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The contents of this report are solely the responsibility of Centre for Health Solutions - Kenya (CHS) and do not necessarily reflect the official views of USAID or CDC.

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ABOUT CHS

Our vision is of a world of health families through universal access to health interventions and services.

We seek to optimise delivery and use of health interventions to communities through evidence-informed solutions, innovations and research to address existing and emerging public health needs.

CHS embraces health systems strengthening to include all its activities towards improving health by addressing key constraints related to the health workforce, health infrastructure, health commodities (such as equipment and medicines) health information systems, health care financing and support towards leadership and governance in health.

CHS activities across the country are strongly anchored on providing support to Government efforts in these areas for the development of effective and equitable health systems, which present the best way to achieve the Kenyan government’s priorities on health.
BOARD OF DIRECTORS

Dr Kishorchandra Mandaliya
Dr Paul Wekesa
Dr Mark Hawken
Dr David Hoos
Mr William Maema
Dr Richard Ayah
Mr George Waititu
Mr Couttus Otolo
2014 was an eventful year for CHS. We remained focused on our commitment to provide health solutions to our beneficiaries in collaboration with our stakeholders. As presented in this report, our efforts to provide health solutions are aligned to the health system strengthening pillars.

At the national level, we supported the mid-term review of the National Leprosy, Tuberculosis and Lung Disease program and thereafter, the development of the National Strategic Plan 2015 – 2018. We supported the development of the first STOP TB Partnership Strategic Plan 2014 – 2018, and participated in the development of the Kenya AIDS Strategic Framework 2014/15 – 2018/19 and contributed to various national level technical working groups.

We reached our beneficiaries at health facility level, through close collaboration and partnership with county health departments. CHS supported the delivery of quality programs through building capacity of staff and systems across health facilities to implement evidence informed prevention and treatment guidelines.

We would like to thank all our stakeholders including the thousands of Kenyans who are beneficiaries of our work, the Government of Kenya through the Ministry of Health, the United States Agency for International Development (USAID), Centers for Disease Control and Prevention (CDC), County Governments and health care workers at all supported sites. I would also like to thank the CHS Board and Staff for their continued commitment towards achieving the CHS mission.
SERVICE DELIVERY
With a focus on providing universal access to health services, CHS efforts to improve health service delivery continue to be strongly anchored on providing support to national and county government efforts for the delivery of effective and equitable health services.

HIV Testing and Counselling

In order to continually improve the uptake of HIV Testing and Counselling (HTC) in the Central region of Kenya and thereby promote enrolment to care, CHS sought to ensure that HTC services are offered at all entry points across all the health facilities it supports. The target for this year was to ensure that 80 per cent of inpatients and 50 per cent of outpatients at all the 190 supported facilities received HTC services. This target was surpassed by 26.6 per cent, with 202,840 patients being tested compared to the targeted 160,269. Out of this, 171,902 were adults while 30,938 were children.

CHS seeks other forums to promote HTC uptake including events and health days. In readiness for the commemoration of World AIDS Day 2014, CHS supported Gatundu and Thika sub counties with HTC supervisors and counsellors to support HTC activities between November 30 and December 4, 2014. A total of 393 clients were tested for HIV. Five were diagnosed HIV positive and referred appropriately.

CHS played a major role during the roll out of the new HTC algorithm between April and June 2014, particularly in training health workers to adopt the new algorithm. A total of 455 health workers were trained in Kiambu, Nyandarua, Laikipia and Murang’a counties. The new HIV testing algorithm replaces Determine HIV Rapid Test as a screening test and Uni-Gold Rapid Test as a confirmatory test, with KHB Rapid Test Kit as a screening test and First Response HIV Card Test as a confirmatory test. Uni-gold remains the tiebreaker.

CHS was represented at the National HTC Demonstration Sites Forum held in Mombasa through three of its supported facilities in Nyandarua County: Kasuku Health Centre, Ol Kalou District Hospital and Nyahururu District Hospital. The objective of the forum was to build the capacity of selected facilities to become HTC model sites. The sites, selected by the National AIDS and STI Control Program (NASCOP), will act as learning centres for other facilities within their vicinity.

- 455 health workers trained on new HIV Testing and Counselling algorithm
- 88 HTC counsellors supported across Central Kenya
NYERI PROVINCIAL GENERAL HOSPITAL

Nyeri Provincial General Hospital has realised a 10 per cent increase in HTC uptake as a result the infrastructural support received from CHS to create two HTC rooms.

The repair work was completed in 2013 following the need to make HTC services more confidential for clients. The rooms have now been occupied and are fully functional. Previously, the HTC rooms consisted of one room subdivided with screens, which often made clients uncomfortable due to lack of confidentiality. The rooms were also congested, creating even more discomfort for both clients and counsellors.

According to CHS supported Provider Initiated Testing and Counselling (PITC) provider Loise Nyawira, the rooms have greatly improved service delivery and increased the number of clients at the facility. Ms Nyawira notes, “Previously, clients would shy away from HIV counselling and testing services due to lack of privacy and the number of people tested was low. This number has increased by 10 per cent since the new rooms became operational.”

Compared to 17,714 individuals tested in 2013, the facility tested and counselled 19,611 individuals in 2014. Out of the 308 who turned positive, 121 were enrolled into care at the hospital while 174 were referred to other facilities.

“The new HTC rooms continue to play a great role in promoting early diagnosis and treatment hence promoting HIV management in the region,” says Ms Nyawira.

Other benefits derived from the repaired facility include a more comfortable working area for the counsellors due to adequate space created.
CHS Program Officer Angeline Muia conducts a session during the dissemination of the new ART guidelines in Central Kenya
HIV Care and Treatment

CHS continues to offer support for HIV care and treatment through continuous mentorship, trainings, review meetings, promoting adherence to national guidelines on care and treatment and ensuring availability of antiretroviral therapy (ART).

Working in partnership with the Ministry of Health and County Departments of Health to improve the quality of health, CHS supported the dissemination of the revised Kenya ART guidelines. The revised guidelines are meant to promote HIV management in light of emerging programmatic evidence.

