



**UNIVERSITY OF NAIROBI  
COLLEGE OF HEALTH SCIENCES  
SCHOOL OF DENTAL SCIENCES  
INTERNAL MEMO**

**FROM:** Dean, School of Dental Sciences

**DATE:** March 2, 2021.

**TO:** Planning Registrar, UON

**REF:** UON/CHS/SDS/6/1/12

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**ANNUAL REPORT – 2020**

**1.1 *Name, Brief Introduction***

**1.1.1 *Inception***

The School of Dental Sciences started from a humble beginning in 1974 as a department (The Department of Dental Surgery) in the then Faculty of Medicine. The first group of eighteen (18) students was admitted in 1974 to pursue the course leading to the degree of Bachelor of Dental Surgery (BDS) of the University of Nairobi. To facilitate its inception and growth, the department acquired and renovated the then building structures for the former Princess Elizabeth Maternity in 1977 with financial and material support from the Government of the Federal Republic of Germany.

The aim was to have a university teaching dental hospital. Initially, the department had only nine (9) dental units and would thereafter grow to have fifty two (52) dental units distributed in various clinics. In 2009, three units were added for purposes of Income Generation at the plaza wing bringing the total to fifty five (55). The Dental plaza provides dental services to clients who prefer not to be treated in the teaching clinics

The school of Dental sciences is mandated to train oral health professionals not only to satisfy the national needs but also the needs of East and Central African Countries at both undergraduate and specialist levels.

In 1996, ward, major and minor theatres were opened and became operational to complete the Dental Hospital complex where even complex oral maxillofacial and reconstructive surgical procedures are performed. Continued growth of the School depends on its ability to attract and efficiently utilize limited resources.

**1.1.2 *Constituent Departments***

The school has four (4) departments namely:

- Oral/Maxillofacial Surgery/ Oral Medicine/Pathology and Oral/Maxillofacial Radiology
- Conservative and Prosthetic Dentistry

- Paediatric Dentistry and Orthodontics
- Periodontology/Community & Preventive Dentistry

**2. Programmers offered**

- a). Degree in Bachelor of Dental Surgery (BDS)
- b). Master of Dental Surgery (MDS) in Paediatric Dentistry
- c). Master of Dental Surgery (MDS) in Periodontology
- d). Master of Dental Surgery (MDS) in Prosthodontics
- e). Master of Dental Surgery (MDS) in Oral & Maxillofacial Surgery
- f). Doctor of Philosophy (PhD) in Dentistry

**3. Enrolled students:-**

**- Undergraduates**

- Year 1 – 72
- Year 2 – 44
- Year 3 – 41
- Year 3 - 44
- Year 4 – 31
- Year 5 - 40

**MDS (Masters)**

- Year 1 – 21
- Year 2 – 17
- Year 3 – 5
- Year 4 - 4

**Doctor of Philosophy (PhD) - 2 Students**

**4. International Students**

- Bachelor of Dental Sciences 7
- Paediatrics Dentistry 1
- Periodontology 1
- Oral and Maxillofacial Surgery 4
- Prosthodontics

**5. Number of staff-2020**

No	Rank	No.
1	Professor	2

2	Associate Professors	6
3	Senior Lecturers	13
4	Senior Assistant Registrar	1
5	lecturers	16
6	Chief Technologist (Lect Equiv)	3
7	Tutorial Fellows	10
8	Senior Technologist/Technicians (DEF)	4
9	Technologist (ABC)	8
10	Accountants Assistant	1
11	Secretary	3
12	Nursing Officers	27
13	Dental Hygienist	1
14	ICT	2
15	Health Record and Information Technologist	1
16	Driver	1
17	Pharmaceutical Technologist	1
18	Radiographers	2
19	Caretaker	1
20	Messengers/Cleaners	7

#### **6. No. of Graduands in 2020**

BDS – 25

MDS – 5

#### **8. International Links and Collaborations**

- (i) Collaboration with Maharishi Markandeshwar University
- (ii) University of Washington, Seattle
- (iii) Columbia University, New York

#### **9. Research Activities year 2020**

##### **9.1 Post graduate Research**

###### **(a) Post graduate Research**

- (i) Oral Health Status and Treatment needs among 12-17 year old Juvenile Prisoners in Nairobi City and Kiambu Counties.
- (ii) Oral Health Status and treatment needs among Paediatric Oncology patients at Kenyatta National Hospital.

