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**USAID KENYA (KENYA NATIONAL HMIS  
PROGRAM: AFYAINFO)  
ANNUAL PROGRESS REPORT  
YEAR 4: 01 JULY 2014 – 30 JUNE 2015**

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# USAID KENYA (KENYA HMIS PROGRAM: AFYAINFO)

## YEAR 4 ANNUAL PROGRESS REPORT

01 JULY 2014 – 30 JUNE 2015

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## ACRONYMS

<b>ADT</b>	ARV Dispensing Tool
<b>AOR</b>	Agreement Officer's Representative
<b>API</b>	Application Program Interface
<b>APR</b>	Annual Performance Reporting
<b>AWP</b>	Annual Work Plan
<b>CDC</b>	U.S. Centers for Disease Control and Prevention
<b>CEC</b>	County Executive for Health
<b>CHIN</b>	County Health Information Network
<b>CHIS</b>	Community Health Information System
<b>CHMT</b>	County Health Management Team
<b>CHRIO</b>	County Health Records and Information Officer
<b>CHS</b>	Community Health Services
<b>COBPAP</b>	Community-Based Program Activity Report
<b>DATIM</b>	Data for Accountability, Transparency and Impact
<b>DivHIS</b>	Division of Health Information Systems
<b>DHIS2</b>	District Health Information Software Version 2
<b>DivHIME</b>	Division of Health Information, Monitoring and Evaluation (replaced Division of Health Information Systems)
<b>DQA</b>	Data Quality Assurance
<b>EA</b>	Enterprise Architecture
<b>EGPAF</b>	Elizabeth Glaser Pediatric AIDS Foundation
<b>EMR</b>	Electronic Medical Records
<b>eSCM</b>	Electronic Supply Chain Management
<b>FACES</b>	Family AIDS Care and Education Services
<b>GoK</b>	Government of Kenya
<b>HI4Kenya</b>	Health Informatics for Kenya
<b>HIS</b>	Health Information System or Systems
<b>HIS SP</b>	HIS Strategic Plan
<b>HMIS</b>	Health Management Information System
<b>HRIO</b>	Health Records and Information Officer
<b>ICAP</b>	International Center for AIDS Care and Treatment and Programs
<b>iCHIS</b>	Integrated County Health Information Strengthening program
<b>ICT</b>	Information and Communication Technology

<b>iHRIS</b>	Integrated Human Resources Information System
<b>IP</b>	Implementing Partner
<b>IPDR</b>	Integrated Performance and Data Quality Reviews
<b>IPSL</b>	Integrated Partner Site Listing
<b>I-TECH</b>	International Training and Education Center for Health
<b>JPRP</b>	Joint Partner Reporting Portal
<b>KARP</b>	Kenya AIDS Response Program
<b>KEMSA</b>	Kenya Medical Supplies Agency
<b>KePMS</b>	Kenya Program Monitoring System
<b>K2D</b>	KePMS to DHIS2
<b>LAN</b>	Local Area Network
<b>LKM</b>	Learning and Knowledge Management
<b>LMIS</b>	Logistics Management Information System
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MCUL</b>	Master Community Unit List
<b>MER</b>	Monitoring and Evaluation Report
<b>MFL</b>	Master Facility List
<b>MFLv2.0</b>	Master Facility List Version 2.0
<b>MOH</b>	Ministry of Health
<b>MSH</b>	Management Sciences for Health
<b>MTR</b>	Mid-Term Review
<b>MUICT</b>	Meaningful Use of ICT
<b>NACC</b>	National AIDS Control Council
<b>NASCOP</b>	National AIDS and STI Control Program
<b>NHIS</b>	National Health Information System
<b>OGAC</b>	Office of the Global AIDS Coordinator
<b>OJT</b>	On-the-Job Training
<b>PEPFAR</b>	U.S. President's Emergency Plan for AIDS Relief
<b>rHRIS</b>	Regulatory Human Resources Information System
<b>SAPR</b>	Semi-Annual Performance Report
<b>SCHRIO</b>	Subcounty Health Records and Information Officer
<b>SI</b>	Strategic Information
<b>SIITT</b>	Strategic Information Interagency Technical Team
<b>TIBU</b>	Treatment Information Basic Unit
<b>TNA</b>	Training Needs Assessment

<b>ToT</b>	Training of Trainers
<b>TRG</b>	Training Resources Group
<b>TWG</b>	Technical Working Group
<b>UoN</b>	University of Nairobi
<b>USAID</b>	United States Agency for International Development
<b>USG</b>	United States Government



# I. AFYAINFO EXECUTIVE SUMMARY

AfyalInfo is a five-year (2011–2016), \$32 million project funded by USAID/Kenya. The AfyalInfo partnership, led by Abt Associates, includes ICF International, the Training Resources Group (TRG), and the University of Nairobi (UoN). AfyalInfo is working collaboratively with the Government of Kenya (GoK) to pioneer the development and use of an innovative and comprehensive health information system (HIS) for Kenya. This groundbreaking collaboration is building the tools and capacity of the Kenyan health sector to measure, track, and analyze service delivery data and use it to inform programmatic and policy decisions. This Year 4 Annual Progress Report covers the project period of July 1, 2014 through June 30, 2015.<sup>1</sup>

In the first quarter of Year 4 (Y4Q1), AfyalInfo underwent an external Mid-Term Review (MTR) to assess project progress, challenges, and opportunities. AfyalInfo then devised strategies to respond to the MTR findings and recommendations, including a strategy for the integrated County Health Information Strengthening (iCHIS) program and enhanced project management support to facilitate implementation. In January 2015, AfyalInfo articulated these strategies in a supplemental Year 4 work plan, which included an increased emphasis on county-level HIS strengthening.

During Year 4, AfyalInfo implemented these and other activities in a rapidly changing and challenging environment that included the newly instituted devolution process. AfyalInfo made significant progress in building the HIS and creating institutional capacity to sustain national health information in the devolving environment. As a result of this work to date, the GoK, USAID, and the project's implementing partners (IPs) now have access to data from more than 90% of facilities nationwide and from more than 80% of facilities in 100% of counties through the District Health Information Software Version 2 (DHIS2). The project also made progress in improving the quality and timeliness of data in 12 U.S. President's Emergency Plan for AIDS Relief (PEPFAR) priority counties.

## National Level

During Year 4, AfyalInfo achieved full-cycle integration of the Master Facility List (MFL) into the Integrated Human Resources Information System (iHRIS) and integration of the iHRIS into the DHIS2. The interoperability of these systems helps standardize facility-specific data. This achievement will give Kenya's HIS users the opportunity to use the service delivery data and the human resources data for more-layered, more-complete data analyses in the live DHIS2 environment.

By the end of Year 4, AfyalInfo and the MOH released the beta version of the Master Facility List Version 2.0 (MFLv2.0) for user acceptance testing. AfyalInfo managed a process of system reviews by the MOH to refine and enhance the MFL's capabilities based on user specifications. MFLv2.0 includes new features that reflect structural changes following devolution, including: the addition of new data fields resulting from devolution (such as wards); the ability to search by type of health service provided, by facility opening hours; and an option for users of the facility to leave feedback and rate the facility.

To support the long-term sustainability of investments in the NHIS, AfyalInfo continued to build the technical capacity of both UoN and MOH staff to support the NHIS. This included establishing a development and test site for the DHIS2; supporting UoN and MOH staff in completing the Advanced DHIS2 Academy; and supporting the Health Informatics for Kenya (HI4Kenya) 2015 Boot Camp. The Boot Camp was held at the School of Computing and Informatics, drawing 22 students from Kenyatta University, South Eastern Kenya University, and Strathmore University.

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<sup>1</sup> Per the Contracting Officer's Representative's request, the project's annual reporting period follows the reporting period of other implementing partners (July–June), not the Year 4 work plan, whose dates run from June through May.

In Year 4, AfyaInfo and the UoN developed a data exchange tool – the Joint Partner Reporting Portal (JPRP) – which supports the transition of United States Government (USG) PEPFAR reporting into the DHIS2. The JPRP enables the MOH and health sector development donors to assign their respective implementing partners to specified health facilities and programs. Facility-level data from the DHIS2 enables apportionment of attribution objectively to each implementing partner and by extension to individual development partners.

In FY 2015, the Office of the Global AIDS Coordinator (OGAC) introduced a new monitoring and evaluation (M&E) system for PEPFAR performance reporting, the Kenya Data for Accountability, Transparency and Impact (DATIM) System. In Y4Q3, AfyaInfo worked with the USG focal team to review the DATIM training materials and develop the DATIM deployment plan. AfyaInfo also supported the Strategic Information (SI) team and the PEPFAR Coordinating Office in training more than 180 participants from 62 IP organizations on DATIM and 50 PEPFAR Inter-Agency Team members. The objectives of the training were a) to prepare the IPs for the Semi-Annual Performance Report (SAPR) 2015, using both the Kenya Program Monitoring System (KePMS) and DATIM; and b) to develop a pool of trainers at the IP level to help cascade DATIM training to data managers, monitoring and evaluation (M&E) officers, and project managers in their respective organizations.

At the national level, AfyaInfo, in collaboration with partners and other stakeholders, supported the Ministry of Health (MOH) and the county Departments of Health in holding the National Health and Leadership Congress 2015 from February 23-27, the first gathering of its kind. The Congress served as a platform for the MOH to launch 25 new strategic health sector documents, five of which the MOH developed with AfyaInfo support. These include the Annual Health Sector Performance Report 2013/2014; Monitoring and Evaluation Framework for the Health Sector; Data Quality Assurance Protocol; Data Quality Audit 2014 Report; and Guidelines for Conducting Data Quality Reviews, Performance Reporting, Performance Review and Planning. In Year 4, AfyaInfo supported the MOH in beginning to roll out these documents to the counties, including their introduction and institutionalization through the iCHIS as described below.

In the final quarter of Year 4 (Y4Q4), AfyaInfo supported the MOH in finalizing the National HIS Strategic Plan (2014–2017), which sets out the strategic priorities for strengthening devolved HIS in line with the Constitution of Kenya. During the same year, AfyaInfo also supported the MOH in finalizing the following policies, guidelines, and reports: Data, System Governance and Change Management, Kenya e-Health Information Systems Interoperability Standards and Guidelines, and the 2014 Annual Health Sector Statistical Report.

## **County Level**

AfyaInfo and the Division of Health Information, Monitoring, and Evaluation (DivHIME) aligned to support the devolution process as counties absorbed responsibilities for managing HIS. To this end, they designed an intensive package of interventions to ensure strengthened human and organizational capacity at the county level to use quality data to plan, implement, and monitor health services. In Year 4, AfyaInfo and the MOH introduced the iCHIS following the Mid-Term Review. The interventions target 12 PEPFAR priority counties and are a critical strategy for strengthening health information systems at both national and county levels.<sup>2</sup>

As part of the iCHIS program, in Year 4 AfyaInfo conducted joint planning sessions between AfyaInfo and eight focal counties – Busia, Homa Bay, Kisumu, Machakos, Migori, Nairobi, Siaya, and Uasin Gishu. During the sessions, individual counties identified key HIS priorities using AfyaInfo-supported background documents such as county-specific HIS assessment reports, county health strategic plans,

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<sup>2</sup> Homa Bay, Kisumu, Migori, Siaya, Nairobi, Machakos, Busia, Uasin Gishu, Bomet, Kericho, Kiambu, and Kisii.

county HIS strategic plans, and Annual Work Plans (AWPs). This activity resulted in the development of individual county 12-month HIS action plans, including an implementation and M&E plan. Participants included representatives from the county (County Executives for Health, or CECs), County Department of Health (CDOH), and County Officer-Information and Communication Technology (CO-ICT), and national levels (Division, Health Informatics, M&E). It provided an opportunity to introduce, reflect on, and plan the results of foundational AfyaInfo-supported MOH assessments: Data Quality Audit, County HIS Assessment, Stakeholder Mapping Assessment, Data Demand and Information Use, and HIS Assessments. Finally, AfyaInfo distributed and worked with the participants to use tools and processes AfyaInfo supported and developed for Performance and Data Reviews. For example, following the review of the AfyaInfo Nairobi HIS Assessment Report, Nairobi County Deputy Director of Health Dr. Thomas Ogaro identified data quality assurance as one key priority area that his department would focus on for the current and subsequent planning periods.

To strengthen county HIS stakeholder coordination capacity, toward the end of Year 4 AfyaInfo supported three counties in leading HIS Technical Working Groups in Migori, Homa Bay, and Siaya Counties. AfyaInfo provided technical assistance in the development and review of the Technical Working Group (TWG) terms of reference (TOR), working with other partners including MEASURE Evaluation, Family AIDS Care and Education Services (FACES), Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), Management Sciences for Health (MSH), International Center for AIDS Care and Treatment Programs (ICAP), International Training and Education Center for Health (I-TECH), Futures Group, and the Kenya AIDS Response Program (KARP). The development of the county TORs will ensure that a clear and effective governance framework guides the TWG activities. AfyaInfo will continue this support, including support to the County Health Management Teams (CHMTs) in their efforts to improve planning for and conduct effective TWG meetings and other stakeholder forums. That will improve the county's capacity to lead HIS stakeholder coordination and promote better management and use of resources.

Also in Year 4, AfyaInfo supported eight focal counties in meeting their statutory health performance review goals through a standardized data and performance review process. AfyaInfo-supported standardized data and performance review promotes joint planning, joint implementation, and joint monitoring of the health strategic plans at various levels. This helps ensure wide stakeholder engagement and buy-in to county health priorities, and ultimately results in better resourcing of county plans, linkages among health priorities, and financial investments and identification of priorities for the next planning cycle. AfyaInfo support to counties for data and performance reviews will be integrated and include all the health program areas, with emphasis on HIV; maternal, newborn and child health; TB; malaria; and reproductive health. Such support will progressively reduce the need for expensive, ineffective disease-specific data and performance reviews. As part of this support, AfyaInfo helped the counties develop their FY 13/14 county annual health sector reports in line with the statutory requirements. The project also provided technical support to Kericho, Muranga and Garisa counties to prepare for and make a presentation on their annual performance at the Health and Leadership Congress 2015.

