

AFRICAN PATHOLOGISTS SUMMIT (APS)

Dakar, Senegal

March 22 - 23, 2013

SUMMARY OF DELIBERATIONS

The APS was held in Dakar, Senegal from March 22 to 23, 2013. The goal of the conference was to deliberate on the challenges and constraints faced by the African pathologists in the practice of pathology including the impact of the lack of / inadequate infrastructure, inadequate personnel (pathologists and technical personnel) and the lack of / poor funding for simple things such as reagents etc.

It was hoped that the deliberations would result in the development of a framework that will allow an effective and comprehensive tackling of the issues affecting pathology in Africa. The deliberations were, therefore, focused on the following issues:

- (i) How to update the knowledge base of practicing pathologists in a sustainable way.
- (ii) How to enhance the quality of training of current pathology trainees and technical staff.
- (iii) Addressing the need for training in appropriate new technologies when relevant to the level of practice,
- (iv) Addressing the need for continuous quality improvement and quality assurance, and
- (v) Addressing the need for advocacy to both private funding agencies (local and international) and government / ministries of health.

There was a consensus that strategies are needed for:

- (a) Improving pathology diagnostic service with definition of modalities for ensuring uniform standards across all regions,
- (b) Developing regional educational training programs both in basic clinical knowledge and research techniques / methodology with awareness of the need to effect knowledge transfer with application of newer technologies, and
- (c) Developing clinical and translational research that will produce appropriate information critical for policy making decisions

It was agreed that pathologists in sub-Saharan Africa **must pull together and leverage available resources. This** is embodied in the theme of the conference which was **“Building international and local bridges in pathology”**

In addressing the stated objectives, a two pronged approach was adopted. The **first approach** was to have key individuals with practice experience in the various African regions present information on the state of the art of pathology practice, postgraduate training and pathology research in sub-Saharan Africa. This was followed by presentations on the practice of pathology and the models of postgraduate training in the West (including the United Kingdom and the United States of America). There was an effort to stimulate African pathologists to strive, (inspite of the challenges) to achieve excellence in clinical practice while using locally available resources with appropriate quality assurance and quality control measures.

The **second approach** was to use the process of deliberations by breakout working groups to generate a wider scope of discussion of the issues and to generate recommendations for implementation. The working groups were given the following assignments:

- (i) Working group I - Pathology diagnostics and related issues.
- (ii) Working group II - Pathology training with emphasis on clinical training.
- (iii) Working group III - Research training and acquisition of newer technologies, and
- (iv) Working group IV - Pathology advocacy

These working groups used the information from the various presentations and the experiences of the participants to deliberate and develop working group reports with recommendations outlined in this report (see below).

**PROGRAM FOR THE AFRICAN PATHOLOGISTS' SUMMIT,
DAKAR, SENEGAL
March 22-23, 2013**

DAY I

- 8.00 - 8.15am** **Welcome to Dakar - Serigne Magueye Gueye / Lynn Denny**
- 8.15 - 8.45am** **Keynote Address:** The place of pathology in Oncologic practice from the perspective of a clinical oncologist - **IF Adewole**
- 8.45 - 9.15am** **Setting the agenda: Adekunle Adesina***
- 9.15 - 10.00am** **Defining and maintaining the standard - a case for quality assurance in diagnostics and developing a state of the art in pathology diagnostics:**
(i) Current state of practice - the resource poor African pathology experience - **Shaheen Sayed*/ Yawale Iliyasu* / Victor Mudenda*/ Wiredu**
- 10.00 - 10.30am** **Break**
- 10.30 - 11.00am** (ii) Current state of the practice - experience in the non-resource poor environment - **Adekunle Adesokan**
- 11.00 - 11.45am** (iii) Defining the practice goals in a resource poor environment without lowering standards - the nuts and bolts including tissue processing, turn around time, Pathology reporting and recommendations for tumor staging - **Jaiye Thomas-Ogunniyi***
- 11.45 - 12.30pm** (iv) Developing a quality management system (QMS) including forms, policies, procedures (SOP) and work charts (work aids), Quality indices and monitors, Proficiency testing adapted to indigenous practice - **Frances Ikpatt***
- 12.30 - 1.30pm** **Lunch**
- 1.30 - 2.00pm** (iv) International bridges for consultation and CME - INCTR model - **Nina Hurtwitz***
- 2.00 - 2.30pm** (v) Assuring quality in Pathology - **Alec Howat***
- 2.30 - 3.15pm** **Training in diagnostic pathology:**
The African experience - WACP, NPMC, COPECSA and the East African MMed models - Upgrading curriculum for postgraduate training in pathology.
Ogunbiyi*/Vuhahula/Kalebi