The guidelines emphasise the importance of prevention among children under 18 months through early infant diagnosis (EID), testing of older children, adolescents and partners, family and partner testing, retesting in prevention of mother to child transmission (PMTCT) settings and linkage to care. The guidelines also place emphasis on the importance of early HIV diagnosis for all populations, early initiation of ART for those found to be HIV positive, the use of once-a-day-fixed-dose-combination ART to reduce pill burden and improve adherence, and viral load monitoring for clients on ART.

At least 630 representatives from 190 CHS-supported facilities, consisting of medical officers, clinical officers, nursing officers, laboratory staff, pharmacy staff and county medical representatives among others, participated in the training and are expected to pass on the knowledge to fellow health workers. As part of its rollout plan, CHS will routinely conduct facility-based capacity building and provide technical assistance to aid in service delivery and transition. Supervision and capacity review will also be conducted to promote adoption of the new guidelines.

Through its technical team and as part of a working group consisting of different organisations, partners and individuals led by NASCOP, CHS played a significant role in the development of the National ART orientation package used during the dissemination.

**ADOLESCENT BENEFICIARY**

James Otieno Amolo, currently in his third year of high school, learnt of his HIV status back in 2010 at the age of thirteen. "At first, it was difficult for me to accept my HIV positive status but through continued counselling and support, I came to accept my status and I now live positively.” He says.

Through the CHS-supported Jomo Kenyatta University of Agriculture and Technology (JKUAT) health facility in Kiambu County, James has been able to access ART. He acknowledges the team at the health facility for giving him adequate support and ensuring availability of drugs. “The health care workers are very friendly and always offer the best service possible.”

James serves as a volunteer adolescent peer educator, a journey that began in 2013 after receiving training from CHS. As a peer educator, James strives to reach out to fellow adolescents, offering counselling on adherence and education on HIV and social support during school vacation periods and every other time he has an opportunity. This is done through psychosocial group meetings and one-on-one interactions.

While there are numerous challenges facing adolescents living with HIV including denial, fear of discrimination, anxiety about the future, hopelessness and challenges of disclosure especially to teachers at school, James notes that his role as a peer educator has helped him cope effectively as well as help his peers live positively.

“Through the training I received from CHS, I acquired valuable knowledge on HIV management, which has not only helped me transform the lives of others, but also made a significant impact in my life too.”
**Total enrolled on ART 2013/14**

- 4,692 Adults
- 410 Children
- 273 Pregnant Women

**Current on ART**

- 23,862 Adults
- 2,610 Children

**Cumulative on ART**

- 32,637 Adults
- 3,716 Children

- 630 representatives from 190 CHS supported facilities trained on the new ART guidelines
In May 2014, CHS introduced male involvement classes aimed at encouraging men to support women in reproductive health. Dubbed ‘Egemesha Wanawake Wetu,’ Swahili for ‘support our women,’ the program targets husbands/partners of women receiving antenatal care at supported facilities, who are educated on the need to support their wives/partners during pregnancy, in making decisions on reproductive health, as well as in taking care of their families. Seven sites have already held classes and a total of 28 men have graduated. It is expected that with the support of their partners, women are likely to have improved reproductive health seeking behaviour.

CHS efforts to eliminate mother to child transmission of HIV in the Central Region contribute to national efforts spearheaded by Kenya’s First Lady Margaret Kenyatta in the Beyond Zero campaign that targets government, development partners and Kenyans to mobilize resources to fund access to pre-natal and post-natal care.
The CHS team presents The First Lady of Kenya, Mrs Margaret Kenyatta with a gift during the hand over of a Beyond Zero Mobile Clinic to Kiambu County

MENTOR MOTHER AND PMTCT SERVICE BENEFICIARY

Susan Wambura is a CHS-supported mentor mother at Ruiru Sub-District Hospital and also a beneficiary of CHS PMTCT efforts. Susan gave birth to her second HIV negative child who has since been declared negative following discharge from the PMTCT program. Her first child was born HIV negative in 2009.

Susan first learnt of her HIV positive status in 2008 while she was pregnant with her first child and was immediately enrolled into the PMTCT program at Thika District Hospital (Now Thika Level 5 Hospital). It is from here that she was trained by the Kenya Mentor Mothers Programme (KMMP) as a mentor mother and began her role of educating women living with HIV/AIDS on how to prevent transmission of the virus to their children.

“Ruiru Sub-District Hospital has managed to increase the proportion of children born HIV free by HIV-positive mothers to 98 per cent though PMTCT efforts,” says Susan. She attributes this to the support given by CHS including educational tools and material, support groups, mentorship and continuous reviews. “The CHS team has been very helpful and ensured that the quality of care is constantly improving,” she says.
"By following my medication as provided in the program, I delivered a healthy child and breastfed him exclusively for six months. The support groups play a huge role in eliminating mother to child transmission and I believe this contributed to my welfare during and after pregnancy," adds Susan.

CHS supports adherence and psychosocial support groups through community based organisations and community units. Support includes regular trainings on HIV management for the groups, empowering persons living with HIV to be self-dependent through mentoring them on income generating activities and linking them to other partners such as financial institutions that offer financial education and funding. CHS also provides support for peer educators and mentor mothers, who provide psychosocial support and ensure that the group members adhere to treatment.

**NYahiruru District Hospital**

Supported by CHS in its PMTCT efforts, Nyahururu District Hospital has shown tremendous improvement in prevention of mother to child transmission of HIV. The hospital has achieved the national target for mother to child transmission, having recorded zero transmission rates in the last year. Ninety two (92) children born by HIV-positive mothers tested HIV-negative after 18 months and graduated from the PMTCT program in December 2014. This can be attributed to focused PMTCT efforts towards promoting safe hospital delivery, ensuring that all pregnant women are tested for HIV, those who are positive are enrolled for ART care, and that the mother and child pair adhere to the recommended ART regimen to avoid transmission through breastfeeding.

“Nyahururu District Hospital is a model to be emulated and a testimony that zero mother to child transmission can be done,” - Laikipa County Governor Joshua Irungu, speaking at the 2014 World AIDS Day celebrations in Laikipia County

This success is attributed to strengthened capacity among health workers at the facility and dedication of community health workers in following up patients, a role that CHS actively supports in its efforts towards elimination of mother to child transmission at the facility.

