate 109, including 11 females as of 2024, of whom 90% are still in active service.

CHAPTER THREE

3.0 Methodology

3.1 Establishment of the National Surgical Steering Group

On May 6th, 2016, the MoH, supported by King's Sierra Leone Partnership and WHO, held the National Surgical Forum meeting in Freetown. The Forum brought together clinicians and stakeholders from various levels of government, NGOs, and the international community, aimed to support the development of a national surgical plan as a roadmap for improving surgical care nationwide. This meeting led to the establishment of a National Surgical Steering Committee and four subcommittees: Information Management, Finance, Workforce, and Infrastructure and Service Delivery. Few meetings of the committee and its subcommittees were ultimately held. In 2017, the committee and its subcommittees were combined into a single National Surgical Steering Group, from which the initial draft was developed in 2018.

3.2 The process taken to develop the NSOAP

This NSOAP is developed through a highly consultative process informed by input from a range of clinicians, partners, and policymakers. The driving force behind creating the plan was the National Surgical Steering Group, a group of leading figures within Sierra Leone's surgical system. This Steering Group was assisted by the Technical Working Group (TWG), established in 2024, tasked with revitalising the entire NSOAP development process. The entire process of developing the NSOAP was informed by the Lancet Commission on Global Surgery (2015) and several countries that have developed their NSOAPs or surgical plans, including Zambia, Ethiopia, Rwanda and Ghana.

The TWG conducted background analysis, including private meetings and consultations, to increase buy-in for the NSOAP. This process helps remap stakeholders and inform further steps.

Several meetings were held during 2024-2025 to review findings and agree on priorities for the plan's key activities. A Theory of Change framework was built around the strategic objective, aligned with the Lancet Commission on Global Surgery's six indicators and the WHO health system building blocks. We use the CapaCare database because it has been collecting regular

data on the burden of surgical diseases, service delivery, and workforce capacity as part of its research on the surgical task-sharing programme in Sierra Leone.

3.3 Field Visit and Key Informant Interviews (KIIs)

In mid-2025, a field visit was conducted, during which close discussions were held with various stakeholders in the surgical ecosystem, both within and outside Freetown. This included, but was not limited to, active practising surgeons, anaesthesiologists, obstetricians, academic personnel, policy makers and retirees who have been at the forefront of surgery in recent years. These key informant interviews and discussions played a crucial role in reshaping our thinking and direction as we move forward with producing a realistic plan. Most of these key informants continued to review the documents until it was finalised.

3.4 Desk Review and draft NSOAP Writing

The desk review incorporated documents published by the MoH and other partners, such as CapaCare, which has extensive experience in workforce and service delivery over the past decade. Additional publications relevant to the surgical ecosystem in Sierra Leone were reviewed. The information was consolidated and contributed to the writing of the NSOAP.

3.5 Stakeholders meeting

Several stakeholder meetings were conducted, starting with an initial meeting to obtain participant buy-in. This meeting also contributed to stakeholder mapping and included a well-rounded mix of professionals and representatives from civil society organisations. During this gathering, the vision, mission, and strategic objectives of the plan were established. The second and third stakeholder meetings were held to pre-validate and validate the prepared document.

3.6 Writing process pre-validation and validation

The writing process involved an iterative collaboration between stakeholders and TWG. Initially, an early draft of the document was created, serving as a foundation for further development. This draft underwent a comprehensive review, during which it was updated to incorporate stakeholder feedback. In addition to revisions based on stakeholder input, new materials were integrated, drawing from both the strategic objectives outlined during the stakeholders'

meeting and relevant literature, whether published or unpublished. All contributions and materials gathered were consolidated. After finalising these revisions, the updated document was resubmitted to the stakeholders for additional insights and suggestions.

To further refine the content, meetings were organised to conduct a pre-validation of the document. This step was crucial, as it aimed to ensure that the information captured in the document accurately reflected the country's needs and priorities, as expressed by stakeholders.

This iterative feedback loop continued, with multiple rounds of meetings and reviews, until a polished final draft emerged, ready for validation. These steps emphasised collaboration and transparency, ensuring that the product is relevant and aligned with the stakeholders' expectations.

3.7 Costing process of the NSOAP

The costing process began after the strategic priority intervention was established based on Strategic Objectives (SOs). Activities were created for each SO, and these were costed by a health financing specialist. Assumptions and needs were considered, along with the anticipated inflation for products and services. In total, all activities across the eight SOs were costed and summarised, resulting in a total of 42,536,648 dollars over the next five years to implement the plan.

3.8 NSOAP Development Timeline

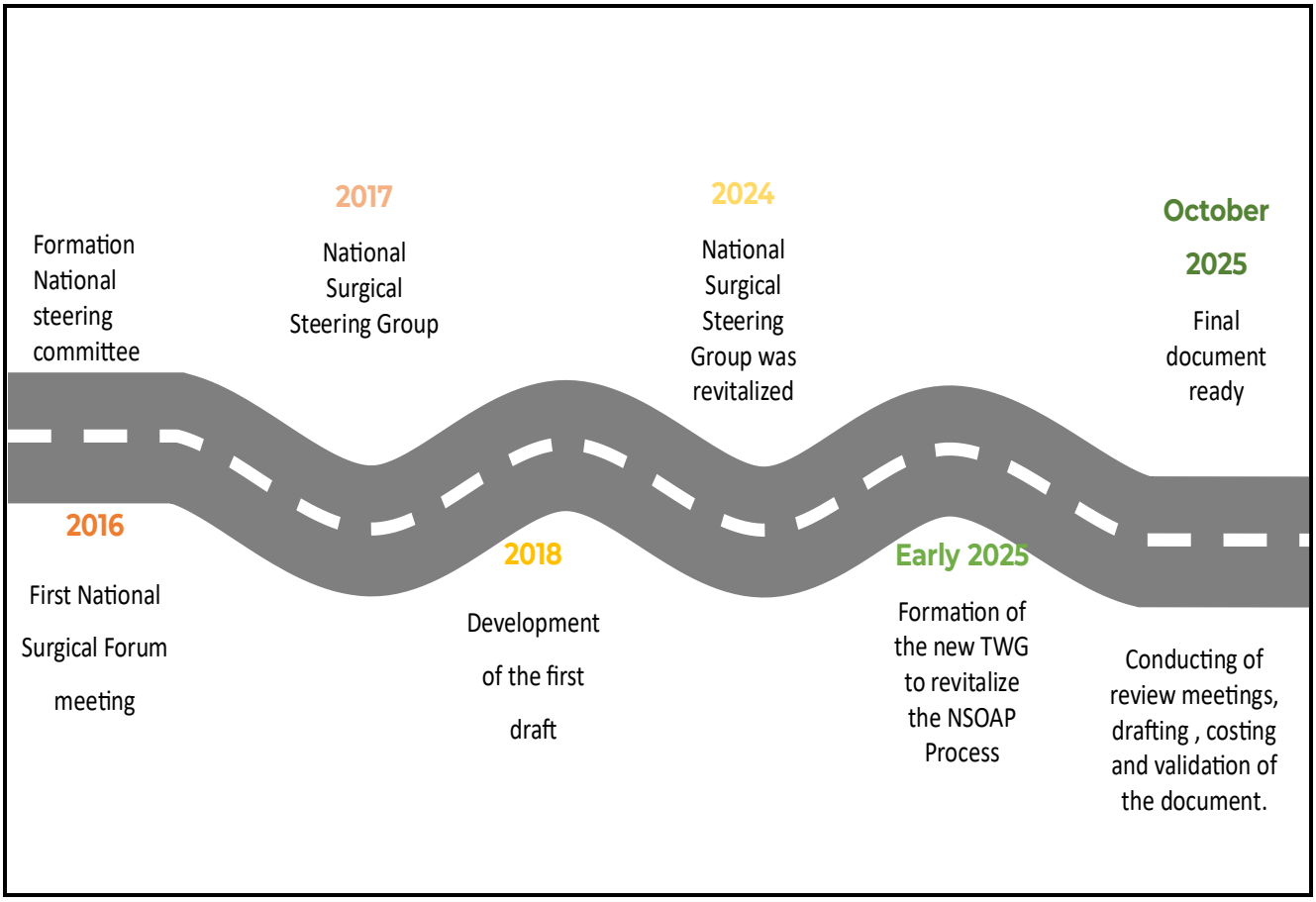


Figure 6. Timeline for the NSOAP development

CHAPTER FOUR

4.1 Strategic Direction

4.1.1 Vision

A Sierra Leone where everyone has the right to healthcare, ensuring that no one suffers preventable death or disability due to a lack of accessible, safe, timely, and affordable surgical care.

4.1.2 Mission

To build a resilient, equitable, and high-quality surgical ecosystem suitable for Sierra Leone, through sustainable surgical workforce enhancement, improved service delivery and infrastructure, healthy supply chain development, financial protection, and community ownership.

4.1.3 Strategic Objectives

1. **Workforce Excellence**: Develop a qualified, motivated, and sustainable surgical, obstetric, and anaesthesia (SOA) workforce that is appropriately distributed across all levels of care in every district in Sierra Leone
2. **Service delivery**: Improve service delivery to ensure equitable access to timely, quality, and safe surgical services for everyone in Sierra Leone
3. **Infrastructure**: Upgrade and equip surgical environments to meet universally acceptable minimum standards
4. **Supply chain**: Ensure a functional, data-driven supply chain for SOA commodities integrated with national systems
5. **Information management**: Establish a culture of high-quality data collection and use for decision-making and research
6. **Sustainable Financing:** Eliminate financial burden for patients and ensure the surgical system is efficiently and sustainably financed
7. **Community Engagement and Ownership**: Empower communities through awareness, health promotion, community ownership, and strengthened referral systems

8. **Governance**: Establish a MoH governance structure to oversee NSOAP implementation

4.1.4 Guiding Principles

The principles of **equity, affordability, timeliness, quality, and safety** fundamentally guide our NSOAP's strategic direction. These principles are crucial for the establishment and implementation of this plan, which utilises the life stages approach outlined in our national health agenda.

Equity ensures that every person has access to essential surgical care, addressing disparities based on geography, income, or social factors. By focusing on underserved populations, we aim to eliminate barriers to care and promote fair and just health outcomes for everyone.

Affordability is equally essential, as it ensures that high-quality surgical, obstetric and anaesthetic services are within reach for all individuals at all stages of life. Our NSOAP is committed to minimising financial burdens, enabling patients to seek the care they need without the fear of overwhelming costs. This can be achieved through innovative financing, such as establishing a District Emergency Surgical Fund (DESF) model and expanding health insurance coverage.

Timeliness is a critical factor in accessing surgical care; without timely access, other components will not be practical. Therefore, the NSOAP highlights the significance of time in surgical care accessibility.

Quality and safety of care are paramount in delivering effective medical interventions. We prioritise best practices, including the use of the WHO's surgical safety checklist, continuous training for surgical, obstetric and anaesthetic professionals, and adherence to safety protocols. To ensure that patients receive the best possible care with the lowest risk of complications.

At the heart of these principles lies **community ownership and sustainability**. We believe that engaging local communities in the planning, delivery, and evaluation of healthcare services is crucial for long-term success. When communities take ownership of their health initiatives, they are more likely to invest in and support sustainable practices. This involvement aims to

empower individuals to become active participants in their own healthcare, fostering a sense of responsibility and commitment to improving their health.