3.15 – 3.45pm	The Francophone experience – Mohenou Diomande
3.45 – 4.15pm	Training models I - the Royal College of Pathology experience - Kenneth Flemming*
4.15 – 4.45pm	Training models II – the ACGME perspective – Tarik Tihan
4.45 - 5.45pm	Breakout session: Raising the standard in diagnostics/training/advocacy - break out discussion I
5.45 - 6.15pm	Summary of break out session discussion groups
6.15pm	Demo of iPath - Nina Hurwitz

DAY II

Training in clinical and / or translational research

8.00 - 8.30am	(i) Communicating clinical research (what is a good paper?) - Michael Wilson*
9.00 – 9.30am	(ii) African Pathology consortium and how research may be supported - local and international grants and developing grant writing skills - Folakemi Odedina
9.30 – 10.00am	Pathology as the foundation of care: a call for action - Shahla Masood
10.00 – 10.30am	Provision and maintenance of quality pathology services - the NHLS (government provider) perspective - Sagie Pillay
10.30 - 11.00am	Break
11.00 – 11.30am	Pathology registries - the ultimate and critical tool for epidemiology and strategic planning - Timothy Rebbeck*
11.30 - 12.00pm	Closing the implementation Gap: the role of specific research proposals in advancing global health - John Flanigan
12.00 - 12.30pm	Pathology advocacy - the back bone for private and government support - the nuts and bolts including Advocacy efforts and government outreach. / Advocacy through the private sector - Rosy Emodi
12.30 - 1.30pm	Lunch
1.30 - 2.00pm	Regional bridges for pathology education - Michael Wilson*
2.00 - 2.30pm	Tissue and bio-banking in a resource poor setting - Timothy Rebbeck*
2.30 - 3.00pm	Pathologist without borders - the Italian experience - Leoncini Lorenzo
3.00 - 3.45pm	CME and maintenance of standards including the role of telepathology and use of newer technologies in training; International and regional CME conferences;

Visiting pathologists and exchange programs; Technical staff training and education - **Adekunle Adesina**

3.45 - 4.00 pm

The African IAP Assembly - an update - **Ann Nelson**

4.00 – 5.15pm

Breakout session:

Raising the standard in diagnostics/training/advocacy - break out discussion II

5.15 - 6.00pm

Closing summaries

PATHOLOGY DIAGNOSTIC WORKGROUP REPORT

This group discussed various approaches to problems facing pathology diagnostics. The objective of this group was to focus on possible changes that could be effected in sub-Saharan Africa with increase or no increase in currently available budget and with emphasis on achieving and maintaining excellent technical quality and diagnostic accuracy. The discussion was therefore, centered around three major goals:

(i) Shortening or reducing turnaround time with the goal of achieving the following TATs:

(a) small biopsy - 3 days

(b) large biopsy - 5 days.

(ii) Develop collaboration with clinicians with the goal that all pathologists should participate in tumor boards with surgical and medical clinicians.

(iii) Define minimum standards for equipment and tissue processing to ensure timely reporting and high quality diagnosis.

The discussion then followed a step-by-step progression from specimen acquisition through to final reporting. The following recommendations were agreed upon.

Step 1: specimen collection, labeling and consultation request.

(i) There should be documented technical standards for collection, identification and fixation in the form of a standard operating procedure (SOP). The SOPs should apply in the operating room, as well as the pathology laboratory.

(ii) A standardized consultation/ requisition form should be provided and should include pertinent information such as patient identification, specimen source, anatomic orientation marking, clinician identification and contact information.

(iii) Specimen containers with appropriate 10% formalin fixative should be supplied by the pathology department. Specimens should be transported by hospital personnel and not given to family members. If preservative quality is not known, all specimens should be placed in fresh 10% formalin upon arrival in the laboratory.

(iv) The minimum standard for information tracking is a logbook including patient identification, clinician information and time registration for each processing step within the pathology laboratory.

