Africa Surgical Initiative 2030

No universal health coverage without surgical coverage

The Status of Access to Surgical Care in Africa

Identifying the gaps in access to Surgical, Obstetric and Anaesthesia care in Sub-Saharan Africa

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Baseline Assessment Report

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PREFACE

The implementation of the Millenium Development Goals (2000-2015) and the ongoing Sustainable Development Goals (SDGs) (2015-2030) has resulted in increased life expectancy.

Over the past two decades, Africa has made huge strides in healthcare, as evidenced by these two key indicators: (i) a 10-year increase in life expectancy between 2000 and 2019 and (ii) the 37% drop in mortality between 2000 and 2015 following the implementation of the Millennium Development Goals 2000-2015 according to the WHO.
This progress has been made in the context of working to serve the greatest number of people in a sustainable way, having a people-centered vision, and planning for greater investment in health as part of national development programs, in conjunction with good democratic governance, stability and economic growth.

One-third of clinical conditions in Africa require surgical, obstetric, and anaesthesia care, and yet there is less than 1 surgical specialist per 100,000 inhabitants, indicating that surgery is a particularly neglected component of health systems in Africa. It is a critical area where much improvement needs to be made. While much of the world is looking to the latest technologies to improve their clinical care, in Africa, there is still a lot of work to do to increase the number of qualified and specialized doctors and nurses.

Access to quality, safe, and affordable surgical, obstetric, and anesthesia care is a luxury in most African countries, and especially for the poorest populations. Equity and the integration of surgical and anesthesia care into national health systems are prerequisites for achieving Universal Health Coverage in Africa.

The baseline assessment to identify gaps in the following areas: infrastructure, human resources, service delivery, information management, finance, governance, and leadership was conducted in 601 district-hospitals in 32 sub-Saharan African countries and showed an alarming situation that requires urgent action in all countries. There is therefore a great need for a political commitment and community involvement to increase investment in upgrading surgical, obstetric, and anesthesia care systems by 2030 to achieve Universal Health Coverage.

The finding that presently 1 in 4 district hospitals has no water or electricity, and only one in twenty-five has an internet connection undisputedly reveals the fragility and weakness of the health systems in most of the Africa countries. The survey's findings affirm the need for investment in infrastructure, continued education and surgical support in Africa. It provides a basis for advancing policy dialogue on ways to strengthen health systems in the Africa continent.

The ambitious Dakar Declaration and its Regional Action Plan 2022-2030 endorsed on May 30th, 2022 brings hope for filling the healthcare gaps for most Africa's populations. It's directed towards implementing concrete actions for better health for the continent's populations, especially the poorest. This Declaration is a powerful policy lever and the accompanying roadmap will accelerate Universal Health Coverage by the year 2030 in Africa.

In the march towards Universal Health Coverage, African governments must take a rigorous strategic and scientific approach: plan a program adapted to the local situation, supported by sufficient political commitment to be sustainable, make better use of available resources, remove financial barriers for access to care while reducing the financial risks associated with disease. The governments should implement, and respect the Abuja declaration, and invest in building resilient health systems.

The relative wealth of a country is not the only factor at play. Although the priority given to health in national budgets generally increases with national income, it is important to note that some governments choose to devote a high proportion of their budgets to health spending despite a relatively low level of national income. Others, on the other hand, who are relatively wealthier, allocate a smaller proportion.

This is a real universal challenge to be met because there's less than 8 years left to succeed. African governments and their populations therefore have a key role to play in these efforts, especially those aimed at improving access to quality surgical care which leaves no one behind.

The inclusive process owned by African experts, Ministers and Heads of State which endorsed the Dakar Declaration and its Regional Action Plan 2022-2030 to improve access to equitable, affordable and quality essential health care in Africa by 2030 constitutes the Africa Surgical Initiative 2030. This as a political action will make the difference because it would be like the surgeon's scalpel: "leave no room for uncertainty.

The authors

THE CONTENT

LIST OF ACRONYMS

ASI : Africa Surgical Initiative 2030
BA : Baseline assessment
DD : Dakar Declaration on improving access to affordable, safe, timely and equitable Surgical, Obstetric and Anaesthesia care in Africa by 2030
CHE : Catastrophic Health Expenditure
GDP : Growth Domestic Product
HIS : Health Information System
ICD : International Classification of Diseases
ILO : International Labor Organization
IS : International Symposium on Strengthening Surgical, Obstetric and Anaesthesia Care Systems in Africa by 2030
M&M : Mortality and Morbidity
M&E : Monitoring and Evaluation
NSOAP : National Surgical, Obstetric and Anaesthesia Plan
PPE : Personal Protective Equipment
RAP : Regional Action Plan 2022-2030
SDG : Sustainable Development Goals
SOA : Surgery, Obstetric and Anaesthesia
WACS : West African College of Surgeons
WHA : World Health Assembly
WHO : World Health Organization

List of tables, figures, photo and map

Page

Résumé

Une évaluation a été menée en 2022 afin d'identifier les lacunes dans les divers domaines du système sanitaire, notamment **l'infrastructure, les ressources humaines, la prestation de services, la gestion de l'information, les finances, la gouvernance et le leadership** dans 601 hôpitaux de district de 32 pays d'Afrique subsaharienne. L'étude révèle une situation alarmante qui nécessite une action urgente dans tous les pays.

Les résultats montrent que :

-75 % des pays n'ont pas de Plan National de Chirurgie, Obstétrique et Anesthésie;

-la densité de professionnels de la santé spécialistes (chirurgiens, anesthésistes et obstétriciens) est de 1,36 pour 100 000 habitants;

-Un hôpital de district sur quatre n'a ni eau ni électricité et seul un sur vingt-cinq dispose d'une connexion internet;

-70% des pays ne disposent pas d'un système d'assurance maladie universelle efficace et les populations doivent encore payer de leur poche pour les services de santé;

-70,1% des hôpitaux de district n'ont pas de salle d'opération dédiée à la chirurgie infantile ;

-Seulement 26,3 % des hôpitaux de district sont en mesure de fournir une transfusion sanguine dans les deux heures suivant la demande.

Cette situation met en lumière la vulnérabilité et la faiblesse des systèmes de santé dans la plupart des pays d'Afrique subsaharienne. La chirurgie est donc une composante particulièrement négligée des systèmes de santé en Afrique. Malgré les avancées médicales réalisées ces dernières années sur le continent pour améliorer la santé des Africains, la chirurgie, l'obstétrique et l'anesthésie demeurent confrontées à de nombreux défis majeurs.

Les résultats de cette enquête soulignent l'impératif d'investir de manière significative dans les infrastructures, la formation continue et le développement de la chirurgie en Afrique.

Il est donc essentiel d'obtenir un engagement politique et une mobilisation communautaire pour accroître les investissements dans l'amélioration des systèmes de soins chirurgicaux, obstétriques et d'anesthésie, afin d'atteindre la couverture sanitaire universelle d'ici 2030.

C'est un véritable défi à relever car il reste moins de 7 ans pour y parvenir. Les gouvernements africains et leurs populations ont donc un rôle clé à jouer dans ces efforts, notamment ceux visant à améliorer l'accès à des soins chirurgicaux de qualité pour tous.

Il est impératif que tous les systèmes de santé en Afrique, particulièrement les hôpitaux de district fassent l'objet d'une révision approfondie afin de garantir, d'ici 2030, l'accès à des soins chirurgicaux, obstétricaux et anesthésiques de qualité, sûrs et abordables pour tous.

L'Initiative Chirurgie Afrique 2030 a été lancée pour encourager tous les investissements et les actions coordonnés mis en œuvre en Afrique au niveau des hôpitaux de districts et au niveau national dans le contexte de la résolution 68.15 de l'Assemblée Mondiale de la Santé et de la Déclaration de Dakar (mai 2022). Elle se focalise sur la mise en œuvre de la Déclaration de Dakar pour l'amélioration de l'accès à des soins chirurgicaux, obstétriques et d'anesthésie abordables, sûrs, opportuns et équitables en Afrique d'ici 2030, ainsi que sur son Plan d'action régional 2022-2030 pour intensifier les interventions et renforcer les systèmes de soins chirurgicaux, obstétricaux et anesthésiques en vue d'atteindre la couverture sanitaire universelle.

Summary

A baseline assessment was conducted in 2022, to identify gaps in the following areas : **infrastructure, human resources, service delivery, information management, finance, governance, and leadership**, in 601 district-hospitals in 32 sub-Saharan African countries. The study shows an alarming situation that requires urgent action in all countries.

The findings show that:

-75% of countries do not have a National Surgical, Obstetric and Anaesthesia Plan;

-The density of specialized health professionals (surgeons, anaesthesiologists and obstetricians) is 1.36 per 100,000 inhabitants;

-1 in 4 district hospitals has no water or electricity, and only one in twenty-five has an internet connection;

-70% of countries did not have a proven universal health insurance system and populations were still subjects to out-of-pocket payments for health services;

-70,1% of district-hospitals had no dedicated operating rooms for children's surgery;

-only 26.3% of district-hospitals were able to provide blood transfusion always possible within 2 hours of request.

Undisputedly reveals the fragility and weakness of the health systems in most of the Africa countries. These facts indicate that surgery is a particularly neglected component of health systems in Africa.

Despite the advances made in Africa in recent years in improving the health of the African people, surgery, obstetrics and anaesthesia continue to face many challenges.

The survey's findings affirm the need for investment in infrastructure, continued education and surgical support in Africa.

There is therefore an exceptional need for a political commitment and community involvement to increase investment in upgrading surgical, obstetrics, and anaesthesia care systems by 2030 to achieve Universal Health Coverage.

This is a real challenge to be met because there's less than 7 years left to succeed. African governments and their populations therefore have a key role to play in these efforts, especially those aimed at improving access to quality surgical care which leaves no one behind.

It is indeed all the health systems in Africa, in particular the district hospitals, that should go under the knife in order to guarantee, by 2030, access to quality, safe and affordable surgical, obstetric and anaesthesia care for all.

An Africa Surgical Initiative 2030 is created to advocate for all coordinated investments and actions implemented in Africa at district and national levels in the context of the WHA resolution 68.15. This Initiative focuses on the implementation of the ambitious Dakar Declaration (May 2022) on improving access to affordable, safe, timely and equitable Surgical, Obstetric and Anaesthesia (SOA) care in Africa by 2030 and its Regional Action Plan 2022-2030 to scale up interventions and strengthen the SOA systems towards achieving Universal Health Coverage.

1-CONTEXT

In 2007, the WHO developed a conceptual framework identifying the six pillars of a health system. This framework aims to promote a common understanding of what a health system is and the elements of its strengthening. The six pillars are defined below [*Figure 1*].

Good health services are those that provide effective, safe and quality personal and non-personal health interventions to people who need them in time and place with a minimum waste of resources.

High-performing health workers are those who work responsively, fairly and effectively to achieve the best possible health outcomes.

A well-functioning health information system should ensure the production, analysis, dissemination and use of reliable and timely information on health factors, performance of health systems and health status.

A well-functioning health system ensures equitable access to essential medical products and technologies of guaranteed quality, safety, efficacy and cost-benefit ratio.

A good health financing system provides adequate health funds to ensure people have access to the necessary services. It stimulates service delivery ensuring efficiency for providers and beneficiaries.

Leadership and governance must ensure the existence of strategic policy frameworks, combined with oversight, coalition dynamics, regulation, attention to system design and effective accountability.

Figure 1 : Pillars of the health system according to WHO, 2007

Health system reforms in Africa sparked renewed interest in the context of the Covid-19 pandemic the world was facing in early 2020.

It is now unquestionably acknowledged that health systems need to be strengthened to achieve the best health outcomes for universal health coverage as part of the Sustainable Development Goals by 2030. This challenge can only be met if access to surgical, obstetric and anaesthesia care, which until now has remained a neglected component of health systems, is also taken into account.

The baseline evaluation conducted in 2022 in sub-Saharan Africa to identify the gaps in access to surgical, obstetric and anaesthesia care, was carried out bearing in mind the six pillars of the health system in order to describe the current situation and define policies and strategies, actions and performance indicators for the improvement of surgical, obstetric and anaesthesia care in Africa by the year 2030.

Data collection was performed according to the six pillars of the health system to better identify the gaps within each of them and to better understand the transversality of the interrelations between them.

Surgery : a neglected component of health systems

Recent estimates show that approximately 5 billion people worldwide do not have access to reliable and affordable surgical, obstetric and anaesthesia care when needed (3). Of these, 1.7 billion are children and adolescents (4).

In Africa, over the past 20 years, significant progress has been made in improving the health of the populations. The reduction in general mortality, which fell by 37% between 2000 and 2015, and the increase in life expectancy, which rose from 46 years in 2000 to 56 years in 2019, are two indicators that characterize these advances. This effort made by African countries was supported by numerous global initiatives that made it possible to significantly reduce the burden and mortality linked to infectious diseases. However, the continual progression of chronic and degenerative diseases means that Africa is in epidemiological transition.

The progress in improving the health of African people

The gains observed in Africa remain fragile because they have not been accompanied by the strengthening of national health systems, particularly in the integration of health services and hospital care. Progress in health has not been equitably distributed among people at all socioeconomic levels, within countries and between countries. (2) This breakdown mainly concerned access to surgical, obstetric and anaesthesia (SOA) care.

The surgical challenges

To address these shortcomings, World Health Assembly Resolution 68.15 was adopted in 2015 to strengthen emergency and essential surgical care, and anaesthesia as integral components of Universal Health Coverage. (6). The World Health Organization Regional Committee for Africa adopted at its 69th August 2019 session, the framework for the provision of essential health services including access to surgical care through the strengthening of district health systems with a view to achieving Universal Health Coverage in the context of the Sustainable Development Goals.

The health information systems in the majority of African countries do not make it possible to collect information concerning the delivery of health services and care. Data and information on surgical, obstetric and anaesthesia care are insufficient to develop strategic policies, as well as plan and ensure the deployment of resources in the field of surgery.

The Lancet Commission's 2015 report on Global Surgery 2030

The report revealed than 41 million additional surgeries are needed every year in sub-Saharan Africa to save lives and prevent disability. This report has identified five key indicators with recommendations to address the challenge of equity and integration of surgical and anaesthesia care into national health systems, a prerequisite for achieving Universal Health Coverage by 2030.

SURGICAL INDICATORS	2030 OBJECTIVES
1. Two hours access to essential surgical care	**100 %**
2. Density of specialized surgical staff	**20** SAO/100,000 population
3. Surgical volume	**5.000**/100,000 population
4. Perioperative mortality rate	< **1.5%**
5. Protection against catastrophic or impoverishing expenses	**80** to **100%**

Mercy Ships Africa celebration

On the occasion of the Africa Celebration, commemoration of its 30 years of service in Africa (1990-2020) in 2022, the International Non-Governmental Organization Mercy Ships committed to consolidate its partnership with African countries, setting for itself the goal of "building together the future of surgical care in Africa".