To contribute to county capacity to produce and use quality data from the facility to the CHMT, in Year 4 AfyaInfo deployed its innovative and resource-appropriate ICT infrastructure to 12 counties, covering 11 CHMT offices and 105 health facilities. In Year 4, AfyaInfo held inception meetings and joint planning sessions with Kiambu, Nairobi, Muranga, Uasin Gishu, Homa Bay, Kisumu, Siaya, Kakamega, Bungoma, Busia, Machakos, Bomet, Kericho, Kisii and Migori. The purposes of the inception meetings were to introduce the county leadership to the AfyaInfo integrated County HIS Strengthening program and to promote ownership and buy in. All the counties had a positive reaction and adopted iCHIS strategies and approaches. Following the national HIS assessment in Year 3, a joint AfyaInfo and MOH team worked with the counties to develop reports outlining HIS challenges, gaps, and opportunities for each county that were shared with counties during the inception meetings. The counties expressed great enthusiasm

in working with AfyaInfo and other partners to address the gaps and challenges. Some counties have shown ownership by committing matching funds to purchase more ICT hardware, by recruiting staff for HIS and ICT, and by paying recurrent costs such as internet connectivity. For example, following engagement by AfyaInfo, Uasin Gishu county provided one year of internet service to all AfyaInfo-supported facilities and used the AfyaInfo deployment framework and standards to guide vendors in deploying infrastructure in an additional four facilities. This showed strong confidence in the AfyaInfo deployment standards and county commitment to sustaining investments by accepting recurrent costs.

The strong county relationships AfyaInfo developed facilitated the rapid and highly successful installation of a comprehensive, workable ICT package. AfyaInfo staff engaged the CHMT in select counties to collaborate on defining the elements of the infrastructure and how it would enable the use of HIS data for the county. Negotiations focused on whether to install wireless or wired Local Area Networks in county buildings; who would pay for air time; how much budget to devote to internet costs; whether zero client devices<sup>3</sup> were flexible enough; which support personnel would maintain infrastructure; and the meaningful use of NHIS data.

Following USAID approval of both targeted facilities and equipment, in December 2014, AfyaInfo launched the ICT deployment process in 12 counties. AfyaInfo is delivering high-quality, resource-appropriate ICT, with hand-in-glove quality assurance support for facilities and vendors. It is building local capacity of the counterparts through standardized quality assurance processes. During the second half of Year 4, AfyaInfo installed Local Area Networks (LANs) in targeted sites and configured all active equipment for rapid deployment to the facility level. By the end of Year 4, AfyaInfo had finalized the installation of resource-appropriate ICT in 116 sites in 12 PEPFAR priority counties, including both CHMT offices and health facilities that have high volumes of HIV and AIDS care and treatment services.

As part of the iCHIS strategy, AfyaInfo launched the Meaningful Use of ICT (MUICT) program, which seeks to strengthen the institutional and human capacity at county and facility levels to secure meaningful use and adoption of the AfyaInfo-deployed ICT. The project delivered a comprehensive facility and county program in two phases (deployment and post-deployment) to support the 12 counties receiving ICT. The MUICT program is an organizational development and change management intervention to ensure adoption and use of ICT by developing facility operational plans for meaningful use of ICT and facility-level plans for sustainable maintenance and budget support for ICT. The program draws extensive collaboration from other USG-funded projects supporting various information systems to build human and organizational capacity at the county level and link the counties' systems to the MOH-led HIS service desk. The systems included are: Treatment Information Basic Unit (TiBU), iHRIS, iHRIS train, Kenya Medical Supplies Agency (KEMSA) Logistics Management Information System (LMIS), KenyaPHARMA, and Electronic Supply Chain Management (eSCM).

The program strengthens facility capacity to use the ICT infrastructure and ensure meaningful use by training users on basic computer skills, assigning and setting user passwords, and training users on navigation of systems including the DHIS2 and updated MFL codes. During Year 4, the project conducted a MUICT Training of Trainers (TOT) that involved County Health Records and Information Officer (CHRIOs), Subcounty Health Records and Information Officer (SCHRIOs) and sub-county pharmacists. The aim of this training was to build the skills of the participants in carrying out on-the-job training in the facilities and expose them to DHIS2, MFL, and HIS applications including KEMSA LMIS, ADT, iHRIS and iHRIS Train. AfyaInfo also conducted MUICT Phase I training to build skills in change management /advocacy and expose participants to DHIS2, MFL, and HIS applications, including KEMSA LMIS, ADT, iHRIS and iHRIS Train. Participants came from each ICT-supported facility and 12 counties.

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<sup>3</sup> Zero clients are the interface between the server and the user.

Attendees included the facility managers, data managers, CHRIO, CHMT members, and county ICT officers.

As a part of the MUICT program, AfyaInfo partnered with KEMSA and implementing partner MSH to strengthen county- and facility-level use of information systems to improve commodity supply chain management for improved service delivery. KEMSA's LMIS enables automated ordering of supplies and commodities at the facility, sub-county, and county levels. MSH's Antiretroviral (ARV) Dispensing Tool (ADT) enables automated stock management at the facility level. KEMSA and MSH participated in the AfyaInfo MUICT Phase II training of trainers in Y4Q4, which focused on building the capacity of county pharmacists through the provision of hands-on demonstrations of the LMIS and ADT. AfyaInfo and KEMSA will deliver a collaborative capacity-building program to equip county and facility staff with skills in use of the LMIS. As a result of this collaboration, AfyaInfo supported KEMSA in training 68 participants in five counties (Uasin Gishu, Bomet, Kisii, Machakos, and Kericho) on LMIS. The pharmacy dispensing health staffs are now able to use ICT infrastructure to order commodities and supplies from KEMSA. As of now, all 12 of AfyaInfo's focal counties are KEMSA-ready. According to KEMSA administrators, facilities from up to five AfyaInfo-supported counties (42%) have successfully made orders to KEMSA using the LMIS. The rest are expected to make orders soon, once the county ordering cycle comes around.

In Y4Q4, a delegation of representatives from the DivHIME, USAID, U.S. Centers for Disease Control and Prevention (CDC), county leadership, and AfyaInfo visited more than 20 facilities that have benefited from the ICT investment in Migori, Homa Bay, and Siaya Counties. The delegation sought to understand how the ICT investment contributes to improved data quality and improved service delivery. The delegation and AfyaInfo team met with county leadership, facility in-charges, and USG service delivery partners to discuss successes, challenges, and the way forward to maximize USG investments. These meetings identified the gains the project has made in ICT deployment and systems development and identified lessons learned to sharpen future AfyaInfo implementation strategies. The facility management teams and county leadership in the three counties recommitted to playing an active role to ensure that the gains of the investment are realized, including securing of facilities, providing for ICT staff to do ongoing support and maintenance, and absorbing recurrent costs.

AfyaInfo continues to progress towards its goal of a unified, integrated country-owned NHIS. We highlight more specific achievements in Section II below and present detailed activity-level progress in Section III.



## II. KEY ACHIEVEMENTS

### National Level

**Developing and Expanding the NHIS.** In Year 4, AfyaInfo supported the MOH in reviewing and documenting the features and functionalities of DHIS version 2.18, which include enhanced security and improved reporting of case-based data. After this review, AfyaInfo supported the MOH in upgrading from DHIS version 2.16 to version 2.18. AfyaInfo achieved full-cycle integration of the MFL into the iHRIS and integration of the iHRIS into the DHIS2. These significant achievements were a collaborative initiative of AfyaInfo, CDC Emory, and Capacity Bridge under the leadership of the MOH eHealth unit. The iHRIS Application Program Interface (API) will help link the Regulatory Human Resources Information System with both the MFL Regulatory Module and the DHIS2.

AfyaInfo worked closely with the KEMSA team to improve the availability of the DHIS2 and MFL Application Program Interfaces (APIs). Initial discussions on integrating the KEMSA enterprise resource package with the NHIS also started in the quarter. The project worked with the Capacity Bridge project to harmonize data and organization unit identifiers. The project completed the final data exchange into the live environment in Y4Q4. AfyaInfo supported the MOH in developing the first-ever MFL service catalogue with input from HIS stakeholders. The catalogue provides detailed definitions, categorization, and disaggregation of all health services in the country.

In Y4Q4, AfyaInfo and the MOH launched the beta version of the Master Facility List Version 2. This new version includes features that reflect structural changes following devolution, including the addition of new data fields (such as wards); the ability to search by type of health service provided, by facility opening hours; and an option for users of the facility to leave feedback and rate the facility.

Also in Y4Q4, AfyaInfo and the MOH released the beta version of the new tool that integrates the Community-Based Program Activity Report (COBPAP) tool into the DHIS2. The project is testing it in the DHIS2 test environment at the UoN. This effort followed an agreement with the Community Health Services (CHS) Unit, National AIDS Control Council (NACC), DivHIME, and National AIDS and STI Control Program (NAS COP) to integrate the COBPAP tool with DHIS2 directly.

**National HIS Service Desk.** The Service Desk provides a centralized, web-based technical design that supports end-user adoption and use of the NHIS applications. Powered by high-capacity servers at the central level, the NHIS is available 24/7 for those with an adequate connection. Dedicated MOH/ICT staff manage centralized data backups. Since the NHIS Service Desk's launch in Year 3, the service desk has received and responded to more than 2,500 tickets. In Year 4, the project continued to strengthen the NHIS Service Desk to respond to the anticipated influx of tickets from the county level. In Year 4, AfyaInfo and the MOH jointly conducted a five-day workshop to strengthen the capacity of HIS officers to run the service desk at the national level and to help cascade the service desk to the counties to support the County Health Information Network (CHIN). Fifteen HIS/ICT officers received training on service desk functionality and on the development of a data and systems governance framework to ensure improved accountability, data quality, and data security across all the levels of NHIS. In addition, during Year 4, AfyaInfo supported the integration of change governance for the MFL and DHIS2 into the Service Desk. All changes to the two systems are raised as tickets in Spice Works<sup>4</sup> and escalated to the relevant teams. The task is assigned to the individual or institution for resolution or feature development. Once the task is completed and documented, the service desk closes the ticket.

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<sup>4</sup> Spice Works ([www.spiceworks.com](http://www.spiceworks.com)) is a free proprietary software developed on ruby on rails and is designed to log in user issues as well as discover network devices then incorporate this into a knowledge base. (<https://en.wikipedia.org/wiki/Spiceworks>).

**Supporting HI4Kenya 2015 Boot Camp and DHIS2 Advanced Academy.** In Year 4, the project undertook several major capacity-building activities targeting both experienced NHIS developers and upcoming developers. The advanced DHIS Academy and the HI4K Boot Camp respectively were aimed at sharpening country-level technical skills and creating much-needed interest in health informatics among computer science students in the local universities. This year's DHIS2 Academy established eight DHIS2 expert-level staff and added 22 new students to the HI4K community of practice through the Boot Camp training.

**Successful AfyaInfo ICT Deployment.** After receiving approval from the USAID CO in early December 2014 for the Phase II ICT deployment targeting the 118 sites in the 12 counties, AfyaInfo rapidly launched its streamlined ICT procurement and deployment plan. The project ICT implementation approach aims to deliver high-quality, resource-appropriate ICT infrastructure; provide quality assurance support for facilities and vendors; and build local capacity of the counterparts in quality assurance processes. The project developed quality assurance tools, checklists, and schedules to support ICT deployment and ensure that the activity meets the high, shared standards. The project initiated ICT installation in April 2014, and it was in progress by the end of Year 4. (The ICT installation was completed by October 2015 in all 116 sites, including 11 county health offices and 105 health facilities).

**Strengthening Leadership, Management, and Coordination Structures Needed to Support HIS Strengthening at the National Level.** In collaboration with partners and other stakeholders, AfyaInfo supported the MOH and the county Departments of Health in holding the first National Health and Leadership Congress. The Congress brought together the counties' health leadership, including County Executives for Health, County Chief Health Officers, County Directors, Hospital Board Directors, and facility and community program representation. Other stakeholders that participated included public organizations, faith-based organizations, private sector actors, development partners and IPs, and nongovernmental organizations. The Congress served as an important mechanism for the MOH to launch 25 strategic health sector documents, five of which AfyaInfo helped developed, including: the Annual Health Sector Performance Report 2013/2014; Monitoring and Evaluation Framework for the Health Sector; Data Quality Assurance Protocol; Data Quality Audit 2014 Report; and Guidelines for Conducting Data Quality Reviews and Planning, Reporting and Performance Reviews. AfyaInfo moderated and managed several Congress sessions and offered a skill-building session on HIS systems, including the MFL, Master Community Units Lists (MCULs) and DHIS2. In Year 4, AfyaInfo supported the DivHIME in developing and finalizing its own 2015–2016 annual work plan with representatives from its four units (HIS, M&E, e-Health, and Vital Registration) and external partners (I-TECH, MEASURE Evaluation, and AfyaInfo).

**Supporting the Management of PEPFAR M&E Systems.** During Year 4, AfyaInfo serviced several data requests from the USAID Strategic Information team on the Monitoring and Evaluation Report (MER) and Integrated Partner Site Listing (IPSL). AfyaInfo also responded to ad hoc requests that helped the Strategic Information Interagency Technical Team (SIITT) set up reporting templates for the APR 2014. AfyaInfo developed and implemented a comprehensive roadmap for APR 2014 to streamline communications among AfyaInfo, the Contracting Officer's Representative (COR), and the USG Strategic Information (SI) team and to provide clear guidelines and timelines on the reporting schedule and system development milestones. AfyaInfo held a pre-APR 2014 partners seminar to update all the PEPFAR implementing partners on the reporting requirements, processes, and new features added to KePMS. The seminar and the effective implementing partners' support during APR 2014 ensured that all PEPFAR IPs completed their APR 2014 performance reporting on time and in accordance with OGAC reporting guidance. AfyaInfo supported efforts to develop the JPRP to enable the MOH and health sector development donors to track their respective IPs to individual health facilities and programs. Donors will be able to use DHIS2 and attribute results to their programs. The project also embarked on the development of the Kenya Health Population and Environment sub-system (KPHES). KPHES takes

over the functionalities of KePMS reporting on non-DATIM reporting requirements and includes modules such as RHFP, Nutrition, EBI, and KMMP.

In FY 2015, OGAC introduced a new global DHIS2-based M&E reporting system, DATIM, for PEPFAR quarterly performance reporting. In Y4Q4, AfyaInfo worked with the USG focal team to prepare implementing partners for the SAPR 2015 using both the KePMS and DATIM, including the first-ever data exchange between the KePMS and DATIM systems.

**Supporting Data Quality, Demand, and Use.** Early in Year 4, AfyaInfo and the MOH finalized the draft national Data Quality Assurance (DQA) 2014 report following the DQA audit completed at the end of Year 3. In Y4Q2, AfyaInfo supported the DivHIME's M&E Unit in preparing Annual Health Sector Performance Reports. They reviewed the period FY 2013/2014 ahead of the Health Congress. AfyaInfo also supported 12 counties through multi-county cluster workshops to draft individualized county Annual Health Sector Performance Reports. DivHIME's M&E Unit selected three of these counties to present their annual performance reports at the Health Congress to showcase the work of the counties.

AfyaInfo supported the MOH in producing three Quarterly Health Information Bulletins for July-March 2014. This product features spatial maps presenting use of services across the country and makes county comparisons. It also includes data from the recently introduced Reproductive and Maternal Health Scorecard and lists out performance on priority health sector indicators by county. The bulletins were disseminated through PIMA, a community of practice listserv that has a membership of more than 950 M&E and HIS professionals across the globe. National MOH and county/subcounty Health Records Officers also received the bulletins.

