Approved for tabling.
SNA
15/12/15

PARLIAMENT OF KENYA LIBRARY

REPUBLIC OF KENYA

THE NATIONAL ASSEMBLY

ELEVENTH PARLIAMENT-THIRD SESSION, 2015

SECOND REPORT

OF THE

DEPARTMENTAL COMMITTEE ON HEALTH

REPORT ON THE VETTING OF DR. NICHOLAS MURAGURI, PRINCIPAL SECRETARY NOMINEE FOR HEALTH

CLERK'S CHAMBERS
DIRECTORATE OF COMMITTEE SERVICES
PARLIAMENT BUILDINGS
NAIROBI

DECEMBER, 2015

TABLE OF CONTENTS

APPENDICES

(i) **Appendix (1)** – Minutes

(ii) Appendix (2) - Correspondences

- Kenya Revenue Authority
- Higher Education Loans Board
- Ethics and Anti-Corruption Commission
- Criminal Investigation Department
- PSC letter with the list of persons recommended for the position of PS in the public service.

(iii) **Appendix (3)** – Affidavit

(iv) **Appendix (4)** – Curriculum Vitae - Dr. Nicholas Muraguri

(v) **Appendix (5)** – Questionnaire

(vi) **Appendix (6)** - Academic and Professional Certificates

LIST OF ACRONYMS

H.E	His/Her Excellency
KRA	Kenya Revenue Authority
EACC	Ethics and Anti-Corruption Commission
HELB	Higher Education Loans Board
CID	Criminal Investigations Department
AIDS	Acquired Immuno Deficiency Syndrome
HIV	Human Immuno-Deficiency Virus
ARV	Anti-Retroviral Drug
IATT	Inter-Agency Technical Team
IAS	International AIDS Society
KMA	Kenya Medical Association
PS	Principal Secretary
DMS	Director of Medical Services
MES	Managed Equipment Service
KMTC	Kenya Medical Training College
KEMSA	Kenya Medical Supplies Agency
MDR TB	Multi-Drug Resistant Tuberculosis
HR	Human Resource
UHC	Universal Health Coverage
NHIF	National Hospital Insurance Fund
MTRH	Moi Teaching and Referral Hospital
NCD	Non-Communicable Disease

1.0 PREFACE

On behalf of the Members of the Committee on Health and pursuant to the provisions of Standing Order 199(6), it is my pleasure and duty to present to the House, the Committee on Health Report on the vetting of Dr. Nicholas Muraguri, Principal Secretary nominee, Ministry of Health.

1.1 Committee Membership

The Committee on Health comprises the following Members:-

1. **The Hon. Dr. Rachel Nyamai, M.P.** - **Chairperson**
2. **The Hon. Dr. Robert Pukose, MP** - **Vice Chairperson**
3. The Hon. Alfred Agoi, M.P.
4. The Hon. Christopher Nakuleu, M.P.
5. The Hon. David Karithi, M.P.
6. The Hon. Dr.DahirDuale Mohamed, M.P.
7. The Hon. Dr. David Eseli, M.P.
8. The Hon. Dr. Enoch W. Kibunguchy, M.P.
9. The Hon. Dr. James Murgor, M.P.
10. The Hon. Dr. James Nyikal, M.P.
11. The Hon. Dr. James O. Gesami, M.P.
12. The Hon. Dr. Naomi Shaban, M.P.
13. The Hon. Dr. Patrick Musimba, M.P.
14. The Hon. Dr. Stephen Wachira, M.P.
15. The Hon. Dr. Susan Musyoka, M.P.
16. The Hon. Eng. Stephen Mule, M.P.
17. The Hon. Fred Outa, M.P.
18. The Hon. Hassan Aden Osman, M.P.
19. The Hon. James Gakuya, M.P.
20. The Hon. John NyagaMuchiri, M.P.
21. The Hon. Joseph O. Magwanga, M.P.
22. The Hon. KamandeMwangi, M.P.
23. The Hon. Leonard Sang, M.P.
24. The Hon. MasoudMwahima, M.P.
25. The Hon. Michael Onyura, M.P.
26. The Hon. MwingaGunga, M.P.
27. The Hon. Paul Koinange, MP
28. The Hon. Raphael MilkauOtaalo, M.P.
29. The Hon. Zipporah JesangKering, M.P.

1.2 Committee Mandate

The Departmental Committee on Health was constituted on 16th May, 2013, Pursuant to the provisions of Standing Order No. 216. Standing Order 216(5) which mandates the Committee to;

i. investigate, inquire into, and report on all matters relating to the mandate, management, activities, administration, operations and estimates of the assigned Ministries and departments;
ii. study the programme and policy objectives of Ministries and Departments and the effectiveness of the implementation;
iii. study and review all legislation referred to it;
iv. study, assess and analyze the relative success of the Ministries and Departments as measured by the results obtained as compared with their stated objectives;
v. investigate and inquire into all matters relating to the assigned Ministries and Departments as they may deem necessary, and as may be referred to it by the House;
vi. vet and report on all appointments where the Constitution or any law requires the National Assembly to approve, except those under Standing Order 204 (Committee on Appointments) ; and
vii. make reports and recommendations to the House as often as possible, including recommendation of proposed legislation.

1.3 Message from H.E. the President

Pursuant to Article 155(3) of the Constitution, His Excellency the President forwarded to the Clerk of the National Assembly, the nomination of Principal Secretaries vide a letter dated 2nd December, 2015 for vetting by the Departmental Committees and consideration for approval by the National Assembly. The Principal Secretary nominee for Health, Dr. Nicholas Muraguri was among the Principal Secretaries nominees nominated for appointment after Parliamentary approval.

On Wednesday 2nd December, 2015 the Honourable Speaker in a Communication from the Chair informed the House that, pursuant to Standing Order 42(1), His Excellency the President had made nominations for appointment as Principal Secretaries in various Ministries in accordance to Article 155(3) of the Constitution and referred the same to the Departmental Committees for vetting and reporting to the House within 14 days.

1.4 Committee meetings

The Committee held two Sittings; one to prepare for the vetting and a second meeting in which the nominee appeared and was vetted in accordance with the Public Appointments (Parliamentary Approval) Act, 2011 for appointment to the position of Principal Secretary, Ministry of Health.

1.5 Acknowledgements

I take this opportunity to thank all Members of the Committee for their input and valuable contributions during the deliberations and vetting exercise. The Committee also takes this opportunity to thank the Offices of the Speaker and the Clerk of the National Assembly for the logistical support accorded to it during the vetting exercise.

On behalf of the Committee on Health and pursuant to Article 124(4) (b) of the Constitution, Section 8(1) of the Public Appointments (Parliamentary Approval) Act, 2011, and the provisions of standing 199(6), it is my pleasure and duty to present to the House, the Committee's report on the vetting of Dr. Nicholas Muraguri, nominee for appointment to the position of Principal Secretary for Health.

Thank you.

Signed .....

Hon. Dr. Rachael Nyamai, M.P.
Chairperson,
Committee on Health

Date .....15/12/2015.....

2.0 BACKGROUND

2.1 Establishment of the Committee

The Committee on Health is established under Standing Order 216(5) and is mandated to among others 'vet and report on all appointments where the Constitution or any law requires the National Assembly to approve, except those under Standing Order 204 (Committee on Appointment), and pursuant to Article 155(3)(b) of the Constitution.

Article 155(3) of the Constitution requires H.E. the President to nominate and with the approval of the National Assembly, appoint Principal Secretaries. Section 10 of the Public Appointments (Parliamentary Approval) Act, *provides that, **where the nomination of a candidate is rejected by Parliament, the appointing authority may submit to the relevant House the name of another candidate, and the procedure for approval specified in this Act shall apply accordingly.***

2.2 Appointment process of the Principal Secretary nominee

(i) In accordance with the provisions of Article 155(3) of the Constitution, H.E. the President forwarded to the Speaker of the National Assembly, the nomination of Principal Secretaries, among them, Dr. Nicholas Muraguri vide a letter dated 2nd December, 2015 for vetting by the Committee on Health and consideration for approval by the National Assembly for appointment as Principal Secretary for Health.

(ii) On Wednesday 2nd December, 2015 the Honourable Speaker in a communication to the House pursuant to Standing Order 42(1), informed the House that he had received the notification of the nomination of Principal Secretaries and referred the same to the respective Departmental Committees for vetting and reporting to the House within 14 days.

2.3 Notification to the public

Section 6(9) of the Public Appointments (Parliamentary Approval) Act, 2011 provides that "***any person may, prior to the approval hearing and by a written statement on oath, provide the Clerk with evidence contesting the suitability of a candidate to hold the office to which the candidate has been nominated".***

On Thursday 3rd December, 2015, the Clerk of the National Assembly placed an advertisement in the print media inviting the public to submit memoranda by way of written statement on oath **(sworn affidavit)** on the suitability or otherwise of the nominee in conformity with Section 6(9) of the Public Appointments (Parliamentary Approval) Act 2011. The submissions were to be received latest by Wednesday 9th December, 2015.

Pursuant to provisions of Article 118 of the Constitution, Section 6(4) of the Public Appointments (Parliamentary Approval) Act (No.33 0f 2011) and Standing Order 45(3), the general public was also notified in the print media by the Clerk of the National Assembly on 3rd December, 2015 of the intention of the Committee on Health to conduct the vetting and approval hearing of the nominee on Friday 11th December, 2015.

2.4 Clearance requirements

On 2nd December, 2015, the Clerk of the National Assembly wrote to the Ethics and Anti-Corruption Commission, Kenya Revenue Authority (KRA) and the Higher Education Loans Board (HELB) requesting for reports about the nominee on: -

- Matters touching on integrity;
- Tax compliance;
- Loan repayments.

In response, HELB confirmed vide a letter Ref. HELB/RD/56593/POV/182 dated 8th December, 2015 that the nominee had cleared his loan repayment and issued with a clearance certificate No. 18484 in November, 2009. Kenya Revenue Authority confirmed vide a letter Re. CDT/MS/HQ/54 dated 8th December, 2015 that the nominee was tax compliant. The Ethics and Anti-Corruption Commission vide a letter Ref. EACC.7/10/5 VOL. II (3) dated 7th December, 2015 confirmed that the nominee did not have any outstanding issue or ongoing investigation against him.

2.5 Submission of memoranda

Section 7 of the Public Appointments (Parliamentary Approval) Act, 2011 provides that the issues for consideration by the relevant House in relation to any nomination shall be:-

(a) the procedure used to arrive at the nominee;

(b) any constructional or statutory requirements relating to the office in question; and

(c) the suitability of the nominee for appointment proposed having regard to whether the nominee's abilities, experience and qualities meet the needs of the body to which nomination is being made.

Pursuant to Section 6(9) of the said Act, the Committee invited submissions from the public on the suitability or otherwise of the nominee for appointment to the position of Principal Secretary. The Committee did not receive any memorandum on the suitability or otherwise of the nominee.

3.0 VETTING OF DR. NICHOLAS MURAGURI, PRINCIPAL SECRETARY NOMINEE.

In conducting the vetting process, the Committee examined the nominees against the following criteria, amongst others, as set out in the Public Appointments (Parliamentary Approval) Act No. 33 of 2011.

(i) Academic qualifications
(ii) Employment record
(iii) Professional affiliations
(iv) Potential conflict of interest
(v) Knowledge of the relevant subject
(vi) Overall suitability for the position
(vii) Integrity
(viii) Vision and leadership
(ix) Expectations and key priorities

Dr. Nicholas Muraguri appeared before the Committee on Friday 11th December, 2015 and was informed by the Chairperson that, pursuant to Section 6(9) of the Public Appointments (Parliamentary Approval) Act, 2011, the Committee invited submissions from the public on his suitability or otherwise for appointment to the position of Principal Secretary. However, by the deadline date of 9th December, 2015, the Committee had not received any memoranda from the public or anyone.

The nominee was then orally interviewed by the Committee and responded to questions during the vetting as follows:-

1. **Why the nominee thinks he is suitable and qualified for the position to which he had been nominated.**

He stated that his educational background and experience stood him in good stead for the position. In terms of his educational background, he stated that:

i) He was pursuing a PhD in Public Health from Ghent University, Belgium.

ii) He was also pursuing a Masters in Development Studies from Mt. Kenya University.

iii) He holds a Global Executive Masters of Business Administration (GEMBA), 1st Class Honors from the United States International University, Columbia Business School.

iv) He also holds a Master in Public Health (MPH), 1st Class Honors from University of Pretoria.

v) He also holds a Bachelor of Medicine and Bachelor of Surgery (MBChB) from Moi University among other professional qualifications.

In terms of experience he stated that he had a wealth of professional experience in the health sector with remarkable achievements as follows:

(i) He had worked as Medical Officer at the District and Provincial levels in the Eastern region from 1998 to 2001. He served as a Director, Division of Health Promotion in the Ministry of Health from 2004 to 2008. He also served as the Director for National AIDS and STI Control Program at the Ministry of Public Health and Sanitation from 2008 to 2012. From 2012 to 2014, he was the Executive Director for the Joint United Nations Program on HIV. He is currently serving as the Director for Medical Services since July 2014.

(ii) He had also served as the Technical Advisor and member of Technical Steering Committee of the Ministerial Initiative for Women Ministers of Health and as an Advisor in Health Promotion to the World Health Organization.

(iii) He had received various awards of excellence such as Order of Grand Warrior (OGW) for distinguished service to the public, Minister of Health Merit Award

for Best Program Manager and an award for being the best District Health Manager in the Eastern Province.

(iv) He was a member of the following professional bodies:

- Inter-Agency Technical Team (IATT),
- International AIDS Society (IAS),
- International Union of Health Promotion & Education; and
- Kenya Medical Association (KMA).

(v) He had published 45 Research Papers on HIV/AIDS.

(vi) He had provided leadership in the development of key policy documents such as the Health Bill, 2015, National Health Policy 2014 -2030, Annual Health Sector Strategic Plan 2015/2016 and Draft Policy on Universal Health Coverage and Health Care Financing.

(vii) He provided technical guidance in the development of national and international policy guidelines.

(viii) He had good managerial and inter-personal skills having worked with UNAIDS and the Ministry of Health.

2. **What the nominee saw as the weaknesses in the Kenyan Public Health System and how it would be strengthened.**

He stated that he had initiated capacity building for counties to enable them to properly manage the health system at that level. He had also ensured the files of health workers hitherto held at the national level had been transmitted to the counties to facilitate promotions and other human resource matters. He had equally organized intergovernmental forums where human resource matters were discussed.

With regard to funding, he stated that there was need to ensure smooth flow of funds from the national level to the recipient facilities. There were hitches in the system in terms of funds flow from the county revenue fund to the intended facilities. There was need to work with stakeholders to legislate on flow of funds from the national level to health facilities.

In terms of governance, the Ministry was working with counties to clearly define the roles of each. There were also attempts to enhance coordination between national and

county levels through establishment of working groups in the areas of human resources and supplies.

In terms of human resources there was skewed distribution of health workers. There was need to exploit opportunities whereby specialists in the private sector could be contracted to offer services in public facilities.

There was also need to improve the quality of healthcare in the country through strict quality control measures. The referral system also needs strengthening as currently most referrals were unnecessary.

3. **Whether the nominee was interviewed by the Public Service Commission and if successful how easy it would be to get his replacement as DMS.**

   On interview by the PSC, he stated that he had applied and was interviewed by the Commission for the position of Principal Secretary. While on his replacement as DMS, he stated that the position, once if falls vacant, shall be open to the public and private sector doctors and that there was a pool of experienced doctors who would easily fit in the position.

4. **On the issue of providing more details of his net worth including his assets and liabilities.**

   He stated that he was not aware the details of his assets and liabilities were to be provided in the questionnaire but expressed willingness to provide the same.

5. **The human resource challenge under the MES project and the rationale for leasing low-end equipment and buying high-end equipment which was against best practice internationally.**

   He stated that he human resource gap under the MES project had been noted and efforts at training and rationalizing the distribution of specialists were being undertaken. He also noted that ICT use was ideal especially in imaging where human resource is shared on an ICT platform. He cited the case of collaboration between Nyamira County and Moi University MRI images are shared on the ICT platform. He equally stated that organizations were funding the training of health workers in specialized areas citing the example of the African Development Bank (ADB) funding the renal training program.

He however, indicated that the way forward for renal care was establishing organ transplant capacities and implementing the same.

On purchase of low-end versus high-end equipment, he stated that a needs assessment was conducted by the Ministry of Health at the initiation of the project. It was then established that most county governments were in the process of purchasing some high end equipment like MRI machines and CT-scans. Equally some MRI machines had been procured from a Chinese company previously and were awaiting delivery hence the decision to avoid inclusion of such equipment in the MES project. He concluded that the MES project focused on original manufacturers of the equipment hence giving the country value for money.

6. **Ebola preparedness strategy and ensuring the screening equipment at border points were operational.**

He lauded the National Assembly Committee on Health for supporting the Ministry of Health in fighting the Ebola threat. He stated that all ports of entry had established screening procedures and centers to deal with the Ebola threat were established at KEMRI, Busia and the Moi Teaching and Referral Hospital (MTRH).

He also stated that volunteer health workers were sent to Liberia and Sierra Leone not only to help fight Ebola at the source but also to learn vital lessons that were to help Kenya to deal effectively with the threat at source.

He however indicated that the equipment for screening at the border points were at some point ineffective due to malfunctioning occasioned by power fluctuations and inadequate training of the personnel handling them. However continuous training of such personnel was now a priority for the Ministry.

7. **The attainment of the right to emergency medical treatment for every Kenyan as envisioned in the Constitution of Kenya.**

He stated that there was need for a clear policy on emergency HealthCare (as provided for in Article 43 of the Constitution). There will also be need to establish legislation to actualize the same, outlining of the responsibilities of health facility owners and health

workers therein as well the right to compensation of the facilities offering emergency medical care and the guidelines for the same.

8. **The state of the Kenya Medial Training College (KMTC) and its potential.**

He stated that there was immense demand for training opportunities in the college citing the example of the latest intake where there were 18,000 applicants but only about 3, 400 were admitted due to limited capacity. He therefore noted that there was need to expand training facilities and employ more human resources for effectiveness in the college's' training programs. He stated that the target was to have a KMTC campus in every county. He equally stated that Kenya was only behind south Africa and Egypt in terms of training of health care workers in Africa hence the need to take advantage of that strategic position and provide training not just for the domestic labor market but also for Anglophone countries like South Sudan, Namibia, Lesotho among others.

9. **Plans to combat the tuberculosis (TB) menace in the country.**

He stated that there were 90,000 TB cases reported annually in the country and that in terms of case detection and treatment, Kenya had met the established the World Health Organization's (WHO) targets.

He however stated that Multi Drug Resistant Tuberculosis (MDR-TB) was a threat to the public health system and that most cases reported in the country were among Somalia refugees who were thus exposing Kenyans to the same. The way forward was working with the United Nations (UN) and ensuring that MDR TB cases were treated in Somalia to avoid those affected seeking treatment in Kenya and hence exposing Kenyans to the same. He noted that already, the global fund had lobbied for funding of the MDR TB within Somalia borders.

10. **Strategies for financing the fight against HIV/AIDS in Kenya with the dwindling international funding.**

He stated that when he worked at UNAIDS, there were two strategies that had been adopted. First was convincing the African Union that AIDS was an African problem hence the need for promotion of domestic production of ARVs. He noted that the same was actualized in Uganda. Equally, Kenya and South Africa have a yet to be exploited

potential and capacity for domestic production of ARVs. They also used lobbying of corporates to support HIV/AIDS care as a strategy and in Kenya, corporates like Safaricom, Kenya Commercial Bank, and BIDCO have supported efforts to fight AIDS. In other countries, Telecommunication companies were used to charge a small fee on their clients on calls made to support the fight against HIV/AIDS.

He however noted that there was also need for proper utilization and accountability of funds from international donors to ensure continued funding. He observed that there was a working group currently working on a Trust Fund Bill for HIV/AIDS and Non-Communicable Diseases (NCDs) such as diabetes and cancer which were a growing threat to the health of Kenyans. He concluded by stating that within a year, a comprehensive financing strategy for the health sector would be established.

11. The strategy to ensure the beyond zero campaign and the health component of the slum upgrading project were sustainable.

He stated that the idea behind the Beyond Zero Campaign by the First Lady H.E. Margaret Kenyatta was to improve maternal and child health. The spouses of Governors had been brought on board to spearhead the same in respective counties. Equally County Governments had been brought on board to facilitate sustainability of the campaign. The Ministry of Health in conjunction with the County Governments was working on provision of health workers where there was critical need for them.

On slum upgrading project he stated that the idea was to provide basic health interventions in informal settlements. Sites had been identified throughout the country. However there was a challenge of getting adequate numbers of healthcare workers to provide required services from the county governments. There was equally a challenge of drug supply but there were plans to open an account for the facilities with KEMSA to ensure uninterrupted supplies.

12. Enforcement of standards and regulations by the Ministry of Health with the advent of devolution.

He stated that regulatory bodies were fully empowered to enforce standards and regulations. At the advent of devolution there were suspicions from county governments

which hampered enforcement efforts. However, County Governments had realized the separation of roles and the importance of providing quality health care, and therefore, some county governments were inviting the relevant regulatory bodies to review their quality systems.

Quality of healthcare was a challenge but there were plans to improve the same through the accreditation system at NHIF whereby accreditation shall be pegged on established standards. Equally, he noted that the Commission on Administrative Justice (The Ombudsman) was helping through referring cases to relevant regulatory bodies.

13. **Improvement of NHIF to serve as a vehicle to deliver Universal Health Coverage (UHC).**

He stated that there was need for massive reforms at the NHIF in terms of a competitively recruited board and management to handle the added responsibilities. The Fund also needed to outsource functions like accreditation to another entity and collection of contributions to Kenya Revenue Authority which was better suited to handle the function. The core business of the NHIF shall then remain paying for services rendered to its clients. There was also need to reduce the administration costs at the fund form the currently unacceptable 30% to the industry practice of about 5%.

14. **The relationship between him as the Principal Secretary and the Director of Medical Services bearing in mind that if he was approved, both shall be technical people.**

He stated that the working relationship was likely to be cordial as the challenges and possible solutions to issues in the Ministry shall easily resonate among them.

15. **The strategy to reduce the cost of healthcare to contain medical tourism among Kenyans.**

He stated that the high cost of health care was likely to be as a result of inefficiencies in the system, high cost of drugs and high cost of specialist charges. There was need to work with KEMSA to drastically reduce the cost of drugs in the public health system which will force private facilities to follow suit. There was also need to optimize the use of

human resources through having service contracts with specialists in the private sector to serve in the public sector.

He noted that as public sector care improved, private sector cost would automatically come down. He also decried the out-of-pocket funding of healthcare which was too costly instead advocating for pooling through insurance (NHIF).

16. **Strategies to ensure imported drugs (especially generics) were not sub-standard.**

He stated that the issue at hand was one of enforcement at Kenya's ports of entry. There will be need to intensify collaboration with the Kenya Revenue Authority and use scanners to identify fake drugs and other items at the ports of entry. There would also be need to work with relevant state organs to legislate punitive measures for those found importing counterfeits.

17. **The cause of the high turnover of Principal Secretaries at the Ministry of Health.**

He stated that Principal Secretaries serve at the pleasure of the President.

18. **Strategy to fight Non Communicable Diseases which were a growing threat in Kenya.**

The strategy to fight Non-Communicable Diseases (NCDs) was already established and what remained was effective implementation. He noted that what was important when handling NCDs was early detection and treatment. In the same vein, there was need to improve access to proper diagnosis and subsequent treatment.

19. **Delayed reimbursement and underpayment under the free maternity program.**

He stated that there were conditions attached to the program which included money being disbursed to facilities from the county treasuries and proper accounting for the same and acceptable quality of health care at the facilities.

He equally stated that one of the challenges experienced was the centralized procurement at the counties which starved the facilities of essentials supplies. He observed that the solution was to insure individual women as currently there could be double payment through the NHIF and other grants under the free maternity program.

20. **Favorable Schemes of Service for healthcare workers to curb brain drain.**

He stated that the Salaries and Remuneration Commission (SRC), the Commission on Revenue Allocation (CRA), Parliament and workers unions among other relevant organs should hold consultations to ensure the welfare of heath care workers was enhanced to curb brain drain.

21. **The safety of vaccines being administered under various immunization programs.**

He stated that the Ministry was keen on the safety of vaccines and that for the issues that had been reported, investigations pointed towards human error. The solution to this issue was to ensure that only qualified personnel administer vaccines.

22. **The high cost of health care at Kenyatta National Hospital that at times surpasses private sector cost.**

He stated that such a scenario was unacceptable and the high cost could be due to inefficiencies in the hospitals' systems which caused patients more. There was need for review and adjust the scenario.

23. **Projects in the counties that were started by the National Government before devolution but had stalled due to lack of funding.**

There was need to establish the causes of the stalling which could be legal issues, report required by donors but not yet delivered, or counterpart funding required from treasury but not budgeted for. He committed to carry out an audit of such projects, draw a clear roadmap and report back to the Committee with requirements for completing such projects.

24. **The establishment of a Cancer Centre at the Moi Teaching and Referral Hospital and allegations that obsolete machines were being procured for the Centre.**

He stated that the Centre was going to be used not only for diagnosis and treatment but also as training Centre for oncologist hence the latest state of the art machines were going to be installed.

25. State of the Family Planning Program in Kenya.

The state of family planning was still not good since the fertility rate is at 3.7%, with only 40% of women accessing family planning services. There is a need to ensure that we are at 2.1% replacement rate and to link the poverty levels and family size as a solution to reduce family size. Further, there is also a need to ensure access to education for girls as it encourages the uptake of family planning services.

4.0 COMMITTEE'S OBSERVATIONS

The Committee having considered the nominee's Curriculum Vitae and heard his oral submission during the vetting exercise/interview, made the following observations:-

(i) He had satisfied the requirements of Chapter 6 of the Constitution of Kenya on leadership and integrity.

(ii) He had been cleared by the Criminal Investigation Department (CID), Ethics and Anti-Corruption Commission (EACC), Kenya Revenue Authority on tax compliance, Higher Education Loans Board (HELB) and the Credit Reference Bureau.

(iii) He has never been charged in a Court of Law and had no evidence of conflict of interest.

(iv) He had never been dismissed from office for contravention of the provisions of Article 75 of the Constitution which deals with conduct of state officers.

(v) He had not been adversely mentioned in any investigatory report of Parliament or any Commission of Inquiry.

(vi) The nominee exhibited impressive knowledge of topical issues touching on the health docket and had the requisite abilities, qualifications and experience.

5.0 COMMITTEE'S RECOMMENDATION

Pursuant to Article 155(3) of the Constitution and Standing Order 216 (5)(f) and Section 8 of the Public Appointments (Parliamentary Approval) Act No. 33 of 2011, the Committee recommends that, this House approves the nomination of Dr. Nicholas Muraguri for appointment by H.E. the President as Principal Secretary, Ministry of Health.

0

APPENDIX 1

MINUTES AND ADOPTION LIST

MINUTES OF THE 95TH SITTING OF THE DEPARTMENTAL COMMITTEE ON HEALTH HELD IN 4TH FLOOR PROTECTION HOUSE, ON MONDAY DAY 14TH DECEMBER, 2015, AT 2.00 PM.

PRESENT

1. **The Hon. Dr. Racheal Nyamai, M.P. (Chairperson)**
2. The Hon. Dr. Stephen Wachira, M.P.
3. The Hon. Dr. James Nyikal, M.P.
4. The Hon. James Gakuya, M.P.
5. The Hon. Hassan Aden Osman, M.P.
6. The Hon. Dr. Dahir Mohamed, M.P.
7. The Hon. Alfred Outa, M.P.
8. The Hon. Joseph O. Magwanga, M.P.
9. The Hon. Dr. Eseli Simiyu, M.P.
10. The Hon. Dr. James Murgor, M.P.
11. The Hon. Stephen M. Mule, M.P.
12. The Hon. Dr. Enoch Kibunguchy, M.P.
13. The Hon. Dr. Naomi Shaban, M.P.
14. The Hon. Leonard Sang, M.P.
15. The Hon. Paul Koinange, M.P.
16. The Hon. David Karithi, M.P.

ABSENT WITH APOLOGY

1. **The Hon. Dr. Robert Pukose, M.P. (Vice Chairperson)**
2. The Hon. Dr. Patrick Musimba, M.P.
3. The Hon. Mwahima Masoud, M.P.
4. The Hon. Dr. Susan Musyoka, M.P.
5. The Hon. Christopher Nakuleu, M.P.
6. The Hon. Michael Onyura, M.P.
7. The Hon. Kamande Mwangi, M.P.
8. The Hon. Raphael Milkau Otaalo, M.P.
9. The Hon. Zipporah Jesang, M.P.
10. The Hon. Mwinga Gunga, M.P.
11. The Hon. Alfred Agoi, M.P.
12. The Hon. Dr. James O. Gesami, M.P.
13. The Hon. John Nyaga Muchiri, M.P.

IN ATTENDANCE.

National Assembly Secretariat

1.	**Esther Nginyo**	-	**Third Clerk Assistant.**
2.	Dennis Mogare	-	Third Clerk Assistant.
3.	Hassan A. Arale	-	Third Clerk Assistant.
4.	Sydney Lugaga	-	Legal Counsel
5.	Elijah Ichwara	-	Hansard Recording

MIN.NO. DCH 416/2015: PRELIMINARIES.

The Chairperson called the meeting to order at 2.30 pm and a word of prayer was said by Hon. Stephen Mule, M.P. She then welcomed the Members to the meeting and thereafter the agenda of the day was adopted as proposed and seconded by Hon. Stephen Mule, MP and Hon. Dr. James Murgor, MP respectively.

MIN.NO. DCH 417/2015: CONSIDERATION OF THE REPORT ON VETTING OF THE PRINCIPAL SECRETARY NOMINEE FOR HEALTH, DR. NICHOLAS MURAGURI.

The Chairperson took the Members through the Report on the vetting of the nominee for the position of Principal Secretary, Ministry of Health, Dr. Nicholas Muraguri, after which the Members recommended that;

Pursuant to Article 155(3) of the Constitution and Standing Order 216 (5)(f), and Section 8 of the Public Appointments (Parliamentary Approval) Act, 2011, the nomination of Dr. Nicholas Muraguri for appointment by H.E. the President as Principal Secretary in the Ministry of Health be approved by the House.

MIN.NO.DCH.418/2015: ADOPTION OF THE REPORT.

The Members unanimously adopted the Report after it was proposed and seconded by Hon. Dr. James Murgor, MP and Hon. Dr. James Nyikal, MP respectively.

MIN.NO. DCH. 419/2015 ADJOURNMENT

There being no other business the meeting was adjourned at 4.15pm.

SIGNED.....

HON (DR.) RACHAEL NYAMAI, M.P

CHAIRPERSON

DATE:.....

MINUTES OF THE 94TH SITTING OF THE DEPARTMENTAL COMMITTEE ON HEALTH HELD IN THE 5TH FLOOR COMMITTEE ROOM, CONTINENTAL HOUSE, PARLIAMENT BUILDINGS, ON FRIDAY 11TH DECEMBER, 2015 AT 2:00 PM.

PRESENT

1. **The Hon. Dr. Racheal Nyamai, M.P. (Chairperson)**
2. The Hon. Dr. Stephen Wachira, M.P.
3. The Hon. Zipporah Jesang, M.P.
4. The Hon. Fred Outa, M.P.
5. The Hon. Mwinga Gunga, M.P.
6. The Hon. Dr. Dahir D. Mohamed, M.P
7. The Hon. Paul Koinange, M.P.
8. The Hon. Dr. Naomi Shaban, M.P.
9. The Hon. John Nyaga Muchiri, M.P.
10. The Hon. Stephen M. Mule, M.P.
11. The Hon. Dr. James Murgor, M.P.
12. The Hon. Dr. Eseli Simiyu, M.P.
13. The Hon. Joseph O. Magwanga, M.P.
14. The Hon. Dr. James Nyikal, M.P.
15. The Hon. Raphael Milkau Otaalo, M.P
16. The Hon. Hassan Aden Osman, M.P.
17. The Hon. Dr. James O. Gesami, M.P.
18. The Hon. James Gakuya, M.P.

ABSENT WITH APOLOGY

1. **The Hon. Dr. Robert Pukose, M.P. (Vice Chairperson.)**
2. The Hon. David Karithi, M.P.
3. The Hon. Leonard Sang, M.P.
4. The Hon. Dr. Enoch Kibunguchy, M.P.
5. The Hon. Christopher Nakuleu, M.P.
6. The Hon. Dr. Susan Musyoka, M.P.
7. The Hon. Michael Onyura, M.P.
8. The Hon. Alfred Agoi, M.P.
9. The Hon. Kamande Mwangi, M.P.
10. The Hon. Dr. Patrick Musimba, M.P.
11. The Hon. Mwahima Masoud, M.P.

IN ATTENDANCE

National Assembly Secretariat

1.	**Ms. Esther Nginyo**	-	**Third Clerk Assistant. (Lead Clerk)**
2.	Mr. Dennis M. Ogechi	-	Third Clerk Assistant.
3.	Mr. Hassan Arale	-	Third Clerk Assistant.
4.	Mr. Sydney Lugaga	-	Legal Counsel
5.	Ms. Rehema Koech	-	Audio Recording

MIN.NO. DCH 411/2015: PRELIMINARIES

The Chairperson called the meeting to order at 2:10 pm and a prayer was said by Hon. James Gakuya, M.P. She then welcomed all those present to the meeting. This was followed by a self-introduction of all those present. The Chairperson then gave a chronology of events since the submission of the President's nominees to various positions to the House culminating in the vetting that was the agenda of the meeting.

MIN.NO. DCH 412/2015: ADOPTION OF THE AGENDA

The agenda of the meeting was adopted as being "Vetting of the Principal Secretary Nominee for the Ministry of Health, Dr. Nicholas Muraguri" after being proposed and seconded by Hon. James Gakuya, M.P. and Hon. Dr. James Murgor, M.P. respectively

MIN.NO. DCH 413/2015: CONFIRMATION OF MINUTES

Confirmation of the minutes of previous meeting was deferred to the next meeting.

MIN.NO. DCH 414/2015: VETTING OF THE PRINCIPAL SECRETARY NOMINEE FOR THE MINISTRY OF HEALTH, DR. NICHOLAS MURAGURI.

The President's nominee for the position of Principal Secretary, Ministry of Health, Dr. Nicholas Muraguri, took an oath pledging to give the Committee information that was truthful. He was then asked to submit his original certificates, testimonials and identification documents to the Committee for verification, which he did.

The nominee was then asked questions on the following matters by Committee members to which he responded to as follows:

1. **Why the nominee thinks he is suitable and qualified for the position to which he had been nominated.**

   He stated that his educational background and experience stood him in good stead for the position. He stated that he holds two masters degrees both at 1st Class i.e. Global Executive Master of Business Administration (GEMBA) – United States International University and Masters in Public Health (MPH) Infectious Disease Control (University of Pretoria). He also holds a bachelor's degree in Surgery and Bachelor Degree in Medicine (MBChB) from Moi University. He also holds a number of other professional qualifications.

   In terms of experience he stated that he had held the following positions with remarkable achievements in each:

   - A Medical Officer at Embu Provincial Hospital,
   - District Medical Officer of Health, Embu District,
   - Acting Provincial Medical Officer, Eastern Province,

- Director, Division of Health Promotion, Ministry Of Health
- Director, National Aids and STI Control Program, Ministry of Public Health and Sanitation
- Executive Director, UNAIDS
- Director of Medical Services

He equally stated that he had published 45 research papers. In all these endeavors he stated that he had managed people and resources to attain his work objectives which were key aspects of the job of a Principal Secretary.

2. **What the nominee saw as the weaknesses in the Kenyan Public Health System and how it would be strengthened.**

He stated that he had initiated capacity building for counties to enable them to properly manage the health system at that level. He had also ensured the files of health workers hitherto held at the national level had been transmitted to the counties to facilitate promotions and other human resource matters. He had equally organized intergovernmental forums where human resource matters were discussed.

With regard to funding, he stated that there was need to ensure the flow of funds from the national level to the recipient facilities was smooth. There were hitches in the system in terms of funds flow from the county revenue fund to the intended facilities. There was need to work with stakeholders to legislate on flow of funds from the national level, to the county revenue fund and finally to health facilities.

In terms of governance, the ministry was working with counties to clearly define the roles of each. There were also attempts to enhance coordination between national and county levels through establishment of working groups in the areas of human resources, supplies etc.

In terms of human resources there was skewed distribution of health workers. There was need to exploit opportunities whereby specialists in the private sector could be contracted to offer services in public facilities.

There was also need to improve the quality of healthcare in the country through strict quality control measures. The referral system also needs strengthening as currently most referrals were unnecessary.

3. **Whether the nominee was interviewed by the Public Service Commission and if successful how easy it would be to get his replacement as DMS.**

On interview by the PSC, he stated that he had applied and was interviewed by the Commission for the position of Principal Secretary. While on his replacement

as DMS, he stated that the position, once if falls vacant, shall be open to the public and private sector doctors and that there was a pool of experienced doctors who would easily fit in the position.

4. **On his questionnaire he stated just his net worth but there was no mention of his assets and liabilities.**
   He stated that he was not aware the details of his assets and liabilities were to be provided but expressed willingness to provide the same.

5. **The human resource challenge under the MES project and the rationale for leasing low-end equipment and buying high-end equipment which was against best practice internationally.**

   He stated that he human resource gap under the MES project had been noted and efforts at training and rationalizing the distribution of specialists were being undertaken. He also noted that ICT use was ideal especially in imaging where human resource and be shared on an ICT platform. He cited the case of collaboration between Nyamira County and Moi University on the same. He equally stated that organizations were funding the training of health workers in specialized areas citing the example of the African Development Bank (ADB) funding for renal training program. However he indicated that the way forward for renal care was establishing organ transplant capacities and implementing the same.

   On purchase of low-end versus high-end equipment, he stated that a needs assessment was conducted by the Ministry of Health at the initiation of the project. It was then established that most county governments were in the process of purchasing some high end equipment like MRI machines and CT-scans. Equally some MRI machines had been procured from a Chinese company previously and were awaiting delivery hence the decision to avoid inclusion of such equipment in the MES project. He concluded that the MES project focused on original manufacturers of the equipment hence giving the country value for money.

6. **Ebola preparedness strategy and ensuring the screening equipment at border points were operational.**
   He lauded the National Assembly Committee on Health for supporting the Ministry of Health in fighting the Ebola threat. He stated that all ports of entry had established screening procedures and centers to deal with the Ebola threat were established at KEMRI, Busia and the Moi Teaching and Referral Hospital (MTRH).

He also stated that volunteer health workers were sent to Liberia and Sierra Leone not only to help fight Ebola at the source but also to learn vital lessons that were to help Kenya to deal effectively with the threat.

He however indicated that the equipment for screening at the border points were at some point ineffective due to malfunctioning occasioned by power fluctuations and inadequate training of the personnel handling them. However continuous training of such personnel was now a priority for the ministry.

7. **The attainment of the right to emergency medical treatment for every Kenyan as envisioned in the Constitution of Kenya.**
   He stated that there was need for a clear policy on emergency HealthCare (as provided for in Article 43 of the Constitution). There will also be need to establish regulations to actualize the same to ensure appropriate outlining of the responsibilities of health facility owners and health workers therein as well the right to compensation of the facilities offering emergency medical care and the guidelines for the same.

8. **The state of the Kenya Medial Training College (KMTC) it's potential.**
   He stated that there was immense demand for training opportunities in the college citing the example of the latest intake where there were 18,000 applicants but only about 3, 400 were admitted due to limited capacity. He therefore noted that there was need to expand training facilities and employ more human resources for effectiveness in the college's' training programs. He stated that the target was to have a KMTC campus in every county. He equally stated that Kenya was only behind south Africa and Egypt in terms of training of health care workers in Africa hence the need to take advantage of that strategic position and provide training not just for the domestic labor market but also for Anglophone countries like South Sudan, Namibia, Lesotho among others.

9. **Plans to combat the tuberculosis (TB) menace in the country.**
   He stated that there were 90,000 TB cases reported annually in the country and that in terms of case detection and curing, Kenya had met the established WHO targets.

   He however stated that Multi Drug Resistant Tuberculosis (MDR-TB) was a threat to the public health system and that most cases reported in the country were among Somalia refugees who were thus exposing Kenyans to the same. The way forward was working with the UN and ensuring that MDR TB cases were treated in Somalia to avoid those affected seeking treatment in Kenya and hence exposing Kenyans to the same. He noted that already, the global fund had lobbied for funding of the MDR TB within Somalia borders.

10. Strategies for financing the fight against HIV/AIDS in Kenya with the dwindling international funding.

He stated that when he worked at UNAIDS, there were two strategies that had been adopted. First was convincing the African Union that AIDS was an African problem hence the need for promotion of domestic production of ARVs. He noted that the same was actualized in Uganda. Equally, Kenya and South Africa have a yet to be exploited potential and capacity for domestic production of ARVs. There was also lobbying of corporates to support HIV/AIDS care and in Kenya, corporates like Safaricom, Kenya Commercial Bank, and BIDCO has supported efforts to fight aids. In other countries, Telkom companies were used to charge their clients on calls made to support the fight against HIV/AIDS.

He however noted that there was also need for proper utilization of funds from international donors to ensure continued funding. He observed that there was a working group currently working on an HIV Trust Fund Bill but there was an alternative thinking to the effect that the fund should be expanded to cover other Non-Communicable Diseases (NCDs) like diabetes and cancer which were a growing threat to the health of Kenyans.

He concluded by stating that within a year, there was going to be established a comprehensive financing strategy for the health sector.

11. The strategy to ensure the beyond zero campaign and the health component of the slum upgrading project were sustainable.

He stated that the idea behind the Beyond Zero Campaign by the First Lady H.E. Margaret Kenyatta was to improve maternal and child health. The spouses of governors had been brought on board to spearhead the same in respective counties. Equally county governments had been brought on board to facilitate sustainability of the campaign. The MOH was working on provision of health workers where there was critical need for them.

On slum upgrading project he stated that the idea was to provide basic interventions in informal settlements. Sites had been identified throughout the country. However there was a challenge of getting adequate numbers of healthcare workers to provide required services from the county governments. There was equally a challenge of drug supply but there were plans to open an account for the facilities with KEMSA to ensure uninterrupted supplies.

12. Enforcement of standards and regulations by the Ministry of Health with the advent of devolution.

He stated that regulatory bodies were fully empowered to enforce standards and regulations. At the advent of devolution there were suspicions from county governments which hampered enforcement efforts. However, country governments

had realized the separation of roles and some were inviting the relevant regulatory bodies to review their quality systems.

Quality of healthcare was a challenge but there were plans to improve the same through the accreditation system at NHIF whereby accreditation shall be begged on established standards. Equally he noted that the Commission on Administrative Justice (The Ombudsman) was helping through referring cases to relevant regulatory bodies.

13. Improvement of NHIF to serve as a vehicle to deliver Universal Health Coverage (UHC).

He stated that there was need for massive reforms at the NHIF. This was in terms of a competitively recruited board and management to handle the added responsibilities. The fund also needed to outsource functions like accreditation to another entity and collection of contributions to Kenya Revenue Authority which was better suited to handle the function. The core business of the NHIF shall then remain paying for services rendered to its clients. There was also need to reduce the administration costs at the fund form the currently unacceptable 30% to the industry practice of about 5%.

14. The relationship between him as the Principal Secretary and the Director of Medical Services bearing in mind that if he was approved, both shall be technical people.

He stated that the working relationship was likely to be cordial as the challenges and possible solutions to issues in the ministry shall easily resonate among them.

15. The strategy to reduce the cost of healthcare to contain medical tourism among Kenyans.

He stated that the high cost of health care was likely to be as a result of inefficiencies in the system, high cost of drugs and high cost of specialist charges. There was need to work with KEMSA to drastically reduce the cost of drugs in the public health system which shall force private facilities to follow suit. There was also need to optimize the use of human resources through having service contracts with specialists in the private sector to serve in the public sector.

He noted that as public sector care improved, private sector cost would automatically come down. He also decried the out-of-pocket funding of healthcare which was too costly instead advocating for pooling through insurance (NHIF).

16. Strategies to ensure imported drugs (especially generics) were not sub-standard.

He stated that the issue at hand was one of enforcement at Kenya's ports of entry. There will be need to intensify collaboration with the Kenya Revenue Authority and use scanners to identify fake drugs and other items at the ports of entry. There

would also be need to work with relevant state organs to legislate punitive measures for those found importing counterfeits.

17. The cause of the high turnover of Principal Secretaries at the Ministry of Health.

He stated that principal secretaries serve at the pleasure of the President.

18. Strategy to fight non communicable diseases which were a growing threat in Kenya.

The strategy to fight Non Communicable Diseases was already established and what remained was effective implementation. He noted that what was important when handling NCDs was early detection and treatment. In the same vein, there was need to improve access to proper diagnosis and subsequent treatment.

19. Delayed reimbursement and underpayment under the free maternity program.

He stated that there were conditions attached to the program which included money being disbursed to facilities from the county level and proper accounting for the same done and acceptable quality of health care at the facilities. He noted though that quality condition had been relaxed.

He equally stated that one of the challenges experienced was the centralized procurement at the counties which starved the facilities of essentials supplies. He observed that the solution lay in insuring individual women as currently there could be double payment through the NHIF and through the grants under the free maternity program.

20. Favorable Schemes of Service for healthcare workers to curb brain drain.

He stated that the Salaries and Remuneration Commission (SRC), the Commission on Revenue Allocation (CRA), workers unions among other relevant organs shall hold consultations to ensure the welfare of heath care workers was enhanced to curb brain drain.

21. The safety of vaccines being administered under various immunization programs.

He stated that the vaccines were safe and mostly the issue at hand was one of the skills of the healthcare workers involved. The solution lay in training enhancement to ensure proper vaccination.

22. The high cost of care at Kenyatta national hospital that at times surpasses private sector cost.

He stated that such a scenario was unacceptable and the high cost could be due to inefficiencies in the hospitals' systems which caused patients more. There was need for review and adjustment of the same.

23. Projects in the counties that were started by the national government before devolution but had stalled due to lack of funding.

There was need to establish the causes of the staling which could be legal issues, report required by donors but not yet delivered, or counterpart funding required from treasury but not budgeted for. After establishment of the facts, it would then be easier to craft interventions.

24. The establishment of a Cancer Centre at the Moi Teaching and Referral Hospital and suspicion that obsolete machines were being procured for the Centre.

He stated that the Centre was going to be used not only for diagnosis and treatment but also as training Centre for oncologist hence the latest state of the art machines were going to be installed.

25. State of the family planning program in Kenya.

The state of family planning was still not good since the fertility rate is at 3.7, with only 40% of women accessing family planning services. There was a need to ensure that we are at 2.1% replacement rate. There is also need to link the poverty levels and family size as a solution to reduce family size as well as ensure access to education for girls as it encourages the uptake of family planning services.

COMMITTEE OBSERVATIONS

Members made the following observations, THAT:

1. The nominee had served the Ministry of Health for close to 20 years in various capacities.
2. The nominee exhibited eloquence and a thorough knowledge of the issues and operations at the Ministry of Health.
3. It was commendable for the Ministry of Health to have a technical person as its Principal Secretary.
4. The nominee did not elaborate the figure of Ksh. 15 Million indicated as his net worth in the questionnaire in terms of the value of his assets and liabilities which he used to arrive at the stated net worth.

MIN.NO. DCH 415/2015: ADJOURNMENT

There being no other business, the meeting was adjourned at 4.16 pm.

SIGNED: .....

HON. (DR.) RACHAEL NYAMAI, M.P

CHAIRPERSON

DATE: 15/12/2015

MINUTES OF THE 93rd SITTING OF THE DEPARTMENTAL COMMITTEE ON HEALTH HELD IN 4th FLOOR CONTINENTAL HOUSE, ON THURSDAY, 10TH DECEMBER, 2015, AT 10.00 AM.

PRESENT

1. **The Hon. Dr. Racheal Nyamai, M.P. (Chairperson)**
2. The Hon. Dr. Stephen Wachira, M.P.
3. The Hon. Raphael MilkauOtaalo, M.P.
4. The Hon. Zipporah Jesang, M.P.
5. The Hon. Dr. James Nyikal, M.P.
6. The Hon. Dr. James O. Gesami, M.P.
7. The Hon. John NyagaMuchiri, M.P.
8. The Hon. James Gakuya, M.P.
9. The Hon. Alfred Agoi, M.P.
10. The Hon. Hassan Aden Osman, M.P.
11. The Hon. Dr.DahirMohamed,M.P.
12. The Hon. MwingaGunga, M.P.
13. The Hon. Alfred Outa, M.P.
14. The Hon. Joseph O. Magwanga, M.P.
15. The Hon. Dr. EseliSimiyu, M.P.
16. The Hon. KamandeMwangi, M.P.
17. The Hon. Dr. James Murgor, M.P.
18. The Hon. Stephen M. Mule, M.P.

ABSENT WITH APOLOGY

1. **The Hon. Dr. Robert Pukose, M.P. (Vice Chairperson)**
2. The Hon. Dr. Patrick Musimba, M.P.
3. The Hon. MwahimaMasoud, M.P.
4. The Hon. Dr. Enoch Kibunguchy, M.P.
5. The Hon. Dr. Susan Musyoka, M.P.
6. The Hon. Christopher Nakuleu, M.P.
7. The Hon. Dr. Naomi Shaban, M.P.
8. The Hon. Leonard Sang, M.P.
9. The Hon. Paul Koinange,M.P.
10. The Hon. David Karithi, M.P.
11. The Hon. Michael Onyura, M.P.

IN ATTENDANCE.

National Assembly Secretariat

1. **Esther Nginyo - Third Clerk Assistant**

2. Dennis Mogare - Third Clerk Assistant.
3. Hassan A. Arale - Third Clerk Assistant.
4. Stephen Kariuki - Serjeant at Arms.

MIN.NO. DCH 405/2015: PRELIMINARIES.

The Chairperson called the meeting to order at 10.30 am and prayer was said by Hon. Dr. James Nyikal, M.P. She then welcomed the Members to the meeting. The agenda of the day was adopted after it was proposed and seconded by Hon. Dr, James Murgor, MP and Hon. Fred Outa, MP respectively.

MIN.NO. DCH 406/2015: CONFIRMATION OF MINUTES.

The Minutes of the 84th Sitting that was held on 23rd October, 2015 were confirmed as true records of the Committee deliberations after they were proposed and seconded by Hon. John Nyaga Muchiri, MP and Hon. Raphael Milkau Otaalo, MP respectively.

The Minutes of the 85th Sitting that was held on 27th October, 2015 were confirmed as true records of the Committee deliberations after they were proposed and seconded by Hon. Dr. James Nyikal, MP and Hon. Dr. Mwinga Gunga, MP respectively.

The Minutes of the 86th Sitting that was held on 29th October, 2015 were confirmed as true records of the Committee deliberations after they were proposed and seconded by Hon. Dr. James Nyikal, MP and Hon. Dr. Dahir Mohamed, MP respectively.

The Minutes of the 87th Sitting that was held on 3rd November, 2015 were confirmed as true records of the Committee deliberations after they were proposed and seconded by Hon. Dr. James Nyikal, MP and Hon. Joseph Magwanga, MP respectively.

The Minutes of the 88th Sitting that was held on 10th November, 2015 were confirmed as true records of the Committee deliberations after they were proposed and seconded by Hon. Dr. James Nyikal, MP and Hon. Gunga Mwinga, MP respectively.

The Minutes of the 89th Sitting that was held on 12th November, 2015 were confirmed as true records of the Committee deliberations after they were proposed and seconded by Hon. Dr. James Nyikal, MP and Hon. Raphael Milkau Otaalo, MP respectively.

The Minutes of the 90th Sitting that was held 17th November, 2015 were confirmed as true records of the Committee deliberations after they were proposed and seconded by Hon. Dr. James Murgor, MP and Hon. James Gakuya, MP respectively.

The Minutes of the 91st Sitting that was held on 24th November, 2015 were confirmed as true records of the Committee deliberations after they were proposed and seconded by Hon. Dr. James Murgor, MP and Hon. Dr. James Nyikal, MP respectively.

The Minutes of the 92nd Sitting that was held on 1st December, 2015 were confirmed as true records of the Committee deliberations after they were proposed and seconded by Hon. James Gakuya, MP and Hon. Gunga Mwinga, MP respectively.