While integrating community elements into our NSOAP, we aim to create a healthcare system that not only meets current needs but also anticipates future challenges, ensuring that quality care remains available to all patients, regardless of their socioeconomic status and gender.

4.1.5 Theory of Change

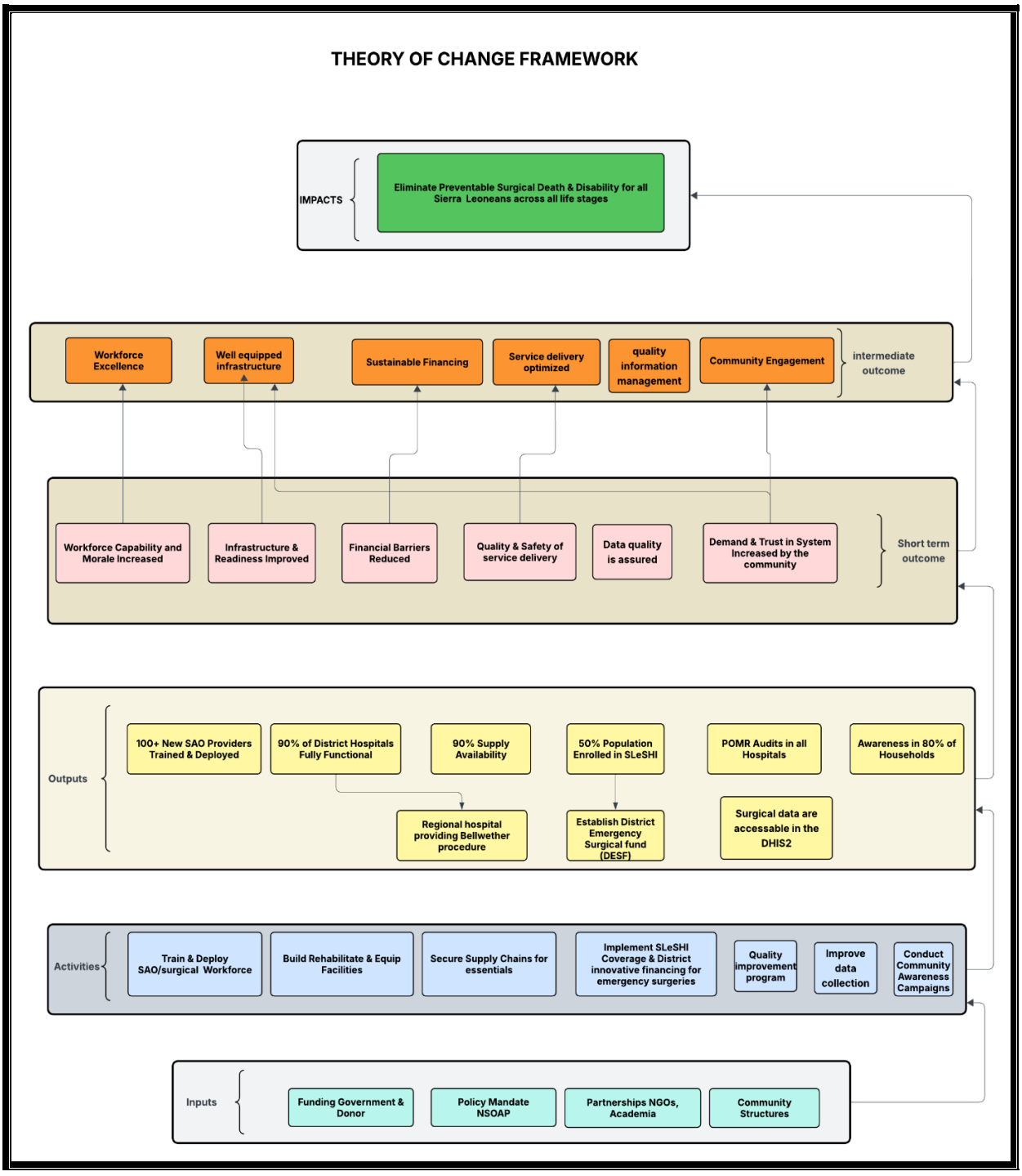


Figure 7. Theory of change framework

4.1.5.1 Key assumptions and risks

Assumptions:	**Risks**:
1. Political will and stable government funding continue. 2. Effective partnerships with international donors and NGOs are maintained. 3. Communities are willing to engage with the health system. 4. Trained healthcare workers remain in the public system.	1. Insufficient funding to scale successful pilots. 2. Brain drain of trained professionals. (Training bonds are not honoured) 3. Infrastructure challenges (e.g., poor roads, unreliable electricity, and not having an optimal operating theatre). 4. Poor rural retention strategies

4.2 Strategic Interventions Priority Actions (2026–2030)

The strategic intervention priorities for our 2026-2030 NSOAP are based on our strategic objectives: Workforce Excellence, Service Delivery, Infrastructure and Supply Chain, Information Management, Sustainable Financing, Community Engagement & Ownership, and Governance. These priorities align with the LCoGS and the MoH priorities of building a resilient health care system

4.2.1. Workforce Excellence

SO1: Develop a qualified, motivated, and sustainable surgical, obstetric, and anaesthesia (SOA) workforce that is appropriately distributed across all levels of care in every district in Sierra Leone

The goal is to develop a qualified, motivated, and sustainable workforce for surgery, obstetrics, and anaesthesia, evenly distributed across all levels of care in Sierra Leone. By doing so, we aim to increase the number of specialist surgical anaesthetists and obstetricians (SOAs) from 1.6 to 5 per 100,000 people and the overall surgical workforce density (across all cadres) from ~5 to 10 per 100,000 people. Additionally, we want to ensure that regional hospitals have a fair distribution of specialist providers.

In a country of approximately 9 million people, a surgical specialist density of 20 per 100,000 would mean a total of 1,800 SOAs.

Given Sierra Leone's shortage of fewer than 600 clinically active physicians, this target is overambitious for the foreseeable future. Currently, the SOA density (Specialist physician) is 1.6/100,000. The total surgical workforce density (across all cadres) is ~5 per 100,000. It is therefore necessary to set realistic, more achievable targets, as stated above, to leverage the existing residency training and the task-sharing in the country.

4.2.1.0 Key Activities

1. Support & sponsor specialist training (expand/phase accreditation; grow residency capacity— leverage external rotations/partnerships)

Building on the existing training provided by the USLTHC, we can expand the number of residents we can take on at a time, especially in critical areas like anaesthesia and radiology, by incentivising and developing faculty to ensure the capacity is in place to deliver the training in Sierra Leone.

For residency training that is not available in the country but is critical to the NSOAP, we can leverage international partnerships and support for training outside Sierra Leone.

Adopting a phased accreditation-aligned investment approach, the NSOAP will support the progressive scaling of residency training in Surgery, Obstetrics & Gynaecology, and Anaesthesia while establishing new accreditation in Orthopaedics. As of 2025, there are ten junior and three senior residents in Surgery, twenty-six in Obstetrics & Gynaecology (including eleven senior

residents), and four in Anaesthesia (one senior resident). These figures already meet or exceed current accreditation quotas, particularly in Surgery and O&G, where new intakes will be deferred until graduating cohorts complete their Membership or Fellowship examinations. Limited capacity therefore exists in Anaesthesia and Urology, while Orthopaedics will require a new application for accreditation before training can begin.

To achieve sustainability, the NSOAP investment model will prioritise consolidation and capacity expansion in the short term (Years 1–2), targeting infrastructure upgrades, faculty development, and external rotation agreements to meet WACS/WACP requirements. By Years 3–4, the plan envisages re-accreditation and quota expansion, allowing gradual increases in trainee numbers. From Year 5 onward, full programme rollout is anticipated, with a projected steady-state annual output.

2. Invest in task-sharing programmes (annual intakes for SACHO/SCO to staff district hospitals)

Building on the existing training run by CapaCare, the MoH should mobilise the necessary resources, both within and outside the MoH, to support the training of high-impact, mid-level providers (SACHOs/SACOs) which will serve as the foundation for surgical services in district hospitals. If an intake of 18 is achieved each year, by the end of the five years, the cumulative investment will be 90 SACHO/SCO, adding to the existing workforce.

3. Scale-up non-physician anaesthesia training (two-year pathway; steady annual cohorts)

Non-physician Anaesthetists (18-24 months training): If we train 20 non-physician Anaesthetists each year for five years, a cumulative of 100 will graduate with this model. They will play a critical role in enabling surgery by providing safe anaesthesia, including spinal, ketamine, and general anaesthesia, for obstetric, surgical, and trauma cases. This additional number will augment the existing workforce, enabling expansion of surgical services.

4. Establish peri-operative nursing training (starting with a diploma; pathway to graduate offerings)

By providing formal training for all perioperative nurses, we ensure that the quality of surgical services improves. This group of healthcare providers plays a crucial role in the management of surgical patients. This training can be conducted as in-service training with the existing workforce, structured as a diploma in peri-operative care, modelled after similar programmes in neighbouring Ghana and Nigeria, and subsequently expanded into a graduate-level offering at a university.

5. Establish critical care nurse training

Critical nursing care is essential to post-operative patient management, yet there are currently no training programmes specifically for critical care nursing. By establishing a structured critical care nursing programme that begins with a diploma and progresses to a bachelor's degree, we can ensure effective post-operative patient management, thereby contributing to safer surgical services.

6. Create accredited CPD across the surgical team, tied to relicensing

To keep the surgical workforce active and up to date for quality service, the MoH, through the NSOAP unit, will work with training institutions and professional councils to develop accredited CPD programmes. Professional bodies can make participation in CPD mandatory as a prerequisite for relicensing.

7. Retention & motivation (housing facilities; study opportunities; recognition awards; rural retention allowance and profession-specific salary scheme)

Retention of health workers is essential for successfully investing in a resilient health workforce. Ensuring that those we train are effectively serving their intended purposes is crucial. For instance, providing accommodation for the surgical team near the facility allows them to arrive

on time and respond promptly to surgical emergencies. Additionally, offering study opportunities and creating recognition awards can help retain skilled professionals at the district level. To further support this, a rural retention allowance based on established benchmarks should be introduced, along with a profession-specific salary scheme.

8. Support and sponsor biomedical training for clinical staff and conduct facility-based training

Biomedical equipment plays a crucial role in the provision of services for our patients, particularly during and after surgery. Regular training of clinical staff is essential to ensure correct utilization of this equipment and understanding of the relevant maintenance practices.

9. Support and sponsor ultrasound training

Ultrasound plays a pivotal role in resource-limited settings like Sierra Leone, providing essential diagnostic capabilities for both emergency and elective obstetric and surgical care. For instance, it allows for the diagnosis of high-risk pregnancies, helps guide emergency procedures like Caesarean section for fetal distress or internal bleeding and can guide emergency surgical interventions, improving outcomes by enabling quicker and more accurate diagnoses. Its portability, relatively low cost, and absence of ionising radiation make it ideal for remote areas

and low-resource settings, and it is a safe tool for pregnant women and a generally young population.

10. Support and sponsor radiography training

Trained radiographers are essential for diagnostic imaging across all healthcare settings, which is vital for preoperative assessments, intraoperative guidance, and postoperative monitoring, thereby reducing high perioperative mortality rates and increasing overall capacity for safe surgical care.