- (iii) A Randomized Clinical Trial comparing the hall technique and ART in restoring proximal carious lesions on primary molars of 5-6 year old children in Kenya.
- i. Dr Anthony K. Bii – MDS Prosthodontics research  
*Thesis title:* Analysis of Root and Canal Morphology of Second Permanent Molars in a Selected Kenyan Population using CBCT  
 Supervisors – Dr Tom M. Dienya, Dr Susan W. Maina, Dr James M. Nyaga
  - ii. Dr Silas M. Toka – MDS Prosthodontics research  
*Thesis title:* Effect of Phosphate-bonded investment materials and their Manipulation on the Marginal fit of Cast-metal crown copings
  - iii. Dr Marion N. Mosomi – MDS Prosthodontics research  
*Thesis title:* Evaluation of anterior maxillary teeth proportions to determine the existence of three aesthetic guidelines in Kenyan population  
 Supervisors – Dr Susan W. Maina, Dr Olivia A. Osiro, Dr Ben I. Omondi
  - iv. Dr Catherine N. Maundu – MDS Prosthodontics research  
*Thesis title:* Evaluation of Marginal fit of fixed restorations fabricated from conventional versus digital impressions  
 Supervisors – Dr Olivia A. Osiro, Dr James M. Nyaga, Dr Catherine N. Gichangi
  - v. Dr Lydia M. Obiero – MDS Prosthodontics research  
*Thesis title:* Oral health related quality of life among complete denture wearers at the University of Nairobi Dental Hospital  
 Supervisors – Dr Bernina K. Kisumbi, Dr Ben I. Omondi, Dr Cyril N. Ogada
  - vi. Dr Diana K. Masara – MDS Prosthodontics research  
*Thesis title:* A CBCT analysis of root and canal morphology of mandibular premolars of a select Kenyan population  
 Supervisors – Dr Tom M. Dienya, Dr Laura G. Edalia, Dr Benjamin N. Simiyu
  - vii. Dr Alexander M. Mwangi – MDS Prosthodontics research  
*Thesis title:* A comparison of manual and digital assessment using stereolithography datasets of tooth preparations for single crowns in Nairobi, Kenya  
 Supervisors – Dr James M. Nyaga, Dr Fred O. Otieno, Dr Olivia A. Osiro
  - viii. Dr Elisha N. Ndakama – MDS Prosthodontics research  
*Thesis title:* Root and canal morphology of permanent molars among a Tanzanian population of African inherent using CBCT  
 Supervisors – Dr Tom M. Dienya, Dr James M. Nyaga, Dr Benjamin N. Simiyu
  - ix. Dr Umaru Kizito  
*Thesis title:* Clinical performance of direct posterior resin-composite restorations placed over a 5-year period in selected institutions in Nairobi, Kenya  
 Supervisors – Dr Bernina K. Kisumbi, Dr Hazel O. Simila, Dr Fred O. Otieno  
 Supervisors – Dr Hazel O. Simila, Dr James M. Nyaga

- x. Dr Benson K. Njuguna – MDS Prosthodontics research  
*Thesis title:* Quality of life of patients with acquired maxillary defects following prosthetic rehabilitation over a five-year period at two referral institutions in Nairobi  
Supervisors – Dr Ben I. Omondi, Dr Catherine N. Gichangi, Dr Mwirigi M. Kaaria.

**(b) Staff Research**

- Dr Bernina K. Kisumbi– PhD research  
*Thesis title:* Development, implementation and evaluation of a dental amalgam phase down training programme among dentists in Kenya Supervisors – Dr Susan W. Maina, Dr Olivia A. Osiro
- Dr Cyril N. Ogada– PhD research, registered at School of Public Health, University of the Witwatersrand
- Dr Hazel O. Simila – DAAD PhD Scholarship, Germany An ecological study of the association between environmental indicators and early childhood caries.
- Dr. Zawadi W. Ismael - Socio-demographic, clinical and histopathologic characteristics of Oral Squamous Cell Carcinoma diagnosed at two sites in Central Kenya (completed)
  
- Secondary deformities of Cleft Lips and Palate presenting at three centers in Nairobi (ongoing)
- Causes of Delayed Presentation of patients with Oral cancer at the Kenyatta National Hospital (Ongoing)
- Outcome of treatment of patients with large mandibular continuity defects (ongoing)
- An ecological study of the association between environmental indicators and early childhood caries.
- Behavior change due to Covid-19 among dental Academics.
  