MIN.NO. DCH 407/2015: MATTERS ARISING.

The following matters arose from the previous Minutes:

i. Under **MIN.NO. DCH 368/2015** the Committee noted that KEMRI had not yet provided additional information as directed and therefore resolved that a reminder letter of be sent to KEMRI to provide the documents. On the issue of meeting with KEMRI, the Secretariat was tasked to enquire on the special sitting schedule of the House to inform them on a possibility of inviting KEMRI for a meeting on Thursday 17th November, 2015.

ii. In the Minutes of the 86th Sitting was tasked to include the names of those who were in attendance during the inspection visit to Kangundo.

iii. Under **MIN.NO. DCH 402/2015** the Committee noted that the Ministry of Health had been directed through a Committee resolution on 23rd October, 2015 that the health component of the slum upgrading project was to be stopped until proper records on utilisation of previously allocated funds are provided to the Committee. The secretariat was tasked to write to the Ministry to ask for the contract documents for the slum upgrading project.

iv. Under **MIN.NO DCH 387/2015** Hon, Dr. James Nyikal informed the Committee that the Sub-Committee on NHIF was working with a consultant and that the Consultant was working on a report on the Universal Health Coverage which would be availed to the Committee after recess.

v. On the issue of visit to India, the Committee was informed that the Embassy in India was in the process of securing appointments for the Committee. On the issue of visit to Japan, the Committee was informed that JICA had sponsored two Committee Members for a study tour on the Universal Health Coverage. The Members requested that the Secretariat provide a detailed list of Members who had travelled during the next sitting.

MIN.NO.DCH 408/2015: BREIFING ON PRINCIPAL SECRETARY VETTING NOMINEE - DR. NICHOLAS MURAGURI.

The Chairperson informed the Members that the Committee would be vetting Dr. Nicholas Muraguri, the Principal Secretary Nominee for Health on 11th December 2015. She further indicated that the Committee was expected to adopt its vetting report on Monday 14th December and table it on Tuesday 15th December 2015 on the floor of the House. Thereafter the Members

perused the documents and curriculum vitae as presented by the nominee and observed the following areas of clarification by the nominee during the vetting process:

i. Details of his net worth which was indicated to be Kshs. 15million.
ii. Managed Equipment Service project details and progress
iii. Universal Health Coverage financing strategy and issues of reforms for the NHIF.
iv. High cost of care at KNH which seemingly as a public hospital had become more expensive than the private hospitals.
v. Issues of slum upgrading project
vi. Installation of near obsolete cancer equipment in MTRH.
vii. How he intended to ensure that policies and standards are adhered to by the county governments.
viii. How he intended to strengthen system weaknesses
ix. How does he intend to retain the trained personnel to contain brain drain?
x. What framework he will put in place from appropriate research in influencing the policy of the Ministry?
xi. How he intended to achieve sustainable financing for National Aids control programme with the dwindling of the donor funds.
xii. His strategy on reducing the burden of non-communicable diseases.

MIN.NO. DCH 409/2015: ADOPTION OF REPORT

The report on the consideration of the petition by Mr. Dennis Githinji on behalf of university students and graduates of masters and PHD degrees in laboratory medicine in Kenya regarding registration and regulation of the practice of degree holders in medical laboratory sciences and technology was adopted after it was proposed and seconded by Hon. Dr. James Nyikal, MP and Hon. Dr. James Murgor, MP.

MIN.NO. DCH 410/2015: ADJOURNMENT

There being no other business the meeting was adjourned at 1.05pm.

SIGNED.....

HON (DR.) RACHAEL NYAMAI, M.P

CHAIRPERSON

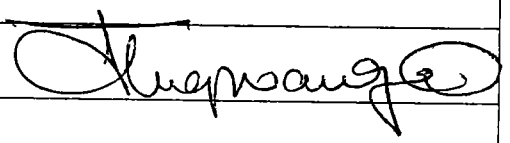
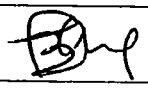
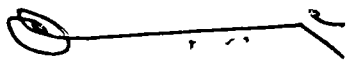
DATE: 15/12/2015

ADOPTION OF THE REPORT OF THE DEPARTMENTAL COMMITTEE ON HEALTH ON THE VETTING OF DR. NICHOLAS MURAGURI, NOMINEE FOR APPOINTMENT AS PRINCIPAL SECRETARY IN THE MINISTRY OF HEALTH.

DATE...14th Dec, 2015.....**TIME**.....2:00 PM.....

We, the Members of the Departmental Committee on Health have, pursuant to Standing Order 199, adopted this Report and hereby affix our signatures to affirm our approval and confirm its accuracy, validity and authenticity:

	NAME	SIGNATURE
1.	Hon. Dr. Rachel Nyamai, M.P. - Chairperson	
2.	Hon. Dr. Robert Pukose, M.P. – Vice Chairperson	
3.	Hon. Alfred Agoi, M.P.	
4.	Hon. Christopher Nakuleu, M.P.	
5.	Hon. David Karithi, M.P.	
6.	Hon. Dr. Dahir Mohamed, M.P.	
7.	Hon. Dr. David Eseli, M.P.	
8.	Hon. Dr. Enock Kibunguchy, M.P.	
9.	Hon. Dr. James Murgor, M.P.	
10.	Hon. Dr. James Nyikal, M.P.	
11.	Hon. Dr. James Gesami, M.P.	
12.	Hon. Dr. Naomi Shaban, M.P.	
13.	Hon. Dr. Patrick Musimba, M.P.	
14.	Hon. Eng. Stephen Mule, M.P.	
15.	Hon. Dr. Stephen Wachira, M.P.	
16.	Hon. Dr. Susan Musyoka, M.P.	
17.	Hon. Fred Outa, M.P.	
18.	Hon. Hassan Aden Osman, M.P.	
19.	Hon. James Gakuya, M.P.	

20.	Hon. John Nyaga Muchiri, M.P., HSC	
21.	Hon. Joseph Magwanga, M.P.	
22.	Hon. Kamande Mwangi, M.P.	
23.	Hon. Leonard Sang, M.P.	
24.	Hon. Michael Onyura, M.P.	
25.	Hon. Mwahima Masoud, M.P.	
26.	Hon. Mwinga Gunga, M.P.	
27.	Hon. Paul Koinange, M.P.	
28.	Hon. Raphael Milkau Otaalo, MP	
29.	Hon. Zipporah Jesang, MP	

APPENDIX 2

CORRESPONDENCES

REPUBLIC OF KENYA

Telegraphic Address
'Bunge', Nairobi
Telephone 2848000
Fax: 2243694
E-mail: clerk@parliament.go.ke

National Assembly
Clerk's Chambers
Parliament Buildings
P. O. Box 41842 –00100
NAIROBI, Kenya

When replying please quote

NA/GEN. CORR /2015

2nd December, 2015

Mr. John Njiraini, MBS
Commissioner General
Kenya Revenue Authority
P O Box 62345 – 00200
NAIROBI

Dear Sir,

RE: VETTING OF NOMINEES FOR APPOINTMENT AS PRINCIPAL SECRETARIES BY THE DEPARTMENTAL COMMITTEES

Article 124(4) of the Constitution provides that, *"when a House of Parliament considers any appointment for which its approval is required under this Constitution or an Act of Parliament, the appointment shall be considered by a Committee of the relevant House".*

The Departmental Committees of the National Assembly are established and mandated pursuant to Standing Order 216(5)(f) to vet and report on appointments where the Constitution or any law requires the National Assembly to approve except those under Standing Order 204(Committee on Appointments).

Therespective Departmental Committeesshall conduct the vetting of the following persons for appointment as Principal Secretaries for their respective ministries on **Friday 11th December, 2015.**

No.	MINISTRY	NOMINEEE
1.	Devolution &Planning	
	PS – Planning& Statistics	Saitoti Torome
2	Interior & Coordination of National Government	
	PS - Correctional Services	Micah Powon
3	Public Service Youth & Gender Affairs	
	PS – Youth and Public Service	Lilian Omollo Zeinab
	PS - Gender Affairs	Zeinab W. Hussein
4.	Defence	Amb. Peter K. Kaberia
5.	Education, Science & Technology	
	PS - Vocational and Technical Training	Dr. Dinah Jerotich Mwinzi
6.	Health	Dr. Nicholas Muraguri
7.	Transport &Infrastructure	

	PS - Housing & Urban Development	Aidah Munano
	PS - Public Works	Dr. Paul Maringa Mwangi
	PS - Transport	Wilson Nyakera Irungu
	PS – Maritime Commerce	Nancy Karigithu
8.	**Environment, & Mineral Resources**	
	PS - Environment	Charles Sunkuli
	PS - Natural Resources	Dr. Margaret Mwakima
9.	**Information, Communication &Technology**	
	PS – ICT and Innovation	Eng. Victor Kyalo
	PS - Broadcasting & Telecommunications	Sammy Itemere
10.	**Sports, Culture and the Arts**	Joseph Okudo
11.	**Energy and Petroleum**	
	PS - Petroleum	Andrew Kamau Nganga
12.	**Agriculture, Livestock &Fisheries**	
	PS - Livestock	Dr. Andrew K. Tuimur
13.	**Industrialization & Enterprise Development**	Julius Korir
14.	**Tourism**	
	PS - Tourism	Fatuma Hersi
	PS - International Trade	Dr. Chris Kiptoo
15.	**Water &Irrigation**	Patrick Nduati Mwangi
16.	**Labour& East African Affairs**	
	PS - Social Security and Services	Susan Mochache
	PS - East African Community Integration	Betty Chemutai Maina

This is to request you to provide a report on tax compliance by the said nominees. Such information will assist the Committeès to undertake their mandate more effectively. We will appreciate if the information is received by **Tuesday 8thDecember, 2015.**

Yours

JUSTIN N. BUNDI, CBS
CLERK OF THE NATIONAL ASSEMBLY

No.	MINISTRY	NOMINEEE	ID NO.
1.	Devolution & Planning		
	PS – Planning & Statistics	Saitoti Torome	88143119
2	Interior & Coordination of National Government		
	PS - Correctional Services	Micah Powon	8366576
3	Public Service Youth & Gender Affairs		
	PS – Youth and Public Service	Lilian Omollo Zeinab	13406241
	PS - Gender Affairs	Zeinab W. Hussein (B. W. Kinuthia)	16115523 (PP C000342)
4.	Defence	Amb. Peter K. Kaberia	32981720
5.	Education, Science & Technology		
	PS - Vocational and Technical Training	Dr. Dinah Jerotich Mwinzi	7060116
6.	Health	Dr. Nicholas Muraguri	10895429
7.	Transport & Infrastructure		
	PS - Housing & Urban Development	Aidah Munano	4826949
	PS - Public Works	Dr. Paul Maringa Mwangi	1211175
	PS - Transport	Wilson Nyakera Irungu	22796847
	PS – Maritime Commerce	Nancy Karigithu	3125155
8.	Environment, & Mineral Resources		
	PS - Environment	Charles Sunkuli	11368302
	PS - Natural Resources	Dr. Margaret Mwakima	9079179
9.	Information, Communication & Technology		
	PS – ICT and Innovation	Eng. Victor Kyalo	8174825
	PS - Broadcasting & Telecommunications	Sammy Itemere	0393186
10.	Sports, Culture and the Arts	Joseph Okudo	8822985
11.	Energy and Petroleum		
	PS - Petroleum	Andrew Kamau Nganga	8745978
12.	Agriculture, Livestock & Fisheries		
	PS - Livestock	Dr. Andrew K. Tuimur	1221069
13.	Industrialization & Enterprise Development	Julius Korir	9042630
14.	Tourism		
	PS - Tourism	Fatuma Hirsi	13403001
	PS - International Trade	Dr. Chris Kiptoo	26244419
15.	Water & Irrigation	Patrick Nduati Mwangi	10044888
16.	Labour & East African Affairs		
	PS - Social Security and Services	Susan Mochache	11689192
	PS - East African Community Integration	Betty Chemutai Maina	7698687

2025

KENYA REVENUE AUTHORITY

ISO 9001:2008 CERTIFIED

Director - Committees
Pls deal
JN
8/12

8th December, 2015

Ref: CDT/HQ/54

The Clerk of the National Assembly,
National Assembly,
Parliament Buildings,
P.O. Box 41842-00100,
NAIROBI

Betty
pse circulate to relevant committees
MW
8/12

Dear Sir,

RE: VETTING OF NOMINEES FOR APPOINTMENT AS PRINCIPAL SECRETARIES

Reference is made to your letter dated 2nd December, 2015, referenced NA/GE.CORR/2015.

This letter confirms the tax compliance status for the nominees listed below:

NO	MINISTRY	NAME	PIN NUMBER	TAX STATUS
1	Devolution & Planning	Saitoti Torome	A001245716V	Compliant
2	Interior & Coordination of National Government	Micah Powon	A001237326M	Compliant
3	Public Service, Youth & Gender Affairs	Lillian Muthoni Mbogo - Omollo	A002771120E	Compliant
4	Public Service, Youth & Gender Affairs	Zeinab Hussein (*Beth Wanjiru Kinuthia*)	A002494424z	Compliant
5	Defence	Amb. Peter Kirimi Kaberia	A002662705N	Compliant
6	Education, Science & Technology	Dr. Dinah Jerotich Mwinzi	A001846267J	Compliant
7	Health	Dr. Nicholas Muraguri	A003260217W	Compliant
8	Transport & Infrastructure	Aidah Munano	A000229516L	Compliant
9	Transport & Infrastructure	Dr. Paul Maringa Mwangi	A003101190X	Compliant

Tulipe Ushuru, Tujitegemee!

SGS UKAS QUALITY MANAGEMENT
ISO 9001:2008 CERTIFIED

10	Transport & Infrastructure	Wilson Nyakera Irungu	A004407956E	Compliant
11	Transport & Infrastructure	Nancy Karigithu	A001118680S	Compliant
12	Environment & Mineral Resources	Charles Sunkuli	A001550445K	Compliant
13	Environment & Mineral Resources	Dr. Margaret Mwakima	A001550445K	Compliant
14	Information, Communication & Technology	Eng. Victor Kyalo	A001098663A	Compliant
15	Information, Communication & Technology	Sammy Itemere	A000138462P	Compliant
16	Sports, Culture, and the Arts	Joseph Okudo	A0012175885Z	Compliant
17	Energy and Petroleum	Andrew Kamau Nganga	A001158640M	Compliant
18	Agriculture, Livestock, & Fisheries	Dr. Andrew K. Tuimur	A001114089L	Compliant
19	Industrialization & Enterprise Development	Julius Korir	A002220639E	Compliant
20	Tourism	Fatuma Hersi	A001278352W	Compliant
21	Tourism	Dr Christopher Kiptoo	A001791736T	Compliant
22	Water & Irrigation	Patrick Nduati Mwangi	A001493605K	Compliant
23	Labour & East African Affairs	Susan Mochache	A002714896K	Compliant
24	East African Community Integration	Betty Chemutai Maina	A002659381M	Compliant

Yours faithfully,

Alice Owuor, OGW.
COMMISSIONER,
DOMESTIC TAXES DEPARTMENT

KENYA REVENUE AUTHORITY

Tax Compliance Certificate

For General Tax Questions
Contact KRA Call Centre
Tel: +254 (020) 4999 999
Cell: +254(0711)099 999
Email: callcentre@kra.go.ke

www.kra.go.ke

Taxpayer PIN : A003260217W

Name and Address :

Nicholas Mwangi Murguri
Afya House, Nairobi, Starehe District,
PO Box:62910,
Postal Code:00200

Certificate Date: 29/04/2015

Certificate Number:

KRAWON1303492015

This is to confirm that Nicholas Mwangi Murguri, Personal Identification Number A003260217W has filed relevant tax returns and paid taxes due as provided by Law.

This Certificate will be valid for twelve (12) months up to 29/04/2016.

Caveat: This certificate is issued on the basis of information available with the authority as at the certificate date mentioned above. The Authority reserves the right to withdraw the certificate if new evidence materially alters the tax compliance status of the recipient.

Disclaimer : This certificate is system Generated and therefore does not require signature.You may confirm validity of this certificate on the iTax Portal by using the TCC Checker.

REPUBLIC OF KENYA

Telegraphic Address
'Bunge', Nairobi
Telephone 2848000
Fax: 2243694
E-mail: clerk@parliament.go.ke

When replying please quote

National Assembly
Clerk's Chambers
Parliament Buildings
P. O. Box 41842 –00100
NAIROBI, Kenya

NA/GEN. CORR /2015

2nd December, 2015

Charles M. Ringera
Chief Executive
Higher Education Loans Board
Anniversary Towers, 18th Floor
University way
NAIROBI

Dear Sir,

RE: VETTING OF NOMINEES FOR APPOINTMENT AS PRINCIPAL SECRETARIES BY THE DEPARTMENTAL COMMITTEES

Article 124(4) of the Constitution provides that, *"when a House of Parliament considers any appointment for which its approval is required under this Constitution or an Act of Parliament, the appointment shall be considered by a Committee of the relevant House".*

The Departmental Committees of the National Assembly are established and mandated pursuant to Standing Order 216(5)(f) to vet and report on appointments where the Constitution or any law requires the National Assembly to approve except those under Standing Order 204(Committee on Appointments).

Therespective Departmental Committeesshall conduct the vetting of the following persons for appointment as Principal Secretaries for their respective ministries on **Friday 11th December, 2015.**

No.	MINISTRY	NOMINEEE
1.	Devolution &Planning	
	PS – Planning& Statistics	Saitoti Torome
2	Interior & Coordination of National Government	
	PS - Correctional Services	Micah Powon
3	Public Service Youth & Gender Affairs	
	PS – Youth and Public Service	Lilian Omollo Zeinab
	PS - Gender Affairs	Zeinab W. Hussein
4.	Defence	Amb. Peter K. Kaberia
5.	Education, Science & Technology	
	PS - Vocational and Technical Training	Dr. Dinah Jerotich Mwinzi
6.	Health	Dr. Nicholas Muraguri

7.	**Transport &Infrastructure**	
	PS - Housing & Urban Development	Aidah Munano
	PS - Public Works	Dr. Paul Maringa Mwangi
	PS - Transport	Wilson Nyakera Irungu
	PS – Maritime Commerce	Nancy Karigithu
8.	**Environment, & Mineral Resources**	
	PS - Environment	Charles Sunkuli
	PS - Natural Resources	Dr. Margaret Mwakima
9.	**Information, Communication &Technology**	
	PS – ICT and Innovation	Eng. Victor Kyalo
	PS - Broadcasting & Telecommunications	Sammy Itemere
10.	**Sports, Culture and the Arts**	Joseph Okudo
11.	**Energy and Petroleum**	
	PS - Petroleum	Andrew Kamau Nganga
12.	**Agriculture, Livestock &Fisheries**	
	PS - Livestock	Dr. Andrew K. Tuimur
13.	**Industrialization & Enterprise Development**	Julius Korir
14.	**Tourism**	
	PS - Tourism	Fatuma Hersi
	PS - International Trade	Dr. Chris Kiptoo
15.	**Water &Irrigation**	Patrick Nduati Mwangi
16.	**Labour& East African Affairs**	
	PS - Social Security and Services	Susan Mochache
	PS - East African Community Integration	Betty Chemutai Maina

This is to request you to provide a report on repayment of any loans that may have been advanced by the Commission to the said nominees. Such information will assist the Committees to undertake their mandate more effectively. We will appreciate if the information is received by **Tuesday 8th December, 2015.**

Yours

JUSTIN N. BUNDI, CBS
CLERK OF THE NATIONAL ASSEMBLY

No.	MINISTRY	NOMINEEE	ID NO.
1.	**Devolution & Planning**		
	PS – Planning & Statistics	Saitoti Torome	88143119
2	**Interior & Coordination of National Government**		
	PS - Correctional Services	Micah Powon	8366576
3	**Public Service Youth & Gender Affairs**		
	PS – Youth and Public Service	Lilian Omollo Zeinab	13406241
	PS - Gender Affairs	Zeinab W. Hussein (B. W. Kinuthia)	16115523 (PP C000342)
4.	**Defence**	Amb. Peter K. Kaberia	32981720
5.	**Education, Science & Technology**		
	PS - Vocational and Technical Training	Dr. Dinah Jerotich Mwinzi	7060116
6.	**Health**	Dr. Nicholas Muraguri	10895429
7.	**Transport & Infrastructure**		
	PS - Housing & Urban Development	Aidah Munano	4826949
	PS - Public Works	Dr. Paul Maringa Mwangi	1211175
	PS - Transport	Wilson Nyakera Irungu	22796847
	PS – Maritime Commerce	Nancy Karigithu	3125155
8.	**Environment, & Mineral Resources**		
	PS - Environment	Charles Sunkuli	11368302
	PS - Natural Resources	Dr. Margaret Mwakima	9079179
9.	**Information, Communication & Technology**		
	PS – ICT and Innovation	Eng. Victor Kyalo	8174825
	PS - Broadcasting & Telecommunications	Sammy Itemere	0393186
10.	**Sports, Culture and the Arts**	Joseph Okudo	8822985
11.	**Energy and Petroleum**		
	PS - Petroleum	Andrew Kamau Nganga	8745978
12.	**Agriculture, Livestock & Fisheries**		
	PS - Livestock	Dr. Andrew K. Tuimur	1221069
13.	**Industrialization & Enterprise Development**	Julius Korir	9042630
14.	**Tourism**		
	PS - Tourism	Fatuma Hirsi	13403001
	PS - International Trade	Dr. Chris Kiptoo	26244419
15.	**Water & Irrigation**	Patrick Nduati Mwangi	10044888
16.	**Labour & East African Affairs**		
	PS - Social Security and Services	Susan Mochache	11689192
	PS - East African Community Integration	Betty Chemutai Maina	7698687

No. 018484

HIGHER EDUCATION LOANS BOARD

Certificate of Clearance

UNIVERSITY STUDENT LOAN

This Certificate is awarded to *MURAGURI NICHOLAS*

ID No. *10895429* University Registration No. *MED/0/12/90*

University attended *MOI UNIVERSITY*

For having repaid in full the Principal Loan and interest thereon.

Signature CEO/ BOARD SECRETARY

09 November 2009
Date

Signature HEAD OF LENDING, REPAYMENT AND RECOVERY

09 November 2009
Date

This certificate is issued without erasures, alterations or cancellation

REPUBLIC OF KENYA

Telegraphic Address
'Bunge', Nairobi
Telephone 2848000
Fax: 2243694
E-mail: clerk@parliament.go.ke

National Assembly
Clerk's Chambers
Parliament Buildings
P. O. Box 41842 –00100
NAIROBI, Kenya

When replying please quote

NA/GEN. CORR /2015

2nd December, 2015

Halakhe Dida Waqo
Secretary/Chief Executive
Ethics and Anti-corruption Commission
Integrity Centre
Milimani /Valley Road Junction
NAIROBI

Dear

RE: VETTING OF NOMINEES FOR APPOINTMENT AS PRINCIPAL SECRETARIES BY THE DEPARTMENTAL COMMITTEES

Article 124(4) of the Constitution provides that, *"when a House of Parliament considers any appointment for which its approval is required under this Constitution or an Act of Parliament, the appointment shall be considered by a Committee of the relevant House"*.

The Departmental Committees of the National Assembly are established and mandated pursuant to Standing Order 216(5)(f) to vet and report on appointments where the Constitution or any law requires the National Assembly to approve except those under Standing Order 204(Committee on Appointments).

Therespective Departmental Committeesshall conduct the vetting of the following persons for appointment as Principal Secretaries for their respective ministries on Friday 11th December, 2015.

No.	MINISTRY	NOMINEEE
1.	Devolution &Planning	
	PS – Planning& Statistics	Saitoti Torome
2	Interior & Coordination of National Government	
	PS - Correctional Services	Micah Powon
3	Public Service Youth & Gender Affairs	
	PS – Youth and Public Service	Lilian Omollo Zeinab
	PS - Gender Affairs	Zeinab W. Hussein
4.	Defence	Amb. Peter K. Kaberia
5.	Education, Science & Technology	
	PS - Vocational and Technical Training	Dr. Dinah Jerotich Mwinzi
6.	Health	Dr. Nicholas Muraguri
7.	Transport &Infrastructure	

	PS - Housing & Urban Development	Aidah Munano
	PS - Public Works	Dr. Paul Maringa Mwangi
	PS - Transport	Wilson Nyakera Irungu
	PS – Maritime Commerce	Nancy Karigithu
8.	Environment, & Mineral Resources	
	PS - Environment	Charles Sunkuli
	PS - Natural Resources	Dr. Margaret Mwakima
9.	Information, Communication &Technology	
	PS – ICT and Innovation	Eng. Victor Kyalo
	PS - Broadcasting & Telecommunications	Sammy Itemere
10.	Sports, Culture and the Arts	Joseph Okudo
11.	Energy and Petroleum	
	PS - Petroleum	Andrew Kamau Nganga
12.	Agriculture, Livestock &Fisheries	
	PS - Livestock	Dr. Andrew K. Tuimur
13.	Industrialization & Enterprise Development	Julius Korir
14.	Tourism	
	PS - Tourism	Fatuma Hersi
	PS - International Trade	Dr. Chris Kiptoo
15.	Water &Irrigation	Patrick Nduati Mwangi
16.	Labour& East African Affairs	
	PS - Social Security and Services	Susan Mochache
	PS - East African Community Integration	Betty Chemutai Maina

This is to request you to provide the Committees with any information touching on the integrity of the said nominees that may be in possession of the Commission. Such information will assist the Committees to undertake theirmandate more effectively. We will appreciate if the information is received by **Tuesday 8thDecember, 2015.**

Yours

JUSTIN N. BUNDI, CBS
CLERK OF THE NATIONAL ASSEMBLY

Director - Committees
Pls deal
JW
8/12

ETHICS AND ANTI-CORRUPTION COMMISSION

INTEGRITY CENTRE (Valley Rd. /Milimani Rd. Junction) P.O. Box 61130 -00200, NAIROBI, Kenya
TEL.: 254 (020) 2717318/ 310722, MOBILE: 0729 888881/2/3
Fax: 254 (020) 2719757 Email: eacc@integrity.go.ke Website: www.eacc.go.ke

When replying please quote:

Our Ref: EACC.7/10/5 Vol.II (3)

7th December, 2015

Betty
Circulate to
relevant committees
JW
8/12

Justin N. Bundi, CBS
Clerk of the National Assembly
National Assembly
Clerk's Chambers
Parliament Building
P.O. Box 41842-00100
NAIROBI

Dear Mr Bundi,

REF: VETTING OF NOMINEES FOR APPOINTMENT AS CABINET SECRETARIES AND PRINCIPAL SECRETARIES BY THE DEPARTMENTAL COMMITTEES

We acknowledge receipt of your letters dated **2nd December 2015** referenced NA/COMM/APPT/2015 and a subsequent letter ref. No. NA/GN.CORR/2015 dated 7th December 2015 on the above matter.

The Commission confirms that there are no outstanding issues or ongoing investigations against the following nominees.

(a) Cabinet Secretaries

S/No	Ministry	Nominee	ID No
1.	**Energy and Petroleum**	Charles Cheruiyot Keter	10012180
2.	**Information, Communication & Technology**	Joseph Mucheru	10088486
3.	**Public Service, Youth & Gender Affairs**	Sicily Kanini Kariuki	7806180
4	**Devolution and Planning**	Festus Mwangi Kiunjuri	9075393
5	**Agriculture Livestock and Fisheries**	Willy Kipkorir Bett	3448933
6	**Health**	Dr. Cleopha Kilonzo Mailu	4829569

(b) Principal Secretaries

S/No	Ministry	Nominee
1.	**Devolution & Planning**	Saitoti Torome
	PS- Planning & Statistics	
2.	**Interior & Coordination of National Government**	Micah Powon
	PS-Correctional Services	
3.	**Public Service Youth & Gender Affairs**	
	PS-Youth and Public Service	Lillian Omollo
	PS-Gender Affairs	Zeinab W. Hussein
4.	**Defence**	Amb. Peter K. Kaberia
5.	**Education, Science & Technology**	
	PS- Vocational and Technical Training	Dr. Dinah Jerotich Mwinzi
6.	**Health**	Dr. Nicholas Muraguri
7.	**Transport & Infrastructure**	
	PS- Housing & Urban Development	Aidah Munano
	PS- Public Works	Dr. Paul Maringa Mwangi
	PS- Transport	Wilson Nyakera Irungu
8.	**Environment & Mineral Resources**	
	PS- Environment	Charles Sunkuli
	PS- Natural Resources	Dr. Margaret Mwakima
9.	**Information, Communication & Technology**	
	PS- Broadcasting & Telecommunications	Sammy Itemere
10.	**Sports, Culture and the Arts**	Joseph Okudo
11.	**Energy and Petroleum**	
	PS- Petroleum	Andrew Kamau Ng'ang'a
12.	**Agriculture, Livestock & Fisheries**	
	PS- Livestock	Dr. Andrew K. Tuimur
13.	**Industrialization & Enterprise Development**	Julius Korir
14.	**Tourism**	
	PS- Tourism	Fatuma Hersi
	PS- International Trade	Dr. Chris Kiptoo
15.	**Water & Irrigation**	Patrick Nduati Mwangi
16.	**Labour & East African Affairs**	
	PS- Social Security and Services	Susan Mochache
	PS- East African Community Integration	Betty Chemutai Maina

The Commission confirms that there are allegations in which the following persons are adversely mentioned and we are in the process of verifying the same.

S/No	Ministry	Nominee
	Cabinet Secretaries	
1	**Mining**	Daniel Kazungu Muzee
	Principal Secretaries	
1.	**Transport & Infrastructure**	
	PS- Maritime Commerce	Nancy Karigithu
2.	**Information, Communication & Technology**	
	PS- ICT & Innovation	Eng. Victor Kyalo

Please note that the absence of records in our database is not a guarantee of absolute integrity of the nominees.

Yours sincerely

HALAKHE D. WAQO ACIArb
SECRETARY/CHIEF EXECUTIVE OFFICER
EKI/tm

REPUBLIC OF KENYA.

Telegraphic Address
'Bunge', Nairobi
Telephone 2848000
Fax: 2243694
E-mail: clerk@parliament.go.ke

National Assembly
Clerk's Chambers
Parliament Buildings
P. O. Box 41842 –00100
NAIROBI, Kenya

When replying please quote

NA/GEN. CORR /2015

2nd December, 2015

Francis Ndegwa Muhoro ndc (K), SDCP 1,
Director, Criminal Investigation Department
Iambu Road Opp. Forestry Department,
Headquarters Karurua,
NAIROBI.

Dear Sir,

RE: VETTING OF NOMINEES FOR APPOINTMENT AS PRINCIPAL SECRETARIES BY THE DEPARTMENTAL COMMITTEES

Article 124(4) of the Constitution provides that, *"when a House of Parliament considers any appointment for which its approval is required under this Constitution or an Act of Parliament, the appointment shall be considered by a Committee of the relevant House".*

The Departmental Committees of the National Assembly are established and mandated pursuant to Standing Order 216(5)(f) to vet and report on appointments where the Constitution or any law requires the National Assembly to approve except those under Standing Order 204(Committee on Appointments).

Therespective Departmental Committeesshall conduct the vetting of the following persons for appointment as Principal Secretaries for their respective ministries on Friday 11th December, 2015.

No.	MINISTRY	NOMINEEE
1.	Devolution &Planning	
	PS – Planning& Statistics	Saitoti Torome
2	Interior & Coordination of National Government	
	PS - Correctional Services	Micah Powon
3	Public Service Youth & Gender Affairs	
	PS – Youth and Public Service	Lilian Omollo Zeinab
	PS - Gender Affairs	Zeinab W. Hussein
4.	Defence	Amb. Peter K. Kaberia
5.	Education, Science & Technology	
	PS - Vocational and Technical Training	Dr. Dinah Jerotich Mwinzi
6.	Health	Dr. Nicholas Muraguri

7.	**Transport &Infrastructure**	
	PS - Housing & Urban Development	Aidah Munano
	PS - Public Works	Dr. Paul Maringa Mwangi
	PS - Transport	Wilson Nyakera Irungu
	PS – Maritime Commerce	Nancy Karigithu
8.	**Environment, & Mineral Resources**	
	PS - Environment	Charles Sunkuli
	PS - Natural Resources	Dr. Margaret Mwakima
9.	**Information, Communication &Technology**	
	PS – ICT and Innovation	Eng. Victor Kyalo
	PS - Broadcasting & Telecommunications	Sammy Itemere
10.	**Sports, Culture and the Arts**	Joseph Okudo
11.	**Energy and Petroleum**	
	PS - Petroleum	Andrew Kamau Nganga
12.	**Agriculture, Livestock &Fisheries**	
	PS - Livestock	Dr. Andrew K. Tuimur
13.	**Industrialization & Enterprise Development**	Julius Korir
14.	**Tourism**	
	PS - Tourism	Fatuma Hersi
	PS - International Trade	Dr. Chris Kiptoo
15.	**Water &Irrigation**	Patrick Nduati Mwangi
16.	**Labour& East African Affairs**	
	PS - Social Security and Services	Susan Mochache
	PS - East African Community Integration	Betty Chemutai Maina

This is to request you to provide any information touching on the conduct of the said nominees that may be in possession of the Criminal Investigation Department.Such information will assist the Committees to undertake their mandate more effectively. We will appreciate if the information is received by **Tuesday 8thDecember, 2015.**

Yours

JUSTIN N. BUNDI, CBS
CLERK OF THE NATIONAL ASSEMBLY

C. 24A

Nº 491787

NATIONAL POLICE SERVICE

DIRECTORATE OF CRIMINAL INVESTIGATIONS

DIRECORATE OF CRIMINAL INVESTIGATIONS
P. O. BOX 30036–00100 GPO
NAIROBI, KENYA

Ref. No. 222722 /2015 Date 07/12/2015

POLICE CLEARANCE CERTIFICATE

I hereby certify that the fingerprints recorded from .....

NICHOLAS MWANGI MURGURI

.....

holder of ID/Passport No. 10895429 ..... *have been searched in Criminal Records Office's database with/without previous record. The validity of the information on this Certificate is as of the date of issue.*

REMARKS IN CASE OF PREVIOUS RECORD

OFFENCE(S) ..... NIL

RESULTS OF TRIAL .....

DATE .....

This Certificate has been issued without any alteration or erasure.

(J.M.Maganbo)
.....
For: Director of Criminal Investigations

(P.T.O.)

GPK (SP) 7518—125m—5/2013

PUBLIC SERVICE COMMISSION

Tel: (020) 2223901/2227471
Fax: (020) 214284
Email: chairperson@publicservice.go.ke

OFFICE OF THE CHAIRPERSON

COMMISSION HOUSE
P.O. BOX 30095-00100
NAIROBI KENYA

Ref. No. PSC.SEC.93/71 Vol.III

10th July 2015

His Excellency Hon. Uhuru Kenyatta, CGH
President and Commander in Chief of the
Defence Forces of The Republic of Kenya
State House
NAIROBI

Your Excellency,

PERSONS RECOMMENDED FOR THE POSITION OF PRINCIPAL SECRETARY IN THE PUBLIC SERVICE

This has reference to the Chief of Staff and Head of Public Service letter dated 25th June, 2015.

While acknowledging receipt of the list of eighty seven (87) persons recommended for appointment, the Chief of Staff and Head of Public Service did request the Commission to review the advertisement to include specified skills and talents.

Consequently, a re-advertisement was made in the print media and Commission website on 27th June, 2015. Out of the three hundred and seventy nine (379) applications received, seventy two (72) were shortlisted for final interviews which were held on 9th and 10th July, 2015.

Owing to the urgency, it has not been possible to obtain background checks on the shortlisted candidates from the National Intelligence Service and Ethics and Anti-Corruption Commission.

Your Excellency, attached is a summary indicating the nominees' academic and professional qualifications, current responsibilities and contact addresses for your reference.

The list includes:

44 persons recommended in May 2013;
87 persons in May 2015; and
65 persons in July 2015

The full list of recommended persons by this Commission is hereby submitted to you as a talent pool from which you may pick Principal Secretaries whenever required.

I take this opportunity to thank you most sincerely for the support accorded to the Commission during the entire recruitment process.

Yours Sincerely

PROF. MARGARET KOBIA, PhD, CBS
CHAIRPERSON
PUBLIC SERVICE COMMISSION

Encl.

PUBLIC SERVICE COMMISSION

PERSONS RECOMMENDED FOR THE POSITION OF PRINCIPAL SECRETARY IN THE PUBLIC SERVICE – JULY 2015

S/No.	Name
1	Andrew N. Kamau
2	William K. Kiprono
3	Gerald M. Macharia
4	Eng. Michael Muchiri
5	Dr. Sabah Ahmed Omar
6	Samuel W. Tiras
7	Dr. John M. Omiti, PhD
8	Dr. Beatrice K. Njenga
9	Joseph Muhwanga
10	Dr. Kennedy N. Mulwa, HSC
11	Peter L. Leitoro
12	John K. Sergon, EBS
13	Amb. Peter N. R. O. Ogego
14	Dr. Boniface K. Maket
15	Dr. Kenneth Chelule
16	Hassan Noor Hassan, EBS
17	Lilian Mbogo-Omollo
18	Dr. Nicholas M. Muraguri, OGW
19	Millicent J. Ogutu
20	Waithaka Njuguna X. N. Iraki, PhD
21	Dr. Saeed M. Mwaguni
22	Andrew W. Ngunya
23	Kennedy M. W. Kihara, EBS
24	Dr. Joyce A. W. Nyairo, PhD
25	Mark Ekiru Narengo
26	Eng. Peter K. Maranga
27	Bruce Dominic Odhiambo
28	Prof. Solomon Mpoke, PhD, MBS
29	Catherine A. Nyambala
30	Raphael K. Wanjogu
31	Major (Rtd) Charles Chacha
32	Amb. Leonard N. Ngaithe
33	Eva A. Obara, MBS

S/No.	Name
34	Saitoti Torome
35	Michael K. Katundu
36	Catherine A. Namuye
37	Pauline W. Warui
38	Mary N. Khaemba
39	Job J. A. Ogonda
40	Dr. Marisella N. Ouma
41	Jasper M. Mbiuki
42	Dr. Bernard N. Okumu
43	Dr. Christopher Wanga, MBS
44	Caroline W. Kariuki
45	Irene W. Gikemi
46	Ali Daud Mohamed
47	Joseph R. Okudo
48	June K. Gachui
49	Susan N. Mochache
50	Timothy G. Muthaura
51	Patrick N. Mwangi
52	Stephen O. Mallowah
53	Joe Onsando
54	James K. Tendwa
55	Christopher K. A. Foot
56	Joseph Mucheru
57	Robert M. N. Kariuki
58	W. Irungu Nyakera
59	Prof. James H. P. Kahindi
60	Emukule Ekirapa
61	Martin Njau Mburu
62	Nzioka Siwadie Waita
63	Davin Owino Odhiambo
64	Dr. Jane W. Njuru
65	Mary Kimotho M'Mukindia

PUBLIC SERVICE COMMISSION

PERSONS RECOMMENDED FOR THE POSITION OF PRINCIPAL SECRETARY IN THE PUBLIC SERVICE – MAY 2015

S/No	Name
1	Elijah L. Letangule
2	Beatrice N. Kituyi
3	Dr. John Masasabi Wekesa
4	Prof. Lawrence D.E. Ikamari
5	Eng. Michael O. Owino, HSC
6	Dr. George O. Kwedho
7	Dr. Dinah C. Mwinzi, PhD, MBS
8	Amb. (Dr.) Joseph K. Kiplagat
9	Dr. Maringa Paul Mwangi
10	George J. N. Anyango
11	Safia Abdi
12	Adan Wario Kabelo
13	Itemere S. Ashihundu Shihemi
14	Dr. Samson Muchelule
15	Betty C. Maina, MBS
16	Philomena B. Koech
17	Dr. Katherine W. Getao
18	Amb. (Dr.) Martin Kimani
19	Gituro Wainaina
20	Albert K. Mwenda
21	Stephen Masha
22	Maureen M. Mwangovya
23	Amb. Benjamin A. M. Mweri
24	Nancy W. Karigithu, MBS
25	Dr. Kennedy M. Nyaundi, PhD
26	Enosh O. Momanyi
27	Dr. Kenneth S. Ombongi, OGW

S/No	Name
28	John R. Nyaoro
29	Solomon A. M. K. Kitungu
30	Eng. Lawrence N. Simitu
31	Amb. David M. Mutui, MBS
32	Abdul K. Mwasserah, EBS
33	Dr. William K. Maina, OGW
34	Peter Munywoki Mutie
35	Victor Kyalo
36	Esther Gondosio Muia
37	Col. (Rtd.) Hilary K. Kioko, MBS
38	Sammy M. Makove
39	Julius Monzi Muia, PhD, EBS
40	Sabdiyo B. Dido
41	Zakayo M. Lolpejalai
42	Sunya Orre Morongei
43	Dr. Moses M. Ikiara, PhD., MBS
44	Michael M. Mugo
45	Amb. Peter K. Kaberia
46	Bruno M. Linyiru
47	Dr. Stephen L. Mutunga, PhD, MBS
48	Patrick M. Bucha, MBS
49	Dr. Anne Karimi Kinyua, PhD, MBS
50	Prof. Rose A. O. Odhiambo, HSC
51	Bahati K. Keranga Mwita
52	Khalid Masud Salim
53	Arch. Aidah N. Munano, HSC
54	Ruth W. Mwaniki
55	Michael K. Ruthuku

56	Dr. Stanley S. Sonoiya
57	David K. Njoroge
58	Kipkorir Lagat
59	Dr. Andrew Tuimur
60	Dr. Thomas K. Serrem
61	Juliana N. Yiapan
62	Ole Mapelu Zakayo
63	Amb. Ken N. Osinde
64	Paul Machira Gichohi
65	Anne K. Mugo, MBS
66	Robert Muriithi Ndegwa, OGW
67	Lydiah Hiuko Muriuki
68	Bishop David W. Lengala
69	William O. Oduol
70	George O. Ooko
71	Amb. Philip R. O. Owade

72	Eng. Petronilla A. Ogut
73	Dr. Margaret W. Mwakima
74	Bakari Garise Omara
75	Dr. Thomas Daido Dulu
76	Julius K. Korir
77	Eng. Patrick W. Munialo
78	Peter B. Kusimba
79	Lojore Edward Ekidor
80	Julius Kiptarus, HSC, OGW
81	Dr. Josehp K. Sitienei, OGW
82	Prof. David R. Tuigong, PhD
83	Teresa Chebet Maina
84	Philip Kisia Aluda, MBS.
85	Rashid Kassim Amin
86	Dr. Mary C. Lopokoiyit
87	Micah Pkopus Powon

PUBLIC SERVICE COMMISSION

PERSONS RECOMMENDED FOR THE POSITION OF PRINCIPAL SECRETARY IN THE PUBLIC SERVICE – MAY 2013

S/No.	Name
1.	Dr. Sambili Edward Cherutich, CBS
2.	Dr. Ludeki Chweya, PhD., CBS
3.	Lucas Meso
4.	Christopher Kiprotich Kiptoo, PhD
5.	Maina Teresa Chebet
6.	Dr. Cyrus Njiru, PhD., CBS
7.	Eng. Abdulrazaq A. Ali, CBS
8.	Rodah Awinja Masaviru, OGW
9.	Siele David Kipngetich
10.	Maina Chemutai Betty, MBS, HSC
11.	Amb. Mweri Benjamin Adam Mure
12.	Richard Ethan Karuri Ndubai, CBS
13.	Nancy Wakarima Karigithu, MBS
14.	Bitange Ndemo, PhD., CBS
15.	Dr. Francis Nyakeya Nyangaga
16.	Barrack Rongah Ndegwa, HSC
17.	John Rao Nyaoro, HSC
18.	Solomon A. M. K. Kitungu
19.	Abdul Khalfan Mwasserah
20.	Dena Joseph Tui Hamisi
21.	Peter Munywoki Mutie
22.	Paul M. Wasanga, MBS
23.	Sabdiyo Bashuna Dido
24.	Amb. Galma Mukhe Boru
25.	Dr. Moses Muriira Ikiara, PhD, MBS,
26.	Sarah M. Kilemi, PhD
27.	Paul O. Odola, MBS
28.	Prof. Shaukat Ali Abdulrazak
29.	Paul Wanyagah
30.	Njoki Kahiga, OGW
31.	Dr. Stanley Sonoiya Serser
32.	Charles Talengo Sunkuli
33.	Amb. Ruth Sereti Solitei, MBS
34.	Dr. Rachel Gesami
35.	Anne K. Mugo, MBS
36.	Amb. Lanyasunya John Lepi
37.	Eng. M.O. Kidenda, MBS, HSC
38.	Prof. Jacqueline Adhiambo Oduol, EBS
39.	Alice Akinyi Kaudia, PhD., EBS, HSC
40.	Sabina Wakio Maghanga
41.	Gwiyo Leah Adda

42.	Eng. Patrick Wanyonyi Munialo
43.	John Long'oggy Ekuru Aukot, PhD
44.	Dr. Malachy Charles Ekal Imana
45.	Epuu Joseph Elim

46.	Tirop Kosgey, CBS
47.	Fatuma Hirsi Mohamed
48.	Dr. Idle O. Farah

To verify this certificate visit:www.metropol.co.ke/verification

Serial No.MCRB/C97842

METROPOL
reach new heights

Metropol Credit Reference
Bureau Limited

Certificate of Clearance

NICHOLAS MWANGI MURGURI

National ID Number: 10895429

This is to certify that the above named person has No negative listing as at the date below.

07/12/2015

Managing Director's Signature

Date

M-28

JAMHURI YA KENYA

REPUBLIC OF KENYA

SERIAL NUMBER: 216263682 ID Number: 10895429

FULL NAMES

NICHOLAS MWANGI MURGURI

DATE OF BIRTH

15 Oct 1971

SEX

MALE

DISTRICT OF BIRTH

NYERI

PLACE OF ISSUE

CENTRAL

DATE OF ISSUE

07 10 2002

HOLDER'S SIGN

DISTRICT

NYERI

DIVISION

MUKURWEINI

LOCATION

GITHI

SUB-LOCATION

KIRIBERIA

N. 80108954291

IDKYA2162636826<<157<<<<<<<314

7104158M2100748O108954291<<3

REPUBLIC OF KENYA

ELEVENTH PARLIAMENT (THIRD SESSION)
THE NATIONAL ASSEMBLY

MESSAGES

MESSAGE FROM THE PRESIDENT
(No. 36of 2015)
ON THE NOMINATION OF CABINET SECRETARIES AND PRINCIPAL SECRETARIES

Honourable Members,

Pursuant to Standing Order 42 of the National Assembly Standing Orders, I wish to convey a Message from His Excellency the President. The Message was submitted by way of a letter which was delivered to my office yesterday, the 1st of December , 2015 for presentation to the House in accordance with Article 152(2) and 155(3) of the Constitution.

Hon. Members, Article 152(2) requires that, and I quote;

> *"(2) The President shall nominate and, with the approval of the National Assembly, appoint Cabinet Secretaries."*

Article 155(3) on the other hand states;

> *"(3) The President shall—*
> *(a) nominate a person for appointment as Principal Secretary from among persons recommended by the Public Service Commission; and*
> *(b) with the approval of the National Assembly, appoint Principal Secretaries."*

In the Message, His Excellency the President has nominated the following to serve as Cabinet Secretaries:-

S/No.	Name	Ministry
(i)	Daniel Kazungu Muzee	Mining
(ii)	Festus Mwangi Kiunjuri	Devolution and Planning
(iii)	Willy Kipkorir Bett	Agriculture
(iv)	Sicily Kanini Kariuki	Public Service, Youth and Gender Affairs

(v)	Charles Cheruiyot Keter	Energy and Petroleum
(vi)	Dr. Cleopa Kilonzo Mailu	Health
(vii)	Joseph Mucheru	Information, Communication and Technology

Hon. Members,

H.E. the President has further nominated the following as Principal Secretaries:-

S/No.	Name	State Department
(1)	Joe Okudo	Arts, Culture
(2)	Sammy Itemere	Broadcasting & Telecommunications
(3)	Micah Powon	Correctional Services
(4)	Amb. Peter K Kaberia	Defence
(5)	Betty ChemutaiMaina	EAC Integration
(6)	Charles Sunkuli	Environment
(7)	Lilian Omollo	Youth and Public Service
(8)	Dr. Nicholas Muraguri	Health
(9)	AidahMunano	Housing & Urban Development
(10)	Eng. Victor Kyalo	ICT & Innovation
(11)	Julius Korir	Industry & Enterprise Development
(12)	Dr. Chris Kiptoo	International Trade
(13)	Patrick NduatiMwangi	Irrigation
(14)	Dr. Andrew K. Tuimur	Livestock
(15)	Nancy Karigithu	Maritime Commerce
(16)	Dr. Margaret Mwakima	Natural Resources
(17)	Andrew KamauNganga	Petroleum

(18)	SaitotiTorome	Planning & Statistics
(19)	Dr. Paul Maringa Mwangi	Public Works
(20)	Susan Mochache	Social Security & Services
(21)	FatumaHersi	Tourism
(22)	Wilson NyakeraIrungu	Transport
(23)	Dr. Dinah JerotichMwinzi	Vocational & Technical Training
(24)	Zeinab W Hussein	Gender Affairs

Hon. Members,

H.E. the President now seeks the approval of the National Assembly on the nominees for appointment to as Cabinet Secretaries. At the same time, Standing Order 45 requires that upon receipt of notification of nomination for appointments, such nominations shall stand committed to the relevant Departmental Committees for consideration. Consequently, the nominations for appointment to the positions of Principal Secretaries are hereby referred to the respective Departmental Committees as follows:-

S/No.	Departmental Committee	Nominee
(1)	Finance, Planning & Trade	(i) Saitoti Torome
		(ii) Julius Korir
		(iii) Fatuma Hersi
		(iv) Dr. Chris Kiptoo
(2)	Energy, Information & Communication	(i) Sammy Itemere
		(ii) Eng. Victor Kyalo
		(iii) Andrew Kamau Ng'ang'a
(3)	Administration & National Security	(i) Micah Powon
(4)	Environment & Natural Resources	(i) Charles Sunkuli
		(ii) Dr. Margaret Mwakima
(5)	Transport, Public Works	(i) Aidah Munano

	&Housing	(ii)	Dr. Paul Maringa Nganga
		(iii)	Wilson Nakera Irungu
		(iv)	Nancy Karigithu
(6)	Defence & Foreign Relations	(i)	Amb. Peter K. Kaberia
(7)	Agriculture, Livestock & Cooperatives	(i)	Dr. Andrew K. Tuimur
		(ii)	Patrick Nduati Mwangi
(8)	Health	(i)	Dr. Nicholas Muraguri
(9)	Education Research Technology	(i)	Dr. Dinah Jerotich Mwinzi
(10)	Labour and Social Welfare	(ii)	Betty Chemutai Maina
		(ii)	Susan Muchache
		(iii)	Joseph Okudo
		(iv)	Zeinab W. Hussein

The Departmental Committees Administration & National Security and that on Labour and Social Welfare will jointly vet the proposed appointment of Ms. Lilian Omollo, as the state department on Youth and Public Service, for which she is nominated to, falls within the mandate of the two Committees.

Further, and pursuant to the provisions of Standing Order 204(4), the nomination on the seven (7) Cabinet Secretaries is hereby referred to the *Committee on Appointment.*

I have also directed the Clerk to publish and circulate, tomorrow, the list of the nominees, showing clearly the respective Committees which will vet each one of the nominees

Hon. Members, section 8 of the Public Appointments (Parliamentary Approval) Act requires that unless otherwise provide in law, a Committee shall consider a nomination and table a report for debate and decision in the House within fourteen (14) days from the date of notification. It is therefore imperative that each of the aforementioned Committees immediately seizes itself of the matter to enable speedy conclusion within the set timelines. For the avoidance of doubt, the Committees are expected to have concluded their deliberation and table the necessary reports by

December 14, 2015. You will note that this is the time that the House ought to consider and make a decision on the nominees for appointment to the Ethics and Anti-Corruption Commission, being the 21st and last day following the conveyance of the names in the House.