It was an opportunity to mobilize political decision-makers and public, private, association and community leaders in order to work together for the integration and scaling up of surgical care in national health development strategies. Mr. Macky Sall, President of the Republic of Senegal and Chairman of the African Union in 2022, had agreed to host this event in Dakar, Senegal from March to May 2022 in order to create a special partnership between nations and peoples of Africa and Mercy Ships to improve surgical care in Africa. This commemoration was celebrated in three (03) major events:

1 *The International Symposium (IS) on Strengthening Surgical, Obstetric and Anaesthesia Care Systems in Africa by 2030 Dakar, Senegal 4-6 May, 2022*

This symposium aimed to identify the gaps in surgical care in Africa and then to develop a prioritized action plan with its implementation, monitoring and evaluation strategy.
The symposium was a unique opportunity to:
(i) create a continental roadmap following the evaluation of the situation of surgical, obstetric and anaesthesia care in Africa with a clear and measured identification of gaps;
(ii) develop national and regional priorities to be submitted to African Heads of State, in an Action Plan focused on concrete achievements and essential investments (prioritized, rationalized, budgeted and achievable with the commitment of public and private national and international partners,) to change the situation in order to achieve Sustainable Development Goal No. 3 related to health by 2030;
(iii) establish a strategy for the implementation, monitoring and ongoing evaluation of the Plan.

This International Symposium consisted of two meetings bringing together 150 participants (experts and ministers of health) from 28 countries in sub-Saharan Africa *[Photo 1]*.

Photo 1: Ministers of Health at the International Symposium

Twenty eight Ministers of Health of the following countries: **Benin, Burundi, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Comoros, Côte d'Ivoire, Ethiopia, Eswatini, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Malawi, Mauritania, Niger, Nigeria, Senegal, Seychelles, Sierra Leone, South Sudan, Uganda and Togo** have adopted the Dakar Declaration on access to equitable, affordable and quality surgical care in Africa by 2030 to be submitted to the African Head of States.

2 *The commissioning of the new Mercy Ships hospital ship Dakar, Senegal 30 May, 2022*

The commissioning of the new Mercy Ships hospital ship, the Global Mercy was officialized in Dakar, Senegal on May 30th, 2022. It is the world's largest state-of-the- art civilian hospital ship [Photo 2].
It has 6 operating rooms, 200 hospital beds, two dental and ophthalmological clinics and a simulation laboratory for the training of health workers in the fields of surgery, obstetrics and anaesthesia.

Photo 2 : The hospital ship " *Global Mercy* "

3 *The presidential conversation Dakar, Senegal 30 May, 2022*

Six African countries (Cameroon, Comoros, Congo, Gambia, Guinea-Bissau and Senegal) met to adopt the Dakar Declaration on equitable access to surgical, obstetric and anaesthesia care in Africa by 2030 *[Photo 3]*. This Declaration is intended to be a continental commitment to invest more in health, twenty years after the African Union's Abuja Declaration of April 2001, and to significantly improve equitable access to surgical, obstetric and anaesthesia care for African people.

For its implementation, the Dakar Declaration has a Regional Action Plan 2022-2030 which supports the strategic framework for inclusive and sustainable growth for the continual development of human capital in Africa in line with «the Africa We Want' vision Agenda 2063.

Africa Surgical Initiative 2030

Strategic vision

The Africa Surgical Initiative 2030 (ASI 2030) is defined as all coordinated investments and actions implemented in Africa at district and national levels in the context of the WHA resolution 68.15 and the Dakar Declaration (May 2022).

Implementation framework

The ASI 2030 is focused on the implementation of the Dakar Declaration on improving access to affordable, safe, timely and equitable Surgical, Obstetric and Anaesthesia (SOA) care in Africa by 2030 and its Regional Action Plan 2022-2030 to scale up interventions and strengthen the SOA systems towards achieving Universal Health Coverage.

Country ownership & Strategic partnership

All partners, at all levels should coordinate their technical assistance under the leadership of the government and provide support and funding in line with the National Surgical, Obstetric and Anaesthesia Plan (NSOAP). Monitoring & Evaluation The monitoring and evaluation of progress should refer to the key findings of the baseline assessment conducted in 2022 that had identified the gaps in access to SOA care in Africa.

The network

A Platform for :(i) Sharing information, experiences and lessons learnt mainly in the elaboration and implementation of NSOAPs as per the WHA resolution 68.15; (ii) monitoring the implementation of the Dakar Declaration and its Regional Action Plan 2022-2030; (iii) brainstorming and agreeing on innovative strategies for the scaling up of surgical, obstetric and anaesthesia care.

The Africa Surgical Initiative 2030 is coordinated by :

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Elodie AGBO, Executive Secretary

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We are grateful to Mercy Ships for the funding of the entire process from the baseline assessment to the Dakar Declaration. Mercy Ships, an international non-governmental organization, uses hospital ships to provide free surgeries to transform lives and serve nations.

Our special thanks to the WHO Regional Office for Africa and to the West African College of Surgeons, College of Surgeons of East, Central and Southern Africa for their scientific guidance and technical collaboration.

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The other partners involved in the study :

- International NGO Smile Train
- McGill University Centre for Global Surgery, Canada
- International Organization Lifebox
- Royal College of Surgeons, Ireland
- Royal College of Surgeons, England
- Johnson and Johnson
- Program in Global Surgery and Social Change, Harvard University Medical School Boston, USA
- West African College of Surgeons
- College of Surgeons of East, Central and Southern Africa
- South African Development Community Regional Collaboration Center for Surgical Healthcare
- G4 Alliance for Surgical, Obstetric, Trauma and Anaesthesia

2-METHODOLOGY

This evaluation was decided in order to provide an overview of the current situation of national systems of access to surgical, obstetric and anaesthesia care with a view to strengthening them on a scientific basis. In each country, the baseline assessment included data collection of general information at the national level and a simplified baseline assessment tool for district hospitals based on a modified WHO surgical assessment tool.

The health district hospital

The district hospital was chosen for this evaluation because it represents the unit for the management and provision of primary health care provided to the largest number of people. The health district or local health system approach was validated and recognized as the essential method of strengthening health systems with a view to achieving Universal Health Coverage. This is a recommendation of the Regional Conference on Health Districts in Africa organized in Dakar, Senegal from 21 to 23 October, 2013. It is in this context that the baseline assessment for the identification of the gaps in access to surgical, obstetric and anaesthesia care was conducted at the level of the health district and its referral hospital.

Strengthening the provision of health services and surgical, obstetric and anaesthesia care must be carried out as a priority at first level referral hospitals. This action is part of the implementation of the Declarations of: Alma Ata, September 1978 and Astana, October 2018 on primary health care towards Universal Health Coverage and the resolution of the WHO Regional Committee for Africa, 69th August 2019 session on the provision of essential health services and surgical care in order to achieve Universal Health Coverage in the context of the 2030 Sustainable Development Goals.

Coverage area and sampling

Thirty-two countries in sub-Saharan Africa participated in this evaluation *[16 countries from West Africa, 4 from Central Africa, 6 from East Africa and 6 from Southern Africa].*

Figure 1 : The 32 sub-Saharan Africa countries evaluated in the baseline assessment

Out of a total of 3,371 health districts, a representative sample of 20% of health district hospitals, i.e., 601 district hospitals, was applied to ensure good representation and complete geographical coverage of the country. *In three countries [DR Congo, Madagascar and Botswana], the number of district hospitals evaluated did not reach 20% for reasons of insecurity, or crisis due to flooding and also invalidated questionnaires because they were not compliant with the survey protocol.

No.	Countries	N° Health Districts	20% of Hospital Districts Assessed
1.	Benin	77	15
2.	Burkina Faso	70	14
3.	Burundi	47	9
4.	Botswana	24	3*
5.	Cameroun	190	38
6.	CAR	35	7
7.	Congo	52	10
8.	Comoros	17	3
9.	Côte d'Ivoire	113	23
10.	DR Congo	480	32*
11.	Eritrea	58	12
12.	Eswatini	4	1
13.	Ethiopia	123	25
14.	Gambia	7	1
15.	Ghana	260	52
16.	Guinea	38	8
17.	Guinea-Bissau	11	2
18.	Liberia	15	3
19.	Madagascar	114	19*
20.	Malawi	28	6
21.	Mali	75	15
22.	Mauritania	57	11
23.	Niger	72	14
24.	Nigeria	774	154
25.	Rwanda	30	6
26.	Senegal	79	15
27.	Sierra Leone	16	3
28.	South Sudan	80	16
29.	Chad	129	26
30.	Togo	44	9
31.	Uganda	136	27
32.	Zambia	116	23
	Total	**3371**	**601**

Table 2 : Health districts selected for the baseline assessment

Data collection

The information was collected in accordance with the pillars of the Health system: (1) Governance and leadership, (2) Infrastructure, (3) Human resources, (4) Delivery of health and care services including those for children, (5) Information management, and (6) health financing.

Given the advent of the Covid-19 pandemic at the end of 2019 revealing the fragility of the health systems in Africa, it was decided to take into account the consequences of this pandemic on surgical care systems in Africa and the recommendations made by the Global Alliance for Surgical, Obstetric, Trauma and Anaesthesia Care in order to be able to safely resume non-emergency surgical procedures in low- and middle-income countries in the Covid-19 post-pandemic period.

Study supervision

The launch followed by the supervision of the study included:
1.The stage of contacting the authorities of the Ministry of Health and partners of the study in the field and the presentation of the baseline assessment, particularly the context of the study, the objectives, the expected results, the practical methods of the survey, including the selection of study sites in the country. At this stage, a senior official from the Ministry of Health was appointed to coordinate the study and a national expert was appointed for the scientific supervision. The basic documents were sent to the committee or structure or unit responsible for research and/or ethics within the Ministry of Health;

2.The selection of health districts and district hospitals concerned by the study was approved by the international scientific committee of the study, which in particular ensured the characteristics and national representation of the sites;

3.The appointment of investigators within each structure was made according to the criteria adopted by the international scientific committee in charge of the evaluation in close consultation with the national coordination team;

4.The briefing of the surveyors or investigators at the level of the selected district hospitals was a one-day virtual or face-to-face workshop supervised by an external facilitator appointed by the international scientific committee;

5.Supervision by members of the international scientific committee in the field of the study in progress;

6.Creation of WhatsApp Country communication groups composed of the national evaluation coordinator, the national investigator, hospital investigators, representatives of partners including WHO country offices, UNFPA and Mercy Ships. The platform was used to facilitate the conduct of the study, to resolve difficulties together, share experiences and challenges and find solutions together, etc.

7.The verification and validation of the questionnaires once completed at the level of the international scientific committee. This stage involved numerous meetings with the investigators before validation;

8.Data input into the Survey Monkey platform at the level of the international scientific committee in charge of the baseline assessment.

Statistical analysis

The data collected in each country and district hospital were integrated into the Survey Monkey platform. It was analyzed using appropriate statistical tools. This analysis focused on producing a regional database, without comparison between countries, centered on the indicators of the Lancet Commission on Global Surgery: (i) access to surgical care within 2 hours, (ii) density of surgical workforce, (iii) volume of surgery, (iv) monitoring of perioperative mortality, (v) financial risk protection.

The research team

The baseline assessment was coordinated (i) at the regional level by a select scientific committee comprising a representative of each stakeholder: the World Health Organization Africa Regional Office, the West African College of Surgeons and Mercy Ships, with the technical support of the African Foundation for Global Health and (ii) a national coordination composed of a senior representative of the Ministry of Health and a principal investigator with the technical and logistical support of the WHO Country teams, UNFPA, and Mercy Ships.

The actual survey was carried out at the level of the selected district hospital. It was conducted by an investigator selected for his position within the hospital and for his technical skills, most often a health professional (doctor, surgeon, obstetrician, anesthesiologist) or an administrator (director of the hospital, statistics and health information officers).

Ethical consideration

The ethical framework for research and the institutional review considered took into account the consolidated approval of the structures, services and units in charge of ethics and research of the Ministries of Health of the countries involved in the study. This consolidated opinion was integrated into that of the reference institution selected by the scientific committee of the evaluation: the Ethics and

Health Research Committee of the National Hospital of Abuja, Nigeria approved the evaluation under the HREC number NHA/EC/001/2022.

Population covered by the study

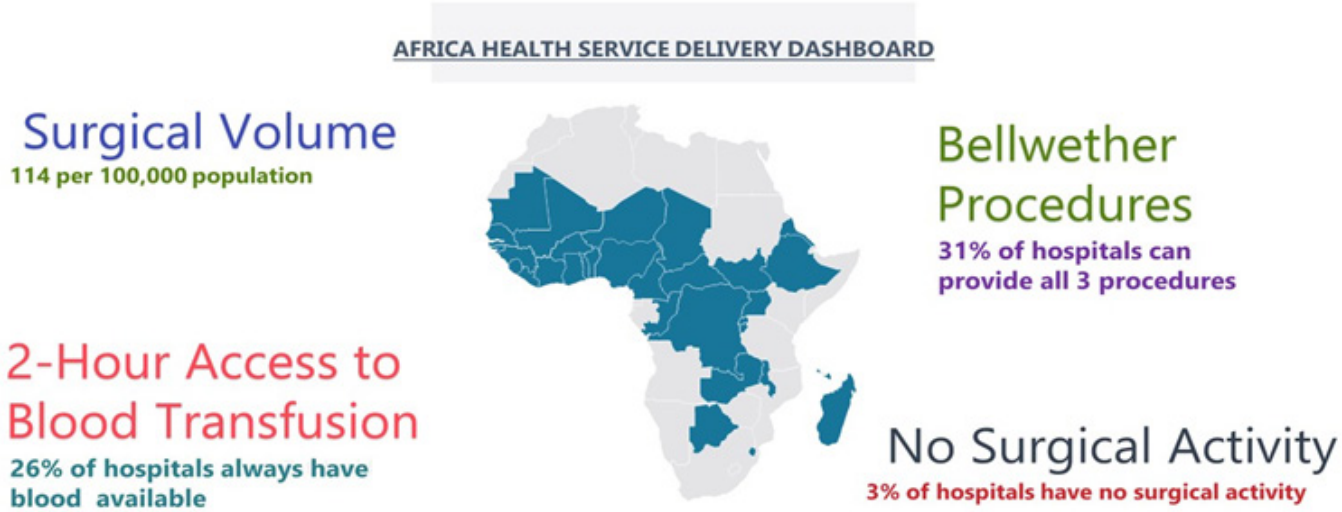
Thirty-two countries in sub-Saharan Africa participated in the baseline assessment to identify gaps in access to surgical, obstetric and anaesthesia care. These hospitals were selected for this evaluation because 90% of the populations seeking care are in the rural areas served by these district hospitals and correspond to the hospitals at the base of the health pyramid in Africa. Out of a total African population of 1,426,736,000 in 2022, the population of the 32 countries accounted was 842,632,230 inhabitants or 60% of the African population. 35.34% (297,754,895) of the population covered by the study were children under the age of 15 years.

3-SERVICE DELIVERY

WHO has defined integrated service delivery as the management and delivery of health services so that patients receive a continuum of promotional, preventive, curative, rehabilitative and palliative services according to their needs, outside of and through different levels of the health system.
Health care benefits include, among others: consultations, medical treatments, hospitalization for care including childbirth, emergency care and surgery, prescription drugs; medical devices and orthoses, medical equipment and supplies; coverage of reasonable travel and accommodation expenses associated with an occupational injury or illness.