## County Level

**Integrated County HIS Strengthening.** During Year 4, AfyaInfo introduced and initiated intensive implementation of its new integrated county HIS strategy. During the reporting period, AfyaInfo completed deployment of ICT infrastructure to 116 sites at the county level (county health offices and health facilities), as described above, and supported county- and facility-level institutional and individual capacity strengthening.

By the end of Year 4, AfyaInfo conducted joint planning seminars to support the development of Joint HIS Action Plans in eight counties: Kisumu, Homa Bay, Siaya, Machakos, Uasin Gishu, Migori, Busia, and Nairobi. The Joint HIS Action Plans set out the 12-month operational priorities for HIS strengthening in each of the eight counties. Since action items in each county HIS Plan require additional implementation resources beyond what AfyaInfo can support, the HIS plans became a tool for counties to lobby partners to support HIS strengthening activities.

AfyaInfo also supported three counties in leading HIS TWGs in Migori, Homa Bay, and Siaya Counties. The project together with other partners supported the development, review, and adoption of the TWG TORs, which provide a TWG governance structure to improve efficiency in planning for and conducting TWG meetings.

AfyaInfo supported eight focal counties in preparing for the first-ever Integrated Data Quality and Performance Reviews (IDPRs) using standardized data and performance review packages. AfyaInfo worked closely with USG partner Measure Evaluation to help counties develop performance reports by sub-county and conduct rapid assessments to identify data quality issues in advance of the IDPRs. IDPRs included several priority activities, including Rapid Data Quality Audits in select health facilities from each sub-county, using a subset of the national DQA tool. The first two days of each forum focus on deliberating upon the data quality assurance gaps and facility data quality improvement plans. Then the forum focuses on development of an integrated county data quality improvement plan; preparation and presentation of performance reports by the county, sub-counties, and major health facilities (Level 4 and 5); and a stakeholders' forum to deliberate on performance and data quality. Integration of the data and

performance review provides an opportunity to reflect on the quality of the data used to inform programming and performance review and consequently commit to actions to improve it.

As part of the iCHIS, during the second half of Year 4, AfyaInfo developed and initiated the Meaningful Use of ICT strategy to strengthen institutional and human capacity at the county and facility levels. The program is an integrated organizational development and change management intervention to ensure adoption and use of ICT by developing a facility operational plan for meaningful use of and sustainable maintenance and budget support for ICT. To inform the components of this training, AfyaInfo undertook a rapid Training Needs Assessment for 12 facilities that have benefited from or are primed to benefit from the AfyaInfo ICT infrastructure deployment. The results helped guide the development of future training and technical interventions.

Following the assessment, the project designed a comprehensive MUICT curriculum. The objective of Phase I training was to strengthen the institutional and individual human capacity at county and facility levels to secure meaningful use and adoption of the AfyaInfo-deployed ICT, including practical orientation sessions on the Useful environment, DHIS, MFL, and MCUL. Useful, which is an open standards-based desktop virtualization environment, provides a wide range of options to the unit to implement many of the existing open-source operating systems, including LINUX, UNIX, and all versions of Microsoft Windows. Additionally, Useful seamlessly works with many of the open standards-based thin- and zero-client devices, including those made by HP, Dell, and other major hardware sellers.

The ICT staff received hands-on technical know-how training on installation, administration, maintenance, and troubleshooting of the Useful environment. Participants also received training on iHRIS and iHRIS-Train (IntraHealth), eSCM (Kenya Pharma), and ADT (MSH). In collaboration with USG partners, the MOH ICT department, and the UoN, the project trained 192 facility managers, data managers, CHRIOs, CHMT members, and county ICT officers from 12 counties through Phase I MUICT training. To generate a culture of strong HIS in Kenya and to contribute to long-term sustainability of the NHIS, AfyaInfo included more than 25 second- and third-year students studying ICT at local universities as participants in the Meaningful Use program to build their capacity on the deployed infrastructure. Following the training, the students have accompanied the county training teams and supported ICT verification and sign offs.

Toward the end of Year 4, AfyaInfo launched the peer-to-peer onsite training program (Phase II). During this activity, 96 peer consultants drawn from USG implementing partners and from stakeholders in 11 counties received training tools for their counterparts and facilities and further exposure to the DHIS2, MFL, MCUL, ADT, and LMIS. The peer consultants included County ICT Officers, Health Records and Information Officers (HRIOs) at the county and sub-county level, and county and sub-county pharmacists. In addition, 11 pharmacists received an in-depth orientation on the KEMSA LMIS and the MSH-supported ARV Dispensing Tool applications. The teams can help facilities conduct a Mini DQA to enhance ownership of data quality and make simple action plans for continual improvement in the quality of data.

The project partnered with KEMSA to deliver an LMIS training program to county, sub-county pharmacist, and facility in-charges from the facilities supported with ICT infrastructure. This training built the capacity among these teams to use the web-based KEMSA LMIS to make online orders of drugs, thus promoting commodities and supplies management and meaningful use of the ICT infrastructure. As a result, the utilization of the KEMSA LMIS by AfyaInfo supported facilities rose from 26 across 5 counties (26% of supported facilities) to 81 facilities across all 15 counties (77%)<sup>5</sup>.

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<sup>5</sup> SOURCE: KEMSA LMIS System Administrator

### III. ACTIVITY PROGRESS

**Output 1: Establish a strong, unified, and integrated web-based, host country-owned and managed NHIS, which generates quality data used at all levels to improve health service delivery.**

When completed, the NHIS will dynamically link multiple data sources and translate their data into meaningful, accessible, integrated information for decision-makers. In Year 4, AfyaInfo continued to make progress in increasing reporting rates through the DHIS2 and providing the GoK and stakeholders with timely data to improve resource allocation and targeting and analyze and assess service delivery coverage and trends.

The section below describes how AfyaInfo is building an ICT environment and infrastructure that supports such NHIS linkages and highlights some initial results. AfyaInfo and the MOH created a task force that has collaborated on this effort to steer the system development and integration process. Taskforce members represent the MOH (DivHIME), Department of Information and Communication Technology, I-TECH Kenya, and the Futures Group.

*Subtask 1.1 Conduct comprehensive systems requirements analysis and produce a costed requirements analysis plan.*

Subtask 1.1 was completed in Year 3.

*Subtask 1.2. Establish IT infrastructure capable of supporting development, deployment, and maintenance of a unified and integrated web-based NHIS.*

AfyaInfo, the MOH, and HIS stakeholders continued to develop the software, policies, and protocols that govern the NHIS environment, bolstering the national- and county-level ICT hardware and increasing the capacity to manage the NHIS.

**Update and disseminate to stakeholders interoperability standards, protocols, and guidelines for improving HIS applications.** In Year 4, AfyaInfo supported the MOH in finalizing the newly revised Kenya eHealth Standards and Guidelines for Systems Interoperability, which were signed and approved by the MOH Director of Medical Services. AfyaInfo and the MOH disseminated the standards, which serve as an important foundation for a unified and integrated NHIS, through forums at national and county levels. In Year 4, AfyaInfo and the MOH finalized the Data/System Governance and Change Management guidelines. The MOH will launch this document in Y5Q1 at the first-ever Kenyan eHealth conference.

In Y4Q2, AfyaInfo continued engagement meetings with stakeholders for the development of the interoperability web API to help link the various applications to the NHIS. During Y4Q2, AfyaInfo collaborated with CDC Emory and Capacity Bridge in an MOH-led initiative to achieve full-cycle integration of MFL into iHRIS and iHRIS into DHIS2. The initiative advanced development of the iHRIS API by CDC Emory to link iHRIS with both the MFL Regulatory Module and the DHIS2. As result of this linkage, the MFL data (unique code and identifiers) are now pulled automatically into the iHRIS system through an API. The interoperability of these systems helps standardize facility-specific data and provide it in the iHRIS. This achievement will provide Kenya's HIS users with the opportunity to use the service delivery and human resources data for more-layered, more-complete data analyses on the live DHIS2 environment.

**Support and manage NHIS hosting.** In the beginning of the Year 4, AfyaInfo upgraded the test, live, and mirror servers procured in Year 3 with DHIS 2.16, including a patient-level, case-based reporting module. During Year 4, AfyaInfo upgraded the Kenyan DHIS2 to version 2.16 to enhance features for report generation and visualization for case-/single event-based data, including in-patient module and sample tracking. AfyaInfo led the upgrade after thorough testing that involved the MOH and UoN. Version 2.16 delivered long-awaited functionality that enables data staging and approval processes. The project then supported the MOH in reviewing and documenting the features and functionalities of DHIS version 2.18, which include enhanced security features and improved capabilities for reporting of case-based data. AfyaInfo supported a smooth transition from DHIS version 2.16 to version 2.18, which has improved the usability of the DHIS2 inpatient module.

In Y4Q2, AfyaInfo established the Kenya NHIS application development and testing ICT environment at the UON SCI data center. Key partners including Savannah Informatics and IntraHealth have used this ecosystem to test DHIS2 version upgrades and design and develop DHIS2-based applications such as JPRP and the KPHEs. It currently serves as the host servers for the training instance of DHIS2.

In addition, the project achieved full operation of the UON SCI-based development and testing ICT environment with shut-down of the commercial hosting cloud services procured from Safaricom. The migration effectively saved the MOH USD 5,000 annually in service fees for hosting the DHIS2 training site. The AfyaInfo-supported test environment has quickly become the first stop for NHIS applications development. For example, the test environment is hosting development of MFLv2.0. This new testing environment is a critical step toward developing a sustainable solution for lasting innovation and support for Kenya's NHIS.

**Strengthen the integrated NHIS Service Desk through provision of infrastructure, training, and technical support.** AfyaInfo continued to build the capacity of the national-level NHIS service desk through the installation of necessary hardware and capacity-building of staff to support its effective operations. The NHIS Service Desk is accessible to internal and external users by phone (direct lines and CDMA), through a web portal at <http://servicedesk.health.go.ke>, or by email at [servicedesk@health.go.ke](mailto:servicedesk@health.go.ke). AfyaInfo initiated work with the MOH to expand the Service Desk to cover additional aggregate-level applications, such as the Integrated Human Resources Information System, and to provide an intermediate escalation level to support county ICT for HIS. By the end of Year 4, the Help Desk had logged 2,280 tickets and closed 1,984 tickets. The project also developed plans to support the MOH in the development of Standard Operating Procedures for IT service ticketing and escalation.

AfyaInfo provided training in the use of Spice Works service desk management software to assigned staff to facilitate the use of the software to manage service desk functions. In Year 4, AfyaInfo and the MOH jointly conducted a five-day workshop to strengthen the capacity of HIS officers to run the service desk at the national level and support the cascading of the service desk to the counties to support the CHIN. AfyaInfo trained 15 HIS/ICT officers on service desk functionality and the development of a data and systems governance framework to ensure improved accountability, data quality, and data security across all the levels of NHIS. In addition, during Year 4, AfyaInfo supported the integration of change governance for MFL and DHIS2 into the Service Desk. The process raises all changes to the two systems as tickets in Spice Works, escalates them to the relevant teams, and assigns the task to an individual or institution for resolution or feature development. Once completed and documented, the Service Desk closes the ticket for request for change.

**Support creation of a local community of NHIS developers/champions for the enhancement and continued support of NHIS in Kenya.** AfyaInfo continued to support the UoN in its efforts to develop a community of practice. As part of in-country expertise development to contribute to long-term sustainability of the NHIS, the project engaged 10 students studying ICT at local universities to participate in the Phase I Meaningful Use of ICT trainings and build their capacity on the deployed infrastructure.

AfyalInfo conducted the Annual HI4Kenya Boot Camp, held at the School of Computing and Informatics from May 4, 2015 to June 12, 2015. The camp drew 22 students from Kenyatta University, South Eastern Kenya University, and Strathmore University. The technical areas the training covered during the six weeks were the DHIS2, OPEN-MRS, and MFLv2.0.

Some of the graduates of the HI4K are actively involved in supporting the MOH in development and maintenance of the DHI2 and NHIS Service Desk and development of the Kenya JPRP. That initiative extends the use of the data from the government-owned HIS to attribute performance and results to development and implementing partners and agencies. AfyalInfo has presented the prototype to stakeholders, including implementing partners and the USG team. Two other graduates from the HI4Kenya developed the KePMS to DATIM Data Exchange System, which transforms KePMS data into XML (eXtensible Markup Language) for exchange with DATIM. Some graduates of the program have been instrumental in the implementation of the MUICT program, where together with county ICT officers they train facility staff on accessing the county and national level help desk as per the ICT infrastructure issues logging and escalation procedures.

AfyalInfo also supported four representatives from Kenya (MOH, UoN, and AfyalInfo) in attending the DHIS2 Academy Level 2 (Intermediate) and Level 3 (Advanced) trainings for Eastern and Southern Africa, held in Livingstone, Zambia, in June 2015. The training introduction covered Health Information Systems Program global action research network activities and importance, which constitute the direction that the Kenya health sector needs to consider going forward. The academy training sessions equipped participants with the principles of DHIS2 design and how to set up and maintain the DHIS2 for county-led support in data collection, analysis, and reporting. The objective of the DHIS2 Academy is to build a community of DHIS2 users and experts in the different regions and facilitate sharing of experiences on DHIS2 deployments and strategies for national-scale HIS implementations. Continuous support of MOH and UoN staff by AfyalInfo will help to address the capacity gaps and to encourage use of health data.

In the last quarter of Year 4, AfyalInfo staff participated in the Malawi USAID mHealth conference. Among the various presentations at the conference, Kenya's mHealth and HIS experiences show significant advancements in the field of HIS. AfyalInfo has placed increasing emphasis on overall sustainability, which was of significant interest to conference participants. The sustainability structures that the project has put in place promote UoN as a sustainability partner by increasing the pool of local developers and HIS champions to sustain NHIS advancements once AfyalInfo ends. Kenya's presentations on its sustainability innovations won the "best country" presentations, as judged by the 125 participants. These judges included representatives from ministries of health in 12 African nations, service delivery partners, HIS application developers, the donor community, academia, and the private sector.

As a follow-up to the conference, Kenya will disseminate policy documents during the Kenya eHealth conference in August 2015. These will include the HIS Policy and Strategic Plan, HIS Interoperability Standards, and Data Governance Framework, which AfyalInfo helped develop. Wide dissemination of these documents will be critical to ensuring that both private and public sector stakeholders design HIS applications appropriately to promote data-sharing with priority MOH systems.

**Building ICT infrastructure at the national and county level.** In Year 1, AfyalInfo did a comprehensive baseline assessment of eight priority HIS data sources for the NHIS to identify their ICT needs in terms of hardware, software, and user technical services, including policies and protocols. The analysis was the basis for the strategic plans of the Kenya ICT Board and Directorate of e-Government and the Kenya Norms and Standards for Service Delivery.