Hon. Members,

From the foregoing, and aware that the House is scheduled to break for long recess tomorrow in accordance with the House Calendar, it is only prudent that the House be recalled from the recess for Special Sittings on or around December 16th to 18th, 2015. Notably, about 12 Committees will be involved in the vetting exercise. It therefore follows that, the approval process will also be considered by the House by way of various separate motions. To this end, it may not be possible to conclude with all the separate motions within the required timelines. I have therefore requested the Leader of the Majority Party to move a motion tomorrow for the extension of the time for consideration of the nominations pursuant to the provisions of section 13 of the Public Appointments (Parliamentary Approval) Act. This will allow the conclusion of the approval motions after the tabling of the reports when the House is recalled for the special sitting on or around December 16, 2015. For avoidance of doubt, the said section states:-

> ***"13(1) Despite the provisions of this Act or any other written law, where a time is prescribed for doing an act or taking a proceeding by the National Assembly relating to a public appointment, the National Assembly may, by resolution, extend that time by a period not exceeding fourteen days."***

Hon. Members,

In this regard, I wish to guide the Committees and the House as follows:-

(i) The Committees should immediately notify the nominees and the general public of the time and place of holding approval hearings in good time to ensure commencement of the necessary hearings in good time; and

(ii) The Committees are expected to have concluded their reports to the House on or before December 15, 2015 to enable the House to consider the respective reports and the nominees immediately thereafter.

Finally Hon. Members, let me take this early opportunity to correct the impression made by the print and electronic media with regard to the vetting of the nominees for

the position of Cabinet Secretaries and Principal Secretaries. Articles 152(5)(a) and 155(4) allows the President to re-assign a Cabinet Secretary or a Principal Secretary respectively. The interpretation of these provisions is that a person vetted and approved for appointment to the position of Cabinet Secretary or Principal Secretary may be reassigned within the same position by the President. Indeed, any appointment approved by the National Assembly would not require subsequent vetting if the reassignment is of the same nature and responsibility. Consequently, serving Cabinet and Principal Secretaries who have been moved to other Ministries or State Departments will be **NOT** require further approval of the House.

I thank you!

THE HON. JUSTIN B.N. MUTURI, EGH, MP
SPEAKER OF THE NATIONAL ASSEMBLY
DECEMBER 02, 2015

APPENDIX 3

AFFIDAVIT

REPUBLIC OF KENYA

IN THE MATTER OF THE OATHS AND STATUTORY DECLARATIONS ACT
AND
IN THE MATTER OF NICHOLAS MWANGI MURGURI
AND
IN THE MATTER OF NICHOLAS MWANGI MURAGURI
AND
IN THE MATTER OF MURAGURI NICHOLAS

AND
IN THE MATTER OF A DECLARATION AND VERIFICATION OF NAME

AFFIDAVIT

I, **NICHOLAS MWANGI MURGURI,** of P. O. Box 62910- 00200 , Nairobi in the Republic of Kenya do make oath and state as follows:-

1. THAT I am the holder of National Identity Card Number 10895429 and the deponent herein.

2. THAT the names that appear on my National Identity Card, Police Clearance Certificate, Tax Compliance Certificate and Credit Clearance Certificate are **Nicholas Mwangi Murguri.** *(A copy of the said National Identity Card, Police Clearance Certificate, Tax Compliance Certificate and Credit Clearance Certificate are attached and marked, "NMM-1", "NMM-2", "NMM-3" & ""NMM-4" respectively)*

3. THAT the names that appear on my academic certificate are **Nicholas Mwangi Muraguri.** *(A copy of the said Academic Certificates is attached and marked, "NMM-5")*

4. THAT the names that appear on my Higher Educations Loans Board Clearance Certificate are **Muraguri Nicholas.** *(A copy of the said Academic Certificate is attached and marked, "NMM-6")*

5. THAT I swear this Affidavit in support of a Declaration that **Nicholas Mwangi Murguri, Nicholas Mwangi Muraguri** and **Muraguri Nicholas** are one and the same person.

6. THAT what is deponed hereinabove is true to the best of my knowledge.

SWORN by the said NICHOLAS MWANGI MURGURI)
at this 11th day of December 2015)
)
)
)
BEFORE ME)
)
)
)
)
COMMISSIONER FOR OATHS)

DEPONENT

EASTUS K. GITONGA
ADVOCATE & COMMISSIONER FOR OATHS
P.O. BOX 26128 - 00100, NAIROBI

DRAWN BY:-
Gitonga, Kinyanjui & Co. Advocates,
Golf Course Commercial Centre,
2nd Floor, Room 2.12,
Mtongwe Road
P.O Box 26128 – 00100,
Nairobi. Email: gitonga.kinyanjui.co@gmail.com ; 020-237-2769

JAMHURI YA KENYA

REPUBLIC OF KENYA

SERIAL NUMBER: 216263882

ID NUMBER: 10895429

FULL NAMES

NICHOLAS MWANGI MURGURI

DATE OF BIRTH

15-08-1971

SEX

MALE

DISTRICT OF BIRTH

NYERI

PLACE OF ISSUE

CENTRAL

DATE OF ISSUE

07-10-2002

HOLDER'S SIGN

"DMN-1"

Certified as a true copy of the original

DISTRICT
NYERI
DIVISION
MUKURWEINI
LOCATION
GITHI
SUB-LOCATION
KIRERENYA

PRINCIPAL REGISTRAR'S SIGN.

N. B0108954281

IDKYA2162636826<<157<<<<<<<314
7104158M0210074<B0108954291<<3

C. 24A

"NMM-2"

Nº 491787

NATIONAL POLICE SERVICE

DIRECTORATE OF CRIMINAL INVESTIGATIONS

DIRECORATE OF CRIMINAL INVESTIGATIONS
P. O. BOX 30036–00100 GPO
NAIROBI, KENYA

Ref. No. 222722 /2015 Date 07/12/2015

POLICE CLEARANCE CERTIFICATE

I hereby certify that the fingerprints recorded from

NICHOLAS MWANGI MURGURI

holder of ID/Passport No. 10895429 *have been searched in Criminal Records Office's database with/without previous record. The validity of the information on this Certificate is as of the date of issue.*

ERASTUS K. GITONGA ADVOCATE & COMMISSIONER FOR OATHS P.O. BOX 26128 - 00100 NAIROBI

Certified true copy of the original

REMARKS IN CASE OF PREVIOUS RECORD

OFFENCE(S) NIL

RESULTS OF TRIAL

DATE

This Certificate has been issued without any alteration or erasure.

(J.M.Maganbo)
For: Director of Criminal Investigations

(P.T.O.)

GPK (SP) 751F—125m—5/2015

KENYA REVENUE AUTHORITY

Tax Compliance Certificate

For General Tax Questions
Contact KRA Call Centre
Tel: +254 (020) 4999 999
Cell: +254(0711)099 999
Email: callcentre@kra.go.ke

www.kra.go.ke

Taxpayer PIN : A003260217W

Name and Address :

Nicholas Mwangi Murguri
Afya House, Nairobi, Starehe District,
PO Box:62910,
Postal Code:00200

Certificate Date: 29/04/2015

Certificate Number:

KRAWON1303492015

"Mmm 3"

This is to confirm that Nicholas Mwangi Murguri, Personal Identification Number A003260217W has filed relevant tax returns and paid taxes due as provided by Law.

This Certificate will be valid for twelve (12) months up to 29/04/2016.

ERASTUS K. GITONGA
ADVOCATE &
COMMISSIONER
FOR OATHS
P.O. Box 26128-00100 NAIROBI

Certified as true copy of the original

Caveat: This certificate is issued on the basis of information available with the authority as at the certificate date mentioned above. The Authority reserves the right to withdraw the certificate if new evidence materially alters the tax compliance status of the recipient.

Disclaimer : This certificate is system Generated and therefore does not require signature.You may confirm validity of this certificate on the iTax Portal by using the TCC Checker.

To verify this certificate visit:www.metropol.co.ke/verification

Serial No.MCRB/C97842

METROPOL
reach new heights

Metropol Credit Reference Bureau Limited

Certificate of Clearance

NICHOLAS MWANGI MURGURI

National ID Number: 10895429

This is to certify that the above named person has No negative listing as at the date below.

Managing Director's Signature

07/12/2015

Date

M-28

2307607

"NMM-5"

University of Pretoria

The Council and Senate hereby declare that
at a congregation of the University the degree

Master of Public Health
(with distinction)

with all the associated rights and privileges
was conferred on

NICHOLAS MURAGURI

in terms of the Higher Education Act, 1997 and the Statute of the University

On behalf of the Council and Senate

Vice-Chancellor and Principal

On behalf of the Faculty of
Health Sciences

Dean

ERASMUS R. [illegible]
ADVOCATE & COMMISSIONER FOR OATHS
P.O. Box [illegible]

Registrar

Certified as true copy Muraguri

2004-09-02

United States International University

The Trustees of the University, upon recommendation of the University Faculty and by virtue of the Authority in them vested, have conferred on

Nicholas Mwangi Muraguri

who has satisfactorily pursued the studies and passed the examinations required therefor, the degree of

Global Executive Master of Business Administration

with all the rights, privileges and honors thereunto appertaining

Given at Nairobi, Kenya
this eleventh day of December, two thousand and ten.

Freida A. Brown
Vice Chancellor

Chair, Board of Trustees

"NMM-S"

Universiteit van Pretoria
University of Pretoria

DIE VERTEENWOORDIGENDE STUDENTERAAD
THE STUDENT REPRESENTATIVE COUNCIL

ken hiermee / hereby awards

AKADEMIESE EREKLEURE
ACADEMIC HONORARY COLOURS

toe aan / to

NICHOLAS MURAGURI

Magister in Openbare Gesondheid

Master of Public Health

namens die Studentegemeenskap van die Universiteit van Pretoria.
on behalf of the Student Community of the University of Pretoria.

President

Lid vir Kleure
Member for Colours

Datum
Date

2 September 2004

14 1540

"Wmm-S"

Compared

MOI UNIVERSITY

Upon the recommendation of Senate
and on authority of the Council
hereby confers upon

Nicholas Maraguri

the degree of

Bachelor of Medicine

and

Bachelor of Surgery

with all the rights and privileges
thereunto appertaining in witness whereof
we have hereunto affixed our signatures
and the seal of the University

on the 3rd day of December 1999

BRAMWELL K. GITONGA
ADVOCATE & COMMISSIONER FOR OATHS

Certified a true copy of the Original

VICE-CHANCELLOR

SECRETARY TO SENATE

SECRETARY TO COUNCIL

Strathmore Business School

EXECUTIVE EDUCATION

This is to certify that

Dr. Nicholas Muraguri

has successfully completed the Public Policy Executive Program held from 14th - 18th July 2014.

Dr. Robert Mudida

Program Leader,
Strathmore Business School,
Nairobi, Kenya

Dr. George Njenga

Dean,
Strathmore Business School,
Nairobi, Kenya.

Strathmore
UNIVERSITY

No. 018484

HIGHER EDUCATION LOANS BOARD

Certificate of Clearance

UNIVERSITY STUDENT LOAN

This Certificate is awarded to *MURAGURI NICHOLAS*

ID No. *10895429* University Registration No. *MED/0/12/90*

University attended *MOI UNIVERSITY*

For having repaid in full the Principal Loan and interest thereon.

Signature CEO/ BOARD SECRETARY

Date *09 November 2009*

Signature HEAD OF LENDING, REPAYMENT AND RECOVERY

Date *09 November 2009*

This certificate is issued without erasures, alterations or cancellation

APPENDIX 4

CURRICULUM VITAE

131

CURRICULUM VITAE

Dr. Nicholas MURAGURI OGW, MBChB, MPH, MBA

PO Box 62910-200, Nairobi Kenya ♦ dnmuragS@gmail.com ♦ +254720903947

PROFILE

Visionary public health leader with technical and managerial expertise in health and development. Broad working knowledge of the structure and operations of Government of Kenya, the UN system, international and regional institutions involved in global health, political and socioeconomic development. Innovative and results driven public health professional with extensive experience in the development, management and leadership of public health programs. Notable successes in implementing programs that have achieved major public health impact at national and global level through development of high performing teams, development of efficient systems and strategies, building partnerships and adoption of private sector management practices in public sector. Transformative public health expert with competencies to facilitate, network, negotiate, collaborate and build alliances for a common vision in increasingly complex political environment, trans-organization dynamics and fiscal challenges.

SUMMARY OF SKILLS

Organization and Health Systems Development ♦ Strategic planning ♦ Health Policy and Planning ♦ Health Diplomacy ♦ Maternal and child health programming ♦ Health systems strengthening ♦ Healthcare reforms ♦ Healthcare management ♦ Community health ♦ Health care financing ♦ Program implementation, monitoring and evaluation ♦Results Based Management ♦ Control of communicable and non-communicable diseases ♦ Health communication and advocacy ♦ Networking and partnerships ♦ Public health surveillance ♦ Public health research ♦ HIV Prevention, care and treatment ♦ Human Resources Management ♦ Program and financial data analysis, interpretation and application♦ Capacity Building ♦ Development of health care quality improvement programs.

EDUCATION BACKGROUND

- **PhD in Public Health (on going) – To graduate in 2015**
  Ghent University, Belgium

- **Masters in Development Studies (ongoing) - To graduate in 2015**
  Mt. Kenya University

- **Global Executive Master of Business Administration (GEMBA) (1st class)**
  United States International University,/Columbia Business School, 2010

- **Masters in Public Health (MPH) Infectious Diseases Control (1st class)**
  University of Pretoria, 2004

- **Bachelor degree in Surgery & Bachelor Degree in Medicine (MBChB)**
  Moi University, 1998

Other Professional Qualifications

- **Certificate, Public Policy Executive Program**
  Strathmore Business School, 2014

- **Certificate, Basics of Health Economics**
  The World Bank E learning Training Institute, 2014

- **Certificate, Reproductive Health**
  The World Bank E learning Training Institute, 2014

- **Certificate, Advanced Poverty Analysis**
  The World Bank E learning Training Institute, 2013

- **Certificate in Strategic leadership and Management**
  Strategic Leadership Development Program- Public Service Commission
  Kenya School of Government, November 2011

- **Postgraduate certificate in Global Health**
  Harvard School of Public Health, July 2011

- **Postgraduate certificate in Health Communication**
  Bloomberg School of Public Health
  John Hopkins University, 2006

- **Postgraduate certificate in Applied Epidemiology**
  Nairobi University, 2002

REFEREES

James Macharia
Cabinet Secretary
Ministry of Health
Email: jameswmacharia@gmail.com

Dr. Luiz Loures
Deputy Executive Director
The Joint United Nations Program on HIV/AIDS (UNAIDS)
Email: louresl@unaids.org

Period:	**October 2005 – December 2005**
Project:	Injection Safety Project
Role:	Technical Advisor/Producer - Development of Advocacy and teaching videos on injection safety.
Client:	John Snow, Inc. (Making Medical Injection Safe Project)

Period:	**October 2004 – July 2005**
Project:	Research Project - Gender disparities in post graduate studies in Africa.
Role:	Lead Consultant in Kenya
Client:	Government of Kenya

Period:	**August - 2004**
Project:	Injection Safety Project
Role:	Design of Trainees manual and communication material development.
Client:	John Snow, Inc.

Period:	**July – August 2004**
Project:	Required Health Promotion, capacity building - Kampala.
Role:	Design of training curriculum and facilitation of training.
Client:	World Health Organization – Afro Regional office.

Period:	**August – November 2002**
Project:	EMMOBAC safe motherhood project.
Role:	Evaluation of safe motherhood programs in Embu/Mbeere Districts and training of health workers on safe motherhood.
Client:	Plan International – Kenya

Period:	**March – June 2002**
Project:	Human rights project
Role:	Design of training curriculum on human rights for health workers and facilitation of training.
Client:	Independent Medical Legal Unit (IMLU)

Period:	**February - July 2001**
Project:	Continuing Medical Education (CME)
Role:	Design of CME Program
Client:	Kenya Medical Association – Mt Kenya Branch

Project: Exploring the potential for scaling up uptake of Sexual and Reproductive Health services through social franchising approach
Role: Baseline assessment in the larger Thika district
Client: International Planned Parenthood Federation (IPPF)

Period: **June 2008**
Project: Role of community health workers in meeting MDGs
Role: Review of report and development of action plans for Implementation
Client: Africa Medical Research Foundation (AMREF)

Period: **May 2008**
Project: Health Promotion Framework
Role: Developing of Afro Health Promotion framework for strengthening community participation
Client: WHO Afro regional office

Period: **April 2008**
Project: 46th East, Central, Southern Africa Health Ministers Conference, 2007
Role: Conference Rappoteur
Client: ECSA Commonwealth Secretariat

Period: **March 2007**
Project: 44th East, Central, Southern Africa Health Ministers Conference, 2007
Role: Conference Rappoteur
Client: ECSA Commonwealth Secretariat

Period: **February 2007**
Project: Dadaab Refugee Health Program
Role: Lead Consultant: Formative research and development of Health communication materials for refugees
Client: Save the Children Fund UK

Period: **October - December 2006**
Project: Community Based Health Information system Project Makueni and Kitui districts
Role: Lead Consultant: End Term review and undertaking operation research on Barriers to patient referral in Makueni and Kitui district
Client: Ministry of Health

Period: **July - October 2006**
Project: Development of Health Promotion Framework for Africa WHO Region
Role: Lead consultant
Client: World Health Organization (WHO)

Period: **February – March 2006**
Project: Private Public Partnerships
Role: Development of Policy briefs on Private Public Partnerships (PPP). Coauthor overview paper on PPP for Health Development in East Africa.
Client: Society for International Development SID, Kenya Chapter

I supported analysis and preparation of policy briefs of the following studies

- Government of Kenya (2014). **National Health Accounts**
- Government of Kenya (2014). **National Health Expenditure and Utilization study**
- Government of Kenya (2014). **Kenya Demographic & Health survey**

Principal / Co-investigator in the following studies:

- Malaria Indicator survey(2014/2015)
- TB Prevalence survey(2014/2015)
- Non Communicable disease prevalence survey(2014/2015)
- Provider attitudes towards voluntary medical male circumcision scale-up in Kenya, South Africa, Tanzania and Zimbabwe (2012)
- Attitudes, perceptions and potential uptake of male circumcision among older men in Turkana County, Kenya using qualitative methods (2012)
- Kenya AIDS Indicator Survey (2011)
- HIV sentinel surveillance in Antenatal care clinics (2010/2011)
- Behavioral and biological surveillance of most at-risk populations (MARPs) in Kenya (2010)
- The Shang Ring: A novel male circumcision device for HIV prevention 2010
- Prevalence of STIs among patients attending care and treatment services in Public Health Facilities (2010)
- Etiological of STI study among PLWHIV (2010)
- Evaluation of Healing at Three Time Intervals and Potential for Spontaneous Detachment (2010)

Consultancies

Period: **April 2013**
Project: Assessment of market landscape for early infant diagnosis point of care diagnostics in Kenya, Zimbabwe and South Africa.
Role: Review of national policies and practices affecting uptake of Early Infant Diagnosis (EID) for HIV.
Client: Children Investment Fund (CIFF) – UK

Period: **August 2012**
Project: Assessing the impact of the INSTANT (Initiative for Strengthening HIV/AIDS and Health Training and Networking) initiative in Eastern and Southern Africa
Role: Review of progress reports and interviews with beneficiaries and implementing partners
Client: Regional AIDS Training Network (RATN)

Period: **October 2011**

- Ministry of Health (2014). **Monitoring and Evaluation plan for Community health services (2014 – 2018)**
- Ministry of Health (2014). **Kenya National Retinoblastoma Strategy Best Practice Guidelines 2014**

- UNAIDS (2013). **The 2013 progress report on the Global Plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive.** UNAIDS / JC2509/1/E. ISBN 978-92-9253-026-6
- Republic of Kenya, Office of the First Lady (December 2013). **A Strategic Framework for Engagement in HIV Control and Promotion of Maternal, Newborn and Child Health in Kenya: Accelerating Progress in Saving the Lives of Women and Children (2013-2017)**
- EngenderHealth (2011). **Assessing the Costs of Multiple Program Approaches and Service Delivery Modes for Adult Male Circumcision in Nyanza Province, Kenya.**
- External Reviewer, **2013 WHO consolidated guidelines on the use of Antiretroviral drugs for treating and preventing HIV infection**
- Government of Kenya (2011). National ART Guidelines 4th Edition
- Ministry of Public Health and Sanitation (2011).**Voluntary Medical Male Circumcision for HIV Prevention in Kenya. Report of the First Rapid Results Initiative, Conducted in November/December 2009.**
- Ministry of Public Health and Sanitation (2010).**National Guidelines for HIV Testing and Counseling in Kenya.**
- Ministry of Public Health and Sanitation (2010).**National Quality Management Guidance framework for HIV Testing in Kenya.**
- Ministry of Public Health and Sanitation (2010).**Standards for Peer-Education and Outreach Programs for Sex Workers**
- Ministry of Public Health and Sanitation (2010).**National HIV/STI Guidelines for Sex Workers Programs**
- Ministry of Public Health and Sanitation (2010).**National guidelines for the implementation of the basic care package.**
- Ministry of Public Health and Sanitation (2010).**Quick Reference for Basic Care Package for Community Health Workers and Peer Educators.**
- Ministry of Public Health and Sanitation (2010). **National Infection Prevention and Control Guidelines for Health Care Services in Kenya.**
- Ministry of Medical Services & Ministry of Public Health & Sanitation (2010). **National Forecasting and Quantification for HIV/AIDS Commodities for the Years 2010/11 & 2011/12**

Policy Briefs

Safety Profile and Acceptability of a Disposable Male Circumcision Device in Kenyan Men Undergoing Voluntary Medical Male Circumcision. The Journal of Urology. 186 (5) 1923–1927 Doi: 10.1016/j.juro.2011.07.027

Reuben Granich, Nicholas Muraguri, Alexandre Doyen, Navneet Garg, and Brian G. Williams (2012). **Achieving universal access for Human Immunodeficiency Virus and Tuberculosis: Potential prevention impact of an integrated multi-disease prevention campaign in Kenya.** AIDS Research and Treatment. Article ID 412643. doi:10.1155/2012/412643

Lagace-Wiens PR, Duncan S, Muraguri N, Kimani J, Thiong'o A, Shafi J, McClelland S, Sanders EJ, Zhanel G, Mehta SD. (2012). **Emergence of Fluoroquinolone Resistance in Neisseria gonorrhea Isolates from Four Clinics in Three Regions of Kenya.** Sex Transm Dis. 2012 May;39(5):332-4. doi: 10.1097/OLQ.0b013e318248a85f.

Development of Policy Documents

Provided leadership in the development of the following key policy documents;

- Government of Kenya (2014). **Health Bill 2014**
- Government of Kenya (2014). **National Health Policy 2014 – 2030**
- Government of Kenya (2015). **Annual Health Sector Strategic plan 2015/16**
- Government of Kenya (2015). **Draft Policy on Universal Health coverage and Health Care Financing**

Development of Technical Guidelines, Policies and Strategies

I provided technical guidance in the development of the following national and international program documents:

- Ministry of Health (2015). **Guidelines for Management of Tuberculosis and Leprosy in Kenya**
- Ministry of Health (2015). **Kenya Quality Model for Health Quality Standards for Community Health Services 2015**
- Government of Kenya (2014). **The Counselors and Psychologists Act 2014**
- Ministry of Health (2014). **Human Resources for Health Norms and Standards Guidelines for the Health Sector 2014**

Kahn JG, Muraguri N, Harris B, Lugada E, Clasen T, et al. (2012). **Integrated HIV Testing, Malaria, and Diarrhea Prevention Campaign in Kenya: Modeled Health Impact and Cost-Effectiveness.** PLoS ONE 7(2): e31316. doi:10.1371/journal.pone.0031316

The HIV Modeling Consortium Treatment as Prevention Editorial Writing Group (2012). **HIV Treatment as Prevention: Models, Data, and Questions - Towards Evidence-Based Decision-Making.** PLoS Med 9(7): e1001259. doi:10.1371/journal.pmed.1001259

Puneet Masson, Mark A. Barone, Philip S. Li, Frederick Ndede, Nicholas Muraguri, Quentin Awori, Jairus Okech, Peter Cherutich, Paul Perchal, Richard K. Li, Howard H. Kim, Yue Cheng (2011). **A Pilot Study of the Shang Ring: A Novel Male Circumcision Device for HIV Prevention.** Journal of Urology - J UROL , vol. 185, no. 4, pp. e570-e571, 2011. Doi: 10.1016/j.juro.2011.02.1336

Mwandi Z, Murphy A, Reed J, Chesang K, Muraguri N, Njeuhmeli E, et al. (2011). **Voluntary Medical Male Circumcision: Translating Research into the Rapid Expansion of Services in Kenya, 2008 - 2011.** PLoS Med 8(11): e1001130. doi:10.1371/journal.pmed.1001130

Barone MA, Ndede F, Li PS, Masson P, Awori Q, Okech J, Cherutich P, Muraguri N, Perchal P, Lee R, Kim HH, Goldstein M. (2011). **The Shang Ring Device for Adult Male Circumcision: A Proof of Concept Study in Kenya.** J Acquir Immune Defic Syndr 2011;57:e7–e12

Barone, MS, Quentin Awori, Muraguri N, Philip S. Li, Raymond Otieno Simba, Mark A. Weaver, Cherutich P, et al (2012). **Randomized Trial of the Shang Ring for Adult Male Circumcision With Removal at One to Three Weeks: Delayed Removal Leads to Detachment.** JAIDS Journal of Acquired Immune Deficiency Syndromes:1 July 2012 60(3) e82–e89. doi: 10.1097/QAI.0b013e31824ea1f2

Herman-Roloff A, Llewellyn E, Muraguri N, Obiero W, Agot K, Ndinya-Achola J, Bailey RC (2011). **Implementing voluntary medical male circumcision for HIV prevention in Nyanza Province, Kenya: lessons learned during the first year.** PLoS One. 2011 Apr 4;6(4):e18299.

Lugada E, Millar D, Muraguri N, Haskew J, Grabowsky M, Garg N, et al. (2010). **Rapid Implementation of an Integrated Large-Scale HIV Counselling and Testing, Malaria, and Diarrhea Prevention Campaign in Rural Kenya.** PLoS ONE 5(8): e12435. doi:10.1371/journal.pone.0012435

Musau P, Muraguri N, Demirelli M, Ndwiga F, Wainaina D, Amin AN.(2011) The

Rebecca L Weintraub, Julie R Talbot, Keri J Wachter, Nicholas Muraguri (2014). **When Scaling Prevention Means Scaling Demand: Voluntary Medical Male Circumcision in Nyanza Province, Kenya.** Healthcare journal. 2(1) 69–73 DOI: http://dx.doi.org/10.1016/j.hjdsi.2013.12.002

McKinnon LR, Gakii G, Juno JA, Izulla P, Munyao J, Ireri N, Kariuki CW, Shaw SY, Nagelkerke NJ, Gelmon L, Musyoki H, Muraguri N, Kaul R, Lorway R, Kimani J (2014). **High HIV risk in a cohort of male sex workers from Nairobi, Kenya.** Sex Transm Infect. 90(3):237-42 doi: 10.1136/sextrans-2013-051310.

Elise M van der Elst, Adrian D Smith, Evanson Gichuru, Elizabeth Wahome, Helgar Musyoki, Nicolas Muraguri, Greg Fegan, Zoe Duby, Linda-Gail Bekker, Bonnie Bender, Susan M Graham, Don Operario, Eduard J Sanders. **Men who have sex with men sensitivity training reduces homoprejudice and increases knowledge among Kenyan healthcare providers in coastal Kenya** Journal of the Int'l AIDS Society 2013, 16(Suppl 3):18748 http://dx.doi.org/10.7448/IAS.16.4.18748

Nicholas Muraguri, Marleen Temmerman and Scott Geibel (2012). **A decade of research involving men who have sex with men in sub-Saharan Africa: Current knowledge and future directions.** SAHARA-J: Journal of Social Aspects of HIV/AIDS, Volume 9, Issue 3, 2012

Andre R. Verani, Nicholas Muraguri, Alloys S. S. Orago, Charles N. Kariuki, Dan Koros, Barbara Marston, Kevin M. De Cock. (2013). **Law and Pediatric HIV Testing: Realizing the Right to Health in Kenya.** Journal of the International Association of Providers of AIDS Care (JIAPAC) February 26, 2013 2325957412473779. doi: 10.1177/2325957412473779

Izulla P, McKinnon LR, Muraguri N, Munyao J, Karanja S, Koima W, Parmeres J, Kamuti S, et al. (2013). **HIV post-exposure prophylaxis in an urban population of female sex workers in Nairobi, Kenya.** J Acquir Immune Defic Syndr. 2013 Feb 1;62(2):220-5. doi: 10.1097/QAI.0b013e318278ba1b.

Susan M. Graham, Peter Mugo, Nicholas Muraguri, Evanson Gichuru et al. (2013) **Adherence to Antiretroviral Therapy and Clinical Outcomes Among Young Adults Reporting High-Risk Sexual Behavior, Including Men Who Have Sex with Men in Coastal Kenya**. *AIDS and Behavior* 17 (4) 1255-1265 doi 10.1007/s10461-013-0445-9

Kimani J, McKinnon LR, Muraguri N, Wachihi C, Kusimba J, Gakii G, et al. (2013). **Enumeration of Sex Workers in the Central Business District of Nairobi, Kenya.** PLoS ONE 8(1): e54354 doi:10.1371/journal.pone.0054354

- Inter-Agency Technical Team (IATT), a think-tank leading the global response against HIV.
- International AIDS Society (IAS)
- International Union of Health Promotion & Education
- Kenya Medical Association (KMA)

Computer literacy

Proficient in Microsoft Office Suite, SPSS, Epi-Info and STATA

RESEARCH AND PUBLICATIONS

Tun W, Sheehy M, Broz D, Okal J, Muraguri N, Raymond HF, Musyoki H, Kim AA, Muthui M, Geibel S (2015). **HIV and STI prevalence and injection behaviors among people who inject drugs in Nairobi: results from a 2011 bio-behavioral study using respondent-driven sampling.** AIDS Behav. 19 Suppl 1:S24-35. doi: 10.1007/s10461-014-0936-3.

Musyoki H, Kellogg TA, Geibel S, Muraguri N, Okal J, Tun W, Fisher Raymond H, Dadabhai S, Sheehy M, Kim AA (2015). **Prevalence of HIV, sexually transmitted infections, and risk behaviours among female sex workers in Nairobi, Kenya: results of a respondent driven sampling study.** AIDS Behav. Suppl 1:S46-58. doi: 10.1007/s10461-014-0919-4

Muraguri N, Tun W, Okal J, Broz D, Raymond HF, Kellogg T, Dadabhai S, Musyoki H, Sheehy M, Kuria D, Kaiser R, Geibel S (2015). **HIV and STI prevalence and risk factors among male sex workers and other men who have sex with men in Nairobi, Kenya.** J Acquir Immune Defic Syndr. 68(1):91-6. doi: 10.1097/QAI.0000000000000368.

Antelman G, Medley A, Muraguri N, Mbatia R, Pals S, Arthur G, et al. (2015). **Pregnancy desire and dual method contraceptive use among people living with HIV attending clinical care in Kenya, Namibia and Tanzania.** J Fam Plann Reprod Health Care. 41(1):e1. doi: 10.1136/jfprhc-2013-100784

Maina WK, Kim AA, Rutherford GW, Harper M, K'Oyugi BO, Sharif S, Kichamu G, Muraguri NM, Akhwale W, De Cock KM; KAIS Study Group (2014). **Kenya AIDS Indicator Surveys 2007 and 2012: implications for public health policies for HIV prevention and treatment.** J Acquir Immune Defic Syndr. 66 Suppl 1:S130-7. doi: 10.1097/QAI.0000000000000123 Review.

Sirengo M, Muthoni L, Kellogg TA, Kim A, Mwanyumba A, Kimanga D, Muraguri N, Elly B, Maina W, Rutherford GW (2014). **Mother to child transmission (MTCT) of HIV in Kenya: results from a nationally representative study.** J Acquir Immune Defic Syndr 2014 (66) S66 - 74

established in 1996.

Role: To provide technical support to Hon. Minister of Health during her tenure as a member of Ministerial initiative for women Minister of Health. In addition, as a member of technical steering committee was expected to support the development of advocacy projects undertaken by the Ministerial Initiative.

- **Advisor in Health Promotion (2006)**
  World Health Organization

Teaching Experience

Honorary Senior Lecturer
AMREF International Training Centre - African Medical Research Foundation (AMREF)

Honors and Awards of Excellence

2011: Presidential Merit Award and Distinguished service to the Public – Order of Grand Warrior (OGW)

2005: Awarded Hon. Minister of Health merit Award for Best Program Manager

2000: Awarded Best District Health Manager in Eastern Province

Membership to health boards and professional Associations

Board leadership

- Chair, Kenya Pharmacy and Poisons Board
- Registrar, Kenya Medical Practitioners and Dentists Board

Board membership

- Kenyatta National Hospital
- Moi Teaching and Referral Hospital
- Nursing Council of Kenya
- Medical Laboratory Services Council of Kenya
- Public Health Council of Kenya
- Kenya Medical Research Institute (KEMRI)
- Kenya Medical Supplies Agency (KEMSA)
- National Health Insurance Fund (NHIF)
- Institute of Tropical and Infectious Diseases (UNITID)

Professional bodies' membership

- Training of rural facilities health workers to improve their clinical and surgical skills
- Coordinating all HIV/AIDS activities in the district.

Selected Achievements

- Initiated clinical audits in maternity/labor wards that improved quality of clinical services wards.
- Started continuing Medical education program for frontline health workers
- Started safe motherhood projects in the districts.
- Initiated training of frontline Health Workers in basic obstetric care and streamlined referral systems.
- Improved immunization coverage by 25%
- Initiated safe markets project that addressed hygiene and sanitation issues in markets in the districts.
- Initiated a campaign to stop uvulectomy among children in the district
- Improved management of sick children by initiating training of health workers in integrated management of childhood illnesses (IMCI)
- Opened 4 maternity units in hard to reach areas as a strategy to promote skilled delivery.
- Created and trained village health committees as a strategy to promote community participation

Ministry of Health – Embu Provincial Hospital (1998 – 1999)
Position: Medical Officer

Duties and responsibilities

- Provision of clinical services in various departments
- Supervision of Interns
- Coordinator of continuing professional development program
- Quality assurance manager for maternal child health services

Others Public appointments

- **Technical Advisor and member of Technical Steering Committee of the Ministerial Initiative for Women Ministers of Health**

Ministerial Initiative for Women Ministers of Health was established in 2004 to develop strategies for ministers to work together to shape health, development and human rights policies at the national, regional and international level. The ministerial Initiative is a project of **The Council of Women World Leaders** which is a network of current and former women prime ministers and presidents

and Ministry of Health to promote child survival. Because of collective efforts of many players, Kenya achieved a 36% drop in the under-five mortality between 2000 and 2003.

- The division of Health Promotion chaired a communication & Advocacy subcommittee that supported National AIDS and STI Control Program to create demand for Voluntary Counseling Testing and anti-retroviral treatment services in the country.

Ministry of Health Provincial Office - Eastern
Position: Acting Provincial Medical Officer, Eastern Province (Jan – Nov 2001)

Duties and responsibilities

- Planning and coordination of the implementation of health programs
- Support Policy dialogue and Development
- Supervision of district health Managers
- Represent the Director of Medical Services in important Board Membership in the Province.
- Evaluation of health programs
- Coordinating HIV/AIDS activities in the province
- Donor liaison in the Province.

Selected Achievements

- Initiated training of constituency AIDS committees (CACs) in the province to address gender inclusiveness & engagement of PLWHIV.
- Developed governance systems for district health Boards to address gender equity and representation of marginalized groups.
- Opened 10 additional TB clinics in hard to reach areas of the province.
- Started clinical audits in all maternal units in district hospitals in the province.
- Developed supervisory checklist for health managers

Ministry of Health- District Health Office - Embu District (1999 to Dec 2000)

Position: District Medical Officer of Health

Duties and responsibilities

- Supervising the provision of clinical services in Public /NGO/Private health facilities in the District.
- Health services planning, evaluation, and monitoring
- Design and implementation of health intervention projects
- Coordination of partners and stakeholders involved in the implementation of health programs in the district

"*Kata Shauri, Linda Kizazi*" (Decide now, Protect the future).

Previous posts

Division of Health Promotion, Ministry of Health (June 2004- 2008)
Position: Director

Duties and responsibilities

- Technical Head, Division of Health Promotion, Ministry of Health
- Facilitate development of Health Promotion policy.
- Facilitate and coordinate development of community based health programs
- Provide technical support to health programs to develop communication and social marketing initiatives
- Support Policy development on Health Communication
- Coordinate development of IEC materials
- Monitor and evaluate Health Promotion Programs.
- Implement research to support Health Promotion policy development and program evaluation.
- Develop Health Communication Strategy for Essential Health Packages

Selected Achievements

- Was a team leader of a technical working group that developed and implemented an integrated national public awareness campaign to control malaria *"Komesha Malaria Okoa Maisha"* and introduced new malaria treatment (Artemesin combination treatment). This led to increased mosquito net coverage and use, better care seeking behavior for fever resulting in 44% reduction in childhood deaths in malaria risk zones.
- Lead a team of Communication and Public Health experts who planned and coordinated the implementation of communication and advocacy programs that facilitated introduction of voluntary male medical circumcision in Kenya.
- Was a team leader of a technical working group that designed an advocacy and communication campaign to promote child health through introduction of National Child health days "*Malezi Bora*". This resulted in increased coverage of immunization by 25% and Vitamin A supplementation by 35%
- Lobbied successfully for Africa to host the 7th Global Conference on Health Promotion in Nairobi, Kenya.
- As a team leader of a technical task force we initiated a new partnership between private sector, UN bodies, faith based organization, communities

opportunities for funding and technical support.

- Build alliances and coordinate partners in the health sector who are involved in the implementation of HIV programs.
- Support the development of program work plans and business plans.
- Supervise all technical heads at headquarter and provincial / district levels to ensure timely execution of HIV program activities
- Ensure timely collection, analysis and dissemination of relevant data for program reports

Key achievements

As the team leader, the National HIV program has been able to achieve the following results:

- Improved the management of Global fund grants resulting in better performance ratings. (**Round 7 grant - A2**). Due to renewed confidence and quality of proposals to Global Fund, Kenya was awarded **345 million US Dollars in Round 10 to support HIV program**.
- Reorganized and transformed national HIV program into a professional and highly performing organization able to provide technical support to government of Kenya in HIV control.
- Successfully supported the role out of voluntary medical male circumcision services. By 2012 Kenya achieved **40%** of its target and was recognized as the leading country globally in the roll out of this program.
- Introduced new strategies to promote HIV testing including introduction of national HIV testing days. This increased coverage of number of Kenyans ever tested for HIV from 35% in 2003 to 50% in 2009. The annual number of tests increased from 2 million in 2006 to over 7 million tests in 2012.
- Expansion of new partnerships with civil societies, faith based organizations and private sector.
- Supported the development of the Kenya National AIDS strategic plan (KNASP 2009 – 2013)
- Introduced new treatment guidelines in line with the 2010 WHO recommendations. By 2012 Kenya had achieved 70% coverage of its target.
- Started a new program for most at risk population (MARPS). The program has coordinated scaling up of services and surveillance (including integrated bio-behavioral surveys), size estimation and hotspots mapping.
- Supported the development of several technical guidelines in response to new research findings including new treatment guidelines.
- Working closely with Inter Agency Technical Working Group and other parties we were able to undertake a comprehensive review of the national PMTCT Program including impact study. This informed the process of developing a successful national campaign to end pediatric HIV dubbed

Zero Campaign being championed by the First Lady.

- Adoption of the Global Plan by the African Union and successfully championed prioritization of the global plan by AIDS Watch Africa, African Union high level advocacy and accountability platform to combat HIV.
- Advocating for Ending HIV among children to be the primary agenda of the Organization of First Ladies against AIDS (OAFLA).
- Expansion of partnerships to support countries implement their eMTCT Plans including new actors from private sector (Gates Foundation, Chevron), faith based service providers (Christian Health Associations), Champions for HIV Free Generation, bilateral agencies (DFID) and national medical associations.
- Inclusion of the *Ending HIV among children* as part of the political agenda of the health ministers in the East and Central Africa region and KEWOPA (Kenya Women Parliamentary Associations).

National AIDS and STI Control Program, Ministry of Public Health and Sanitation (2008 - 2012)

Position: Director

Job Summary

To provide the technical leadership and management support that enables the National AIDS and STI Control Program (NASCOP) meet its strategic objectives and its contribution to the attainment of national health goals. Responsible for overall strategy development and HIV programs implementation. Provide technical oversight in the implementation of multi-donor grants supporting HIV response in the country of about **540 million USD annually**.

Duties and responsibilities

- Provide technical oversight, accountability and ensure timely implementation, monitoring and evaluation of HIV program activities.
- Facilitate the development of technical tools, national guidelines and strategies
- Ensure compliance with financial procedures and regulations
- Coordinate with relevant heads of operational departments (logistics, administration, human resources, and finance) to ensure adequate operational support to the program
- Provide ongoing leadership, supervision, training, and guidance to staff and volunteers to ensure HIV programming meets its objectives
- Lead NASCOP in the process of the development of National AIDS and health sector strategic plans.
- Liaise with donors to ensure continuity of support and identification of new

body comprised of various UN bodies, US government, bilateral and unilateral organizations supporting health and development, technical partners, private sector and civil society organizations.

The Executive Director provides overall leadership and management of the Global Plan's operational and administrative functions.

Duties and responsibilities

- Operationalize, lead and monitor implementation of the Global Plan strategies.
- Provide technical leadership to guide development of appropriate policies and strategies to support implementation of the Global Plan.
- Support National Steering Groups at country level in the implementation of the Global Plan and development of their national strategic plans.
- Provide strategic guidance for resource mobilization for implementation of the Global Plan, including identification of high level political leadership opportunities and forums at global, regional and national levels to mobilize political and financial support for the Global Plan.
- Work closely with the co-chairs to ensure overall transparent and effective financial and administrative functionality of the Global Steering Group and its assets.
- Facilitate information sharing on all communications and advocacy activities of various partners related to the Global Plan objectives.
- Build and maintain effective alliances and operational collaboration with public and private partners, such as governments of implementing countries, UN agencies, bilateral donors, and communities.
- Support harmonization of the work of International partners in implementation of country level support in the priority countries.
- Monitor progress on the implementation of the Global Plan.
- Manage the functioning and operations of the Global Steering Group (GSG) and support co-chairs in their leadership roles.
- Support diplomatic missions by the UNAIDS Executive Director and Global AIDS coordinator to priority countries covered by the Global Plan.

Key achievements

- There was a 44% drop in new HIV infections among children across the 21 sub Saharan Global Plan priority countries by the end of 2013.
- Mobilized 1.5 billion US dollars to support the Global Plan.
- Supported the First Lady of the Republic of Kenya to develop a *Strategic Framework for Engagement of the First Lady in HIV control and Promotion of maternal child survival*
- Provided technical support for development and implementation of *Beyond*

Health Bill, National Health Policy and National Health Strategic Plan, Norms & Standards.

- Provided technical support and political leverage to counties to improve delivery of health services.
- Coordinated National efforts to prepare Ebola Contingency plan and Preparedness Strategy.
- Operationalized intergovernmental liaison office to strengthen devolution through enhanced coordination between National and County governments.
- Developed urban slums health program to benefit 3million people living in low income settlements in 5 counties.
- Supported the establishment of cancer care program in Kenya.
- Initiated the optimization of ICT technology to support management of health professionals by regulatory bodies. License renewal and application for registration are now done online and these procedures will be integrated with Huduma centers.
- Guided the development of National Policy for Quality health care that will guide counties on their investment plans to meet the national standards.
- Provided technical leadership in the development of Kenya Human Resource for Human Resource for Health Strategy (KNHRHS) 2014 – 2018
- Successfully introduced Rotavirus vaccine in Kenya which will contribute to reduction of child mortality from Diarrhea and help avert 10,000 deaths annually.
- Introduced systems for performance measurement across the Ministry.
- Introduced health partners online reporting system to support mapping of donors and implementers across the country.

The Joint United Nations Program on HIV/AIDS (UNAIDS) - April 2012 to July 2014

Project*: *The Global Plan towards Elimination of new HIV Infections among Children by 2015 and keeping their Mothers Alive

Position: Executive Director

Job Summary

The Global Plan towards elimination of new HIV infections among children by 2015 and keeping their mothers alive was launched at the United Nations High Level Meeting on AIDS. It targets 21 countries in Sub Saharan Africa and India, regions that collectively contribute 90% of the burden of HIV among Children.

To oversee the implementation of the Global Plan, high level Global Steering Group (GSG) was constituted which is chaired by the Executive Director of UNAIDS and the United States Global AIDS coordinator. GSG is an action-oriented high-level

- Serve as an adviser to senior government officials, County governments and other stakeholders on technical, programmatic and policy issues to advance the goals of the health sector.
- Provide technical and strategic direction as a member of management boards of semi-autonomous organizations in the health sector including the Kenya Medical Training College, Kenyatta National Hospital, Moi Teaching and Referral Hospital, Kenya Medical Supplies Agency, Kenya Medical Research Institute, National AIDS Control Council, and health professionals' regulatory authorities.
- Technical lead of the medical profession in Kenya with key roles in medical regulation, medical education and training, standards and performance.
- Provide technical leadership and management of health staff in the national government to discharge functions identified in the Constitution of Kenya and other administrative regulations.
- Support the development of health programs and healthcare delivery by county governments in line with the Constitution of Kenya.
- Registrar of Kenya Medical Practitioners and Dentists' Board.

Key achievements 2014/2015

- Provided leadership in the formulation, financing & implementation, roll out of Managed Equipment Services (MES) project in 47 counties. This investment will greatly enhance access to specialized medical services in 98 hospitals across the country.
- Successfully negotiated and deployed 170 Health workers to Ebola affected countries (Liberia & Sierra Leone) under the auspices of the African Union (AU). This was the first medical mission abroad since independence.
- Provided leadership in the process of proposal writing that resulted in securing of 43billion shillings to support National TB, HIV and Malaria programs in 2017/2018 from the Global Fund.
- Successfully lobbied for Kenya to get 500million shillings for global health security from the US government to address emerging threat of diseases to national security.
- Lobbied successfully for increased investment in the health sector by counties. (35-45% of the county budgets are allocated to health)
- Provided technical and political support to the *Beyond Zero campaign* which is under the leadership of Her Excellency the First Lady of the Republic of Kenya. Consequently the campaign was successfully launched in 30 counties by end of June 2015.
- Successfully lobbied for Kenya to host the Global launch of "All in HIV campaign" that was officiated by His Excellency the President of the Republic of Kenya and attended by all UN Agencies and over 1000 delegates.
- Provided leadership in the development of key sector documents including

Ministry of Health (July 2014 to date)

Position: Director of Medical Services (Job group U)

Job summary

As the government's principal adviser on medical and public health matters, I oversee and provide technical leadership in the provision of Medical Services in the Republic of Kenya in order to protect and improve health and well-being of all Kenyans. Provide technical leadership and support to both national and county governments to actualize right to health to all Kenyans and lay foundation for economic development and growth.

Duties and responsibilities

- Lead and support the development of health policies, including health promotion, disease prevention, emergency planning, health promotion, environmental health and health care delivery.
- Working with Cabinet Secretary and Principal Secretary to oversee the design and implementation of the national health strategy, annual operating plans and budgets.
- Provide technical advice to the cabinet secretary and, as appropriate, work with other national departments and agencies, County Governments, international community and health practitioners on health policies and practices.
- Provide programmatic and / or technical leadership in the design, analysis, and synthesis of health programs and implementation of health strategic plans by National and County governments.
- Ensure early detection and effective well-coordinated response by National and County governments during disease outbreaks.
- Take lead in the monitoring and evaluation of the overall health sector performance and coordination of health research.
- Provide leadership and strategic direction to ensure health programs and projects achieve planned goals, objectives and targets.
- Build coherence and functioning of National and County governments to optimize both domestic and international funding opportunities for increased investment in the health sector and improved health outcomes.
- Support the development and enforcement of patient safety policy and improving health care outcomes through setting healthcare standards and quality assurance, technical guidelines, professional regulation and adverse incident reporting and quality audits.

APPENDIX 5

QUESTIONNAIRE

2026

MINISTRY OF HEALTH
OFFICE OF THE DIRECTOR OF MEDICAL SERVICES

legrams: "MINHEALTH". Nairobi
lephone: Nairobi 2717077
x: 2713234
hen replying please quote

AFYA HOUSE
CATHEDRAL ROAD
P.O. Box 30016
NAIROBI

ef: MOH/ADM/1/2/19

7th December, 2015

stin N. Bundi,CBS
erk of the National Assembly
erks Chambers
irliament Building
O Box 41842-00100
airobi

Ethics Registry
PSC TNA
8/12

ear Justin,

)BMISSION OF VETTING QUESTIONNAIRE

tached here with, please find my duly filled vetting questionnaire, publications, academic rtificates and statutory clearance certificates.

our Sincerely,

. Nicholas Muraguri
IRECTOR OF MEDICAL SERVICES

SCHEDULE
[Section 6(8).]

CRITERIA FOR VETTING/APPROVAL OF NOMINEES FOR APPOINTMENT TO PUBLIC OFFICE BY PARLIAMENT QUESTIONNAIRE

Notes:

a) This questionnaire applies to appointments to public office arising by or under the Constitution or any other law where parliamentary approval is required.
b) The questionnaire shall be used by the relevant parliamentary committee to vet a nominee appearing before the committee in the process of parliamentary approval.
c) The questionnaire shall be filled and submitted by the nominee to the relevant parliamentary committee through the Clerk of the relevant House of Parliament on or before a date set by the committee.
d) The submission of false information in the questionnaire is an offence and may result in prosecution.
e) Any form of canvassing by a nominee shall lead to disqualification.
f) The nominee must answer all the questions.

1. **Name:** (State full name) NICHOLAS MWANGI MURAGURI

2. **Position:** (State office to which you have been nominated).

   PRINCIPAL SECRETARY, MINISTRY OF HEALTH

3. **Sex:** MALE

4. **Date of Birth:** (State year and place of birth): APRIL 15,1971, NAIROBI

5. **Marital Status:** MARRIED

6. **Daytime phone number:** 0720903947

7. **Mobile phone number:** 0720903947

8. **Email Address:** dnmurags@gmail.com

9. **ID Number:** 10895429

10. **PIN Number:** A003260217W

11. **Nationality:** KENYA

12. **Postal Address:** 62910-00200

13. **Town/City:** NAIROBI
14. **Knowledge of Languages:** ENGLISH, SWAHILI, KIKUYU

15. **Education:** (List, in reverse chronological order, each university, college, or any other institution of higher education attended and indicate, in respect of each, the dates of attendance, academic award obtained, whether a degree was awarded, and the dates on which each such degree was awarded).

    - CERTIFICATE IN PUBLIC POLICY EXECUTIVE PROGRAM-STRATHMORE BUSINESS SCHOOL 2014;
    - GLOBAL EXECUTIVE MASTERS IN BUSINESS ADMINISTRATION-UNITED STATES INTERNATIONAL UNIVERSITY, 2010;
    - MASTERS IN PUBLIC HEALTH(MPH) INFECTIOUS DISEASE CONTROL-UNIVERSITY OF PRETORIA,2004;
    - BACHELORS DEGREE IN SURGERY & BACHELORS DEGREE IN MEDICINE-MOI UNIVERSITY, 1998.

    Employment Record: (List in reverse chronological order all government agencies, business or professional corporations, companies, firms or other enterprises with which you have been affiliated as an officer, director, partner, proprietor, employee or consultant:

    - PUBLIC SERVICE COMMISSION, JULY 2014 TO DATE:: -DIRECTOR OF MEDICAL SERVICES
    - UNAIDS, 2011-2014: EXECUTIVE DIRECTOR OF THE GLOBAL PLAN TOWARDS ELIMINATION OF NEW HIV INFECTIONS AMONG CHILDREN BY 2015 AND KEEPING MOTHERS ALIVE
    - MINISTRY OF PUBLIC HEALTH AND SANITATION, 2008-2011: DIRECTOR, NATIONAL AIDS AND STI CONTROL PROGRAM
    - MINISTRY OF HEALTH:
        - 2004-2008: DIRECTOR-DIVISION OF HEALTH PROMOTION
        - JANUARY-NOVEMBER 2001: ACTING PROVINCIAL MEDICAL OFFICER
        - 1999-2000: DISTRICT MEDICAL OFFICER OF HEALTH
        - 1998: MEDICAL OFFICER-EMBU PROVINCIAL GENERAL HOSPITAL

16. **Honours and Awards:** (List any scholarships, fellowships, honorary degrees, academic or professional honours, honorary society memberships, military awards and any other special recognition for outstanding service or achievement and in respect of each, state the date of award and the institution or organization that made the award).