Nyahururu District Hospital is among the CHS supported facilities that have recorded less than 5 per cent transmission rates. Facilities with similar outcomes include Murang’a, Gatundu, Karatina, Ol Kalou and Kangema District Hospitals and Kangari Health Centre among others.
Tuberculosis Control

With funding from PEPFAR through CDC and USAID, CHS continues to steer valuable efforts towards Zero Tuberculosis (TB) Deaths, including the scale up of Isoniazid Preventive Therapy (IPT), management of Multi-Drug Resistant TB (MDR TB), uptake of GeneXpert technology and Paediatric TB.

On World TB Day 2014, US Ambassador to Kenya Robert Godec and the Cabinet Secretary of Health James Macharia officially launched the USAID funded Tuberculosis Accelerated Response and Care activity. Through this activity, CHS supports the National Tuberculosis, Leprosy and Lung Disease Unit (NTLD-Unit) to effectively play its role of coordinating TB control activities in the country as well as provide policy direction and advocate for increased funding for TB control activities.
CHS supported the mid-term review of the NTLD-Unit’s Strategic Plan 2011-2015, a process that saw the review of TB control operations in 14 counties. CHS further supported a forum to provide feedback to stakeholders on the findings of the mid-term review among them the Cabinet Secretary for Health. Some of the findings of the mid-term review included the need to rapidly accelerate the engagement of all care providers to support TB case finding, an activity that CHS will actively pursue in the coming year through the public-private mix (PPM) approach.

Working in collaboration with Global Fund, WHO and other national and international stakeholders in TB control, CHS supported the NTLD-Unit in drafting a four-year strategic plan due for launch in March 2015.

Over the course of 2014, CHS supported the NTLD-Unit to implement and rollout WHO recommended GeneXpert technology including support for site assessments, trainings and installation of the GeneXpert machines countrywide. The GeneXpert test is expected to be the first line of testing for TB among children below 15 years and people living with HIV with presumptive TB.

TB ARC has supported the installation, training and operationalization of the GXAlert system including additional modems and airtime. Developed by Abt Associates and Clinton Health Access Initiative (CHAI), the GXAlert system is expected to ensure real time delivery of test results thus reducing the time between testing and start of treatment. Error rates are also expected to reduce since there will be continuous monitoring of the system allowing for corrective measures to be taken where necessary. A national GeneXpert task force was formed with the NTLD-Unit as chair and CHS led TB ARC as the secretariat to ensure smooth roll out and optimization of GeneXpert technology.

The installation of GeneXpert machines is expected to improve surveillance for MDR TB. To ensure 100% of MDR TB patients have a baseline test before starting treatment and on subsequent follow up, TB ARC engaged Lancet Laboratories to run blood investigations for all patients in the country. Results are then relayed to clinicians via email within 24-72 hours.

74 HCWs trained on MDR TB

208 HCWs trained on IPC

Kshs 6,918,200 disbursed to 228 MDR TB patients to facilitate treatment
With funding from PEPFAR through CDC, CHS supports monthly county MDR TB clinical review meetings aimed at improving clinical management of MDR patients in the Central region. The meetings, which bring together patients and health workers, have been highly successful and aim at following up patient progress including adherence, diet, changes in drug regimens, any complications or side effects and follow up of close contacts. Three MDR TB patients from Murang’a County successfully completed their 20-month treatment course in November 2014. During the year, CHS conducted MDR TB training for 74 health care workers, and supported a laboratory-networking meeting to ensure that all facilities in the Central region were linked to the available GeneXpert machines.

CHS supported the NTLD-Unit to review the facility TB register to align it with the new WHO definitions and conform to new data requirements for international reporting. 1,000 copies of the new register were printed and distributed to facilities.

**TB/HIV**

With funding from USAID, CHS supported the 1st National Isoniazid Preventive Therapy (IPT) roll out and planning meeting in Nakuru. This meeting reviewed the standard operating procedures (SOPs); commodity management and monitoring and evaluation system to support the national roll out. TB ARC has also supported port of entry clearance for Isoniazid commodities donated by the Global Drug Facility (GDF).

In Central Kenya, IPT services were scaled up to four additional high volume facilities, bringing to a total of eight the number of CHS-supported facilities that provide IPT to people living with HIV. Through continuous mentorship of health workers and IPT multidisciplinary team meetings aimed at ensuring buy-in from all departments, CHS has ensured smooth uptake of IPT in the region. In the last year, 2,564 patients were initiated on IPT across the eight facilities.

CHS is proactive in promoting TB screening and early treatment initiation and thereby seeks to reach more individuals through various institutions and during events. After several TB cases were noted, mass TB screening was supported at Karatina University where 115 students were screened and at Talitha Kum Children’s Home where 96 children and workers were screened.
**BENEFICIARY TESTIMONY**

Beatrice Wairimu** completed her 20-month MDR TB treatment course in November 2014.

Wairimu was initially diagnosed with TB in 2012, started on medication and completed her dose. Her health later deteriorated and she was again put on treatment after the TB recurred. It was while undergoing treatment for the second time that a sputum sample was taken for MDR TB diagnosis in order to establish why she was not responding well to drugs. The results were positive for MDR TB and in January 2013, Wairimu was started on MDR TB treatment at CHS supported Kangari Health Centre in Murang’a County.

At this point, her health had not only deteriorated significantly, but she had lost all hope of ever recovering. She had lost weight and weighed a mere 38 kilograms. Wairimu now gives credit to the health workers who have encouraged and supported her and other patients through the rigorous treatment regime.

“It requires grace and a good support network to make it through the daily injections and numerous pills for 20 weeks.” She notes that the clinical review meetings supported by CHS have been very helpful, not only in following treatment, but also in creating a social community among the patients, who have now become good friends and constantly offer support and encouragement to each other.

Twenty six (26) of the patients enrolled on MDR TB treatment in Central Kenya have been adherent to treatment partly due to these meetings, where clients are offered advice on various health matters including nutritional advice. During these meetings, the capacity of health workers is further built to better manage the MDR TB patients.