The MOH Infrastructure Assessment Report established the ICT infrastructure needed to develop, deploy, and maintain the NHIS. Based on the resulting infrastructure improvement roadmap, in Year 3 AfyalInfo worked with both counties and at the national level to develop an appropriate ICT package from the county level to strengthen county capacity to produce and use high-quality data at

every level from the facility up to the CHMT. The introduction of this state-of-the-art ICT infrastructure at the county level gives facilities needed capabilities in efficient data collection and reporting and the ability to implement and integrate other applications such as electronic medical records, telemedicine, e-referral, and e-learning options.

During Year 3, AfyaInfo supported the installation of ICT infrastructure in eight high-volume facilities in four counties (Uasin Gishu, Busia, Kisumu, and Homa Bay) that deliver high volumes of core HIV and AIDS, maternal and child health, and reproductive health services. AfyaInfo also installed ICT infrastructure at the CHMT offices within these four counties. In Y4Q1, AfyaInfo initiated procurement of ICT infrastructure for an additional 12 counties. This included obtaining ADS 548 approval for purchase of equipment and completing vendor selection. In December 2014, AfyaInfo received Contracting Officer approval and began the process of procuring for 106 additional sites.

The ICT deployment follows the AfyaInfo model of empowering the county through the CHMT to manage health information. The deployment also empowers selected health facilities to produce and use data and to transmit it to the county by using modern information and communication technologies. At the center of this technology is the desktop visualization infrastructure demonstrated on the Useful multiplatform software and Atrust zero clients.

To ensure sustainability, AfyaInfo partnered with the UoN School of Computing and Informatics to set up a test environment with similar infrastructure to the one deployed at the 116 sites. The objective of the test site is to ensure that other implementing partners and health sector stakeholders can access a test lab and perform tests on and simulations of their own programs. Such testing will establish the compatibility of other programs, including EMR/EHRS and other health based information systems, with the NHIS computing infrastructure.

### **Master Facility List v2 Development**

AfyaInfo supported the MOH in developing the first-ever draft of the MFL Service Catalogue in response to expansions in various programs. The catalogue is central to defining user requirements for one of the functionality upgrades to be delivered through the MFLv2.0, which has the ability to query the MFL database using the services variable. It provides detailed definitions, categorization, and disaggregation of all health services in the country. AfyaInfo supported the DivHIME in preparing the MFLv2.0 and outlining the MFLv2.0 development roadmap.

At the end of Year 4, the MFLv2.0 went through a process of MOH user reviews to enhance its capabilities based on user specifications. Version 2 includes new features that reflect structural changes following devolution. This includes the addition of data fields such as wards, the ability of searching by health service, and an option for users of the facility to leave feedback and rate the facility. Moreover, AfyaInfo will develop a joint operational plan for data update, including new facility registration; the data migration plan from MFLv1.0; and preparatory work for the deployment, training, and dissemination plan. This will involve close coordination with O2, DivHIME, MOH-ICT, CHMT, and service delivery implementing partners. The effort also will require enforcing data integrity on existing data, seeking data quality for the new data fields, and working to build local capacity for maintenance.

*Subtask 1.3 Take up management of KePMS and support USG PEPFAR partners in using this system for semi-annual and annual program reporting (SAPR and APR).*

During Year 4, AfyaInfo continued to manage the PEPFAR implementing partners' reporting process (through use of the KePMS system, with a 100% reporting rate) to ensure submission of APR14 and SAPR15 reports to the Office of the Global AIDS Coordinator (OGAC). As part of this process, AfyaInfo convened a pre-APR and pre-SAPR meeting for 95 USG implementing partners to bring them up to date with changes in the KePMS software and reporting protocols. AfyaInfo also developed a shared roadmap for the USG Strategic Information (SI)/AfyaInfo team. During both reporting cycles,

AfyalInfo continued to provide training and system support to all implementing partners to ensure the quality of the data entering the system.

**Organize technical consultative feedback meetings and DATIM training for USG IPs to ensure effective and efficient use of NHIS/USG reporting systems for PEPFAR reporting.**

AfyalInfo led two DATIM trainings in Kisumu and Nairobi on March 23–24, 2015, and March 26–27, 2015. These trainings were central to building the IPs’ understanding of both DATIM and the critical updates to KePMS that are central to execution of Kenya’s decision to attempt an automated data exchange to DATIM. This data exchange will avoid a double data entry process to both systems. These trainings also provided an opportunity for the USG SI ITT to consult with the IPs on future reporting possibilities using the NHIS, which could lead to an automated data exchange between DHIS2 and DATIM.

**Support K2D transition for USG reporting systems.** In Y4Q2, the K2D initiative delivered on two key milestones. The first was dissemination to the stakeholders of the findings and recommendations of the results from the first DHIS2-based national data quality audit exercise. The MOH led this exercise, which AfyalInfo supported. The second milestone was completion of the K2D partners’ portal. This is a transformative technological solution UoN developed that enhances DHIS2 capabilities to meet not only the reporting needs of PEPFAR but also other development partners’ needs. This solution could achieve the unified national country-led, country-owned HIS capable of meeting the data and information needs of all stakeholders.

During the second half of Year 4 in close collaboration with the UoN, AfyalInfo supported the K2D transition process through the development of the JPRP. This portal is a culmination of joint work with the MOH and partners through the K2D TWG. It is the technological implementation of a strategy to improve data quality in the NHIS while satisfying the country’s international reporting obligations (e.g., PEPFAR). The project continued its work on the JPRP to enhance the ability of the NHIS to satisfy reporting requirements of PEPFAR and other programs supported by different development partners by making use of the NHIS to attribute partners’ performance in the health sector. Using DHIS2 data collected from the health facilities, the system apportions attribution objectively to each implementing partner and by extension to individual development partners.

**Develop data exchange utility between KePMS, DATIM, and DHIS2.** The data exchange utility development between KePMS and DATIM has been a collaborative process between the project, SI team, PEPFAR Coordination Office (PCO), and OGAC. AfyalInfo also worked with the SI team and the Kenya DATIM deployment team to disseminate the change management procedures on how to transition from KePMS to DATIM for SAPR15 and APR15. The team used the DATIM training sessions in Kisumu and Nairobi to lay out the tentative plan for SAPR15 and APR15.

*Subtask 1.4. Integrate Community Health Information System, Community-Based Program Activity Report, Community-Based Program Activity Report system and KePMS capabilities into unified NHIS.*

Throughout Year 4, AfyalInfo continued to support the MOH in strengthening data collection at the community level and in integrating the country’s leading community health information systems into the NHIS. Three separate/independent data systems capture Kenya’s community health data. The systems are not interoperable and therefore cannot share data to provide a single comprehensive view of community health services in the country. These systems are the Community Health Information System, owned by the MOH’s Community Health Services Unit; the Community-Based Program Activity Reporting, owned by the NACC; and the KePMS, owned by USG PEPFAR.

This complex arrangement of community information necessitated the initiative by the Community Health Services Unit to streamline community- and household-level reporting into the DHIS2. In the beginning of Year 4, AfyalInfo facilitated the discussions between DivCHS and DivHIME to have the revised Community Health Information System (CHIS) data capture summary form MOH515 uploaded onto the DHIS2. In Y4Q2, the Director of Medical Services communicated to NACC, DivHIME,

NASCOP, and Division of Community Health Services (DivCHS) the centrality of the respective units in realization of integration of CHIS into DHIS2. The project helped the Community Health Services Unit work with a number of stakeholders, including other MOH Units and Divisions, development partners, and IPs (AfyalInfo, PIMA and UNICEF), to review and revise the Unit's primary community health data collection tool. The revisions enabled the tool to take on more indicators needed by a cross-section of programs and organizations working in the community health space. The outcome of this process was an integrated MOH 515 that will be the foundation for integrating CHIS datasets. In Y4Q2, AfyalInfo helped customize the revised MOH 515 into the DHIS2. The CHIS dataset fed into the DHIS2 now includes expanded indicators from community health programs.

During the second half of Year 4, the project worked to develop the application code and database structure of the COBPAR, working closely with the National AIDS Coordinating Committee M&E and ICT team. Following an agreement with the CHS Unit, NACC, DivHIME, and NASCOP to integrate the COBPAR tool with the DHIS2 directly, AfyalInfo and the MOH released the beta version of a new integration tool that was tested in the UoN DHIS2 test environment. At end of year 4, AfyalInfo had customized the COBPAR tool onto DHIS2 and conducted several system test routines with both NACC and MOH. The test results were positive and shared with all key stakeholders and a plan drawn for going live on DHIS2 and use of the tool by both NACC and CHS national, county, and sub-county staff.

*Subtask 1.5 Establish functional national data warehouse (databank) with the appropriate data storage capacity, data confidentiality, and data security for every user type.*

At the end of Year 4, AfyalInfo had developed the draft NHIS enterprise architecture, which included key components: the final data service layer and the data warehouse. AfyalInfo conducted joint meetings with the MOH and two partners (HP and IBM) to understand the capacities the private sector partners had to support data warehousing in the health sector. The results of these consultations informed future discussions about the Enterprise Architecture (EA) and data services layer (DSL), including the development of a roadmap with the DivHIME's eHealth Unit. AfyalInfo engaged with Futures Group's Health Management Information System (HMIS) activity to discuss possibilities of data exchange for both patient-level and aggregate data. AfyalInfo also secured collaboration in the Enterprise Architecture and DSL development under a TWG spearheaded by the DivHIME's eHealth Unit.

The DSL will interlink the priority HIS data sources and then send them to the data warehouse.<sup>6</sup> The data warehouse stores the data linked by the data service layer. The data warehouse also describes how to find, extract, and read data contained within multiple public and private data streams. The data mart distributes the information to end users using data visualization tools.

By Y4Q4, AfyalInfo and the MOH had begun the actual development of the enterprise architecture, launching the process through stakeholder meetings with members of the eHealth Unit, DivHIME. The EA will define the roles, responsibilities, and core functions of each of the HIS stakeholders at the strategic level (policy function) and at the operational level (service delivery, etc.). It will also define the information flow relationships between the stakeholders and the data flow necessary to support decision-making at national, county, facility, and community levels. The enterprise architecture is set to be completed in Y5Q1 and will inform the development of the data service layer and data warehouse.

**Output 2: Establish a functional GoK-managed Learning and Knowledge Management (LKM) system that improves the culture of information generation, knowledge capturing, and information use.**

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<sup>6</sup> A component of this will be defining the procedures and meta-data dictionary essential to ensuring all actors are using specific protocols and language for data exchange.

Through Output 2, AfyaInfo is helping the GoK establish methodologies that will facilitate access to, understanding of, and systematic use of NHIS data and information so that health sector decisions are based on evidence. The project is strengthening human capacity in areas such as data capture, analysis, reporting, and presentation through technical training and assistance for GoK entities at both the national and county level.

*Subtask 2.1 Develop GoK-managed LKM system for the health sector.*

**Finalize Data Quality Assurance 2014 Report and DQA Protocol and validate findings.** At the start of Year 4, AfyaInfo supported the DivHIME in validating the findings of the second national Data Quality Audit, completed in Year 3. AfyaInfo supported DivHIME in sharing the DQA 2014 findings with data managers of MOH programs. In the light of DQA 2014 findings, the data managers urged the DivHIME to work more closely with the program managers and county program coordinators to prioritize data quality. The report was disseminated through a variety of mechanisms, including the Kenya Health and Leadership Congress and national-county HIS Joint Planning Seminars, to USG partners, MOH national health programs, MOH county and facility staff, and directly to the 12 counties. AfyaInfo supported the DivHIME in sharing the DQA 2014 with 12 counties (Homa Bay, Siaya, Kisii, Bungoma, Busia, Kakamega, Migori, Machakos, Nairobi, Uasin Gishu, Kisumu, and Kericho). In addition, AfyaInfo shared the DQA findings with USG partners through the K2D meeting. The DQA 2014 results helped inform county planning to improve data quality.

AfyaInfo supported the DivHIME in incorporating findings of DQA Report 2014 into the MOH's Data Quality Assurance Protocol, which defines roles and responsibilities for data quality improvement at the different Kenya Essential Package of Health levels. It details health sector DQA strategies and presents DQA tools and checklists for supervisions, self-assessments, and audits. AfyaInfo also supported the finalization of county and national stakeholder validation of the Performance Reporting, Review, and Planning Guidelines. The validation process promoted buy in and provision of input from various stakeholders, including IPs, MOH national-level programs, and county representatives. The Joint HIS Planning Seminars introduced these tools to the counties, eight of which used them during the preparatory stages for the IDPR forums.

In February 2015 at the National Health Leadership Congress, AfyaInfo in collaboration with the MOH disseminated 25 key health sector documents to a wide range of stakeholders, including CECs, Chief Health Officers, County Health Directors, donors and IPs, faith-based organizations, private sector, semi-autonomous state agencies, and others. The documents included the National DQA 2014 report, the DQA Protocol, and the Guidelines and Tools for Conducting Data Quality Reviews, Health Sector M& E Framework, and Performance Reporting, Review, and Planning Guidelines. These guidelines standardize performance reporting, review and planning across all health service delivery levels and among all MOH planning units. The 25 documents will guide the implementation of strategies and actions to improve data quality.

During the Congress, the project supported the MOH DivHIME in disseminating the health sector M&E framework. This framework, adopted for use by all stakeholders, lays the foundation for M&E processes

The 2014 DQA Report identifies contributing factors to be:

- Inadequate support, supervision, and training of staff responsible for collecting, reporting, and handling data
- Lack of routine data review measures at point of collection, reporting, or entry into DHIS2
- Complex aggregation procedures for certain indicators, which are difficult to calculate and not well understood by staff
- Unclear indicator definitions, making correct data collection difficult
- Chronic lack of data collection and reporting tools, resulting in improvisation and inconsistent data collection and indicator calculation
- Little contribution to data quality by the EMR systems currently operating

in the health sector at all levels. It outlines the responsibilities of state, non-state, and external actors in monitoring the implementation of the Kenya Health Sector Strategic Plan 2013–2017 to ensure standard M&E processes for sector performance monitoring. The document forms the basis for county M&E plans, hence contributing to standardization of M&E processes during the implementation of the strategic plan.

**Develop standardized tools and templates for data quality assurance plans and data review forums.** Devolution established a more complex environment for reporting in the health sector. For instance, counties that are now constitutionally mandated to offer service delivery did not have a standard guideline for performance reporting, review, and planning guideline. To support the national-level MOH in standardizing the process, AfyaInfo supported the MOH's M&E Unit in developing a package to standardize the Health Sector Performance Reviews across all levels. At the request of the Unit, AfyaInfo integrated this package into the MOH Performance Reporting and Planning Guidelines developed in 2014 with support from AfyaInfo and other partners.