- PRESIDENTIAL MERIT AWARD OF DISTINGUISHED SERVICE TO THE PUBLIC-ORDER OF THE GRAND WARRIOR (OGW), 2011
- MINISTER OF HEALTH MERIT AWARD, BEST PERFORMING MANAGER (2007)
- BEST DISTRICT HEALTH MANAGER –EASTERN PROVINCE (2000)
- UNIVERSITY ACADEMIC AWARD-CUM LAUDE MPH(2004)
- WORLD HEALTH ORGANIZATION SCHOLARSHIP

17. **Professional Association** (where applicable): (List all professional associations of which you are or have a member and give any positions held and the respective dates when each such position was held).
    - INTERNATIONAL AIDS SOCIETY(IAS)
    - INTER AGENCY TECHNICAL TEAM(IATT), THINK TANK FOR THE GLOBAL RESPONSE AGAINST HIV
    - INTERNATIONAL UNION OF HEALTH PROMOTION AND EDUCATION
    - KENYA MEDICAL ASSOCIATION-HONORARY SECRETARY (2000-2001)

18. **Memberships:** (List all professional, business, fraternal, scholarly, civic, charitable or other organizations, (other than those listed in response to Question 16) to which you belong or have belonged).

    KENYA RED CROSS SOCIETY

19. **Published Writings:**
    (a) List the titles, publishers and dates of books, articles, reports, letters to the editor, editorial pieces or other published materials you have authored or edited.

    SEE ANNEX 1

    (b) Supply four (4) copies of any reports, memoranda or policy statements you prepared or contributed in the preparation of any bar association, committee, conference or organization of which you were a member.

    PUBLICATIONS ATTACHED

20. **Public Office, Political Activities and Affiliations:**
    (a) List chronologically any public offices you have held or are currently holding, including the terms of service and whether such positions were elected or appointed.

    - DIRECTOR OF MEDICAL SERVICES- FROM JULY 1, 2014 TO DATE, APPOINTED BY THE PUBLIC SERVICE COMMISSION ON A FIVE YEAR CONTRACT TERM

- DIRECTOR, NATIONAL AIDS AND STI CONTROL PROGRAM, MINISTRY OF PUBLIC HEALTH AND SANITATION, 2008-2011
- DIRECTOR-DIVISION OF HEALTH PROMOTION, MINISTRY OF HEALTH: 2004-2008;
- ACTING PROVINCIAL MEDICAL OFFICER, MINISTRY OF HEALTH, 1999-2000;
- DISTRICT MEDICAL OFFICER OF HEALTH JANUARY-NOVEMBER 2001;
- MEDICAL OFFICER-EMBU PROVINCIAL GENERAL HOSPITAL 1998.

(b)List all memberships and offices held in and services rendered, whether compensated or not, to any political party or election committee. If you have ever held a position or played a role in a political campaign, identify the particulars of the campaign, including the candidate, dates of the campaign, your title and responsibilities. Also include any linkage you have to a political party at present.

NOT APPLICABLE

(c) Have you ever been dismissed or otherwise removed from office for a contravention of the provisions of Article 75 of the Constitution?

NO

(d) Have you ever been adversely associated with practices that depict bias, favouritism or nepotism in the discharge of public duties?

NO

21. **Deferred Income/Future Benefits:** (List the sources, amounts and dates of all anticipated receipts from deferred income arrangements, stock, options, uncompleted contracts and other future benefits which you expect to derive from previous business relationships, professional services, firm memberships, etc).

BRITAM UNIT TRUST ANNUAL BONUS'

22. **Outside commitment during service in office:** (Do you have any plans, commitments or agreements to pursue outside employment with or without compensation during your service in office? If so explain).

NO

23. **Sources of Income:** (List sources and mounts of all income received during the calendar year preceding your nomination and in the current calendar year).
    - GROSS SALARY+BOARDS ALLOWANCES KES 8,640,000
    - BRITAM UNIT TRUST ANNUAL INTEREST KES 120,000
    - SAVINGS FROM TRAVELS KES 500,000

24. **Tax Status:** (State whether you have fully complied with your tax obligations to the State up to the end of the financial year immediately preceding the nomination for appointment).

YES, FULLY COMPLIANT AND ISSUED WITH TAX COMPLIANCE CERTIFICATE

25. **Statement of Net Worth:** (State your financial net worth)

KES; 15 MILLION

26. **Potential Conflict of Interest:**

(a) Identity the family members or other persons, parties, categories of litigation or financial arrangements that are likely to present potential conflicts-of-interest when you first assume the position to which you have been nominated. Explain how you would address any such conflict if it were to rise.

NO CONFLICT OF INTEREST

(b) Explain how you will resolve any potential conflict of interest, including the procedure you will follow in determining these areas of concern.

NOT APPLICABLE

27. **Not Pro-Bono/Charity Work/donation to charity:** (Describe what you have done by way of pro bono or charity work, listing specific instances, the amount contributed and the amount of time devoted to each).

CHURCH SPONSORED MEDICAL CAMPS; PARTICIPATION IN PLANNING AND COORDINATION OF ANNUAL MEDICAL CAMPS EACH RUNNING FOR 10 DAYS

28. Have you ever been charged in a court or law in the last three years? If so, specify the nature of the charge, where the matter is ongoing, the present status of the matter, or where the matter is concluded, the judgment of the court, or otherwise, how the case was concluded.

NO

29. Have you ever been adversely mentioned in an investigatory report of Parliament or any other Commission of inquiry in the last three years?

NO

30. Have you any objection to the making of enquiries with your present employer/referees in the course of consideration of your nomination?

NO

31. **References:**
(List three persons who are not your relatives who are familiar with your character, qualification and work).

- MR. JAMES W. MACHARIA-CABINET SECRETARY
- DR. FRANCIS KIMANI-FORMER DIRECTOR OF MEDICAL SERVICES
- DR. LUIZ LORES-DEPUTY EXECUTIVE DIRECTOR, UNAIDS

ANNEX 1

RESEARCH AND PUBLICATIONS

Tun W, Sheehy M, Broz D, Okal J, Muraguri N, Raymond HF, Musyoki H, Kim AA, Muthui M, Geibel S (2015). **HIV and STI prevalence and injection behaviors among people who inject drugs in Nairobi: results from a 2011 bio-behavioral study using respondent-driven sampling.** AIDS Behav. 19 Suppl 1:S24-35. doi: 10.1007/s10461-014-0936-3.

Musyoki H, Kellogg TA, Geibel S, Muraguri N, Okal J, Tun W, Fisher Raymond H, Dadabhai S, Sheehy M, Kim AA (2015). **Prevalence of HIV, sexually transmitted infections, and risk behaviours among female sex workers in Nairobi, Kenya: results of a respondent driven sampling study.** AIDS Behav. Suppl 1:S46-58. doi: 10.1007/s10461-014-0919-4.

Muraguri N, Tun W, Okal J, Broz D, Raymond HF, Kellogg T, Dadabhai S, Musyoki H, Sheehy M, Kuria D, Kaiser R, Geibel S (2015). **HIV and STI prevalence and risk factors among male sex workers and other men who have sex with men in Nairobi, Kenya.** J Acquir Immune Defic Syndr.68(1):91-6. doi: 10.1097/QAI.0000000000000368.

Antelman G, Medley A, Muraguri N, Mbatia R, Pals S, Arthur G, et al. (2015).**Pregnancy desire and dual method contraceptive use among people living with HIV attending clinical care in Kenya, Namibia and Tanzania.**J Fam Plann Reprod Health Care.41(1):e1. doi: 10.1136/jfprhc-2013-100784

Maina WK, Kim AA, Rutherford GW, Harper M, K'Oyugi BO, Sharif S, Kichamu G, Muraguri N M, Akhwale W, De Cock KM; KAIS Study Group (2014).**Kenya AIDS Indicator Surveys 2007 and 2012: implications for public health policies for HIV prevention and treatment.**J Acquir Immune Defic Syndr. 66 Suppl 1:S130-7. doi: 10.1097/QAI.0000000000000123. Review.

Sirengo M, Muthoni L, Kellogg TA, Kim A, Mwanyumba A, Kimanga D, Muraguri N, Elly B, Maina W, Rutherford GW (2014). **Mother to child transmission (MTCT) of HIV in Kenya: results from a nationally representative study.** J Acquir Immune Defic Syndr 2014 (66) S66 - 74

Rebecca L Weintraub, Julie R Talbot, Keri J Wachter, Nicholas Muraguri (2014). **When Scaling Prevention Means Scaling Demand: Voluntary Medical Male Circumcision in Nyanza Province, Kenya.** Healthcare journal. 2(1) 69–73 DOI: http://dx.doi.org/10.1016/j.hjdsi.2013.12.002

McKinnon LR, Gakii G, Juno JA, Izulla P, Munyao J, Ireri N, Kariuki CW, Shaw SY, Nagelkerke NJ, Gelmon L, Musyoki H, Muraguri N, Kaul R, Lorway R, Kimani J (2014). **High HIV risk in a cohort of male sex workers from Nairobi, Kenya.** Sex Transm Infect. 90(3):237-42 doi: 10.1136/sextrans-2013-051310.

Elise M van der Elst, Adrian D Smith, Evanson Gichuru, Elizabeth Wahome, Helgar Musyoki, Nicolas Muraguri, Greg Fegan, Zoe Duby, Linda-Gail Bekker, Bonnie Bender, Susan M Graham, Don Operario, Eduard J Sanders. **Men who have sex with men sensitivity training reduces homoprejudice and**

increases knowledge among Kenyan healthcare providers in coastal Kenya Journal of the Int'l AIDS Society 2013, 16(Suppl 3):18748 http://dx.doi.org/10.7448/IAS.16.4.18748

Nicholas Muraguri, Marleen Temmerman andScott Geibel (2012). **A decade of research involving men who have sex with men in sub-Saharan Africa: Current knowledge and future directions.** SAHARA-J: Journal of Social Aspects of HIV/AIDS, Volume 9, Issue 3, 2012

Andre R. Verani, Nicholas Muraguri, Alloys S. S. Orago, Charles N. Kariuki, Dan Koros, Barbara Marston, Kevin M. De Cock. (2013). **Law and Pediatric HIV Testing: Realizing the Right to Health in Kenya.** Journal of the International Association of Providers of AIDS Care (JIAPAC) February 26, 2013 2325957412473779. doi: 10.1177/2325957412473779

Izulla P, McKinnon LR, Muraguri N, Munyao J, Karanja S, Koima W, Parmeres J, Kamuti S, et al. (2013). **HIV post-exposure prophylaxis in an urban population of female sex workers in Nairobi, Kenya.** J Acquir Immune Defic Syndr. 2013 Feb 1;62(2):220-5. doi: 10.1097/QAI.0b013e318278ba1b.

Susan M. Graham, Peter Mugo, Nicholas Muraguri, Evanson Gichuru et al. (2013) **Adherence to Antiretroviral Therapy and Clinical Outcomes Among Young Adults Reporting High-Risk Sexual Behavior, Including Men Who Have Sex with Men in Coastal Kenya.***AIDS and Behavior*17 (4) 1255-1265 doi 10.1007/s10461-013-0445-9

Kimani J, McKinnon LR, Muraguri N, Wachihi C, Kusimba J, Gakii G, et al. (2013).**Enumeration of Sex Workers in the Central Business District of Nairobi, Kenya.**PLoS ONE 8(1): e54354. doi:10.1371/journal.pone.0054354

Kahn JG, Muraguri N, Harris B, Lugada E, Clasen T, et al. (2012). **Integrated HIV Testing, Malaria, and Diarrhea Prevention Campaign in Kenya: Modeled Health Impact and Cost-Effectiveness.** PLoS ONE 7(2): e31316. doi:10.1371/journal.pone.0031316

The HIV Modeling Consortium Treatment as Prevention Editorial Writing Group (2012). **HIV Treatment as Prevention: Models, Data, and Questions - Towards Evidence-Based Decision-Making.** PLoS Med 9(7): e1001259. doi:10.1371/journal.pmed.1001259

Puneet Masson, Mark A. Barone, Philip S. Li, Frederick Ndede, Nicholas Muraguri, Quentin Awori, Jairus Okech, Peter Cherutich, Paul Perchal, Richard K. Li, Howard H. Kim, Yue Cheng (2011). **A Pilot Study of the Shang Ring: A Novel Male Circumcision Device for HIV Prevention.** Journal of Urology - J UROL , vol. 185, no. 4, pp. e570-e571, 2011. Doi: 10.1016/j.juro.2011.02.1336

Mwandi Z, Murphy A, Reed J, Chesang K, Muraguri N, Njeuhmeli E, et al. (2011). **Voluntary Medical Male Circumcision: Translating Research into the Rapid Expansion of Services in Kenya, 2008 - 2011.** PLoS Med 8(11): e1001130. doi:10.1371/journal.pmed.1001130

Barone MA, Ndede F, Li PS, Masson P, Awori Q, Okech J, Cherutich P, Muraguri N, Perchal P, Lee R, Kim HH, Goldstein M. (2011). **The Shang Ring Device for Adult Male Circumcision: A Proof of Concept Study in Kenya.** J Acquir Immune Defic Syndr 2011;57:e7–e12

Barone, MS, Quentin Awori, Muraguri N, Philip S. Li, Raymond OtienoSimba,Mark A. Weaver, Cherutich P, et al (2012).**Randomized Trial of the Shang Ring for Adult Male Circumcision With Removal at One to Three Weeks: Delayed Removal Leads to Detachment.** JAIDS Journal of Acquired Immune Deficiency Syndromes:1 July 2012 60(3) e82–e89. doi: 10.1097/QAI.0b013e31824ea1f2

Herman-Roloff A, Llewellyn E, Muraguri N, Obiero W, Agot K, Ndinya-Achola J, Bailey RC (2011). **Implementing voluntary medical male circumcision for HIV prevention in Nyanza Province, Kenya: lessons learned during the first year.** PLoS One. 2011Apr 4;6(4):e18299.

LugadaE,MillarD,Muraguri N, HaskewJ,GrabowskyM,GargN,etal.(2010).**RapidImplementationofanIntegratedLarge-ScaleHIVCounsellingandTesting,Malaria,andDiarrheaPreventionCampaign inRuralKenya.**PLoSONE5(8):e12435. doi:10.1371/journal.pone.0012435

Musau P, Muraguri N, Demirelli M, Ndwiga F, Wainaina D, Amin AN.(2011). **The Safety Profile and Acceptability of a Disposable Male Circumcision Device in Kenyan Men Undergoing Voluntary Medical Male Circumcision.**The Journal of Urology. 186 (5) 1923–1927 Doi: 10.1016/j.juro.2011.07.027

Reuben Granich, Nicholas Muraguri, Alexandre Doyen, Navneet Garg, and Brian G. Williams (2012). **Achieving universal access for Human Immunodeficiency Virus and Tuberculosis: Potential prevention impact of an integrated multi-disease prevention campaign in Kenya.** AIDS Research and Treatment. Article ID 412643. doi:10.1155/2012/412643

Lagace-Wiens PR, Duncan S, Muraguri N, Kimani J, Thiong'o A, Shafi J, McClelland S, Sanders EJ, Zhanel G,Mehta SD. (2012). **Emergence of Fluoroquinolone Resistance in Neisseria gonorrhea Isolates from Four Clinics in Three Regions of Kenya.** Sex Transm Dis. 2012 May;39(5):332-4. doi: 10.1097/OLQ.0b013e318248a85f.

Publication of Technical Guidelines and Strategies

I provided technical guidance in the development of the following national and international program documents:

- UNAIDS (2013). **The 2013 progress report on the Global Plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive.** UNAIDS / JC2509/1/E. ISBN 978-92-9253-026-6
- Republic of Kenya, Office of the First Lady (December 2013). **A Strategic Framework for Engagement in HIV Control and Promotion of Maternal, Newborn and Child Health in Kenya: Accelerating Progress in Saving the Lives of Women and Children (2013-2017)**
- Engender Health (2011). **Assessing the Costs of Multiple Program Approaches and Service Delivery Modes for Adult Male Circumcision in Nyanza Province, Kenya.**

- External Reviewer, **2013 WHO consolidated guidelines on the use of Antiretroviral drugs for treating and preventing HIV infection**
- Government of Kenya (2011). National ART Guidelines 4th Edition
- Ministry of Public Health and Sanitation (2010).**National Guidelines for HIV Testing and Counseling in Kenya.**
- Ministry of Public Health and Sanitation (2010).**National Quality Management Guidance framework for HIV Testing in Kenya**.
- Ministry of Public Health and Sanitation (2010).**Standards for Peer-Education and Outreach Programs for Sex Workers**.
- Ministry of Public Health and Sanitation (2010).**National HIV/STI Guidelines for Sex Workers Programs**
- Ministry of Public Health and Sanitation (2010).**National guidelines for the implementation of the basic care package**.
- Ministry of Public Health and Sanitation (2010).**Quick Reference for Basic Care Package for Community Health Workers and Peer Educators**.
- Ministry of Public Health and Sanitation (2010).**National Infection Prevention and Control Guidelines for Health Care Services in Kenya.**
- Ministry of Public Health and Sanitation (2011). **Voluntary Medical Male Circumcision for HIV Prevention in Kenya. Report of the First Rapid Results Initiative, Conducted in November/December 2009.**
- MinistryofMedicalServices&MinistryofPublic Health &Sanitation (2010).**National Forecasting and Quantification for HIV/AIDS Commodities for the Years 2010/11 & 2011/12**

C. 24A

Nº 491787

NATIONAL POLICE SERVICE

DIRECTORATE OF CRIMINAL INVESTIGATIONS

DIRECORATE OF CRIMINAL INVESTIGATIONS
P. O. BOX 30036–00100 GPO
NAIROBI, KENYA

Ref. No. 222722 /2015 Date 07/12/2015

POLICE CLEARANCE CERTIFICATE

I hereby certify that the fingerprints recorded from .....

NICHOLAS MWANGI MURGURI

.....

holder of ID/Passport No. 10895429 ..... *have been searched in Criminal Records Office's database with/without previous record. The validity of the information on this Certificate is as of the date of issue.*

REMARKS IN CASE OF PREVIOUS RECORD

OFFENCE(S).....

RESULTS OF TRIAL .....

DATE .....

This Certificate has been issued without any alteration or erasure.

(J.M.Mogambo)
For: Director of Criminal Investigations

(P.T.O.)

GPK (SP) 751[illegible]—175[illegible]—5/2015

No. U18484

HIGHER EDUCATION LOANS BOARD

Certificate of Clearance

UNIVERSITY STUDENT LOAN

This Certificate is awarded to *MURAGURI NICHOLAS*

ID No. *10895429* University Registration No. *MED/0/12/90*

University attended *MOI UNIVERSITY*

For having repaid in full the Principal Loan and interest thereon.

Signature CEO/ BOARD SECRETARY

09 November 2009
Date

Signature HEAD OF LENDING, REPAYMENT AND RECOVERY

09 November 2009
Date

This certificate is issued without erasures, alterations or cancellation

KENYA REVENUE AUTHORITY

Tax Compliance Certificate

For General Tax Questions
Contact KRA Call Centre
Tel: +254 (020) 4999 999
Cell: +254(0711)099 999
Email: callcentre@kra.go.ke

www.kra.go.ke

Taxpayer PIN : A003260217W

Name and Address :

Nicholas Mwangi Murguri
Afya House, Nairobi, Starehe District,
PO Box:62910,
Postal Code:00200

Certificate Date: 29/04/2015

Certificate Number:

KRAWON1303492015

This is to confirm that Nicholas Mwangi Murguri, Personal Identification Number A003260217W has filed relevant tax returns and paid taxes due as provided by Law.

This Certificate will be valid for twelve (12) months up to 29/04/2016.

Caveat: This certificate is issued on the basis of information available with the authority as at the certificate date mentioned above. The Authority reserves the right to withdraw the certificate if new evidence materially alters the tax compliance status of the recipient.

Disclaimer : This certificate is system Generated and therefore does not require signature.You may confirm validity of this certificate on the iTax Portal by using the TCC Checker.

To verify this certificate visit:www.metropol.co.ke/verification

Serial No.MCRB/C97842

METROPOL
reach new heights

Metropol Credit Reference Bureau Limited

Certificate of Clearance

NICHOLAS MWANGI MURGURI

National ID Number: 10895429

This is to certify that the above named person has No negative listing as at the date below.

Managing Director's Signature

07/12/2015

Date

M-28

DISTRICT
NYERI
DIVISION
TUKURAINI
LOCATION
GITHI
SUB-LOCATION
KIREREMA

N. B0108954291

IDKYA2162636826<<157<<<<<<<314
7104158M0210074<B0108954291<<3

JAMHURI YA KENYA

REPUBLIC OF KENYA

SERIAL NUMBER: 216263682 10895429

FULL NAMES
NICHOLAS MWANGI MBUGURI

MALE

LEADERSHIP AND INTEGRITY ACT, 2012 /KIFUNGU CHA SHERIA CHA UONGOZI NA UADILIFU, 2012

FIRST SCHEDULE (S.13) / *TARATIBU YA KWANZA (S.13)*

SELF-DECLARATION FORM / FOMU YA KUJITANGAZA

1. GENERAL INFORMATION / *TAARIFA YA JUMLA*

Title / *Cheo*	Surname / *Jina la ukoo*	First Name / *Jina la Kwanza*	Middle Name / *Jina la Katikati*	Other Names / *Majina Mengine*
Mr/Mrs/Prof/ Miss/Ms/Dr ***Bw/Bi/Prof/ Binti/Bibi/Dkt***	MURAGURI	MATHIAS	MWANGI	—

ID CARD No. *Na. ya Kitambulisho*	PASSPORT NO. *NA. ya PASIPOTI*	EXPIRY DATE OF PASSPORT *TAREHE YA MUDA WA PASIPOTI KUISHA*	PIN NO. *NA. ya PIN*
10895429	C009515	28. 3. 2020	A003260217W

SEX (Tick)
JINSIA (Weka Alama)

Male *Kiume* ☑

Female *Kike* ☐

Occupation:
Kazi: MEDICAL DOCTOR

E-Mail Address:
Anwani ya Baruapepe: dmuregs@gmail.com.

Postal Address: PO Box 62910 Code: 00200.
Anwani ya Posta: SL Posta: *Msimbo:*

Other Addresses:
Anwani Nyingine:

Telephone No. *Na. ya Simu*	Mobile No. *Na. ya Rununu*	Other Numbers *Nambari Nyingine*
0720903947	0720903947	NONE.

RESIDENCE *MAKAZI*

ESTATE/TOWN/LOCATION *MTAA/MJI/LOKESHENI*	RUAI
DISTRICT *WILAYA*	EMBAKASI
COUNTY *KAUNTI*	EMBAKASI
TOWN/CITY *MJI/JIJI*	NAIROBI
COUNTRY *NCHI*	KENYA

2. BIRTH INFORMATION / *TAARIFA YA KUZALIWA*

DATE OF BIRTH /*TAREHE YA KUZALIWA* 15-04-1971

ETHICS & ANTI-CORRUPTION COMMISSION
07 [illegible] 2015
RECEIVED
P.O. BOX 61130-00200 NAIROBI

BIRTH CERTIFICATE NO. / *NA. YA CHETI CHA KUZALIWA*	
PLACE OF BIRTH / *MAHALI PA KUZALIWA*	NAROBI
DISTRICT OF BIRTH / *WILAYA YA KUZALIWA*	NAROBI
COUNTY OF BIRTH / *KAUNTI YA KUZALIWA*	NAROBI
COUNTRY OF BIRTH / *NCHI YA KUZALIWA*	KENYA

3. NATIONALITY /*UTAIFA*

Kenyan *Mkenya* ☑	Dual *Kotekote* ☐ (Provide details_____) (*Toa maelezo*_____)

4. MARITAL STATUS / *HALI YA NDOA*

SINGLE *NINGALI SIJAOA/ SIJAOLEWA* ☐ MARRIED *NIMEOA/NIMEOLEWA* ☑ SEPARATED *NIMETENGANA* ☐

DIVORCED *NIMETALAKIANA* ☐ WIDOWED *NIMEFIWA* ☐

IF MARRIED GIVE NAMES OF THE SPOUSE(S) (Surname, First Name, middle name, others)
KAMA UMEOA TOA MAJINA YA MUME/MKE(Wa) WAKO (Jina la ukoo, Jina la Kwanza, jina la kati, mengine)

OKENYURI JANE

NATIONALITY OF SPOUSE *UTAIFA WA MKE/MUME*	KENYA

NAME OF CHILDREN UNDER THE AGE OF 18 YEARS
JINA LA WATOTO WALIO CHINI YA UMRI WA MIAKA 18

KEITH MWANGI
NATASHA MWITHONI
SAMANTHA BIYARI

5. EDUCATIONAL QUALIFICATIONS / *KUFUZU KWA KIELIMU*

PRIMARY CERTIFICATE *CHETI CHA MSINGI* ☑ SECONDARY *SHULE YA UPILI* ☑ 'A' LEVEL *KIWANGO CHA 'A'* ☐

DIPLOMA *STASHAHADA* ☐ DEGREE *SHAHADA* ☑ MASTERS *UZAMILI* ☑ PHD *UZAMIFU* ☐

OTHERS *VINGINE*

ETHICS AND ANTI-CORRUPTION COMMISSION
07 ... 2015
P.O. BOX ...

HIGHEST ACADEMIC QUALIFICATION OBTAINED *KUFUZU KWA JUU ZAIDI KWA KIAKADEMIA ULIKOPATA*		
Qualification / *Kufuzu*	Institution / *Taasisi*	Year /*Mwaka*
MBA	USIU	2010

6. LANGUAGE SPOKEN / *LUGHA UNAZOZUNGUMZA*

First Language *Lugha ya Kwanza*	Second Language *Lugha ya Pili*	Others *Nyingine*
KIKUYU	SWAHILI	ENGLISH

7. MEMBERSHIP OF PROFESSIONAL ORGANISATION(s) (If any)
UANACHAMA WA SHIRIKA(MA) YA KITAALAMU (Kama yapo)

Name of Organization *Jina la Shirika*	Date of Admission *Tarehe ya Kuandikishwa*	Membership No. *Na. ya Uanachama*
KENYA MEDICAL ASSOC	1999	

8. REASON(S) FOR DECLARATION / *SABABU ZA KUJITANGAZA*

Purpose for which declaration is required / *Kusudio la kuhitajika kwa kujitangaza huku*

Election ☐ *Upigaji kura*

Employment ☑ *Kuajiriwa*

Others (Specify) _____
Nyingine (Bainisha)

State office for which the declaration is being submitted *Ofisi ya serikali ambayo kujitangaza huku kunawasilishwa*	PUBLIC SERVICE COMMISSION.

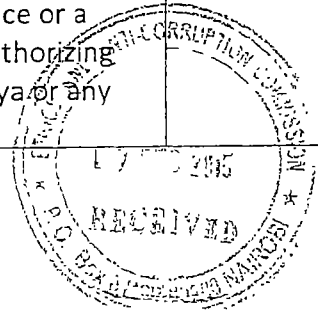
9. MORAL AND ETHICAL QUESTIONS / *MASWALI YA NIDHAMU NA KIMAADILI*

Answers to the following questions are mandatory. If YES to any question you must provide additional information on a supplementary sheet.
Majibu kwa maswali yafuatayo ni lazima. Kama NDIYO katika swali lolote lazima utoe taarifa ya ziada kwenye karatasi nyingine.

	YES	NO
a) Have you ever engaged in any form of dishonesty in the conduct of public affairs *a) Umewahi kujihusisha na hali yoyote ya kutokuwa mwaminifu katika kazi zako na shughuli za umma*		✓
b) Have you ever abused a public office? *b) Umewahi kutumia vibaya ofisi ya umma?*		✓
c) Have you ever misrepresented information to the public? *c) Umewahi kuwakilisha kwa njia isiyofaataarifa kwa umma?*		✓
d) Have you ever engaged in wrongful conduct whilst in the furtherance of personal benefit?		✓

ANTI-CORRUPTION COMMISSION OF KENYA
07 SEP 2015
RECEIVED
P.O. BOX 61130-00200 NAIROBI

d) Umewahi kujihusisha katika tabia mbaya huku ukitaka kujinufaisha kibinafsi?		
e) Have you ever misused public resources? *e) Umewahi kutumia vibaya rasilimali za umma?*		✓
f) Have you ever discriminated against anyone of any grounds other than as provided for under the Constitution or any other law? *f) Umewahi kubagua yeyote kwa misingi yoyote mbali na vile ilivyoelezwa katika Katiba au sheria yoyote nyingine?*		✓
g) Have you ever falsified official or personal records? *g) Je, umewahi kudanganya katika rekodi rasmi au za kibinafsi?*		✓
h) Have you ever been debarred or removed from the Register of Members of your professional organization? *h) Umewahi kupigwa teke au kuondolewa kutoka kwenye Rejista ya Wanachama wa shirika lako la kitaalamu?*		✓
i) Have you ever had any occupational or vocational license revoked and/or otherwise subjected to any other disciplinary action for cause in Kenya or any other country *i)Umewahi kujipata katika hali ya leseni yako ya kikazi au ya kiufundi kutupiliwa mbali na/au vinginevyo kuchukuliwa hatua nyingine ya kinidhamu katika nchi ya Kenya au nchi yoyote nyingine*		✓
j) Have you ever dismissed from employment on account of lack of integrity? *j) Umewahi kufutwa kazi katika ajira kutokana na ukosefu wa uadilifu?*		✓
k) If you have been a public officer, have you ever failed to declare your Income, Assets and Liabilities as required under the Public Officer Ethics Act, 2003? *k) Kama umewahi kuwa ofisa wa umma, umewahi kushindwa kutangaza Mapato yako, Mali na Gharama kama unavyohitajika katika Kifungu cha sheria cha Maadili ya Ofisa wa Umma, 2003?*		✓
l) Have you ever been the subject of disciplinary or criminal proceedings for breach of the Public Officer Ethics Act, 2003 or a Code prescribed thereunder? *l) Umewahi kuwa mada katika taratibu za kinidhamu au kihalifu kwa kuvunja kifungu cha sheria cha Maadili ya Ofisa wa Umma 2003, au Msimbo ulioainishwa hapo chini?*		✓
m) Have you ever been convicted of any offence and sentenced to serve imprisonment for a period of at least six months? *m) Umewahi kushtakiwa kwa kosa lolote na kuhukumiwa kifungo gerezani kwa kipindi kipatacho miezi sita?*		✓
n) Have you ever had an application for a Certificate of Clearance or a Certificate of Good Conduct or for a visa or other document authorizing work in a public office denied and/or rejected for cause in Kenya or any other country?		✓



n) Umewahi kutuma ombi la Cheti cha kuondolewa Hatia au Cheti cha Kinidhamu au cha visa au nyaraka nyingine zinazoidhinisha kazi katika ofisi ya umma na hivyo basi wewe kunyimwa na/ au kukataliwa kwa sababu yoyote nchini Kenya au nchi yoyote nyingine?		

10. EMPLOYMENT INFORMATION / *TAARIFA YA KUAJIRIWA*

NAME OF EMPLOYER *JINA LA MWAJIRI*	POSITION/RANK *CHEO/WADHIFA*	DATE OF FIRST APPOINTMENT *TAREHE YA KUAJIRIWA KWA KWANZA*	DATE OF PRESENT APPOINTMENT *TAREHE YA KUAJIRIWA KWA SASA*
PUBLIC SERVICE COMMISSION	DMS	1/7/2014	1/07/2014
GLOBAL STEERING GROUP	CEO	1/4/2012	30.6.2014.
PUBLIC SERVICE COMMISSION.	MO	6/6/1999	31.8.2012

WORKSTATION *KITUO CHA KAZI*	**NATURE OF EMPLOYMENT** (Constitutional/Elective/Permanent/Contractual/Other) ***AINA YA KUAJIRIWA*** *(Kikatiba/Kuteuliwa/Kudumu/Kikandarasi/Nyingine)*
NAIROBI	CONTRACTUAL.

OATH AND AFFIRMATION / *KIAPO NA UTHIBITISHWAJI*

I solemnly swear (or affirm) and certify, under penalty of false declaration under the Oaths and Statutory Declarations Act (Cap 15 of the Laws of Kenya), that all the foregoing statements in this declaration are true and correct to the best of my knowledge.

Ninaapa ya kwamba (ninathibitisha) na kuidhinisha, katika adhabu ya kujitangaza kwa uongo chini ya kifungu cha sheria cha Viapo na Kujitangaza Kisheria(Ibara 15 ya Sheria za Kenya), kwamba kauli zote zilizotajwa katika kujitangaza huku ni za kweli na sahihi kwa kadri ninavyojua.

Dated at / *Mnamo tarehe* ....7th...., this / *kwenye*....DEC....

day of / *siku hii ya* ....2015....

SIGNATURE OF DECLARANT: ....Lusaga....
SAINI YA ANAYEJITANGAZA:

SWORN/DECLARED BEFORE ME / *ALIYELISHWA KIAPO/TANGAZWA MBELE YANGU*

This / *Mnamo* ....7th.... day of / *siku hii ya* ....DEC...., 20 ...15....,

at / *katika mahali hapa*.....Nairobi.....

DOMINIC LIKUYI CHERYL
COMMISSIONER
NOTARY PUBLIC
FOR OATHS NAIROBI

COMMISSIONER FOR OATH/MAGISTRATE
KAMISHNA WA KIAPO/ HAKIMU

ETHICS AND ANTI-CORRUPTION COMMISSION
RECEIVED
2015

IDKYA2162636826<<157<<<<<<<314
7104158M0210074<B01089542 9I<<3

JAMHURI YA KENYA
REPUBLIC OF KENYA
NICHOLAS MWANGI MARGURI
MALE
HYERI
CENTRAL
07.10.2002

Healthcare 2 (2014) 69–73

Contents lists available at ScienceDirect

Healthcare

journal homepage: www.elsevier.com/locate/hjdsi

Into Practice

When scaling prevention means scaling demand: Voluntary medical male circumcision in Nyanza Province, Kenya

Rebecca L. Weintraub *, Julie R. Talbot, Keri J. Wachter, Claire B. Cole, Maria A. May, Nicholas Muraguri

Brigham and Women's Hospital, Division of Global Health Equity, 75 Francis Street, Boston, MA 02115, USA

ARTICLE INFO

Article history:
Received 15 May 2013
Received in revised form
6 December 2013
Accepted 11 December 2013

Keywords:
Health delivery
Innovation
Demand generation
Voluntary medical male circumcision
HIV prevention
Surgical intervention
Scale-up
Health communications

ABSTRACT

Implementation lessons

- Generating demand is an important part of the care delivery value chain. When new health interventions are designed based on recent clinical trial findings, demand generation activities prove all the more critical.
- Demand generation activities need to iterate on their design, and tailor to the risk profile of target populations.
- Leaders need to balance fidelity to a model and local innovation.
- Cultural and contextual factors must be considered in designing public health campaigns.

© 2013 Elsevier Inc. All rights reserved.

1. Background

The first reported randomized controlled trial looking at the association between male circumcision and reduced HIV acquisition in men was done among 18–24-year-old males in 2002 in Orange Farm, South Africa, building on observations first reported in 1986. The study was stopped early, in 2004, after interim data showed a 60% reduction in risk of female-to-male HIV transmission among the men who were circumcised. At that point, those in the control group were offered circumcision.[1]

Around the same time the Orange Farm trial began, in 2002, two other randomized controlled studies began, including one in Nyanza province's capital city Kisumu, Kenya. Prior to the release of the Kisumu trial results,[2] with the Orange Farm trial results in hand, the Government of Kenya convened the first official male circumcision stakeholder meeting in September 2006, aiming to scale up existing male circumcision services as quickly as possible (see Fig. 1 for timeline of events).

In December 2006, an interim data analysis found a 60% protective effect in Kisumu. Researchers began offering circumcision to all participants. In February 2007, the results of both recent trials were published in *The Lancet*, and a month later, the World Health Organization (WHO) and The Joint United Nations Programme on AIDS (UNAIDS) endorsed male circumcision accompanied by HIV counseling and testing, sexually transmitted disease treatment, safe sex promotion, and condom provision for HIV prevention. They advised countries with heterosexually-driven, generalized HIV epidemics and low male circumcision rates to "scale up with urgency."[3] While UNAIDS recommended targeting men aged 12–30, another study found targeting older men may be the most cost-effective initially; targeting any adult age group would eventually be cost-saving.[4]

Facing a generalized epidemic, Kenya's leaders designed the first national VMMC campaign in sub-Saharan Africa in 2007. Nyanza became the primary target for the VMMC program because of its low circumcision rate and high prevalence of HIV. Of adult Kenyan men, 85% were circumcised. Only 46.7% of men in Nyanza province in Western Kenya were circumcised, however.[5] The Luo formed the majority of Nyanza's population. The Luo did not practice circumcision rituals as many other ethnic groups did. Nyanza was tasked with providing 426,500 circumcisions—half of Kenya's 4-year target—by 2013: 76,500 in the first year, 100,000 in the second, and 125,000 in each of the final two years.[6]

2. Organizational context

As the sole funder of male circumcision implementation, the US President's Emergency Plan for AIDS Relief (PEPFAR) channeled

* Corresponding author. Tel.: +1 1 617 521 3364 (Office)/1 1 617 521 3313 (Assistant Office).
E-mail addresses: rlweintraub@partners.org, rebecca@globalhealthdelivery.org (R.L. Weintraub), jtalbot@globalhealthdelivery.org (J.R. Talbot), kwachter@globalhealthdelivery.org (K.J. Wachter), clairebcole@gmail.com (C.B. Cole), silverbullet523@gmail.com (M.A. May), dnmurags@yahoo.co.uk (N. Muraguri)

2213-0764/$ - see front matter © 2013 Elsevier Inc. All rights reserved
http://dx.doi.org/10.1016/j.hjdsi.2013.12.002

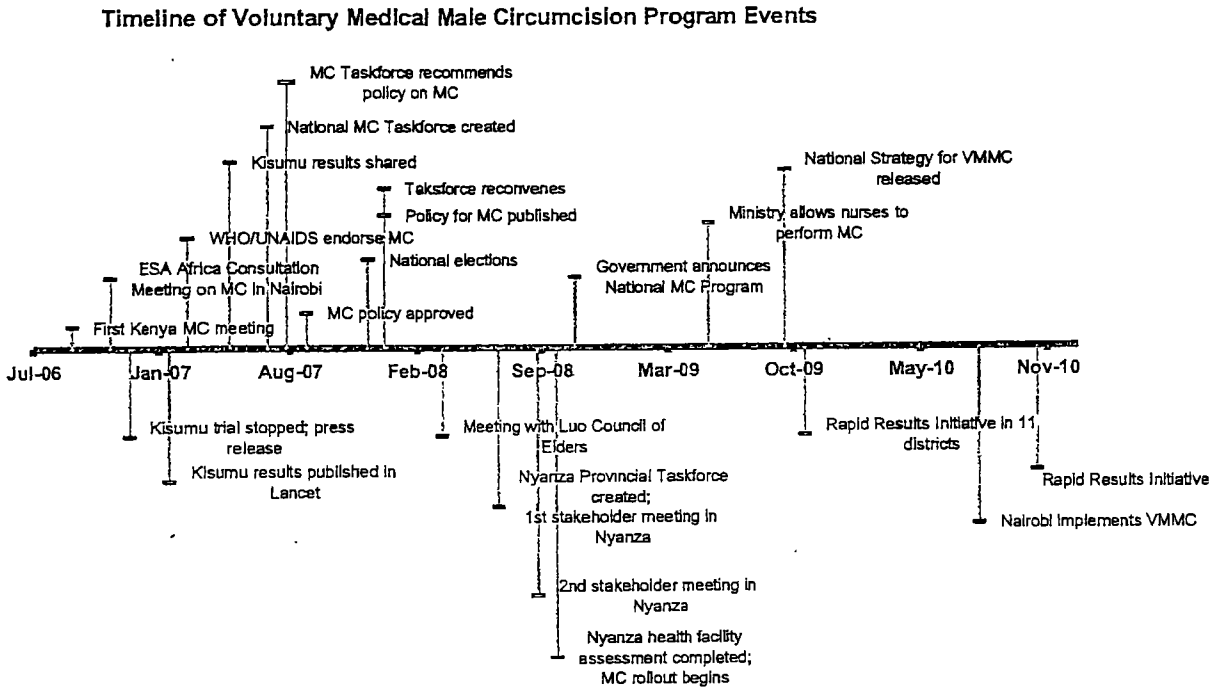


Fig. 1. Timeline of Voluntary Medical Male Circumcision Program Events, *(see attached JPEG)*.

funds in Kenya through the US Agency for International Development (USAID) and the US Centers for Disease Control and Prevention (CDC) who then funded sub-grantees to implement male circumcision services throughout Nyanza.

USAID's priority in Nyanza, as part of its mission to support long-term and equitable growth, was health system strengthening. Its grantee, Engender Health, oversaw four Nyanza-based, non-governmental organizations that trained public sector staff in VMMC and paid them for locum services. Fixed sites within public hospitals and semi-permanent outreach sites offered circumcision with USAID funding. Though demand at outreach sites was high, the shortage of public sector staff limited how often they opened for services. Public-sector staff performed approximately 12% of circumcisions in Nyanza. The same challenges the health system faced, including a shortage of supplies and human resources, plagued the USAID fixed sites.[7]

CDC-funded implementers, primarily focused on disease prevention, performed the majority of circumcisions. They were free to offer services in addition to the fixed and outreach sites and set up mobile sites in vans or tents in remote areas.

In 2008, the Bill & Melinda Gates Foundation provided a 5-year, USD 18.5 million grant to launch a Male Circumcision Consortium in Kenya to support the development of a national strategy, research, training, and communication on the link between male circumcision and HIV prevention. At the request of the government, the consortium formed the Nyanza Province Male Circumcision Task Force to coordinate ongoing delivery efforts.

3. Personal context

In February 2008, the National Task Force, which included a representative from each of the 15+ NGOs involved in VMMC, called for the formation of a provincial body to coordinate the delivery efforts in Nyanza. The Male Circumcision Consortium allocated funds to FHI 360 (previously, Family Health International) to coordinate stakeholders in Nyanza, and implementers elected FHI 360's Isaac Oguma as secretary of the task force, responsible for facilitating and assembling the monthly meeting agendas. The Provincial Male Circumcision Task Force for Nyanza met for the first time in July 2008 in Kisumu.

Dr. Nicholas Muraguri became the head of Kenya's National AIDS and Sexually Transmitted Infections Control Programme in July 2008 and prioritized VMMC. Leaving his post as Director of Health Promotion, he was aware of the importance of demand generation and the role it would play in the circumcision campaign. Muraguri oversaw the creation of the VMMC Strategic Plan to circumcise 80% of consenting uncircumcised Kenyan men aged 15–49 by 2013.

4. Problem

In 2009, HIV infection rates in Kenya were rising. New reports showed that almost 7% of Kenyans aged 15–64 (1.4 million Kenyans) were HIV positive and that transmission was occurring most frequently through vaginal sex between casual heterosexual partners (accounting for 41% of cases), in discordant couples in steady partnerships (accounting for 12% of cases), formal and informal sex work (accounting for 8% of cases), and injecting drug users (accounting for 5–7% of cases; see Table 1 for incident HIV infections by mode of transmission). About 45% of married, HIV-positive individuals had a partner who was not infected.[8] In 2003, HIV prevalence was about 25% in Luo women and 18% in Luo men.[9] The epidemic was mixed and geographically heterogeneous with characteristics of both a "generalized" epidemic and a "concentrated" epidemic among most-at-risk populations.[10] There were

Table 1
Incident HIV Infections by Modes of Transmission in Kenya, 2008 *(see attached JPEG)*
Source: Wamai R, Morris B, Baillis S, et al. Male circumcision for HIV prevention: current evidence and implementation in sub-Saharan Africa. *Journal of the International AIDS Society.* October, 2011; 14: 49.

Mode of HIV transmission	% share
Injecting drug users (IDUs)	4.84
Partners of IDU	0.2
Sex workers (SW)	1.25
SW clients	10.48
Partners of SW clients	1.1
Men who have sex with med (MSM)	4.49
Female partners of MSM	0.64
Multiple partnerships (MP)	18.31
Partners' MP	27.74
Mutually monogamous heterosexual sex	30.14
Medical injections	0.55
Blood transfusions	0.24

regional discrepancies, with prevalence ranging from less than 1% in Northeastern province to almost 15% in Nyanza.

Using the research showing male circumcision reduced the risk of female-to-male transmission of HIV by 60%, modeling predicted that 80% male circumcision coverage could reduce prevalence in Nyanza between 45% and 67%, averting an estimated 900,000 HIV infections within 20 years.[11] The Luo, however, did not see circumcision as a medical intervention. They saw it as a cultural practice. Many other tribes used male circumcision as a ritual to mark the transition to manhood. To increase the demand for circumcision, the Luo would need to be convinced of its value as a medical intervention and be motivated to seek VMMC services.[7]

5. Solution

Community and political engagement began long before any official VMMC campaign. Kisumu's research teams urged national leadership to reach out to Luo community leaders to discuss circumcision. As one partnering implementer explained, "This is not going to be a public health project where you sit and a sick person just comes. You will need the community leaders to help you in the future after the first wave of demand is over' ... It was very important that we hold off until we'd gotten community buy in."[12]

In April 2007, national leaders shared the results of the Kisumu trial with the Luo Council of Elders. Muraguri, Director of Health Promotion at the time, undertook an aggressive publicity campaign. Radio ads and public speeches conveyed why VMMC was a medical intervention, not a cultural expectation.

The Director of Medical Services issued a statement in support of VMMC, and the government's plan to scale up circumcision began to foment public debate. As Kenya prepared for the national election in December 2007, Ministry of Health officials decided to delay implementation of a VMMC program until after the election, as elections could stir cultural tensions.

In April 2008, health officials began meeting with stakeholders about the program again, starting with the Luo Council of Elders, youth, and women's groups. Women were urged to send their partners for circumcision and mothers to send their sons. Officials reached out to faith-based organizations, professional caucuses, social groups, trade unions, and journalists,[13] focusing on the clinical trial data and the proposed new national policy. They wanted to make sure everyone was well educated on the issues and understood the medical implications.

Prime Minister Raila Odinga, a Luo and Nyanza native, met with 500 people, including members of the Luo Council of Elders. "I know circumcision will raise a lot of eyebrows, but there is evidence that it reduces infection by as much as 60%. We should not just say that this is not our culture," he said. He promoted circumcision as an individual rather than a communal choice and aimed to calm fears, saying, "All there is to circumcision is availing your male organ for the foreskin to be removed, like 'ting' [snip] and it is all over." [14]

Three Luo government ministers and a member of parliament also endorsed male circumcision, to the dismay of Luo elders.[14] Though dissenters remained among the Council of Elders, as a body the council agreed to support the campaign and saw this as an opportunity to promote men's health and contact with the health system in general.[15] The national program launched officially in November 2008 with a public event in Nairobi.[11]

Some clients opted for circumcision for the protective effects against HIV transmission. Limited demand was generated by the prospect of engaging with non-Luo sexual partners. As one client said, "I got circumcised because it gave me a very easy time with ladies from other tribes. Several tribes prohibit their women from sleeping with uncircumcised men."[16]

Community education and engagement—including peer educators and community theatre, text messaging, outreach days, and media programs in Nyanza were used to promote health care and prevention and increase uptake of services.[17] VMMC speakers appeared on district radio to foment interest in the campaign and answer the public's questions.

Peers were also used to generate demand; upon leaving the facility, all male circumcision clients were urged to motivate their friends and contacts to have the procedure and to bring their partners to receive HIV prevention services. Having undergone the procedure, every client was considered a mobilizer, as he could speak directly to the experience as a trusted messenger to friends and family. Each client mobilizer was offered Ksh50 (USD 0.63) for each new client they referred. The peer-to-peer demand generation proved to be quite effective. While the specific motivation for circumcision varied between the younger and older men within the broad age range of 15–49, using peer-to-peer interactions allowed the age-specific considerations to be addressed organically. For older men, HIV prevention, improved hygiene, increased sexual pleasure for themselves and partners, and the local availability of services facilitated their desire for circumcision. Pain during and after the surgery, the long healing period and missed work, long-term complications and cultural beliefs deterred them from seeking services.[18] Peers could be trusted to speak to these issues.

Following the international recommendations and accounting for emerging research, the third Kenyan National AIDS Strategic Plan 2009–2013 included male circumcision as an official part of its strategy. The plan stated, "The most cost-effective intervention, at about USD 225 per case averted, is that of voluntary, medically-assisted adult male circumcision (VMMC) for men in rural Nyanza aged 25–49 years."[5]

In August 2009, seeing they were behind target, implementers launched the Rapid Results Initiative (RRI), an aggressive male circumcision campaign to speed up progress. Implementers had been hesitant to run large media campaigns previously due to concerns they would be unable to meet the demand. They pooled their resources, conducted additional trainings, stocked up on supplies, and brought in additional providers. The task force agreed to begin social mobilization 2 weeks prior to the start of the campaign, which would occur during school and holiday vacations. The Provincial Task Force's communications subcommittee arranged to place VMMC speakers at district radio stations throughout Nyanza to foment interest in the campaign and answer on air any questions the public might have.

In 30 working days the implementers completed 36,077 circumcisions, surpassing their goal.

In 2010, the Government of Kenya published a comprehensive communications toolkit to inform the media about how to deliver messages around VMMC. The objective of the communications strategy was to "raise awareness of male circumcision as a strategy in HIV prevention; increase demand for male circumcision as a medical method for HIV prevention; increase flow of sufficient and accurate information about voluntary male circumcision as an HIV risk-reduction method; and improve access to safe voluntary male circumcision in appropriate settings."[19]

A second RRI in 2010 that capitalized on delivery lessons learned in the first one achieved 55,376 circumcisions.[11] Changes in operations included: using two operating tables per team to reduce preparation time between surgeries, using prepackaged supply kits, and sharing tasks among different cadres of providers. In high-volume areas, some clients received counseling the day before surgery so surgeons could start working earlier in the morning. Experienced providers partnered with less-experienced providers and served as team leaders to ensure quality.[7]

6. Unresolved questions and lessons for the field

As of 2013, Kenya has reached the highest percentage of target men among sub-Saharan nations. By December 2011, Kenya made progress toward its 80% coverage goal by circumcising 52.2% of consenting uncircumcised males in Nyanza Province, performing a total of 290,000 adult male circumcisions in Nyanza.[17] Age varied widely, however: coverage among males aged 15–19 years in some districts reached 70%, with the overall median age at 17 years, suggesting older males (aged 25–49 years) were not largely accessing VMMC.[20] Increasingly, there was demand for circumcision among those below age 15.[21]

Mobilizing older males (specifically 25–49 years of age, for whom the risk of HIV infection is highest) is an ongoing challenge. A recent study from Tanzania evaluating the uptake of VMMC across age groups in outreach and routine primary care settings found that outreach settings attract younger men, while older men prefer primary care settings, which old men believe offer more privacy.[22] The campaign faces challenges in sustaining political will, community engagement, and funding for demand generation activities. In addition, as the campaign generates demand, implementers are iterating on prevention services. For example, VMMC programs transitioned from opt-in HIV testing and counseling to provider-initiated testing and counseling.[21]

Demand generation is the first step in the care delivery value chain, described in Kim, Farmer, and Porter's paper, *Redefining Global Health Delivery*.[23] The authors explain that value arises from the integration of care across the entire chain, not just from each individual activity or service. Their work highlights that demand generating activities were just one component of the strategies that allowed Kenya to move toward its goal of 80% coverage within 5 years. While we do not discuss the supply side of the Kenya VMMC campaign, much has been published.[17,21,24–28]

With the pressures to standardize care, Kim, Farmer, and Porter acknowledge that care delivery must "be constructed for distinct populations with distinct prevention and care challenges." While the target population seemed relatively homogenous at the start of the campaign, i.e., Luo males aged 15–49 in Nyanza province, implementers discovered the differences within the population were quite significant. The iterative design by district providers and implementers highlights the importance of balancing standardization and autonomy in demand generation when scaling up projects. Stakeholders will need to study and assess the local enabling and limiting factors in generating demand, the first activity in the care delivery value chain.