4.2.2 Service Delivery

SO2: Improve service delivery to ensure equitable access to timely, quality, and safe surgical services for everyone in Sierra Leone

Considering the current baseline of 505 surgeries per 100,000 people, reaching the full Lancet targets of 5,000 surgeries per 100,000 people by 2030 is ambitious and unrealistic in our context. This includes achieving at least 80% coverage of essential surgical services and ensuring that all countries monitor perioperative mortality rates. A more achievable and transformative target for service delivery in Sierra Leone by 2030 is put into the following key activities.

4.2.2.0 Key Activities

1. Expand safe surgical volume (outreach; targeted supplies; deploy SOA staff to CEmONC sites; lift CS rate toward 10%; overall volume target 1,000/100,000)

The implementation of the NSOAP aims to increase surgical procedures to 1,000 per 100,000 people. To achieve this goal, district hospitals will be supported with essential supplies to conduct outreach services every quarter, allowing for a broader reach of surgical care. The NSOAP unit will mobilise resources to facilitate national specialist outreach, thereby scaling up surgical services. Additionally, the surgical workforce will be distributed to Comprehensive

Emergency Obstetric and Newborn Care (CEmONC) facilities to enhance access to caesarean sections, to increase the caesarean section rate to 10%.

2. Mandate Perioperative Mortality Rate (POMR) tracking (train staff; ≥70% facilities collect/report/use POMR)

Training hospital staff to track perioperative mortality and ensure that 70% of facilities track, report, and use this data to drive quality improvement projects within their surgical ecosystem.

3. Guarantee safety & quality (mandate Surgical Safety Checklist; trainings and audits)

Every patient deserves safe surgery. Introducing an official mandate to use the Surgical Safety Checklist in every operating theatre by conducting training and regular audits on the use of the surgical safety checklist.

4. Develop and implement a National Surgical Register (simplified, implemented in all theatres—including private ones)

Develop and implement a simplified national surgical registry for use in all operating theatres, including private ones, to enable effective monitoring of surgical volumes and outcomes and to identify areas for improvement for safer surgery.

5. Quality-of-care training

Develop quality of care training for the entire surgical workforce, ensuring surgical site infection (SSI) monitoring and a quality improvement plan to prevent SSI.

6. Training on non-surgical skills & ethics (communication, team-working, ethics and culture)

Develop soft skills around communication, team building, ethics in the management of surgical patients and managing people and emotions in the operating theatre.

7. Standardise care via national protocols to reduce variability and errors

To ensure consistent, high-quality care across all facilities, develop and enforce standardised surgical care protocols. This simplification will reduce errors, improve efficiency, and ensure that every patient receives the same standard of evidence-based care regardless of where they receive care.

8. Ensuring that all surgical specimens are sent for appropriate diagnostic procedures, including histopathology specimens

Conduct regular training on the important procedures to collect surgical specimens, how to preserve them for transportation, and how to label and refer surgical samples.

9. Strengthen ambulance services that will provide safe, timely and efficient pre-hospital care

Liaise with national ambulance services to provide training on timely, efficient pre-hospital care for surgical patients before and during transport to a surgical facility.

10. Develop an appropriate telemedicine mechanism to share expertise equitably across Sierra Leone

Develop an appropriate telemedicine mechanism structure within the surgical ecosystem to share expertise equitably across Sierra Leone while reducing the burden of decision-making.

11. Develop a plan for countrywide community first aid training (prioritise drivers/bike riders, police and school curriculum)

This will ensure that, in the event of an accident, those who come into contact with the victims can provide the necessary life-saving measures while awaiting referrals to the nearest surgical facility.

4.2.3 Infrastructure

SO3: Upgrade and equip surgical environments to meet universally acceptable minimum standards

Sufficient infrastructure is crucial for delivering timely, high-quality, and cost-effective surgical care. Deficiencies in facilities result in delays for surgical patients, limit hospital surgical capacity, and undermine the quality of care. Our strategic investment aims to ensure that every district hospital is adequately equipped to provide essential surgical services. Regional hospitals should be further equipped to perform additional important procedures, and the tertiary hospital should be equipped to provide advanced specialist care.

4.2.3.0 Key activities

1. Ensure all theatres meet the WHO minimum standards (including PACU & sterile services)

Conduct a baseline assessment of all surgical facilities against the WHO- Minimum Standards for Surgical infrastructure and other components of the surgical ecosystem.

Refurbish/Construct operating theatres, including dedicated PACU and sterile processing spaces, ensuring structural integrity.

2. Establish reliable power systems (stable, consistent voltage supplies for theatres)

Ensuring that every operating room has reliable electricity, which can power all the necessary equipment in the operating theatre and the PACU.

3. Ensure reliable clean water (uninterrupted supply; rainwater harvesting; storage)

Provide adequate, clean water for operational use in the operating theatre and the theatre laundering unit to ensure optimal sanitation.

4. Prioritise surgical access to the oxygen ecosystem (PSA plants at tertiary/regional hospitals, transport to districts; concentrators at district/CHC hospitals)

Ensure that there is an adequate oxygen supply in the operating room and the PACU throughout the theatre run.

5. Waste & sterile processing improvements

Ensure that there is an adequate waste management system and a sterile processing facility unit that adequately caters for the facility.

6. Establish regional trauma centres (delivery and training hubs)

To ensure optimal patient care, each regional hospital needs to have at least one functional, well-equipped regional trauma centre and an intensive care unit (ICU). These trauma centres should be equipped to perform specialised surgical procedures vital to saving lives and alleviating suffering in emergencies. In addition, the ICU should be well-equipped, as it provides post-operative care for critically ill patients who cannot be easily referred elsewhere. With a dedicated trauma centre and an ICU, regional hospitals can effectively handle complex cases arising from accidents, natural disasters, and other emergencies.

It can also serve as a training hub for medical staff across that region, promoting the sharing of knowledge and skills.

7. A&E units established/expanded in tertiary, regional, and district hospitals

All tertiary, regional and district hospitals should have a properly established and fully equipped accident and emergency unit capable of accommodating at least six patients at a time. This will improve the quality of care that patients receive during emergencies.

8. To establish Regional paediatric operating theatres outside Freetown

Paediatric surgical services are essential for ensuring the health and well-being of young patients, yet they are currently limited to hospitals within Freetown. This limitation poses challenges for families from the provincial areas who may require specialised surgical care. Against this backdrop, the MoH aims to establish paediatric operating theatres in each regional hospital, which represents a significant milestone in enhancing access to quality healthcare across the life stage of childhood.

9. To enhance diagnostic services appropriate to the level of care

Diagnostic services are essential to the surgical ecosystem. They play a crucial role in ensuring accurate diagnoses, guiding treatment decisions, and ultimately improving patient outcomes. To enhance the overall quality of surgical care, the NSOAP proposes **upgrading** diagnostic services appropriate to the level of care, which can empower healthcare providers to make informed decisions and provide timely interventions.

10. Scale-up blood bank & donation drive

Existing blood banks are available in almost all districts; however, challenges related to emergency blood supply persist. Therefore, this plan aims to scale up storage and donation drives to help save patients who are in dire need of a transfusion.

4.2.4 Supply chain

SO4: Ensure a functional, data-driven supply chain for SOA commodities integrated with national systems

The supply chain is crucial for the efficient operation of theatres and hospitals in Sierra Leone. The country has established the National Medical Supplies Agency (NMSA), the Directorate of Pharmaceutical Services (DPS), along with a National Medicines Policy and the newly launched National Health Supply Chain Strategy (NHSCS) for the period 2023–2027. Nevertheless, our facilities still face challenges, particularly concerning the inadequate availability of essential surgical supplies. This not only delays patient care but also affects the outcomes of surgical services.

To tackle these challenges, it is essential to enhance the current system through collaboration at all levels, from procurement to delivery and monitoring of surgical supplies. As a result, this NSOAP seeks to address this within its supply chain framework, which is intended to be incorporated into the existing National Health Supply Chain Strategy (NHSCS) 2023-2027. However, it offers specific, targeted interventions for SOA commodities. It is structured around five key pillars intended to operate on the principle of a **closed-loop, data-informed system** where each pillar reinforces the others, creating a cycle of continuous improvement:

4.2.4.0 Key Activities

1. Governance, Coordination & Policy: establish a SOA Supply Chain TWG; finalise a National Essential Surgical Commodities List; Standard Operating Procedures for all levels; secure dedicated budget lines; coordinate donor/NGO inputs.

The goal is to establish a strategic direction and ensure that everyone works together effectively. The existing framework, in which the NMSA serves as the primary purchaser and warehouse overseer, with the DPS responsible for regulatory supervision, provides a solid foundation for operations.

- **Integration of surgical care in the supply chain:** The MoH will establish a dedicated **SOA Supply Chain TWG**. This TWG, chaired by an experienced person with a surgical background and co-chaired by a representative from NMSA, will include representatives from the DPS, Hospital Medical Superintendents, theatre nurses, surgeons, obstetricians, anaesthetists, and finance officers, and will serve as the engine room for SOA-specific decisions.

- **Sub Actions of the Supply Chain TWG:**

    - **Standardise:** Finalise and mandate the use of a **National Essential Surgical Commodities List**, aligned with the WHO and national essential medicines list, but specifically to the needs of operating theatres, PACUs, sterile services departments and surgical wards.

    - **Clarify Roles:** Define clear Standard Operating Procedures (SOPs) for every level of the chain (central, district, facility) so everyone knows their responsibilities for requesting, storing, and managing SOA supplies.

    - **Advocate:** Secure dedicated budget lines within the national health budget for the procurement of SOA commodities, reducing reliance on unpredictable donor funding. Advocate to the broader global surgical community beyond national borders.

    - **Support**: Provide supportive oversight and coordination of supplies of surgical items that do not come through the regular NMSA procurement. For example, some surgical supplies are provided through NGOs, donors, and private individuals. The Supply Chain TWG should support the NMSA in the supply chain/management of these supplies/ commodities.

2. Continuous M&E & QA: strengthen a tailored LMIS for SOA commodities with real-time reporting

This pillar connects all others, providing the real-time feedback needed to make corrections.

- **Strengthening the Logistics Management Integrated System (LMIS):** A simplified, tailored LMIS for SOA commodities will be rolled out, transitioning from paper-based to digital solutions. It allows theatre staff to report stock levels, consumption, and losses in real time to the theatre users' committee.

4.2.5 Information Management

SO5: Establish a culture of high-quality data collection and use for decision-making and research

Data collection has expanded significantly in Sierra Leone's health system over the last decade, both in routine processes and in research and surveys. The country's Health Information System (HIS) compiles routine data into a unified platform, utilising the open-source DHIS 2. This HIS gathers data from various sources, including the Health Management Information System. However, surgery has often been overlooked in many of these initiatives. Currently, DHIS 2 includes routine statistics on caesarean sections, appendicitis cases, hernia/hydrocele treatments, and ophthalmic surgeries, as well as surgical admissions recorded in government facilities. Although improvements in data collection have been made in the last decade, significant work remains, particularly in the acquisition of surgical data, especially within the private sector.

This NSOAP aims to establish a surgical-focused data system that can be integrated into the existing framework to enhance decision-making and improve patient care and management. Additionally, providing a solid foundation for understanding the country's surgical disease burden in real-time facilitates better planning and informed decision-making.

4.2.5.0 Key Activities

1. Define a national SOA Minimum Dataset (MDS) and integrate it into routine tools (e.g., theatre registers)

The existing challenge is that data is gathered inconsistently. Having a National SOA Minimum Dataset (MDS), which will constitute the vital initial step in addressing the question: "What

should every facility actually be reporting?" By specifying a standardised, focused range of indicators, data from a private clinic in Freetown can be compared with data from a government hospital in Bo. This will serve as the basis for reliability, enabling authentic national-level analysis. Incorporating these data points into familiar tools, such as theatre logbooks, makes data collection a natural part of the clinical workflow, rather than a separate, burdensome task.