Wairimu also acknowledges how she has benefitted from the national MDR TB patient support system through the USAID supported TIBU system. “The funds provide a much needed boost considering the high level of expenditure required in commuting to the health centre and the need to eat a balanced diet to compliment the medication.”

TIBU, the first of its kind in Africa, is a unique system developed for the National Tuberculosis, Leprosy and Lung Disease Unit (NTLD-Unit) to ensure efficient monitoring and tracking of TB patient data.

The TIBU system is also used to make mobile money transfer payments to MDR-TB patients. This financial support is given to cater for patient transport and daily maintenance costs for the duration of their treatment.

**Name changed to protect identity**
Community Health

With communities at the very heart of health services, access to care, mobilisation of demand and increasing access to those most in need are areas of significant investment by CHS in the delivery of health services. This is achieved by working with local communities and community-based organisations.

CHS recognises that the community plays a vital role in promoting adherence and thereby strives to mobilise people living with HIV through community groups and units.

In recognition of the link between alcoholism and non-adherence, CHS reaches out to those affected by alcoholism through support groups. Over the course of the year, 15 alcoholics’ support groups supporting 138 clients were formed to offer support to members and hopefully get them out of alcoholism, which has to a significant level, contributed to non-adherence among the clients. Monthly meetings are dedicated to these clients, who go through therapeutic sessions with health workers.

During the year, an additional 20 health care workers living with HIV were equipped to work as peer educators, bringing the current number to 22 and thus impressing the Meaningful Involvement of People living with HIV/AIDS (MIPA) and Greater Involvement of People living with HIV/AIDS (GIPA) principles. This group will play a major role in supporting fellow health care workers living with HIV through support networks. CHS also supports 20 adolescent peer educators, 134 adult peer educators and 30 mentor mothers to provide peer support to patients.

Seventy seven (77) new support groups serving 1,473 clients including treatment literacy, adult, adolescent, paediatrics, caregivers, PMTCT and TB support groups and 51 discordant couple support groups were formed during the year.

Through the CHS-supported Vision Garden Community-Based Organisation (CBO) in Nyeri, a total of 17,619 people were reached during community mobilisation and outreaches.
Nelson Kamau Kimani, a CHS-supported peer counsellor based at Thika Level 5 Hospital, acknowledges CHS efforts in promoting HIV management, particularly ensuring adherence to treatment. Kamau has a deep passion for helping people living with HIV and has been coordinating support activities since he learnt of his HIV status back in 2006.

“I received significant support when I discovered my HIV status and I wanted to pass on this service to others going through challenging times like I did,” says Kamau who has since dedicated his life to supporting people living with HIV in different capacities.

Kamau’s HIV status aroused a high level of curiosity in him and he got interested in studying matters related to HIV. In addition to knowledge on peer counselling, he has since become acquainted with clinical HIV literature through taking various courses including treatment literacy and integrated HIV management; attending conferences and trainings; and interacting with medical staff. “This has played a significant role in my vocation and this knowledge is adequate to address any problem that my clients and other groups may have.” He is particularly
proud of the adherence-counselling program that ensured 82% retention of newly enrolled HIV patients at Thika level 5 CCC in 2014.

Kamau says, “Working as a peer educator with CHS has opened many opportunities for me besides accomplishing my moral obligation of changing peoples’ lives. I have made a name for myself and gained recognition from other partners who often involve me in facilitating various HIV-related activities.”

Kamau has witnessed progressive growth at Thika Level 5 Hospital and notes that CHS has played a role in promoting teamwork and quality health service delivery. “Since CHS came in to support the hospital, there has been increased human resource support thus reducing the workload. There is also improved and more focused monitoring which has promoted the quality of health services.”

Seventy seven (77) new support groups serving 1,473 clients including treatment literacy, adult, adolescent, paediatrics, caregivers, PMTCT and TB support groups and 51 discordant couple support groups were formed during the year.

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22 health care workers living with HIV trained as peer educators

15 alcoholics’ support groups formed

20 adolescent and 134 adult peer educators and 30 mentor mothers supported

17,619 individuals reached through community mobilisation and outreaches
HEALTH COMMODITIES
Laboratory Support

Through the CDC funded Tegemeza project, CHS continues to support facilities and counties in Central Kenya to promote excellence in diagnosis and laboratory related activities. This year, CHS focused on networking and support for GeneXpert machines, proactive TB screening especially for persons living with HIV, establishment and strengthening of laboratory sample referral networks, and promoting the use of the electronic laboratory commodity reporting system.

The use of the GeneXpert test as the preferred test for people living with HIV suspected to have TB is expected to improve diagnosis of TB including that of MDR TB. Support for GeneXpert equipment also included providing data bundles to GeneXpert sites to relay results. CHS partnered with Lancet Kenya Laboratory to provide monitoring tests for suspected cases of MDR-TB. This will promote early diagnosis and hence early initiation of treatment.

CHS sought to strengthen the referral system for HIV viral load testing to promote monitoring of HIV patients. The number of plasma referral sites was increased from six to 12, namely, Thika, Gatundu, Karatina, Nyahururu, Othaya, Engineer and Ol Kalou District Hospitals, Nyeri Provincial General Hospital Ruiru and Kangema Sub-District Hospitals and JKUAT Hospital.

CHS supported Murang’a, Nyeri and Nyandarua counties in electronic commodity reporting through training 13 laboratory coordinators. The online commodity reporting system has played a significant role in improving reporting rates at facility and county levels.

With funding from USAID, CHS supported the NTLD-Unit to develop a new standardised Drug Resistance TB Monitoring Lab Investigation Form to help regulate the diagnostic investigations for drug resistant TB clients in Kenya. The form was designed to help clinicians request specific baseline and treatment laboratory investigations, as MDR TB requires a series of specific tests during the baseline and treatment periods. CHS further supported the printing and dissemination of the approved DR Lab investigation form to guide clinicians on the kind of tests that can be requested for MDR TB.
CASE STUDY: MURANG’A COUNTY

CHS has continuously provided laboratory support for Murang’a County to ensure quality service delivery through accurate diagnosis. Cecilia Ndung’u, the County Medical Laboratory Technician (CMLT), speaks to the timely interventions by CHS that have ensured laboratories in Murang’a County provide quality services through laboratory commodity support, sample transport, linkage of facilities to the national reference laboratory, distribution of proficiency tests (PTs) panels for HIV, training and mentorship and recently the introduction of GeneXpert technology.