Step 2: Specimen Processing

(i) All specimens should be grossed and processed on the day of arrival in the laboratory. Delayed processing will be at the discretion of the pathologist for example to ensure adequate tissue fixation.

(ii) All grossing stations should include ventilation, natural or mechanical and a digital camera.

(iii) With adequate training, available standard operating procedures and supervision, pathology assistants can be assigned grossing duties.

(iv) Automatic processor is the minimum equipment for tissue processing for which there should be a manual back up.

(v) Embedding station, water bath and microtome are minimum equipment for which there should be back up equipment.

Step 3: Reporting

(i) Synoptic reporting supported with paper templates or, preferably, appropriate software is the minimum standard.

(ii) Reports should be distributed in a timely fashion, if necessary, by personnel controlled by the pathology laboratory. Reports should be made available to tumor boards and to the cancer registry automatically.

The following principles for raising the standards for diagnostic pathology were recommended:

(i) Every lab should be on a program to seek accreditation. Potential programs include WHO and ISO 15189; CLIA certification is generally not needed.

(ii) All laboratories should seek to maximize efficiency as measured by turn around time.

(iii) All laboratories require adequate finance and organization for procuring consumable supplies; this process should be controlled by the laboratory.

(iv) All laboratories should be involved in continuous quality improvement.

(v) Well trained, adequately supervised pathology assistants and technologists can improve quality and turnaround time. Pathologists should set training standards, standard operating procedures and oversee employment of these providers.

In view of the time constraints, some essential topics were not discussed. The following are recommended as potential (future) working group topics:

- (i) Establish technical specifications for equipment functioning in low resource environments subjected to electrical variability and without air-conditioning,
- (ii) Establish technical specifications for reagents and supplies employed in low resource environments without air-conditioning or refrigeration and subjected to electrical variability.
- (iii) Review of existing SOP's to choose those best fitted for the needs of developing countries.
- (iv) Outline specifications for an appropriate package of laboratory management and reporting software for pathology laboratories. Investigate how such can be made available as a standardized package at an affordable price.
- (v) Formation and promotion of tumor board conferences with local participation and consider participation at distance by specialist partners.
- (vi) Definition of resource appropriate equipment and diagnostic tests for laboratories functioning at basic, mid-level and advanced level. Tiers of service for specialty tests (i.e. IHC) based on processing volume.

The following are potential research topics and projects

Potential project: To develop a laboratory information database software appropriate for use in low resource settings with potential to expand when more sophisticated capacity is added.

Potential research topics include:

- (i) Impact of SOP on Diagnostic Accuracy
- (ii) Impact of improved technical specifications for equipment on reliability and turn around time.
- (iii) Impact of synoptic reporting on cancer registry and disease surveillance.

CLINICAL PATHOLOGY TRAINING WORK GROUP REPORT

The following represents a summary of the deliberations on the challenges / issues related to clinical training by the working group:

Challenges with potential to discourage the growth and sustenance of pathology:

- a) Poor remuneration, poor work environment and low standard of living of pathologists when compared to other disciplines.
- b) Pathology departments and offices are often located in the most remote and unattractive part of the hospital.
- c) Lack of subspecialty practice in many countries.
- d) Pathologists are behind the scene and the clinicians get all the perks in spite of pathologists making the diagnosis.
- e) Problems of inadequate administrative support.

Possible solutions to these challenges include:

- i) A potential solution is that pathologists need to be more proactive and sell the discipline better; we have been too quiet. Active participation and the setting up of FNA practice and clinic for example is an excellent avenue to have better interaction with patients and be visible at the forefront of patient care.
- ii) Pathologists should show better leadership, comportment and demonstrate better work ethics.
- iii) Pathologists need to be more passionate and emphasize the importance of their work. For example, when possible, pathology departments should encourage post-sophomore internship which can be used as credit towards a residency training year

Targeting potential trainees:

Inadequate personnel remains a challenge in sub-Saharan Africa. One relevant question is how can pathology be made more attractive and how can we show-case the discipline? In this regard, the following were considered:

- a) Medical School Pathology curriculum needs to be taught in the context of the clinical scenario in order that medical students can appreciate the clinical significance of the discipline. Efforts should be directed at making pathology lectures more illustrative and interactive. The impact of changing lecture style/delivery on the interest level of students cannot be overemphasized.