The Nyanza VMMC campaign is an exceptional example of demand generation for a surgical intervention and public health program. As health care providers are keen to supply new products and services, early inputs into demand generation will be key to ensure value is generated for patients and populations. Collecting data about and measuring the effectiveness of each demand-generating activity will increase the value of demand generation moving forward and ensure maximum impact.

Funding source

This work was supported by a grant from the Bill & Melinda Gates Foundation.

Acknowledgments

The authors would like to thank the following people for their contributions to this work: Rebeca Plank, Aparajita Ramakrishnan, and Sema Sgaier.

References

1. Auvert B, Taljaard D, Lagarde E, Sobngwi-Tambekou J, Sitta R, Puren A. Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 Trial. *PLoS Med.* 2005;2(11):e298.
2. Bailey R, Moses S, Parker CB, et al. Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomized controlled trial. *The Lancet.* 2007;369:643–656.
3. New data on male circumcision and HIV prevention: policy and programme implications. Paper presented at: WHO/UNAIDS technical consultation on male circumcision and HIV prevention: research implications for policy and programming, 2007.
4. White RG, Glynn JR, Orroth KK, et al. Male circumcision for HIV prevention in sub-Saharan Africa: who, what and when? *AIDS.* 2008;22(14):1841–1850.
5. Government of Kenya. *Kenya AIDS Indicator Survey* 2007. NASCOP, ed. Nairobi2008.
6. Government of Kenya. *Kenya national strategy for voluntary medical male circumcision.* Nairobi2009.
7. Talbot J, Cole C, May M, Weintraub R. *Voluntary medical male circumcision in Nyanza Province, Kenya.* Boston: Harvard Business Publishing; 2012.
8. The World Bank Global HIV/AIDS Program, UNAIDS. *HIV prevention response and modes of transmission analysis.* Kenya National AIDS Control Council; 2009.
9. Central Bureau of Statistics (Kenya), Ministry of Health, ORC Macro. *Kenya demographic and health survey: 2003.* Calverton, MD: Central Bureau of Statistics, Ministry of Health, ORC Macro; 2003.
10. *UNAIDS. Kenya country situation 2009.* (http://www.unaids.org/ctrysa/AFRKEN_en.pdf); 2009 Accessed 06.03.12.
11. Government of Kenya, Ministry of Public Health and Sanitation, National AIDS and STI Control Programme. *Progress report on Kenya's voluntary medical male circumcision program, 2008–2009: Summary, Nairobi, Kenya;* 2010.
12. *Mortality country fact sheet:* World Health Organization; 2006.
13. USAID. *USAID/Kenya annual report: USAID/Kenya in action,* Nairobi; 2011.
14. Telewa M. Kenyan MPs admit to circumcision. *BBC News*2008.
15. Russell L. *In it to save lives: scaling up voluntary medical male circumcision for HIV prevention for maximum public health impact.* USAID and PEPFAR; 2008.
16. Obure A, Nyambedha E, Oindo B, Kodero H. Psychosocial factors influencing promotion of male circumcision for HIV prevention in a non-circumcising community in rural Western Kenya. *Qualitative Rep.* 2009;14(4):666–687.
17. Mwandi Z, Murphy A, Reed J, et al. Voluntary medical male circumcision: translating research into the rapid expansion of services in Kenya, 2008–2011. *PLoS Med.* 2011;8(11):.
18. Westercamp M., Agot K., Ndinya-Achola J., Bailey R. Factors associated with the circumcision decision: baseline results from the risk compensation study in Nyanza province, Kenya. In: *Proceedings of the AIDS 2010 – XVIII International AIDS Conference: Abstract no. MOPE0332;* 2010.
19. *C-Change, FHI 360, Academy for Educational Development. Voluntary Medical Male Circumcision (VMMC) communication toolkit in Kenya.* (http://www.c-hubonline org/resources/voluntary-medical-male-circumcision-vmmc-communication-toolkit-kenya-english); 2010 Accessed 15.05.13.
20. Progress in voluntary medical male circumcision service provision – Kenya, 2008–2011. *MMWR Morb Mortal Wkly Rep* 2012;61(47):957–61.
21. Herman-Roloff A, Llewellyn E, Obiero W, et al. Implementing voluntary medical male circumcision for HIV prevention in Nyanza Province, Kenya: lessons learned during the first year. *PLos One.* 2011;6(4):e18299.

22. Mahler H., Plotkin M., et al. Outreach Voluntary Medical Male Circumcision (VMMC) sites attract A Significantly younger clientele than fixed sites in Tanzania. In: *Proceedings of the Conference on Retroviruses and Opportunitistic Infections*;2013.
23. Kim JY, Farmer P, Porter ME. Redefining global health-care delivery. *Lancet*. 2013;382(9897):1060–1069.
24. Herman-Roloff A, Otieno N, Agot K, Ndinya-Achola J, Bailey RC. Acceptability of medical male circumcision among uncircumcised men in Kenya one year after the launch of the national male circumcision program. *PLos One*. 2011;6(5): e19814.
25. Herman-Roloff A, Bailey RC, Agot K. Factors associated with the safety of voluntary medical male circumcision in Nyanza province, Kenya. *Bull World Health Organ*. 2012;90(10):773–781.
26. Herman-Roloff A, Bailey RC, Agot K. Factors associated with the early resumption of sexual activity following medical male circumcision in Nyanza province, Kenya. *AIDS Behav*. 2012;16(5):1173–1181.
27. Westercamp M, Agot KE, Ndinya-Achola J, Bailey RC. Circumcision preference among women and uncircumcised men prior to scale-up of male circumcision for HIV prevention in Kisumu, Kenya. *AIDS Care*. 2012;24(2):157–166.
28. Lanham M, L'Engle KL, Loolpapit M, Oguma IO. Women's roles in voluntary medical male circumcision in Nyanza Province, Kenya. *PLos One*. 2012;7(9): e44825.

Kenya AIDS Indicator Surveys 2007 and 2012: Implications for Public Health Policies for HIV Prevention and Treatment

William K. Maina, MBChB, MPH, Andrea A. Kim, PhD, MPH,† George W. Rutherford, MD, AM,‡ Malayah Harper, MA,§ Boniface O. K'Oyugi, PhD, MBS,|| Shahnaaz Sharif, MD, MMed, MSc,¶ George Kichamu, MSc,|| Nicholas M. Muraguri, MBChB, MMed,* Willis Akhwale, MBChB, MMed, PhD,¶ and Kevin M. De Cock, MD, FRCP(UK), DTM&H,† for the KAIS Study Group*

Abstract: AIDS Indicator Surveys are standardized surveillance tools used by countries with generalized HIV epidemics to provide, in a timely fashion, indicators for effective monitoring of HIV. Such data should guide responses to the HIV epidemic, meet program reporting requirements, and ensure comparability of findings across countries and over time. Kenya has conducted 2 AIDS Indicator Surveys, in 2007 (KAIS 2007) and 2012–2013 (KAIS 2012). These nationally representative surveys have provided essential epidemiologic, sociodemographic, behavioral, and biologic data on HIV and related indicators to evaluate the national HIV response and inform policies for prevention and treatment of the disease. We present a summary of findings from KAIS 2007 and KAIS 2012 and the impact that these data have had on changing HIV policies and practice.

Key Words: Kenya, HIV/AIDS, AIDS Indicator Survey, surveillance, policy

(*J Acquir Immune Defic Syndr* 2014;66:S130–S137)

From the *National AIDS and Sexually Transmitted Infection (STI) Programme, Ministry of Health, Nairobi, Kenya; †Division of Global HIV/AIDS, Center for Global Health, US Centers for Disease Control and Prevention, Nairobi, Kenya; ‡Global Health Sciences, University of California, San Francisco, San Francisco, CA; §The Joint United Nations Program on HIV/AIDS, Nairobi, Kenya; ||National Council for Population and Development, Nairobi, Kenya; and ¶Ministry of Health, Nairobi, Kenya.

KAIS 2012 was supported by the National AIDS and STI Control Programme (STI), Kenya National Bureau of Statistics (KNBS), National Public Health Laboratory Services (NPHLS), National AIDS Control Council (NACC), National Council for Population and Development (NCPD), Kenya Medical Research Institute (KEMRI), US Centers for Disease Control and Prevention (CDC/Kenya, CDC/Atlanta), United States Agency for International Development (USAID/Kenya), University of California, San Francisco (UCSF), Joint United Nations Team on HIV/AIDS, Japan International Cooperation Agency, Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), Liverpool Voluntary Counselling and Testing (LVCT), African Medical and Research Foundation (AMREF), World Bank, and Global Fund. This publication was made possible by support from the US President's Emergency Plan for AIDS Relief through cooperative agreements (#PS001805, GH000069, and PS001814) from the US Centers for Disease Control and Prevention, Division of Global HIV/AIDS. This work was also funded in part by support from the Global Fund, World Bank, and the Joint United Nations Team for HIV/AIDS.

The authors have no conflicts of interest to disclose.

The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of the U.S. Centers for Disease Control and Prevention and the Government of Kenya.

Correspondence to: William K. Maina, MBChB, MPH, Ministry of Health, National AIDS and STI Control Programme, Kenyatta National Hospital Grounds, 19361-00202 Nairobi, Kenya (e-mail: dmainawk@nascop.or.ke).

Copyright © 2014 by Lippincott Williams & Wilkins

INTRODUCTION

Despite the advent of highly active antiretroviral therapy (ART) and availability of a host of effective prevention interventions, HIV remains a significant global health problem, and sub-Saharan Africa bears the greatest burden of HIV disease. The HIV pandemic has been extensively studied epidemiologically, yielding crucial information on trends, risk factors, and successes and failures of HIV prevention and treatment programs.

Approaches to monitoring HIV/AIDS epidemiology in a country include HIV and AIDS case reporting, surveys, and other special studies. In sub-Saharan Africa, HIV sentinel surveillance among pregnant women has been used to formulate estimates of HIV prevalence and trends in the general population. In addition, direct measurement through population-based surveys with serologic testing has been used to provide comprehensive information on the epidemiology of HIV in a country by linking demographic and behavioral profiles with HIV infection. Such surveys have included Demographic and Health Surveys, Behavioral Surveillance Surveys, Multiple Indicator Cluster Surveys, Reproductive Health Surveys, and AIDS Indicator Surveys.[1,2]

AIDS Indicator Surveys were introduced to provide countries with generalized HIV epidemics with a standardized tool to provide indicators for effective monitoring of HIV/AIDS. These data are key to ensuring an informed response to the HIV epidemic and allow for comparisons across time and settings.[2] This article reviews the key findings of Kenya's first and second AIDS Indicator Surveys (KAIS 2007 and KAIS 2012) and explores how findings from AIDS Indicator Surveys can influence changes in national HIV policy.

KENYA AIDS INDICATOR SURVEY 2007

Study Design

KAIS 2007 was a population-based, cross-sectional household survey that used a 2-stage stratified cluster sampling design to obtain a nationally representative sample of persons aged 15–64 years.[3] The first stage included selection of clusters from the National Sample Survey and Evaluation Programme (NASSEP IV) household-based sampling frame, developed in 1999; the second stage included selecting a sample of 25 households within each selected cluster. The sample was powered so that the survey could provide national

Copyright © Lippincott Williams & Wilkins. Unauthorized reproduction of this article is prohibited.

and subnational estimates of HIV prevalence, including regional and urban/rural residential estimates. Household questionnaires were administered to the head of household to identify eligible household members and capture household characteristics. Household members were administered individual questionnaires to collect information on demographic, behavior, knowledge, and access to services. Blood specimens were collected for centralized testing for HIV, syphilis, and herpes simplex virus type 2 infections and CD4 counts for HIV-positive samples.

Before KAIS 2007, only one other national household survey had been conducted that included HIV testing: the 2003 Kenya Demographic and Health Survey (KDHS 2003).[4] Key differences in KAIS 2007 compared to KDHS 2003 were the expansion of the national sample to an upper age limit of 64 years, serological testing for herpes simplex virus type 2 and syphilis infection, CD4 count measurement among HIV-infected participants, new questions about knowledge of participants' own and their partners' HIV status, assessment of access to care, treatment, and prevention services, and estimation of the number of persons in need of ART and related care services.

Key Findings and Public Health Policy Implications

Key findings from KAIS 2007 resulted in important changes to the national HIV program in the areas of HIV prevention, care, and treatment. In Table 1, we summarize these findings and how HIV programming and policy have changed in response to these data.

HIV Epidemiology

KAIS 2007 found that 7.1% of Kenyans aged 15–64 years and 7.4% of those aged 15–49 years were infected with HIV.[3] There was disproportionate distribution of HIV infection by sex and age; women had nearly 30% more infections than men of the same age, with the difference more pronounced in younger women. There was regional variation in HIV prevalence, ranging from a high of 14.9% in Nyanza region to a low of 0.8% in North Eastern region. HIV prevalence was higher among urban residents (8.4%) than rural residents (6.7%).[3] Among married and cohabiting couples, 5.9% were HIV serodiscordant, where one partner was HIV infected and the other was HIV uninfected.[3] This translated to approximately 340,000 discordant couples in the country.[4]

Serologic testing for recent infection showed stable HIV incidence among persons aged 15–49 years, ranging from 0.8–1.0% in 2003 to 0.6–0.7% in 2007.[6] In 2007, the majority of recent infections (85.6%) were detected in married or cohabitating individuals, broadly consistent with findings from the Joint United National Program on HIV/AIDS modes of transmission model that suggested that almost half (44%) of new infections in 2006 were occurring among persons in marital or cohabiting relationships in Kenya.[7]

Results from KAIS 2007 confirmed that the HIV epidemic in Kenya was stable but substantial. With approximately 1,400,000 persons living with HIV in 2007, it was evident that significant revisions to the national strategy for HIV prevention, care, and treatment were needed to change the trajectory of the epidemic.

HIV Testing and Knowledge of HIV Serostatus

HIV testing and counseling is essential for identifying HIV-infected persons and linking them to vital interventions, including prevention of mother-to-child transmission of HIV (PMTCT) programs and care and treatment services. In KAIS 2007, wide gaps were revealed in HIV testing and knowledge of HIV serostatus. The survey reported that only 36.6% of Kenyan adults had been tested for HIV; women (44.6%) were nearly 2 times more likely to have been tested for HIV than men (25.6%).[3] Among HIV-infected persons, 83.6% did not know they were infected.[8] Additionally, 77.9% of those who reported one or more sexual partners in the past 12 months did not know their partners' HIV status.

Following these results, the Kenyan Ministry of Health (MOH) developed the National Guidelines for HIV Counselling and Testing in 2008, replacing the earlier National Guidelines for Voluntary Counseling and Testing (VCT) and Guidelines for Testing in Clinical Settings.[9] These updated recommendations diversified HIV testing using approaches that brought testing services directly to the client rather than relying on clients to seek testing on their own. New HIV testing approaches included provider-initiated testing and counseling in health care settings, home-based testing and counseling (HBTC), mobile VCT, and outreach activities aimed to test a large number of persons in the community within a short period of time.

Sexual Behavior

In 2001, the Kenyan MOH implemented its first national condom policy and strategy document covering the period 2001–2004.[10] However, results from KAIS 2007 highlighted major challenges in this strategy, particularly around the use of condoms among sexually active persons.[3] Among persons who reported not knowing their sexual partners' HIV status, condom use with these partners was only 14.1% among men and 4.8% among women. Among youth aged 15–24 years, 26.7% reported using a condom the first time they had sexual intercourse.

Following KAIS 2007, behavior change interventions among in- and out-of-school youth were expanded and focused on sexual risk reduction, delaying sexual debut, and imparting skills on how to negotiate abstinence as well as correct and consistent condom use. In addition, the MOH issued a policy statement emphasizing the importance of a sustainable condom supply to ensure universal access to condoms for all sexually active persons. Subsequently, from 2007 to 2009, the annual number of male condoms distributed increased by about 30%, with approximately 15 million condoms distributed per month.[11]

Voluntary Male Medical Circumcision

Between 2005 and 2007, unequivocal evidence from randomized clinical trials in sub-Saharan Africa demonstrated a significant protective effect of male circumcision against

© 2014 Lippincott Williams & Wilkins

Copyright © Lippincott Williams & Wilkins. Unauthorized reproduction of this article is prohibited.

TABLE 1. Key Indicators and Programmatic Changes in the National HIV Response in Kenya, Kenya AIDS Indicator Survey 2007 and 2012

Programmatic Indicator	KAIS 2007 Weighted % (95% CI)	Programmatic Changes After KAIS 2007	KAIS 2012 Weighted % (95% CI)	Programmatic Implications After KAIS 2012
HIV testing and counseling				
% of persons aged 15–64 yrs who have ever been tested for HIV	36.6 (35.2 to 38.0)	Revision of national guidelines on HIV testing and counseling with emphasis on modalities that bring services to the client (eg, provider-initiated counseling and testing, HBTC)	71.6 (70.2 to 73.1)*	Scale-up of all testing strategies, with focus on reaching men and children; more emphasis on identifying HIV-infected key populations and linking them to care; provision of ART for HIV-infected persons in HIV serodiscordant relationships
% of HIV-infected persons aged 15–64 yrs who were aware of their HIV infection	16.4 (13.2 to 19.6)		46.9 (41.3 to 52.4)*	
% of persons aged 15–64 yrs reporting a partner of unknown HIV status in the past year	77.9 (76.6 to 79.1)		46.4 (44.7 to 48.1)*	
% of married or cohabiting couples that are HIV discordant	5.9 (4.4 to 7.3)		4.8 (3.6 to 6.1)	
VMMC				
% of men aged 15–64 yrs who have been circumcised	National: 85.0 (83.2 to 86.8) Nyanza: 48.2 (42.0 to 54.3) Nairobi: 83.2 (79.9 to 90.5) Rift Valley: 88.7 (85.4 to 91.9) Western: 87.8 (82.0 to 93.5)	Implementation of national 5-year VMMC strategic plan, 2008–2013, with focus on rapid results initiatives in priority regions of Nairobi, Nyanza, Rift Valley, and Western	National: 91.2 (89.7 to 92.7)* Nyanza: 66.3 (57.0 to 75.6)* Nairobi: 92.2 (89.0 to 95.4)* Rift Valley: 92.8 (90.8 to 94.9) Western: 92.9 (89.2 to 96.7)	Scale-up of infant circumcision strategies and evaluation of devices
PMTCT of HIV				
% of women aged 15–54 yrs who attended an antenatal clinic during last pregnancy in the past 5 yrs	89.6 (88.1 to 91.2)	Expansion of PMTCT programs in medical facilities that offer prenatal or obstetrical care	95.4 (94.3 to 96.4)*	Provision of lifelong ART for pregnant women regardless of CD4 count; integration of family planning in PMTCT, maternal and child health, and reproductive health services
% of women aged 15–54 yrs that tested for HIV at antenatal clinic during last pregnancy in the past 5 yrs	64.9 (62.3 to 67.5)		93.1 (91.5 to 94.7)*	
% of women aged 15–49 yrs with known HIV infection and who do not desire children who were using contraception	52.0 (36.8 to 67.1)		68.7 (58.9 to 87.5)	
Condom use				
Consistent condom use among persons aged 15–64 yrs with partners of unknown HIV serostatus in the past year	14.1 (12.7 to 15.4) among men 4.8 (4.0 to 5.6) among women	Implementation of behavioral interventions, especially among youth	11.8 (10.7 to 13.0) among men 3.5 (2.9 to 4.1) among women	Emphasis around condom use for unmarried youth and for high risk and casual sex
Condom use at first sex among youth aged 15–24 yrs	26.7 (24.7 to 28.6)		61.9 (58.8 to 64.9)*	
Cotrimoxazole coverage among HIV-infected persons				
Coverage among HIV-infected persons aged 15–64 yrs who were aware of their HIV infection	76.1 (68.4 to 83.8)	Decentralization of HIV care services	88.6 (84.7 to 92.5)*	Improving adherence to clinical care guidelines among pre-ART population
Coverage among all HIV-infected adults aged 15–64 yrs	12.1 (9.3 to 15.0)		41.5 (36.2 to 46.8)*	
ART coverage among HIV-infected persons eligible for treatment†				

© 2014 Lippincott Williams & Wilkins

Copyright © Lippincott Williams & Wilkins. Unauthorized reproduction of this article is prohibited.

TABLE 1. (*Continued*) Key Indicators and Programmatic Changes in the National HIV Response in Kenya, Kenya AIDS Indicator Survey 2007 and 2012

Programmatic Indicator	KAIS 2007 Weighted % (95% CI)	Programmatic Changes After KAIS 2007	KAIS 2012 Weighted % (95% CI)	Programmatic Implications After KAIS 2012
Coverage among persons aged 15–64 yrs who were aware of their HIV infection	91.6 (86.0 to 97.2)	Implementation of revised national guidelines for ART (CD4 ≤350 cells/μL, active tuberculosis, and chronic Hepatitis B virus infection requiring treatment). Decentralization of CD4 monitoring	84.5 (75.2 to 93.7)	Implementation of revised national guidelines for ART (CD4 ≤500 cells/μL, all pregnant and breastfeeding women, active tuberculosis, chronic Hepatitis B virus infection requiring treatment, and children younger than 5 yrs); expansion of early infant diagnosis, routine viral load monitoring, and cohort analysis
Coverage among HIV-infected persons aged 15–64 yrs	40.5 (32.2 to 48.8)		60.5 (50.8 to 70.2)*	

*Difference between KAIS 2007 and KAIS 2012 is statistically significant based on $P < 0.05$.
†Immunological criterion for ART eligibility was CD4 ≤250 cells per microliter in 2007 and CD4 ≤350 cells per microliter in 2012.
CI, confidence interval.

HIV acquisition.[12–14] KAIS 2007 supported these findings on a population level, showing that uncircumcised men were at least 3 times as likely to be infected with HIV (13.2%) than circumcised men (3.9%). Nationally, 85.0% of men reported being circumcised. However, circumcision rates were much lower in Nyanza region (48.2%) where HIV prevalence was highest.[3]

In 2008, the Kenyan MOH implemented a new 5-year national strategy for voluntary male medical circumcision (VMMC), with a specific focus on 4 VMMC priority regions in the country: Nyanza, Western, Rift Valley, and Nairobi.[15] By year-end 2012, it was estimated that more than 550,000 male circumcisions were performed, with 80% of these in Nyanza region alone (Personal communication, Kenya Ministry of Health, June 26, 2013).

HIV Care and Treatment

Among all persons aged 15–64 years living with HIV in 2007, only 12.1% of persons were taking daily cotrimoxazole and only 40.5% of adults eligible to initiate treatment based on the immunologic criterion at that time (CD4 ≤250 cells/μL) were receiving ART.[3] Coverage of ART based on a criterion of CD4 ≤350 cells per microliter (which was not applicable at that time) was 28.6%. Among persons who were aware of their HIV infection, use of care and treatment was higher, with 76.1% taking cotrimoxazole daily and 91.6% of ART-eligible adults currently receiving ART.[3]

With only 1 in 8 HIV-infected persons aware of their HIV infection in 2007, KAIS 2007 demonstrated that HIV testing and treatment goals were far from being reached. The revision of national guidelines for HIV testing and counseling in 2008[8] was instrumental in assuring increased identification of HIV-positive persons. Through expansion of facility-based testing strategies, direct and increased linkages to care programs were established. Decentralization of CD4 testing was expanded, allowing for more facilities at the district level to quickly identify patients in need of treatment. Subsequently, between 2008 and 2012, the number of children and adults receiving HIV-related care increased from approximately 151,000 to 857,000 and the number of children and adults receiving ART increased from 216,000 to 579,000.[16]

KENYA AIDS INDICATOR SURVEY 2012

Study Design

In 2012, 5 years after KAIS 2007, a second AIDS Indicator Survey was conducted to monitor progress on key indicators in the national HIV prevention, care, and treatment programs (Table 1). KAIS 2012 used the same sampling methods and laboratory-based HIV testing algorithm as KAIS 2007.[17] A z test was used to test for differences in estimates between the 2 surveys, and the difference was considered statistically significant if P was <0.05.

Key Differences Between KAIS 2007 and KAIS 2012

KAIS 2012 was different from KAIS 2007 in several aspects. The survey used a new national household sampling frame (NASSEP V), developed in 2012, to sample households. However, due to regional insecurity at the time of the sampling frame development, the sparsely populated North Eastern region was not included in the sampling frame and, thus, was excluded from KAIS 2012. For the first time, the survey included children aged 18 months to 14 years to provide national estimates of HIV prevalence for the pediatric population. Children aged 10–14 years were also interviewed to understand knowledge, attitudes, and behavior in this population in relation to HIV. For persons aged 15–64 years, new questions on high-risk sexual behavior, including transactional sex, anal sex, same-sex behavior, injection drug use, and correct and consistent condom use, were added.

© 2014 Lippincott Williams & Wilkins

Copyright © Lippincott Williams & Wilkins. Unauthorized reproduction of this article is prohibited.

Blood samples were collected from all individuals for centralized HIV testing, and if HIV-positive, testing for CD4 counts and viral load were conducted. In contrast to KAIS 2007, where participants were provided their test results in a nearby health facility 6 weeks after survey teams visited their home, home-based HIV testing and counseling, using rapid HIV tests based on the national HIV testing algorithm, was offered to participants who wished to learn their HIV status on the day of the survey.[8] In addition, point-of-care CD4 testing using the PIMA CD4 Analyzer (Alere, Inc., Waltham, MA) was offered for persons who were found to be HIV infected in home-based testing and counseling.

KAIS 2012 also used portable netbook computers (Mirus Innovations, Mississauga, Ontario, Canada) to collect data in the field. Data were transmitted to a central data server in Nairobi using a secure virtual private network, allowing for increased efficiency and accuracy in data collection and data management.[18]

Key Findings and Public Health Policy Implications

HIV Epidemiology

In 2012, the prevalence of HIV among children aged 18 months to 14 years was 0.9%, representing an estimated national total of 104,000 HIV-infected children.[19] Among adults and adolescents aged 15–64 years, the prevalence of HIV was 5.6%, representing an estimated 1,192,000 persons living with HIV, 106,000 of which were new HIV infections.[20] This estimate was significantly lower than that reported in 2007 when the prevalence of HIV, excluding North Eastern region, was 7.2% ($P = 0.002$).

HIV prevalence was 6.9% among women and 4.4% among men. In urban areas, HIV prevalence was 6.5% compared to 5.4% in rural areas. Regional variations in HIV prevalence persisted, with the highest prevalence in Nyanza region (15.1%) and lowest in the Eastern South (2.1%) region. Overall, 4.8% of married and cohabiting couples were HIV serodiscordant, where either the male or female partner was HIV infected, representing an estimated 260,000 HIV-uninfected persons at risk for HIV transmission within marital or cohabiting relationships.[21] Among HIV-infected persons, 11.6% reported ever having had tuberculosis, and among persons with a history of tuberculosis disease, 33.2% were HIV infected.[22]

In the absence of a surveillance system that monitors new HIV infections and HIV-related deaths, trends in HIV prevalence are increasingly difficult to interpret in the face of increased access to ART that reduces mortality. As HIV interventions and services continue to be scaled-up, routine surveillance of HIV incidence and HIV mortality will need to be integrated into the national HIV surveillance system to understand trends and programmatic impact. This should allow determination of which services are required in specific populations and locations for a more efficient and effective response.

HIV Testing and Knowledge of HIV Status

Impressive strides in HIV testing and counseling were observed between 2007 and 2012, with HIV testing rates doubling from 33.6% in 2007 to 71.6% in 2012 ($P < 0.001$) (Table 1).[23] Women surpassed the universal access target for HIV testing, with 80.4% of women reporting that they had ever been tested compared to 62.5% of men. Among persons living with HIV, correct knowledge of HIV infection tripled from 16.4% in 2007 to 46.9% in 2012 ($P < 0.001$).[3,22] Despite this progress, over half of HIV-infected persons were not aware of their infection. This level of awareness represents a major barrier to HIV prevention, care, and treatment. Significant work is needed to increase diagnosis of HIV-infected persons and to educate the general public on when to re-test for HIV. All facility and community-based testing approaches should be expanded and new strategies, such as family testing and self-testing (currently available in private facilities), should be promoted in efforts to improve access among men and children.

High-Risk Behavior

Between 2007 and 2012, the proportion of persons reporting a recent partner of unknown HIV status reduced substantially from 77.9%[3] to 46.4% (Personal communication, Kenya Ministry of Health, December 10, 2013). However, condom use with partners of unknown HIV status in the past year remained low, with only 11.8% of men and 3.8% of women reporting that they used condoms with these partners. Among youth aged 15–24 years, 62% reported using a condom at first sexual intercourse, a substantial increase from KAIS 2007 when only 26.7% of youth reported this behavior.[3]

These data demonstrate encouraging improvement in behavior change among youth, coinciding with declines in HIV prevalence in this age group.[20] However, condom use among adults remained lower than desired. Recognizing that condom use within established relationships is difficult, condom use messages should be emphasized for populations where risk is elevated, including unmarried youth and persons engaging in high-risk or casual sex. To meet these goals, it is critical that Kenya's condom supply and distribution in the county work toward better sustainability to ensure that all sexually active persons have access to condoms.

Although a national household survey sampling frame is not optimal for capturing key populations at high risk for HIV infection, such as men who have sex with men, persons who inject drugs, and persons who engage in transactional sex, KAIS 2012 did identify persons who were engaging in these high-risk behaviors. A history of anal sex was reported by 1.8% of men and women (Personal communication, Kenya Ministry of Health, December 10, 2013). Among men, 0.6% reported ever having had sex with another man; 3.1% had ever received money, gifts, or favors for sex.[24] Among women, 4.1% had received money, gifts, or favors in exchange for sex. Overall, 0.1% of men and women had ever injected illicit drugs.[23,24] Given the established role of key populations at high risk for HIV infection in HIV epidemics, HIV testing services should expand to reach key populations, many of whom are hidden. These services should also ensure immediate linkages to HIV prevention, care, and treatment services.

© 2014 Lippincott Williams & Wilkins

Copyright © Lippincott Williams & Wilkins. Unauthorized reproduction of this article is prohibited.

Voluntary Male Medical Circumcision

The proportion of men who reported being circumcised increased significantly from 85.0% in 2007 to 91.2% in 2012 ($P < 0.001$).[25] Significant increases were observed in the 4 priority regions within the national VMMC strategy: Nyanza (from 48.2% to 66.3%, $P < 0.001$), Nairobi (from 83.2% to 92.2%, $P < 0.001$), Rift Valley (88.7% to 92.8%, $P = 0.001$), and Western regions (87.8% to 92.9%, $P < 0.001$). Circumcision rates increased among men aged 15–24 years, from 78.7% in 2007 to 88.1% in 2012 ($P < 0.001$) and for men aged 25–34 years from 87.4% in 2007 to 93.4% in 2012 ($P < 0.001$).

These findings demonstrate substantial population-level advancement toward bringing VMMC to scale within a short period. Rapid results initiatives, aimed to reach many people within a short period, have helped to quickly increase access to VMMC. Continued work is needed, especially in Nyanza region, to bring male circumcision rates higher. In moving forward, integration of VMMC into routine maternal and child health services and scale-up of infant circumcision services is expected to maximize the long-term public health impact of VMMC on the broader HIV epidemic.

Prevention of Mother-to-Child Transmission

Family planning to prevent unplanned pregnancies is a key element in the national PMTCT strategy. KAIS 2012 established that unmet need for family planning among HIV-infected women was high, with only 68.7% of HIV-infected women who did not desire children in the future reporting that they used some form of contraception compared with 52.0% in 2007 ($P = 0.07$).[26]

Among female respondents aged 15–54 years who reported 1 or more live births in the past 5 years, 95.4% attended an antenatal clinic during their last pregnancy; of these, 93.1% were tested for HIV at the clinic. This was higher than reported in KAIS 2007 when 89.6% of women had attended an antenatal clinic during their last pregnancy ($P < 0.001$), and 64.9% of these women had been tested for HIV as part of antenatal care ($P < 0.001$).[3,27] Among women who tested HIV-positive or were already aware of their HIV infection, 90.1% received maternal or infant prophylaxis for PMTCT during pregnancy and/or during postpartum, and of the infants born to these mothers, 82.5% were tested for HIV infection. The cumulative 5-year mother-to-child transmission rate based on the mother's report was 15.1% (95% confidence interval: 2.4 to 27.8).[27]

The elimination of mother-to-child transmission framework is an important element in the Government of Kenya strategy to achieve elimination of mother-to-child transmission in Kenya by 2015.[28] Provision of ART for all HIV-infected pregnant women ("Option B+"), regardless of whether diagnosis is made during pregnancy, labor, and delivery, or post-natally, will be a critical step in achieving these goals. To address the gap in family planning for HIV-infected women, there is need for wider integration of family planning services in PMTCT programs, maternal and child health, and reproductive health services.

HIV Care and Treatment

In 2012, coverage of cotrimoxazole was 41.5% among all HIV-infected persons aged 15–64 years.[21] Coverage of ART was 60.5% among those eligible for treatment using the current Kenyan treatment guidelines (based on an immunologic threshold of CD4 ≤350 cells per microliter), and 45.9% using the 2013 World Health Organization guidelines on treatment initiation (based on an immunologic threshold of CD4 ≤500 cells per microliter).[29–31] Although these coverage rates highlight gaps in the continuum of care for HIV-infected persons, they represent significant improvement from 2007, when coverage for cotrimoxazole was only 12.1% ($P < 0.001$) among HIV-infected persons and coverage for ART at an immunologic threshold of CD4 ≤350 cells per microliter was only 28.6% ($P < 0.001$).[3] We found that linkage to care among persons who had been previously diagnosed with HIV infection to be high, at 89.9%.[32] Equally impressive, we found that three-quarters (75.3%) of persons in care and on ART had achieved viral suppression, comparable to levels observed in developed countries. In contrast, among all persons living with HIV (including those undiagnosed and not in care), only 40.0% achieved viral suppression, indicating that widespread transmission risks persists in the population.[21]

For the first time in a national survey, we were able to estimate the population size of orphans and vulnerable children due to HIV/AIDS. We estimated that there were approximately 2.6 million orphans and vulnerable children in 2012, of whom approximately 7 in 10 were orphaned and 3 in 10 were vulnerable.[33] We also found that testing, care, and treatment among HIV-infected children between the ages of 18 months and 14 years to be concerning. Only 11 of 28 HIV-infected children in KAIS 2012 had been diagnosed previously, and although all children with previous diagnosis were accessing care, only 8 were receiving ART, and of those, only half had achieved viral suppression.[19]

As Kenya moves forward in response to these findings and with anticipated changes in the national treatment guidelines, it will be critical for the country to evaluate the readiness of facilities to absorb a higher number of patients and ensure that the quality of care and ability to monitor adherence, drug resistance, and treatment success are not compromised. Viral load monitoring should be routinely conducted and decentralized to improve the quality of care. The national early infant diagnosis program should also be carefully evaluated and monitored to ensure that all HIV-infected children are diagnosed and linked into care. In addition, further emphasis should be directed toward understanding the cascade of care through establishment of routine monitoring and evaluation systems that allow for following cohorts of HIV-infected persons from the point of diagnosis to death.

DISCUSSION

AIDS Indicator Surveys have proven instrumental in assessing Kenya's national HIV response. Results from KAIS 2007 and KAIS 2012 have helped to redesign elements in the national strategy for HIV prevention, treatment, and care to address deficiencies and seize opportunities as new interventions have been introduced. With nearly 1.2 million people living with HIV in 2012, continued refinement of national

© 2014 Lippincott Williams & Wilkins

Copyright © Lippincott Williams & Wilkins. Unauthorized reproduction of this article is prohibited.

strategies and policies will be required to impact the HIV/AIDS epidemic in Kenya. Based on the results of KAIS 2012, these strategies should include more effective identification of HIV-infected persons in settings that will provide high yield and immediate linkage to care. The unmet need for family planning and provision of life-long ART for HIV-infected pregnant women will be essential for eliminating pediatric HIV disease. Prevention efforts must encompass provision of ART for HIV-infected partners in serodiscordant couple relationships. On the laboratory front, implementation of routine viral load monitoring, improvements in early infant diagnosis, and enhanced HIV drug resistance monitoring will be required. In addition, we anticipate scale-up of infant circumcision services in priority regions, as well as provision of universal ART for children younger than 5 years of age.

Kenya is currently undergoing the process of devolving control and management of government services, including health, to 47 counties. Devolution, mandated through the revised Kenya Constitution, presents an opportunity to ensure efficiency and effectiveness of these interventions but will require close monitoring at the national level in the early stages of devolvement.

The next KAIS, planned for 2017, will be conducted towards the end of the implementation period of the Kenya National AIDS Strategic Plan IV, which begins in 2014. KAIS 2017 will therefore provide essential information to evaluate the impact of the new HIV prevention, care, and treatment strategies laid out in the new national strategic plan. The next KAIS should also be leveraged to assess other health outcomes that may be associated with HIV disease such as tuberculosis, malaria, and malnutrition. These efforts will help to reduce costs by combining disease surveillance efforts, improving integration across the health sector, and allowing assessment of the extent to which HIV/AIDS services have strengthened health systems.

ACKNOWLEDGMENTS

The authors thank the KAIS field teams for their excellent work during KAIS 2007 and 2012 data collection and all persons who participated in these two national surveys. The authors would also like to thank Nadine Sunderland and Mike Grasso for reviewing the paper and providing input. Finally, the authors would like to acknowledge the KAIS Study Group for their contribution to the design of the survey and collection of the data set: Willis Akhwale, Sehin Birhanu, John Bore, Angela Broad, Robert Buluma, Thomas Gachuki, Jennifer Galbraith, Anthony Gichangi, Beth Gikonyo, Margaret Gitau, Joshua Gitonga, Mike Grasso, Malayah Harper, Andrew Imbwaga, Muthoni Junghae, Mutua Kakinyi, Samuel Mwangi Kamiru, Nicholas Owenje Kandege, Lucy Kanyara, Yasuyo Kawamura, Timothy Kellogg, George Kichamu, Andrea Kim, Lucy Kimondo, Davies Kimanga, Elija Kinyanjui, Stephen Kipkerich, Danson Kimutai Koske, Boniface O. K'Oyugi, Veronica Lee, Serenita Lewis, William Maina, Ernest Makokha, Agneta Mbithi, Joy Mirjahangir, Ibrahim Mohamed, Rex Mpazanje, Nicolas Muraguri, Patrick Murithi, Lilly Muthoni, James Muttunga, Jane Mwangi, Mary Mwangi, Sophie Mwanyumba, Francis Ndichu, Anne Ng'ang'a, James Ng'ang'a, John Gitahi Ng'ang'a, Lucy Ng'ang'a, Carol Ngare, Bernadette Ng'eno, Inviolata Njeri, David Njogu, Bernard Obasi, Macdonald Obudho, Edwin Ochieng, Linus Odawo, Jacob Odhiambo, Caleb Ogada, Samuel Ogola, David Ojakaa, James Kwach Ojwang, George Okumu, Patricia Oluoch, Tom Oluoch, Kenneth Ochieng Omondi, Osborn Otieno, Yakubu Owolabi, Boniface O. K'Oyugi, Bharat Parekh, George Rutherford, Sandra Schwarcz, Shahnaaz Sharrif, Victor Ssempijja, Lydia Tabuke, Yuko Takenaka, Mamo Umuro, Brian Eugene Wakhutu, Wanjiru Waruiru, Celia Wandera, John Wanyungu, Anthony Waruru, Paul Waweru, Larry Westerman, and Kelly Winter.

REFERENCES

1. Diaz T, Carcia-Calleja JM, Ghys PD, et al. Advances and future directions in HIV surveillance in low- and middle-income countries. *Curr Opin HIV AIDS*. 2009;4:253–259.
2. MEASURE DHS. Basic documentation [Web site]. Calverton, MD: ORC Macro International; 2005. Available at: http://www.measuredhs.com/topics/HIV-Corner/index.cfm. Accessed May 23, 2013.
3. National AIDS and STI Control Programme (NASCOP). *2007 Kenya AIDS Indicator Survey Final Report*. Nairobi, Kenya: NASCOP; 2009.
4. Central Bureau of Statistics (CBS), Kenya Ministry of Health (MOH), ORC Macro. *Kenya Demographic Health Survey 2003*. Calverton, MD: CBS, KNBS, and ORC Macro; 2004.
5. Kaiser R, Bunnell R, Hightower A, et al. Factors associated with HIV infection in married or cohabitating couples in Kenya: results from a nationally representative study. *PLoS One*. 2011;6:e17842.
6. Kim AA, Hallett T, Stover J, et al. Estimating HIV incidence among adults in Kenya and Uganda: a systematic comparison of multiple methods. *PLoS One*. 2011;6:e17535.
7. National AIDS Control Council (NACC). *Report of Kenya Analysis of HIV Prevention Response and Modes of HIV Transmission Study—2006*. Nairobi, Kenya: National AIDS Control Council; 2009.
8. Cherutich P, Kaiser R, Galbraith J, et al. Lack of knowledge of HIV status a major barrier to HIV prevention, care and treatment efforts in Kenya: results from a nationally representative study. *PLoS One*. 2012;7:e36797.
9. National AIDS and STI Control Programme (NASCOP). *National guidelines for HIV Testing and Counseling in Kenya*. 2nd ed. Nairobi, Kenya: NASCOP; 2010. Available at: http://www.nascop.or.ke. Accessed June 15, 2013.
10. National AIDS Control Council (NACC). *National Condom Policy and Strategy, 2001-2005*. Nairobi, Kenya: NACC; 2001.
11. National AIDS Control Council (NACC). *Kenya AIDS Epidemic: Update 2011*. Nairobi, Kenya: NACC; 2012.
12. Auvert B, Taljaard D, Lagarde E, et al. Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 Trial. *PLoS Med*. 2005;2:e298.
13. Bailey RC, Moses S, Parker CB, et al. Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. *Lancet*. 2007;369:643–656.
14. Gray RH, Kigozi G, Serwadda D, et al. Male circumcision for HIV prevention in men in Rakai, Uganda: a randomised trial. *Lancet*. 2007;369:657–666.
15. National AIDS and STI Control Programme (NASCOP). *Kenya National Strategy for Voluntary Medical Male Circumcision 2008–2013*. Nairobi, Kenya: Ministry of Health, National AIDS and STI Control Programme; 2009. Available at: http://nascop.or.ke/library/VMMC/VMMC%20Strategy.pdf. Accessed July 3, 2013.
16. Office of the Global AIDS Coordinator (OGAC). *US President's Emergency Plan for AIDS Relief Annual Progress Report 2012*. Washington, DC: OGAC; 2012.
17. Waruiru W, Kim AA, Kimanga DO, et al. The Kenya AIDS indicator survey 2012: rationale, methods, description of participants and response rates. *J Acquir Immune Defic Syndr*. 2014;66(suppl 1):S3–S12.
18. Ojwang' JK, Lee VC, Waruru A, et al. Using information and communications technology in a national population-based survey: the 2012 Kenya

© 2014 Lippincott Williams & Wilkins

Copyright © Lippincott Williams & Wilkins. Unauthorized reproduction of this article is prohibited.

AIDS Indicator Survey. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1): S123–S129.
19. Ng'eno B, Mwangi A, Ng'ang'a L, et al. Burden of HIV Infection Among Children Aged 18 months to 14 years in Kenya: results from a nationally-representative population-based cross-sectional survey. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1):S82–S88.
20. Kimanga DO, Ogola S, Umuro M, et al. Prevalence and incidence of HIV infection, trends, and risk factors among persons aged 15-64 years in Kenya: results from a nationally representative study. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1):S13–S26.
21. National AIDS and STI Control Programme (NASCOP). *Kenya AIDS Indicator Survey 2012: Preliminary Report.* Nairobi, Kenya: NASCOP; 2013.
22. Mbithi A, Gichangi A, Kim AA, et al. HIV and tuberculosis in Kenya 2012-2013: results from a national survey. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1):S106–S115.
23. Ng'ang'a A, Waruru W, Ngare C, et al. Status of HIV testing and counselling in Kenya: results from a nationally-representative population-based survey. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1): S27–S36.
24. Githuka G, Hladik W, Mwalili S, et al. Populations at increased risk for HIV infection in Kenya. results from a national population-based household survey, 2012. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1):S46–S56.
25. Galbraith J, Ochieng A, Mwalili S, et al. Status of voluntary medical male circumcision in Kenya: findings from two nationally-representative surveys in Kenya, 2007 and 2012. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1): S37–S45.
26. Ngugi E, Kim AA, Nyoka R, et al. Contraceptive practices and fertility desires among HIV-infected and uninfected women in Kenya: results from a nationally representative study. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1):S75–S81.
27. Sirengo M, Muthoni L, Kellogg TA, et al. Mother-to-child transmission of HIV in Kenya: results from a nationally representative study. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1):S66–S74.
28. National AIDS and STI Control Programme (NASCOP). *Towards Elimination of Mother to Child Transmission of HIV and Keeping Mothers Alive: Strategic Framework 2012–2015.* Nairobi, Kenya: NASCOP; 2012.
29. Odhiambo J, Kellogg TA, Kim AA, et al. Antiretroviral therapy scale-up in Kenya: results from a nationally representative survey. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1):S166–S122.
30. World Health Organization (WHO). *Consolidated Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV Infection.* Geneva, Switzerland: WHO; 2013.
31. National AIDS and STI Control Programme (NASCOP). *Guidelines for Antiretroviral Therapy in Kenya.* 4th ed. Nairobi, Kenya: NASCOP; 2011.
32. Wafula R, Masyuko S, Nganga L, et al. Engagement in HIV care among Kenyan adults: results from a national population based-survey. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1):S98–S105.
33. Lee VC, Mureithi P, Gilbert-Nandra U, et al. Orphans and vulnerable children in Kenya: results from a nationally representative population-based survey. *J Acquir Immune Defic Syndr.* 2014;66(suppl 1):S89–S97.

© 2014 Lippincott Williams & Wilkins

Copyright © Lippincott Williams & Wilkins. Unauthorized reproduction of this article is prohibited.

Hindawi Publishing Corporation
AIDS Research and Treatment
Volume 2012, Article ID 412643, 8 pages
doi:10.1155/2012/412643

Research Article

Achieving Universal Access for Human Immunodeficiency Virus and Tuberculosis: Potential Prevention Impact of an Integrated Multi-Disease Prevention Campaign in Kenya

Reuben Granich,[1] Nicolas Muraguri,[2] Alexandre Doyen,[3] Navneet Garg,[4] and Brian G. Williams[5]

[1] *Treatment and Care Unit, Department of HIV/AIDS, World Health Organization, Avenue Appia 20, 1211 Geneva, Switzerland*
[2] *Ministry of Public Health and Sanitation, Government of Kenya, Nairobi, Kenya*
[3] *Vestergaard Frandsen (EA) Ltd., Waiyaki Way, ABC Place, P.O. Box 66889, Nairobi 00800, Kenya*
[4] *Innovation Centre, Vestergaard Frandsen, Chemin de Messidor 5-7, 1006 Lausanne, Switzerland*
[5] *South African Centre for Epidemiological Modeling and Analysis, Stellenbosch, South Africa*

Correspondence should be addressed to Reuben Granich, granichr@who.int

Received 30 November 2011; Revised 27 January 2012; Accepted 28 January 2012

Academic Editor: Anthony Harries

Copyright © 2012 Reuben Granich et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

In 2009, Government of Kenya with key stakeholders implemented an integrated multi-disease prevention campaign for water-borne diseases, malaria and HIV in Kisii District, Nyanza Province. The three day campaign, targeting 5000 people, included testing and counseling (HTC), condoms, long-lasting insecticide-treated bednets, and water filters. People with HIV were offered on-site CD4 cell counts, condoms, co-trimoxazole, and HIV clinic referral. We analysed the CD4 distributions from a district hospital cohort, campaign participants and from the 2007 Kenya Aids Indicator Survey (KAIS). Of the 5198 individuals participating in the campaign, all received HTC, 329 (6.3%) tested positive, and 255 (5%) were newly diagnosed (median CD4 cell count 536 cells/μL). The hospital cohort and KAIS results included 1,284 initial CD4 counts (median 348/L) and 306 initial CD4 counts (median 550/μL), respectively (campaign and KAIS CD4 distributions $P = 0.346$; hospital cohort distribution was lower $P < 0.001$ and $P < 0.001$). A Nyanza Province campaign strategy including ART <350 CD4 cell count could avert approximately 35,000 HIV infections and 1,240 TB cases annually. Community-based integrated public health campaigns could be a potential solution to reach universal access and Millennium Development Goals.

1. Introduction

In 30 years since the start of the human immunodeficiency virus (HIV) pandemic over 25 million people have died [1, 2]. In 2010, an estimated 34 million people were living with HIV and 67% of them lived in sub-Saharan Africa [3]. Antiretroviral therapy (ART) has considerable potential to save lives while reducing the HIV transmission [4–7]. By the end of 2010, 6.6 million people were on antiretroviral treatment (ART) in the world [3]. Despite this remarkable achievement, an estimated 7.5 million people with CD4 cell counts <350/μL were still in need of treatment [3]. Without a dramatic reduction in HIV incidence it is unlikely that we will be able to meet the growing demand for ART [3, 8]. Addressing this prevention gap will require innovative approaches to improving access to HIV services including HIV testing and counselling (HTC) and ART.

Community-based efforts, including outreach beyond health facilities, may provide one approach to help bridge this gap. Of the 34 million people living with HIV, a majority are still unaware of their HIV status [3]. WHO, recognizing the need to markedly scale-up access to HTC, has recommended provider initiated HIV testing and counselling [9]. The Kenya National HIV and AIDS Strategic Plan III includes an HTC target of 18 million (80%) of people 15–49 years of age to be newly tested by 2013; however, despite increases

in facility-based HTC the 2007 Kenya Aids Indicator Survey (KAIS) found that only 36% of adults have ever had an HIV test, and less than 20% of HIV-infected adults know that they are infected [10, 11]. Obstacles to access to HTC include a shortage of trained counsellors, limited services, high transportation costs, limited test kit availability, and stigma [10–15]. Home-based HTC offers an important potential strategy to reach targets by expanding access beyond health care facilities. With a reported uptake of up to 90% in some settings, home-based HTC also provides an opportunity for couples counselling and mutual disclosure [15]. In Uganda's Bushenyi District, a 2.5 year multi-disease house-to-house HIV testing and counselling programme tested 264,996 (94% acceptance) people in 92,984 (63%) households [14].

Although home-based service delivery is feasible in many settings, it can be time and labour-intensive. Complementary community-based health campaigns are well suited to delivering services to the rural poor and have been used to deliver HIV counselling and testing and other simple interventions to large populations [16, 17]. By combining multiple interventions and placing a larger proportion of the transaction costs onto the provider, integrated multi-disease campaigns create efficiencies for both the consumer and provider [16–19]. There is considerable experience with the health campaign approach including the mass distribution of insecticide-treated bednets which have quickly reached high coverage levels at low cost and are associated with declines in child and adult mortality in east Africa [16–19]. More recent work in sub-Saharan Africa has focused on bundling multiple interventions into a multi-disease prevention package which includes long-lasting impregnated bednets, water purification systems, preventive health education, condoms, and cotrimoxazole prophylaxis for HIV-infected adults [16, 17, 20–22].

Building on the previous community-based campaign experience in Kenya's Kakamega District, in 2009 we implemented a similar multi-disease prevention (MDP) campaign in Kisii District, Nyanza Province [16]. We applied lessons learned to pilot streamlined HTC protocols, provide same-day, onsite access to CD4 cell counts, and strengthen linkage to care. Our study examines the HIV component of the Kisii District campaign and compares CD4 count distributions to explore whether a multi-disease campaign strategy can improve earlier access to HIV diagnosis and treatment. We also project the potential HIV and TB prevention impact achieved by reaching people earlier for different ART eligibility scenarios.

2. Methods

2.1. Multi-Disease Prevention Campaign. In 2008 the Ministry of Health Kenya, the United States Government Centers for Disease Control Kenya, Community Housing Foundation (a local NGO), and Vestergaard Frandsen (a private sector manufacturing company focused on products that address the MDGs) implemented a 7 day multi-disease prevention campaign that reached 47,311 (92%) of adults 15–49 years old in Kakamega District, Western Province of Kenya. The campaign was in line with the Kenyan National AIDS Strategic Plan III's target to reach 80% of 15–64 year olds and provided interventions to address HIV, malaria, and diarrhea [10, 16]. Point-of-care CD4 counts were also piloted in selected sites [16]. Nyanza Province in western Kenya, has a high incidence of malaria, diarrhoeal disease, and tuberculosis [3, 10, 11, 23–25]. In 2007, an estimated 15% of 15–64 year olds were living with HIV [11] which has contributed to the high annual TB incidence (353 per 100,000 population) [11, 24, 25]. Standard operating procedures from the Kakamega campaign [16] were modified for the Kisii District Campaign as described below.