- Governance, material well-being and early childhood caries in 3-5-year-old children.
  
- The burden of oral disease in Kenya HIV-infected children.
  
- Molar incisor hypomineralization, prevalence, patterns and distribution in Sudanese children.
  
- Association between early childhood caries, malnutrition and anaemia: a global perspective.

**10 Consultancies**

Dental Services offered at the University Dental Plaza

**11. Major Achievements, Challenges and Strategic Projections**

## 11.1 Achievements

### school of dental sciences major achievements in the year 2020

S.NO	DATE	ITEM	DEPARTMENT	REMARKS
1.	March, 2020	<b>Online teaching and learning commences</b>	All Departments, School of dental Sciences	In response to Covid-19 pandemic, most of the operations of the school including teaching and learning for all programs were transitioned smoothly to online platforms. The School conducted all Lectures theory examination through online platforms.
2.	April, 2020	<b>COVID-19 response committee constituted</b>	School	The committee was tasked with responsibilities of advising the School on infection control prevention strategies in both clinics and external environments. The committee spearheaded the training for both students and staff on COVID-19 prevention protocols.
3.	May, 2020	<b>Staff Changing Rooms renovated</b>	School/ Columbia University partnership	In preparation for face to face clinical teaching resumption, two staff changing rooms on the ground floor of the School of Dental Sciences building were identified and renovated. This is to accommodate female and male staff members, and comply with Ministry of Health guidelines.
4.	May, 2020	<b>Installation of Backup generator</b>	School/ University of Nairobi Main	A new generator was installed. This is a big achievement because operations at the school get disrupted whenever Kenya power light goes,
5.	July, 2020	<b>Installation of hand wash stations, automatic hand sanitizer dispensers</b>	School/ Columbia University partnership	Hand wash station outside the main Dental school building was done to ensure compliance with Ministry of Health guidelines
6.	July, 2020	<b>Set up of Triage centre</b>	School/UNES	The school set up the tent for triage centre, and assigned the management to involve nurses and Registrars from all Departments in the school to reduce waiting time for patients, and appropriate referral to avoid crowding in waiting rooms within the School.
7.	August, 2020	<b>Purchase of Laundry Machine through staff initiative</b>	School Staff community	An 8kg washing machine was bought through staff contributions to ensure that re-usable gowns could be laundered on site.
8.	December, 2020	<b>Graduation of 30 students who completed their studies in 2020</b>	School worked with corporate to prepare students	Twenty undergraduate and five postgraduate students graduated and have proceeded to serve the country in various capacities; the newly qualified dentists are

				now doing internship at various government facilities while the postgraduates are serving before specialist recognition in various hospitals.
9.	December, 2020	<b>Hippocratic Oathing of newly qualified Dentists</b>	School/Kenya Medical Practitioners and dentists Council	Hippocratic oath was administered to the twenty five qualified Dentists before posting for internship
10.	December, 2020	<b>Completed renovation of students changing rooms</b>	School/ Columbia University partnership	Due to Covid 19 challenges, students are required to wear PPE while at the clinic. The changing rooms crucial for safety of students.
11.	Continuous 2020-2021	<b>Supply of Personal Protective Equipment (PPE) for clinical use</b>	Principal, UNES, Equity Bank, Staff and other donations	Donations of PPEs have been received from many individuals and corporate institutions including the Principal, CHS,, Equity Bank Foundation, The Deputy principal, CHS,, staff at the School and UNES through the Dental Plaza.