As part of the baseline assessment, four key elements were identified to assess the provision of surgical, obstetric and anaesthesia care at the district hospital level:

1. The volume of surgical operations performed per 100,000 inhabitants;
2. Access to a blood supply within two hours of a patient's urgent transfusion request;
3. Absence of any surgical activity in a district hospital and;
4. Achievement of normal childbirth and provision of the following surgical procedures:
   (a) caesarean section and hysterectomy
   (b) hernia surgery and emergency laparotomy
   (c) treatment of an open fracture.



The total number of surgeries performed in 2019 was 213,906 in 537 district hospitals (90%) out of 601. The population covered by these 537 hospitals was 187,877,579 inhabitants and the surgical volume therefore was established at 113.9 per 100,000 inhabitants. This data is important because it covered the period before the Covid-19 pandemic.

The key standards procedures at district level

Access to blood for a patient in the hours following its prescription shows the enormous weakness of blood transfusion services in the majority of countries. The baseline assessment showed that only 26.3% of district hospitals could provide blood within two-hour of request. Still 4% of district hospitals were unable to provide blood in the allotted time. 3% of district hospitals did not have an operating theatre and therefore had no surgical activities.

It is important to take into account the mechanisms put in place to meet these needs (referral or not). The barometer of the capacity or performance of a first level (district) hospital in the field of providing surgical, obstetric and anaesthesia care has been established through the possibility of carrying out a group of surgical operations: caesarean section – emergency laparotomy - treatment of an open fracture (Bellwether procedures). These three surgeries are standard procedures achievable in a first level hospital and should be provided 24/7 to ensure emergency and essential surgical care for the populations. It is a key indicator for monitoring and planning essential surgical care in developing countries.

The study showed that of the 601 hospitals evaluated, 597 (99.3%) could safely carry out a normal vaginal delivery, 567 (94.3%) could safely carry out a caesarean delivery, 483 (80.4%) could safely carry out a hysterectomy, 535 (89.0%), 499 (83.0%) ***and 191 (31.8%) could safely carry out herniorrhaphy, emergency laparotomy and treatment of open fractures respectively*** [Figure 1]. One hundred and eighty-six hospitals (30.5%) could provide all 3 Bellwether procedures.

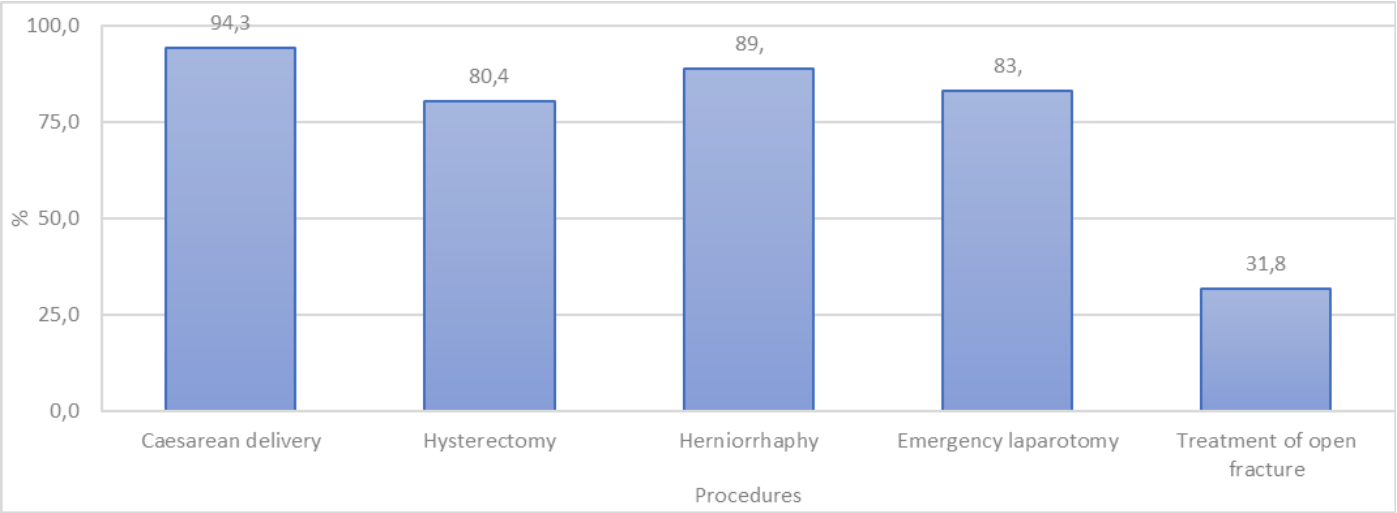


Figure 1 : Percentage of hospitals safely performing adult surgeries

The following surgical operations could be performed at district hospitals:

- Caesarean section: 94.3%
- Hysterectomy: 80.4%
- Hernia surgery: 89%
- Emergency laparotomy: 83%
- Treatment of an open fracture 31.8%.

The inhospitable hospital : unsafe, unequal, unaffordable

The quality of services or the delivery of health services is a major challenge impacting the performance of the health system. The provision of health care for all segments of the population is still a real topical issue and therefore constitutes a challenge for national health systems in achieving Universal Health Coverage.

All people who need health services including promotion, prevention, treatment, rehabilitation and palliative care should be able to benefit from quality, affordable and equitable care without experiencing financial hardship.

4-HEALTH PERSONNEL

Humans drive the car, fly the plane or the drone and, design and guide artificial intelligence. Humans must be at the centre of change. It is humans who make health and their health. It is now more useful to have qualified human resources for health than hospitals with expensive equipment and no health professionals able to run it in order to meet the needs of the communities.

The development of human resources dedicated to health is essential to achieve the health-related Sustainable Development Goals. However, the shortage of human resources for health remains a major challenge for Africa. Africa is the region of the world most exposed to the global shortage of human resources for health. Out of 47, 36 countries in the WHO African region are below the minimum recommended threshold of 2.3 medical, nursing and midwifery professionals per 1000 population.

Efforts were made to address the crisis in human resources for health in the WHO African region after the publication of the World Health Report 2006. In 2012, Member States of the WHO African region adopted a roadmap to increase human resources for health. It advocated for the use of various strategies to increase the production, performance and retention of health workers.

In 2016, the World Health Assembly adopted the Global Strategy on Human Resources for Health 2030. It recommended investing in new job opportunities that could also add broader socio-economic value to the economy. It aimed to ensure equitable access of populations to qualified health workers by accelerating progress towards Universal Health Coverage and the achievement of the third Sustainable Development Goal: Health and well-being for all.

The eight objectives

In 2017, the 47 countries of the WHO African region adopted a resolution of the regional committee on the framework for the implementation of the Global Strategy on Human Resources for Health 2030.

This framework aims to:

1. promote the retention of health workers;
2. reduce the migration of health workers to achieve an acceptable distribution of health professionals between urban centres and rural areas;
3. implement national plans on human resources for health and their financing;
4. increase investments in health professionals to adapt them to the current and future needs of the population and health systems, in order to promote job creation and economic growth;
5. increase the recruitment of trained health workers: it is paradoxical to note that qualified health workers are registered as unemployed while the health system is experiencing a shortage of medical personnel;
6. address the challenge of insufficient education and continuing training of health professionals by involving the private sector more in training;
7. strengthen governance and leadership through the rational use of available resources, innovative education strategies and the deployment of health personnel. These are all key factors likely to resolve the crisis;
8. strengthen information systems on human resources dedicated to health, to monitor the implementation of national and regional strategies.

These eight objectives remain recommendations that must be at the center of the strengthening of national health systems for the implementation of the Dakar Declaration which focused on access to

essential, equitable, affordable and quality surgical, obstetric, anaesthesia and nursing care in Africa by 2030.
Health professionals must therefore be further trained, including managers and other personnel necessary for the proper functioning of the health system and the hospital. Advanced training, ongoing capacity building programs and research should help avoid costly medical evacuations to developed countries. Africa needs health professionals capable of healing and restoring the necessary dignity to patients.

The baseline assessment showed that the density of specialized health professionals (surgeons, anaesthesiologists and obstetricians) is 1.36 per 100,000 inhabitants and that of perioperative nurses is 0.96 per 100,000 inhabitants [*figure 1****].***

Figure 1: Density of surgical workforce in Africa

The density of nurses specializing in paediatrics is 1.72 per 100,000 inhabitants, while the general density of nursing human resources is 92.1 per 100,000 inhabitants. 63.4% of district hospitals have no surgeons. In 78.9% of district hospitals, general practitioners without surgical training are responsible for surgical operations.

This evaluation also showed that in the majority of countries, surgical, obstetric and anaesthesia care is provided by non-specialized personnel. General practitioners provide surgical care in 78.9%, anaesthesia care in 23.5% and midwives in 12.3% of cases are in charge of obstetric and surgical care. Medical officers provide 37.6% of anaesthesia care while 73.2% of the same care is provided by nurses. In more than 60% of district hospitals, a nurse is in charge of more than 7 patients during the day and more at night.

5-HEALTH INFORMATION

The World Health Organization (WHO) recognizes the Health Information System (HIS) as one of the fundamental pillars within the healthcare framework. The HIS encompasses three core areas of health data: (i) factors influencing health, (ii) health institutions, and (iii) health status.

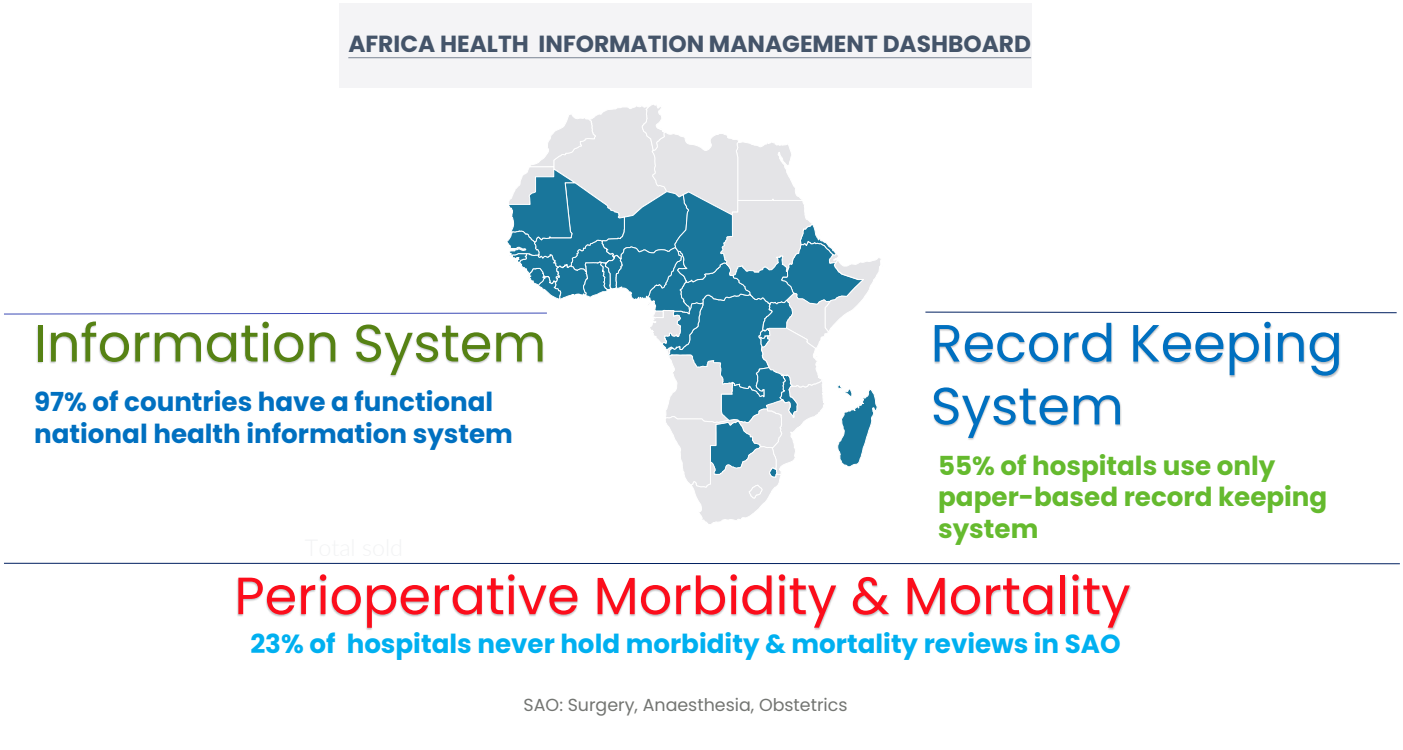
The primary objective of a health information system is to produce, analyze, and distribute health-related data. This ongoing process is intricately linked to public health decision-making and the execution of programmatic activities.
The HIS plays a pivotal role in driving the overall effectiveness of a healthcare system. Health indicators serve as quantifiable measures summarizing critical aspects of population health and healthcare system performance.

At the hospital level, the information system faces significant challenges due to the integration of computerized processes for patient care, serving medical professionals, nursing staff, and administrative functions.

The essential management tool for action

The Hospital Information System (HIS) is designed to streamline the management of both clinical and administrative data within a hospital. Within it, a subsystem focuses on gathering information about care provision.

The Healthcare Production Information System collects, processes, and supplies essential data to support its functions and enhance the quality of patient care. This system facilitates seamless sharing of patient records among all medical practitioners involved in inpatient or outpatient management.



The baseline assessment shows that almost 97% of countries had a national health information system in place.

The baseline assessment focused on identifying gaps in ***(a)*** the patient management system with the use of medical records and the use of the international classification of diseases, ***(b)*** evaluation of perioperative mortality and morbidity and ***(c)*** Internet access for health professionals and patients at district hospital level.

The patient file and the management of the medical procedures are the two key elements of the subsystem which ensure the traceability of all the actions performed. It is a communication, coordination and information tool between care providers and with patients. It makes it possible to follow and understand the hospital experience of the patient.

(a)The International Classification of Diseases serves as a universal language that enables standardized information exchange among healthcare professionals worldwide. It was developed to serve various purposes, such as: (i) Death certificate and statement, (ii) Eleventh revision 5 ICD-11 coding contains approximately 17,000 unique codes, more than 120,000 codifiable terms and now fully digital. In 2022, 35 countries in the WHO African region were using ICD-11.

The results showed that 55.2% of countries use a paper registration system. In addition, 44.3% of countries use the International Classification of Diseases for the registration system.

(b)The baseline assessment also placed significant emphasis on the surveillance and examination of perioperative mortality and morbidity. An investigation was conducted into the frequency of meetings dedicated to reviewing perioperative mortality and morbidity cases within the district hospital.

Mortality and morbidity (M & M) meeting is a collective, retrospective and systematic analysis of clinical cases for which an adverse event associated with care or any unexpected complication has occurred which may or may not have caused harm to patients. This analysis aims to allow a generic reflection on the circumstances of occurrence and on possible actions to be implemented to avoid the recurrence of such an event. This experience feedback approach is a tool for improving practices and maintaining skills, bringing together all the professionals involved in care, with adequate methodological support in a friendly atmosphere.

The evaluation of perioperative mortality and morbidity therefore aims to reduce the risks (morbidity and mortality) associated with surgical and anaesthesia procedures. It seeks to elevate the quality of perioperative care, promote recovery, and reintegrate patients into their normal lives. Furthermore, it incorporates the process of obtaining patient consent for any anaesthesia-related procedure.