2. Guarantee complete digitalised data capture: simple reporting portal plus regulatory requirements, including the private sector

A standard is ineffective if it is not widely embraced. Tackling the significant gap in reporting from the private sector, a dual approach will be used: creating an easy-to-use reporting portal (entirely digitised) while collaborating with the regulatory body to make reporting **a mandatory operational requirement**. This shifts private providers from external entities to accountable partners within the national health system.

3. Digitised data collection tools and trained data entry personnel from the private sector for integration into the DHIS2

In order to increase the data collection, the tools will be digitalised and training of personnel from the private sector will be conducted to ensure that their data is integrated into the DHIS2

4. Data-to-action feedback: an NSOAP Dashboard in DHIS2 for policymakers/clinicians in public and private sectors

A frequent failure in health information systems is the collection of data that remains unused. The NSOAP is intentionally designed to address the challenge of acting on findings by providing a dedicated NSOAP Dashboard in DHIS 2, which makes data visible, accessible, and comprehensible for policymakers, programme managers, and clinicians alike, both in public and private facilities.

5. Data review meetings at facility/district/national levels (Monthly for facility, Quarterly for District and biannually for National) to drive QI and resource allocation

Technology alone is insufficient; the institutionalisation of regular data review meetings is also necessary. By requiring managers and clinicians to analyse their own SOA data together periodically, it will foster a culture of data-driven decision-making. “Is there a high postoperative mortality rate at a specific facility?” The meeting's purpose then shifts to understanding why and determining an intervention. “Is the number of hernia repairs low in a district?” The focus turns to identifying barriers to access. This transforms data from an abstract notion into a practical management tool for quality improvement and resource allocation, ultimately achieving the NSOAP's central goal: saving lives and reducing disability across all life stages.

6. Research function: establish a National NSOAP research centre, target >20 publications by 2030

The focus should not only be on collecting data for local decision-making, but also on partnering with academic institutions and leading researchers in global surgery to conduct training programmes and provide mentorship opportunities for healthcare professionals in the surgical field or academic space. This approach will help instil the importance of data collection and its use in advancing knowledge.

4.2.6 Health Financing for SOA

SO6: Eliminate financial burden for patients and ensure the surgical system is efficiently and sustainably financed

4.2.6.0 Background

Current state (2025 baseline): High out-of-pocket (OOP) payments at point of care; fragmented fee schedules; limited coverage of surgical services in exemption schemes; nascent SLeSHI

rollout; partner-financed capex (oxygen, equipment) not always matched by operations and maintenance (O&M). No prepaid mechanism for patients for SOA services.

Challenges: Catastrophic expenditure for emergency/obstetric surgery, transport and lodging costs, stockouts, informal payments for exemption services, weak budget execution, low visibility of SOA lines in the Medium-Term Expenditure Framework (MTEF), and limited purchasing mechanisms for quality goods.

Opportunities: SLeSHI on the way and FCHI reforms offer opportunities for strategic purchasing and growing advocacy for Domestic Resources Mobilisation (DRM), including potential for increased allocation to health taxes on tobacco, alcohol, and sugar-sweetened beverages (SSBs), and Public Private Partnerships.

Comprehensive Coverage: Includes emergency, obstetric, trauma, selected elective procedures, perioperative medicines/consumables and diagnostic procedures in the SLeSHI surgical benefit package.

Cashless Pathway: Enforce no balance billing at contracted facilities; remove pre-authorisation for life-threatening emergencies.

Equity & Access: Transport vouchers and patient navigation for the poor, rural and vulnerable groups; maternity waiting homes / step-down care.

Provider Payment for Quality: Case-based payments with quality add-ons (checklist compliance, POMR reporting) and penalties for never events.

Programme-Based Budgeting (PBB): Create a distinct SOA sub-programme with capital expenditure (capex) and operating expenditure (opex) lines (OT rehabilitation, oxygen & power, maintenance, training, supplies).

Predictable Operations and Maintenance (O&M): Ring-fence O&M for theatres, sterilisation, oxygen systems, and biomedical maintenance.

Execution & Efficiency: Enhance budget execution rates through framework contracts, pooled procurement, and quarterly cash plans.

Earmarked Health Taxes: Incremental excise increases on tobacco, alcohol, and sugar-sweetened beverages (SSBs) with a statutory earmark (e.g. 20–30%) to a Surgical & Anaesthesia Fund.

Outcome-Linked Funding: Results-based grants from partners tied to access/quality metrics (e.g., 2-hour access, POMR reduction, checklist adherence).

Public Private Partnerships (PPP) /Leasing Models: Vendor-managed equipment leasing and managed service contracts for imaging, anaesthesia machines, sterilisation, with uptime SLAs.

4.2.6.0 Key activities

4.2.6.1 A. Reduce financial barriers (insurance coverage / SLeSHI)

1. Define and gazette an Essential Surgical Package
2. Advocate for inclusion of surgical services in Prepayment services like SLeSHI and FHCI
3. Expand coverage of surgical services by collaborating with faith-based NGO and private facilities
4. Introduce social support incentives for extremely vulnerable population (transport & lodging support) for referred surgical patients (means-tested or diagnosis-based), integrated with social protection
5. Establish alternative funding streams e.g. Trust funds - Advocacy
6. Roll out financial counselling desks and Surgical Service charter in hospitals

4.6.2.2 B. Sustainable domestic financing (budgeting & execution)

1. Develop a costed NSOAP with annual NSOAP costs
2. Establish SOA budget codes in the MTEF; publish annual NSOAP Financing Note with needs, allocations, and gaps.
3. Set an indicative target that at least 10–12% of the hospital services budget will fund SOA priorities by 2030, with yearly increments
4. Multi-year capital plan for OTs, imaging, oxygen plants/concentrators, and ambulances; includes energy solar upgrades to reduce O&M costs

5. Introduce results-based disbursements to hospitals tied to quality (checklist, POMR reporting, Infection Prevention and Control (IPC) compliance).
6. Align donor support in a compact to finance gaps without fragmenting procurement or data systems.
7. Innovative mechanisms - introduce an earmarked tax on vehicle registration, licensure, and insurance to fund accident and emergency and trauma (taxes and also mobile top-up and data levies
8. PPPs/managed service contracts for equipment & oxygen with uptime SLAs, diagnostics

4.2.7 Community Engagement and Ownership

SO7: Empower communities through awareness, health promotion, community ownership, and strengthened referral systems

Healthcare delivery is fundamentally centred around the community. However, in our planning processes, we frequently overlook the specific needs of the communities we intend to serve. As a result, we often find ourselves addressing perceived needs that do not align with the actual problems these communities face.

With this in mind, our NSOAP prioritises community engagement as a core principle. We aim to empower communities through increased awareness, health promotion, active community involvement, and improved community referral systems. Our goal is to increase overall community awareness of surgical diseases by 80% by 2030 through a series of targeted activities.

4.2.7.0 Key activities

1. Surgical Health Promotion "Surgery Saves Lives" national literacy & myth-busting campaign around NSOAP

Purpose: Shift attitudes, reduce stigma and fear (e.g., beliefs about being "half human" after surgery), and build demand for timely, appropriate care.

Core actions (Y1–Y5):

- Co-design messages with patients and providers; produce radio jingles, call-in shows, community drama, and village health talks in Krio/Temne/Mende/Limba/Kono.
- Focus on *when to seek help* (obstructed labour, acute abdomen, open fracture, burns), Caesarean section safety, peri-operative safety (WHO checklist), and injury/household hazard prevention (helmets, safe stove use, child-proof storage of caustic soda).
- Use the hub-and-spoke model to schedule quarterly outreach talks from each district hospital to its PHUs
- Who leads/partners: NSOAP Unit + Health Education/Promotion, DHMTs, hospital "surgical champions," media houses, women's/market associations, youth/okada unions, faith leaders.

Key outputs & Key Performance Indicators (KPIs) (by 2030):

- ≥80% of surveyed households can name three danger signs needing urgent surgical evaluation; ≥20% reduction in reported fear-based refusal of Caesarean.
- ≥1 radio segment/week/district; ≥2 community drama events/quarter/facility.
  Risks & mitigation: Low literacy → rely on edutainment, pictorial posters, and radio; stigma → use "surgery survivor" ambassadors.

2. Introduce and train Community Health Workers (CHW) on Community Surgical Navigation & Patient Accompaniment through the NSOAP, and using other existing structures

Purpose: Reduce Delays 1 & 3 by helping people *decide to seek care* and *complete referrals*; strengthen 30-day follow-up for outcomes (feeding into the NSOAP registry/POMR learning loop).

Core actions (Y1–Y5):

- Train CHWs/peer volunteers as Surgical Navigators to identify red flags, book appointments, escort patients, track referrals, and conduct 30-day post-op calls/visits.
- Simple paper/phone tools linked to the NSOAP dashboard & theatre logbooks to close data gaps outside facilities.
  Who leads/partners**:** NSOAP Unit, DHMTs, PHUs, hospital social work/triage desks.

Key outputs & KPIs:

- Referral completion rate from PHU → hospital increases by ≥25%.
- Median symptom-to-arrival time for acute abdomen/obstructed labour improves by ≥20%.
- ≥70% of operated patients receive a documented 30-day follow-up contact.
  Risks & mitigation: Volunteer fatigue → modest stipends via district budgets and tie-ins with the financial counselling/price transparency desks in hospitals.

3. Advocacy for communities to mobilise Village Emergency Transport & Referral Networks ("Safe Ride")

Purpose: Cut Delay 2 by ensuring fast, affordable transport from communities to the nearest surgical or CEmONC site.

Core actions (Y1–Y5):

- Formalise community MOUs with vetted okada/tricycle drivers; provide reflective vests, a stretcher, basic first-aid orientation, and a 24/7 call tree.

- Pair with the NSOAP's financing pillar: transport vouchers for poor/rural patients and link to district Emergency Surgical Fund concepts referenced in the guiding principles.
- Publish simple referral maps from each PHU to its hub hospital.
  Who leads/partners: DHMTs, hospital administrators, local councils, okada unions, chiefs.

Key outputs & KPIs:

- ≥70% of emergency surgical referrals reach the receiving facility within 2 hours.
- Average patient transport cost reduced by ≥30% for voucher-eligible cases.
  Risks & mitigation: Safety concerns → enforce helmets/reflectors; sustainability → integrate with SLeSHI purchasing for emergency transfers where feasible.

4. Capacitate traditional leaders, Healer & Faith-Leader Early-Referral Compact

Purpose: Improve acceptability and trust by partnering with traditional healers, pastors, and imams—often the first contact for care—to refer promptly for surgical red flags.

Core actions (Y1–Y5):

- District-level memoranda with healer associations and inter-religious councils; quarterly dialogue circles with hospital clinicians.
- Pocket red-flag cards (e.g., prolonged labour, open fractures, severe abdominal pain, corrosive ingestion) with clear "refer now" instructions and phone numbers.
- Recognition scheme ("Safe Surgery Ally" certificates) for high-referring leaders; incorporate referral data into the NSOAP dashboard.
  Who leads/partners**:** DHMTs, NSOAP Unit, healer councils, inter-religious councils.

Key outputs & KPIs:

- ≥50% increase in documented referrals from healers/faith leaders.