“Previously, we would experience major stock outs of commodities including reagents, mostly due to the lack of an organized supply chain system or inadequate budgetary provisions for the commodities at the facility level,” Cecilia says. CHS has bridged this gap by supporting facilities with buffer laboratory commodities.

Through support from CHS, County staff are well equipped with the skills to ensure accurate test procedures, record keeping and reporting. “This has been achieved through continued training, mentorship, quarterly supervisions and updates on new developments in HIV and TB. The knowledge, skills and confidence level of staff has improved greatly thus promoting accuracy of results. Training on the new algorithm for HIV testing was particularly important as it ensured that we are up to date with the new guidelines and that testing is done in the stipulated manner,” she adds.
Murang’a County recently received its first GeneXpert machine, a major breakthrough in the management of DR-TB. “GeneXpert technology not only assures accuracy but is also a faster diagnosis tool which greatly reduces the turn-around time for MDR-TB diagnosis by eliminating the need to transport culture samples to the national TB reference lab. This was very time consuming and would take up to three months before results could be obtained, hence delaying commencement of treatment for MDR-TB patients. The GeneXpert test only takes about two hours. We can therefore do more tests and this will promote early treatment of MDR-TB to a significant level,” says Cecilia.

So far, 141 tests have been done in the County since the machine was put into use in June 2014, with one client testing positive for Rifampicin resistant TB.

The GeneXpert machine reduces diagnosis time for DR-TB from three (3) months to two (2) hours
**Pharmacy Support**

Dr Charles Njuguna from the National Tuberculosis Leprosy and Lung Diseases Unit takes County Pharmacists through a TB commodity forecasting and quantification process.

CHS supported a County Pharmacists’ forum, the first of its kind, to streamline TB commodity management structures at county level. During this forum, the pharmacists developed 47 county budgets for TB medicines for 1st line, and MDR TB treatment, to be presented to respective county health committees for the allocation of funds to purchase of TB medicines through a centralised procurement system. Consistent engagement of County Pharmacists on TB commodity management is beneficial and allows for better forecasting and quantification.

In a bid to strengthen pharmaceutical data management systems at six low-level health facilities providing HIV care and treatment, CHS and Kenya Pharma conducted targeted on-job training on proper use of the ARV electronic dispensing tool (ADT) for 14 health workers. Challenges that had earlier been identified included: inconsistent flow of monthly ARV reports, lack of accurate data in quantification, recording and reporting of ARV commodities and unavailability of drug adherence reports.
Through the use of the ADT, a real time tool, health workers at the facility level are able to efficiently manage ARV stocks, monitor patient adherence to treatment, quantify commodity needs and generate ARV reports for decision-making. Improved reporting rates for ARV commodities and improved data quality has led to a reliable supply of ARVs at facility level and prevented disruptions in care and treatment.

Working with the sub county health management team, CHS supported the decentralisation of pharmaceutical management services in Murang’ a County. Following confirmation by the National AIDS and STI Control Program (NASCOP), Muriranjas and Kangema sub-county hospitals were upgraded to central site status, to serve 29 ART satellite sites. In the past, Murang’ a County Hospital served 39 ART satellite sites. Consequently, there was need to decongest the ARV supply system supervision, logistical support, pharmaceutical information management and monthly processing of reports and orders from Murang’a District Hospital as the central site.

To ensure quality of pharmaceutical services at the ‘new’ central sites, CHS staff work closely with sub County Pharmacists for continued support of facility-based pharmaceutical personnel through on-site mentorship and supportive supervision.
CASE STUDY: MURANG’A COUNTY

Decentralisation of pharmacy commodity management in Murang’a County has ensured that each sub-county has its own commodity management system for antiretroviral drugs and hence eliminated the cumbersome process involved in the redistribution of drugs when supplies were done centrally at a single point.

County Pharmacist Dr Stephen Njenga notes, “The previous system was extremely taxing because all the drugs would be supplied to Murang’a District Hospital and then distributed to facilities around the county. This was not only time consuming and costly, but would often cause delays in the supply of drugs and thereby lead to shortages at the facilities. Since the decentralised system was put into place, it is easy for facilities to access ARVs and this has improved service delivery in the county. The reduced workload at the District Hospital also ensures that the hospital staff can focus on service delivery and hence quality improvement. Decentralisation of pharmacy commodity management has also reduced congestion by easing up space previously required to store drugs.”

Besides decentralisation, the county has benefited immensely from CHS interventions including training on commodity management, technical support for electronic commodity systems, routine supervisions, infrastructure and equipment support and job aids, all which have improved service delivery.
HEALTH INFORMATION SYSTEMS
CHS strives to enhance data management through innovative interventions aimed at promoting automation and efficiency.

During the year, CHS completed and commenced tests on the Integrated Patient Management System (IPMS) whose development began in 2013. IPMS complements the previously used CCC Patient Application Database (CPAD) system and presents great capabilities in data management for enhanced decision-making. It goes beyond the patient card (MOH 257) for HIV care and now incorporates data on TB, HTC, HEI, cervical cancer screening, laboratory, pharmacy, Kaposi’s sarcoma and IPT among others. IPMS allows facilities to record patient details online at all service points and this eliminates the need for paper work as the patient moves from one department to the other. The system is undergoing testing in 12 selected sites in Central Kenya, with rollout scheduled for March 2015.

The new web-based ARV Dispensing Tool (ADT) promises increased efficiency in commodity reporting. The ADT tool ensures uninterrupted supply of ARVs by tracking patient information and monitoring ARVs prescribed and dispensed. This allows facilities to forecast the quantity of medicine required for their patients. This has the capacity to relay consumption reports online and in real-time which will ensure better monitoring of ARV commodities. CHS has played the role of technical support in the implementation of ADT and training of health workers to promote effective utilisation of the tool. ADT is currently being piloted in 17 facilities in Central Kenya, which will transition to the web ADT system.