The baseline assessment showed that 22.5% of hospitals had never initiated or held Mortality and Morbidity meetings. 77.5% of hospitals had organized meetings but only 12.8% of hospitals had held monthly meetings, 34.1% quarterly meetings and 13% more than one meeting per quarter.

(c)Internet access in the hospital: The emergence of the internet in the early 21st century brought about a transformative impact on our global landscape. It serves as a platform for three primary functions: (i) communication, (ii) information dissemination, and (iii) collaborative endeavors, amplifying the ability of a broader population to access and compare an extensive range of information and knowledge. Specifically, it enhances electronic correspondence, interactive dialogues, discussion platforms, and seamless file exchange.

For health personnel, the internet introduces a realm of new possibilities, characterized by the added value of information exchange. It significantly enhances both the quality and quantity of information and knowledge accessibility. Functioning as a communication tool, it streamlines evidence-based medical practices, supports teaching, facilitates initial and ongoing medical education, aids in clinical research, and serves as a virtual reservoir encompassing websites, books, and electronic journals.
In this context, the presence of internet connectivity within the hospital setting stands as a critical element for both health professionals and patients. Its significance lies in its potential to substantially enhance services and patient care within an African district hospital.

The baseline assessment showed that 62.1% of hospitals had no internet connection for healthcare professionals [figure1] and 92.5% had no internet for patients. Less than 6% of hospitals had a free internet connection for health professionals.

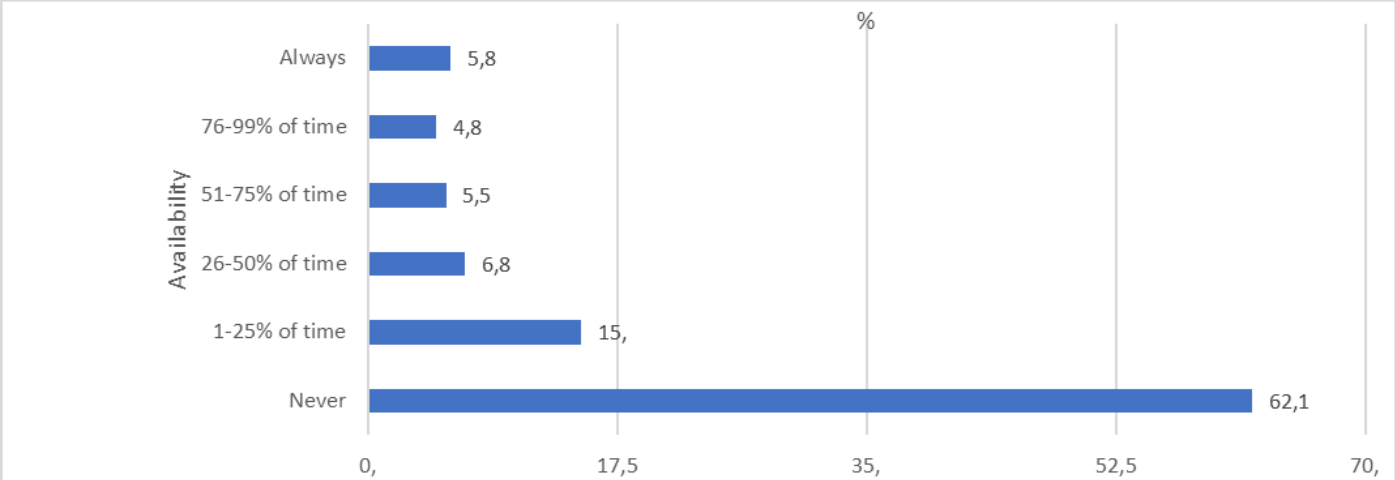


Figure 1: Provision of free internet to staff at district hospitals

The digital revolution, catalyzed by the Covid-19 pandemic's positive influence, holds the potential to usher in new prospects for fortifying healthcare systems across Africa. E-health emerges as a promising avenue for enhancing care accessibility, empowering healthcare practitioners to optimize their resources under the banner of «enhancing care quality through superior information».

Within this context, technological advancements abound, and the African continent stands as an untapped arena ripe with multifaceted opportunities, particularly within the realm of healthcare, aligning with the aspiration of attaining Sustainable Development Goal No.3 by 2030. Augmented internet connectivity and communication technologies stand as invaluable assets for healthcare systems in Africa.
The evolution of the internet coupled with the rapid proliferation of mobile phone usage has fundamentally transformed Africans' interaction with technology. Approximately 82% of the African population is encompassed by mobile network coverage. This development will have an impact on the health sector and will contribute to better access to healthcare in Africa.

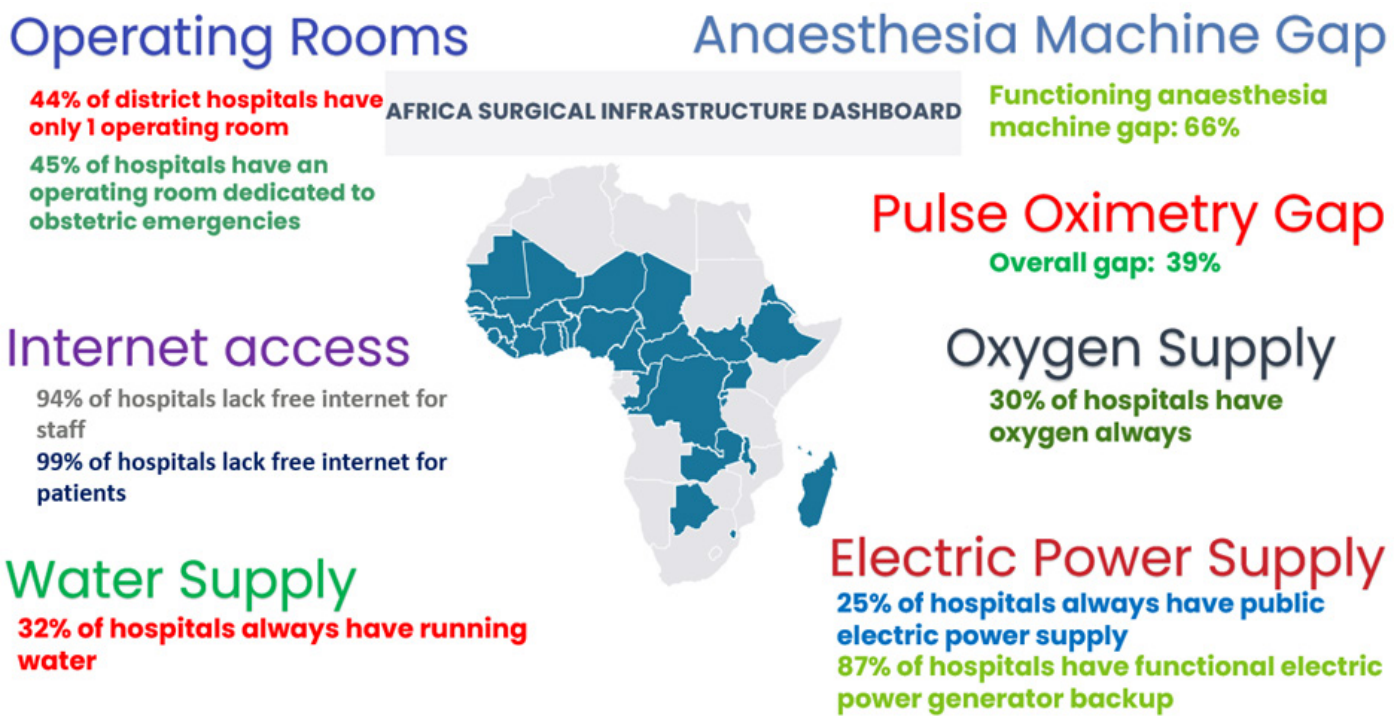
Technological initiatives have yielded various benefits, including:

- swift responsiveness to patients' health requirements,
- seamless knowledge exchange among healthcare professionals through digital platforms,
- pivotal contributions such as utilizing smartphones for oversight and vaccination monitoring, along with satellite imagery for accurate population estimates in the successful campaign against polio in Africa

Amidst these opportunities, the promise of «e-health» technology shines, even in the face of prevailing challenges, notably the need for hospital infrastructure upgrades toward the realization of Universal Health Coverage.

6-MEDICAL PRODUCTS, TECHNOLOGIES AND INFRASTRUCTURE

Health infrastructures are defined as all the health equipment and establishments (hospitals, dispensaries, medical offices, dental offices, pharmacies, etc.) within the framework of the 6 pillars of the health system as described by the WHO. Infrastructure is also an integral part of the medical products, drugs, vaccines and technologies that are essential for the proper functioning of a health system.



The availability of standard radiology and ultrasound, as well as water, electricity, oxygen and internet: Access to radiology was not possible in 72% of hospitals and 54.6% of hospitals did not have an ultrasound machine.

Clean running water was only available in 32.1% of hospitals[*figure 1]* and only 25% of hospitals were connected to the public electricity network. 86.5% of hospitals had an operational emergency power generator to provide emergency power. With regard to medical oxygen, only 29.6% of hospitals had

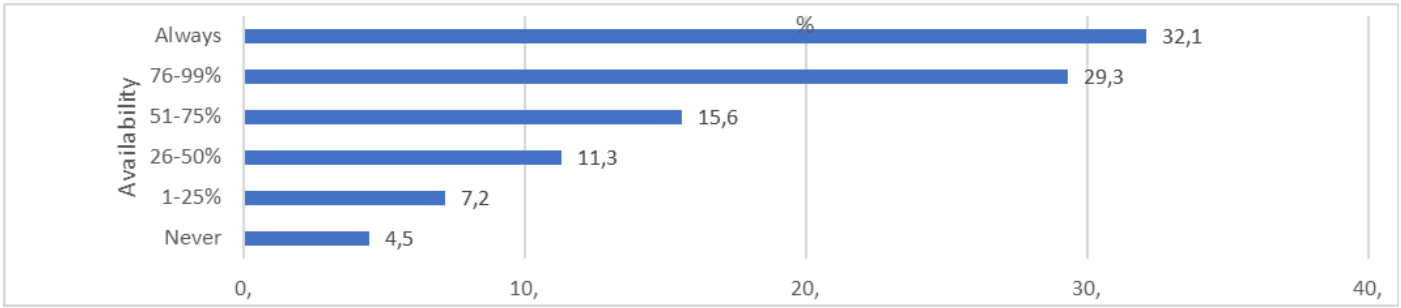


Figure 1 : Availability of running water at district hospitals

oxygen always available and 12.0% were without oxygen.
Of 601 hospitals, only 38 (6.3%) always had a functioning intensive care unit while 432 (71.9%) hospitals never had a functioning intensive care unit.

The operating theatre essential for surgical activity

The health systems in the countries assessed are currently faced with enormous challenges, the main ones being the low number of health infrastructures, the insufficiency and obsolescence of equipment and the inadequacy of their maintenance, which affect the quality of delivery of care and services.

Of 601 district hospitals, 265 (44.1%) and 255 (42.4%) had 1 and 2 functioning operating rooms respectively [*figure 2****].***

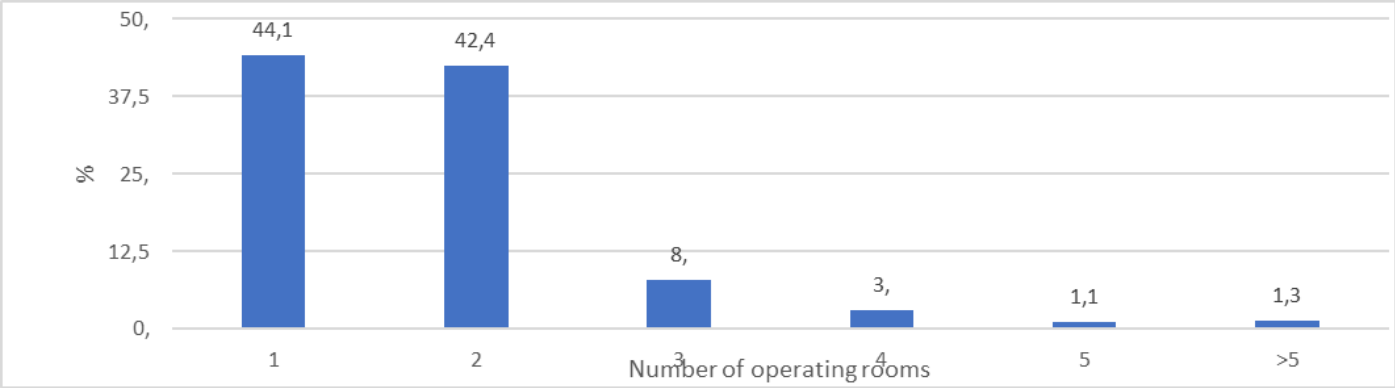


Figure 2 : Functioning operating rooms at district hospitals

The absence of good practices in the procurement and supply chain management cannot ensure quality medical products are available at all levels of the health system at all times.
In conclusion, a well-functioning health system aims to ensure equitable access to essential medical products, vaccines and medicines, and technologies whose quality, safety, efficacy and cost-effectiveness are guaranteed, as well as their scientifically proven and cost-effective use.