- b) Medical students should be encouraged to participate in autopsy sessions and in the writing of autopsy reports as part of the pathology rotation (using the autopsy as an excellent teaching tool with emphasis on clinical relevance).
- c) Instituting University awards for best students in Pathology.
- d) Encouraging or scheduling medical students' or internship rotation in pathology. (for example at the University of Ghana Korle Bu teaching hospital, the pathology department is working with the Department of Medicine and have now included a 2-3 weeks exposure to pathology during the Internal Medicine rotation in Hematology for House Officers and Interns).
- e) Pathologists need to be good passionate mentors and foster better relationships with students and residents.
- f) Encouraging the participation of medical students and residents in faculty research activities.
- g) Encouraging clinical-pathology conferences with clinicians. This is an opportunity for pathologists to showcase their role and significance in the health care system.
- h) Pathology societies/colleges should encourage the organization of scientific conferences to which good students can be sponsored.
- i) Encouraging holiday/summer internships, as well as pathology interest groups amongst medical students.
- j) Giving sponsorship or scholarship for Pathology training or clinical incentive/supplementation for residents joining Pathology residency training programs.
- k) Emphasizing training of laboratory support staff and making medical laboratory programs attractive. For example in Malawi, there is the false perception that the use of the microtome represents manual labor.
- l) Close follow-up of interested medical students after they have finished the medical school pathology course and after graduation to attract them to pathology.

Residency training issues

How do we train residents to be relevant to the environment?

- a) Ensure an objective and friendly curriculum that introduces the teaching of basic laboratory processes, emphasizing the requirement of competency and introduction to laboratory management and leadership skills.

- b) Involve residents in hospital committees. For example, acting the role of Head of Department in the final month of training by attending relevant meetings with the department chairman or chair person.
- c) Emphasize good practice, communication skills, good attitude and value as part of training.
- d) Trainers must be good mentors who are interested not only in the academic progress of their trainees but also in their quality of life and social well-being.
- e) Encourage research in relevant subjects; get them involved in simple studies that can influence day-to-day practice and quality issues.
- f) Development of objective residency curriculum with timeline: It is important to set and define training requirements, as well as set the standard of training e.g. to determine (i) number of specimens to be seen (ii) system or disease conditions to be seen, and (iii) require documentation of exposure to the use of ancillary techniques. These should come within the purview of the colleges (WACP, COPECSA) and university/regulatory bodies.
- g) Encouraging hands-on training and fostering regional collaborations.
- h) Encourage each country to have at least a laboratory with immunohistochemical techniques.
- i) Encourage the development of regional co-operation in training and research.**
- j) Define competency assessment milestones to audit residents' training, performed by faculty as well as audit of trainers by residents.
- k) Develop available teaching sets of cases of different systems and interesting cases.
- l) Development of regional database of institutional strengths (of ancillary techniques and subspecialty) in order to identify locations where residents can go for elective training to learn with clear objectives and with their own specimens, to increase exposure and cover areas where their programs are deficient.
- m) Development of resident exchange programs within Africa and outside the continent.
- n) Implement and sustain regional technical training with refresher courses for technologists every two years. An important resource for institutions is noted to be currently available in Benin.

Role of trainers

Trainers are critical players in the success of the training effort and process. They

- a) Must be passionate about their jobs and be committed to their clinical service duty.
- b) Must prioritize their various roles and be available for residents' supervision and training.

- c) Need to demonstrate good leadership skills and comportsment.

Other recommendations

It is important to re-brand and reposition Pathology, as an essential discipline in the health care delivery system, with critical role in ensuring accurate diagnosis and appropriate patient management. The fact that the quality of any hospital and patient care service is dependent on and reflects the quality of available pathology services must be emphasized.

To achieve this goal, a multi pronged approach is essential involving all stake-holders, including national and international organizations:

The African Union

- (a) Urge member states to implement standardized and fully functioning laboratories within countries.
- (b) Accelerate the process of accreditation of training, including the sites and programmes, with particular emphasis on the assessment of teaching contents and trainers.
- (c) Encourage an increase in the number, as well as improve the training of pathologists and laboratory technical staff.

The AORTIC Executive Committee

- (a) Advocate for provision of training infrastructure, based on the argument that efficient and dependable pathology is central to health care delivery.
- (b) Facilitate and support the establishment of strong and effective collaboration and linkages between African pathologists (in the region and in diaspora), training institutes, and multilateral partners at regional and global levels.