The Performance Review Package supports the continuum of performance report development, including the review with other HIS stakeholders and priority setting and planning. The Performance Reporting, Review, and Planning Guidelines provide a one stop manual for reporting, planning, and review. The guidelines also provide an opportunity for planning units to align their performance review and reporting with the MOH planning and budgeting cycle. This enabled alignment of these three processes that have for a long time been disjointed. The previous situation has led to plans that are not funded and budgets unrelated to plans.

During Year 4, the project supported the DivHIME in finalizing the national guidelines and tools to conduct data quality reviews. AfyaInfo introduced these tools and institutionalized them in counties AfyaInfo supported as part of the iCHIS program.

**Support Joint Annual Performance Review at the national level.** In Year 4, AfyaInfo supported the MOH in developing and finalizing the Annual Health Sector Performance Report for Financial Year 2013/2014. The report, disseminated at the Health and Leadership Congress 2015, presents a comprehensive analysis of the country's health service delivery statistics. It includes county-by-county performance of major health services and programs such as reproductive health, HIV, neonatal and child health, and malaria. The report forms the basis for identification of planning priorities for the health sector for Financial Year 2015/2016. Also in Y4Q2, AfyaInfo supported 12 counties in drafting their Annual Health Sector Performance Reports through multi-county cluster workshops. At the workshops, AfyaInfo provided technical support for data analysis, interpretation, presentation, and actual drafting of the reports.

*Subtask 2.2 Conduct Training Needs Assessments for MOH staff on management of LKM system.*

A TNA in Years 1 and 2 of the project informed the development of the NHIS training package and the revision of the KMTTC and Kenyatta University (KU) Human Resource Information Management curricula.

Because of the deferment of development and deployment of the technological platform for the LKM system following USAID guidance, the project will not conduct the TNA to inform capacity-building activities to support its use as originally envisaged.

*Subtask 2.3 Conduct capacity-building programs to develop institutional and human capacity to launch and manage LKM agenda in health sector.*

**Continue to train USG partners on using DHIS2 and reporting through DATIM.** During Year 4, which covered part of USG FY15, OGAC introduced DATIM, a new M&E system for PEPFAR performance reporting. In Y4Q3, AfyaInfo worked with the USG focal team to review the DATIM training materials and develop the DATIM deployment plan. AfyaInfo also supported the SI team and the PEPFAR Coordinating Office in training more than 180 participants from 62 IP organizations on DATIM.

AfyaInfo also trained 50 PEPFAR Inter-Agency Team members on DATIM to prepare the IPs for SAPR 2015 and supported the cascading of DATIM training to data managers, M&E officers, and project managers in their respective organizations. Supporting DATIM required additional support from the AfyaInfo technical team and subcontractors to help prepare the USG partners for the first-ever DATIM reporting cycle.

**Develop an all-inclusive HIS Mentorship Package.** AfyaInfo worked with national- and county-level MOH partners and USG IPs to develop a comprehensive HIS Mentorship Program. The program design features a cascading mentorship model, with mentors drawn from county, sub-county, and implementing partner levels. The program builds staff capacity in validating, analyzing, and using health data at the level at which it is collected to improve data quality and increase data demand. In addition, it will be a conduit for promoting use of infrastructure to enhance health facility efficiency and access to data management systems. AfyaInfo rolled components of the HIS Mentorship Package into the curriculum and design of the Meaningful Use of ICT program that the project cascaded to the counties.

**Conduct trainings for public, private, faith-based organizations, and USG partners in HIS including MFL, MCUL, DHIS, data management, data quality, and data use.** In Year 4, AfyaInfo extended the NHIS training (an MOH-approved comprehensive and standardized HIS curriculum) to hard-to-reach counties. AfyaInfo trained data managers from three of these, Mandera, Wajir and Garissa, using the NHIS training curriculum. Participants are now able to access the data entry platforms and manipulate the systems to mine data for use within the counties. Participants used their newly assigned data access rights to update their data to reflect county-level changes in line with devolution planning. A total of 30 participants from the three hard-to-reach counties and 39 from the other four counties, Meru, Nyandarua, Kirinyaga and Tharaka Nithi, received training on the NHIS training package. Individual users updated or assigned their rights of access to the DHIS, MFL and MCUL.

As part of the National Congress, AfyaInfo offered targeted training sessions on HIS for senior health managers. These mini-sessions offered refresher training on the DHIS, MFL, and MCUL to members of the CECs, County Health Directors, and partners. In addition, AfyaInfo helped participants open DHIS user accounts to encourage direct use of the system.

*Subtask 2.4 Develop a range of appropriate information products, create demand for these products, and establish relevant public awareness and dissemination forums and systems to ensure use of these information products.*

In September 2014, a joint AfyaInfo/MOH team developed the Quarterly Health Information Bulletin Issue 2. As a result of feedback received on Issue 1, the new template for Issue 2 included service use maps across Kenya by county. The new issue contained data from the recently implemented Reproductive Maternal and Child Health Scorecard and outlined how counties are performing across several priority health sector indicators. AfyaInfo shared Issue 2 with the community of practice referred to as PIMA (comprising more than 950 M&E and HIS professionals across the world) and with Health Records Officers in the MOH and at the county/sub-county level. The project helped select counties develop and distribute print copies of their health facility maps during the 2015 Health and Leadership Congress. This generated interest in many counties, which requested print copies of their facility maps. Hence this product contributed to improving demand for use of information.

**Support AfyaInfo focal counties in developing HIS informational products, which may include reports, bulletins, and maps.** In Year 4, AfyaInfo supported 12 counties by providing technical and financial assistance to develop their County Health Performance reports (2013/2014). Three of these counties presented at the Congress. In addition, during the Congress AfyaInfo helped several counties develop and exhibit the AfyaInfo-supported county health-related reports, maps, and bulletins.

AfyalInfo supported the drafting of the national Annual Statistical Report 2014. This report seeks to identify the performance and successes of different programs, including those addressing reproductive health, immunization, malaria, TB, HIV and AIDS, child health, and non-communicable diseases. This approach enabled the DivHIME to produce information products that support program management.

**Output 3: Establish a functional HMIS division that is capable of passing a USAID pre-award responsibility determination leadership and management, financial and procurement capability.**

In Year 4, AfyalInfo strengthened the leadership, management, planning, and stakeholder coordination capacity of HIS at national and subnational levels. At the national level, AfyalInfo's capacity-building support ensures that the DivHIME (formerly the Division of Health Information Systems) can discharge its strategic mandate in a devolved health service delivery environment. Under devolved HIS, the DivHIME's primary mandate is to set HIS policies, standards, and guidelines and build the capacity of the county-level HIS. The DivHIME plays a crucial policy advocacy role for HIS policies and coordinates national-level HIS stakeholders. At the subnational/country level, AfyalInfo supported a broad array of HIS institutional strengthening activities, including planning, stakeholder coordination, and staff development. AfyalInfo was particularly active in the area where it continues to provide evidence-driven organizational change and development interventions at the national and subnational levels.

*Subtask 3.1 Develop and implement appropriate capacity-building programs to strengthen management and coordination structures based on already existing policies and governance structures.*

**Support DivHIME/AfyalInfo monthly project review meetings.** Regular meetings between the management teams of DivHIME and AfyalInfo provide an important avenue for reviewing and monitoring joint work plan activity implementation progress, addressing bottlenecks, and laying strategies for future implementation. In Y4Q2, AfyalInfo and the DivHIME convened a one-day progress review meeting for joint work plan activities. The meeting reviewed work plan implementation progress to date, implementation hurdles, and ways of resolving them. AfyalInfo and DivHIME used the opportunity to recommit to shared priorities and review implementation strategies on a regular basis.

**Support DivHIME/MOH HISCC meetings.** AfyalInfo worked with the DivHIME to evaluate options for reinvigorating the HISCC. AfyalInfo helped develop ToR for the HISCC. During the Kenya Health and Leadership Congress, the health sector presented a draft national coordination structure and a proposal for partnership coordination at the county level. Importantly, both the MOH and development partners committed to several initiatives aimed at strengthening health sector partnerships. The MOH committed to providing stewardship of sector partnership and coordination through actions such as the reactivation of sector partnership principles and coordination structures at the national and county levels. The MOH also committed to development of new ToR and guidelines and the development of a new health sector code of conduct that sets out terms of engagement and partner commitments.

To ensure that the HISCC takes root in MOH legal coordination structures, AfyalInfo supported the MOH in reviewing and finalizing a concept note for a national partnership structure and code of conduct. AfyalInfo also developed ToR for various interagency coordinating committees. During Y4Q4, AfyalInfo held a series of meetings with DivHIME leadership to craft a clear roadmap for rejuvenating the HISCC. AfyalInfo developed a concept note for relaunching the HISCC that sets out the rationale for rejuvenating the entity, the overall objectives, the ToR of the committee, and launch logistics. The establishment of the HISCC is scheduled for Year 5.

**Conduct joint AfyalInfo/DivHIME work planning for AfyalInfo Year 5 work plan.** At the end of Year 4, AfyalInfo led a one-week annual work planning session with the MOH (DivHIME and Dept. ICT), county government representatives, and the UoN to align the Year 5 work plan with MOH and county governments' priorities and to coordinate it with the work plans of other USG implementing partners. The inclusive process was vital because these institutions will play a prominent role in ensuring that the NHIS is sustainable after the end of the AfyalInfo project. AfyalInfo engaged county leaders from priority

counties (Homa Bay, Kisumu, Migori, Siaya, and Nairobi) to ensure that the work plan included their HIS priorities. AfyaInfo incorporated recurring themes from the eight joint HIS plans developed in Year 4 at the county level into the Year 5 work plan since they represented actual county HIS needs. This collaborative approach helped AfyaInfo ensure that the Year 5 work plan submitted to the USAID Contracting Officer's Representative on May 1, 2015, aligned with and complemented national, sub-national, and implementing partner efforts to strengthen the NHIS.

Following this exercise, AfyaInfo supported the DivHIME in developing and finalizing its own 2015/2016 Annual Work Plan. Representatives from the DivHIME's four units (HIS, M&E, e-Health, and Vital Registration) and external partners (I-TECH, MEASURE Evaluation, and AfyaInfo) participated in identifying activities for the current financial year.

**Conduct an institutional assessment of the UoN Department of Computing and Informatics and the UoN Enterprise Services.** The UoN institutional assessment of its own School of Computing and Informatics and UoN Enterprise and Services Ltd. is to generate short- and medium-term recommendations. The goals are to strengthen management and functional areas of the departments and to provide efficient and effective technical support to the MOH to deliver on the HIS strengthening agenda. The assessment included a review of management and operational systems and staff capacities. Working off a joint scope of work, which AfyaInfo, UoN, and UoN Enterprise and Services developed, a local organization conducted the assessment with participation from the departments. The final recommendations and report will be completed in Y5Q1.

*Subtask 3.2 Develop and implement appropriate capacity-building programs to strengthen financial, technical, and human resources management systems.*

During Year 4 to support devolution, AfyaInfo designed an intensive package of interventions to ensure strengthened human and organizational capacity at the county level. The counties would use quality data to plan, implement, and monitor health services. We describe several of the critical elements of iCHIS below.

**Joint HIS planning at the county level.** In Year 4, AfyaInfo conducted joint planning sessions with the eight focal counties. This HIS exercise integrated AfyaInfo county-level activities into existing county strategic plans and the AWP, developing a county-centric 12-Month Action Plan to guide the project's relationship with each county. This session included participation from representatives from the county (CECs, CDOH, COH and CO-ICT) and national level (Division, Health Informatics, M&E). It served as an opportunity to distribute the results of foundational AfyaInfo-supported MOH assessments: Data Quality Audit, County Readiness Assessment, Stakeholder Mapping Assessment, Data Demand and Information Use, and HIS Assessments. Finally, AfyaInfo distributed newly developed tools and processes for Performance and Data Reviews.

During this process, AfyaInfo continued to share county-specific reports of the County HIS Assessment with county leadership. AfyaInfo provided technical support to the counties to develop County HIS Action Plans based on the report recommendations. The HIS Stakeholder Meetings of internal and external stakeholders and HIS TWGs will operationalize each county HIS Stakeholder Coordination Plan. The purpose of the Stakeholder Coordination Meetings and HIS TWGs is to build consensus on a common vision for county HIS strengthening and review progress on ICT infrastructure deployment. The meetings and TWGs also will develop a joint capacity-building plan, discuss and agree on measures for stakeholder coordination, and ensure coordinated execution of HIS activities.

By the end of Year 4, AfyaInfo had supported the development of Joint HIS Action Plans for Kisumu, Homa Bay, Siaya, Machakos, Uasin Gishu, Migori, Busia and Nairobi Counties. The HIS plan lays out the HIS activities that AfyaInfo, the counties, and other partners will implement. Among the many activities outlined, the following are critical: HIS stakeholder coordination, HIS human resources development, HIS data quality improvement, and deployment of appropriate ICT to support HIS strengthening at the CHMT and facility level. During the joint planning seminars, AfyaInfo shared preliminary results from the

five AfyaInfo-supported MOH assessments: the Data Quality Audit 2014, County Readiness Assessment, Stakeholder Mapping Assessment, Data Demand and Information Use Assessment, and HIS Assessment.

The counties receiving support expressed enthusiasm that the 12-month HIS plan was going to be a useful tool for resource mobilization. It would ensure that the stakeholders supporting HIS were addressing the priority areas the 12-month plan identified. The counties expressed appreciation that this plan came just before the planning cycle began. As a result, the plan will be useful during 2015/16 annual work planning and will provide a good opportunity for budgetary allocations for these activities.

**Support the county-level stakeholder secretariat strengthening in eight focal counties in conducting data and performance reviews.** For each of the eight focal counties that participated in IDPR processes, AfyaInfo supported the development of a functional county-level secretariat for effective IDPRs. During Y4Q3 and Y4Q4, AfyaInfo provided support in planning, scheduling, agenda setting, minute-taking, and the overall planning and execution of the IDPR forums scheduled for Y4Q3 and Y4Q4. This has strengthened the ability of the county to carry out HIS stakeholder coordination and will ensure institutionalized processes for coordination and accountability for results beyond the life of the project. This strengthening will continue in Y4Q4 and Year 5 with a focus on sustainability and transitioning.

**Effective HIS stakeholder coordination.** In Y4Q2, AfyaInfo supported the development of stakeholder coordination plan guidance that counties can adopt to establish mechanisms to coordinate their HIS stakeholders. The intent is to ensure that the collective of HIS stakeholders apply efforts and resources efficiently for the achievement of the county HIS goals. The development of this template relied on lessons learned in supporting Busia, Uasin Gishu, and Homa Bay Counties in developing their HIS stakeholder coordination plans. The stakeholder coordination plan guidance is available for use by counties that will not benefit from AfyaInfo's focused HIS strengthening efforts. AfyaInfo will support all of its focal counties in developing HIS stakeholder coordination plans and beginning institutionalization through establishment of HIS TWG in Year 5.