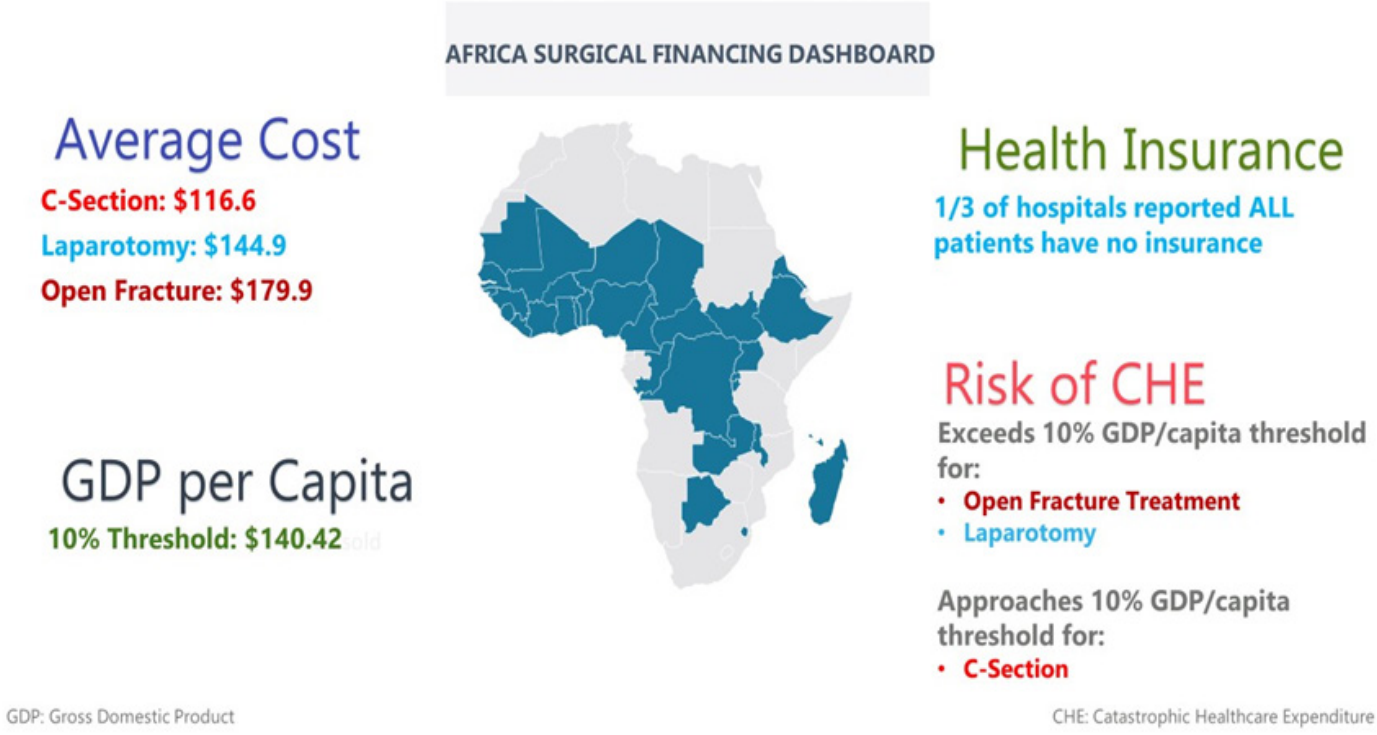
7-HEALTH FINANCING

A greater quality of life, as well as global peace and security, would be facilitated by universally promoting good health, as was acknowledged by the signatories of the 1978 Alma Ata Declaration more than 30 years ago.
Finance for healthcare comes from a variety of sources, including the government, the corporate sector, and outside sources. The health sector receives funding from various initiatives and programs, taxes, prepayment funds (compulsory/voluntary), and direct user payments.
Since promoting a better condition of health is one of every human being's fundamental rights, every government has attempted and will continue to try to do so. With the ultimate goal of providing Universal Health Coverage to the people, health has therefore become a political issue.
Governments must address the following issues in order to accomplish this admirable goal that is directly linked to the Sustainable Development Goals, particularly Goal No.3 on health (Good health and well-being for all): (**1**) How can a health system that offers Universal Health Coverage be financed?; (**2**)What kind of legislation has to be put in place to shield people from monetary harm caused by the price of illness and expenditures for medical care?; (**3**)How can rational use of available resources be promoted so that coverage is equitable?; (**4**)What trustworthy system should be set up to track and assess progress?

The bottleneck of the health sector

Everyone should have access to health care without experiencing financial hardship, according to World Health Assembly Resolution 58.33 from 2005.
One out of five people around the world have extensive social protection, which includes a promise to make up lost pay in the event of illness. According to the International Labour Organization (ILO), more than half of the world's population is without any kind of formal social security.

In sub-Saharan Africa, only 5 to 10% of the population has access to health insurance, as opposed to 20 to 60% in middle-income nations. Therefore, health finance is crucial to all efforts to guarantee social safety. In this regard, governments may place a low priority on population health when allocating budgetary resources. For instance, only a few African nations have achieved the goal of contributing 15% of their national budget to the health sector, as outlined in the Abuja Declaration signed in 2001 by the Heads of State of the African Union.



In order to estimate the impact of financing on access to surgical, obstetric and anaesthesia care, the baseline assessment looked at the three most important financial and economic aspects :

1.Health insurance

It generates sufficient and sustainable resources for health and facilitates optimal use of these resources and ensures that health services are financially accessible to all.

Twenty-two (68.8%) of the 32 countries indicated that healthcare insurance was available in the country, with a population insurance coverage ranging from 1% - 86% (median 7.5%). There was no healthcare insurance in 10 (31.3%). In all countries, there was out-of-pocket payments for healthcare. In one country, healthcare services were free in all public facilities and in another country, emergency healthcare was partly free. These 2 countries also had health insurance coverage of 1% and 5% respectively.

At district hospital level, 219 (36.45%) hospitals indicated that none of the patients have health insurance coverage and only 3 (0.5%) indicated all of their patients had health insurance coverage [Figure 1].

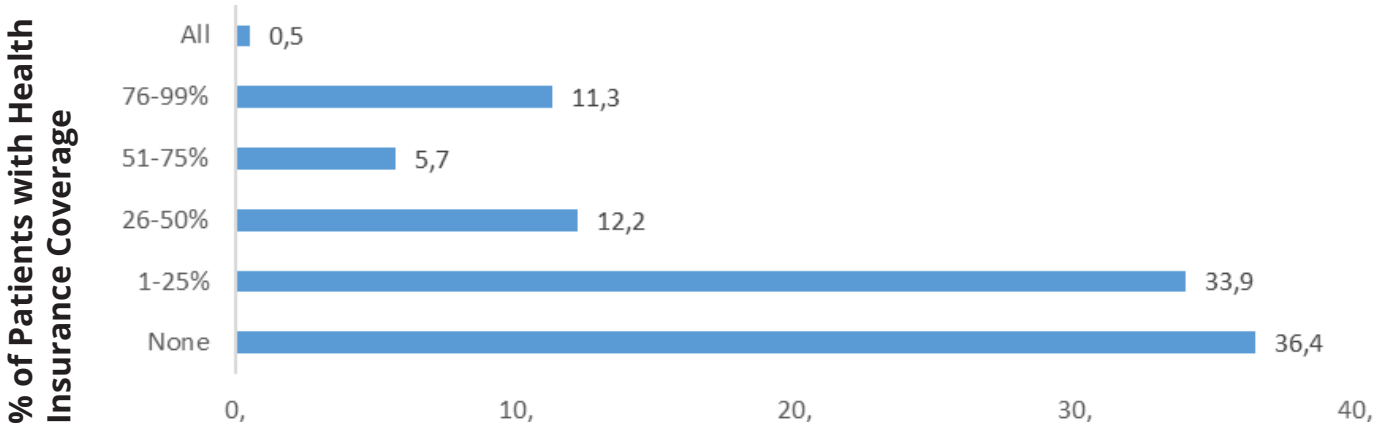


Figure 1: Patient level health insurance coverage at 601 district hospitals

2.Gross Domestic Product (GDP) allocated to health

The average cost of the Bellwether procedures approach or exceed 10% of the combined GDP per capita of the countries. This is compounded by the low insurance coverage and low minimum wage, placing the population at risk of catastrophic healthcare expenditure. In order to assess the impact of total health expenditure, including out-of-pocket payments, on people's standard of living, the evaluation showed that the Gross Domestic Product of 28 countries (population: 797,130,436) out of the 32 (population 842,632,230) that provided country income information, ranged between $1 billion and $432.44 billion. The average poverty index in the 27 of the 28 countries that provided the information ranged between 11.32 and 432.44 US dollars with an average of 89.29 US dollars.

3.The risk associated with Catastrophic Health Expenditure (CHE)

Health insurance is set up to protect the most disadvantaged groups and help them bear the extremely high health costs that further impoverish them. Catastrophic Health Expenditure was based on an indicator that takes into account the average costs of surgical care for the following operations:

1. open fracture,
2. caesarean section and
3. laparotomy (abdominal wall incision).

The average cost of an emergency laparotomy was US$144.9 and the treatment of an open fracture was US$179.9. These costs exceed the 10% of the Gross Domestic Product per inhabitant, established in this study at 140.42 US dollars. This cost is greatly exceeded if one takes into account the additional expenses including laboratory examinations, blood transfusions, and associated non-medical costs.

Out-of-pockets expenditures: a barrier to access to surgical services

The study has demonstrated that millions of people in Africa are denied access to healthcare services because those services cost money. These costs have further reduced their income. The majority of African countries are unlikely to achieve Universal Health Coverage in the near future, despite the fact that domestic financing is crucial to ensuring its sustainability. Therefore, nations require funding mechanisms that enable people to access all forms of healthcare, including promotion, prevention, treatment, and rehabilitation.

Political will

No African nation has yet been able to ensure that all citizens have immediate access to services that can preserve or improve their health, despite recent advances made by countries through increased health funding, pooling of resources to better spread financial risks, and increased efficiency. This is the major obstacle that African leaders must overcome, with a political will, a common vision and a strong support of developed countries.

African governments must impose on themselves a strict strategic and scientific approach: (i) plan a program that fits the local environment supported by enough political commitment to be sustainable; (ii) make better use of the resources available; (iii) remove financial barriers to access care while reducing the financial risks associated with illness; (iv) implement and uphold the Abuja 2001 commitment; and finally (v) invest in developing resilient health systems.

There are other factors in play than a country's relative wealth. It is crucial to highlight that some governments choose to allocate a significant portion of their health spending budget despite a relatively low level of national revenue, even though the priority accorded to health in national budgets normally increases with national income. On the other side, those who are comparatively wealthier give health a lower weight. There are less than 10 years remaining to make significant progress on the UHC program, thus this is a major problem.

The Dakar Declaration for access to equitable, affordable and quality surgical, obstetric and anaesthesia care in Africa by 2030 and its Action Plan 2022-2030 are a powerful political lever to accelerate the achievement of Universal Health Coverage.

8-LEADERSHIP AND GOVERNANCE

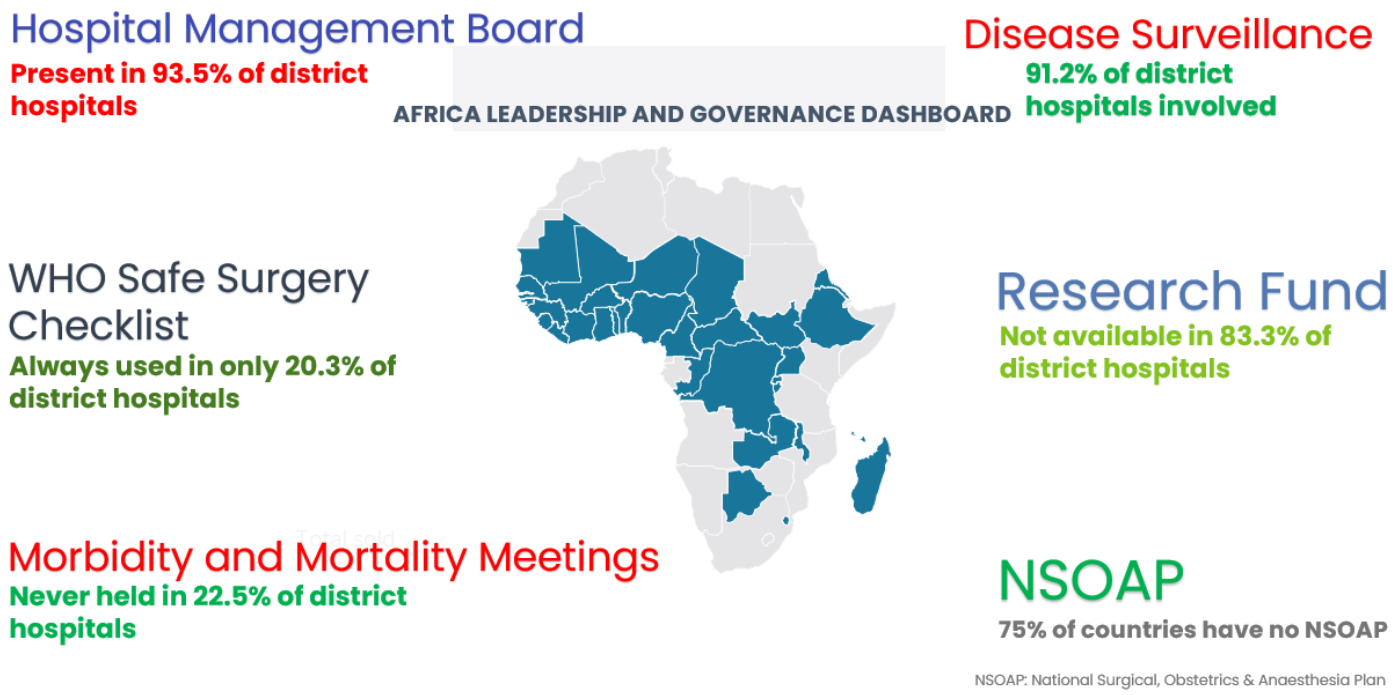
The African Union Health Strategy 2016 - 2030, and the African Health Leadership and Management Network acknowledge that without improved leadership, management, and governance at all levels of the health systems, the majority of African nations are unlikely to accomplish their national health goals.
Due to governance structures that frequently follow a divided and non-holistic approach, health systems in Africa do not work effectively and efficiently and are not responsive to the requirements and desires of patients and populations.

The essential political will for health

The African Union Health Strategy 2016–2030 recognized that effective stewardship, accountability, and openness in leadership and governance of the health sector are necessary for the achievement of its goals. It is a huge challenge for African governments and their populations to achieve comprehensive access to high-quality anaesthesia, obstetric, and surgical treatment.

The baseline assessment emphasized three significant aspects of healthcare governance and leadership, including: (i) the quality of care; (ii) research for care based on scientific evidence; (iii) policy and strategic planning for equitable, affordable and quality essential surgical, obstetric and anaesthesia care in Africa.

« Political action will make the difference because it must be like the surgeon's scalpel: leave no room for uncertainty ». Dr. Pierre M'Pele – International Symposium, Opening Speech 6 May 2022



For each of the three aspects, a key indicator was assessed to draw the necessary lessons that can have an immediate impact on the surgical, obstetric and anaesthesia care systems.

<u>The quality of care</u> : Using the WHO Checklist for Safe Surgical, Obstetric and Anaesthesia Care

"Divide each difficulty into as many parts as is feasible and necessary to resolve it" René Descartes

This list is the outcome of a comprehensive investigation conducted in 2009 under the direction of the WHO. It was designed to lower the rate of surgical service deaths. The WHO Surgical Safety Checklist's main goal is to mobilize political commitment and clinical persistence to address serious safety concerns like inadequate compliance to safety guidelines during anaesthesia, preventable nosocomial infections, and poor communication between surgical team members.

The checklist was created as a tool for surgeons to utilize to enhance the safety of their operations and lower the number of avoidable deaths and surgical complications. Its use has been linked to significantly fewer problems and deaths across a variety of hospitals and settings, as well as more dedication to basic standards of care.

The results showed that the rate of major complications after surgery in the operating room was reduced from 11% during the reference period to 7% after the introduction of the checklist, which corresponds to a one-third reduction. In-patient deaths after major surgery fell by 40% after the list was introduced. The scope of these results beyond surgery has an impact on improving the safety and reliability of care in many medical fields.

The checklist was launched by the WHO as a recommendation for safe surgery. A few minutes are enough during the three critical stages - before anaesthesia, before the skin incision and before the patient leaves the operating room.

The baseline assessment showed that nearly 40% of district hospitals have never used the WHO safe surgery checklist [figure1].