## 11.2 CHALLENGES

Among the challenges facing the Department are:-

1. Frequent and persistent shortage of consumables that adversely affect teaching as well as optimum patient care, due to convoluted and bureaucratic procurement processes and delayed payment of suppliers.
2. Worn out teaching and training infrastructure: The current clinical teaching facilities pose a real challenge since 50% of the dental units in use are obsolete and maintaining them is a daunting task. In addition, spares are not available and repairing the units is uneconomical. The dental chairs available for use are not adequate for the number of students admitted.
3. No operating ambulance and or utility vehicle that adversely affect other services such as food delivery and transport of linen to and from laundry.
4. The laboratory facilities are inadequate. Diagnostic and teaching services occupy the same space in the Oral Pathology laboratory, which compromises the safety of students who are taught in the same area where potentially toxic reagents are processed. The department acquired 6 new microscopes in the year 2019 but most of the challenges remain.
5. Lack of research funding and low compensation.
6. Lack of staff promotion.
7. Disruption of Hospital services when there is unscheduled closure of teaching services.

## 11.3 Strategic Projections

### 11.3.1 Registration and Recognition of Dental Hospital

- Registration and Recognition of the University Dental Hospital as a National Teaching Referral Hospital by Kenya Medical Practitioners and Dentists Council.

### 11.3.2 Improved Dental Care at the Teaching Outpatient Clinics

- In the year 2020, 1579 dental outpatient cases were attended in the clinics. The teaching hospital remained closed during the COVID 19 break (March and July 2020).

- In year 2021 the focus is to review operational logistics in the clinics with view to increasing the number of patients receiving outpatient services.

## 12.0 Publications

- i. Edalia L, Simiyu B, Kaaria M, Kisumbi B, Dienya T. Prevalence of Endodontic disease in a Dental Hospital in Kenya. KDA Journal. 2019.
- ii. B.K. Kisumbi. Phase Down and implementation of the minnamata convention on mercury in Kenya. KDA Journal. 2019.
- iii. Benjamin Simiyu, KaariaMwirigi, Laura Edalia, Bernina Kisumbi, Tom Dienya. Post treatment endodontic disease among patients seeking treatment at a referral dental hospital in Kenya. Endodontics. February, 2020.
- iv. Osiro OA, Kisumbi BK, Kariuki DK, Gathece LW. Implications of the Minamata Convention on Mercury on Oral Health in Kenya. Kenya Policy Briefs. January, 2020.
- v. Ben I Omondi, FredahChepkwony, Rael M Ariemba, Josephat O Miyogo, Gladys N Opinya. Prosthodontic Rehabilitation of a Child with Ectodermal Dysplasia: A Preliminary Report. International Journal of Prosthodontics. 2019.
- vi. Sumbi IM, Edalia LG, Mua B. Dental jewellery and oral piercings: Knowledge, attitude and practice among dentists in Nairobi. Journal of Kenya Dental Association. 2019.
- vii. Kaaria MM, Nyaga JM. Rehabilitation with Maxillary Obturator Prosthesis Following Bilateral Total MaxillectomyforAdenoidcystic Carcinoma: A Case Report. Journal of Kenya Dental Association. 2019.
- viii. Kisumbi B.K. Editorial - Dental Jewellery, intraoral and perioral tissue piercing. Journal of the Kenya Dental association. 2020.
- ix. Benjamin Simiyu Nyongesa, Katrina G. De Luna, Grace Ellen S. Dey, Iluminada L. Viloria. Management of a severely curved canal with Proglider and WaveOne gold compounded with a separated instrument. Oral Rehabilitation and Dentistry. 2019.
- x. Benjamin S. Nyongesa BDS, Katrina G. De Luna DMD MScD, Phides P. Alcorta. Management of a Combined Endodontic-Periodontal Lesion. Endodontic Society of the Philippines Journal. 2019.
- xi. Omanga AO, Mua BN, Edalia LG, Gakonyo J. Adherence to professionalism and ethical practice on social media among dentists in Nairobi. East African Medical Journal. 2019; 96:2700-2708.
- xii. Mosoti MC, Gathece LW, Dienya T, Wagaiyu EG. Utilization of computerized systems among dentists in Nairobi County. Journal of the KDA. 2019; 10(3):752-759.

## 13.0 Corporate and community outreach activities

In the year 2020, despite prevailing COVID-19 challenges, the School mounted four (4) successful Dental Community outreach service activities. In each of these, members of the public benefited from free dental treatment given by the school.

**DR. REGINA MUTAVE**  
**Dean, School of Dental Sciences**