In September 2009 we implemented a three-day multi-disease prevention campaign that targeted diarrhoeal diseases, malaria and HIV in Kisii District, Nyanza Province (population 4,392,000). Three peri-urban campaign sites were set up around health facilities in the periphery of Kisii (Figure 1 map). The campaign was designed to (1) apply lessons learned from previous campaigns to a peri-urban setting, (2) pilot improved HIV testing and counselling protocols, (3) strengthen the referral system for improved linkage to care, (4) determine the feasibility of providing same day CD4 cell count testing for all HIV-positive participants and, (5) explore the potential impact of campaigns for early identification for HIV prevention and care services, and (6) examine differences between campaign, hospital, and provincial populations.

The campaign was planned to provide services for 5000 adults within 3 days by using a specific protocol adapted to mass campaign settings. We conducted the campaign over a weekend (Saturday, Sunday, and Monday) to ensure maximum participation of both men and women and limit disruptions to routine services. A pre-campaign social mobilization exercise started one month before the start date and engaged the community using village "baraza" forums with local chiefs, radio and print messaging, and town cries with mobile trucks. Participants were informed about campaign services, campaign sites and provided health education messages around diarrhea, malaria, HIV, and STDs. They were offered services on a first-come first-serve basis and census lists from 2008, identification cards, and indelible finger print dye were used to ensure that participants could only participate once in the campaign (all participants received finger dye irrespective of the services accessed or serostatus). To ensure that people accessing services were from the immediate local area, we used village elders and government officers working at the village level to advertise the campaign and carefully recorded location information during the registration process.

A total of 90 counselors were hired and trained to use the mass testing protocol designed for community-based campaigns with a target of 25 clients per day. Pretest counselling was offered by trained Health Communication Officers to groups of 20 participants selected for age and gender as they waited to meet the HTC counsellors. Confidentiality, consent, and counselling were assured by issuance of cards with a unique identifier number during the registration process and it was emphasized to all participants that HTC was entirely voluntary and that everyone would receive the other interventions whether or not they opted for HIV

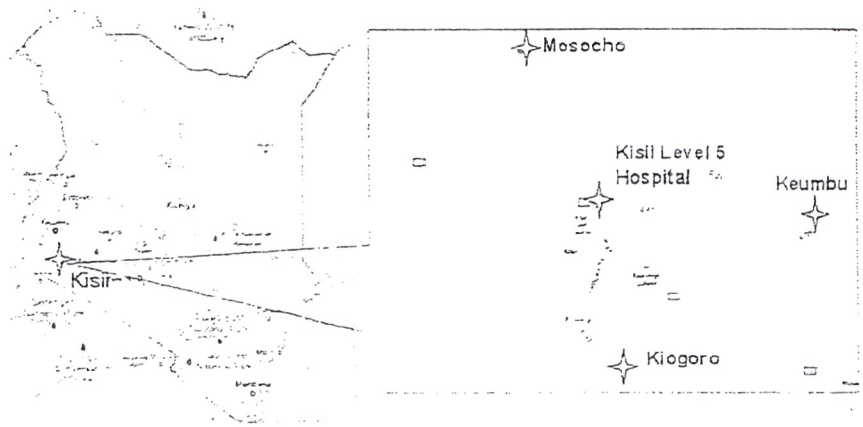


FIGURE 1: Map of Kenya showing Kisii, Nyanza Province, and inset showing the location of the three campaign sites and Kisii Level 5 Hospital (Kisii Town).

testing. HTC was provided on an "opt-in" basis and written consent was required for testing. Quality of HTC was insured by the use of certified counsellors, refresher training courses, a supervision system which employed one supervisor for every 10 counsellors, sending 1 out of 50 blood samples for reconfirmation with a different diagnostic method (PCR), and exit interviews by trained staff for all campaign participants. The exit interviews were used to assure quality and to improve services on a real-time basis.

Participants who tested HIV positive received a 3-month supply of cotrimoxazole, same-day on-site CD4 count measurement, psychosocial support, local referral for further care, and were offered enrolment in a support network by peer counsellors. Linkage to care was given a high priority and planned for through various interventions. Counselors emphasized the importance of care during post-test counselling. Members from local people living with HIV (PLWHA) support networks were enrolled and trained for the implementation of the PLWHA *navigator* approach. As part of the *navigator* strategy, people testing HIV positive were offered further counselling by assigned PLWHA counsellors and, with consent, were enrolled into local support groups. Most participants opted to allow follow-up visits and provided name, address, unique identifier number, and phone number. PLWHA counsellors, using a list of clients, checked in with health centers on a monthly basis and, if necessary, made follow-up household visits [26].

The Kisii campaign included provision of one long-lasting insecticide-treated net per participant, water filters (individual filter for men, household filter for women), 60 condoms per person, and health education encompassing HIV, sexually transmitted infections, malaria, and water-borne diseases. The unit cost per person by disease was $6.27 for malaria (nets and training), $15.80 for diarrhea (filters and training), and $9.91 for HIV (test kits, counselling, condoms, and CD4 testing) [16, 27]. Using logistic and expenditure data from the 2008 Lurambi District Campaign, [16] the cost of a scaled-up replication (SUR) was estimated assuming reliance on local managers, potential efficiencies of scale, and other adjustments (Jim Kahn, personal communication). The SUR cost of $31.98 per person included 67% for commodities (mainly water filters and bed nets) and 20% for personnel.

2.2. Measurement and Analysis of CD4 Cell Count Distributions. Absolute CD4 cell counts and total lymphocyte counts were performed by portable Guava AUTOCD4 flow cytometers manufactured by Millipore. All three sites were equipped with a unit with a single 150 amperes battery (7 hour off-grid capacity). Samples were processed in batches and had a 45-minute incubation time and 4-minute processing time. Each unit had a trained machine operator and a trained nurse or other health care provider responsible for drawing 10 μL of whole blood (EDTA) and preparing samples for analysis. As patients waited for their results, they were given additional psychosocial counselling by a counsellor living with HIV. For external quality control, 5 percent of all blood samples were sent for confirmation at Kisii Level 5 Hospital Laboratory using a Becton Dickinson Facs Calibur Flow Cytometer. The Kisii Hospital laboratory routinely sends 10% of blood samples to CDC Kisumu for external quality control.

To create a matching historical cohort and a baseline for comparison, we abstracted the medical records, including the first measured CD4 count, for all newly diagnosed patients aged 15 and above from March to August 2009 at the HIV/AIDS Patient Support Center in the Kisi District Level 5 Hospital (apex of district health care facilities). All CD4 measurements for this cohort were made using the same Kisii Level 5 Hospital laboratory Becton Dickinson Facs Calibur Flow Cytometer.

We analyzed the CD4 data from the Kisii campaign, the reference hospital and Nyanza province data from the recently performed KAIS survey [11]. The 2007 KAIS is the first national population-based survey of Kenya that obtained representative estimates on behavioral, clinical and biologic indicators for HIV/AIDS. The 2007 KAIS was conducted among a sample of households selected from all eight provinces in the country, covering both rural and urban areas (more detailed methods are described in detail elsewhere) [11].

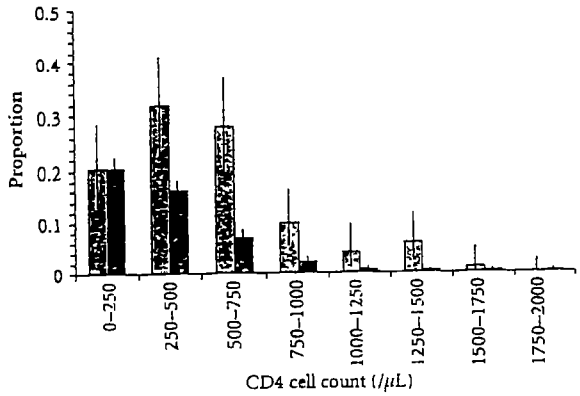


FIGURE 2: Comparison of the CD4 cell count distribution in Nyanza Province (red; KAIS survey) and the Kisii Hospital cohort (blue). The data for the hospital cohort are scaled to match the KAIS data for the lowest CD4 cell count range and the differences in the heights of the bars for the higher ranges show the proportion that are missed in the hospital cohort.

2.3. Projecting the Potential HIV and TB Prevention Impact of Early Detection. For our comparison and projections we used data from those who were reported as being newly diagnosed—all were assumed to be ART naive. Cumulative distribution functions were compared using the standard Kolmogorov-Smirnov test. We estimated the potential benefits of early identification and starting ART for three scenarios (1) <250 CD4 cells (status quo), (2) <350 CD4 cells, and (3) immediate ART irrespective of CD4 cell count.

To estimate the proportion of people with CD4 cell counts that are missed under passive clinic-based case-finding but would be found using a campaign approach, we assumed that everyone with a CD4 cell count below 250/μL will present to a health facility before they die. We scaled the proportions in the "hospital reference" data so as to match the proportion in the KAIS data set below 250/μL (Figure 2). Applying the scaling proportion allows us to see the differences in proportions of people that are missing in the hospital cohort at the higher CD4 levels. This in turn enables us to obtain an approximate estimate of the increase in the number of people who would be put onto ART and the number of TB cases that would be averted by adopting a campaign approach.

The population of Nyanza province is 4.4 million of whom 2.9 million are adults with around 435,000 (15%) who are estimated to be HIV positive [11]. We estimated the number of HIV-positive TB patients in Nyanza Province in two ways. First, the case-notification rate of HIV-positive TB patients in Nyanza is 189 per 100,000 population giving about 8,314 HIV/TB cases per year [25]. Second, the life-time risk of TB for those not receiving ART has been estimated to be 13% [28]. With a mean life expectancy of HIV-positive people of ten years, this means that the annual risk of TB-disease is 1.3% and we expect there to be about 435,000 $\times$ 0.013 = 5655 case of TB in HIV-positive people in the province each year. Taking the average of these two estimates, the expected number is 6,985 per year. ART reduces the incidence of TB by about 71% [28], so that if everyone started ART immediately they were found to be HIV-positive the number of TB cases averted would be 4,959. This enables us to estimate the reduction in the number of TB cases that we expect each year under the campaign and passive clinic-based case-finding approaches.

To estimate the number of new HIV transmissions averted, we assumed that the epidemic is in a steady state so that each person with HIV infects one other person before they die. Assuming that the CD4 cell count is 750/μL immediately after seroconversion [29] we multiply the number started on ART by the proportion of time for which they are on ART (the CD4 cell count at the time at diagnosis in the different scenarios is used to calculate the amount of time on and off ART). To derive the HIV infections averted we compared the projected outcome using these assumptions with "no ART." To simplify the analysis, we did not include the additional prevention benefits of the long-term reduction in TB transmission and treatment of identified TB cases. We also did not factor in WHO recommended IPT or infection control for TB which is not yet in widespread use in Kenya [30].

The study protocol was reviewed by the Kenya Ministry of Public Health and Sanitation and considered to be part of on-going program monitoring and evaluation. The study represented a private-public partnership and funding for the study was provided by the Kenya Ministry of Public Health as part of routine public health services. Ministry of Health Kenya and Vestergaard Frandsen funded the campaign; MOH provided campaign personnel, HIV test kits, and condoms. The decision to conduct, analyse, and submit the study was taken by the Ministry of Health and WHO.

3. Results

3.1. Multi-Disense Prevention Campaign. Over a three-day period, the campaign reached 5198 individuals aged over 15 years with a 100% uptake of the HIV counselling and testing and multi-disease preventive package. Counselors worked 8 hour days starting from 8:00 AM and tested around 25 clients per day (100% of target). Clients who were found to be HIV negative were provided HTC in about 20 minutes, while those who were diagnosed with HIV were given HTC counseling in about 38 minutes. The process from drawing blood to getting CD4 cell count results usually took around two hours (mean 119; range 47–191 minutes).

Of the 5198, 2090 (40%) were males. Of the 329 participants who tested HIV positive, 71 (22%) were males; HIV prevalence among males was 3.3% and 8.3% for females. This difference of HIV prevalence between genders reflects the 2010 antenatal care sentinel surveillance results of 8.7% among women in Kisii District sites [31]. A separate study that included a subsample of the people from the Kisii campaign and others evaluated factors affecting linkage to care and found that 81% of people who consented to follow-up visited the referral clinic by 10 months after the campaign [26].

Table 1: CD 4 values from the campaign, hospital reference, and KAIS data sets. The table gives N, the number of people for whom a CD4 cell count was done, the median CD4 cell count, and the proportion of those tested that are below 250, 350, and 500 cells/μL. Numbers in brackets are percentages. Using a Kolmogorov-Smirnov test, The CD4 cell count distribution for the Hospital Reference data set is significantly different from the other two ($P < 0.001$ in both cases) but the Campaign and KAIS data sets are not significantly different ($P = 0.346$).

	Campaign	Hospital reference	Nyanza KAIS
N	255	1284	306
Median/μL	536	348	550
$N < 250$	33 (13%)	436 (34%)	52 (17%)
$N < 350$	64 (25%)	642 (50%)	92 (30%)
$N < 500$	112 (44%)	899 (70%)	141 (46%)
$N < 750$	187 (74%)	1137 (89%)	220 (72%)
$N < 1000$	228 (90%)	1215 (95%)	258 (84%)

3.2. Analysis of CD4 Cell Count Distributions. Of the 258 (4.9%) who were newly diagnosed with HIV (71 knew their status before campaign), CD4 count determination was performed for 255 (98%). The median CD4 count was 536 cells/μL (IQR 348 to 760;) with 13% having a CD4 count <250 cell/μL and 25% a CD4 cell count <350 cells/μL (Table 1).

Of the 1284 patients in the Kisii Hospital reference cohort, 350 (27%) were male (age range 15–61; CD4 count range 1–1862) and 934 (73%) were female (age range 15–69; CD4 count range 1–2560). The first CD4 counts from the 1284 patients had a median of 348 (IQR 185 to 551) with 34% having a CD4 count <250 cell/μL and 50% a CD4 cell count <350 cells/μL (Table 1).

The results obtained from the 2007 KAIS data base for Nyanza Province included 1585 females, 1386 (87%) tested, 240 (17%) HIV positive, 218 (91%) not on ART, and 203 (85%) with CD4 counts. Of the 1229 males surveyed, 994 (81%) were tested, 123 (12%) HIV positive, 108 (88%) not on ART, and 103 (95%) with CD4 counts. The median CD4 count overall was 550 cells/μL (IQR 305 to 785). Table 1 shows that the CD4 cell count data from the campaign for Kisii are not significantly different from the KAIS data for Nyanza ($P = 0.346$).

3.3. Projecting HIV and TB Prevention Impact of Early Detection. Figure 2 shows that the Hospital reference cohort has significantly lower median CD4 cell counts when compared with the Campaign and KAIS data. Table 2 shows that using our scaled estimation approach with either campaign or hospital-based strategies, current ≤250 ART eligibility criteria results in around 38,000 people started on ART and about 645 cases of TB will be averted in Nyanza Province. Increasing the CD4 cell count eligibility to ≤350 combined with the passive case-finding approach increases the number starting ART to 56,000, averts 26,000 new HIV infections, and prevents 942 TB cases. However, the ≤350 ART eligibility criteria combined with the campaign approach would translate into an estimated 74,000 people starting ART, thereby averting 35,000 new HIV infections and preventing 1,240 TB cases per year. Starting at a CD4 cell count of 500/μL gives an even greater relative advantage to the campaign approach with 129,000, or 2.6 times as many people started on ART, and 2,182 total or 2.6 times as many TB cases averted using the campaign approach when compared with the passive case-finding approach.

4. Discussion

This three-day integrated multi-disease prevention campaign reached over five thousand people in Kisii district including over 200 people who were unaware that they were living with HIV. The uptake of HCT in the campaign is comparable to the high rates of over 90% observed in home-based, door-to-door testing interventions implemented in Uganda [15, 32, 33] and Kenya [34] and was achieved in considerably less time. Similar to previous campaigns, [16] successful implementation of this campaign may have been due to the engagement of the community leadership, delivery of services at convenient locations near participants' homes and the multi-disease prevention approach which included concomitant distribution of free nets, water filters, and condoms. Although access to laboratory tests including CD4 levels has been a major barrier to expanding access to ART [35, 36], the campaign successfully delivered same-day CD4 level testing results for all of the newly identified people with HIV.

Delayed diagnosis and access to ART have significant public health implications for both the individual and the community. Expanded access to HCT linked with point-of-care CD4 testing has considerable potential to support the implementation of WHO's recommendation to start ART for everyone with a CD4 ≤ 350/μL [37]. Comparison of CD4 counts from campaign participants with the hospital cohort CD4 data and the recent national survey suggests that the campaign identified people significantly earlier in the course of their HIV disease. This makes intuitive sense as it reaches people before they are symptomatic and is supported by other studies examining the use of community-based services outside health facilities [38]. Although we do not present the data, the 80% linkage to care for people diagnosed with HIV in this campaign at 10 months was better than in many other settings [39] but required setting up a robust follow-up system. The data also suggest that increasing the threshold to 350/μL combined with the standard passive facility-based case-finding approach could increase the number of people in Nyanza who need to start ART by a factor of 1.9 or 56,000 people. However, the campaign approach combined with optimal linkage to care could increase the number receiving ART by a factor of 3.7 or 74,000 additional people—an additional 18,000 people who were unaware of their HIV status and who were eligible but not on ART. Our simple projections using a stable generalized epidemic setting suggest that an active campaign approach to identify those with CD4 cell count <350 could prevent 10,000 HIV transmissions, 76,000 deaths and 3600 TB cases per year. Although more complex projections for the province and country are beyond the scope of this paper, improving access to early

Table 2: Projected prevention impact of campaign approach by CD4 eligibility criteria for Nyanza Province.

	Campaign approach				Passive case-finding			
CD4 cell count at start of treatment (/μL)	HIV-positive population started on ART (%)	Number started on ART (thousands)	HIV infections averted per year (thousands)	TB cases averted per year	HIV-positive population started on ART (%)	Number started on ART (thousands)	HIV infections averted per year (thousands)	TB cases averted per year
≤250	13	38	13	645	13	38	13	645
≤350	25	74	35	1240	19	56	26	942
≤500	44	129	86	2182	27	79	53	1339
Immediate	100	294	294	4959	38	112	112	1884

ART through a campaign approach could have significant public health and economic benefits including preventing morbidity, mortality, disease transmission, and reducing costs to the individual, health system, and society [4, 6, 40].

Short intense multi-disease campaigns face a number of challenges including maintaining efficiency and quality of service provision and linkage to care while dealing with large numbers of people. Previous work in Kenya and elsewhere suggests that careful consensus building and micro-planning with community leaders and key health care providers is required to mobilize resources and provide high-quality services for the temporary surge of participants in the campaign [16]. The various TB and HIV prevention scenarios modeled would only be achievable under conditions of a high linkage to care after the campaign which requires postcampaign systems monitoring health care facility attendance, active followup, and local support networks. Another significant challenge is the cost of the campaign. Preliminary analyses suggest that despite the relative high costs per person [27] the campaign is likely to be cost effective in part due to the multi-disease approach and the numbers of people reached in a short period of time. Arguably, delivering health care services from fixed facilities is also costly and often does not reach stated objectives.

There are important limitations to our study. The comparison of the hospital, province, and campaign CD4 data may have been influenced by a number of biases introduced from the selection of the three populations. Specifically, it is difficult to say with certainty that the three subpopulations that we compared are similar given the different ways that people accessed the hospital, campaign and KAIS survey (e.g., nonresponse, refusal, and missing CD4 counts). Additionally, there are potential confounders that may have affected the CD4 results including the difference in methods to determine CD4 counts, diurnal rhythms, physical and psychological stress, pregnancy, drug administration, tuberculosis, and viral infections. However, the similarity of the campaign data with the provincial data for Nyanza is reassuring and the lower CD4 counts of those who are ill and seeking care in a hospital setting make sense. Our assumption that people coming into the hospital for care were not referred from a peripheral site and the high linkage to care may have resulted in optimistic projections favoring the campaign strategy. However, despite our lack of certainty regarding the projected benefits which relied on crude estimates, we are likely to be directionally correct and a more sophisticated modeling approach may provide additional insights.

We are far from achieving universal access and there is increasing interest in new approaches to ensuring early and equitable access to ART and other HIV services. This multi-disease prevention campaign presents an operational proof of concept for the expanded access to HTC and same-day CD4 testing that is required for many countries to reach national HIV and TB prevention goals. Multi-disease integrated campaigns have considerable potential and may represent an important conceptual breakthrough in our efforts to achieve national health objectives reflected in the Millennium Development Goals [41].

Authors' Contribution

R. Granich is the Lead Author. R. Granich, N. Muraguri, A. Doyen, N. Garg, and B. Williams made the study design; N. Muraguri, A. Doyen, and N. Garg were responsible for the collection of data; B. Williams, A. Doyen, and R. Granich made the analysis; R. Granich, N. Muraguri, A. Doyen, N. Muraguri, and B. Williams were responsible for interpretation of data; R. Granich, N. Muraguri, A. Doyen, N. Garg, and B. Williams made the draft paper: R. Granich, N. Muraguri, A. Doyen, N. Muraguri, and B. Williams prepared the final paper.

Disclaimer

The opinions and statements in this paper are those of the authors and do not represent the official policy, endorsement, or views of the World Health Organization.

Conflict of Interests

None of the authors has conflict of interests to declare.

References

[1] F. Barre Sinoussi, J. C. Chermann, and F. Rey, "Isolation of a T-lymphotropic retrovirus from a patient at risk for acquired immune deficiency syndrome (AIDS)," *Science*, vol. 220, no. 4599, pp. 868–871, 1983.

[2] C. W. Dieffenbach and A. S. Fauci, "Thirty years of HIV and AIDS: future challenges and opportunities," *Annals of Internal Medicine*, vol. 154, no. 11, pp. 766–771, 2011.

[3] WHO, "Towards Universal Access: scaling up priority HIV/AIDS interventions in the health sector," 2011, http://whqlibdoc.who.int/publications/2011/9789241502986_eng.pdf.

[4] R. M. Granich, C. F. Gilks, C. Dye, K. M. De Cock, and B. G. Williams, "Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: a mathematical model," *The Lancet*, vol. 373, no. 9657, pp. 48–57, 2009.

[5] D. Donnell, J. M. Baeten, J. Kiarie et al., "Heterosexual HIV-1 transmission after initiation of antiretroviral therapy: a prospective cohort analysis," *The Lancet*, vol. 375, no. 9731, pp. 2092–2098, 2010.

[6] J. S. Montaner, R. Hogg, E. Wood et al., "The case for expanding access to highly active antiretroviral therapy to curb the growth of the HIV epidemic," *The Lancet*, vol. 368, no. 9534, pp. 531–536, 2006.

[7] M. S. Cohen, Y. Q. Chen, M. McCauley et al., "Prevention of HIV-1 infection with early antiretroviral therapy," *The New England Journal of Medicine*, vol. 365, no. 6, pp. 493–505, 2011.

[8] B. Schwartländer, J. Stover, T. Hallett et al., "Towards an improved investment approach for an effective response to HIV/AIDS," *The Lancet*, vol. 377, no. 9782, pp. 2031–2041, 2011.

[9] WHO. Guidance on Provider-Initiated HIV Testing and Counseling in Health Facilities. WHO, Geneva, Switzerland, 2007, http://whqlibdoc.who.int/publications/2007/9789241595568_eng.pdf.

[10] Kenya National AIDS Strategic Plan (2009/10-2012/13): delivering on Universal Access to Services, 2009, http://www.hennet.or.ke/downloads/knasp_iii_document.pdf.

[11] National AIDS and STI Control Programme Ministry of Public Health and Sanitation-Kenya (2008) KAIS 2007, Kenya AIDS Indicator Survey Preliminary Report (KAIS). Nairobi, Kenya, 2007, http://www.nacc.or.ke/nacc%20downloads/official_kais_report_2009.pdf.

[12] N. Menzies, B. Abang, R. Wanyenze et al., "The costs and effectiveness of four HIV counseling and testing strategies in Uganda," *AIDS*, vol. 23, no. 3, pp. 395–401, 2009.

[13] J. R. Kemp, G. Mann, B. N. Simwaka, F. M. L. Salaniponi, and S. B. Squire, "Can Malawi's poor afford free tuberculosis services? Patient and household costs associated with a tuberculosis diagnosis in Lilongwe," *Bulletin of the World Health Organization*, vol. 85, no. 8, pp. 580–585, 2007.

[14] E. Tumwesigye, G. Wana, S. Kasasa, E. Muganzi, and F. Nuwaha, "High uptake of home-based, district-wide, HIV counseling and testing in Uganda," *AIDS Patient Care and STDs*, vol. 24, no. 11, pp. 735–741, 2010.

[15] W. Were, J. Mermin, R. Bunnell, J. P. Ekwaru, and F. Kaharuza, "Home-based model for HIV voluntary counselling and testing," *The Lancet*, vol. 361, no. 9368, p. 1569, 2003.

[16] E. Lugada, D. Millar, J. Haskew et al., "Rapid implementation of an integrated large-scale hiv counseling and testing, malaria, and diarrhea prevention campaign in rural kenya," *PLoS One*, vol. 5, no. 8, Article ID e12435, 2010.

[17] M. Otten, M. Aregawi, W. Were et al., "Initial evidence of reduction of malaria cases and deaths in Rwanda and Ethiopia due to rapid scale-up of malaria prevention and treatment," *Malaria Journal*, vol. 8, no. 1, article 14, 2009.

[18] M. Grabowsky, N. Farrell, W. Hawley et al., "Integrating insecticide-treated bednets into a measles vaccination campaign achieves high, rapid and equitable coverage with direct and voucher-based methods," *Tropical Medicine and International Health*, vol. 10, no. 11, pp. 1151–1160, 2005.

[19] M. Grabowsky, T. Nobiya, M. Ahun et al., "Distributing insecticide-treated bednets during measles vaccination: a low-cost means of achieving high and equitable coverage," *Bulletin of the World Health Organization*, vol. 83, no. 3, pp. 195–201, 2005.

[20] J. R. Lule, J. Mermin, J. P. Ekwaru et al., "Effect of home-based water chlorination and safe storage on diarrhea among persons with human immunodeficiency virus in Uganda," *American Journal of Tropical Medicine and Hygiene*, vol. 73, no. 5, pp. 926–933, 2005.

[21] J. Mermin, J. P. Ekwaru, C. A. Liechty et al., "Effect of cotrimoxazole prophylaxis, antiretroviral therapy, and insecticide-treated bednets on the frequency of malaria in HIV-1-infected adults in Uganda: a prospective cohort study," *The Lancet*, vol. 367, no. 9518, pp. 1256–1261, 2006.

[22] R. Colindres, J. Mermin, E. Ezati et al., "Utilization of a basic care and prevention package by HIV-infected persons in Uganda," *AIDS Care*, vol. 20, no. 2, pp. 139–145, 2008.

[23] R. Granich, S. Crowley, M. Vitoria et al., "Highly active antiretroviral treatment for the prevention of HIV transmission," *Journal of the International AIDS Society*, vol. 13, no. 1, article 1, 2010.

[24] WHO. Global tuberculosis control: epidemiology, strategy, financing WHO/HTM/TB/2009.411, 2009, http://www.who.int/tb/publications/global_report/2009/pdf/full_report.pdf.

[25] WHO, *A Brief History of Tuberculosis Control in Kenya*, World Health Organization, Geneva, Switzerland, 2009.

[26] A. M. Hatcher, J. M. Turan, H. H. Leslie et al., "Predictors of linkage to care following community-based HIV counseling and testing in rural Kenya," *AIDS and Behavior*, p. 4, 2011.

[27] J. G. Kahn, B. Harris, J. H. Mermin et al., "Cost of community integrated prevention campaign for malaria, HIV, and diarrhea in rural Kenya," *BMC Health Services Research*, p. 6, 2011.

[28] B. G. Williams, R. Granich, K. M. De Cock, P. Glaziou, A. Sharma, and C. Dye, "Anti-retroviral therapy for the control of HIV-associated tuberculosis: modelling the potential effects in nine African countries," *PNAS*, vol. 11, article 346, 2011.

[29] B. G. Williams, E. L. Korenromp, E. Gouws, G. P. Schmid, B. Auvert, and C. Dye, "HIV infection, antiretroviral therapy, and CD4$^+$ cell count distributions in African populations," *Journal of Infectious Diseases*, vol. 194, no. 10, pp. 1450–1458, 2006.

[30] WHO, *Guidelines for Intensified Tuberculosis Case-Finding and Isoniazid Preventive Therapy for People Living with HIV in Resourceconstrained Settings*, WHO, Geneva, Switzerland, 2011.

[31] National AIDS and STI Control Program. 2010. Sentinel surveillance for HIV and Syphilis among pregnant women. NASCOP, Nairobi, Kenya, 2010, http://www.nascop.or.ke/3d/.

[32] J. K. B. Matovu, G. Kigozi, F. Nalugoda, F. Wabwire-Mangen, and R. H. Gray, "The Rakai Project counselling programme experience," *Tropical Medicine and International Health*, vol. 7, no. 12, pp. 1064–1067, 2002.

[33] B. Wolff, B. Nyanzi, G. Katongole, D. Ssesanga, A. Ruberantwari, and J. Whitworth, "Evaluation of a home-based voluntary counselling and testing intervention in rural Uganda," *Health Policy and Planning*, vol. 20, no. 2, pp. 109–116, 2005.

[34] S. Kimaiyo, A. Siika, and P. Ayuo, "Effectiveness and outcomes of door-to-door HIV testing in a rural district of Western Kenya," in *Proceedings of the 17th International AIDS Conference*, Mexico City, Mexico, August 2008, Abstract no. TUPE0389.

[35] G. M. Cohen, "Access to diagnostics in support of HIV/AIDS and tuberculosis treatment in developing countries," *AIDS*, vol. 21, supplement 4, pp. S81–S87, 2007.

[36] C. A. Petti, C. R. Polage, T. C. Quinn, A. R. Ronald, and M. A. Sande, "Laboratory medicine in Africa: a barrier to effective health care," *Clinical Infectious Diseases*, vol. 42, no. 3, pp. 377–382, 2006.

[37] WHO, *Rapid Advice: Antiretroviral Therapy for HIV Infection in Adults and Adolescents*, WHO, Geneva, Switzerland, 2009.

[38] N. van Schaik, K. Kranzer, R. Wood, and L.-G. Bekker, "Earlier HIV diagnosis—are mobile services the answer?" *South African Medical Journal*, vol. 100, no. 10, pp. 671–674, 2010.

[39] S. Rosen and M. P. Fox, "Retention in HIV care between testing and treatment in sub-Saharan Africa: a systematic review," *PLoS Medicine*, vol. 8, no. 7, Article ID e1001056, 2011.

[40] E. Bendavid, M. L. Brandeau, R. Wood, and D. K. Owens, "Comparative effectiveness of HIV testing and treatment in highly endemic regions," *Archives of Internal Medicine*, vol. 170, no. 15, pp. 1347–1354, 2010.

[41] J. D. Sachs and J. W. McArthur, "The millennium project: a plan for meeting the millennium development goals," *The Lancet*, vol. 365, no. 9456, pp. 347–353, 2005.

OPEN ACCESS Freely available online

PLoS one

Integrated HIV Testing, Malaria, and Diarrhea Prevention Campaign in Kenya: Modeled Health Impact and Cost-Effectiveness

James G. Kahn[1]*, Nicholas Muraguri[2], Brian Harris[1], Eric Lugada[3], Thomas Clasen[4], Mark Grabowsky[5], Jonathan Mermin[6], Shahnaaz Shariff[2]

1 Philip R. Lee Institute for Health Policy Studies, University of California, San Francisco, California, United States of America, 2 Ministry of Public Health and Sanitation, Government of Kenya, Nairobi, Kenya, 3 CHF International, Nairobi, Kenya, 4 London School of Hygiene & Tropical Medicine, London, United Kingdom, 5 ESP/UN Foundation, Washington, D.C., United States of America, 6 Coordinating Office for Global Health, CDC, Centers for Disease Control and Prevention-Kenya, Nairobi, Kenya

Abstract

Background: Efficiently delivered interventions to reduce HIV, malaria, and diarrhea are essential to accelerating global health efforts. A 2008 community integrated prevention campaign in Western Province, Kenya, reached 47,000 individuals over 7 days, providing HIV testing and counseling, water filters, insecticide-treated bed nets, condoms, and for HIV-infected individuals cotrimoxazole prophylaxis and referral for ongoing care. We modeled the potential cost-effectiveness of a scaled-up integrated prevention campaign.

Methods: We estimated averted deaths and disability-adjusted life years (DALYs) based on published data on baseline mortality and morbidity and on the protective effect of interventions, including antiretroviral therapy. We incorporate a previously estimated scaled-up campaign cost. We used published costs of medical care to estimate savings from averted illness (for all three diseases) and the added costs of initiating treatment earlier in the course of HIV disease.

Results: Per 1000 participants, projected reductions in cases of diarrhea, malaria, and HIV infection avert an estimated 16.3 deaths, 359 DALYs and $85,113 in medical care costs. Earlier care for HIV-infected persons adds an estimated 82 DALYs averted (to a total of 442), at a cost of $37,097 (reducing total averted costs to $48,015). Accounting for the estimated campaign cost of $32,000, the campaign saves an estimated $16,015 per 1000 participants. In multivariate sensitivity analyses, 83% of simulations result in net savings, and 93% in a cost per DALY averted of less than $20.

Discussion: A mass, rapidly implemented campaign for HIV testing, safe water, and malaria control appears economically attractive.

Citation: Kahn JG, Muraguri N, Harris B, Lugada E, Clasen T, et al. (2012) Integrated HIV Testing, Malaria, and Diarrhea Prevention Campaign in Kenya: Modeled Health Impact and Cost-Effectiveness. PLoS ONE 7(2): e31316. doi:10.1371/journal.pone.0031316

Editor: Claire Thorne, UCL Institute of Child Health, University College London, United Kingdom

Received June 30, 2011; **Accepted** January 5, 2012; **Published** February 8, 2012

Copyright: © 2012 Kahn et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Funding: This work was funded by Vestergaard Frandsen and by the U.S. National Institute for Drug Abuse, under R01 DA15612. Neither funder exerted any editorial control. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Competing Interests: Brian Harris was hired by Super Models for Global Health (Dr. Kahn) to monitor the IPC in Kakamega in September 2008, and to do an analysis afterward. SMGH was paid by Vestergaard Frandsen. Vestergaard Frandsen paid J. G. Kahn (SMGH) to conduct the analysis and writing the manuscript. VF also paid for J. G. Kahn's travel to two meetings to present study results. London Vestergaard Frandsen paid for T. Clasen's field visit to Kenya study site and fees for time spent on study. This does not alter the authors' adherence to all the PLoS ONE policies on sharing data and materials. The other authors have no conflicts of interest to declare.

* E-mail: jgkahn@ucsf.edu

Introduction

The potential role of cost-effectiveness analysis in global health decision-making is increasingly recognized [1]. Interventions vary substantially in their ability to deliver health value per amount expended. The value of global health spending can be maximized by prioritizing cost-effective interventions [2].

Differences in cost-effectiveness reflect several factors: the prevalence and severity of disease, the protective effect offered by interventions, and — the only factor substantially under operational control — how efficiently services are delivered. Innovations in delivery strategies may offer substantial savings in cost per person served, as well as greater coverage. These strategies may include a community or health facility focus, as well as streamlining of health care processes [3–5]. They can include multiple disease interventions delivered simultaneously, offering the potential to share fixed costs (such as reaching into communities) while addressing multiple high disease burdens. However, little attention has been paid to the economics of multi-disease intervention delivery.

In a separate report, we examined the cost of a multi-disease 7-day integrated prevention campaign (IPC) in Western Province, Kenya, that was implemented in 2008 in 30 village centers [6,7]. The IPC provided HIV testing and counseling, water filters, insecticide-treated bed nets, condoms, and for HIV-infected individuals CD4 count enumeration, 3 months of cotrimoxazole, and referral to care. Ongoing community mobilization, including

health education, was conducted during the campaign, as well as in the preceding month. More than 40,000 (80%) of targeted adults were reached [6]. Full details of the campaign have been published previously [6]. We calculated a cost of $42 per person served for this initial implementation. We further estimated a cost of $32 per person for a scaled-up campaign relying fully on Kenyan staff and using a leaner management structure, as shown possible in a subsequent campaign [7]. The unit cost per person for the scaled-up campaign was estimated to be $6.27 for malaria (nets, education, and training), $15.80 ($2.55 per person-year) for diarrhea (filters, education, and training), and $9.92 for HIV (test kits, counseling, condoms, education, and CD4 testing). These estimated costs compare favorably with prior unit costs of bed nets ($6–27) [8–10], filters ($3 per person-year) [11], and HIV VCT ($7–101) [5,12–16].

The cost-effectiveness of these interventions, delivered separately, has been assessed – for example, bed nets $14–42 per disability-adjusted life year (DALY) averted [8,17], filters $142 per DALY averted [11], and HIV testing $13–18 per DALY averted [13]. The cost-effectiveness of these interventions delivered in combination is unknown. However, provision of a multi-disease intervention package including ART, cotrimoxazole prophylaxis, and bed nets has been shown to provide synergistic benefits for AIDS and malaria [18,19]. To provide further information for policy makers, we estimated the health impact and cost-effectiveness of delivering an integrated, community-level, multi-disease prevention campaign in rural Kenya.

Methods

Overview

We estimated the health impact, cost, and cost-effectiveness of the integrated multi-disease prevention campaign using a spreadsheet-based model constructed for this purpose. We relied on a post-campaign survey to confirm high coverage in the district and to estimate the number of individuals directly benefiting from distributed commodities. We derived baseline morbidity and mortality from regional and local epidemiologic data, and estimated the protective effects of interventions from published community trials. We estimated disability-adjusted life years (DALYs) based on reductions in life years lost to mortality and in illness episodes, weighted by published disability levels. We incorporated an estimated campaign cost of $32 per participant based on financial records and adjustments for scale-up (reported separately and summarized here). Finally, we used published data on costs of health care to estimate savings due to averted disease and added costs due to earlier HIV treatment.

Model structure

The model was constructed for this analysis in a spreadsheet (Excel, Microsoft Corporation, 2002). The model portrays health benefits and averted costs due to averted disease separately for malaria (due to long-lasting inpregnated nets (LLIN)), diarrhea (due to filters), and HIV (due to voluntary counseling and testing (VCT) and condoms). Since these conditions are predominantly unrelated (i.e., in different individuals), we assume independence, which is conservative since interdependence would amplify the health impact of interventions. We used the following calculations:

$$DALYs\ averted = N * B * (F * D_f * P_f + (1-F) * D_n * P_n) * M * Y \quad (1)$$

Where:

N = number who benefit per campaign participant

B = baseline cases of this disease per year per individual benefiting

F = proportion of cases that are fatal

D_f = DALYs incurred with each fatality

P_f = protective effect against mortality

D_n = DALYs incurred with each non-fatal case

P_n = protective effect against non-fatal cases

M = multiplier to capture secondary benefits

Y = duration of benefit (in years)

$$Costs\ averted = N * B * (F * C_f * P_f + (1-F) * C_n * P_n) * M * Y \quad (2)$$

Where:

C_f = costs for health care incurred with each fatality

C_n = costs for health care incurred with each non-fatal case

The model also estimates the health and cost effects of changed level of use of anti-retroviral therapy (ART). The campaign *accelerates* use of ART through earlier detection of infected individuals, with a CD4 count closer to the recommended level for initiation of ART. It may also increase the lifetime use of ART by avoiding deaths prior to HIV diagnosis. This higher ART use extends life (thus averting DALYs), and adds costs. The campaign likely *delays* the use of ART by slowing the decline in CD4 count, through two mechanisms: prevention of malaria episodes, which cause drops in CD4 count, and distribution of cotrimoxazole, which slows CD4 decline. These delays in ART use extend life (averting DALYs) and also avert costs. Finally, we estimate the effect of the net changed time on ART on HIV transmission (which is suppressed by ART use).

Each calculation of the effect on ART use requires several types of inputs: biological factors (e.g., CD4 count at detection of infection, and rates of CD4 decline), intervention effects (e.g., cotrimoxazole effect on rate of CD4 decline), and behaviors (e.g., starting ART if referred). Key input values are presented below. Calculation methods are presented in a technical supplement posted online (Supporting Information S1) and available from the authors.

Data inputs

Table 1 presents data inputs, with base case values and sources, for the malaria, diarrhea, and HIV prevention analyses. Table 2 presents key data inputs, values, and sources for the analysis of HIV treatment and health status.

Health inputs. The number of individuals who benefit per campaign participant for malaria and diarrhea reflects a mean of 2.5 participants per household and 7.7 members per household respectively (both derived from the post-campaign survey). Thus, a mean of 3.1 (= 7.7/2.5) individuals benefit per campaign participant. This number is lower for malaria (2.9) due to bed nets obtained from non-campaign sources. For HIV, the number benefiting per participant (0.95) is the proportion that were HIV tested, and the number benefiting from condoms (0.36) reflects the percent of participants reporting use of campaign-distributed condoms

The baseline cases of disease per individual derive from published estimates for sub-Saharan Africa and studies conducted in nearby geographic areas (e.g., Uganda). We estimate 0.3 malaria episodes [18,20] and 1.75 diarrhea episodes [21–24] per person per year. For HIV, estimated annual risk per campaign participant from persons found HIV-positive to others is 0.0038,

Table 1. Value of model inputs for prevention, Integrated Prevention Campaign, Western Province, Kenya, 2008.

		Malaria	Diarrhea	HIV		Source(s)		
		LLIN	Filters	VCT	Condoms	LLIN	Filters	VCT/Condoms
Health inputs								
N	number who benefit per campaign participant	2.9	3.1	0.95	0.36	Post-campaign survey	Post-campaign survey	Post-campaign survey
B	baseline cases of this disease per year per individual benefiting	0.30	1.75	0.0038	0.009	[18,20]	[21–24]	[25–27], Post-campaign survey (see text)
F	proportion of cases that are fatal	0.0033	0.0010	1.0	1.0	[20,22]	[21–24]	Assumption
D_f	DALYs incurred with each fatal case	30	30	8	8	[24]	[24]	[29]
D_n	DALYs incurred with each non-fatal case	0.0037	0.0020	n/a	n/a	[24], expert opinion	[24,28]	N/a
P_f	protective effect against mortality	0.50	0.63	0.50	0.26	[30], expert opinion	[11]	[31,32]
P_n	protective effect against non-fatal cases	0.50	0.63	n/a	n/a	[30]	[11]	N/a
M	multiplier to capture secondary benefits	n/a	n/a	2	2	[34]	N/a	[33] (see text)
Y	duration of benefit (in years)	3	2	1	1	[10,35]	[36]	[31]
Cost inputs								
C_f	costs for health care incurred with each fatality	$65	$104	$5,092	$5,092	[40,41]	[42]	[29] (see text)
C_n	costs for health care incurred with each non-fatal case	$7.80	$7.00	n/a	n/a	[43]	[42]	N/a

doi:10.1371/journal.pone.0031316.t001

based on a conservative annual transmission risk of 8% [25] and 4.7% prevalence, from the post-campaign survey and consistent with a national AIDS survey [26]; and to persons found HIV-negative is 0.009, based on HIV incidence imputed from prevalence with assumption of random mixing [27]. Fatality rates for malaria and diarrhea are less than 1% (for all ages, occurring mostly in children) [20–24], and for HIV is 100% (over 10 or more years) (assumption).

The DALYs incurred per fatal case of malaria or diarrhea is 28 [24]. For non-fatal cases, the DALY burden is the disability weight (0.192 for malaria; 0.105 for diarrhea) [24] times an assumed duration of disease of 1 week [28]. For HIV the DALY burden of a death is only 8, due to the 12–15 year anticipated survival with antiretroviral therapy [29].

Table 2. Value of model inputs for treatment and health status in HIV+ individuals, Integrated Prevention Campaign, Western Province, Kenya, 2008.

		Value	Sources
Ae	Seek ART care early	0.60	[26], expert opinion
Ai	Lifetime increase in use of ART due to IPC	0.15	Expert opinion
Ma	Malaria cases averted by LLIN per HIV+ person	0.6	[18,30]
Ca	CD4 drop averted per malaria event averted (absolute)	40	[19]
Cr	Reduction in CD4 drop with CTX (proportionate)	0.62	[39]
H	HIV infections transmitted per year not on ART	0.05	[27,31]

doi:10.1371/journal.pone.0031316.t002

The protective effect of bed nets against malaria mortality is set at 50% (the same as for incidence). This is a conservative estimate based on a 17% reduction in all-cause mortality [30] and malaria representing only 9% of mortality <14 years old [24]. The protective effect of filters on diarrhea is 63% for morbidity [11], and we assume the same for mortality. For HIV, by "death averted" we mean an infection averted. The protection from VCT is conservatively 50% (in positives only) [31] and by condoms is 26% (in negatives only, among the 36% using the condoms, based on the number of condoms provided and 80% protection when a condom is used) [32]. For HIV, each infection averted is assumed to directly avert an average of one additional HIV infection in an epidemic with stable HIV prevalence; this would be a secondary benefit of the HIV interventions in the IPC. To capture this benefit we included a multiplier, which we conservatively set at 2 for HIV, confirmed with analyses using our published epidemic model, which predicts a 2.0 multiplier after 10 years [33]. For malaria and diarrhea, we assumed the interventions used in the IPC (bed nets and filters, respectively) would not have secondary prevention benefits, i.e., each episode averted would not avert any additional episodes. This approach reflects our reliance on community-wide rather than individual effectiveness studies for filters and nets. Further, malaria modeling suggests that current infections averted may not have enduring epidemic benefits [34].

The duration of benefit for bed nets is 3 years [10,35], and for filters is estimated at 2 years (less than lab data imply) [36]. For HIV risk reduction, one year of benefit is assumed for VCT, reflecting the longest duration of follow-up reported in a recent systematic review [31]. For condoms, we also employed a one-year time frame, using the number of distributed condoms to calculate the incremental probability of protected sex episodes over one year.

For the analysis of *earlier* use of ART, assumptions were as follows (key inputs reported in Table 2). In the campaign, 13 of 88 (14.8%) of a sample of individuals testing positive had a CD4 count less than 250, a commonly used starting level for ART. (We explore the effect of starting ART at CD4<350 through sensitivity analysis). We

assumed that 60% of these individuals sought ART care quickly, conservatively one year before they would have otherwise [26]. We estimated the resulting averted DALYs at 0.75, from clinical modeling studies [37,38]. *Lifetime increased* use of ART due to the IPC (e.g., by avoiding death before HIV diagnosis) is estimated at 15%, based on expert opinion (author JM) considering current and projected lifetime prevalence of ART use. Each additional person on ART averts 7.5 DALYs (discounted, over a lifetime) [29].

Bed nets may *delay* the need for ART by reducing episodes of malaria, which have been associated with an average 40 point decline in CD4 [19]. This results in an approximately one-third year delay to need ART.

Cotrimoxazole also may *delay* the need for ART, based on a study showing a 62% reduction in the rate of decline of CD4 [39]. We apply this reduction after the protection afforded by bed nets, resulting in a further 0.49 year delay in starting ART.

The aggregate effects of the earlier, increased, and delayed ART use described above is 15.1 added years *not* on ART per 1000 campaign participants. This increases HIV transmission by an estimated 0.75 infections per 1000 participants (separate from the HIV prevention effects discussed above). Technical details related to our modeling of the impact of the IPC on HIV treatment are included in a technical supplement (see Supporting Information S1).

Cost inputs. We estimated the costs for health care incurred with each malaria and diarrhea fatality based on the direct medical costs of inpatient treatment for each disease, assuming that fatal cases are likely to use inpatient care. The cost of health care (Table 1) is estimated at $65 per fatality for malaria [40,41] and $104 for diarrhea [42]. For HIV, the costs of health care per fatality are estimated at $5092, based on a 2009 analysis of lifetime costs adjusted for lower annual ART costs ($564) in Zambia in a current analysis [29]. For non-fatal cases, the costs are $7.80 per case for malaria (using a relatively expensive drug, co-artem) [43] and $7 for diarrhea [42], for each assuming outpatient treatment, including the cost of a clinic visit, medications and tests.

The cost of a scaled-up IPC is estimated at $32 per participant [7]. The original campaign cost $42 per participant. A scaled-up campaign will have lower costs through reliance on local rather then foreign managers and a lower manager concentration, as well as returns to scale for the publicity component. These adjustments were initially modeled, and then confirmed in a small subsequent campaign and with price bids for a large campaign [7].

Sensitivity analyses

We conducted one-way and multivariate sensitivity analyses to assess the importance of uncertainty in input values. To set the uncertainty ranges, we used a 95% confidence interval (CI) when available. For values based directly on empirical data but lacking formal CIs, we used a range of plus or minus one-third of the base case. For values derived indirectly from empirical data or from expert opinion, we used a range of plus or minus one-half. For DALYs due to early death for malaria and diarrhea, we examine down to 25 to reflect potential short-term competing mortality.

The multivariate analysis was a Monte Carlo simulation conducted with Crystal Ball, Decision Engineering © 2000. We used the reported ranges distributed in truncated normal curves. We assumed a 95% correlation of this variable with lifetime cost of treating HIV. Simulation results reflect 100,000 trials.

Results

Disease averted

The model estimates that the IPC averts 16.3 deaths: 4.31 from malaria, 6.81 from diarrhea, and 5.22 from HIV. There are an additional 1304 averted episodes of malaria and 6780 of diarrhea.

DALYs averted

The prevention elements of the campaign avert an estimated 359 DALYs per 1000 participants (Table 3). Most of these benefits (53%) derive from decreased diarrhea, due to the protective effect for relatively frequent disease episodes. Reduced malaria accounts for 35% of averted DALYs, and HIV prevention 12%.

Reduced mortality contributes the vast majority (96%) of DALYs averted through prevention. Though rare, prevented deaths avert

Table 3. Results (per 1000 campaign participants), Integrated Prevention Campaign, Western Province, Kenya, 2008.

	Malaria	Diarrhea	HIV		
	LLIN	Filters	VCT	condoms	TOTAL
Disease averted					
Deaths	4.31	6.81	5.22		16.3
Episodes	1304	6780	5		8090
DALYs averted					
Prevention	125	191	29	13	358.5
Earlier HIV care			82		81.8
TOTAL	125	191	125		441.8
Costs averted (added)					
Prevention	$10420	$48,123	$18,169	$8,400	$85,113
Earlier HIV care			($37,097)		($37,097)
TOTAL	$10.420	$48,123	($10,538)		$48,015
Cost-effectiveness					
Campaign cost (unadjusted)					$32,000
Net cost (savings)					($16,015)
Cost per DALY averted					Net savings

doi 10 1371/journal.pone 0031316 t003

10,000-fold as many DALYs each as do non-fatal disease clinical events.

Earlier HIV care results in a net of 83 averted DALYs. Thus total DALYs averted is estimated at 442 per 1000 campaign participants, 78% of which is from deaths averted.

Costs averted

The savings due to prevented disease are $85,113 per 1000 participants The contribution of HIV disease is 31%, much larger than for DALYs due to the high lifetime cost of treatment. Diarrhea and malaria contribute 57% and 12%, respectively.

Earlier HIV care (ART) increases costs by nearly $37,100. Thus, overall savings are $48,015

Cost-effectiveness

The estimated campaign cost of $32,000 is less than the savings projected by our model. Thus, in the base case, the campaign is estimated to result in net savings of $16,015 per 1000 participants. With net savings, the incremental cost-effectiveness ratio (ICER) is not reported; an ICER is reported as appropriate in sensitivity analyses. The ICER based on gross costs (unadjusted for offsetting savings) is $72 per DALY averted.

Sensitivity analyses

We conducted univariate and multivariate sensitivity analyses.