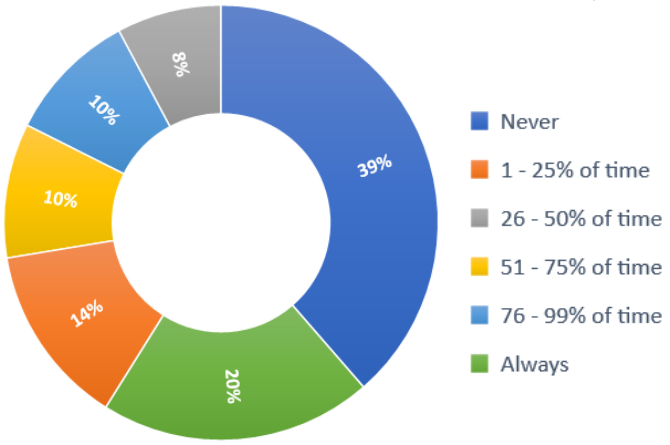


Figure 1: Use of the WHO safe surgery checklist in the operating rooms of 601 district hospitals

Research for care based on scientific evidence

Health research aims to acquire knowledge about a problem to find a possible solution to it and contributes to the strengthening of health systems. Research helps scientists, decision-makers, professionals and health actors to formulate policies and strategies, the determinants of new practices in health care. Member States of the WHO African region have made commitments for the effective implementation of the Algiers Declaration of June 2008 to allocate to research at least 1% of their health budget. The WHO guidance aims to improve planning in order to solve the various problems encountered, to study the basis on which priorities will be set and to analyze the interrelation between planning and priorities in the context of strengthening health systems.

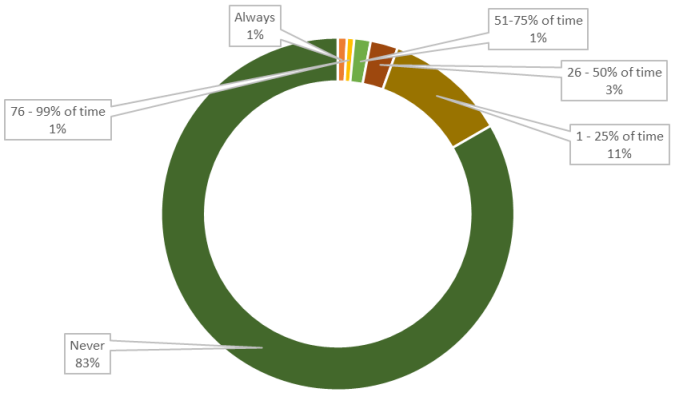


Figure 2: Availability of funding for research at 601 district hospitals.

The baseline assessment showed that less than 1% of district hospitals had the financial resources for research [figure2].

Policy and Strategic Planning for Equitable, Affordable and Quality Essential Surgical, Obstetric and Anaesthesia Care in Africa

Since surgery is an indispensable component of health services, governments and health professionals have engaged in efforts to improve surgical, obstetric and anaesthesia care in Member States of the WHO African region within the framework of World Health Assembly resolution 68.15, 2015.

The collection of local and national data is essential to guide health policies and strategies in the fields of surgery, obstetrics and anaesthesia. These efforts should lead to the development of national plans for surgery, obstetrics and anaesthesia.

This Plan is therefore an essential strategic tool for strengthening the national surgical care system. WHO recommended the development and implementation of a National Plan for Surgery, Obstetrics and Anaesthesia and made available to Member States in 2017 a three-step guide:

1- Baseline assessment of the national surgical system with the collection of data on surgical indicators;
2- Evaluation of health facilities through a chain of data collection for an evaluation of minimum standards of care;
3- Development of a National Surgical Plan integrated into the National Health Development Plan.

The evaluation showed that 24 out of 32 countries had not developed a National Plan for Surgical, Obstetric and Anaesthesia Care. Only 1 country had developed it, but its implementation had not started due to a lack of funding. And 7 countries had a plan and had started to implement it.

The majority of African nations must act quickly to begin the process of developing a national surgical, obstetric, and anaesthesia care plan and guarantee its integration into the national health development plan and budget. The country baseline assessment carried out as part of this study is the first step in this process. The Plan helps in improving the functionality of the surgical, obstetrics, and the anaesthesia systems to support national development and the promotion of excellent health, prosperity, and a higher standard of living for Africans.

The Lancet Commission on Global Surgery describes the role of surgical and anaesthesia care in improving the health of individuals and the economic productivity of countries.

Dr. Jim Yong Kim, Former President of the World Bank called for ***"a shared vision and strategy for global equity in essential surgical services and care because surgery is an indivisible and indispensable part of healthcare".***

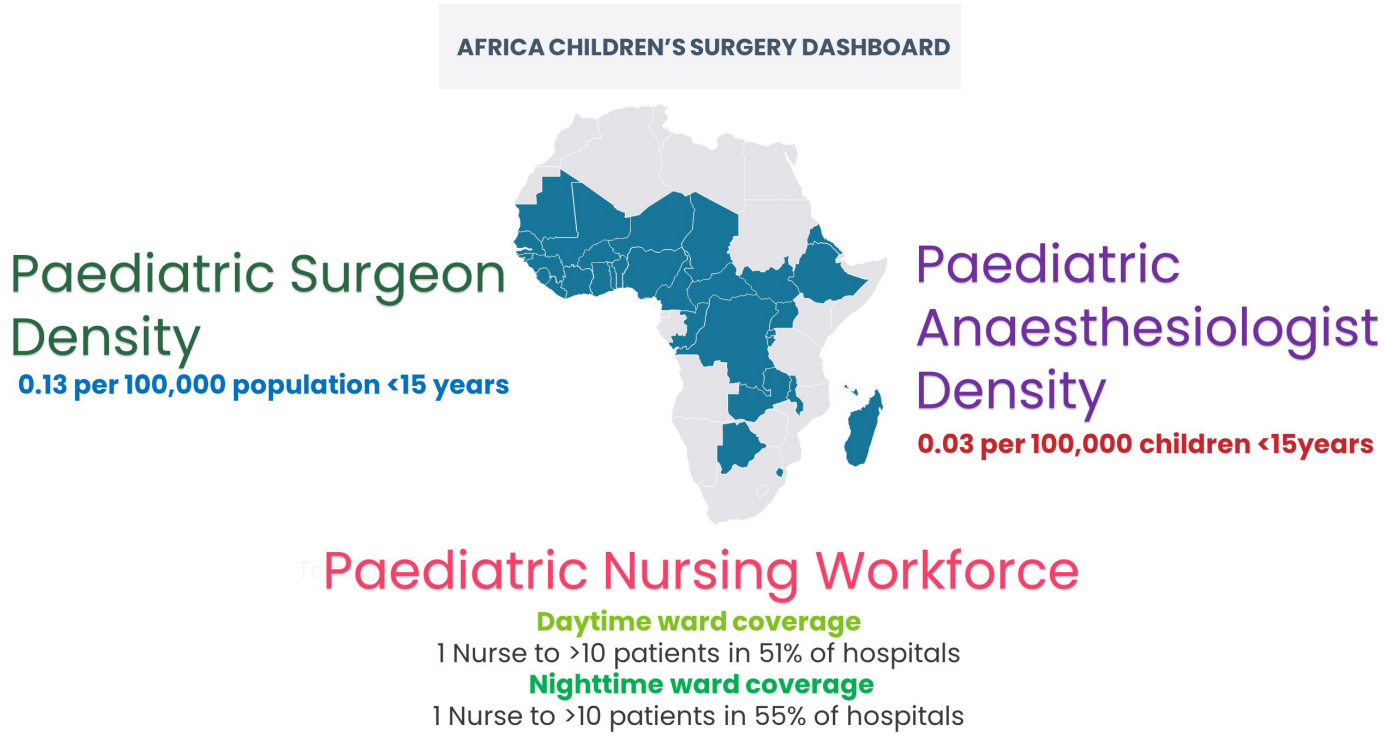
9-CHILDREN'S SURGERY

Healthy life expectancy in Africa has seen a dramatic increase and the most notable recorded in the regions of the world - from 50.9 to 53.8 years - between 2012 and 2015. This indicator confirms that the state of health of the populations of the countries of sub-Saharan Africa has improved considerably. Unfortunately, this progress is not uniform. It varies from one country to another, and even within the same country, but also and above all according to socio-economic categories and population groups. Getting treatment remains a major challenge for many Africans on a daily basis. Access to basic health care stays a luxury for the most underprivileged strata, especially women and children.

Despite the progress made in maternal and child health, characterized by a significant reduction in the number of deaths of mothers and children under the age of 5 (12.5 million in 1990 to 5.2 million in 2019), the development and organization of certain types of care dedicated to children are still at an "embryonic" stage in Africa. This is the case for children's surgery.

In Africa, according to the 2015 report of the 'Lancet Commission on Global Surgery', five billion people in the world do not have access to safe, timely and affordable surgical care. Of this 5 billion, 1.7 billion are children and adolescents, with nearly two-thirds of them living in low- and middle-income countries. A significant proportion live in sub-Saharan Africa where up to 40 - 50% of the population are children and adolescents.
There is only little data on neonatal and children's surgery in this part of the continent and children's surgical care does not always appear in national health strategic plans and child health policies.

Basic surgical care must absolutely be included in child health programs. Otherwise, this population will be condemned to invalidity or death. This is why, in the baseline assessment to identify gaps in access to surgical, obstetric and anaesthesia care, a section was included on the situation of children's surgery in the 601 district hospitals of the 32 countries of sub-Saharan Africa enrolled in the study.



The baseline assessment showed that 1 in 3 countries (10 countries out of 32 / 31.25%) did not have a referral hospital for children. Of 581 hospitals that reported having beds for patients in obstetrics (43.2%), general surgery (44.8%), only 12% had beds for children's surgery.

The baseline assessment showed that 70.1% of district hospitals had no dedicated operating rooms for children's surgery and ***79.2% of district hospitals had no paediatric intensive care units [****figure 1****].***

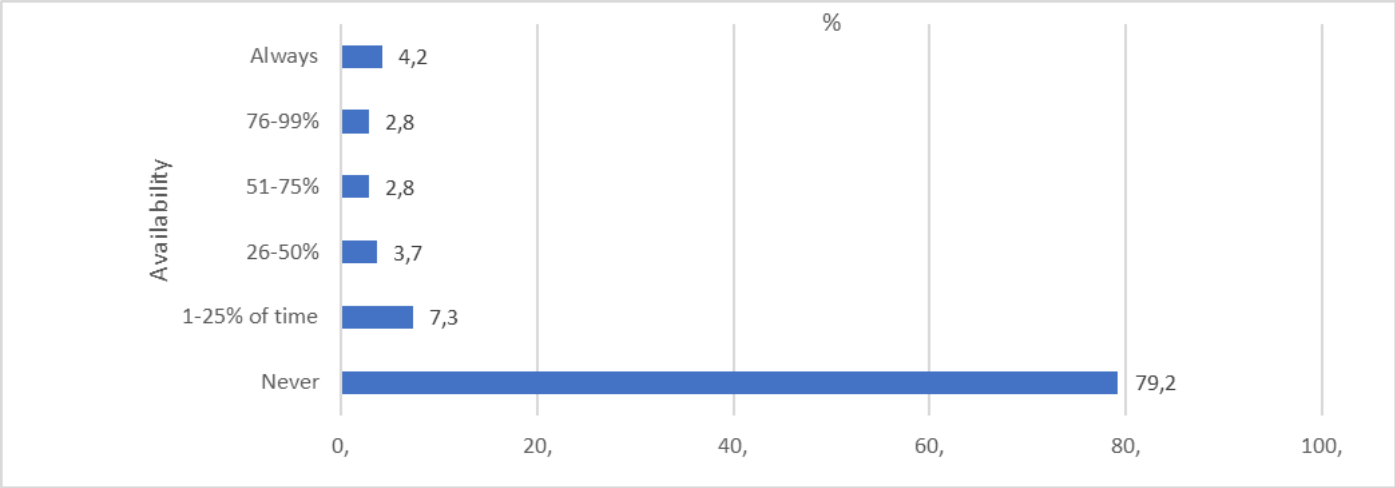


Figure 1: Availability of Paediatric Intensive Care Unit

The availability of an operating theatre for children is profitable because it reduces the waiting list and the significant financial cost for families with children who cannot be operated on time and in the best conditions.
The density of paediatric surgeons was 0.13 per 100,000 children under 15 years old. This density is well below the recommended benchmark of 1 paediatric surgeon for 100,000 children under 15 years old.
The nurse / paediatric patient ratio during the day is 1 nurse for over 10 patients in 51% of district hospitals, while at night, the same ratio applies to 55.1% of district hospitals.
The lack of health human resources has an impact on access to care, including surgery, especially in regions where it is estimated that 85% of children will develop a treatable surgical condition before the age of 15 years.

Regarding surgical volume, in 2019, in 419 district hospitals, a total of 31,881 surgical operations were performed on children aged 0 to 14 years (representing 45.3 operations per 100,000 children <15 years). In 2020, 41,211 surgeries were performed in 427 district hospitals, an average of 24 per hospital per quarter, while in the first quarter of 2021, 11,950 surgeries were performed in 445 hospitals, an average of 27.

Of 601 district hospitals, 589 (98.0%) could safely perform herniotomy, while 192 (32.0%) and 301 (50.1%) respectively, could safely perform colostomy and emergency paediatric laparotomy. The costs of these surgical procedures are very high and inaccessible for the populations covered by district hospitals. The average cost of a colostomy was USD 67.1, while that of an emergency laparotomy was USD 78.7 and that of herniotomy USD 51.2.

The average cost of a laparotomy with 7 days of hospitalization, laboratory examinations, standard radiology and a blood transfusion cost is approximately USD 168.3. The cost of the laboratory services most commonly used for surgical management increases the bill for care (out-of-pocket payment for care by patients). Full blood count is at an average cost of USD 5.32 while chest X-ray costs USD 8.29.

Of 601 district hospitals assessed, 158 (26.3%) could provide blood within two hours to the patients, 146 (24.3%) could not provide blood within two hours (in 76 - 99% of cases), while 23 (3.8%) could not provide blood at all.

In most countries, health insurance is still embryonic. Health insurance covers on average 7.5% of the population, leaving the majority of the population in charge of their own out-of-pocket payments in the cost recovery system. This situation contributes to the impoverishment of the populations and makes them more vulnerable.

The great misery of sub-Saharan Africa

Sub-Saharan Africa has the highest unmet need for surgical care in the world, with 41 million cases per year (29% of global unmet need). Congenital anomalies account for 9% of surgical disease burden worldwide. An estimated 2.6 million children are born with a birth defect in sub-Saharan Africa each year.

WHO emphasizes the low priority generally given to the needs of children in many health systems in Africa because resources are insufficient and the knowledge, skills and equipment needed for surgical care are out of reach. Children's surgery has not yet been adequately integrated in national health policies and strategies despite children and adolescents representing up to 50% of the population.
It is therefore urgent for African countries to invest in children's surgery. For example, repairing an inguinal hernia in children is like giving a tetanus shot or treating a child with an episode of malaria in terms of disability-adjusted life years (DALYs).

To achieve the objective of health coverage of 80% of surgical care by 2030, emphasis must also be placed on the intensification of neonatal and primary care on the African continent which accounts for the largest share of the burden of surgical diseases.