Through AfyaInfo, CHS participated in developing and administering quality assurance systems for the National Health Information System (HIS) training, the HIS data quality assurance plan and the NHIS mentorship package. The HIS is a unified and integrated web-based tool that supports generation of quality data used at all levels to improve health service delivery. Quality assurance for the NHIS training was aimed at ensuring that trainees acquire the most relevant skills and that the system delivers optimal results as visualised during its development.

With support from USAID, the CHS led TB ARC activity provided County Tuberculosis and Leprosy Coordinators (CTLCS) and Sub County Tuberculosis and Leprosy Coordinators (SCTLCS) across the country with additional tablets loaded with monthly bundles and airtime to access the TIBU System. TIBU, an acronym for Treatment Information Basic Unit (TIBU), is an Electronic Data Management System that is used for data collation, monitoring of TB indicators and real time reporting on TB.

With TIBU in place, the NTLD-Unit is able to monitor the quality of services provided to individual patients. Case notification is now real time and moving forward, data quality is expected to improve.
CASE STUDY: NYERI COUNTY

Nyeri County is a direct beneficiary of CHS HIS interventions as explained by the Deputy County Health Records and Information Officer (CHRIO), Nancy Nyambura Muraguri.

“Data reporting and management in Nyeri County has improved considerably since CHS came in as a partner. Through trainings, mentorship, quarterly data review forums, capacity building, data quality audits and support for data management systems, human resource and infrastructural support, CHS has contributed immensely to elevated data quality, availability and reliability for decision-making,” says Nancy.

Through the county health management office, CHS supports 19 staff in Health Records Departments across various facilities in Nyeri County and this has played a significant role in improving professionalism in data management while enhancing reporting rates.

Following the District Health Information Systems (DHIS) training in which CHS participated as a quality assurance partner 2014, each of the eight sub counties in Nyeri County now has at least one Health Records and Information Officer (HRIO) equipped with the skills required to navigate the system, generate reports and carry out data validation. A total of 15 health records information officers participated in the training.

“Previously, only two HRIOs were responsible for putting in data into the DHIS and the training ensured that each sub county has a trained HRIO who can now upload their reports individually. This has improved data reporting rates from 70 per cent to 95 per cent and increased reporting timeliness by 30 per cent,” says Nancy.
MOMBASA COUNTY

Over the last three years, Mombasa County, which contributes about 53 per cent of all the TB Cases in the high burden Coast region, has constantly reported a cure rate of 85 per cent in line with World Health Organisation (WHO) recommendations.

As per the last quarter of 2014, Mombasa County further recorded a treatment success rate of 92 per cent, which is above the WHO global target. This means that about 92 per cent of all the registered new smear positive TB patients in Mombasa County successfully completed treatment within 2014, which is highly commendable.

“It has not been an easy feat,” says Mombasa County Tuberculosis and Leprosy Coordinator, (CTLC) Samson Kioko. “Mombasa has a lot of TB hotspots like the slum areas and the prison facilities, it has been difficult to ensure we have good cure rates and good treatment success rates but we have taken up the challenge,” he said.

According to Mombasa County Director of Health Dr Shem Pata, increased supervision by Sub County TB and Leprosy Coordinators (sCTLCs), substantial support from USAID through CHS, frequent consultations with the County Health Department and the TIBU system, have significantly contributed to the good treatment success and cure rates in Mombasa.

The TIBU System, a comprehensive TB tracking and health information system, has partly contributed to achieving these impressive results in Mombasa County. “The TIBU system helps you to know which area is doing well and which areas need more support. This aids us in taking action early enough instead of waiting until the reporting period to realize that there is a problem somewhere,” says Kioko. He further attributes the impressive success rates to increased support and mentorship from the National Tuberculosis, Leprosy and Lung Diseases Unit.

The Coast region is classified as a TB hotspot because of its high case notification rates and for this reason, the CHS led TB ARC activity has stationed a Regional Officer to provide technical support and join forces with teams on the ground in the fight against TB.

Recognizing CHS support in Mombasa County, Kioko said, “We have been working very closely with the Coast Regional Officer, especially in joint and regular support supervision where we provide technical support to facilities to help them improve and register good indicators.”
Two years ago, Kirinyaga County Tuberculosis and Leprosy Coordinator Frankline Mutema would spend the bulk of his time bent over his computer manually registering patients from the facility register into the district register and then into the national register.

He would then manually classify this information by gender, location and age in order to generate the required quarterly reports that are necessary to gauge progress in the fight against TB.

Despite his best efforts, human errors kept recurring and compromised data quality. In addition, this manual work left Frankline with minimal time for staff mentorship, commodity management and patient reviews.

Frankline explains, “Manual data entry and generating the quarterly reports was very hard, tiring and time consuming especially in classification by gender, type and age. The manual work also gave invalid results during cohort analysis due to a high number of registered patients.

By using the tablets provided to us to enter data, we are now able to give accurate cases notified as it has reduced the number of double entries. MDR surveillance as moved to above 95 per cent, nutrition support has improved to 95 per cent of all needy clients and we are able to track down defaulters to over 90 per cent. Notification of confirmed DR TB is now at 100 per cent in the county.”

In order to sustain these gains, Frankline is working to ensure that these indicators captured through TIBU are reflected in the Kirinyaga County Strategic Plan. Once these indicators are embedded into the county’s strategic plan and the relevant county health managers are sensitised, it will become easier for the county to provide the required resources to fight TB in the county.
HUMAN RESOURCES FOR HEALTH
Human Resources for Health

The increasing demand for quality health services calls for an increased number of health care workers and advanced training to ensure that high quality standards are maintained. Unfortunately, most facilities experience staff shortage and this impacts their ability to offer quality services.

CHS supports the Ministry of Health and county governments to fill the human resource gap through supporting facilities with health care workers across various cadres. Through respective county governments, CHS supported 278 health workers in the Central region during the year including clinical officers, registered nurses, data clerks, laboratory and pharmacy technicians, accountants, nutritionists and social workers.