**Strengthen human and institutional capacity in 12 counties receiving ICT to ensure its adoption and use by developing and conducting a comprehensive Meaningful Use of ICT training.**

Meaningful use means the use of technologies to improve point-of-care experience for both patients and service provider. It requires effective coordination of partners working in the areas of Electronic Medical Records (EMRs), ICT infrastructure for NHIS, and service delivery.

In Y4Q1, AfyaInfo began on-the-job training (OJT) for staff of health facilities with AfyaInfo-installed ICT infrastructure, focusing on data use and health information systems. The training covered the main NHIS databases (DHIS2, MFL and MCUL). AfyaInfo visited eight health facilities in Uasin Gishu and Homa Bay, and trained 64 health facility staff on *Userful*<sup>7</sup>, the MFL, the MCUL, and DHIS2. AfyaInfo also visited two health facilities in Uasin Gishu and Homa Bay for OJT and trained 20 health facility staff on data use. The training equipped the staff with skills and competencies in use of DHIS2 for data entry and extraction for use at the facility and community level. This experience informed the design of the Meaningful Use of ICT program, which AfyaInfo launched in March 2015 to complement the Phase II ICT infrastructure rollout.

AfyaInfo and I-TECH conducted joint HIS training for two health facilities in Uasin Gishu County, focusing on Electronic Medical Records orientation and meaningful use of data at the facility level. The facility-based training was an initial step toward implementing a collaborative approach among partners, reducing duplication of efforts by partners, and making efficient use of health workers' time. The

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<sup>7</sup> *Userful* is the Desktop Virtualization Application for the Atrust™ thin clients.

counties hailed the approach, as it allowed the health workers to attend training without significant service disruption. By the end of the training, the facility staff could use the KenyaEMR patient management system on the AfyaInfo-deployed ICT infrastructure, hence improving the meaningful use of the ICT infrastructure.

In Year 4, AfyaInfo undertook a rapid TNA in a sample of facilities that had received or were expected to receive the AfyaInfo ICT infrastructure deployment. The overall objective of the TNA was to find out the organizational and development needs of the beneficiary facilities, with a view to developing capacity-building organizational development interventions that will enhance the use of the deployed ICT infrastructure. The findings and recommendations from the assessment informed the design of the comprehensive MUICT training program, which addressed both the organizational development and ICT environment needs of beneficiary facilities as part of the new AfyaInfo iCHIS strategy.

The project wanted to strengthen the institutional and human capacity at county and facility level and to secure meaningful use and adoption of the AfyaInfo-deployed ICT. So the project delivered a comprehensive facility and county program in two phases (deployment and post-deployment) to support the 12 counties receiving ICT in Year 4. The Meaningful Use of ICT Training Program is an organizational development and change management intervention to ensure adoption and use of ICT. The program does so by developing facility operational plans for meaningful use of ICT and facility-level plans for sustainable maintenance and budget support for ICT. The program draws extensive collaboration from other USG-funded projects supporting various information systems to build human and organizational capacity at the county level and link county systems to the MOH-led HIS service desk. The systems included are: TiBU, iHRIS, iHRIS train, KEMSA LMIS, KenyaPHARMA and eSCM. The program strengthens facility capacity to use the ICT infrastructure and ensure meaningful use by training users on basic computer skills, assigning user passwords, setting them, providing basic troubleshooting and an issues escalation/logging structure to access the county and national level help desk. Finally, the program trains users on navigation of systems such as the DHIS2 and MFL, including updating MFL codes. Participants from each ICT-supported facility and 12 counties include the facility managers, data managers, CHRIO, CHMT members, and county ICT officers.

The objective of the Phase I MUICT was to strengthen the institutional and individual human capacity at county and facility levels to secure meaningful use and adoption of the AfyaInfo-deployed ICT, including practical orientation sessions on the Useful environment, DHIS, MFL, and MCUL. The ICT staff received hands-on technical know-how training on installation, administration, maintenance, and troubleshooting of the Useful environment. Participants received exposure to iHRIS and iHRIS-Train (IntraHealth), eCSM (Kenya Pharma), and ADT (MSH).

AfyaInfo held a ToT on the Phase I MUICT curriculum in Nairobi in the week of March 17, 2015. AfyaInfo trained 18 participants from the UoN, MOH Department of ICT, and USG partners, including IntraHealth, MSH, CHS, KEMSA, and KenyaPharm. The facilitators worked with CHMT and facility officers on the technical content of the curriculum and change management processes required for meaningful use and adoption of the AfyaInfo-deployed ICT in the counties.

Following the ToT, AfyaInfo launched the Phase I MUICT trainings in collaboration with USG partners, the MOH ICT department, and the UoN. AfyaInfo trained 192 facility managers, data managers, CHRIOs, CHMT members, and county ICT officers from 12 counties. AfyaInfo also included 10 students studying ICT at local universities to participate in Phase I trainings to build their capacity on the deployed infrastructure and to help build a culture of strong and sustainable HIS in Kenya.

The MUICT program focused on building capacity in the following areas:

- Organizational development and change management strategies to ensure adoption and use of ICT. The program developed facility change management operational plans for meaningful use of ICT and supported facility-level plans for sustainable maintenance and budget support for ICT

- Strengthening facility-level capacity to use the ICT infrastructure and ensure meaningful use by training users on basic computer skills; assigning user passwords and settings; training on navigation of systems, including the DHIS2 and MFL; training on USAID IPs' systems, including ADT, the KEMSA enterprise resource package, TiBU, eCSM, and iHRIS; and developing mentoring skills
- Strengthening county-level capacity to support and maintain the ICT by training on the ICT environment, troubleshooting protocols and accessing the national Help Desk, and ICT maintenance and support
- Improving facility-level data management, data quality, and data use following ICT infrastructure updating of MFL data, training on data quality protocols, producing HIS-related reports using the DHIS2, and refreshing computer skills

AfyalInfo conducted a pre-training assessment, analyzed it for Phase I, and submitted it to USAID in August 2015.

During Y4Q4, AfyalInfo implemented the second phase of the MUICT program in two sessions targeting ICT Officers, HRIOs at county and sub-county level, and pharmacists from each of the 12 focal counties. In total, 96 participants received orientation as MUICT peer consultants. The sub-county HRIOs and ICT Officers in each county will make onsite visits to each facility as peer consultants to orient the various facility staff on:

- Useful for end users
- Useful for administrators
- Data management practices (including undertaking a Mini DQA)
- Overview of DHIS, MCUL, and MFL
- DHIS data entry
- Implementing partner applications: ADT and KEMSA LMIS

In addition, 11 county pharmacists received an in-depth orientation on the KEMSA, LMIS, and the MSH-supported ADT applications.

AfyalInfo developed a comprehensive manual to facilitate review of the various sessions that would be implemented by the peer consultants targeting different facility staff depending on their roles. The guide included tools and job aids for all of the peer consultant teams to use during site visits to the facility level. The peer consultant teams planned their site visit schedules during the MUICT training sessions.

The project collaborated with implementing partners to on-board their applications onto the deployed ICT infrastructure in the facilities. The project supported KEMSA staff in training county and sub-county pharmacists and facility staff on reporting on commodities and supplies on LMIS in Homa Bay, Siaya, Migori, Busia, and Kisumu Counties. AfyalInfo trained 80 health staff in charge of pharmaceutical and non-pharmaceutical items at the facility, sub-county, and county levels. The training involved ordering commodities and supplies at the facility level. One goal was to ease the burden on sub-county pharmacists to compile data manually. Another was to improve significantly the quality of data transfer. Following feedback provided by the USG interagency site visit teams, AfyalInfo redesigned the MUICT program to include a facility cascade phase. In this phase, AfyalInfo trains all the health care workers in facilities benefiting from ICT infrastructure, combining both classroom and OJT training delivery methodologies.

## **Cross-Cutting**

**Coordinate the monitoring and evaluation of the impact of integrated county interventions in eight focal counties on data quality (timeliness, accuracy, and completeness).** The aim of

the AfyaInfo Integrated County HIS Strategy is to strengthen county human and organizational capacity to use quality data to plan, implement, and monitor health services. During Y4Q3, AfyaInfo designed an evaluation approach to measure capacities (organizational and individual) both before and after intensive county-level intervention. The goal was to determine the extent to which the project has achieved capacity improvements. This mixed method approach will seek to answer process and implementation questions. AfyaInfo will use the information to gather characteristics, knowledge, and perceptions among targeted stakeholders and contextual information on the status of the operating environment before and after project interventions.

As part of this effort, during Year 4, AfyaInfo designed and administered a pre-training assessment for individuals who participated in the Phase I MUICT Training. The assessment measured skills and knowledge based on the established learning objectives of the training curriculum. During AfyaInfo Year 4, AfyaInfo launched the Phase I Meaningful Use of ICT training program in collaboration with USG partners, the MOH's Dept. ICT, and the UoN. AfyaInfo trained 192 facility managers, data managers, CHRIOs, high-level CHMT members, and county ICT Officers from 12 counties. For the pre-training assessment, AfyaInfo collected data using a self-administered questionnaire, completed in the presence of trained project staff. AfyaInfo obtained written consent from all participants prior to participation. In Y4Q4, AfyaInfo analyzed the pre-training assessment data and developed a full report of findings that will help inform the project in designing technical support interventions going forward. To measure post-training knowledge and use of new skills on the job, AfyaInfo will administer an assessment to all participants approximately six months following training.

**With USAID, hold regular high-level meetings with the MOH leadership to secure project support and buy-in.** During the second half of Year 4, AfyaInfo made increased effort to engage the MOH leadership in enhanced dialogue about the project, its scope, and its implementation approach. The AfyaInfo Chief of Party held one-on-one meetings with senior MOH staff: the Head of Department, Intergovernmental Affairs and Coordination; Head of Health Promotive and Preventive Health Department; Curative and Rehabilitative Health Services Department Head; ICT Department Head, and the Division of Health Informatics and M&E Department Head. The purpose of the meetings was to ensure buy-in and support for project activities and progress. These meetings also ensured that stakeholders received a briefing on the MTR findings, PEPFAR priority focus, and the resultant refinement of the AfyaInfo strategy for the remaining life of the project, such as the iCHIS.

In Y4Q4, AfyaInfo continued to hold one-on-one meetings with senior director-level representatives in the MOH to update them on the status of activity implementation. This engagement saw the Head of the ICT department and Head of DivHIME form part of the joint USG/MOH delegation for the field visits to three counties in June. The project leadership held meetings with County Departments of Health in Migori, Homa Bay, Siaya, Kisumu and Uasin Gishu counties. These meetings served to brief the county leadership on the implementation status of AfyaInfo-supported activities and follow up on county commitments to taking on recurrent costs for ICT infrastructure and provision of internet services. The project will continue to hold meetings with high-level MOH leadership at the national level and county level to promote project visibility, buy in of activities, and ownership in line with the project mantra of county owned, country led.

**Present to MOH the MTR report and post-MTR re-programming of the project.** In February 2015, AfyaInfo met with all the units in the DivHIME and the Department of ICT to: review project progress, disseminate the findings and recommendations of the MTR report, introduce the integrated county HIS strategy, and schedule critical activities to facilitate timely project implementation, including joint planning seminars with the counties. This meeting was instrumental in clarifying and improving the working relationship between AfyaInfo and the DivHIME. The project and DivHIME resolved to work together to ensure timely implementation of project activities. The Head of DivHIME emphasized the division's commitment to joint planning of the integrated county strategy and participation in its implementation. Capacity-building is a mandate of the national-level units of the

MOH. AfyaInfo identified working groups to champion the implementation of various priority activities. This contributed in part to the speedy implementation of project activities in Y4Q3.

## IV. CONSTRAINTS

In Y4Q2, AfyaInfo had an opportunity to reflect on the findings of the project's external Mid-Term Review Report. AfyaInfo subsequently devised strategies to respond to the MTR findings and recommendations and discussed these with USAID/Kenya. AfyaInfo integrated these strategies into a supplemental Year 4 work plan and submitted it in January 2015. The supplemental work plan enables AfyaInfo to respond to client and stakeholder priorities. One of the strategies that AfyaInfo adopted post-MTR is the development and implementation of an integrated county-level HIS strengthening strategy that ensures coordination of all AfyaInfo activities under the three output areas through a single implementation location, resourced by a county coordinator. This presents an opportunity for the counties to view AfyaInfo as an integrated HIS strengthening program and not a sum of parts. This will also improve implementation efficiency and consolidate HIS strengthening in eight focus counties where the results of HIS strengthening are holistic and demonstrable.

Long-term sustainability of the ICT infrastructure requires that counties be the first level of support for facilities and that they champion any further deployments. Counties must have staff available and willing to take on ICT technical support. During the ICT deployment process, county ICT and HIS staff participated in trainings on the installation, upgrade, and maintenance of the Useful environment. This enabled them to gain practical hands-on skills in setting up the environment in the facilities. Following recommendations from the USG site visit in Y4Q4, AfyaInfo expanded the technical support training with the following: designing an intensive ICT training on Useful for delivery in Y5Q1, establishing a Useful test lab for learning and application testing, and providing facility-level ICT support in post-deployment. These supports will ensure that ICT staff members (and those from USG partners) can handle and resolve queries from the facilities.

As the project continues to work closely with CHMTs and health facility HMTs to secure meaningful use of the ICT infrastructure, weak and patchy mobile internet signals are emerging as a big challenge for most health facilities outside of major townships. This situation limits access to web applications.

In Y4Q3, AfyaInfo completed procurement of ICT materials and equipment for passive (LAN) and active installation for Phase II of infrastructure deployment. Phase II's objectives were site surveys, LAN installation, active equipment configuration, deployment, and installation in 106 sites over a period of five months (12 sites were completed in Year 3). AfyaInfo contracted three firms to conduct site surveys and install LANs in the 106 sites. The AfyaInfo team quickly identified the varying levels of quality standards among the firms' technicians as a critical constraint to overcome quickly to avoid jeopardizing quality, performance, and schedule. For example, one vendor failed to meet agreed-on quality standards during initial installation in February; this necessitated project negotiations with the vendor's senior management to redo the work, at their cost.

However, this challenge also presented an opportunity. To identify the best way forward to ensure quality and high performance, AfyaInfo launched a significant quality assurance process. This included calibration of quality standards with the vendors, AfyaInfo team, and consultants and developing standardized and user-friendly best practice guides and tools.

County-level political preferences affected the selection of health facilities to receive ICT infrastructure and equipment. Several counties did not welcome the inclusion of faith-based health facilities. This called for negotiations with the CHMTs and explaining to them the selection criteria. The project received great support from USAID on the best ways forward on a county-by-county basis.

Functional connection and distribution of power outlets within health facilities also emerged as a constraint. AfyaInfo negotiated with both county and health facility management teams to prioritize extension of power distribution to the service areas. Such negotiations were unsuccessful in 21 sites, requiring AfyaInfo to engage with facility and county management to select replacement facilities. This process slowed down LAN installation because of the need for new site surveys and quantification of bills of materials for the new sites before installation. (Annex III includes a more detailed overview of ICT deployment-related constraints and opportunities.)