- Caesarean section refusal due to misconceptions declines by ≥20% in partner communities.

  Risks & mitigation: Resistance/fear of losing clients → position as *complementary* roles and provide public recognition.

5. Community Social Accountability: Surgical Service Scorecards & Patient Charter

Purpose: Strengthen ownership and quality by letting communities regularly review access, respectful care, costs, and stockouts—and agree on remedies with facilities.

Core actions (Y1–Y5):

- Co-create a Surgical Patient Charter (rights, fee transparency, grievance redress) and display it at PHUs/hospitals, aligning with hospital financial counselling and price boards.
- Quarterly community scorecard meetings at each hub hospital: discuss wait times, referral timeliness, checklist use, stockouts of theatre essentials; publish "actions closed."
- Feed agreed actions and results into DHMT reviews and the NSOAP dashboard.
  Who leads/partners: Hospital leadership, NSOAP Unit, DHMTs, civil society, patient reps.

Key outputs & KPIs:

- ≥80% of hub hospitals hold four scorecard meetings/year with minutes and action logs.
- Stockout days of critical SOA commodities fall by ≥30%; surgical cancellations due to stockouts fall by ≥40%.

  Risks & mitigation: Blame culture → use trained facilitators and focus on problem-solving; transparency concerns → anonymise sensitive data.

4.2.8. Governance

SO8: Establish an MoH governance structure to oversee NSOAP implementation

The effectiveness of the NSOAP is mainly dependent on its governance structure, which is fundamental to building a sustainable and equitable surgical ecosystem in Sierra Leone, with the overall objective of ensuring that NSOAP activities are integrated and coordinated within the MoH's existing system. Therefore, the governance will be carried out as follows.

4.2.8.0 Key Activities

1. Establish NSOAP Steering Committee

The NSOAP Steering Committee will be hosted by the MoH and chaired by the Deputy Chief Medical Officer (Clinical Services). This committee comprises directors of relevant MoH departments, representatives from USLTHC, professional associations, regulatory bodies, development partners, and patient representatives. Its role is to provide strategic oversight, approve plans and budgets, review progress reports, and advocate for resource mobilisation to implement the plan.

2. Create an NSOAP Programme Unit/Desk

Hosted within the Directorate of Hospitals and Ambulance Services, the NSOAP Unit will comprise a dedicated Programme Manager/Coordinator/Desk Officer and support staff. This team will closely coordinate with related programmes/partners/M&E (e.g. reproductive health, emergency care, non-communicable diseases, training programmes, and development partners) that intersect with surgical care.

Core responsibilities will include coordinating day-to-day NSOAP implementation, establishing and maintaining the National Surgical Registry, ensuring the completeness of the NSOAP dashboard, serving as the secretariat to the Steering Committee, and facilitating communication among stakeholders and development partners.

3. Improve the capacity of Regulatory authorities to regulate practice by professionals and providers, including mandating reporting (private sector)

The NSOAP unit, in partnership with professional regulatory bodies such as the Medical and Dental Council, Nursing and Midwifery Council, Pharmacy Board, and the Allied Health Professional Council, will oversee the regulation of SOA practice.

4. Licensing & credentialing verification with CPD requirements; integrate workforce registry - specialist registries

All SOA providers, including surgeons, obstetricians, anaesthetists, and non-physician practitioners (SACHOs, SCOs, Nurse anaesthetists, non-physician anaesthetists), must have a minimum of CPD credits as determined by the steering committee before obtaining an annual valid practising license from their respective regulatory bodies. The MoH, through the NSOAP Unit, will support the integration of a National Surgical Workforce Registry with professional councils to monitor the distribution and status of the entire surgical workforce.

5. Define scopes of practice for all cadres (doctors, SACHO/SCO/Nurse Anaesthetists, etc.)

Defined a clear and contextually appropriate scope of practice for all surgical care providers to ensure that surgical services remain a safe and regulated strategy to increase access without compromising the quality of care.

6. Integration of NSOAP within the DHMTs/facility planning & budgeting.

The NSOAP Unit will collaborate with District Health Management Teams (DHMTs) and hospital leadership to integrate NSOAP activities into district- and facility-level planning and budgeting processes, ensuring that services are accessible and within reach, and that each district has a focal person at the DHMT level.

CHAPTER FIVE

5.0 Monitoring & Evaluation

5.1 Overview

The Monitoring and Evaluation (M&E) framework systematically monitors the implementation progress and assesses the impact of the Sierra Leone National Surgical, Obstetric, and Anaesthesia Plan (NSOAP) on service delivery. The framework provides a structured approach for tracking progress, measuring performance, and assessing the effectiveness of interventions implemented under the strategy. It ensures that data generated at the health facility, district, and national levels are systematically collected, analysed, and used to inform decision-making and continuous quality improvement. The framework also establishes clear indicators, baselines, and targets for each of NSOAP's strategic objectives. Through this framework, the Ministry of Health and its partners will be able to monitor trends, identify implementation gaps, and provide timely feedback to improve performance and accountability.

5.2 Purpose and Objectives of the M&E Framework

The purpose of the Monitoring and Evaluation (M&E) framework is to provide a systematic context for tracking the implementation and performance of the National Surgical, Obstetric, and Anaesthesia Plan (NSOAP). It serves as a management and accountability tool to ensure that progress toward achieving strategic objectives is regularly measured, documented, and used to inform evidence-based decision-making at all levels of the health system. It aligns with the national health monitoring framework and supports the Ministry of Health's efforts to achieve Universal Health Coverage (UHC) and Sustainable Development Goal (SDG)3.

5.3. Monitoring and Evaluation Framework

National Surgical, Obstetric and Anaesthesia Plan (NSOAP) Performance Framework

Table 6. Performance Framework

Strategic Objective	Key Performance Indicator (KPI)	Baseline	Target	Frequency of Measurement	Responsible Unit for Monitoring	Data Source
Workforce Excellence - To develop a qualified, motivated, and sustainable surgical, Obstetrics and Anaesthetic workforce that is appropriately distributed across all levels of care.	Number of trained Surgical providers per 100,000 population (Disaggregated into number of SAO trained per 100,000, number of SACHOs/SCHOs, /NA per 100,000)	~5 per 100,000	≥10 per 100,000	Annually	Health Training institutions	Training institution records
Service Delivery: To improve service delivery, ensure equitable access to timely, quality and safe surgical services for everyone in Sierra Leone	Surgical volume per 100,000 population	505 per 100,000	≥1,000 per 100,000 by 2030	Annually	DPPI/MOH	DHIS2/Surgical program data
	% of population with access to a facility providing emergency surgical care within 2 hours (Disaggregate into urban and rural areas)	To be established	≥80% by 2030	Quarterly	Directorate of Hospitals	DHIS2/Surgical program data
	Perioperative mortality rate (POMR)	To be established	Decrease baseline by 50% by 2030	Quarterly	Directorate of Hospitals	DHIS2/Surgical program data
	Caesarean section rate per 100 live births (Disaggregate by level, primary, Secondary and tertiary level)	To be established	Tertiary up to 30% Secondary 10-15%	Quarterly	Directorate of Hospitals	DHIS2/Surgical program data

			Primary 5-15%			
	% of facilities using the WHO Safe Surgery Checklist	To be established	100%	Quarterly	Directorate of Hospitals	DHIS2/Surgical program data
	Number of functional operating theatres per district	To be established	≥ 2 per district hospital	Annually	Directorate of Hospitals	DHIS2/Surgical program data
	Surgery Cancellation rates at tertiary hospitals	To be established	50% reduction from baseline	Quarterly	Directorate of Hospitals	Operating Room Logbooks
	Surgical site infection (SSI) rate for all secondary and tertiary hospitals	To be established	Depends on baseline	Quarterly	Directorate of Hospitals / IPC Unit MOH	Hospital data/ patient chart
Infrastructure: Upgrade and equip surgical environments to meet universally acceptable minimum standards.	% of facilities meeting minimum surgical infrastructure standards	To be established	≥90%	Annually	Infrastructure Unit / MoH	Facility Assessment Reports
	% of hospitals with continuous power, water, and oxygen	To be established	≥90%	Quarterly	Directorate of Hospitals	Quarterly supervision report
	% of facilities with functional sterilization & waste systems	To be established	≥80% by 2030	Annually	Directorate of Hospitals	Quarterly biomedical supervision report
Supply Chain: Ensure a functional, data-driven supply chain for SOA commodities integrated with national systems	Availability rate of essential surgical equipment and supplies	To be established	≥90%	Quarterly	HMIS Unit	DHIS2
Information Management: Establish a culture of high-quality data collection and use for decision-making and research.	% of hospitals submitting complete surgical data	To be established	≥95%	Quarterly	HMIS Unit / MoH	DHIS2 Reports
	% of hospitals submitting timely surgical data	To be established	≥95%	Quarterly	HMIS Unit / MoH	DHIS2 Reports
	% of facilities using surgical data for review	To be established	≥80%	Quarterly	HMIS Unit / MoH	DHIS2/HMIS

	and planning					
Sustainable Financing: Eliminate financial burden for patients and ensure the surgical system is efficiently and sustainably financed.	% of surgical costs covered by public/insurance funding	To be established	≥50% by 2030	Annually	Finance Directorate / MoH	Budget Reports
	Government expenditure on SOA as % of the health budget	To be established	≥10%	Annually	Finance Directorate / MoH	Budget reports
	Average out-of-pocket expenditure per surgical patient	To be established	≤20% of total cost	Annually	To discuss	To discuss
Community Engagement & Ownership: Empower communities through awareness, health promotion, community ownership, and strengthened referral systems	Number of surgical patients arriving at facilities through community referral	To be established	≥90%	Quarterly	District Health Teams	Referral Registers
	% of CHWs trained in early identification & referral	To be established	≥90%	Annually	DPHC/CHW	CHW Program reports
	% of hospitals with functional community health committees	To be established	≥100%	Annually	DHAS	Hospital meeting minutes
Governance: Establish a MoH governance structure to oversee NSOAP implementation.	% of TWG/partner coordination meetings held as planned	To be established	≥90%	Quarterly	Directorate of Hospitals	Meeting Minutes
	% of planned NSOAP activities implemented annually	To be established	≥90%	Annually	DHAS	Monthly Activity Report