African Pathologists

- (a) Develop training methods based on clinical needs, local databases as well as ethical values.
- (b) Develop more south-south co-operation in order to harmonize curricula and facilitate mobility of trainees and trainers.

- (c) Emphasize the institution and maintenance of quality control and quality management as essential components of clinical training; with documentation of standard operating procedures, improved turn-around time and ensuring high quality surgical reports.
- (d) Demonstrate good leadership skills and enhance co-operation between technical and other laboratory support staff.
- (e) Encourage well-trained and motivated technologists.

WACP, COPECSA, Universities and Regulatory bodies

- (a) Work with Pathologists to develop, at country level, action plans for training improvement and pathology programs assessment.
- (b) Create a Task Force to harmonize the teaching contents and assessment process in Pathology.
- (c) **Provide** support for technical training programs of other laboratory staff.

Heads of Institutions and Hospital Directors

- (a) Accord Pathology the pride of place it deserves as an essential clinical discipline.
- (b) Provide quality teaching environment as this strongly impacts training.
- (c) Provide needed infrastructure and support to Pathology Departments and laboratory physicians.
- (d) Encourage improvement in laboratory services with the provision of much needed ancillary techniques and frozen section facilities for improved diagnosis, patient care and teaching.
- (e) Provide adequate budgetary allocation to the laboratories for improved services. Current allocation is abysmal compared to other clinical services.
- (f) Foster good relationship between pathologists and technical staff.

Voluntary Organizations

- (a) Assist with capacity building through: (i) provision of teaching slide sets and books, and (ii) provision of consultation services.
- (b) Encourage visiting/exchange programs with African institutions.
- (c) Support visiting lecturers/faculty to African institutions, Pathology departments and African Pathology summits.

TRANSLATIONAL RESEARCH WORKGROUP REPORT

Preamble:

Internationally, it is a known fact that high quality research is pre-requisite for improved health. The World Health Organization encourages that health research should be an integral part of national strategies for its "Health for all" program.

Pathology as the bedrock of medical practice and health care should lead in research and research training in Africa as it is being done elsewhere in the world. With technological advancement comes increasing competition in the research environment, hence the increasing challenge for pathologists in Africa to keep pace with the changing tide.

The benefits of the development of translational research in sub-Saharan Africa

There was a strong consensus that active research programs was a necessary component of improving and increasing pathology capacity in sub-Saharan Africa (SSA). The benefits to research programs were identified as follows:

1. Improved patient care at the local / national level.
2. Greater engagement in the medical community at large.
3. Improved job and professional opportunities and satisfaction.
4. Improved recruitment of students to registrar / training positions in pathology.
5. Increased retention of pathologists within countries in SSA.

The challenges in the development of translational research in sub-Saharan Africa

However, the group identified a number of obstacles for pathologists to engage in research, each of which would need to be addressed in order for a department to develop and sustain a robust research program. A good quality and beneficial research must be focused, multidisciplinary and translational. There is a dearth of research publications from Africa due to a number of challenges. There is the need for:

1. Establishment of local research infrastructure, including development of an ethics review board, availability of trained research assistants, access to a statistician, and facilities for record retention.

2. Training in grant application writing, developing research protocols, and publishing data.
3. Elevation of research into a priority at the local and national levels and developing the appropriate advocacy systems to promote research.
4. Addressing workforce issues so that pathologists have sufficient time to participate in research activities.
5. Overcoming the often prevailing lack of information on who else is working on similar or related projects, and could act as a mentor, or could collaborate on a given project.
6. Having adequate mentorship.
7. Overcoming a state of poor funding –resulting from inadequate budgetary allocation, general economic downturn, misplaced priorities, multiple competing interests for scarce finances, scarcity of funding agencies, etc.
8. Overcoming a state of inadequate infrastructure and decay in existing ones.
9. Overcoming the current state of non-cohesive or lack of multidisciplinary research culture.
10. Overcoming the current state of insufficient capacity for research

The initial baby steps to improve translational research in SSA

To address the above, and improve research and research training in Africa, it was recommended that for starters, research goals should be set to align with the research goals of the World Health Organization which are as follows:

1. Capacity building through the building of individual and institutional competence to conduct research.
2. Research priority setting to align with public health needs, global priorities and sources of research funding.
3. Standards are set to promote good practice in research
4. Developing translational approaches to strengthen links between health research and industry by encouraging transfer of research–based knowledge into the health care system
5. Developing organization competence to strengthen and sustain a research culture