## V. OPPORTUNITIES

During Year 4, AfyaInfo was able to tap into several opportunities to enhance the results of the project. For instance, the findings of the MTR enabled AfyaInfo to refine its strategies, reinvigorate technical strategies, and mobilize energy and resources toward USG and MOH priorities.

Academic institutions continue to offer sustainable solutions for the delivery of common public health interventions. AfyaInfo trained students from the UoN and other universities and then used them as trainers in the Meaningful Use of ICT training. In this way, the students not only received training but also became resource persons for future training. In addition, working closely during the training with the MOH Department of ICT, they came to understand the real need for human capacity development of ICT within the MOH. The experience further builds a pool of Kenyan talent available to the county and their IPs for subsequent trainings and support.

To support facilities in meaningful use of ICT, AfyaInfo and USG IPs worked together to build in IP application training into Phase I delivery. In addition, IP representatives from IntraHealth, MSH, CHS, and KEMSA/KenyaPharm were co-facilitators during both the ToT and Phase I. They sensitized the county and facility managers to their respective applications by demonstrating functionality and use of the AfyaInfo-deployed ICT environment. This partnership has opened up new opportunities for collaboration with the health facilities to ensure that they use these applications are on-boarded and used meaningfully.

The compatibility of the Useful multiuser platform with major patient level software applications is crucial to the success of the meaningful use of the AfyaInfo-supported ICT infrastructure. To ensure such compatibility, AfyaInfo conducted tests of the on-boarding process of major HIS applications onto the Useful platform, including KenyaEMR, CPAD, OpenMRS and IQCare. The ICT officers from the respective application owners on-boarded all of the applications onto the Useful environment. This successful exercise confirmed that these applications are ready for on-boarding in the 116 AfyaInfo-supported and any subsequent sites that receive support in future.

The Kenya Health and Leadership Congress was an opportunity for AfyaInfo to disseminate project documents to a wide range of stakeholders from all the counties. In introducing many participants to DHIS and MFL access and manipulation in a simulated environment, the Congress also was a cost-effective way to reach a wide range of stakeholders and increase interest in these tools.

Availability of the NHIS test servers at the UoN School of Computing enables other partners with health applications to test their applications, The school has already supported several tests. Such use of the UoN represents an exciting element of sustainability and transition of responsibilities to local entities. AfyaInfo needs to invest in sensitizing stakeholders on the availability of this resource.

The JPRP presents an opportunity for the MOH to account for results from development partners beyond USG. The project introduced the portal at the health sector M&E TWG inaugural meeting, generating significant interest and leading to a demonstration of the portal at the subsequent M&E TWG meeting.

## VI. PERFORMANCE MONITORING

During Year 4, AfyaInfo continually updated and revised its M&E approach to reflect the evolving project scope, changes to the operating environment and client priorities and recommendations from the Mid-Term Evaluation.

Early in the year, AfyaInfo spent significant time in support of the external MTR, which International Business & Technical Consultants Inc. conducted under the umbrella of USAID's Evaluation Services and Program Support project. The firm conducted the MTR in August and September 2014. In July, the project finalized its preparation for the MTR, including the development of briefing materials and organization of resources for the evaluation team. In August and September, AfyaInfo participated in several formal meetings, interviews, and focus group discussions with the evaluation team. In addition, the project responded to various ad hoc requests for documentation and information. AfyaInfo received a draft version of the MTR evaluation report during the last week of September after which the project provided responses to the evaluation team to inform the development and finalization of the final MTR report.

Following a comprehensive revision process, including consultations with USAID and the MOH, AfyaInfo submitted a revised M&E Plan to USAID with the Year 5 work plan in May 2015.<sup>8</sup> The project continued to use the approved Performance Monitoring Plan for routine monitoring, including in this report. (As noted in the performance tables below, several indicators are no longer relevant to the project due to activity/scope modifications.) In addition to routine M&E tasks, during Y4Q4 the project launched elements of its comprehensive approach to evaluate the effects of the nascent Integrated County HIS Strategy.

Late in Y4Q3, the AfyaInfo Monitoring and Evaluation Officer resigned. During Y4Q4, the project actively recruited to fill this position, identified an appropriate candidate, and submitted an approval request to USAID to complete the hiring process.

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<sup>8</sup> At the time of this report writing, and after continued dialogue and agreements with USAID/Kenya, AfyaInfo has retracted its revised Performance Monitoring Plan and will retain the existing, approved Performance Monitoring Plan for the remaining life of the project.

Note: For all indicators, please see respective Performance Indicator Reference Sheet for specific details on indicator definition and measurement.

**Output I Establish a strong, unified and integrated web-based host country-owned and managed NHIS that generates quality data used at all levels to improve health service delivery.**

**% of health facilities where health information system is in use for at least 24 months uninterrupted before sign-off**

**INDICATOR # I.1**

UNIT	DISAGGREGATE BY: Ownership and County											
	Ownership	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15							
Percentage of health facilities	MOH	95.2%	93.5%	95.8%	96.3%							
	Faith-based Organization	93.1%	90.2%	93.1%	92.6%							
	Private institution	89.8%	87.4%	89.3%	91.2%							
	Community	79.3%	82.8%	91.4%	89.2%							

**Results:** 93.9% DHIS2 reporting rate for MOH 711 for the May 2015 (downloaded from DHIS2 on 21 July 2015 per data collection protocol), the final reporting period in Year 4

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sep-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
1. Mombasa	75.4%	94.6%	97.8%	91.4%	91.8%	89.1%	89.7%	80%	89.8%	80%	80%	80%	80%
2. Kwale	92.2%	95%	95.4%	87.6%	88.4%	93.7%	92.9%	80%	98%	80%	80%	80%	80%
3. Kilifi	93.2%	95%	98.1%	96.5%	99.4%	97.7%	97.2%	80%	96.1%	80%	80%	80%	80%
4. Tana River	89.1%	99.3%	95.8%	91.1%	75%	75%	81.4%	80%	78.9%	80%	80%	80%	80%
5. Lamu	91.9%	97.3%	100%	80.5%	75.6%	75.6%	78%	80%	95.1%	80%	80%	80%	80%
6. Taita Taveta	90.3%	95.8%	100%	96.1%	94.7%	96.1%	96.1%	80%	94.7%	80%	80%	80%	80%
7. Garissa	79.5%	85.4%	93.2%	97.5%	96.3%	93.8%	95.2%	80%	81.4%	80%	80%	80%	80%
8. Wajir	70.7%	86.9%	94%	83.6%	77.8%	72.8%	82.6%	80%	94%	80%	80%	80%	80%

**% of health facilities where health information system is in use for at least 24 months uninterrupted before sign-off**

**INDICATOR # 1.1**

UNIT	DISAGGREGATE BY: Ownership and County										
	Ownership	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15						
Percentage of health facilities	MOH	95.2%	93.5%	95.8%	96.3%						
	Faith-based Organization	93.1%	90.2%	93.1%	92.6%						
	Private institution	89.8%	87.4%	89.3%	91.2%						
	Community	79.3%	82.8%	91.4%	89.2%						

**Results:** 93.9% DHIS2 reporting rate for MOH 711 for the May 2015 (downloaded from DHIS2 on 21 July 2015 per data collection protocol), the final reporting period in Year 4

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sep-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
9. Mandera	68.8%	92.5%	83.3%	87.5%	77.6%	71.4%	78%	80%	80%	80%	80%	80%	80%
10. Marsabit	72.6%	75.3%	96%	93.7%	93.9%	84.5%	86%	80%	95.4%	80%	80%	80%	80%
11. Isiolo	84.9%	88.9%	95.2%	78.7%	85.1%	85.1%	72.7%	80%	74.5%	80%	80%	80%	80%
12. Meru	66%	81.8%	96.6%	94.8%	93.1%	92.6%	96.8%	80%	99.5%	80%	80%	80%	80%
13. Tharaka Nithi	83.3%	89.1%	88.9%	96.6%	96.8%	88.7%	96.9%	80%	89.9%	80%	80%	80%	80%
14. Embu	75.3%	93.2%	99.1%	100%	100%	99.1%	100%	80%	99.1%	80%	80%	80%	80%
15. Kitui	70.3%	92.5%	96.7%	96.3%	96.4%	94.2%	97.4%	80%	98.2%	80%	80%	80%	80%
16. Machakos	78.6%	93.8%	98.6%	97.7%	96.8%	98.1%	98.6%	80%	97.7%	80%	80%	80%	80%
17. Makueni	87.7%	96.1%	98.1%	98.9%	98.9%	98.4%	100%	80%	98.4%	80%	80%	80%	80%
18. Nyandarua	83.2%	95.6%	93.5%	98%	95.9%	97.9%	88.5%	80%	97%	80%	80%	80%	80%
19. Nyeri	78.9%	89.6%	88.3%	85.9%	90.3%	94.9%	98%	80%	98.5%	80%	80%	80%	80%
20. Kirinyaga	100%	100%	99%	100%	99%	99%	100%	80%	100%	80%	80%	80%	80%

**% of health facilities where health information system is in use for at least 24 months uninterrupted before sign-off**

**INDICATOR # 1.1**

UNIT	DISAGGREGATE BY: Ownership and County										
	Ownership	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15						
Percentage of health facilities	MOH	95.2%	93.5%	95.8%	96.3%						
	Faith-based Organization	93.1%	90.2%	93.1%	92.6%						
	Private institution	89.8%	87.4%	89.3%	91.2%						
	Community	79.3%	82.8%	91.4%	89.2%						

**Results:** 93.9% DHIS2 reporting rate for MOH 711 for the May 2015 (downloaded from DHIS2 on 21 July 2015 per data collection protocol), the final reporting period in Year 4

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sep-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
21. Murang'a	85%	94.2%	90.2%	99.5%	98.4%	98.9%	98.9%	80%	97.4%	80%	80%	80%	80%
22. Kiambu	66.1%	88.6%	93.2%	98.4%	99.1%	98.5%	98.5%	80%	100%	80%	80%	80%	80%
23. Turkana	41.4%	69.6%	86.1%	81.2%	82%	83.3%	92.7%	80%	96.7%	80%	80%	80%	80%
24. West Pokot	82.8%	88.7%	88.2%	93.7%	97.6%	96.6%	100%	80%	93.4%	80%	80%	80%	80%
25. Samburu	75.8%	81.2%	84.3%	81.7%	85.3%	69.6%	82.6%	80%	85.5%	80%	80%	80%	80%
26. Trans Nzoia	79.4%	87.7%	87.4%	88.2%	92.9%	58.9%	96.6%	80%	97.8%	80%	80%	80%	80%
27. Uasin Gishu	65.5%	88.2%	84%	78.8%	82.2%	81.3%	91.9%	80%	90.1%	80%	80%	80%	80%
28. Elgeyo/Marakwet	66%	82.7%	91%	81.4%	97.3%	86%	95%	80%	93.7%	80%	80%	80%	80%
29. Nandi	72.2%	90.4%	94.7%	84.5%	89.3%	88.1%	89.5%	80%	87.5%	80%	80%	80%	80%
30. Baringo	76.9%	85.2%	90.6%	94.4%	93.3%	90.4%	91.9%	80%	96%	80%	80%	80%	80%
31. Laikipia	86.1%	91.6%	96.6%	90.9%	91%	86.4%	86.5%	80%	100%	80%	80%	80%	80%

**% of health facilities where health information system is in use for at least 24 months uninterrupted before sign-off**

**INDICATOR # I.1**

UNIT	DISAGGREGATE BY: Ownership and County										
	Ownership	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15						
Percentage of health facilities	MOH	95.2%	93.5%	95.8%	96.3%						
	Faith-based Organization	93.1%	90.2%	93.1%	92.6%						
	Private institution	89.8%	87.4%	89.3%	91.2%						
	Community	79.3%	82.8%	91.4%	89.2%						

**Results:** 93.9% DHIS2 reporting rate for MOH 711 for the May 2015 (downloaded from DHIS2 on 21 July 2015 per data collection protocol), the final reporting period in Year 4

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sep-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
32. Nakuru	78.7%	90.4%	97.6%	95.8%	96.5%	97.5%	98.1%	80%	97.8%	80%	80%	80%	80%
33. Narok	75.7%	81%	85%	76.8%	61%	73.1%	89.6%	80%	87.9%	80%	80%	80%	80%
34. Kajiado	62.9%	84.9%	87.4%	87.5%	90.6%	97%	92.7%	80%	94.9%	80%	80%	80%	80%
35. Kericho	86%	93.7%	94.3%	93.5%	95.9%	89.5%	94.7%	80%	92.4%	80%	80%	80%	80%
36. Bomet	82%	88.8%	96.6%	94.4%	93.3%	93.4%	94.9%	80%	87.1%	80%	80%	80%	80%
37. Kakamega	73.2%	94%	98.6%	92.7%	93.7%	90.6%	95.5%	80%	98.7%	80%	80%	80%	80%
38. Vihiga	87.2%	95.4%	98.7%	94.9%	100%	98.7%	97.3%	80%	95.9%	80%	80%	80%	80%
39. Bungoma	84%	99.7%	95.4%	95.5%	97.9%	97.9%	97.3%	80%	92.1%	80%	80%	80%	80%
40. Busia	90.5%	100%	96.2%	98.8%	98.8%	100%	98.8%	80%	95.1%	80%	80%	80%	80%
41. Siaya	88%	94.4%	99.3%	99.4%	99.4%	98.7%	99.4%	80%	98.1%	80%	80%	80%	80%
42. Kisumu	81.9%	94.5%	97.9%	95.4%	98.7%	96.2%	98.7%	80%	98.8%	80%	80%	80%	80%
43. Homa Bay	90.4%	97.1%	98.9%	96%	99%	99.5%	99%	80%	100%	80%	80%	80%	80%

**% of health facilities where health information system is in use for at least 24 months uninterrupted before sign-off**

**INDICATOR # 1.1**

UNIT	DISAGGREGATE BY: Ownership and County										
	Ownership	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15						
Percentage of health facilities	MOH	95.2%	93.5%	95.8%	96.3%						
	Faith-based Organization	93.1%	90.2%	93.1%	92.6%						
	Private institution	89.8%	87.4%	89.3%	91.2%						
	Community	79.3%	82.8%	91.4%	89.2%						

**Results:** 93.9% DHIS2 reporting rate for MOH 711 for the May 2015 (downloaded from DHIS2 on 21 July 2015 per data collection protocol), the final reporting period in Year 4