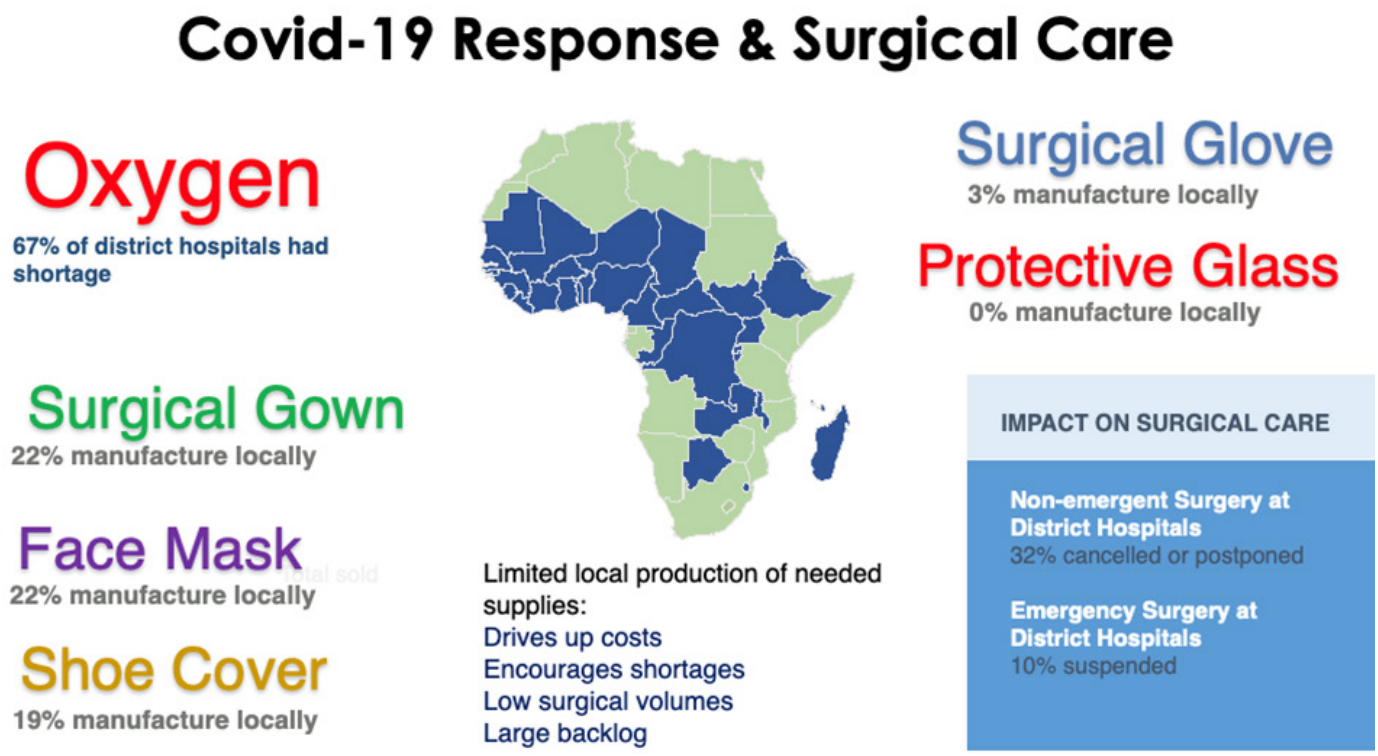
10-CORONAVIRUS AND SURGICAL CARE

Appearing at the end of 2019 in China in the city of Wuhan, in the province of Hubei, the Covid-19 pandemic was caused by an emerging virus, SARS-Cov-2. At the end of February 2020, Africa reported its first cases in Egypt and then in Nigeria. On 11 March, 2020, the pandemic was declared by the World Health Organization. As it expanded and had a multidimensional impact, the Covid-19 pandemic exposed the weaknesses, fragility and disorganization of the health systems of the majority of African countries.

European countries, the United States of America and other advanced countries that were believed to have a flawless health system were also put to the test. States and International Organizations found themselves facing an unprecedented health crisis, in particular because of its impact on the economic and national health systems. States were weakened and international organizations were working in disorganized order in the face of the pandemic.

The baseline assessment looked at three key elements in the context of this pandemic:

- The supply of oxygen in the medical care of patients with Covid-19;
- The local manufacture of Personal Protective Equipment (caps, masks or face shields, gloves, medical protective glasses, surgical gowns) necessary to protect healthcare professionals in the response to the pandemic;
- The impact of Covid-19 on hospital emergency services.



1.The supply of oxygen in the medical care of patients with Covid-19

The baseline assessment showed that 87.5% of countries produced medical oxygen locally. Despite this, 67.2% of district hospitals experienced disruptions in the supply of oxygen in the medical care of patients with Covid-19.

2.Local manufacture of Personal Protective Equipment

The baseline assessment showed that 15% of Personal Protective Equipment (PPE) was locally manufactured. This equipment was always available in 25.8% of district hospitals and 35.8% in operating rooms. PPE came mainly from the government (86.8%)

3.The impact of Covid-19 on hospital emergency services

During the Covid-19 pandemic, emergency services were affected. 32.3% of elective surgeries were cancelled or postponed while 10.3% of emergency surgeries were suspended.

Faced with the Covid-19 pandemic and its impact on surgical care, the Global Alliance for Surgery, Obstetrics, Traumatology and Anaesthesia (G4 Alliance), as well as the Ministries of Health of Fiji and Malaysia had made recommendations in 2020 for elective surgery in developing countries to safely resume after the Covid-19 pandemic. Various countries and organizations subsequently established their own contextualized approaches to the gradual resumption of elective surgical services.

PPE and Surgery

The Covid-19 pandemic has exposed surgeons to hazardous working conditions, imposing the need for personal protective equipment (PPE) use during surgery.
The use of PPE impacts the surgeon's performance, the sensation of being protected, non-technical skills execution, sense of well-being, and ultimately, influence on surgical decision making. This equipment (gowns, aprons, gloves, face shields, goggles, outer foot coverings, head coverings, surgical masks, filtering face-piece respirators and powered air-purifying respirators) are needed for safe surgery for the patient and the surgeons and his team and other Covid-19 requirements like hand hygiene for infection prevention and control.

Many healthcare facilities in most of the African countries are inadequately resourced which has an impact on optimal surgical procedures.

Personal protective equipment (PPE) is paramount to protect Health workers from contracting the virus and becoming disease carriers. Basic recommended PPE for trauma surgery staff in Africa include a surgical mask or better for all personnel interacting with patients and in the operating room (including cleaning staff) and the face mask for all staff in close contact with the patients; these recommendations are suitable for high-resource settings but are less feasible in low-resource settings.

Inconsistencies regarding the use of appropriate personal protective equipment (PPE) have raised concerns for the safety of surgical staff as well as during the coronavirus disease 2019 (COVID-19) pandemic.

Donning and doffing of PPE must be carried out in a controlled and methodical fashion, especially during surgical emergencies where the risks of contamination and infection of surgical staff are greater. Donning and doffing must always be methodical and supervised by another staff member, especially during surgical emergencies.
Surgical departments must ensure that their staff receive formal training in the correct use of PPE.

11-RECOMMENDATIONS

Despite reported advances in healthcare, including surgery, obstetrics and anaesthesia, Africa continues to face a wide range of challenges. The baseline assessment conducted in various African countries underscore the escalating health and socio-economic risks faced by both healthcare workers and the population.

The findings from this assessment reveal a significant portion of African country residents lacking access to timely, quality, safe, and affordable surgical, obstetric, and anaesthesia care. Addressing this predicament is imperative, necessitating a concerted effort to tackle the issues in accordance with recommendations aligned with key foundational pillars, encompassing children's surgery, the aftermath of COVID-19, healthcare and service delivery, infrastructure, leadership and governance, financing, and human resources.

In 2015, Dr. Jim Yong Kim, the former President of the World Bank, emphasized the essential and indivisible nature of surgery within healthcare.

The integration of surgical care and anaesthesia should be an integral part of national health systems in all countries at all levels of development. The provision of surgical services is fundamental to achieving local and global health goals in areas as diverse as cancer, injuries, cardiovascular disease, infections, and reproductive, maternal, newborn and child health. Achieving Universal Health Coverage and the health-related aspirations articulated in the post-2015 Sustainable Development Goals depends on ensuring accessible, safe, timely and affordable surgical and anaesthesia care.

With the year 2030 drawing near, a mere decade away, a collective synergy of endeavors must be set into motion by healthcare stakeholders throughout Africa. This collective endeavor is indispensable in guaranteeing that the entire population gains access to timely, quality, safe, and affordable surgical, obstetric, and anaesthesia care.

In Sub-Saharan Africa, an urgent requirement arises for a renewed commitment to leadership, emanating from African governments, political leaders, pivotal stakeholders at local and national levels, as well as healthcare professionals, in order to ensure universal access to premium surgical services. Political leaders and governments hold a pivotal role in allocating adequate resources for the procurement and upkeep of medical equipment, infrastructural development, and the training of healthcare professionals.

At the international level, the development of new partnerships for Africa, in line with the Global Surgery 2030 agenda, is essential to provide the necessary technical, financial and logistical support to advance the cause of Universal Health Coverage and the health-centred goals articulated in the post-2015 Sustainable Development Goals.

Mandela's long journey towards freedom is intertwined with the pursuit of reduced poverty and a healthier Africa.

The Twenty-One recommendations to change the situation

Surgical care system strengthening

Leadership & Governance

(1) Develop, revise or fund existing NSOAPs and ensure their implementation before the end of 2024.
(2) Expand training and use of the WHO Surgical Safety Checklist by the end of 2025.
(3) Create a special national fund to support research and training in the field of surgery, obstetrics and anaesthesia at the health district level within the framework of the implementation of the national plan for surgical, obstetric and anaesthesia.
(4) Domesticate and implement the Regional Action Plan 2022-2030 of the Dakar Declaration on access to equitable, affordable and quality essential surgical, obstetric and anaesthesia care by 2030 in Africa.

Health Information Management

(5) Set up a local collective, robust and functional information system based on performance analysis and audits at the health district level.
(6) Establish regular and effective perioperative morbidity and mortality tracking systems at district hospitals, with ongoing support for outcome and quality improvement.
(7) Ensure reliable and accessible internet connectivity at district hospitals to support and facilitate knowledge and skills acquisition, information sharing as well as effective communications within health teams and patients and their families.

Human Resources for Surgical, Obstetric, Anaesthesia and Nursing Care

(8) Adopt policies, strategies and development plans for human resources in health at the health district level, focusing in particular on the three elements: train, attract, retain and motivate.
(9) Given the severe shortage of specialized surgical, anaesthesia and obstetric staff, non-specialist physicians and general practitioners should be given the right training to provide emergency and essential surgical and anaesthesia care at district hospitals.
(10) Perioperative nursing training should be strengthened and scaled up urgently, to support the delivery of safe surgical care and improve outcomes.

Health Financing

(11) Set up or guarantee access to health insurance for the entire population and mutual insurance companies, in particular for the most vulnerable and disadvantaged.
(12) Develop innovative and sustainable in-country financing mechanisms for healthcare to support financial risk protection.
(13) Accelerate the implementation of the Abuja Declaration of 2001.

Healthcare and Services Delivery

(14) Strengthen systems for making safe blood transfusion available to patients, at all times. Improve the infrastructure platforms (at least one operating theatre equipped with water, electricity, oxygen and air conditioning, available at all times) for the delivery of surgical and anaesthesia care at the level of each district hospital.
(15) Scale up the volume of safe emergency and essential surgical procedures provided at district level hospitals.

Infrastructure

(16) Make available local production of oxygen supply, guarantee backup systems for portable water and electricity.
(17) Have an equipment maintenance team in place at the health district level.
(18) Establish a supply system, with a management team in place to ensure the availability of quality medical products at the health district level.

Areas to pay special attention

Children's Surgery

(19) Integrate children's surgery into national health policies and strategies, including the National Plan for Surgical, Obstetric and Anaesthesia Care.
(20) Establish at least one reference hospital for children - university centre to facilitate teaching, training and research on children's health as well as health services, including surgical, medical, obstetric and anaesthesia care for children.

Coronavirus and Surgical Care

(21) Implement national recommendations for the safety of «emergency and non-emergency» surgical activities even in the event of a pandemic by strengthening, through training for the use of the WHO safe surgery checklist, control measures for infection in the operating environment and the availability of personal protective equipment.

Africa Surgical Indicators: situation in 2022 and recommended by 2030

Indicator	Recommended	Africa Situation	Remark
*SAO Density	At least 20/100,000 Population in 100% of countries	1.47/100,000 Population	Anaesthesia: 0.14/100,000 Population
2Hour Access	80% of patients by 2030	50 – 99% in 57% of hospitals	<50% in 30.1% of hospitals
Surgical Volume	80% by 2020, 100% by 2030, 5000 per 100,000 population	121.4 per 100,000	No surgery in 16 hospitals (3.1%)
Perioperative Mortality Tracking	80% by 2020 and 100% by 2030	35.8%	
Financial Risk Protection	100% by 2030	Health insurance coverage: 5% median	0 – 39% 33.3% entirely out of pocket

*SAO: Surgeons, Anaesthetists, Obstetricians

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DAKAR DECLARATION

Access to equitable, affordable, and quality Surgical, Obstetric and Anesthetic Care by 2030 in Africa

"No universal health coverage without surgical coverage"

Dakar, Senegal – May 30,2022

PREAMBLE

The draft Dakar Declaration was generated during the International Symposium on Strengthening Surgical, Obstetric and Anaesthesia Systems that took place in Dakar from 4 to 6 May 2022.

This International Symposium held under the high patronage of H.E Macky Sall, President of the Republic of Senegal and Chairperson of the African Union, chaired by Abdoulaye Diouf Sarr, Minister of Health of Senegal and organized by the Government of Senegal and Mercy Ships in close collaboration with the WHO Regional Office for Africa, and in partnership with the International NGO Smile Train, the Program Global Health Surgery and Social Change Harvard University Medical School Cambridge, West African College of Surgeons, College of Surgeons of East, Central and Southern Africa, Mc Gill University, the International Organisation Lifebox , the Royal College of Surgeons in Ireland and the South African Development Community Regional Collaboration Centre for Surgical Healthcare.

The International Symposium was organized in two parts:

(1) The Experts' Meeting held on May 4 and 5 and chaired by Dr Marie Khemesse Ngom Ndiaye, Director General of Public Health representing Mr Abdoulaye Diouf Sarr, Minister of Health and Social Action of Senegal and Dr Pierre M'Pelé, Mercy Ships Regional Director for Africa on behalf of Mr Gert van de Weerdhof, CEO of Mercy Ships.

(2) The African Health Ministers' Meeting on 6 May 2022 chaired by Mr Abdoulaye Diouf Sarr, Minister of Health and Social Action of Senegal.

A baseline assessment on access to Surgical, Obstetric and Anesthetic care was carried out to provide objective data to inform policy making. The assessment was planned to be conducted in all 47 countries, taking a sample of 850 district hospitals to represent 20% of the 4271 health districts in the WHO Africa Region.

At the time of the International Symposium, data was available for 28 countries in the WHO African Region in 609 district hospitals in the first quarter of 2022. The data collected provided enough information for the analysis, However, this assessment is still ongoing in 19 countries and will be completed by May 25, 2022.

The participants acknowledged the outstanding support of the WHO Regional Office for Africa in conducting the baseline assessment and providing technical support to the Experts' Meeting in accordance with the collaboration agreement signed on August 28, 2018, between the WHO Regional Office for Africa and Mercy Ships.

The Experts' Meeting participants identified and agreed on the main findings, formulated priority recommendations, proposed a roadmap for the scaling up and investment in the strengthening of

surgical, obstetric, Anaesthesia and nursing care in Africa and developed a draft Declaration for the Ministers of Health meeting in Dakar on May 6, 2022.