Leadership roles for AORTIC

With regards to AORTIC role as a leading organization, major areas to prioritize include (i) capacity building and (ii) developing standards for research:

Capacity building should include the following:

1. Training: organize regular training in research skills, research methodology, grant writing
2. Encourage research mentorship between established researchers and early career researchers
3. Promote formation of intra-institutional, intra-national and international research networks to harness expertise, improve quality and diversify the research skills in Africa.
4. Provide support for grant-writing combined with advocacy and liaison with funding agencies, so that the level of grant-supported research activity can be increased.

Standardization in Research:

The aim of this is to set and promote standards in the conduct of research. This can be achieved through:

1. Facilitating the establishment of institutional research offices
2. Encouraging all institutions to establish Health research and ethics committee (or institutional review board-IRB) which will review and monitor all ongoing research studies and ensure conformity to national and international standards.
3. Facilitating training of researchers on Responsible Conduct of Research (including scientific misconduct, conflict of interest, data management, authorship practices, human and animal research subjects, and academic ethics) to ensure that every researcher is certified nationally and internationally. This can be done through the use of the Collaborative Institutional Training Initiative (CITI) template available at www.citiprogram.org.

References

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ADVOCACY WORKGROUP REPORT

Defining Advocacy

According to the World Health Organization, advocacy is the “effort to influence people, primarily decision-makers, to create change, which in the context of cancer control results in comprehensive policies and effective program implementation, through various forms of persuasive communication”.

There are six unique areas of advocacy, including:

1. **Political Advocacy**, which is lobbying to impact public policy at local, state, and federal levels;
2. **Education Advocacy** to enhance information and education about pathology, including bi-directional dialogue with other providers to foster multi-disciplinary care
3. **Research Advocacy** to foster high quality research that meets the needs of patients and the community;
4. **Fundraising Advocacy** to raise funds to support research, services, education, and community outreach;
5. **Support Advocacy** to support cancer patients, families, and caregivers; and
6. **Community Outreach Advocacy** to engage and reach out to the community to foster cancer control.

All these six areas are important for pathology advocacy. A multi-pronged approach is recommended for successful advocacy.

Who should be targeted for advocacy?

1. **Pathologists** to improve self image.
2. Other **Clinicians to improve their collaboration with** pathologists in clinical care, public health, and research
3. **Ministries of Health (MOH)** to broaden the impact of pathologists.
4. The **Public** to improve public image of pathologists.
5. **Health Care Organizations** to foster team care and document evidence of care.

Proposed next steps and recommendations for Advocacy.

1. Institute an *Annual Day of the Pathologist*. A possible date is Oct 13 (Virchow's birthday). A proclamation may be necessary for the DAY and having multiple organizations champion it will be great e.g. start with a public statement by AORTIC in November.
2. Education on value of pathology, including statistics.
3. Public Outreach, including:
 - (i) Use of media for outreach.
 - (ii) Public outreach provided in lay man's terms.
 - (iii) Visit and partner with NGOs and professional organizations.
 - (iv) Have an awareness day for high schools (Oct 13?).
 - (v) Hold health fairs in public venues (especially related to lab diagnoses).
 - (vi) Employing pathology ambassadors.
4. Policy advocacy for adequate resource allocation, better service, interaction with clinicians.
5. Pathologists often have poor self-image, lack professional standards in many LICs, poorly perceived. Need to be inspiring teachers, good communicators, and leaders. They need to be visible publicly and be ambassadors for pathology.
6. Meet and Greet with the Ministry of Health representatives, including providing post mortem statistics.
7. Other activities:
 - (i) Increase peer-reviewed publications in the area of pathology.
 - (ii) Actively train and mentor students to promote the profession.
 - (iii) Participate in tumour boards, teach and lecture.
 - (iv) Improve Turnaround Time (Tat) for Pathology Samples

Closing remarks:

The analysis of the current status of pathology service, training, education, research and advocacy as detailed in this report is exhaustive. This report also contains reasonable recommendations on how to strengthen what currently exists and how to address new and old challenges. This document will be relevant for many years to come and hopefully provides a starting point for change. It should be useful in guiding plans and policies that address pathology related issues in SSA.

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