CHAPTER SIX

6.0 Implementation, governance and financing

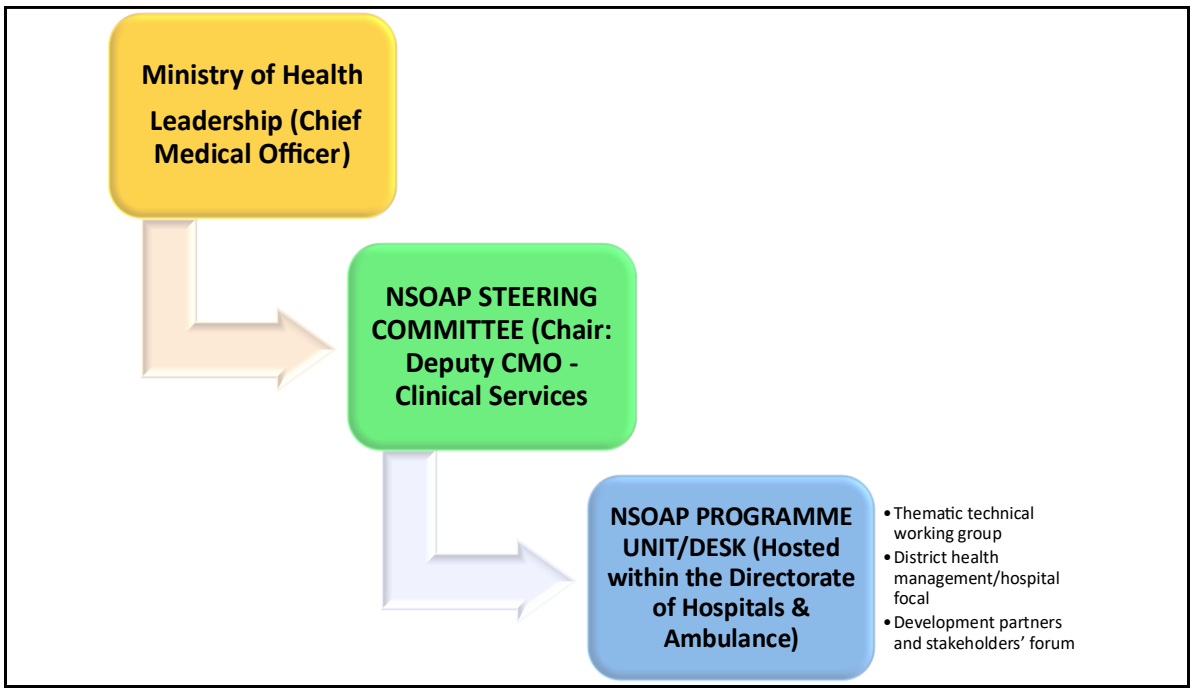
6.1 Implementation Framework

To successfully implement the NSOAP 2026-2030, a multi-level, coordinated, and phase-by-phase approach is required. The undermentioned framework outlines the institutional structures, phased activities, resource mobilisation strategies, and risk management plans to translate the strategic objectives into tangible results.

6.2 Governance Structure

The governance structure is essential for strategic oversight, effective coordination, accountability, and successful implementation of NSOAP. The structure is integrated into the Ministry of Health's existing structure to ensure ownership and sustainability.

Figure 8. Governance Organogram



6.3 Roles and Responsibilities

6.3.1 NSOAP Steering Committee

Chair: Deputy Chief Medical Officer (Clinical Services)

6.3.1.1 Membership:

- Directors of MoH Directorates (DHAS, HRH, Finance, DPPI, RMCH Pharmaceutical Services, etc.)
- Representative from the University of Sierra Leone Teaching Hospital Complex (USLTHC) and COMAHS
- Presidents/Heads of Professional Bodies
- Representatives from Regulatory Councils (Medical and Dental Council, Nursing and Midwifery Board, Allied Health Professional Council, etc.)
- Representatives from Key Development Partners (e.g., WHO, UNICEF, UNFPA, CapaCare, Mercy Ships, etc)
- Civil Society Organisation (CSO) and Patient Advocate representatives.

6.3.1.2 Key Functions:

- Provide high-level strategic direction and oversight for the NSOAP.
- Review and approve annual work plans, budgets, and major procurement plans.
- Monitor overall progress against strategic targets and M&E framework.
- Advocate for and mobilise financial and technical resources.
- Address systemic barriers and policy conflicts that impede implementation.
- Meet quarterly.

6.3.2 NSOAP Programme Unit/desk

6.3.2.1 Location: Hosted within the Directorate of Hospitals and Ambulance Services, MoH.

6.3.2.2 Composition: Programme Manager/desk officer, M&E Officer, Data Manager, and Administrative Support.

6.3.2.3 Key Functions:

- Act as the central coordinating body for all NSOAP activities.

- Develop detailed annual work plans and budgets for Steering Committee approval.
- Manage the National Surgical Registry and the NSOAP Dashboard in DHIS2.
- Provide technical support to DHMTs and health facilities.
- Serve as the secretariat for the Steering Committee, preparing reports and documentation.
- Facilitate communication and collaboration between all stakeholders.
- Prepare semi-annual and annual progress reports.

6.3.3 DHMTs and Hospital Management Level

Role: Key implementors at the sub-national level.

6.3.3.1 Key Functions:

- Integrate NSOAP activities into District Annual Work Plans and budgets.
- Designate an NSOAP Focal Person at the district and major hospital level.
- Oversee facility-level implementation, including data collection, supply chain management, and quality improvement projects.
- Conduct monthly data review meetings to drive local decision-making.
- Facilitate community engagement and feedback mechanisms.

6.4 Key Governance Processes

Annual Planning and Budgeting: The NSOAP Unit leads the development of an Annual Work Plan and Budget, which is approved by the Steering Committee and integrated into the MoH's overall planning and budgeting cycle.

Performance Review: Quarterly performance reports from the NSOAP Unit are reviewed by the Steering Committee. An independent mid-term review will be conducted in Year three.

Stakeholder Coordination: The NSOAP Unit will convene a bi-annual Partners' Forum to ensure alignment, share updates, and coordinate partner activities.

6.5 Phased Implementation Approach

Given the breadth of the NSOAP and resource constraints, coupled with the underrating of surgical care as a critical component in achieving UHC, a phased implementation is recommended. This approach allows for building on early wins, learning from initial experiences, and adapting strategies based on contextual facts and monitoring data.

Table 7. Phased implementation approach

Phase	Key Activities
Phase 1: Foundation Building (Years 1-2) This phase will focus on establishing governance structures, finalising policies and protocols, conducting baseline assessments, and initiating high-impact, "quick-win" activities	▪ Formal establishment of the NSOAP Steering Committee and Programme Unit/desk. ▪ Development and gazetting of key policies: Scope of Practice for all cadres, National Essential Surgical Commodities List, Standard Treatment Protocols. ▪ Comprehensive baseline assessment of all surgical facilities against WHO standards. ▪ Initiation of targeted workforce training programmes (e.g., new cohorts of residents, SACHOs/CSOs and Nurse Anaesthetists). ▪ Develop and pilot the National Surgical Registry and NSOAP Dashboard in selected regions. ▪ Launch of the "Quality Surgery Saves Lives" national awareness campaign.
Phase 2: Scaling and System Strengthening (Years 3-4) This phase will focus on scaling up successful interventions from Phase 1, strengthening systems, and addressing infrastructure gaps.	▪ Nationwide rollout of the surgical registry, data review meetings, and supply chain improvements. ▪ Significant infrastructure upgrades in prioritised district and regional hospitals. ▪ Expansion of specialist training programmes and CPD schemes. ▪ Deepening integration of surgical care into SLeSHI and other financing mechanisms. ▪ Strengthening community engagement structures and referral networks.
Phase 3: Consolidation and Sustainability (Year 5) This phase will focus on consolidating gains, ensuring the sustainability of systems, and preparing for the next strategic cycle.	▪ Full operationalisation of all NSOAP systems and structures. ▪ Conducting end-term evaluation to assess impact and inform the next NSOAP. ▪ Finalising a sustainable financing model with clear government ownership. ▪ Documenting and disseminating best practices and lessons learned.

6.6 Resource Mobilisation and Financing Strategy

The implementation of the NSOAP will be funded through a mix of government allocation, development partner support, and innovative financing mechanisms.

Government of Sierra Leone: The MoH will lead advocacy efforts to secure a dedicated budget line for NSOAP activities within the national health budget, aiming for a progressive increase to reach the target of 10-12% of the hospital services budget allocated to SOA by 2030.

Development Partners: Partners will be engaged through a structured NSOAP unit to align their support with the plan's priorities, reduce fragmentation, and fill critical funding gaps, particularly in capital investment and technical assistance.

Innovative Financing: The MoH will explore and advocate for:

Earmarked Taxes: Legislating for a portion of taxes on tobacco, alcohol, and sugar-sweetened beverages (SSBs) to be directed to a Surgical & Anaesthesia Fund.

Public-Private Partnerships (PPPs): For managed equipment services (e.g., diagnostic imaging, oxygen plants) to ensure uptime and reduce maintenance burdens.

Impact Funding: Exploring results-based financing or impact bonds where returns are tied to achieving specific surgical access and outcome targets.

6.7 Risk Management

Proactive risk management is critical for the NSOAP's success. Key risks and mitigation strategies are outlined below.

Table 8. Risk mitigation

Risk Category	Description	Mitigation Strategies
Financial	Insufficient government funding and unpredictable donor support	1. Strong advocacy for domestic budget allocation 2. Diversify funding sources 3. Develop a multi-year donor compact to ensure predictable funding
Workforce	Brain drain of trained professionals; poor	1. Implement robust retention packages (rural allowances, housing, CPD)

	rural retention	2. Introduce and enforce training bonds for government-sponsored training 3. Strengthen non-physician provider programmes to ensure rural coverage.
Systemic	Weak coordination leading to duplication and inefficiency	1. Establish a clear governance structure with strong leadership 2. Mandate reporting through the NSOAP Unit 3. Use integrated plans and a common results framework
Contextual	Disease outbreaks (e.g., Ebola, COVID-19), natural disasters, or political instability disrupting services	1. Mainstream emergency preparedness and business continuity planning into NSOAP activities 2. Build flexible and resilient supply chains 3. Ensure surgical services are included in national emergency response plans.
Data & Reporting	Poor data quality and non-reporting, especially from the private sector	1. Simplify data collection tools and integrate them into routine workflows 2. Make reporting a mandatory licensing requirement for all facilities 3. Provide regular feedback to facilities to demonstrate the value of data

Implementation framework

Table 9. implementation framework

IMPLEMENTATION FRAMEWORK								
Strategic Pillar	**Strategic Objective**	**Activities**	**Timeline**					
			Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	
Workforce Excellence	**SO1: Develop a qualified, motivated, and sustainable surgical, obstetric, and anaesthesia (SOA) workforce that is appropriately distributed across all levels of care in every district in Sierra Leone.**	Support & sponsor specialist training (expand/phase accreditation; grow residency capacity— leverage external rotations/partnerships).						
		Invest in task-sharing programmes (annual intakes for SACHO/SCO to staff district hospitals).						
		Scale-up non-physician anaesthesia training (two-year pathway; steady annual cohorts).						
		Establish peri-operative nursing training (starting with a diploma; pathway to graduate offerings).						
		Create accredited CPD across the surgical team, tied to relicensing.						
		Retention & motivation (housing near facilities; study opportunities; recognition awards; rural retention allowance and profession-specific salary scheme).						
		Support and sponsor biomedical training for clinical staff and conduct facility-based training.						