The univariate sensitivity analyses assessed the importance of uncertainty in individual model inputs (Tables 4, 5 and 6). DALYs averted per 1000 participants ranged from 338 to 543. For the 37 inputs assessed, 35 retained net savings for all values; one had a net cost per DALY averted of $0.30, and two had net cost per DALY averted over $1.00: $2 20 and $17.42. The inputs with the largest impact on net costs were the lifetime increase in the use of ART ($32,169 in savings to $143 in added cost); the frequency, magnitude, and duration of benefit for diarrhea; the prevention multiplier and duration of benefit for HIV; and cost per non-fatal diarrhea case.

Uncertainty in baseline cases per 1000 persons (i.e., disease incidence) showed the greatest sensitivity for diarrhea ($889 to $31,137 in net savings), followed by HIV and then malaria (Table 4). The proportion of cases that are fatal (for malaria and diarrhea) had little effect, and DALYs incurred per fatal and non-fatal case also did not affect findings significantly.

Protective effect against mortality strongly affected DALYs but not costs. Even with no mortality benefit for diarrhea, as found in a trial of safe water vessels in the context of weekly clinical

Table 4. One-way sensitivity analyses for health inputs, Integrated Prevention Campaign, Western Province, Kenya, 2008.

			Range used for input		DALYs averted	Net cost (savings)	Cost per DALY averted
			Values	Basis			
Health inputs: Prevention			*Base case (BC)*		*442*	*($16,015)*	*Net savings*
N	# who benefit per campaign participant	Malaria (LLIN)	1.9–3.9	±1/3	399–485	($12,436)–($19,622)	Net savings
		Diarrhea (filters)	2.1–4.1	±1/3	381–505	($629)–($31,806)	Net savings
		HIV - VCT	0.9–1.0	±0.05	441–444	($15,057)–($16,969)	Net savings
		HIV - condoms	0. 24–0.48	±1/3	438–446	($13,196)–($18,779)	Net savings
B	baseline cases/year per 1000 persons	Malaria	200–400	±1/3	400–484	($12,540)–($19,486)	Net savings
		Diarrhea	1200–2300	±1/3	382–502	($889)–($31,137)	Net savings
		HIV transmission	2.5–5 1	±1/3	433–452	($9,933)–($22,508)	Net savings
		HIV acquisition	6–12	±1/3	438–447	($13,238)–($18,862)	Net savings
F	proportion of cases that are fatal	Malaria	0.22–0.44%	±1/3	402–482	($15,930)–($16,095)	Net savings
		Diarrhea	0.05–0 15%	±1/3	353–532	($15,683)–($16,343)	Net savings
D_f	DALYs incurred with each fatal case	Malaria	25 (lower)	see text	429 - BC	= BC	Net savings
		Diarrhea	25 (lower)	see text	423 - BC	= BC	Net savings
		HIV	4–12	±1/2	424–460	= BC	Net savings
D_n	DALYs incurred with each non-fatal case	Malaria	0 0019–0.0055	±1/2	439–444	= BC	Net savings
		Diarrhea	0.001–0.003	±1/2	435–448	= BC	Net savings
P_f	protective effect against mortality	Malaria	0.25–0.75	±1/2	382–502	($15,837)–($16,153)	Net savings
		Diarrhea	0.32–0 94	±1/2	354–530	($15,664)–($16,361)	Net savings
		HIV transmission	0 25–0.75	±1/2	428–456	($6,929)–($25,103)	Net savings
		HIV acquisition	0.13–0.39	±1/2	435–449	($11,900)–($20,467)	Net savings
P_n	protective effect against non-fatal cases	Malaria	0 33–0.67	±1/3	440–443	($12,569)–($19,468)	Net savings
		Diarrhea	0.51–0.72	95% CI	439–444	($7,125)–($22,989)	Net savings
M	multiplier to capture secondary benefits	HIV	1–3	±1/2	421–463	($2,728)–($29,299)	Net savings
Y	duration of benefit (in years)	Malaria	2–4	±1/3	400–484	($12,540)–($19,487)	Net savings
		Diarrhea	1.3–2.7	±1/3	375–509	$824–($32,869)	$2 20 - net savings
		HIV transm	0 5–1 5	±1/2	421–463	($2,727)–($29,298)	Net savings

Note: BC = base case

doi:10.1371/journal pone.0031316 t004

Table 5. One-way sensitivity analyses for cost inputs, Integrated Prevention Campaign, Western Province, Kenya.

		Range used for input		DALYs averted	Net cost (savings)	Cost per DALY averted
		Values	Basis			
Cost inputs		*Base case (BC)*		*442*	*($16,015)*	*Net savings*
C_f costs for health care per fatality	Malaria	$33–$97	±1/2	=BC	($15,875)–($16,151)	Net savings
	Diarrhea	$54–$154	±1/2	=BC	($15,672)–($16,353)	Net savings
	HIV	$2546–$7638	±1/2	=BC	($20,099)–($11,926)	Net savings
C_n costs for health care per non-fatal case	Malaria	$3.90–$11.70	±1/3	=BC	($10,943)–($21,083)	Net savings
	Diarrhea	$3.50–$10.50	±1/3	=BC	$7,695–($39,720)	$17.42 - net savings
C_c cost of campaign	-	$28,800–$35,200	±1/10	=BC	($19,215)–($12,815)	Net savings

Note: BC = base case.
doi:10.1371/journal.pone.0031316.t005

monitoring [44], there would be 263 DALYs averted, with net savings of $15,305 (not in table). Protective effect against non-fatal cases has a moderate impact for diarrhea: 51% protection leads to $7,125 net savings.

The sensitivity of net cost and cost per DALY averted to campaign implementation cost and protective effect are shown graphically in Figures 1 and 2. The net cost increases as campaign cost rises, but remains negative until the campaign cost reaches $48,000 per 1000 participants (Fig. 1). For the interventions' protective effect, the net cost becomes positive below 0.81 of base case values, and reaches a cost per DALY averted of $60 at 0.6 of base case (Fig. 2).

Due to expanded support for starting ART at CD4<350, we examined the implications of the higher threshold. The effects of earlier ART initiation are modest: DALYs averted increases to 443, and savings drop to $15,539.

Our multivariate analysis (Monte Carlo simulation) suggests that the most likely outcome is substantial health impact with net savings, with only 17% of trials (i.e., calculation iterations) yielding modest costs per DALY averted. The estimated DALYs averted per 1000 participants was mean 442 (standard deviation 78), median 435, 90% confidence interval 327–583, and range 245–641. The mean net savings was $16,102 (median $15,306). The 90% CI was savings of $15,579 to added cost of $10,518; net savings occurred in 83% of trials. The cost per DALY averted was undefined at the mean (due to net savings in most trials), was less than $20 for 93% of trials, and reached a high of $65 per DALY. Graphic results of the multivariate analysis are included in a technical supplement (see Supporting Information S2).

Discussion

We explored the potential health impact, net cost, and cost-effectiveness of an integrated mass campaign to distribute commodities and services intended to decrease malaria, diarrhea, and HIV. We found, for each 1000 campaign participants, an estimated health benefit of 442 disability-adjusted life years averted, with a net savings of approximately $16,000. The prevention component yielded 81% of the DALYs averted and large net savings ($85,113). Earlier HIV care yielded additional DALYs and also substantial net costs, due to the high cost of ART. Multivariate sensitivity analyses suggest that overall health benefits reside between 327 and 583 DALYs, the campaign is cost-saving for more than four-fifths of simulation trials, and the cost per DALY averted is less than $20 for 93% of trials.

Compared with the cost-effectiveness of individual interventions, these results are generally more favorable. Malaria interventions cost in the range of $2–15 per DALY averted even for the least expensive strategies [1]. Diarrhea prevention has ten- to 100-fold higher cost-effectiveness ratios: filters alone are estimated at $142 per DALY averted [11]. HIV prevention is

Table 6. One-way sensitivity analyses for inputs on treatment and health status in HIV-positive individuals, Integrated Prevention Campaign, Western Province, Kenya.

			Range used for input		DALYs averted	Net cost (savings)	Cost per DALY averted
			Values	Basis			
Treatment and health status in HIV+ individuals			*Base case (BC)*		*442*	*($16,015)*	*Net savings*
Ae	Seek ART care early	HIV	0.3–0.9	±1/2	439–444	($16,658)–($15,368)	Net savings
Ai	Lifetime increase in use of ART due to IPC	HIV	0.075–0.225	±1/2	413–471	($32,169)–$143	Net savings - $0.30
Ma	Malaria cases averted by LLIN per HIV+ person	Malaria-HIV	0.4–0.8	±1/3	441–443	($16,132)–($15,889)	Net savings
Ca	CD4 drop averted per morbid event averted	HIV	13–68	95% CI	440–443	($16,251)–($15,750)	Net savings
Cr	Reduction in CD4 drop with CTX	HIV	0.335–0.905	95% CI	436–447	($16,962)–($15,053)	Net savings
H	HIV infections transmitted per year not on ART	HIV	0.025–0.075	±1/2	431–437	($8,848)–($23,200)	Net savings
Ac	Annual cost of ART	HIV	$282–$846	±1/2	=BC	($17,188)–($14,838)	Net savings

Note: BC = base case.
doi 10.1371/journal.pone.0031316.t006

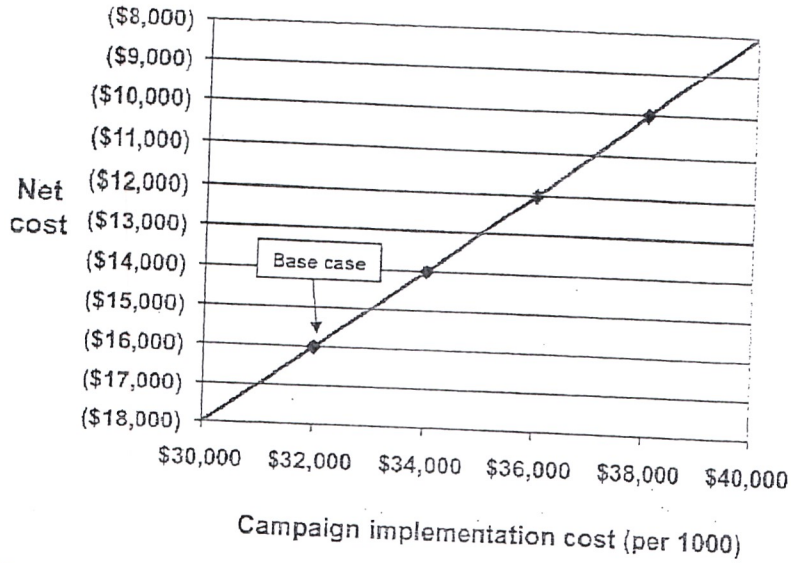


Figure 1. Sensitivity of cost and cost-effectiveness to campaign implementation cost. Integrated Prevention Campaign, Western Province, Kenya, 2008. The base case ($32,000) is cost-saving, and net cost is positive above a campaign cost of $48,000 (not shown; outside of uncertainty range). No cost-effectiveness ratio is calculated, due to net savings.
doi:10.1371/journal.pone.0031316.g001

often cost saving, due to the high cost of care, with savings exceeding costs by 25- to 30-fold [33,45]. HIV care with ART costs $500–$800 per DALY averted in Africa [29,46], and CD4 cell and viral load monitoring of ART $174 and over $5000 per DALY averted, respectively [47].

Our analysis had several limitations. As with many cost-effectiveness analyses, health impacts and averted care costs are modeled rather than measured directly for the campaign. However, empirical studies of similar interventions have shown evidence of effectiveness in reducing morbidity and mortality over specified time periods, which we adopted and use as the basis for the modeled prevention benefits from the IPC. By including the best available input values and a diversity of inputs (e.g., protective effects for three diseases) we have mitigated this limitation. Further, robust sensitivity analyses allowed us to assess uncertainty in effectiveness, with favorable findings over the range of values explored.

Second, the campaign cost is based on an economic model for scaling up, and is 25% lower than the cost of the initial campaign implementation. We think that uncertainty in this cost estimate is low, based on confirmatory data from subsequent campaign implementation and planning, and thus has little effect on our findings. However, it will be important to observe actual costs in a scaled up implementation. Repeat campaigns in the same

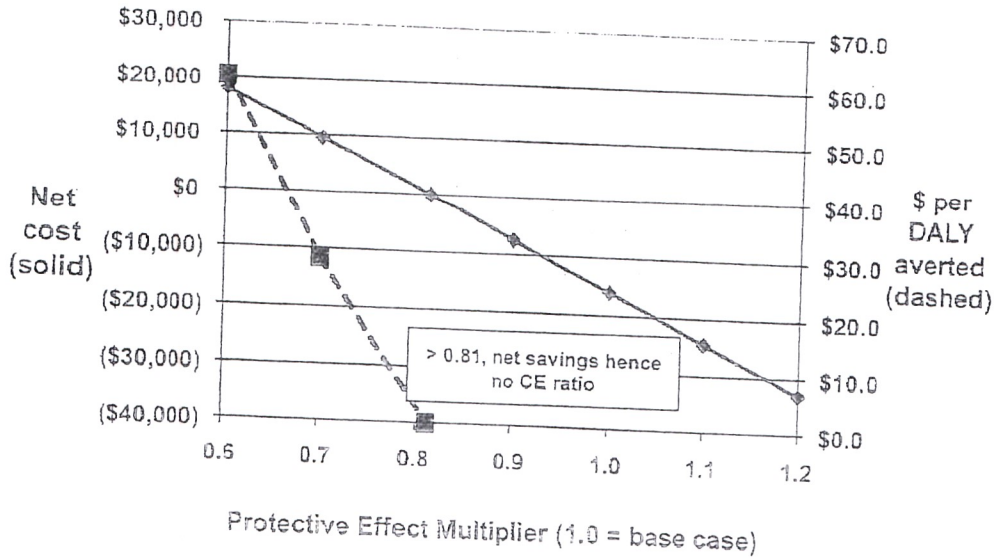


Figure 2. Sensitivity of cost and cost-effectiveness to protective effect (morbidity and mortality). Integrated Prevention Campaign, Western Province, Kenya, 2008. Net cost is positive below 81% of the base case values.
doi:10.1371/journal.pone.0031316.g002

geographical location would yield a lower number of new HIV diagnoses, and depending on timing in relation to commodity life spans could yield lower participation and/or health benefits. Finally, we did not explore savings by linking this campaign to other community campaigns, such as annual mass vitamin A administration [48] or regular indoor residual spraying (IRS) against malaria.

We did not include the effect of earlier ART on tuberculosis (TB). Co-infection of HIV and TB approaches 50% in Kenya [49], and ART may reduce TB acquisition by greater than 60%, depending on when treatment is initiated [50]. This might suggest substantial health gains and economic savings via TB control due to expanded use of ART. In addition, earlier TB diagnosis might lead to easier treatment. However, other factors complicate this picture. Some TB infection that would be detected and treated while under care would never have become clinically significant. Further, ART may induce clinical worsening of TB, due to immune reconstitution (Robin Wood, personal communication). We believe that in the long run, expanded ART will reduce TB transmission and thus prevalence, but in the short run the effects are difficult to anticipate.

This analysis supports a substantial role for integrated multi-disease mass campaigns. Such campaigns are potentially very practical, quickly achieving high coverage of key interventions to reduce the burden of three major diseases, with substantial health benefits, and attractive economics. The campaigns would need to be repeated over time in order to offer ongoing benefits. The optimal timing is unclear, due to the differing duration of campaign interventions: up to ten years for LLIN, three years for water filters, and one year for VCT and condoms. In addition, newly detected HIV cases will drop sharply after the initial implementation, since HIV incidence is much lower than undetected HIV prevalence. Optimal timing would also reflect the local availability of these services through other mechanisms. On balance, we suspect that a three-year cycle would be desirable in most settings. We plan to formally assess this issue in an upcoming analysis.

In conclusion, we propose expanded field implementation of integrated multi-disease mass campaigns, coupled with rigorous evaluation and refinement.

Disclaimer

The findings and conclusions in this paper are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention.

Supporting Information

Supporting Information S1 Technical Supplement 1. Technical details regarding modeling of the impact of the campaign on HIV treatment.
(DOC)

Supporting Information S2 Technical Supplement 2. Technical details regarding Monte Carlo multivariate sensitivity analyses.
(DOC)

Author Contributions

Conceived and designed the experiments: JGK. Analyzed the data: JGK BH. Wrote the paper: JGK BH EL TC JM SS MG NM.

References

1. Laxminarayan R, Mills AJ, Breman JG, Measham AR, Alleyne G, et al. (2006) Advancement of global health: key messages from the Disease Control Priorities Project. Lancet 367: 1193–1208.
2. Jamison DT (2006) Investing in Health. In: Jamison DT, ed. Disease Control Priorities in Developing Countries (2nd ed). New York: Oxford University Press and the World Bank.
3. Grabowsky M, Nobiya T, Ahun M, Donna R, Lengor M, et al. (2005) Distributing insecticide-treated bednets during measles vaccination: a low-cost means of achieving high and equitable coverage. Bull World Health Organ 83. 195–201.
4. Grabowsky M, Nobiya T, Selanikio J (2007) Sustained high coverage of insecticide-treated bednets through combined Catch-up and Keep-up strategies. Trop Med Int Health 12: 815–822.
5. Menzies N, Abang B, Wanyenze R, Nuwaha F, Mugisha B, et al. (2009) The costs and effectiveness of four HIV counseling and testing strategies in Uganda. Aids 23: 395–401.
6. Lugada E, Millar D, Haskew J, Grabowsky M, Garg N, et al. (2010) Rapid implementation of an integrated large-scale HIV counseling and testing, malaria, and diarrhea prevention campaign in rural Kenya. PLoS One 5. e12435.
7. Kahn J, Harris B, Mermin J, Clasen T, Lugada E, et al. (2010) Cost of Integrated Community Prevention Campaign for Malaria, HIV, and Diarrhea in Rural Kenya. BMC Health Serv Res, In press.
8. Mueller DH, Wiseman V, Bakusa D, Morgah K, Dare A, et al. (2008) Cost-effectiveness analysis of insecticide-treated net distribution as part of the Togo Integrated Child Health Campaign. Malar J 7: 73.
9. Yukich JO, Lengeler C, Tediosi F, Brown N, Mulligan JA, et al. (2008) Costs and consequences of large-scale vector control for malaria. Malar J 7. 258.
10. Mulligan JA, Yukich J, Hanson K (2008) Costs and effects of the Tanzanian national voucher scheme for insecticide-treated nets. Malar J 7: 32.
11. Clasen T, Haller L, Walker D, Bartram J, Cairncross S (2007) Cost-effectiveness of water quality interventions for preventing diarrhoeal disease in developing countries. J Water Health 5: 599–608.
12. McConnel CE, Stanley N, du Plessis JA, Pitter CS, Abdulla F, et al. (2005) The cost of a rapid-test VCT clinic in South Africa. S Afr Med J 95. 968–971.
13. Sweat M, Gregorich S, Sangiwa G, Furlonge C, Balmer D, et al. (2000) Cost-effectiveness of voluntary HIV-1 counselling and testing in reducing sexual transmission of HIV-1 in Kenya and Tanzania. Lancet 356 113–121.
14. Forsythe S, Arthur G, Ngatia G, Mutemi R, Odhiambo J, et al. (2002) Assessing the cost and willingness to pay for voluntary HIV counselling and testing in Kenya. Health Policy Plan 17 187–195.
15. Hausler HP, Sinanovic E, Kumaranayake L, Naidoo P, Schoeman H, et al. (2006) Costs of measures to control tuberculosis/HIV in public primary care facilities in Cape Town, South Africa. Bull World Health Organ 84. 528–536.
16. Marseille E, Dandona L, Marshall N, Gaist P, Bautista-Arredondo S, et al. (2007) HIV prevention costs and program scale: data from the PANCEA project in five low and middle-income countries. BMC Health Serv Res 7: 108.
17. Morel CM, Lauer JA, Evans DB (2005) Cost effectiveness analysis of strategies to combat malaria in developing countries. Bmj 331: 1299.
18. Mermin J, Ekwaru JP, Liechty CA, Were W, Downing R, et al. (2006) Effect of co-trimoxazole prophylaxis, antiretroviral therapy, and insecticide-treated bednets on the frequency of malaria in HIV-1-infected adults in Uganda. a prospective cohort study. Lancet 367: 1256–1261.
19. Mermin J, Lule JR, Ekwaru JP (2008) Association Between Malaria and CD4 Cell Count Decline Among Persons With HIV. J Acquir Immune Defic Syndr 41: 129–130.
20. Snow RW, Craig MH, Newton CRJ, Steketee RW (2003) The public health burden of Plasmodium falciparum malaria in Africa: Deriving the numbers. Working Paper No. 11. Bethesda, Maryland: Fogarty International Center, National Institutes of Health.
21. Crump JA, Otieno PO, Slutsker L, Keswick BH, Rosen DH, et al. (2005) Household based treatment of drinking water with flocculant-disinfectant for preventing diarrhoea in areas with turbid source water in rural western Kenya: cluster randomised controlled trial. BMJ 331: 478.
22. van Eijk AM, Adazu K, Ofware P, Vulule J, Hamel M, et al. (2008) Causes of deaths using verbal autopsy among adolescents and adults in rural western Kenya. Trop Med Int Health 13: 1314–1324.
23. Shrestha RK, Marseille E, Kahn JG, Lule JR, Pitter C, et al. (2006) Cost-effectiveness of home-based chlorination and safe water storage in reducing diarrhea among HIV-affected households in rural Uganda. Am J Trop Med Hyg 74: 884–890.
24. Lopez A (2006) Global Burden of Disease and Risk Factors. In: Lopez AD, Mathers CD, Ezzati M, Jamison DT, Murray CJL, eds. Disease Control Priorities Project. New York: Oxford University Press and the World Bank.
25. Dunkle KL, Stephenson R, Karita E, Chomba E, Kayitenkore K, et al. (2008) New heterosexually transmitted HIV infections in married or cohabiting couples in urban Zambia and Rwanda: an analysis of survey and clinical data. Lancet 371: 2183–2191.
26. National AIDS/STD Control Programme (NASCOP) MoHGoK (2009) 2007 Kenya AIDS Indicator Survey: Final Report.
27. Granich RM, Gilks CF, Dye C, De Cock KM, Williams BG (2009) Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: a mathematical model. Lancet 373 48–57.

28. Lever D, Soffer E (2011) Acute Diarrhea. Disease Management Project: Gastroenterology: The Cleveland Clinic Foundation, Center for Continuing Education
29. Marseille E, Kahn JG, Pitter C, Bunnell R, Epalatai W, et al. (2009) The cost effectiveness of home-based provision of antiretroviral therapy in rural Uganda. Appl Health Econ Health Policy 7: 229–243.
30. Lengeler C (2004) Insecticide-treated bed nets and curtains for preventing malaria. Cochrane Database Syst Rev: CD000363.
31. Denison JA, O'Reilly KR, Schmid GP, Kennedy CE, Sweat MD (2008) HIV voluntary counseling and testing and behavioral risk reduction in developing countries: a meta-analysis, 1990–2005. AIDS Behav 12: 363–373
32. Weller S, Davis K (2002) Condom effectiveness in reducing heterosexual HIV transmission. Cochrane Database Syst Rev: CD003255.
33. Kahn JG, Marseille E, Auvert B (2006) Cost-effectiveness of male circumcision for HIV prevention in a South African setting. PLoS Med 3 e517.
34. Smith DL, Cohen JM, Moonen B, Tatem AJ, Sabot OJ, et al. (2011) Infectious disease. Solving the Sisyphean problem of malaria in Zanzibar. Science 332: 1384–1385.
35. Kilian A, Byamukama W, Pigeon O, Atieli F, Duchon S, et al. (2008) Long-term field performance of a polyester-based long-lasting insecticidal mosquito net in rural Uganda. Malaria journal 7: 49.
36. Clasen T, Naranjo J, Frauchiger D, Gerba C (2009) Laboratory assessment of a gravity-fed ultrafiltration water treatment device designed for household use in low-income settings. Am J Trop Med Hyg 80. 819–823.
37. Bendavid E, Young SD, Katzenstein DA, Bayoumi AM, Sanders GD, et al. (2008) Cost-effectiveness of HIV monitoring strategies in resource-limited settings: a southern African analysis. Arch Intern Med 168: 1910–1918.
38. Walensky RP, Wolf LL, Wood R, Fofana MO, Freedberg KA, et al. (2009) When to start antiretroviral therapy in resource-limited settings. Ann Intern Med 151: 157–166.
39. Mermin J, Lule J, Ekwaru JP, Malamba S, Downing R, et al. (2004) Effect of co-trimoxazole prophylaxis on morbidity, mortality, CD4-cell count, and viral load in HIV infection in rural Uganda. Lancet 364. 1428–1434
40. Ayieko P, Akumu AO, Griffiths UK, English M (2009) The economic burden of inpatient paediatric care in Kenya: household and provider costs for treatment of pneumonia, malaria and meningitis. Cost Eff Resour Alloc 7: 3.
41. Lubell Y, Riewpaiboon A, Dondorp AM, von Seidlein L, Mokuolu OA, et al. (2011) Cost-effectiveness of parenteral artesunate for treating children with severe malaria in sub-Saharan Africa. Bulletin of the World Health Organization 89: 504–512
42. Tate JE, Rheingans RD, O'Reilly CE, Obonyo B, Burton DC, et al. (2009) Rotavirus disease burden and impact and cost-effectiveness of a rotavirus vaccination program in kenya. J Infect Dis 200 Suppl 1: S76–84.
43. Shillcutt S, Morel C, Goodman C, Coleman P, Bell D, et al. (2008) Cost-effectiveness of malaria diagnostic methods in sub-Saharan Africa in an era of combination therapy. Bulletin of the World Health Organization 86: 101–110.
44. Lule JR, Mermin J, Ekwaru JP, Malamba S, Downing R, et al. (2005) Effect of home-based water chlorination and safe storage on diarrhea among persons with human immunodeficiency virus in Uganda. Am J Trop Med Hyg 73: 926–933.
45. Galarraga O, Colchero MA, Wamai RG, Bertozzi SM (2009) HIV prevention cost-effectiveness: a systematic review. BMC Public Health 9 Suppl 1: S5.
46. Goldie SJ, Yazdanpanah Y, Losina E, Weinstein MC, Anglaret X, et al. (2006) Cost-effectiveness of HIV treatment in resource-poor settings–the case of Cote d'Ivoire. N Engl J Med 355: 1141–1153.
47. Kahn JG, Marseille E, Moore D, Bunnell R, Were W, et al. (2011) CD4 cell count and viral load monitoring in patients undergoing antiretroviral therapy in Uganda: cost effectiveness study. BMJ 343: d6884.
48. Masanja H, Schellenberg JA, Mshinda HM, Shekar M, Mugyabuso JK, et al (2006) Vitamin A supplementation in Tanzania: the impact of a change in programmatic delivery strategy on coverage. BMC Health Serv Res 6: 142.
49. Organization WH (2009) WHO Report on Global Tuberculosis Control. Kenya. Geneva.
50. Williams BG, Granich R, De Cock KM, Glaziou P, Sharma A, et al. (2010) Antiretroviral therapy for tuberculosis control in nine African countries. Proceedings of the National Academy of Sciences of the United States of America 107: 19485–19489.

United States International University

The Trustees of the University, upon recommendation of the University Faculty and by virtue of the Authority in them vested, have conferred on

Nicholas Mwangi Muraguri

who has satisfactorily pursued the studies and passed the examinations required therefor, the degree of

Global Executive Master of Business Administration

with all the rights, privileges and honors thereunto appertaining

Given at Nairobi, Kenya
this eleventh day of December, two thousand and ten.

Freida A. Brown
Vice Chancellor

Chair, Board of Trustees

2307607

University of Pretoria

The Council and Senate hereby declare that
at a congregation of the University the degree

Master of Public Health
(with distinction)

with all the associated rights and privileges
was conferred on

NICHOLAS MURAGURI

in terms of the Higher Education Act, 1997 and the Statute of the University

On behalf of the Council and Senate

Vice-Chancellor and Principal

On behalf of the Faculty of
Health Sciences

Dean

Registrar

2004-09-02

Universiteit van Pretoria
University of Pretoria

DIE VERTEENWOORDIGENDE STUDENTERAAD
THE STUDENT REPRESENTATIVE COUNCIL

ken hiermee / hereby awards

AKADEMIESE EREKLEURE
ACADEMIC HONORARY COLOURS

toe aan / to

NICHOLAS MURAGURI

Magister in Openbare Gesondheid
Master of Public Health

namens die Studentegemeenskap van die Universiteit van Pretoria.
on behalf of the Student Community of the University of Pretoria.

President

Lid vir Kleure
Member for Colours

Datum
Date 2 September 2004

14 1540

MOI UNIVERSITY

Upon the recommendation of Senate
and on authority of the Council
hereby confers upon

Nicholas Muraguri

the degree of

Bachelor of Medicine
and
Bachelor of Surgery

with all the rights and privileges
thereunto appertaining in witness whereof
we have hereunto affixed our signatures
and the seal of the University

on the 3rd day of December 1999

VICE-CHANCELLOR

SECRETARY TO SENATE

SECRETARY TO COUNCIL

Strathmore Business School

EXECUTIVE EDUCATION

This is to certify that

Dr. Nicholas Muraguri

has successfully completed the Public Policy Executive Program
held from 14th - 18th July 2014.

Dr. Robert Mudida

Program Leader,
Strathmore Business School,
Nairobi, Kenya

Dr. George Njenga

Dean,
Strathmore Business School,
Nairobi, Kenya.

Strathmore
UNIVERSITY

REPUBLIC OF KENYA

OFFICE OF THE FIRST LADY

A Strategic Framework for Engagement of the First Lady in HIV Control and Promotion of Maternal, Newborn and Child Health in Kenya

Accelerating Progress in Saving the Lives of Women and Children

2013-2017

Contributors: Constance Gakonyo, Dr William Maina, Maya Harper, Dr Nicholas Muraguri, Dr Sobbie Mulindi, Dr Martin Sirengo, Dr Emmy Chesire, Dr Rose Wafula, Regina Ombam, Jeniffer Wambua, Ruth Laibon-Masha, Roselyn Mutemi-Wangahu, Chris Ouma, Esther Gathin-Kimotho, Marx Maxwell, Dr Salome Okutoyi, Dr Elly Odongo, Dr Theresa Simuyu, Ateno Odenyo, James Kamau

Editor: Samuel Siringi

Designer: Peter-Cheseret

Cover Photo: H.E. First Lady Margaret Kenyatta with children at the Imani Children's Home in Kayole Nairobi.

Contents

Acknowledgement

I would like to thank the Ministry of Health – the National AIDS Control Council (NACC) and the National AIDS and STI Control Programme (NASCOP), UNAIDS and UNICEF through the United Nations Joint Team on AIDS (UNJTA), Secretariat for the Global Plan towards Elimination of New HIV Infections Among Children by 2015 and Keeping their Mothers Alive, U.S President's Emergency Plan for AIDS Relief (PEPFAR) and the Kenya Treatment Access Movement, for their technical and financial support in the development of this strategy.

I also acknowledge the contribution of staff in my office who provided oversight during this process.

I wish to thank the people living with HIV who have worked tirelessly to remind us that it is possible to stop new HIV infections, stigma and discrimination and AIDS-related deaths.

To the mothers and children of this nation, I thank you for your resilience and ability to remain hopeful even in the most difficult circumstances. Lastly, I am grateful to be accorded the opportunity to create new momentum for action to end preventable deaths among women and children and giving new impetus to the fight against HIV.

H.E. Margaret Kenyatta
First Lady of Kenya

List of Acronyms and Abbreviations

AIDS	Acquired Immune-Deficiency Syndrome
ANC	Antenatal Care
ART	Anti-Retroviral Therapy
CARMMA	Campaign on Accelerated Reduction of Maternal Mortality in Africa
CDC	Centres for Disease Control
CHAK	Christian Health Association of Kenya
CRAWN	Community Advocacy and Awareness Trust
DALY	Disability Adjusted Life Years
eMTCT	Elimination of Mother to Child Transmission
GOK	Government of Kenya
HIV	Human Immunodeficiency Virus
KDHS	Kenya Demographic and Health Survey
KEWOPA	Kenya Women Parliamentary Association
KMoT	Kenya Modes of Transmission Study
MDGs	Millennium Development Goals
MNCH	Maternal, Newborn and Child Health
MOH	Ministry of Health
NACC	National AIDS Control Council
NASCOP	National AIDS and STI Control Programme
NEPHAK	National Empowerment Network of People living with HIV and AIDS in Kenya
OAFLA	Organisation of First Ladies of Africa against AIDS
PEPFAR	US President's Emergency Plan for AIDS Relief
PLHIV	People Living with HIV
STIs	Sexually Transmitted Infections
SUPKEM	Supreme Council of Kenya Muslims
UNAIDS	United Nations Joint Program on HIV and AIDS
UNFPA	The United Nations Population Fund
UNICEF	United Nations Children Fund
UNJTA	United Nations Joint Team on AIDS
USAID	U.S. Agency for International Development
WHO	World Health Organisation

Her Excellency The First Lady Margaret Kenyatta illustrates to a pupil of Kilimani Primary School, Nairobi, how to wash his hands during Unilever's Lifebuoy Global Hand Washing Day at the school.

Foreword

"Children are our future, their mothers are its custodians. We are working together at all levels towards a shared vision where no mother or child shall die from preventable causes ... a future with zero new HIV infections, zero AIDS related deaths and zero AIDS related stigma"

"There is simply no good reason why thousands of women and children in Kenya should die during child birth today"

Everyone has a fundamental right to the highest attainable standards of health which is the foundation for sustainable social, economic and political development of any nation. Article 43(1) of the Constitution guarantees every individual the highest attainable standard of health which is important to the realization of the right to life.

Unfortunately, every day in Kenya, 15 mothers and over 290 children below five years of age die largely from childhood preventable diseases, pregnancy, birth complications and HIV and AIDS.

In 2012, there were 13,000 new HIV infections among children. In the same year, 39% of HIV positive pregnant women in need of medicine to prevent mother to child transmission did not access them. In addition, 62% of children living with HIV did not access lifesaving medication.

Our pledges to improve maternal health notwithstanding, in Kenya, 5500 women die every year due to pregnancy and its complications. Sadly, this is a trend that has remained largely unchanged over the last 20 years. With regard to children in 2012, over 100,000 children (below 5 years) died a majority before reaching their first birthday. There is simply no good reason why today in Kenya thousands of women and children should die during child birth and not live beyond the early years of life.

We must translate our pledges into action and results while holding each other accountable. It is possible to make progress through strategic and coordinated efforts and working together to impact outcomes for women and children's health.

HIV infection among young women at the prime age of 15 to 24 is alarming with over 25,000 new infections occuring every year. This is unacceptable and we must remain committed to reversing this situation.

I support the call by The Office of the First Lady for all Kenyans and development partners to join efforts to collectively stop mothers and children from dying from preventable diseases.

The time for action is now.

James W. Macharia
Cabinet Secretary for Health
Republic of Kenya

1.0 Introduction

The overall goal of the strategy is to mobilise and provide leadership towards ZERO new HIV infections and reduce the number of deaths among women and children in Kenya

1.1 BACKGROUND

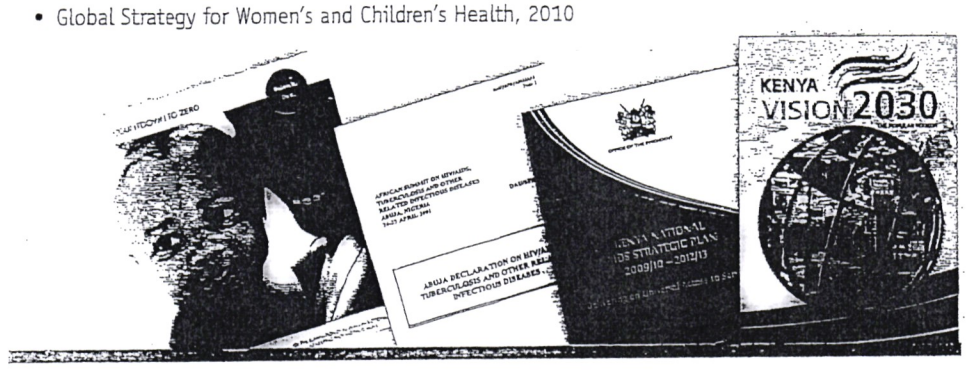
The Office of the First Lady occupies a special position at the pinnacle of society and the government, which provides a unique platform to champion important social and development goals. This strategic framework provides a guide to the Office of the First Lady to effectively and strategically engage various stakeholders in efforts to support programmes for HIV control, maternal and child health.

The priorities for this framework were informed by national and international commitments on HIV, maternal and child health. The framework also embraces the goals of the Organization of African First Ladies (OAFLA), which was established in 2002, as a collective voice for Africa's most vulnerable people - women and children who are infected and affected by HIV and AIDS. It is further guided by the country's development priorities as outlined in Kenya Vision 2030, Kenya National AIDS Strategic Plan and the Kenya Health Sector Strategic Plan 2012-2017.

GLOBAL STRATEGIES AND COMMITMENTS ON HIV MATERNAL AND CHILD HEALTH

- Millennium Development Goals (MDG 4,5 and 6)

- African Union Campaign on Accelerated Reduction of Maternal Mortality in Africa (CARMMA)
- Declaration of the Special Summit of African Union on HIV and AIDS, TB, Malaria, 2013
- Global Plan towards the Elimination of new HIV Infections among Children by 2015 and Keeping their Mothers Alive
- The Maputo Plan of Action on Sexual and Reproductive Health and Rights, 2006
- The United Nations General Assembly Political Declaration on HIV and AIDS, 2011
- Global Strategy for Women's and Children's Health, 2010

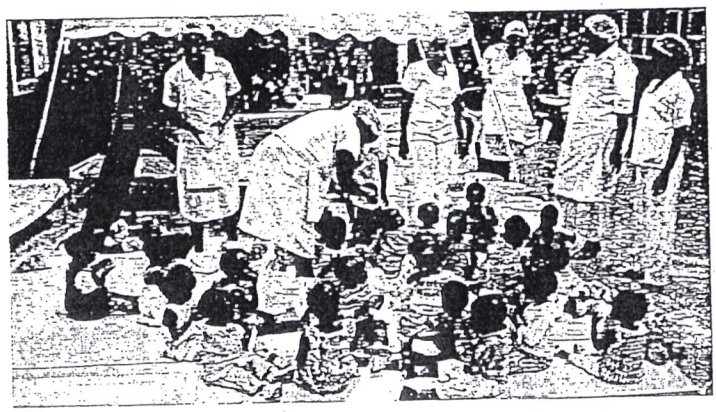


1.2 PURPOSE AND SCOPE

This framework will provide guidance for the strategic engagement of the First Lady of the Republic of Kenya to catalyze action and accelerate the attainment of national and international commitments to HIV, maternal and child health targets.

1.3 THEMATIC AREAS FOR THE ENGAGEMENT OF THE FIRST LADY

To catalyse and sustain on-going efforts in HIV, maternal and child health, the Office of the First Lady will focus on:



Cover Photo: Care givers feeding children at the Imani Children's Home in Kayole Nairobi.

1 Accelerate programs	2 Influence investment	3 Mobilise men	4 Involve communities	5 Provide leadership
Accelerated implementation of relevant policies and programs to increase access to HIV prevention, care and treatment services, maternal and child health interventions	Advocacy for allocation of resources and strategic investment in high impact interventions to promote maternal and child health, HIV control, and strengthening of health systems to enhance service delivery	Mobilisation of men as clients, partners and agents of change in promoting uptake of HIV, maternal and child health services at family and community level	Mobilisation of communities to address barriers to accessing HIV, maternal and child health services	Leadership, coordination, accountability and recognition to accelerate the attainment of HIV, Maternal and Child health targets

1.4 EXPECTED OUTCOMES

Through the implementation of this framework, the Office of the First Lady will contribute towards the realization of the following outcomes:

1. Increased awareness and a sense of urgency among leaders on the need to rapidly scale up high impact interventions for HIV control, maternal and child health;
2. National and county leadership sensitised to progressively allocate sufficient resources for HIV, maternal and child health programs;
3. Increased support and participation of men in HIV control, maternal and child health at family and community level;
4. Increased uptake and utilisation of HIV, maternal and child health services;
5. Institutionalised culture of accountability for results among leaders on their commitment towards meeting HIV, maternal and child health targets.

2.0 Rationale

"It is unacceptable that in Kenya, 15 mothers and 296 children below 5 years of age die every day largely from preventable causes"

"HIV is a leading cause of death and morbidity across all age groups"

2.1 OVERVIEW OF HEALTH SITUATION IN KENYA

Kenya has witnessed improvements in overall health targets especially in reduction of deaths among adults, infants and children below 5 years over the last decade. However indicators for maternal and neonatal health remain either static or deteriorating. Additionally, there are significant geographical and gender disparities in deaths and disease levels across all age groups in the country.

Currently, 50% of all deaths are as a result of infectious diseases which include HIV, lower respiratory tract infections, TB, diarrheal diseases and malaria (Table 1). However, the burden of infectious diseases is estimated to decline over time.

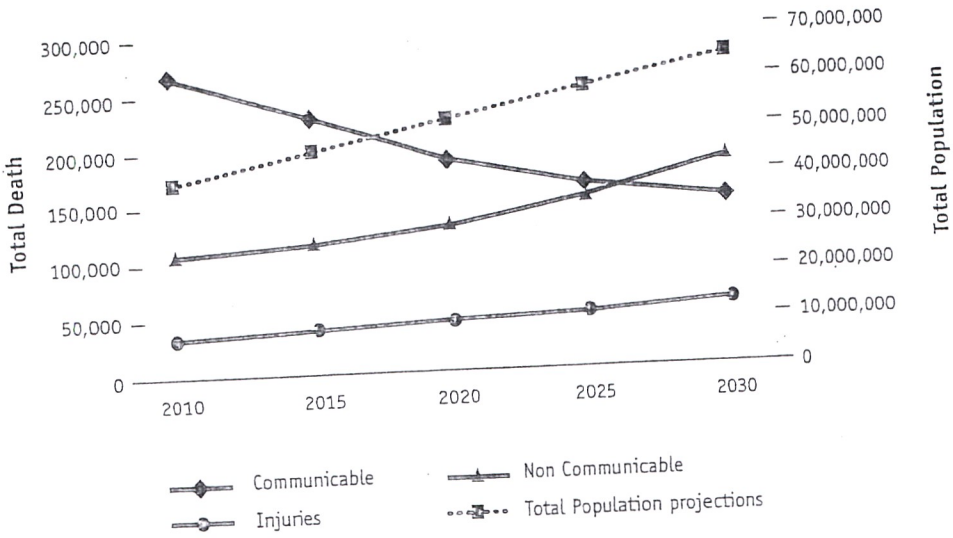
TABLE 1: **TOP 10 LEADING CAUSES OF DEATH AND DISABILITY IN KENYA**

CAUSES OF DEATH		
Rank	**Disease or injury**	**% total**
1	HIV and AIDS	29.3
2	Perinatal conditions	9.0
3	Lower respiratory infections	8.1
4	Tuberculosis	6.3
5	Diarrhoeal diseases	6.0
6	Malaria	5.8
7	Cerebrovascular disease	3.3
8	Ischaemic heart disease	2.8
9	Road traffic accidents	1.9
10	Violence	1.6

CAUSES OF DISABILITY		
Rank	**Disease or injury**	**% total**
1	HIV and AIDS	24.2
2	Perinatal conditions	10.7
3	Malaria	7.2
4	Lower respiratory infections	7.1
5	Diarrhoeal diseases	6.0
6	Tuberculosis	4.8
7	Road traffic accidents	2.0
8	Congenital anomalies	1.7
9	Violence	1.6
10	Unipolar depressive disorders	1.5

Source: Kenya Health Strategic Plan, 2013-2017

FIGURE 1: PROJECTIONS OF DISEASE BURDEN (2011 – 2030)



Source: Kenya Health Strategic Plan, 2013-2017

The status of health of any nation is influenced by health determinants and other contextual factors. Whereas the health determinants such as implementation of effective programmes, density of health facilities, equipment, referral system and availability of quality health workforce are critical, the following factors significantly impact the health situation in Kenya:

- High population growth rate
- High poverty levels
- Literacy inequalities in several poor regions of the country
- Significant gender disparities

> *Current trends suggest that non-communicable conditions will continue to increase over time, if not checked*

2.2 OVERVIEW OF HIV EPIDEMIC IN KENYA - 2013

1.6 million
Kenyans are living with HIV

93.7%
of all new HIV infections are sexually transmitted

30%
of all new HIV infections among adults occur among young women aged 15-24 years

57,000
Annual AIDS related deaths

610,000 people on Antiretroviral Therapy (550,000 adults and 56,000 children)

only **38%** of children living with HIV are on treatment

61% of HIV positive women received ART to prevent HIV transmission to newborn children in 2012

KEY DRIVERS OF HIV EPIDEMIC IN KENYA
- Sexual transmission
- Low and inconsistent condom use
- Multiple concurrent partnerships

51% of all new HIV infections in Kenya occur in 8 counties (Nairobi, Homabay, Kisumu, Siaya, Mombasa, Kisii, Migori and Turkana)

Source: UNAIDS Global Report: HIV Estimates and Projections 2013

HIV PREVALENCE AND INCIDENCE PER COUNTY

	County	Enumerated Living Population 2009	Prevalence	Incidence	New infections	New infections
1	Homa Bay	963,794	27.1	0.99%	9,500	1,198
2	Siaya	842,304	17.8	0.75%	6,300	801
3	Kisumu	968,909	18.7	0.73%	7,100	903
4	Mombasa	939,370	11.1	0.52%	4,930	627
5	Migori	917,170	13.4	0.47%	4,350	548
6	Nairobi	3,138,369	8.6	0.43%	13,510	1,715
7	Turkana	855,399	9.9	0.39%	3,320	417
8	Kisii	1,263,559	8.9	0.36%	4,580	583
TOTAL		9,888,874			53,590	6,792
9	Taita Taveta	284,657	6.4	0.28%	800	102
10	Trans Nzoia	818,757	7.2	0.28%	2,280	283
11	Busia	743,946	7.1	0.26%	1,940	245
12	Nakuru	1,603,325	5.6	0.24%	3,770	471
13	Kwale	649,931	6.2	0.23%	1,490	191
14	Vihiga	554,622	5.7	0.23%	1,260	156
15	Muranga	969,151	5.2	0.22%	2,180	280
16	Makueni	884,527	5.6	0.22%	1,950	245
17	Tharaka	365,330	5.1	0.22%	800	99
18	Nyamira	486,975	6.9	0.21%	1,040	136
19	Kakamega	1,660,651	5.6	0.21%	3,440	441
20	Uasin Gishu	894,179	4.9	0.20%	1,830	233
21	Samburu	223,947	5.1	0.20%	450	51
22	Kajiado	687,312	5	0.20%	1,380	181
23	Kiambu	1,596,712	4.4	0.20%	3,200	398
24	Nyeri	693,558	4.4	0.20%	1,380	176
25	Machakos	1,098,584	4.7	0.20%	2,180	276
26	Kirinyaga	528,054	4	0.19%	1,020	123
27	Nandi	752,965	4.8	0.18%	1,380	180
28	Kitui	1,012,709	4.8	0.18%	1,830	228
29	Narok	850,920	4.9	0.18%	1,490	188
30	Kericho	590,690	4.4	0.17%	1,030	134
31	Laikipia	399,227	4.1	0.17%	690	86
32	Baringo	555,561	4.2	0.16%	910	109
33	Isiolo	143,294	3.8	0.16%	230	27
34	Embu	516,212	3.7	0.15%	800	105
35	Nyandarua	596,268	3.9	0.15%	920	116
36	Elgeyo Marakwet	369,998	3.8	0.15%	570	68
37	Kilifi	1,109,735	3.7	0.14%	1,600	196
38	Meru	1,356,301	3.3	0.14%	1,940	239
39	Bomet	891,835	3.5	0.14%	1,250	153
40	Bungoma	1,375,063	3.5	0.13%	1,720	221
41	Garissa	623,060	2.6	0.11%	680	83
TOTAL		25,888,056			49,430	6,220
42	West Pokot	512,690	2.4	0.09%	450	53
43	Tana River	240,075	2	0.05%	120	21
44	Mandera	1,025,756	1.3	0.04%	460	62
45	Marsabit	291,166	1	0.04%	110	14
46	Lamu	101,539	1.3	0.01%	10	7
47	Wajir	661,941	0.2	0.00%	10	6
TOTAL		2,833,167			1160	163
GRAND TOTAL		38,610,097			104,180	13,175

Ranking used HIV incidence (highest to lowest). Low HIV incidence indicates success of interventions
Source: NACC/NASCOP, 2013

Percentage of adults living with HIV by Gender

41% | 59%

Men Women

13,000
new HIV infections occur among children every year

85,000
new infections occur among adults each year

87,000
HIV positive women are pregnant annually

over 90% of the estimated
232,000
children (below 14 years) living with HIV got infected through mother to child transmission during pregnancy, labour and delivery, and breastfeeding

11,000
children living with HIV in Kenya die each year due to poor access to life saving Antiretroviral Therapy

80%
of pregnant women who attend ANC are tested for HIV

Source: *UNAIDS Global Report: HIV Estimates and Projections 2013*
Modes of Transmission 2009, GoK

The national HIV prevalence rate has declined significantly over the years, from a high of about 14% in the 1990s, stabilising at an estimated rate of 6.1% among adults. There is marked gender, age and geographical disparities.

The number of new HIV infections among adults however still remains unacceptably high. Sexual transmission remains the highest mode of transmission of HIV accounting for 93.7% of all new infections. Overall, there are marked gender disparities which characterise the HIV epidemic with higher prevalence amongst women at 6.9% compared to men at 4.4%.

Significant age variations exist, girls aged 15-19 are nearly four times more likely to be infected with HIV than boys of the same age (2.7% to 0.7%). There is notable and marked increase in HIV prevalence among young girls and women ages 15-24 rising from 2.1% to about 10.5% among those aged 25 to 35. Schools and other institutions of learning present opportunities for HIV prevention for this sub-population.

›

Estimated 25,500
young women aged 15-24 are infected with HIV every year

> 36 *babies are newly infected with HIV everyday*

Elimination of HIV among children

In 2011, Kenya was among countries that endorsed *the Global Plan towards the Elimination of new HIV infections among children by 2015 and keeping their Mothers Alive*. The Global Plan has set a goal of reducing new infections among children by 90% from 2009 baseline levels and reducing HIV related maternal mortality by 50%. Subsequently, Kenya developed a framework which provides guidance on how the country will attain its targets of reducing new HIV infections among children to less than 2,300 infections per year by 2015 from a baseline of 23,000 infections per year in 2009.

Kenya has made major strides in scaling up services for prevention of mother to child transmission leading to a 44% drop in new HIV infections among children between 2009 and 2012. Unfortunately, the progress is relatively slow for Kenya to meet the target of less than 2,300 new HIV infections among children by 2015.

Major gaps exist, notably low coverage of ARVs during pregnancy (at 61% in 2012) and breastfeeding and a huge unmet need for family planning among women living with HIV.

These gaps are attributable to a number of factors including weak health systems, HIV related stigma, access to health services, low utilisation of antenatal care and deliveries under the care of a health worker.

Three critical high level commitments to eliminate HIV among children and keeping their mothers alive, in line with the global and national plans, are needed to achieve country targets and address current gaps and shortfalls. These include:

- Ensure universal access to optimal prevention and treatment that is grounded in the best interests of the mother and the child;
- Leverage synergies, linkages and integration into existing platforms for maternal, newborn, child health, antenatal care, and family planning for improved sustainability;
- Strengthen national and county ownership and accountability of results.