In addition, 222 volunteers including peer educators, volunteer provider initiated testing and counselling (PITC) counsellors and mentor mother were supported. CHS human resource support to the counties also includes capacity building for health care workers through trainings and mentorship to promote the quality of health services.

CHS further supports registered clinical officers and roving accountants with travel and communication allowances to enhance service delivery.

RESIDENTIAL MENTORSHIP BENEFICIARY

Alice Watetu Njagi is a CHS-supported registered Clinical Officer, a beneficiary of the CHS mentorship program and a mentorship coordinator at Murang’a District Hospital. Having worked with CHS for the last three years, Alice attests that the hospital’s comprehensive care centre, where she works, has improved tremendously in terms of infrastructure, human resource and quality of service.

“As a mentorship coordinator, I have witnessed significant advancement in care giving and leadership skills and consequently high quality services at the CCC,” she says.

The residential mentorship program aims at instilling knowledge and skills among health care workers with the objective of emphasising best practices and updating them on emerging issues in the medical field. “Since the CHS (residential) mentorship program began, we have witnessed improved competence among staff, increased dedication to work, delivery of quality health services and better client reviews. At an individual level, I feel knowledgeable and more empowered to offer the best services, my skills and confidence have improved immensely, I am a better leader and I believe this program has been a great catalyst in my career development.”
As a CHS supported Centre of Excellence (COE), Murang’a District Hospital hosts health workers from other facilities in the county for the residential mentorship program.

So far, a total of 170 health care workers have undergone mentorship at Murang’a County including 50 clinicians, 40 nurses, 30 laboratory technicians, 30 pharmacy technicians and 20 social workers.

**CASE STUDY: KARATINA DISTRICT HOSPITAL**

Karatina District Hospital’s HIV comprehensive care centre (CCC) has benefitted immensely from CHS human resource support, with 17 health care workers including four (4) clinicians, three (3) data clerks, three (3) HTC lay counsellors, one (1) nurse, one (1) lab technician, two (2) mentor mothers and two (2) peer educators currently being supported.

The CCC in charge, Ms Beatrice Wachira, notes that the support has definitely improved the delivery of services at the hospital. “We previously experienced a massive staff shortage before CHS brought in supported staff, given that the few available health care workers at the general hospital were the same ones who served the CCC.

Since CHS supported us with staff dedicated to the CCC, more clients are being attended, efficiency has improved and the quality of care has gone up significantly. The level of adherence has also risen as we are in a position to reach clients through peer educators and mentor mothers supported by CHS,” she adds.

On-job trainings for staff, mentorship and continuous medical education (CMEs) at the facility have contributed to the quality of care at the CCC, as well as other forms of support including infrastructure support, commodity management support, viral load transport and educational materials; essential for the delivery of quality health services.
HEALTH CARE FINANCING
Health Care Financing

Through sub-awards to the county health management teams (CHMTs) and community-based organisations (CBOs), CHS empowers health facilities and community based organisations to offer quality services in HIV care. The grants are aimed at strengthening and ensuring continued health service delivery across all levels of care.

<table>
<thead>
<tr>
<th>TEGEMEZA SUBRECIPIENTS</th>
<th>FUNDING DURING THE YEAR (Kshs)</th>
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<tbody>
<tr>
<td>NYERI CHMT</td>
<td>53,131,113</td>
</tr>
<tr>
<td>KIAMBU CHMT</td>
<td>44,740,286</td>
</tr>
<tr>
<td>MURANGA CHMT</td>
<td>42,548,398</td>
</tr>
<tr>
<td>NYANDARUA CHMT</td>
<td>17,789,096</td>
</tr>
<tr>
<td>LAIKIPIA CHMT</td>
<td>7,511,291</td>
</tr>
<tr>
<td>JKUAT</td>
<td>6,074,251</td>
</tr>
<tr>
<td>VISION GARDEN CBO</td>
<td>541,000</td>
</tr>
<tr>
<td>GATANGA KIIGA CBO</td>
<td>407,428</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>172,742,863</strong></td>
</tr>
</tbody>
</table>

From May 2014, CHS began logistical support to Kenya’s 47 County TB and Leprosy Coordinators for supervision and leading the implementation of TB services in their counties. To date, a total of **Kshs 135, 242,735** has been disbursed through the TIBU system.

Kshs 135, 242,735 transacted through TIBU

1,174 payments made via TIBU to patients and DOT nurses
Signing of CHS/Nyandarua County Memorandum of Understanding in 2014
LEADERSHIP AND GOVERNANCE
Leadership and Governance

With the devolution of health services, better coordination between the national and county governments is essential in TB control activities. CHS supported the NTLD-Unit to hold consultative meetings with county health directors and TB coordinators on the roles and mandate of each level of government. Through this meeting, a cordial working relationship between the NTLD-Unit and the counties was fostered and moving forward, better articulation and support of TB control activities at county level is expected. In particular, county health plans will articulate well budgeted TB control activities and the TB agenda will be represented in the county health management team (CHMT). Representation of TB in CHMTs has been a gap that has led to counties failing to budget for TB activities.

In partnership with the University of Washington’s Department of Global Health, CHS supported 26 individuals for a 10-week course on Leadership and Management in Health. The course attracted 17 participants from CHS, the Ministry of Health and County Governments who completed the course at the CHS Office in Nairobi; while nine students were supported in a similar class hosted at Murang’a District Hospital with support from CHS.

The e-learning course aimed at equipping health workers with leadership and management skills necessary for working in complex local, regional, national and global health environments. Among the key skills instilled include effective leadership and management, accountability, habits of highly effective people, teamwork, supervision and delegation, conflict management, effective communication, influence without authority, financial management and the use of data for management decision-making.

To support the course recipients at Murang’a District Hospital, CHS provided e-learning equipment and materials including laptops, a projector, modems with data bundles, a printer, speakers, curriculum facilitation and technical support. Murang’a District Hospital acted as the facility-based learning centre for the course, bringing together health workers from various facilities to take the course.