The Ministers of Health, Heads of Delegation and Representatives of Benin, Burundi, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Comoros, Côte d'Ivoire, Ethiopia, Eswatini, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Madagascar, Mali, Malawi, Mauritania, Niger, Nigeria, Senegal, Seychelles, Sierra Leone, South Sudan, Uganda and Togo; the Minister of Health of Somaliland as observer attended the African Ministers of Health Meeting.

The objectives of the African Ministers of Health Meeting were to discuss and adopt, submitted to their attention by the Experts: (i) The draft of the Dakar Declaration on the access to equitable, affordable and quality surgical, obstetric and anaesthesia care in Africa, and (ii) the draft of the Regional Actions Plan 2022-2030, roadmap for the scaling up and Investment in surgical, obstetric and anaesthesia systems strengthening in Africa by 2030.

The International Symposium participants thanked the Government of Senegal for the warm welcome and hospitality, as well as for its availability and commitment to the organization of the International Symposium. They also thanked the International Non-Governmental Organization Mercy Ships for the technical and financial support in the realization of the Baseline Assessment and for the organization of the International Symposium.

The African Ministers of Health submit to the high attention of the African Heads of State who will meet in Dakar on May 30, 2022 the draft Declaration on access to equitable, affordable and quality Surgical, Obstetric and Anesthetic Care by 2030 in Africa "The Dakar Declaration", and the roadmap for the scaling up and Investment in surgical, obstetric and anaesthesia systems strengthening in Africa by 2030.

DAKAR DECLARATION
on access to equitable, affordable and quality Surgical, Obstetric and Anesthetic Care by 2030 in Africa

1.We, the Heads of State from Comoros, Guinea-Bissau and Senegal and Representatives of Heads of State from Cameroon, Congo and the Gambia, met in Dakar, Republic of Senegal on the occasion of the "Africa Celebration" that commemorates the 30 years of Mercy Ships working in Africa and organized by the Government of Senegal and Mercy Ships in close collaboration with the WHO Regional Office for Africa, and in partnership with the International NGO Smile Train, the Program Global Health Surgery and Social Change Harvard University Medical School Cambridge, West African College of Surgeons, College of Surgeons of East, Central and Southern Africa, Mc Gill University, the International Organization Lifebox, the Royal College of Surgeons in Ireland and the South African Development Community Regional Collaboration Centre for Surgical Healthcare.

2.We acknowledge the global burden of disease amenable to surgical care, as highlighted by the adoption of the World Health Assembly resolution WHA68.15 to strengthen Emergency and Essential Surgical Care and Anaesthesia as a component of Universal Health Coverage (UHC) and the follow up decision WHA70(22); and the work of the Lancet Commission on Global Surgery (2015). The Sustainable Development Goal 3, especially 3.8 on universal health coverage, including financial risk protection, by 2030 as well as targets 3.1 and 3.6 on maternal mortality and road traffic accidents.

3.We also acknowledge the support that the International Non-Governmental Organization « Mercy Ships » has provided since 1990 in promoting safe surgery in Africa, bringing hope and healing, and transforming the lives of the African people.

4.We also recognize the significant progress that has been made over the past two decades in terms of (a) Expansion of surgical services, (b) Expansion in surgical skills capacity and increases in local training of specialists in surgery and related disciplines, (c) Increased availability of National Policies and Strategies on country surgical obstetric Anaesthesia intentions towards achieving the Sustainable Development Goals and the potential to develop same in even more countries, (d) Increased availability of data on impactful surgical conditions and services with an expanding use of Information & Communications Technology and electronic medical records systems, and (e) Increasing availability of services at district level in several countries.

5.We acknowledge the challenges identified by assessments of the ongoing challenges to universal health coverage from deficiencies in surgical, obstetric, anesthetic and related care due to (1) Workforce deficits in the core human resources needed for surgical services, (2) Significant infrastructure and equipment deficits and disparity within countries, (3) Lack of service delivery due to weaknesses in the core and support services required to deliver safe, surgical care , (4) Challenges of financing surgical, obstetric and Anaesthesia services as part of national health strategies, (5) Lack of regulation and governance structures for surgical care at all levels, (6) Information, (7) Inadequate health promotion and prevention efforts on the causes of morbidity and mortality from surgical and related conditions, (8) Leadership and management of surgical, obstetric and Anaesthesia care.

WE SOLEMNLY DECLARE AS FOLLOWS

6.WE CALL UPON all Nations of the Africa Region, key national and international partners, and stakeholders in surgical safety to commit the implementation of the 12 urgent actions needed as per annex 1 of this declaration.

7.WE COMMIT to involve Governments, Legislatures, Ministries of Health, Ministries of Finance, and supported by key stakeholders including educators, trainers, and mentors of surgical, obstetric and Anaesthesia workforce, professional health associations and societies, academic institutions, local and international partners, health professions regulating bodies, civil society, and patient advocacy groups.

8.WE COMMIT OURSELVES for the scaling up and investment in the Strengthening of Surgical, Obstetric and Anaesthesia Care in Africa towards the implementation of the Regional Action Plan 2022-2030.

9.WE RECOGNIZE that surgery has been a neglected component of national health systems and that Nations share common challenges including infrastructure, human resources, financing, and strategic vision.

10.WE COMMIT OURSELVES towards meeting the target of the Abuja Declaration in allocating 15% of a national budget to health.

11.WE COMMIT OURSELVES to advocate for the creation of a regional fund (similar to the Global Fund for AIDS, Malaria and Tuberculosis) to boost resource mobilization to strengthen access to Surgical, Obstetric and Anaesthesia Care.

12.WE COMMIT to implement the 2022-2030 roadmap with its strategic priorities, key indicators and dashboard as per the annex 2 of this declaration.

13.WE ENDORSE the conclusions of the 28 African Ministers of Health of the WHO Africa Region meeting in Dakar, Republic of Senegal, on May 6th, 2022 and the setting-up of an African Scientific Working Group to oversight the implementation of the Regional Action Plan.

14.WE EXPRESS our deep gratitude to H.E. Macky Sall, President of the Republic of Senegal and Chairperson of the African Union for his visionary leadership and strong involvement; and WE HUMBLY REQUEST him to bring forward to the ordinary session of the African Union the important agenda on equitable, and affordable and quality Surgical, Obstetric and Anesthetic care in Africa to make it a key priority for the African Union.

15.WE COMMIT OURSELVES to gather every two years between now and 2030 to assess progress, to exchange ideas and innovations, and to share experience between and among countries.

16.WE MANDATE, H.E. Macky Sall, President of the Republic of Senegal, in his capacity as Chairperson of the African Union, to prioritize this agenda by making it a priority topic during the consultations between African Union and the G20 and G7 as well as with other strategic partners such as China, Turkey, European Union, Japan, Australia, Canada, India, etc.

Dakar, Republic of Senegal
May 30th, 2022

REGIONAL ACTION PLAN 2022-2030

TWELVE (12) URGENT ACTIONS NEEDED

1.Urgently expand core and support services workforce needed to provide safe surgical care and expand pre- and post-service trainings and professional development programs;

2.Urgently increase health infrastructure and equipment that enhances access to good quality and safe surgical care for our population especially the most vulnerable and deprived communities;

3.Improve the financial investment into expanded surgical services and that improves access and reduces financial barriers, and removes risk of financial impoverishment for vulnerable groups including children, women and the disabled;

4.Establish structures to improve governance, leadership, and management of surgical, obstetric, anesthetic, and related services as part of Universal Health Coverage;

5.Engage with communities to prevent the causes of morbidity and mortality related to surgical and related conditions and the promotion in our populations of healthy lifestyles;

6.Streamline actions to relieve our populations of the high disease burden posed by surgical, obstetric, and anesthetic deficiency;

7.Mobilize resources from domestic and external sources to expand necessary investments into surgical services and achieve financial risk protection from accessing surgical, obstetric and Anaesthesia services;

8.Build workforce capacity through training programs and mentoring, to increase essential surgical procedures and interventions in each country by 2030;

9.Improve health information systems to facilitate the use of surgical data for innovation and improvement of surgical services;

10.Create and expand regional, national, and international partnerships for both technical and resource mobilization;

11.Incorporate gender equity into National Surgical, Obstetric, Anaesthesia Plans with clear indicators;

12.Integrate essential surgical, obstetric and Anaesthesia interventions, indicators, and budgets into national health sector policies, strategies, and plans.

SIX (6) STRATEGIC PRIORITIES AND SIXTEEN (16) KEY INDICATORS

1.Governance & Leadership: National Health Strategy, National Surgical, Obstetrics and Anaesthesia Plan
-100% of countries should have launched NSOAP and commenced implementation;
-Annual National Surgical meeting for countries to report and track progress;
-Setting up of Africa Scientific Task Force for capacity building, support to implementation and monitoring and evaluation of progress.

2.Human Ressources
-At least 50% of hospitals should have surgical/obstetric and Anaesthesia provider 24/7

3.Infrastructure
-100% should have functional operating rooms
-100% should have oxygen available 24/7
-100% availability of pulse oximetry in operating rooms

4.Service Delivery
-At least 50% 2hour access to facility with surgical care
-100% 2hour access to safe blood supply
-100% use of safe surgery checklist
-At least 50% of hospitals should have IPC programs
-100% tracking of perioperative mortality

5.Health Information and Research
-100% should have reliable and durable health record system
-50% should have electronic health record system

6.Finance
-50% financial risk protection for surgical care
-Funding provided for research in 100% of hospitals

DASHBOARD

1.Governance and Leadership: National Surgical, Obstetric and Anaesthesia Plan, Annual National Surgical Meeting.
2.Human Resources –24/7 availability of surgical, obstetric and Anaesthesia provider
3.Infrastructure – Functional Operating Rooms, Permanent access to Oxygen, Pulse Oximetry availability
4.Service Delivery – Access to care, Blood delivery, Use of the WHO surgical safety checklist, Peri-operative Moratlity Rate, Infection Control and Prevention Programme
5.Children surgery – Emergency and essential surgical care, pediatric surgeons, pediatric anesthetist, Children's Operating Rooms.
6.Finance – Financial Risk Protection

International Symposium on Surgical, Obstetric and Anaesthesia Systems Strengthening by 2030 in Africa

Experts meeting : 28 countries Dakar,Senegal 4 - 5 May 2022
Ministers of Health meeting : 28 countries 6 May 2022
Heads of State summit : 6 countries, Dakar, Senegal 30 May 2022

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REFERENCES

1. The NSOAP manual. https://www.globalsurgeryfoundation.org/nsoap-manual (accessed June 27 2023).

2.National Surgical, Obstetric and Anesthesia planning. https://www.pgssc.org/national-surgical-planning (accessed June 27, 2023).

3.Gyedu A, Stewart B, Gaskill C, et al. Improving Benchmarks for Global Surgery: Nationwide Enumeration of Operations Performed in Ghana. Ann Surg. 2018 ;268 :282–288.

4.Mock CN, Donkor P, Gawande A, et al. Essential surgery: key messages from Disease Control Priorities, 3rd edition. Lancet. 2015; 385:2209–2219.

5.World Health Organization Africa. Atlas of African Health Statistics 2014: Health situation analysis of the 1frican Region, Brazzaville, 2022, 205 pages.

6.Available from: https://www.afro.who.int/publications/atlas-african-health-statistics-2014-health-situation-analysis- african-region. (accessed October 25th, 2022).

7. Christie SA, Nwomeh BC, Krishnaswami S, Yang GP, Holterman A-XL, Charles A, et al. Strengthening Surgery Strengthens Health Systems: A New Paradigm and Potential Pathway for Horizontal Development in Low- and Middle-Income Countries. World J Surg. 2019 Mar; 43(3):736–43.

8. World Health Organization. The World Health Report: Financing Universal Coverage, 2010, 120 pages.

9. World Health Organization African Region. Monitoring Universal Health Coverage in the African region, 2022, 54 pages.

10.Murray CJL, Ortblad KF, Guinovart C, Lim SS, Wolock TM, Roberts DA, et al. Global, regional, and national incidence and mortality for HIV, tuberculosis, and malaria during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet. 2014 Sep 13;384(9947):1005–70.

11. Kruk ME, Gage AD, Arsenault C, Jordan K, Leslie HH, Roder-DeWan S, et al. High-quality health systems in the Sustainable Development Goals era: time for a revolution. Lancet Glob Health. 2018 Nov 1;6(11):e1196–252.

12. Meara JG, Leather AJM, Hagander L, Alkire BC, Alonso N, Ameh EA, et al. Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development. The Lancet. 2015 Aug 8;386(9993):569–624.

13. Mullapudi B, Grabski D, Ameh E, Ozgediz D, Thangarajah H, Kling K, et al. Estimates of number of children and adolescents without access to surgical care. Bull World Health Organ. 2019 Apr 1;97(4):254–8.

14. World Health Assembly. Strengthening emergency and essential surgical care and anaesthesia as a component of universal health coverage [Internet]. World Health Organization; 2015 [cited 2020 Dec 9]. Available from: https://apps.who.int/gb/ebwha/pdf_files/WHA68/A68_R15-en.pdf

15.World Health Organization. Declaration of Astana: Global Conference on Primary Health Care: Astana, Kazakhstan, 25 and26 October 2018. https://apps.who.int/iris/rest/bitstreams/1251618/retrieve (accessed October, 25th, 2022).

16.Sambo LG, Shatora RR and Goosen ESM. Tools for assessing the functionality of the health districts system. https://1library.net/title/tools-assessing-operationality-district-health-systems (accessed October 25th, 2022).

17. Africa Union Commission. Agenda 2063, the Africa we want. Agenda 2063: The Africa We Want. | African Union (au.int). (accessed 28 June 2023).

18.The Abuja declaration: Ten years On. World Health Organization. Geneva; 2011. https://apps.who.int/iris/bitstream/handle/10665/341162/WHO-HSS-HSF-2010.01-eng.pdf (accessed 28 June 2023).

19. WHO Africa. The state of health in the WHO African Region. Where we are, where we need to go. https://www.afro.who.int/publications/state-health-who-african-region (accessed 28 June 2023).

20. M'pele P, Seyi-Olajide JO, Elongo T, Lemvik J, Dovlo D and Ameh EA (2023) From research to a political commitment to strengthen access to surgical, obstetric, and anesthesia care in Africa by 2030. Front. Public Health 11:1168805. doi: 10.3389/fpubh.2023.1168805

21. G4 Alliance in collaboration with the Ministries of Health Fiji and Malaysia: Recommendations for the safe resumption of non-urgent surgical cases in low- and middle-income countries after the COVID-19 pandemic (DRAFT), 2020, 15 pages

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The West African College of Surgeons

The West African College of Surgeons is a professional organization established at the University of Ibadan on 3 December 1960 with the aim to promote education, training, examinations and research in surgery in Africa. The college is the first organization to organize surgical subspecialty training in the region. It awards diploma of fellowship in surgery and is one of out of two bodies that accredits institutions to train surgical residents in member countries. The college consists of seven faculties : Anaesthesia - Dental Surgery - Obstetrics &Trauma; Gynaecology – Ophthalmology – Otorhinolaryngology – Radiology - Surgery.

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