2.3 OVERVIEW OF MATERNAL HEALTH IN KENYA

Only **46%** of women of reproductive age use modern family planning methods

About **47%** pregnant women in Kenya receive the recommended four antenatal care visits

56% of women deliver unattended by a skilled health provider

Only **42%** of the women receive postpartum care during first two days following delivery

Kacheliba, Kenya ©David Gough/IRIN

About **5,500** women die annually due to pregnancy related complications

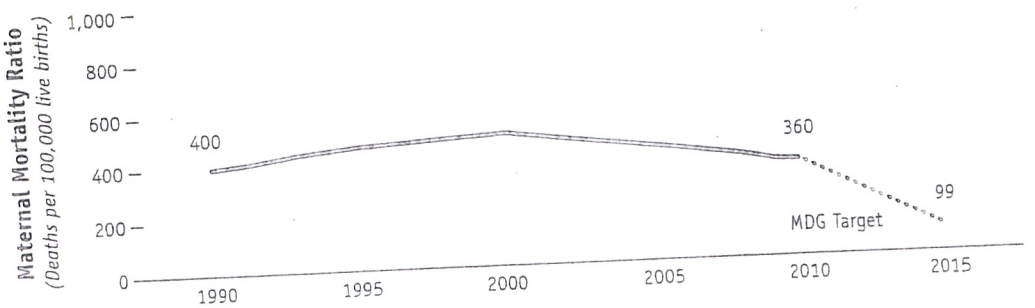
The lifetime risk of maternal deaths from pregnancy related causes in Kenya is **1** out of **55** compared to **1** out of **2,900** in developed countries

1 out of **5** maternal deaths is due to HIV-related complications

2.3.1 MATERNAL HEALTH

The health status of mothers, newborns and children are important indicators of the overall economic and health well-being of a country. In Kenya it is currently estimated that for every 100,000 live births about 360 women die due to pregnancy related complications. This translates to 5,500 deaths every year largely from preventable causes. Unfortunately, this situation has been the same for the last 20 years (Figure 2).

FIGURE 2: MATERNAL MORTALITY RATIO IN KENYA

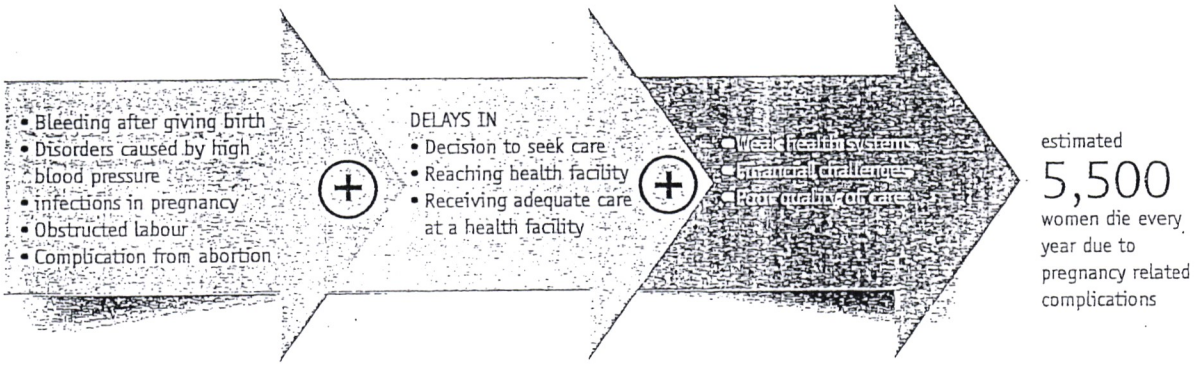


> Maternal Mortality Ratio MDG target by 2015: at most 100 deaths per 100,000 live births

Source: Countdown to 2015: Accountability for Maternal, Newborn and Child Survival, 2013 Update
Commission on Information and Accountability for Women and Children's Health

2.3.2 CAUSES OF MATERNAL AND NEWBORN DEATHS

The country has invested in evidence-based, cost-effective interventions for maternal and neonatal health. However implementation and coverage is still a challenge.



2.3.3 MATERNAL HEALTH AND CERVICAL CANCER

The World Health Organisation estimates that, every year, half of the 2,500 women diagnosed with cervical cancer in Kenya die from the disease. Unless efforts are made to prevent and control cervical cancer, this number is estimated to double by 2025. Cervical cancer is preventable through vaccination and treatable if identified at early stages. There is a strong relationship between HIV and cervical cancer.

Half of the 2,500 women diagnosed with cervical cancer in Kenya die from the disease

Women living with HIV are 4 to 5 times more likely to develop cervical cancer

2.4 OVERVIEW OF CHILD HEALTH IN KENYA

108,000 children die every year before their fifth birthday

estimated **72,000** infant deaths (children less than 1 year) annually

40,000 deaths occur during the fist 28 days of life (neonatal) annually

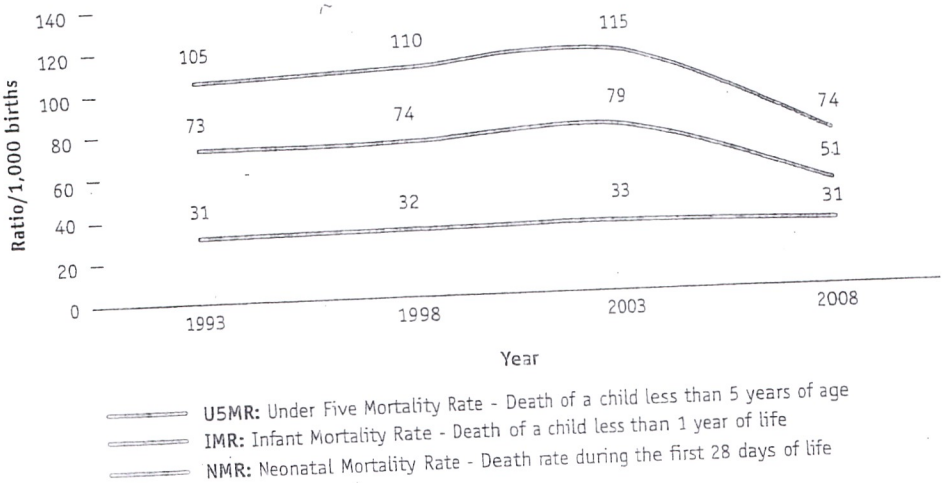
15% of deaths for children under the age of five are as a result of HIV related complications

50% of all child deaths are linked to malnutrition

The number of children dying within the first month of birth has not changed significantly over the last **20 years**

Out of the 108,000 deaths of children (below 5 years) in 2012, 65% of them died before their first birthday

FIGURE 3: **TRENDS IN CHILD MORTALITY INDICATORS**



Reduction of child mortality is attributed to better vaccination coverage, increased use of treated mosquito nets and pediatric ARVs

Sources: UNICEF Levels and trends of child mortality 2013, Kenya Demographic health Surveys 2003; 2008-09, Commiting to Child Survival: A promise Renewed Progress report 2013, Count down to 2015 Maternal, Newborn and Child Survival; Joint United Nations Programme on HIV/ AIDS Countdown to Zero 'Global Plan 2011'

2.4.1 FACTORS CONTRIBUTING TO THE POOR CHILD HEALTH STATUS

Inadequate Health Care	Poor Environmental and Living Conditions	Disease and Early Childhood Complications
• Poor access to health services • Long distances to a health facility • Inadequacies in the health care system (e.g. a lack of essential drugs and supplies, and personnel	• Hygienic practices at household level • Malnutrition • Poverty	• Complications at/around child birth • Low birth weight putting them at risk of poor health outcomes • Infections including sepsis, meningitis, HIV, Malaria

To promote child survival, the country should ensure high overage of high impact, cost effective child health interventions

- Adequate antenatal and postnatal care,
- Delivery under the care of a health worker
- Vaccines
- Oral rehydration therapy
- Sleeping under insecticide-treated mosquito nets
- Vitamin A supplementation
- Breastfeeding
- Access to pediatric ARVs

H.E. The First Lady Margaret Kenyatta cuts a tape to commission a new health care centre at Kenyatta National Hospital, Nairobi.

3.0 The Strategy

In Kenya, thousands of women and babies die unecessarily during pregnancy, child birth, and the first month after child birth. Most of these deaths could be prevented using proven affordable interventions that are available

3.1 SUMMARY OF RESULT AREAS

1. **Implement policies and strategies for access to HIV care and treatment** and reduce new HIV infections among children, adolescents and young women.

2. **Accelerate reduction of maternal and newborn deaths** by promoting quality and accessible Maternal, Neonatal and Child Health services

3. **Scale up implementation** of high impact interventions to promote child survival and development

4. **Promote leadership and accountability** at the family, community, county and national levels for full implementation of HIV, maternal and child health commitments

3.2 RESULT AREAS

KEY RESULT 1

Implementation of policies and strategies to reduce new HIV infections among children, adolescents and young women and provide access to treatment for those living with HIV

1 Advocate for support and interventions aimed at keeping girls in school

2 Champion for the end of Gender based violence and HIV related stigma

3 Promote economic empowerment of women and social protection of vulnerable children and women

4 Advocate for engagement of men as clients, partners and agents of change in promoting uptake of HIV services at family and community level

5 Promote demand for HIV testing, care and treatment for pregnant women, their partners and children

6 Promote uptake of HIV prevention interventions, sexual and reproductive health among adolescents and young people

Mr Steven Amenya, a Community Health Worker in Kibera, with his daughter, poses for a picture with UNAIDS Executive Director Michel Sidibé. Mr Amenya encourages men to accompany their partners to maternal and child health clinics.

KEY RESULT 2

Accelerating reduction of maternal and newborn deaths by promoting quality and accessible maternal, newborn and child health services

1 Promote attendance to health facilities during pregnancy, delivery and after delivery

2 Promote integration and uptake of family planning and sexual and reproductive health services

3 Call to action for men to actively engage in promotion of maternal and newborn health to increase uptake and utilisation of services

4 Mobilise communities to address barriers to accessing maternal and child health services including cultural, religious beliefs, gender roles to create demand for services

5 Advocate and encourage early screening for cervical cancer and rollout of other prevention programmes including vaccination

A young boy is given vaccination at health centre in clinic in Gongoni, Malindi, Kenya, July 2007. The centre was built by the community to serve the locals. © *Allan Gichigi/IRIN*

KEY RESULT 3

Scale up implementation of high impact interventions to promote child survival and development

1. Advocate and champion exclusive breastfeeding of infants
2. Promote full immunisation of children against vaccine preventable diseases
3. Champion the roll back malaria campaigns including promotion of use of insecticide treated nets and access to treatment
4. Promote sanitation and hygiene in schools, communities and homes
5. Advocate and support child protection and development initiatives such as prevention of child labour, sexual abuse of children, support to orphans and vulnerable children and girl child education

H.E. The First Lady Margaret Kenyatta participating in the launch of National Polio Campaign, 2013.

KEY RESULT 4

Promote leadership and accountability at the family, community, county and national levels for full implementation of HIV, maternal and child health commitments

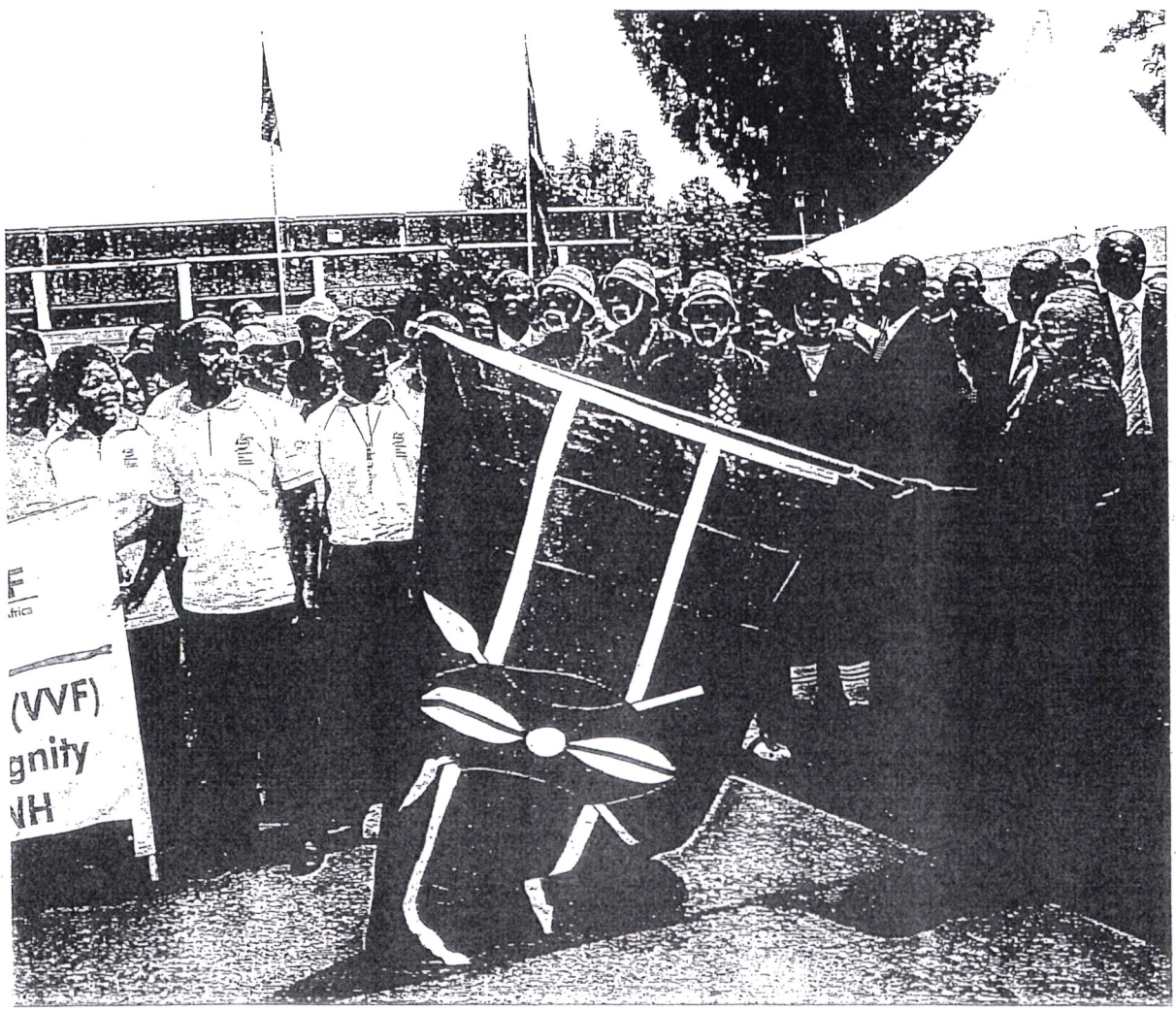
1 Advocate for allocation of adequate and sustained domestic and external resources to address HIV, maternal and child health

2 Facilitate the building of accountability and coordination mechanisms for HIV, maternal and child health targets and commitments at the county and national levels

3 Promote innovative partnerships with local, regional and international partners to mobilize resources and support national health priorities

4 Champion and advocate for recognition of efforts by individuals, groups and institutions in addressing HIV, maternal and new born health targets

5 Mobilise communities to demand for results from their leaders on their commitments to HIV, maternal and child health



H.E. The First Lady Margaret Kenyatta flags off a public awareness campaign to promote maternal health, 2013.

4.0 Coordination, Tracking and Monitoring Progress

The efforts of the First Lady will contribute to attainment of targets on HIV, Maternal and child Health outlined in national and international commitments

In order to effectively implement the priority actions outlined in this framework, the First Lady will be supported by the following two structures: Technical Advisory Team and a National Steering Committee.

4.1 TECHNICAL ADVISORY TEAM (TAT)

A Technical Advisory Team under the leadership of the Ministry of Health and comprising key strategic partners will be formed to support the office of the first lady to implement this framework.

The team will be, among other issues, expected to:

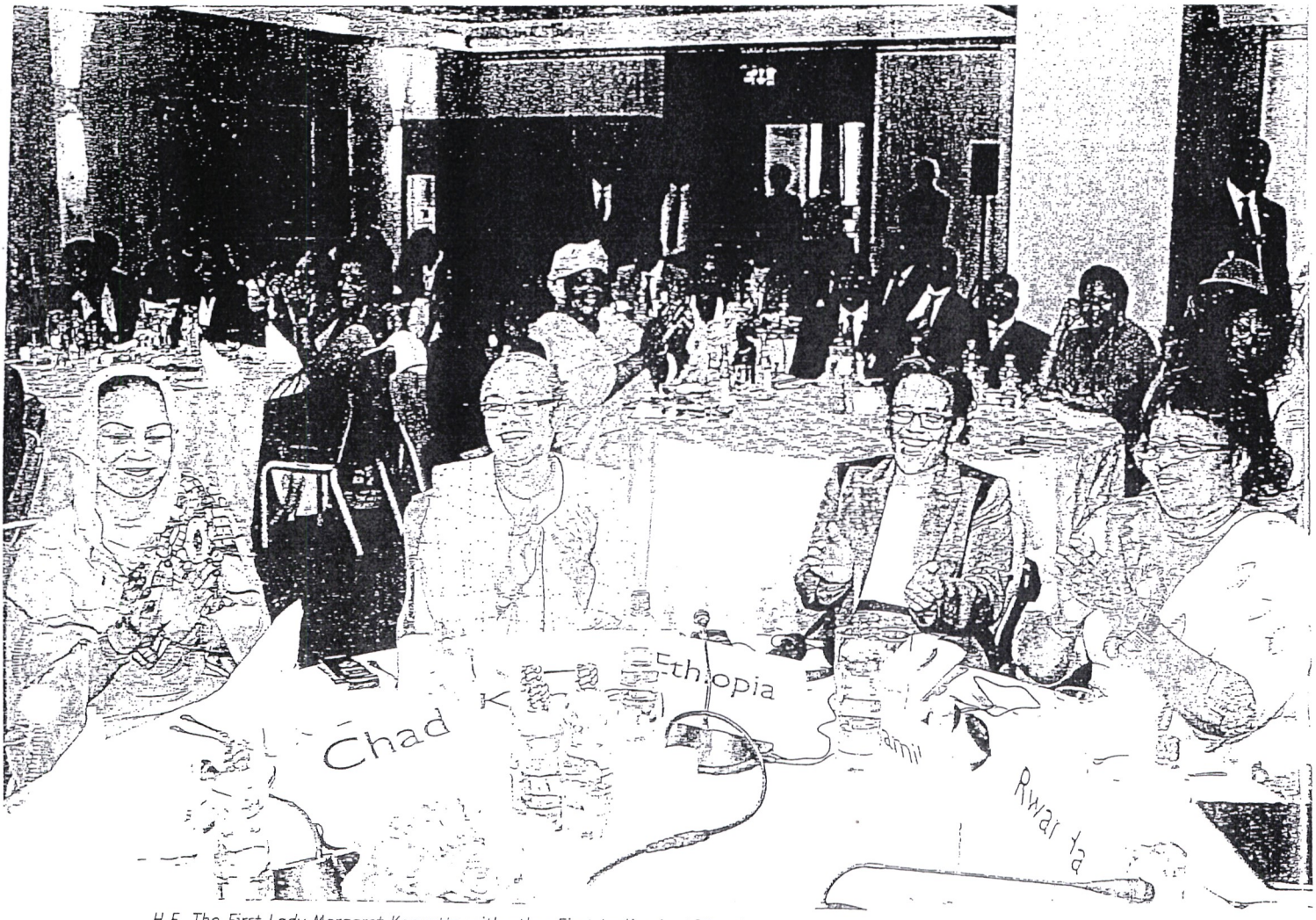
1. Identify priority issues that the First Lady should champion every year;
2. Identify appropriate platforms to be used by the First Lady to advance and advocate for maternal and child health, and prevention of new HIV infections among children;
3. Support the Office of the First Lady in planning for events related to the implementation of the framework;
4. Mobilize partners to support the implementation of this framework;
5. Support the development of annual operation plans for the framework;
6. Support in monitoring implementation, documentation of events and writing annual reports;
7. Mobilization of resources necessary to support implementation of this framework

Proposed membership for the Technical Advisory Team will be representatives from the following organizations:

- Ministry of Health
- Multilateral and Bilateral partners
- Civil society organizations
- Private sector
- Religious organizations

4.2 NATIONAL STEERING COMMITTEE

The First Lady will be the lead champion for the campaign towards the elimination of HIV among children by 2015 and Keeping Mothers Alive. She will be supported by a national steering committee (NSC) under the leadership of the Cabinet Secretary in charge of Health and membership drawn from different sectors. The members include women members of parliament, personnel in relevant ministries, civil society, development partners, women living with HIV, Media personalities; Faith based communities, private sector, Women Rights Organizations and association of medical practitioners (List on annex 1).



H.E. The First Lady Margaret Kenyatta with other First Ladies in Africa during a regional meeting organised by OAFLA to champion HIV prevention, maternal and child health.

The National Steering Committee team will be expected to:

1. Sustain leadership advocacy and momentum at national and county levels to achieve the campaign targets.

2. Galvanize efforts of county and national level champions of the campaign

3. To strengthen national ownership, coordination and harmonization among partners and stakeholders engaged in HIV, maternal, newborn and child health programmes.

4. Provide strategic leadership to unblock policy, financial and programme bottlenecks that impede progress on prevention of mother to child transmission of HIV.

5. Advocate for financial and political support for accelerated programme scale up and improved quality of services to deliver results.

6. Monitor the progress of targets in line with national commitments

7. Provide linkage with the Global steering group towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive

4.3 PLATFORMS FOR ADVOCACY

The Office of the First Lady will identify, create and utilize important public platforms to advocate for the priorities in this framework. Potential strategies to be employed include social mobilization during commemoration of key national and global days, national events, hosting of high level meetings with different constituencies and influential individuals to catalyse change and the use of mass media to ensure messages and information are disseminated widely (Annex 2 key platforms).

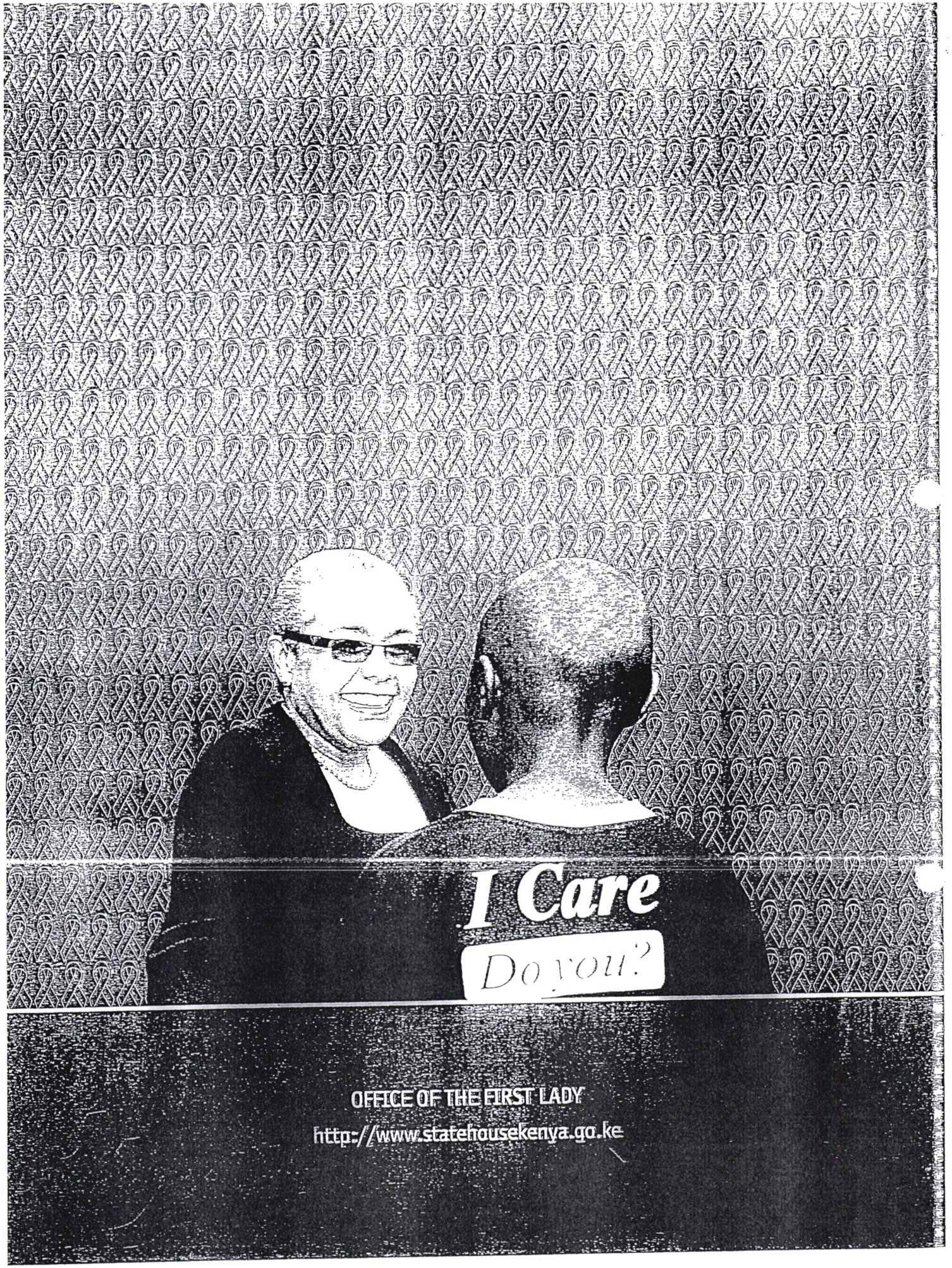
Annexes

ANNEX 1: MEMBERSHIP FOR THE NATIONAL STEERING COMMITTEE

INSTITUTION
Office of the First Lady
Department of health
UN Joint Team on AIDS
US Government
Director of Medical Services
National AIDS STI Control Program (NASCOP)
National AIDS Control Council
Women Rights Movement
Private Sector
Network of People Living with HIV
Kenya Paediatric Association
Kenya Obstetrical and Gynecological society of Kenya
Civil Society Organization
Media Personality
Faith Based Organization
National Assembly (Parliament and Senate)
Council of Governors

ANNEX 2: IMPLEMENTATION MATRIX

KEY RESULTS	ILLUSTRATIVE ACTIVITIES
KEY RESULT 1: Implementation of policies and strategies to reduce new HIV infections among children, adolescents and young women and provide access to treatment for those living with HIV	
STRATEGIES • Advocate for support and interventions aimed at keeping girls in school. • Champion for end of gender based violence and HIV related stigma • Promote economic empowerment of women and social protection of vulnerable children through partnerships • Advocate for engagement of men as clients, partners and agents of change in promoting uptake of HIV services at family and community level • Promote demand for HIV testing, care and treatment for pregnant women, their partners and children • Promote uptake of HIV prevention interventions, sexual and reproductive health among adolescents and young people	• Undertake a branded media campaign • Promote fundraising activities through spouses of county governors • Field visits to facilities offering services to HIV positive women and children • Undertake an annual ICT based HIV prevention campaign • Host representatives of people living with HIV and AIDS to address stigma • Write opinion articles in the media on topical issues around HIV • Support implementation of HIV and AIDS education policy
KEY RESULT 2: Accelerating reduction of maternal and newborn deaths by promoting quality and accessible MNCH services	
STRATEGIES • Promote attendance to health facilities during pregnancy, delivery and after delivery • Promote integration and uptake of family planning and sexual and reproductive health services • Call to action for men to actively engage in promotion of maternal and newborn health to increase uptake and utilisation of services • Mobilise communities to address barriers to accessing maternal and child health services including cultural, religious beliefs, gender roles to create demand for services • Advocate and encourage early screening for cervical cancer and rollout other prevention programmes including vaccination	• Convene meetings of multi-sectoral steering committee to monitor eMTCT progress • Host the Annual award to motivate counties demonstrating success in eMTCT • Undertake visits to county health facilities • Host key implementors and funders of maternal health programmes • Write opinion pieces and commentaries during key global and national events e.g Mothers Day, fathers day, the day of the African Child • Host caucus of organizations and individuals involved in promotion of maternal health • Participate in major health events for promotion of maternal and child health • Participate in events recognising champions of maternal and child health
KEY RESULT 3: Scale up Implementation of high impact interventions to promote child survival and development	
STRATEGIES • Advocate and champion exclusive breastfeeding of infants • Promote full immunisation of infants and young children against vaccine preventable diseases • Champion the roll back malaria campaigns including promotion of use of ITNs and access to treatment • Promote sanitation and hygiene in schools, communities and homes • Advocate and support child protection and development initiatives	• Annual branded campaigns • Host policy makers at national and county levels to promote maternal and child health • Write opinion pieces and commentaries on topical issues affecting maternal and child health • Make field and community visits to promote maternal and child health services • Partipate in launches of events and campaigns to promote maternal and child health • Lobby development partners to support maternal and child health initiatives
KEY RESULT AREA 4: Promote accountability at the family, community, county and national levels for full implementation of HIV, maternal and child health commitments	
STRATEGIES • Advocate for allocation of adequate and sustained domestic and external resources to address HIV, maternal and child health • Facilitate the building of accountability and coordination mechanisms for HIV, maternal and child health targets and commitments at the county and national levels • Promote innovative partnerships with local, regional and international partners to mobilise resources and support national health priorities • Champion and advocate for recognition of efforts by individuals, groups and institutions in addressing HIV, maternal and new born health targets • Mobilise communities to demand for results from their leaders on their commitments to HIV, maternal and child health	• Host annual leadership accountability meetings to recognise and award champions • Host biannual meetings of the National Steering Committee for the elimination of HIV among children • Undertake annual branded campaigns • Participate in Annual OAFLA meetings • Establish a network of First Ladies to promote maternal and child health and HIV control • Lobby leadership at national and county level to promote maternal and child health, HIV control



mai ha!
National Aids Control Council

PEPFAR

UNITED NATIONS

LEADERSHIP AND INTEGRITY ACT, 2012 /KIFUNGU CHA SHERIA CHA UONGOZI NA UADILIFU, 2012

FIRST SCHEDULE (S.13) / *TARATIBU YA KWANZA (S.13)*

SELF-DECLARATION FORM / FOMU YA KUJITANGAZA

1. GENERAL INFORMATION / *TAARIFA YA JUMLA*

Title / *Cheo*	Surname / *Jina la ukoo*	First Name / *Jina la Kwanza*	Middle Name / *Jina la Katikati*	Other Names / *Majina Mengine*
Mr/Mrs/Prof/ Miss/Ms/Dr *Bw/Bi/Prof/ Binti/Bibi/Dkt*	MURAGURI	MOSES	MWANGI	—

ID CARD No. *Na. ya Kitambulisho*	PASSPORT NO. *NA. ya PASIPOTI*	EXPIRY DATE OF PASSPORT *TAREHE YA MUDA WA PASIPOTI KUISHA*	PIN NO. *NA. ya PIN*
10895429	C009515	28.3.2020	A003260217W

SEX (Tick) / *JINSIA (Weka Alama)*

Male / *Kiume* ☑

Female / *Kike* ☐

Occupation: / *Kazi:* MEDICAL DOCTOR

E-Mail Address: / *Anwani ya Baruapepe:* dmuregs@gmail.com.

Postal Address: PO Box 62910 Code: 00200. / *Anwani ya Posta: SL Posta:* *Msimbo:*

Other Addresses: / *Anwani Nyingine:*

Telephone No. *Na. ya Simu*	Mobile No. *Na. ya Rununu*	Other Numbers *Nambari Nyingine*
0720503947	0720503947	NONE.

RESIDENCE / *MAKAZI*

ESTATE/TOWN/LOCATION *MTAA/MJI/LOKESHENI*	RUAI
DISTRICT *WILAYA*	EMBAKASI
COUNTY *KAUNTI*	EMBAKASI
TOWN/CITY *MJI/JIJI*	NAIROBI
COUNTRY *NCHI*	KENYA

2. BIRTH INFORMATION / *TAARIFA YA KUZALIWA*

DATE OF BIRTH /*TAREHE YA KUZALIWA* 15-[illegible] 1971

ETHICS & ANTI-CORRUPTION COMMISSION * P.O. BOX 61130-00200 NAIROBI * RECEIVED 07 [illegible] 2015

BIRTH CERTIFICATE NO. / *NA. YA CHETI CHA KUZALIWA*	
PLACE OF BIRTH / *MAHALI PA KUZALIWA*	NAROBI
DISTRICT OF BIRTH / *WILAYA YA KUZALIWA*	NAROBI
COUNTY OF BIRTH / *KAUNTI YA KUZALIWA*	NAROBI
COUNTRY OF BIRTH / *NCHI YA KUZALIWA*	KENYA

3. NATIONALITY /*UTAIFA*

Kenyan *Mkenya* ☑	Dual *Kotekote* ☐ (Provide details_____) (*Toa maelezo*_____)

4. MARITAL STATUS / *HALI YA NDOA*

SINGLE *NINGALI SIJAOA/ SIJAOLEWA* ☐ MARRIED *NIMEOA/NIMEOLEWA* ☑ SEPARATED *NIMETENGANA* ☐

DIVORCED *NIMETALAKIANA* ☐ WIDOWED *NIMEFIWA* ☐

IF MARRIED GIVE NAMES OF THE SPOUSE(S) (Surname, First Name, middle name, others)
KAMA UMEOA TOA MAJINA YA MUME/MKE(Wa) WAKO (Jina la ukoo, Jina la Kwanza, jina la kati, mengine)

OKEMURI JANE

NATIONALITY OF SPOUSE *UTAIFA WA MKE/MUME*	KENYA

NAME OF CHILDREN UNDER THE AGE OF 18 YEARS
JINA LA WATOTO WALIO CHINI YA UMRI WA MIAKA 18

KEITH MWANGI
NATASHA MWITHONI
SAMANTHA BIYARI

5. EDUCATIONAL QUALIFICATIONS / *KUFUZU KWA KIELIMU*

PRIMARY CERTIFICATE *CHETI CHA MSINGI* ☑ SECONDARY *SHULE YA UPILI* ☑ 'A' LEVEL *KIWANGO CHA 'A'* ☐

DIPLOMA *STASHAHADA* ☐ DEGREE *SHAHADA* ☑ MASTERS *UZAMILI* ☑ PHD *UZAMIFU* ☐

OTHERS
VINGINE

ETHICS AND ANTI-CORRUPTION COMMISSION
07 ... 2015
REGISTERED
P.O. BOX ... NAIROBI

HIGHEST ACADEMIC QUALIFICATION OBTAINED *KUFUZU KWA JUU ZAIDI KWA KIAKADEMIA ULIKOPATA*		
Qualification / *Kufuzu*	Institution / *Taasisi*	Year /*Mwaka*
MBA	USIU	2010

6. LANGUAGE SPOKEN / *LUGHA UNAZOZUNGUMZA*

First Language *Lugha ya Kwanza*	Second Language *Lugha ya Pili*	Others *Nyingine*
KIKUYU	SWAHILI	ENGLISH

7. MEMBERSHIP OF PROFESSIONAL ORGANISATION(s) (If any)
UANACHAMA WA SHIRIKA(MA) YA KITAALAMU (Kama yapo)

Name of Organization *Jina la Shirika*	Date of Admission *Tarehe ya Kuandikishwa*	Membership No. *Na. ya Uanachama*
KENYA MEDICAL ASSOC	1999	

8. REASON(S) FOR DECLARATION / *SABABU ZA KUJITANGAZA*

Purpose for which declaration is required / *Kusudio la kuhitajika kwa kujitangaza huku*

Election ☐ *Upigaji kura*

Employment ☑ *Kuajiriwa*

Others (Specify) _____
Nyingine (Bainisha)

State office for which the declaration is being submitted *Ofisi ya serikali ambayo kujitangaza huku kunawasilishwa*	PUBLIC SERVICE COMMISSION.

9. MORAL AND ETHICAL QUESTIONS / *MASWALI YA NIDHAMU NA KIMAADILI*

Answers to the following questions are mandatory. If YES to any question you must provide additional information on a supplementary sheet.
Majibu kwa maswali yafuatayo ni lazima. Kama NDIYO katika swali lolote lazima utoe taarifa ya ziada kwenye karatasi nyingine.

	YES	NO
a) Have you ever engaged in any form of dishonesty in the conduct of public affairs *a) Umewahi kujihusisha na hali yoyote ya kutokuwa mwaminifu katika kazi zako na shughuli za umma*		✓
b) Have you ever abused a public office? *b) Umewahi kutumia vibaya ofisi ya umma?*		✓
c) Have you ever misrepresented information to the public? *c) Umewahi kuwakilisha kwa njia isiyofaataarifa kwa umma?*		✓
d) Have you ever engaged in wrongful conduct whilst in the furtherance of personal benefit?		✓

ANTI-CORRUPTION COMMISSION OF KENYA
07 [illegible] 2015
RECEIVED
P.O. BOX [illegible]

d) Umewahi kujihusisha katika tabia mbaya huku ukitaka kujinufaisha kibinafsi?		
e) Have you ever misused public resources? *e) Umewahi kutumia vibaya rasilimali za umma?*		✓
f) Have you ever discriminated against anyone of any grounds other than as provided for under the Constitution or any other law? *f) Umewahi kubagua yeyote kwa misingi yoyote mbali na vile ilivyoelezwa katika Katiba au sheria yoyote nyingine?*		✓
g) Have you ever falsified official or personal records? *g) Je, umewahi kudanganya katika rekodi rasmi au za kibinafsi?*		✓
h) Have you ever been debarred or removed from the Register of Members of your professional organization? *h) Umewahi kupigwa teke au kuondolewa kutoka kwenye Rejista ya Wanachama wa shirika lako la kitaalamu?*		✓
i) Have you ever had any occupational or vocational license revoked and/or otherwise subjected to any other disciplinary action for cause in Kenya or any other country *i)Umewahi kujipata katika hali ya leseni yako ya kikazi au ya kiufundi kutupiliwa mbali na/au vinginevyo kuchukuliwa hatua nyingine ya kinidhamu katika nchi ya Kenya au nchi yoyote nyingine*		✓
j) Have you ever dismissed from employment on account of lack of integrity? *j) Umewahi kufutwa kazi katika ajira kutokana na ukosefu wa uadilifu?*		✓
k) If you have been a public officer, have you ever failed to declare your Income, Assets and Liabilities as required under the Public Officer Ethics Act, 2003? *k) Kama umewahi kuwa ofisa wa umma, umewahi kushindwa kutangaza Mapato yako, Mali na Gharama kama unavyohitajika katika Kifungu cha sheria cha Maadili ya Ofisa wa Umma, 2003?*		✓
l) Have you ever been the subject of disciplinary or criminal proceedings for breach of the Public Officer Ethics Act, 2003 or a Code prescribed thereunder? *l) Umewahi kuwa mada katika taratibu za kinidhamu au kihalifu kwa kuvunja kifungu cha sheria cha Maadili ya Ofisa wa Umma 2003, au Msimbo ulioainishwa hapo chini?*		✓
m) Have you ever been convicted of any offence and sentenced to serve imprisonment for a period of at least six months? *m) Umewahi kushtakiwa kwa kosa lolote na kuhukumiwa kifungo gerezani kwa kipindi kipatacho miezi sita?*		✓
n) Have you ever had an application for a Certificate of Clearance or a Certificate of Good Conduct or for a visa or other document authorizing work in a public office denied and/or rejected for cause in Kenya or any other country?		✓

ANTI-CORRUPTION COMMISSION
RECEIVED
P.O. BOX

n) Umewahi kutuma ombi la Cheti cha kuondolewa Hatia au Cheti cha Kinidhamu au cha visa au nyaraka nyingine zinazoidhinisha kazi katika ofisi ya umma na hivyo basi wewe kunyimwa na/ au kukataliwa kwa sababu yoyote nchini Kenya au nchi yoyote nyingine?		

10. EMPLOYMENT INFORMATION / *TAARIFA YA KUAJIRIWA*

NAME OF EMPLOYER *JINA LA MWAJIRI*	POSITION/RANK *CHEO/WADHIFA*	DATE OF FIRST APPOINTMENT *TAREHE YA KUAJIRIWA KWA KWANZA*	DATE OF PRESENT APPOINTMENT *TAREHE YA KUAJIRIWA KWA SASA*
PUBLIC SERVICE COMMISSION.	DMS	1/7/2014	1/07/2014
GLOBAL STEERING GROUP	CEO	1/4/2012	30.6.2014.
PUBLIC SERVICE COMMISSION.	MO	6/6/1999	31.8.2012

WORKSTATION *KITUO CHA KAZI*	**NATURE OF EMPLOYMENT** (Constitutional/Elective/Permanent/Contractual/Other) ***AINA YA KUAJIRIWA*** *(Kikatiba/Kuteuliwa/Kudumu/Kikandarasi/Nyingine)*
NAIROBI	CONTRACTUAL.

OATH AND AFFIRMATION / *KIAPO NA UTHIBITISHWAJI*

I solemnly swear (or affirm) and certify, under penalty of false declaration under the Oaths and Statutory Declarations Act (Cap 15 of the Laws of Kenya), that all the foregoing statements in this declaration are true and correct to the best of my knowledge.

Ninaapa ya kwamba (ninathibitisha) na kuidhinisha, katika adhabu ya kujitangaza kwa uongo chini ya kifungu cha sheria cha Viapo na Kujitangaza Kisheria(Ibara 15 ya Sheria za Kenya), kwamba kauli zote zilizotajwa katika kujitangaza huku ni za kweli na sahihi kwa kadri ninavyojua.

Dated at / *Mnamo tarehe* ....7TH...., this / *kwenye*....DEC....

day of / *siku hii ya* ....2015....

SIGNATURE OF DECLARANT: ....Lusaga....
SAINI YA ANAYEJITANGAZA:

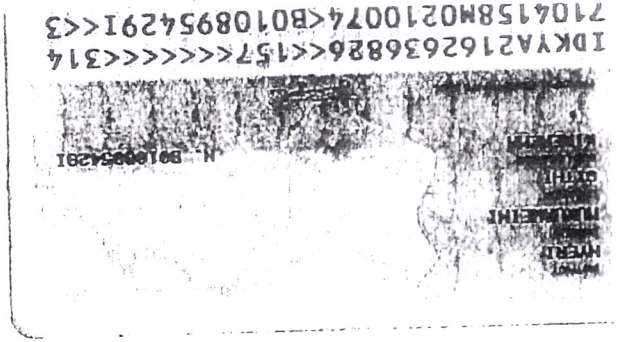
SWORN/DECLARED BEFORE ME / *ALIYELISHWA KIAPO/TANGAZWA MBELE YANGU*

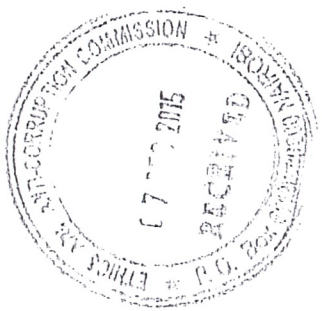
This / *Mnamo* ....7TH.... day of / *siku hii ya* ....DEC...., 20 ....15....,

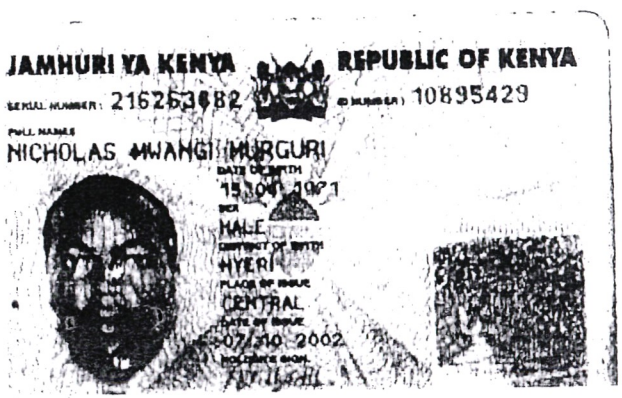
at / *katika mahali hapa*....NAIROBI....

COMMISSIONER FOR OATH/MAGISTRATE
KAMISHNA WA KIAPO/ HAKIMU

ETHICS AND ANTI-CORRUPTION COMMISSION
RECEIVED
2015


IDKYA2162636826<<157<<<<<<<314
7104158M0210074<B01089542 91<<3


ANTI-CORRUPTION COMMISSION
ETHICS AND
2015
RECEIVED


JAMHURI YA KENYA
REPUBLIC OF KENYA
SERIAL NUMBER: 216253682
ID NUMBER: 10895429
FULL NAMES
NICHOLAS MWANGI MURGURI
DATE OF BIRTH
15.04.1971
SEX
MALE
DISTRICT OF BIRTH
NYERI
PLACE OF ISSUE
CENTRAL
DATE OF ISSUE
07.10.2002
HOLDER'S SIGN.

APPENDIX 6

PUBLIC NOTICATION

REPUBLIC OF KENYA

NATIONAL ASSEMBLY

ELEVENTH PARLIAMENT - THIRD SESSION

In the Matter of the Approval by the National Assembly of persons nominated for appointment as Principal Secretaries

SUBMISSION OF MEMORANDA

Pursuant to Article 155(3) of the Constitution, H.E. the President shall nominate and with the approval of the National Assembly, appoint Cabinet Secretaries. Pursuant to the said Article, H.E. the President has nominated the following twenty-four (24) persons for appointment as Principal Secretaries for their respective ministries as indicated below:-

No.	MINISTRY	NOMINEEE
1.	**Devolution & Planning**	
	PS – Planning & Statistics	Saitoti Torome
2	**Interior & Coordination of National Government**	
	PS - Correctional Services	Micah Powon
3	**Public Service Youth & Gender Affairs**	
	PS – Youth and Public Service	Lilian Omollo Zeinab
	PS - Gender Affairs	Zeinab W. Hussein
4.	**Defence**	Amb. Peter K. Kaberia
5.	**Education, Science & Technology**	
	PS - Vocational and Technical Training	Dr. Dinah Jerotich Mwinzi
6.	**Health**	Dr. Nicholas Muraguri
7.	**Transport & Infrastructure**	
	PS - Housing & Urban Development	Aidah Munano
	PS - Public Works	Dr. Paul Maringa Mwangi
	PS - Transport	Wilson Nyakera Irungu
	PS – Maritime Commerce	Nancy Karigithu
8.	**Environment, & Mineral Resources**	
	PS - Environment	Charles Sunkuli
	PS - Natural Resources	Dr. Margaret Mwakima
9.	**Information, Communication & Technology**	
	PS – ICT and Innovation	Eng. Victor Kyalo
	PS - Broadcasting & Telecommunications	Sammy Itemere
10.	**Sports, Culture and the Arts**	Joseph Okudo
11.	**Energy and Petroleum**	
	PS - Petroleum	Andrew Kamau Nganga
12.	**Agriculture, Livestock & Fisheries**	
	PS - Livestock	Dr. Andrew K. Tuimur
13.	**Industrialization & Enterprise Development**	Julius Korir
14.	**Tourism**	
	PS - Tourism	Fatuma Hersi
	PS - International Trade	Dr. Chris Kiptoo
15.	**Water & Irrigation**	Patrick Nduati Mwangi
16.	**Labour & East African Affairs**	
	PS - Social Security and Services	Susan Mochache
	PS - East African Community Integration	Betty Chemutai Maina

Following the receipt of the nominations from H.E the President, the respective Departmental Committees are mandated pursuant to Standing Order 216(5)(f) to vet, consider their suitability for appointment to their respective positions and submit their reports to the House for approval.

Pursuant to Section 6(9) of the Public Appointments (Parliamentary Approval) Act, 2011, the respective Departmental Committees now invites interested members of the public to submit any representations by written statement on oath **(affidavit)**, that they may have on the suitability or otherwise of the said nominees for appointment as Principal Secretaries for their respective ministries. The representations may be forwarded to the **Clerk of the National Assembly, P.O. Box 41842-00100, Nairobi;** hand-delivered to the **Office of the Clerk, Main Parliament Buildings, Nairobi**; or emailed to clerk@parliament.go.ke; to be received **on or before Wednesday 9th December, 2015 at 5.00 pm.**

JUSTIN BUNDI, CBS
CLERK OF THE NATIONAL ASSEMBLY

REPUBLIC OF KENYA

NATIONAL ASSEMBLY

ELEVENTH PARLIAMENT - THIRD SESSION

NOTIFICATION FOR VETTING OF PERSONS NOMINATED FOR APPOINTMENT AS PRINCIPAL SECRETARIES BY THE DEPARTMENTAL COMMITTEES

Pursuant to Article 155(3) of the Constitution and Section 6(9) of the Public Appointments (Parliamentary Approval) Act, 2011, the National Assembly invites the following persons nominated for appointment as Principal Secretaries for vetting by the respective Departmental Committees.

Pursuant to provisions of Article 118 of the Constitution, Section 6(4) of the Public Appointments (Parliamentary Approval) Act (No.33 of 2011) and Standing Order 45(3), the general public is hereby notified that the respective Departmental Committees shall conduct the vetting of the following persons for appointment as Principal Secretaries for their respective ministries on **Friday 11th December, 2015 as indicated below:-**

VENUE – COMMITTEE ROOM 5TH FLOOR, CONTINENTAL HOUSE			
DEPARTMENTAL COMMITTEE	**MINISTRY**	**NOMINEEE**	**TIME**
DC-Finance, Planning & Trade	**1. Devolution & Planning** PS – Planning & Statistics		
		Saitoti Torome	9.00 am
	2. Industrialization & Enterprise Development	Julius Korir	10.00 am
	PS – Tourism	Fatuma Hersi	11.00 am
	PS- International Trade	Dr. Chris Kiptoo	12.00 noon
DC – Health	**Health**	Dr. Nicholas Muraguri	2.00 pm
VENUE – COMMITTEE ROOM 4TH FLOOR, CONTINENTAL HOUSE			
DC – Energy, Information & Communication	**1. Information, Communication & Technology**		
	PS – Broadcasting & Telecommunications	Sammy Itemere	9.00 am
	PS – ICT & Innovation	Eng. Victor Kyalo	10.00 am
	2. Energy & Petroleum		
	PS - Petroleum	Andrew Kamau Nganga	11.00 am
DC – Administration & National Security	**1. Interior & Coordination of National Government** PS – Correctional Services	Micah Powon	2.00 pm
Joint DC- Administration & National Security and DC – Labour & Social Services	**2. Public Service Youth & Gender Affairs** PS – Youth and Public Service	Lilian Omollo	3.00 pm
VENUE – COMMITTEE ROOM 2ND FLOOR, CONTINENTAL HOUSE			
DC – Labour & Social Services	**1.Labour & East African Affairs**		
	PS – Social Security & Services	Susan Mochache	9.00 am
	PS - East African Community Integration	Betty Chemutai Maina	10.00 am
	2. Public Service Youth & Gender Affairs PS – Gender Services	Zeinab W. Hussein	11.00 am
	3. Sports, Culture & the Arts	Joseph Okudo	12.00 am
DC - Environment & Natural Resources	**Environment & Mineral Resources**		
	PS - Environment	Charles Sunkuli	2.00 pm
	PS – Natural Resources	Dr. Margaret Mwakima	3.00 pm
VENUE – COMMITTEE ROOM No. 7 MAIN PARLIAMENT BUILDINGS			
DEPARTMENTAL COMMITTEE	**MINISTRY**	**NOMINEEE**	**TIME**
DC – Transport, Public Works & Housing	**Transport & Infrastructure**		
	PS – Housing & Urban Development	Aidah Munano	9.00 am
	PS – Public Works	Dr. Paul Maringa Nganga	10.00 am
	PS – Transport	Wilson Nakera Irungu	11.00 am.
	PS – Maritime Commerce	Nancy Karigithu	12.00 noon
DC – Defence & Foreign Relations	**Defence**	Amb. Peter K. Kaberia	2.00 pm
VENUE – COMMITTEE ROOM No. 9 MAIN PARLIAMENT BUILDINGS			
DC – Agriculture, Livestock & Cooperatives	**1. Agriculture, Livestock & Fisheries**		
	PS – Livestock	Dr. Andrew K. Tuimur	9.00 am
	2. Water & Irrigation PS- Irrigation	Parick Nduati Mwangi	10.00 am
DC – Education Research Technology	**Education, Science & Technology**		
	PS – Vocational & Technical Training	Dr. Dinah Jerotich Mwinzi	2.00 pm

The nominees should bring the originals of their identity card, academic and professional certificates and other relevant testimonials. In addition, the nominees should bring letters/certificate of clearance/ compliance from the following:-

(i) Ethics and Anti-Corruption Commission;
(ii) Kenya Revenue Authority;
(iii) Higher Education Loans Board;
(iv) Criminal Investigations Department; and
(v) Any of the Credit Reference Bureaus.

JUSTIN BUNDI, CBS
CLERK OF THE NATIONAL ASSEMBLY

OATH

I ---------- NICHOLAS MUKAARI ----------

HAVING BEEN NOMINATED FOR APPOINTMENT TO THE POSITION OF **PRINCIPAL SECRETARY MINISTRY OF HEALTH** DO SOLEMNLY SWEAR TO TESTIFY ON ALL MATTERS IN QUESTION AND TELL THE **DEPARTMENTAL COMMITTEE ON HEALTH** THE TRUTH, THE WHOLE TRUTH AND NOTHING BUT THE TRUTH, SO HELP ME GOD.

Signature.....

Date:.....11/Dec/2015.....