Service Delivery	**SO2: Improve service delivery to ensure equitable access to timely, quality, and safe surgical services for everyone in Sierra Leone.**	Expand safe surgical volume (outreach; targeted supplies; deploy SOA staff to CEmONC sites; lift CS rate toward 10%; overall volume target 1,000/100k).					
		Mandate POMR tracking (train staff; ≥70% facilities collect/report/use POMR).					
		Guarantee safety & quality (mandate Surgical Safety Checklist; trainings and audits)					
		Develop and implement a National surgical register (simplified, implemented in all theatres—including private).					
		Quality-of-care training.					
		Training on non-surgical skills & ethics (communication, team-working, ethics, OR culture).					
		Standardise care via national protocols to reduce variability and errors.					
		Ensuring that all surgical specimens are sent for appropriate diagnostic procedures, including histopathology specimens					
		To strengthen ambulance services that will provide safe, timely and efficient pre-hospital care.					
		Develop an appropriate telemedicine mechanism to share expertise equitably across Sierra Leone.					
		Develop a plan for countrywide community first aid training (prioritise drivers/bike riders, police and school curriculum)					

Infrastructure	**SO3: Upgrade and equip surgical environments to meet universally acceptable minimum standards.**	Ensure all theatres meet the WHO minimum standards (including PACU & sterile services).					
		Establish reliable power systems (stable, consistent voltage supplies for theatres).					
		Ensure reliable clean water (uninterrupted supply; rainwater harvesting; storage).					
		Prioritise surgical access to the oxygen ecosystem (PSA plants at tertiary/regional hospitals, transport to districts; concentrators at district/CHC hospitals).					
		Waste & sterile processing improvements.					
		Establish Regional trauma centres (delivery and training hubs).					
		A&E units established/expanded in tertiary, regional, and district hospitals.					
		To establish Regional paediatric operating theatres outside Freetown.					
		To enhance diagnostic services appropriate to the level of care					
		Scale-up blood bank &donation drive					
Supply Chain	**SO4: Ensure a functional, data-driven supply chain for SOA commodities integrated with national systems.**	Governance, coordination & policy: establish a SOA Supply Chain TWG (MoH/NMSA/DPS/clinicians/finance); finalise a National Essential Surgical Commodities List; SOPs for all levels; secure dedicated budget lines; coordinate donor/NGO inputs. (reference: National Essential Equipment List)					

		Selection, procurement & financing: pooled procurement; predictive forecasting from consumption; diversify funding.					
		Warehousing & inventory: dedicated storage; enforce FIFO; simple digital stock systems; routine cycle counts.					
		Distribution & last-mile: reliable delivery schedules; peer-facility redistribution; emergency buffer stocks; reverse logistics; pre-packed kits (e.g., CS, hernia).					
		Continuous M&E & QA: strengthen a tailored LMIS for SOA commodities with real-time reporting.					
Information Management	**SO5: Establish a culture of high-quality data collection and use for decision-making and research.**	Define a national SOA Minimum Dataset (MDS) and integrate into routine tools (e.g., theatre registers).					
		Guarantee complete digitalized data capture: simple reporting portal plus regulatory requirements, including private sector.					
		Digitalized data collection tools and train data entry personnel from private sector for integration into the DHIS2					
		Data-to-action feedback: an NSOAP Dashboard in DHIS2 for policymakers/clinicians in public and private sectors.					
		Data review meetings at facility/district/national levels (Monthly for facility, Quarterly for District and biannual					

		for National) to drive QI and resource allocation.					
		Capacity & sustainability: Establish an NSOAP M&E officer to report on NSOAP data					
		Research function: establish a national research centre within the NSOAP unit; target >20 publications by 2030.					
Sustainable Financing	**SO6: Eliminate financial burden for patients and ensure the surgical system is efficiently and sustainably financed.**	A. Reduce financial barriers (insurance coverage / SLeSHI):					
		Define and gazette an Essential Surgical Package;					
		Engage for inclusion of surgical services in Prepayment services like SLeSHI and FHCI					
		Expand coverage of surgical services by collaborating with faith-based NGO and private facilities					
		Introduce social support incentives for extremely vulnerable population (transport & lodging support) for referred surgical patients (means-tested or diagnosis-based), integrated with social protection.					
		Establish alternative funding streams e.g. Trust funds					
		Roll out financial counselling desks and Surgical Service charter in hospitals.					
		B. Sustainable domestic financing (budgeting & execution):					
		Develop a costed NSOAP with annual NSOAP costs					

		Establish SOA budget codes in the MTEF; publish annual NSOAP Financing NoteQ with needs, allocations, and gaps.					
		Set an indicative target that at least 10–12% of the hospital services budget will fund SOA priorities by 2030, with yearly increments.					
		Multi-year capital plan for OTs, imaging, oxygen plants/concentrators, and ambulances; includes energy solar upgrades to reduce O&M costs.					
		Introduce results-based disbursements to hospitals tied to quality (checklist, PMR reporting, IPC compliance).					
		Align donor support in a compact to finance gaps without fragmenting procurement or data systems.					
		Innovative mechanisms - introduce earmarked tax on vehicle registration, licensure, and insurance to fund accident and emergency and trauma (taxes & and also mobile top up and data levies					
		PPPs/managed service contracts for equipment & oxygen with uptime SLAs, diagnostics					
		Explore small, pro-poor levies (e.g., airtime/mobile-money) where feasible. For vulnerable groups					
Community engagement and	**SO7: Empower communities through**	Surgical Health Promotion “Surgery Saves Lives” national literacy & myth-busting					

Ownership	**awareness, health promotion, community ownership, and strengthened referral systems.**	campaign around NSOAP					
		Introduce and train CHW and Health workers on Community Surgical Navigation & Patient Accompaniment through the NSOAP and also using other existing structures					
		Advocacy for communities to mobilise Village Emergency Transport & Referral Networks ("Safe Ride")					
		Capacitate traditional leaders, Healer & Faith-Leader Early-Referral Compact					
		Community Social Accountability: Surgical Service Scorecards & Patient Charter					
Governance	**SO8: Establish an MoH governance structure to oversee NSOAP implementation.**	Establish NSOAP Steering Committee (chaired by DCMO–Clinical Services; includes MoH directorates, USLTHC, professional bodies, regulators, partners, and patient reps) for strategic oversight, approvals, progress review, and resource mobilisation.					
		Create an NSOAP Programme Unit/Desk within the Directorate of Hospitals & Ambulance Services to coordinate implementation, maintain the National Surgical Registry and NSOAP dashboard, serve as Secretariat, and liaise with programmes/partners. M& E					
		improve capacity of Regulatory authorities (professional councils) - to regulate practice by professionals, and providers including					

		and also mandate reporting (private sector)					
		Licensing & credentialing verification with CPD requirements; integrate workforce registry - specialist registries					
		Define scopes of practice for all cadres (doctors, SACHO/SCO/Nurse Anaesthetists, etc.)					
		Integration of NSOAP within the DHMTs/facility planning & budgeting. NSOAP focal at DHMT					
		Monitoring, evaluation & accountability (routine reporting to the Steering Committee; annual and mid-term reviews).					

6.8 Costing of the plan

Table 10. Implementation cost

Cost of the NSOAP 2026 - 2030									
Strategic Pillar	**Strategic Objective**	**Activities**	**Cost (Le)**	**Cost (USD)**	**Timeline**				
					Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Workforce Excellence	**SO1: Develop a qualified, motivated, and sustainable surgical, obstetric, and anaesthesia (SOA) workforce that is appropriately distributed across all levels of care in every district in Sierra Leone.**	Support & sponsor specialist training (expand/phase accreditation; grow residency capacity— leverage external rotations/partnerships).	86,042,000	3,585,083	358,508	537,763	717,017	1,075,525	896,271
		Invest in task-sharing programmes (annual intakes for SACHO/SCO to staff district hospitals).	20,917,000	871,542	87,154	130,731	174,308	261,463	217,885
		Scale-up non-physician anaesthesia training (two-year pathway; steady annual cohorts).	14,395,000	599,792	59,979	89,969	119,958	179,938	149,948
		Establish peri-operative nursing training (starting with a diploma; pathway to graduate offerings).	14,376,000	599,000	59,900	89,850	119,800	179,700	149,750
		Create accredited CPD across the surgical team, tied to re-licensure.	2,122,000	88,417	8,842	13,263	17,683	26,525	22,104
		Retention & motivation (housing near facilities; study opportunities; recognition awards; rural retention allowance and profession-specific salary scheme).	108,679,001	4,528,292	452,829	679,244	905,658	1,358,488	1,132,073

		Support and sponsor biomedical training for clinical staff and conduct facility-based training.	10,542,000	439,250	43,925	65,888	87,850	131,775	109,813
Service Delivery	**SO2: Improve service delivery to ensure equitable access to timely, quality, and safe surgical services for everyone in Sierra Leone.**	Expand safe surgical volume (outreach; targeted supplies; deploy SOA staff to CEmONC sites; lift CS rate toward 10%; overall volume target 1,000/100k).	93,677,400	3,903,225	390,323	585,484	780,645	1,170,968	975,806
		Mandate POMR tracking (train staff; ≥70% facilities collect/report/use POMR).	13,595,880	566,495	56,650	84,974	113,299	169,949	141,624
		Guarantee safety & quality (mandate Surgical Safety Checklist; trainings and audits)	6,082,000	253,417	25,342	38,013	50,683	76,025	63,354
		Develop and implement a National surgical register (simplified, implemented in all theatres—including private).	4,450,000	185,417	18,542	27,813	37,083	55,625	46,354
		Quality-of-care training.	6,082,000	253,417	25,342	38,013	50,683	76,025	63,354
		Training on non-surgical skills & ethics (communication, team-working, ethics, OR culture).	7,102,000	295,917	29,592	44,388	59,183	88,775	73,979
		Standardise care via national protocols to reduce variability and errors.	3,556,000	148,167	14,817	22,225	29,633	44,450	37,042

		Ensuring that all surgical specimens are sent for appropriate diagnostic procedures, including histopathology specimens	10,649,550	443,731	44,373	66,560	88,746	133,119	110,933
		To strengthen ambulance services that will provide safe, timely and efficient pre-hospital care.	49,200,000	2,050,000	205,000	307,500	410,000	615,000	512,500
		Develop an appropriate telemedicine mechanism to share expertise equitably across Sierra Leone.	10,860,000	452,500	45,250	67,875	90,500	135,750	113,125
		Develop a plan for countrywide community first aid training (prioritise drivers/bike riders, police and school curriculum)	1,233,000	51,375	5,138	7,706	10,275	15,413	12,844
Infrastructure	**SO3: Upgrade and equip surgical environments to meet universally acceptable minimum standards.**	Ensure all theatres meet the WHO minimum standards (including PACU & sterile services).	17,006,000	708,583	70,858	106,288	141,717	212,575	177,146
		Establish reliable power systems (stable, consistent voltage supplies for theatres).	57,600,000	2,400,000	240,000	360,000	480,000	720,000	600,000
		Ensure reliable clean water (uninterrupted supply; rainwater harvesting; storage).	15,300,000	637,500	63,750	95,625	127,500	191,250	159,375

		Prioritise surgical access to the oxygen ecosystem (PSA plants at tertiary/regional hospitals, transport to districts; concentrators at district/CHC hospitals).	2,700,000	112,500	11,250	16,875	22,500	33,750	28,125
		Waste & sterile processing improvements.	2,653,000	110,542	11,054	16,581	22,108	33,163	27,635
		Establish Regional trauma centres (delivery and training hubs).	72,000,000	3,000,000	300,000	450,000	600,000	900,000	750,000
		A&E units established/expanded in tertiary, regional, and district hospitals.	44,400,000	1,850,000	185,000	277,500	370,000	555,000	462,500
		To establish Regional paediatric operating theatres outside Freetown.	36,000,000	1,500,000	150,000	225,000	300,000	450,000	375,000
		To enhance diagnostic services appropriate to the level of care	36,900,000	1,537,500	153,750	230,625	307,500	461,250	384,375
		Scale-up blood bank &donation drive	16,552,000	689,667	68,967	103,450	137,933	206,900	172,417
Supply Chain	**SO4: Ensure a functional, data-driven supply chain for SOA commodities integrated with national systems.**	Governance, coordination & policy: establish a SOA Supply Chain TWG (MoH/NMSA/DPS/clinicians/finance); finalise a National Essential Surgical Commodities List; SOPs for all levels; secure dedicated budget lines; coordinate donor/NGO inputs. (reference: National Essential Equipment List)	10,470,375	436,266	43,627	65,440	87,253	130,880	109,066