E-learning has emerged as a cost-effective, on-site learning method with minimal disruption of service delivery, thus serving as a model for sustainability of continuous learning.

STOP TB Partnership – Kenya Secretariat Support

CHS supported Kenya’s STOP TB Partnership secretariat to develop its first ever Strategic Plan that will be launched in 2015. The STOP TB Partnership forms a platform to engage and mobilize the private sector and other TB stakeholders and holds the future for increased local support for TB activities.

The strategic plan development process has helped bring together actors from various sectors and has articulated practical interventions to increase local support for TB activities.
**MoH/CHS Stakeholders’ Meeting 2014**

Working in partnership with the Ministry of Health through the respective county governments across CHS supported counties in the Central region, CHS hosted a total of 170 participants at an Annual Stakeholders Meeting in November.

Held under the theme ‘Strategic Information for Health Systems Strengthening,’ participants at the meeting included health care workers, managers and county health leaders drawn from Laikipia, Nyandarua, Murang’a, Kiambu and Nyeri counties.

Among the key highlights of the meeting were presentations and discussions on the use of data for decision-making and influencing policy, health system performance measurement by applying the balanced score card, health care and the law as well as the role of counties in data quality assurance measures.

Meeting participants developed and committed to implement eight key resolutions towards improving health system outcomes in the coming year. These included:

1. Making use of data for decision-making
2. Sustainability and ownership of HIV services at county levels
3. Strengthening existing systems
4. Improving data quality
5. Supporting the capacity building and mentorship of health care workers
6. Decentralization of sites for commodity management and distribution
7. Lobbying for health resources
8. Procurement of TB commodities by the county

**UNIVERSITY OF WASHINGTON’S LEADERSHIP AND MANAGEMENT IN HEALTH COURSE**

Evelyn Wangechi, one of the CHS supported staff working in Murang’a County, is a beneficiary of the University of Washington Leadership and Management in Health training.

Having gone through the 10-week online course, Wangechi notes that she is more confident in making decisions and dealing with common challenges during her work. She considers the course of great importance for health workers who she notes require comprehensive judgment skills in the course of their work. “We not only gained valuable knowledge on leadership and management but also priceless life skills that will come in handy throughout our lives,” affirms Wangechi.

“The online learning mode of the course was a plus because there was minimal disruption of work and there was no need to commute to class or pay high amounts of money that would otherwise be required for such a course.” Wangechi goes on to note that it was a great opportunity to take a highly relevant course offered by a respectable institution. Ms Wangechi is grateful to CHS for the invaluable opportunity to promote knowledge and leadership skills among health care workers, thus continuously improve the quality of health care.
HEALTH INFRASTRUCTURE
During the year, CHS provided infrastructural support for three facilities: Ruiru Sub-District Hospital, Muranga District Hospital and Ol Kalou District Hospital. The repair works are aimed at enhancing the quality of care by offering a face-lift to some dilapidated structures, creating additional space for care and treatment as well as equipping the facilities with the necessary infrastructure to better serve their clients. The total investment in infrastructure for the year is as follows:

<table>
<thead>
<tr>
<th>FACILITY</th>
<th>COUNTY</th>
<th>AMOUNT (Kshs)</th>
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<tbody>
<tr>
<td>Ruiru Sub District Hospital</td>
<td>Kiambu County</td>
<td>6,408,606.72</td>
</tr>
<tr>
<td>Muranga District Hospital</td>
<td>Murang’a County</td>
<td>7,805,400.00</td>
</tr>
<tr>
<td>Ol Kalou District Hospital</td>
<td>Nyandarua County</td>
<td>6,420,326.40</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>20,634,333.12</strong></td>
</tr>
</tbody>
</table>

**Muranga District Hospital before and after repairs**

Health Infrastructure
CASE STUDY: RUIRU SUB-DISTRICT HOSPITAL

“CHS has offered tremendous support to Ruiru Sub-District Hospital and repairs done towards the development of the new comprehensive care centre is a demonstration of the organisation’s commitment to health care progress at the facility. This is currently the best structure that the hospital has,” says Dr Jesse Ngugi, Medical Superintendent, Ruiru Sub-District Hospital during the handover of the site in August 2014.

Repairs carried out the facility created three spacious rooms for the CCC to be used for HIV testing and counselling as well as TB care. A spacious waiting area was also created and this will play a significant role in reducing congestion and thus promoting infection control. It will also provide a space for trainings and psychosocial support group meetings.

According to Dr Ngugi, the spacious, airy and well-designed structure is a welcome improvement to the hospital’s CCC and is expected to have a significant impact on the hospital. The former CCC was not only congested but also had poor ventilation and client privacy concerns. The facility will now serve more people and hence improve service delivery at the facility.
MURANG’A DISTRICT HOSPITAL COMPREHENSIVE CARE CENTRE PHARMACY

The comprehensive care centre pharmacy at Murang’a District Hospital currently exudes high standards in terms of storage and commodity management following repairs supported by CHS at the facility. The pharmacy was previously marred by congestion, poor ventilation and high temperatures, which impeded the storage of drugs and often threatened their longevity as a result of the heat. In addition, lack of an organized storage system limited drug accessibility and staff had to take long periods of time to reach stacked boxes of drugs, some of which were placed directly on the floor, posing a great risk in case of flooding. Stocktaking was also a difficult endeavour under these circumstances.

To solve these challenges, repairs were carried out to allow adequate circulation of air, including ceiling works, which created a cooler environment within the pharmacy. CHS supported the installation of shelves to provide adequate space for storage of drugs and also ensure they are neatly organised to ease access. The pharmacy was also equipped with pallets, which protect the drugs from potential damage by water.

According to Murang’a County Pharmacist, Dr Stephen Njenga, the new structures have created order at the pharmacy and it is now easy to access drugs. “The place looks neat and drug management has never been easier,” he says.

“The high temperatures which were not only uncomfortable for staff but also posed a threat to the drugs have now been controlled and we appreciate CHS efforts towards improving the pharmacy,” adds Dr Njenga.
CHS Supports 190 Health Facilities in Central Kenya