		Continuous M&E & QA: strengthen a tailored LMIS for SOA commodities with real-time reporting.	17,599,200	733,300	73,330	109,995	146,660	219,990	183,325
Information Management		Define a national SOA Minimum Dataset (MDS) and integrate it into routine tools (e.g., theatre registers).	16,590,000	691,250	69,125	103,688	138,250	207,375	172,813
	SO5: Establish a culture of high-quality data collection and use for decision-making and research.	Guarantee complete digitalised data capture: simple reporting portal plus regulatory requirements, including the private sector.	11,824,200	492,675	49,268	73,901	98,535	147,803	123,169
		Digitalised data collection tools and train data entry personnel from the private sector for integration into the DHIS2	3,600,000	150,000	15,000	22,500	30,000	45,000	37,500
		Data-to-action feedback: an NSOAP Dashboard in DHIS2 for policymakers/clinicians in public and private sectors.	4,399,200	183,300	18,330	27,495	36,660	54,990	45,825
		Data review meetings at facility/district/national levels (Monthly for facility, Quarterly for District and biannually for National) to drive QI and resource allocation.	7,782,000	324,250	32,425	48,638	64,850	97,275	81,063

		Research function: establish a National NSOAP research centre, target >20 publications by 2030.	6,195,000	258,125	25,813	38,719	51,625	77,438	64,531
Sustainable Financing	**SO6: Eliminate financial burden for patients and ensure the surgical system is efficiently and sustainably financed.**	Define and gazette an Essential Surgical Package;	8,295,000	345,625	34,563	51,844	69,125	103,688	86,406
		Engage for inclusion of surgical services in Prepayment services like SLeSHI and FHCI	7,225,880	301,078	30,108	45,162	60,216	90,324	75,270
		Expand coverage of surgical services by collaborating with faith-based NGO and private facilities	1,842,000	76,750	7,675	11,513	15,350	23,025	19,188
		Introduce social support incentives for the extremely vulnerable population (transport & lodging support) for referred surgical patients (means-tested or diagnosis-based), integrated with social protection.	39,600,000	1,650,000	165,000	247,500	330,000	495,000	412,500
		Establish alternative funding streams - Trust funds - Advocacy	1,771,200	73,800	7,380	11,070	14,760	22,140	18,450
		Roll out financial counselling desks and the Surgical Service charter in hospitals.	21,600,000	900,000	90,000	135,000	180,000	270,000	225,000
		Establish SOA budget codes in the MTEF; publish annual NSOAP Financing Note with needs, allocations, and gaps.	1,920,000	80,000	8,000	12,000	16,000	24,000	20,000

		Set an indicative target that at least 10–12% of the hospital services budget will fund SOA priorities by 2030, with yearly increments.	1,116,000	46,500	4,650	6,975	9,300	13,950	11,625
		Multi-year capital plan for OTs, imaging, oxygen plants/concentrators, and ambulances; includes energy solar upgrades to reduce O&M costs.	13,039,200	543,300	54,330	81,495	108,660	162,990	135,825
		Introduce results-based disbursements to hospitals tied to quality (checklist, PMR reporting, IPC compliance).	8,295,000	345,625	34,563	51,844	69,125	103,688	86,406
		Align donor support in a compact to finance gaps without fragmenting procurement or data systems.	1,380,000	57,500	5,750	8,625	11,500	17,250	14,375
		Innovative mechanisms - introduce earmarked tax on vehicle registration, licensure, and insurance to fund accident and emergency and trauma (taxes & and also mobile top-up and data levies	2,210,000	92,083	9,208	13,813	18,417	27,625	23,021
		PPPs/managed service contracts for equipment & oxygen with uptime SLAs, diagnostics	1,116,000	46,500	4,650	6,975	9,300	13,950	11,625

Community Engagement and Ownership	**SO7: Empower communities through awareness, health promotion, community ownership, and strengthened referral systems.**	Surgical Health Promotion "Surgery Saves Lives" national literacy & myth-busting campaign around NSOAP	4,011,000	167,125	16,713	25,069	33,425	50,138	41,781
		Introduce and train CHW and Health workers on Community Surgical Navigation & Patient Accompaniment through the NSOAP, and also using other existing structures	16,680,000	695,000	69,500	104,250	139,000	208,500	173,750
		advocacy for communities to mobilise Village Emergency Transport & Referral Networks ("Safe Ride")	9,310,800	387,950	38,795	58,193	77,590	116,385	96,988
		Capacitate traditional leaders, Healer & Faith-Leader Early-Referral Compact	493,980	20,583	2,058	3,087	4,117	6,175	5,146
		Community Social Accountability: Surgical Service Scorecards & Patient Charter	619,200	25,800	2,580	3,870	5,160	7,740	6,450

Governance	**SO8: Establish an MoH governance structure to oversee NSOAP implementation.**	Establish NSOAP Steering Committee (chaired by DCMO–Clinical Services; includes MoH directorates, USLTHC, professional bodies, regulators, partners, and patient reps) for strategic oversight, approvals, progress review, and resource mobilisation.	4,208,000	175,333	17,533	26,300	35,067	52,600	43,833
		Create an NSOAP Programme Unit/Desk within the Directorate of Hospitals & Ambulance Services to coordinate implementation, maintain the National Surgical Registry and NSOAP dashboard, serve as Secretariat, and liaise with programmes/partners. M& E	8,400,000	350,000	35,000	52,500	70,000	105,000	87,500
		improve the capacity of Regulatory authorities (professional councils) - to regulate practice by professionals, and providers, including and also mandate reporting (private sector)	4,036,600	168,192	16,819	25,229	33,638	50,458	42,048
		Licensing & credentialing verification with CPD requirements; integrate workforce registry - specialist registries	4,099,200	170,800	17,080	25,620	34,160	51,240	42,700

		Define scopes of practice for all cadres (doctors, SACHO/SCO/Nurse Anaesthetists, etc.)	5,678,680	236,612	23,661	35,492	47,322	70,984	59,153
		Integration of NSOAP within the DHMTs/facility planning & budgeting. NSOAP focal at DHMT	10,800,000	450,000	45,000	67,500	90,000	135,000	112,500
			1,020,879,546	**42,536,648**	**4,253,665**	**6,380,497**	**8,507,330**	**12,760,994**	**10,634,162**

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Annexe 1: List of Contributors

	Name	Designation and Institution
1	Dr. Abdul Jibril Njai	Health Financing Specialist, MoH
2	Dr. Aiah Lebbie	Head of Department of Surgery, Connaught Hospital, MoH
3	Dr. Amadu Sesay	Specialist ObGyn and Medical Superintendent, Princess Christian Maternity Hospital, MoH
4	Dr. Ann-Marie Jah-Kabba	Head of Department of Radiology, Connaught Hospital, MoH
5	Dr. Awol Yemane	Clinical Director, Aberdeen Women's Centre
6	Dr. Daniel J Lavaly	Orthopaedic Surgeon, Connaught Hospital, MoH
7	Dr. Eric Vreede	Consultant Anaesthetist
8	Prof. Hakon Bolkan	Chairman CapaCare International, Professor Global Health, Consultant Surgeon
9	Dr. Eva Hanciles	Consultant Anaesthetist and Head of Department of Anaesthesia
10	Dr. Hannah Ashley	CapaCare Sierra Leone
11	Dr. Ibrahim Bundu	Consultant Orthopaedic Surgeon, Connaught Hospital, MoH
12	Dr. Ibrahim Mark Kapuwa	Specialist Surgeon and Hospital Care Manager, Connaught Hospital, MoH
13	Dr. Isaac Smalle	Acting Dean of Basic Medical Sciences, COMAHs
14	Dr. Joseph Kamanda Sesay	Senior Specialist General Surgeon and Medical Superintendent, Makeni Regional Hospital, MoH
15	Dr. Marta Lado	Director, Clinical Programs and Health Policy, Partners in Health
16	Dr. Med.Mustapha S Kabba	Deputy Chief Medical Officer - Clinical Services, MoH
17	Dr. Michael Ezeanochie	Consultant ObGyn, Princess Christian Maternity Hospital, MoH
18	Dr. Osman Kakay	Specialist ObGyn and Medical Superintendent, Bo Regional Hospital, MoH
19	Dr. Rehginah Davies	Specialist Surgeon, Bo Regional Hospital, MoH
20	Dr. Sandra Lako	Country Director, Mercy Ships Sierra Leone
21	Prof. T B. Kamara	Professor of Surgery, Connaught Hospital, MoH
22	Dr. Thomas Ashley	Training Coordinator CapaCare, Senior Surgical Registrar,
23	Dr. Walt Johnson	Director of Strategic Partnerships, Mercy Ships
24	Dr.Dinsie Williams	Consultant Biomed, DHAS, MoH
25	Dr.Melkamu Kibret	General Surgeon, Emergency Hospital
26	Jasna Sundic	Hospital Director, Emergency Hospital
27	Leeann Rizk	Country Director, Mama Pikin Foundation
28	Miss. Aminata Jalloh	Executive and Programme Support Officer, Office of the Deputy Chief Medical Officer- Clinical services- MoH
29	Mr Edwin Lahai Jibao Jr	Principal Community Health Officer, DHAS, MoH
30	Mr. Abu A Conteh	Chairman Allied Health Professionals Council
31	Mr. Alusine Kamara	Deputy Chief Community Health Officer, MoH
32	Mr. Delips S. Alieu	Technical officer, Office of the Chief Medical Officer, MoH

33	Mr. Emmanuel Yambasu	Senior Technical Officer, Office of the Deputy Chief Medical Officer-Clinical Services, MoH
34	Mr. Ibrahim Foday Musa	Director of Hospital and Ambulance Services, MoH
35	Mr. Johannes Ansumana	Technical Assistant Operations, DHAS, MoH
36	Mr. Komeh Emmanuel	Principal Nurse Anaesthetist and President of the Nurse Anaesthetist Association
37	Mr. Mohamed John Turay	Country Director, CapaCare Sierra Leone
38	Mr. Richard Kambay	Chief Community Health Officer, MoH
39	Mr. Samuel Randall	Technical Assistant M&E, DHAS, MoH
40	Mr. Tamba Sam	Principal Community Health Officer/SACHO, MoH
41	Mr. Thomas Fallah Bundor	Senior Community Health Officer/SACHO, MoH
42	Mr.Tairu Fofanah	Senior Community Health Officer/SACHO- DHAS, MoH
43	Professor Oluwadiya Kehinde	Ag. Chief Medical Director, University of Sierra Leone Teaching Hospital Complex
44	Dr. Karen Fernandez	Anaesthesiologist emergency hospital
45	Mr. Emmanuel Lordbrahams Tommy	Senior Community Health Officer/SACHO, MoH
46	Dr. Rossetta Cole	Specialist ObGyn, Princess Christian Maternity Hospital, MoH
47	Dr Valerie John Cole	Specialist ObGyn, Princess Christian Maternity Hospital, MoH

Annexe 2: Images from Stakeholder consultations

Pre-validation meeting

Stakeholders meeting

Workforce development, small working group

Deputy Chief Medical Officer (Clinical Services) addressing stakeholders at the pre-validation and validation meeting.

Cross-section of stakeholders working on the NSOAP document

Director of Hospital and ambulance services presenting on the costing of the NSOAP

Facilitation section by the TWG

Final session of the validation meeting