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sep-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target	Target
44. Migori	87%	96.6%	93.3%	93.1%	97.7%	96.6%	80%	98.3%	80%	80%	80%	80%	
45. Kisii	78.3%	95.3%	95.9%	99.3%	97.3%	94.6%	100%	80%	99.3%	80%	80%	80%	80%
46. Nyamira	84.9%	96.4%	98.4%	98.4%	98.4%	98.4%	100%	80%	99.2%	80%	80%	80%	80%
47. Nairobi	66.2%	84.7%	85.1%	81.9%	82.8%	69.2%	68.3%	80%	74.4%	80%	80%	80%	80%
National	76%	91.3%	93.7%	92.2%	92.9%	90.6%	93%	80%	93.9%	80%	80%	80%	80%

**% of community units where health information system is in use for at least 24 months uninterrupted before sign-off**

**INDICATOR # 1.2**

<b>UNIT</b>													
Percentage of community units													

**DISAGGREGATE BY:** Ownership and County

**Results:** 55.2%% DHIS2 reporting rate for MOH 515 for May 2015 (downloaded from DHIS2 on 21 July 2015 per data collection protocol), the final reporting period in Year 4

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
1. Mombasa	24.5%	9.8%	37.5%	11.1%	29.6%	16.4%	16.1%	80%	21.1%	80%	80%	80%	80%
2. Kwale	3.1%	24.6%	0%	2.2%	3.3%	5.3%	6.3%	80%	3.2%	80%	80%	80%	80%
3. Kilifi	3.9%	7.8%	44.7%	59.6%	69.2%	43.1%	36.1%	80%	54.8%	80%	80%	80%	80%
4. Tana River	1.7%	18.4%	21.4%	46.6%	36.2%	6.9%	16.9%	80%	24.1%	80%	80%	80%	80%
5. Lamu	0%	16.7%	0%	8.3%	20%	0%	10%	80%	40%	80%	80%	80%	80%
6. Taita Taveta	0%	30.1%	56.3%	41%	35.9%	41.4%	31%	80%	24.1%	80%	80%	80%	80%
7. Garissa	0%	75%	60%	60.5%	78.4%	71.1%	77.3%	80%	74.6%	80%	80%	80%	80%
8. Wajir	0%	25%	35.1%	37.5%	42%	53.2%	55.6%	80%	55.6%	80%	80%	80%	80%
9. Mandera	0%	0%	0%	0%	0%	0%	25%	80%	0%	80%	80%	80%	80%
10. Marsabit	5.1%	25.6%	54.5%	42.3%	60%	52%	48%	80%	45.8%	80%	80%	80%	80%
11. Isiolo	0%	0%	0%	20.7%	17.2%	0%	11.1%	80%	0%	80%	80%	80%	80%
12. Meru	0%	30.3%	19.4%	18.6%	43.2%	13.6%	40.5%	80%	38.1%	80%	80%	80%	80%
13. Tharaka Nithi	0%	36.4%	7.7%	41.2%	33.3%	21.1%	20%	80%	0%	80%	80%	80%	80%
14. Embu	0%	31.5%	57.7%	67.6%	55.9%	58.8%	61.8%	80%	54.3%	80%	80%	80%	80%
15. Kitui	13.7%	58.2%	80%	64.2%	40.8%	26%	35.1%	80%	35.1%	80%	80%	80%	80%

**% of community units where health information system is in use for at least 24 months uninterrupted before sign-off**

**INDICATOR # 1.2**

<b>UNIT</b>													
Percentage of community units													

**DISAGGREGATE BY:** Ownership and County

**Results:** 55.2%% DHIS2 reporting rate for MOH 515 for May 2015 (downloaded from DHIS2 on 21 July 2015 per data collection protocol), the final reporting period in Year 4

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
16. Machakos	10.8%	14.2%	10.3%	44.6%	57.1%	48.3%	60%	80%	73.5%	80%	80%	80%	80%
17. Makueni	0%	7.9%	30.8%	30.6%	22.6%	44.8%	52.8%	80%	14.3%	80%	80%	80%	80%
18. Nyandarua	0%	41.3%	48.1%	56.7%	86%	70.2%	67.3%	80%	48%	80%	80%	80%	80%
19. Nyeri	33.3%	56%	23.3%	3.4%	6.7%	20.7%	0%	80%	35.7%	80%	80%	80%	80%
20. Kirinyaga	29.3%	60.7%	100%	100%	100%	100%	100%	80%	100%	80%	80%	80%	80%
21. Murang'a	0%	18.4%	29.9%	15.6%	22.2%	9.5%	7.8%	80%	4.7%	80%	80%	80%	80%
22. Kiambu	0%	3.6%	28.1%	44.6%	34.1%	9.8%	42.7%	80%	1.2%	80%	80%	80%	80%
23. Turkana	0%	2.4%	21.6%	45.5%	46.6%	57.4%	56.2%	80%	65.6%	80%	80%	80%	80%
24. West Pokot	1.1%	44.4%	48.6%	62.7%	67.2%	60.0%	68.9%	80%	65.6%	80%	80%	80%	80%
25. Samburu	1.5%	16.7%	41.7%	73.3%	93.3%	60%	57.9%	80%	46.7%	80%	80%	80%	80%
26. Trans Nzoia	0%	17.2%	62.7%	34.6%	46.3%	24.3%	46.9	80%	61.2%	80%	80%	80%	80%
27. Uasin Gishu	0%	5.3%	10%	0%	0%	0%	22.5%	80%	30%	80%	80%	80%	80%
28. Elgeyo/Mara kwet	0%	0%	5.6%	25.8%	34.4%	13.6%	19.6%	80%	16.1%	80%	80%	80%	80%
29. Nandi	1.1%	25.3%	48.1%	26.7%	30%	0%	37.5%	80%	25.6%	80%	80%	80%	80%
30. Baringo	4.3%	37.7%	85.3%	70.6%	44.4%	66.7%	64.9%	80%	82.4%	80%	80%	80%	80%

**% of community units where health information system is in use for at least 24 months uninterrupted before sign-off**

**INDICATOR # 1.2**

<b>UNIT</b>													
Percentage of community units													

**DISAGGREGATE BY:** Ownership and County

**Results:** 55.2%% DHIS2 reporting rate for MOH 515 for May 2015 (downloaded from DHIS2 on 21 July 2015 per data collection protocol), the final reporting period in Year 4

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
31. Laikipia	0%	56.7%	75%	73.3%	66.7%	33.3%	53.3%	80%	53.3%	80%	80%	80%	80%
32. Nakuru	4.8%	30.9%	88.4%	76.8%	85.1%	75.2%	82%	80%	72.1%	80%	80%	80%	80%
33. Narok	0%	26.3%	60.9%	37.8%	52.7%	44.6%	23.2%	80%	45.8%	80%	80%	80%	80%
34. Kajiado	32.6%	53.9%	61.8%	54.4%	39.3%	52.6%	50.8%	80%	50%	80%	80%	80%	80%
35. Kericho	0%	0%	33.3%	33.3%	65%	10%	22.2%	80%	35%	80%	80%	80%	80%
36. Bomet	0%	0%	36%	16.3%	16.3%	14%	10%	80%	6.1%	80%	80%	80%	80%
37. Kakamega	5.2%	23.2%	61.5%	63.8%	70.5%	71.5%	60.6%	80%	63%	80%	80%	80%	80%
38. Vihiga	0.9%	42.6%	54.2%	46.5%	32.3%	27.4%	35.9%	80%	27.7%	80%	80%	80%	80%
39. Bungoma	10.5%	27.1%	69%	56.8%	62.9%	53.8%	53.2%	80%	57.9%	80%	80%	80%	80%
40. Busia	0.6%	38.8%	47.8%	43.2%	37.1%	24.1%	42.4%	80%	37.4%	80%	80%	80%	80%
41. Siaya	17%	56.8%	87.2%	87.3%	71.9%	85.8%	85.6%	80%	86.2%	80%	80%	80%	80%
42. Kisumu	10.9%	37.9%	69.3%	71%	61.5%	82.3%	74.6%	80%	79.9%	80%	80%	80%	80%
43. Homa Bay	0%	36.2%	68%	86.6%	81.4%	93.3%	95.8%	80%	96.2%	80%	80%	80%	80%
44. Migori	6.4%	46.2%	50.4%	72%	82.4%	87.4%	91.8%	80%	90.4%	80%	80%	80%	80%
45. Kisii	1.8%	16.7%	22.7%	43.7%	48%	38.5%	49.2%	80%	59%	80%	80%	80%	80%
46. Nyamira	0%	38.5%	54.1%	72%	77.6%	97.3%	83.5%	80%	85.7%	80%	80%	80%	80%

**% of community units where health information system is in use for at least 24 months uninterrupted before sign-off**

**INDICATOR # 1.2**

<b>UNIT</b>													
Percentage of community units													

**DISAGGREGATE BY:** Ownership and County

**Results:** 55.2%% DHIS2 reporting rate for MOH 515 for May 2015 (downloaded from DHIS2 on 21 July 2015 per data collection protocol), the final reporting period in Year 4

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
47. Nairobi	8.9%	37.5%	76.6%	53.3%	48.7%	34.4%	35.8%	80%	35.7%	80%	80%	80%	80%
National	0%	46.3%	55%	54.4%	54.9%	52.2%	54.9%	80%	55.2%	80%	80%	80%	80%

**% of facilities reporting complete data as required by facility-based programs in health sector through HMIS 12 months after system deployment**

**INDICATOR # 1.3a**

<b>UNIT</b>													
Facilities													

**DISAGGREGATE BY:** Nil

**Results:** 77% (Results from 2014 National DQA. Calculated as number of facilities that submitted complete reports for all key indicators for the services offered, divided by the total number of facilities expected to submit the reports.)

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80%	77%	80%	80%	80%	80%

**% of facilities reporting accurate data as required by facility-based programs in health sector through HMIS 12 months after system deployment**

**INDICATOR # 1.3b**

<b>UNIT</b> Facilities	<b>DISAGGREGATE BY: Nil</b>
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**Results:** 27.7% (Results from 2014 National DQA. Calculated as proportion of facilities with source document data matching DHIS2 data)

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80%	27.7%	80%	80%	80%	80%

**# of independent health sector data/ information systems integrated into single web-based HMIS**

**INDICATOR # 1.4**

<b>UNIT</b> Number of systems	<b>DISAGGREGATE BY: Nil</b>
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**Results: 5**

Integrated systems are: DHIS2, Health Sector Service Fund (HSSF), Inpatient Module, Kenya Quality Model for Health (KQMH) and IHRIS; Additionally, four systems (MCUL, DHIS2, MFL and MFL Regulatory Module) are interoperable

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target	Target
Overall	0	2	4	5			5	6	5	6	6	6	6

**Output 2** Establish a functional GoK-managed LKM system that improves the culture of information generation, knowledge capture, and information use

Functional TWG created/ supported to lead all LKM activities and policy dialogue													
INDICATOR # 2.1.1													
UNIT	DISAGGREGATE BY: Nil												
Yes/No													
<b>Results:</b> Yes													
Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	N/A	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Stakeholder information needs identified													
INDICATOR # 2.1.2													
UNIT	DISAGGREGATE BY: Nil												
Yes/No													
<b>Results:</b> Yes													
Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	N/A	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Define DQI/ DQA strategy for institutionalization within the MOH**

**INDICATOR # 2.1.5**

<b>UNIT</b>	<b>DISAGGREGATE BY: Nil</b>
Yes/No	

**Results:** Yes

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	N/A	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**% of planned capacity building activities in information use for audiences at all levels carried out**

**INDICATOR # 2.1.6**

<b>UNIT</b>	<b>DISAGGREGATE BY: Nil</b>
Planned activities	

**Results:** 100%

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	N/A	100%	100%	100%	100%	100%	N/A	100%	100%	100%	100%	100%	100%

**Quarterly print and electronic materials on health information and their usefulness available and being produced and distributed at all levels**

**INDICATOR # 2.9**

**UNIT**

Yes/No

**DISAGGREGATE BY:** Level

**Results:** Yes

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Community unit	N/A	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Health facility	N/A	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sub County	N/A	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County	N/A	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Existence of reliable and up-to-date web-based public health information database (including MFL)**

**INDICATOR # 2.10**

**UNIT**

Yes/No

**DISAGGREGATE BY:** Nil

**Results:** Yes

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Output 2** Indicators Not Reported in this Quarterly Report:

Indicator No.	Indicator Statement	Reason
2.1.3	Develop health communication strategy in collaboration with and to meet needs of stakeholders at all levels	AfyalInfo project activities supporting achievement of these indicators were stopped in Year 3 due to PEPFAR priority realignment processes.
2.1.4	Develop LKM system for use and deployment at all levels	
2.2	% of counties with functional LKM system in use for at least 24 months uninterrupted before sign-off	
2.3	% of health facilities with functional LKM system in use for at least 24 months uninterrupted before sign-off	
2.4	% of community units with functional LKM system in use for at least 24 months uninterrupted before sign-off	
2.5	% of national, regional and district public awareness and dissemination forums established and in use	
2.6	% of counties producing and distributing quarterly print and electronic materials on health information	
2.7	% of facilities producing and distributing quarterly print and electronic materials on health information	
2.8	% of community units producing and distributing quarterly print and electronic materials on health information	
Note: For historical data on these indicators, please see AfyalInfo Quarterly Reports for Year 1 – Year 3.		

**Output 3:** Establish a functional HMIS division that is capable of passing a USAID pre-award responsibility determination in leadership and management, financial, and procurement capability

**Ability of DivHIS to pass an institutional capacity assessment/ audit on management and coordination, organizational leadership and governance structure, financial and procurement**

**INDICATOR # 3.1**

<b>UNIT</b>	<b>DISAGGREGATE BY:</b> Category
Yes/No	

**Results:** N/A. The USAID assessment of DivHIME's institutional capacity assessment is still pending.

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Management and coordination	No	No	No	No	No	No	No	Yes	N/A	N/A	N/A	N/A	N/A
Organizational leadership and governance structure	No	No	No	No	No	No	No	Yes	N/A	N/A	N/A	N/A	N/A
Financial system	No	No	No	No	No	No	No	Yes	N/A	N/A	N/A	N/A	N/A
Procurement system	No	No	No	No	No	No	No	Yes	N/A	N/A	N/A	N/A	N/A
Overall	No	No	No	No	No	No	No	Yes	N/A	N/A	N/A	N/A	N/A

**Policy, planning and legal framework for NHIS reviewed**

**INDICATOR # 3.1.1**

<b>UNIT</b> Yes/No	<b>DISAGGREGATE BY: Nil</b>
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**Results:** Yes

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target	Achieved
Overall	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Recommendations for revision of NHIS policy planning and legal framework submitted**

**INDICATOR # 3.1.2**

<b>UNIT</b> Yes/No	<b>DISAGGREGATE BY: Nil</b>
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**Results:** Yes

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target	Achieved
Overall	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**DivHIS organizational strengthening needs assessed**

**INDICATOR # 3.2.1**

<b>UNIT</b>	<b>DISAGGREGATE BY: Nil</b>
Yes/No	

**Results:** Yes

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**DivHIS organizational strengthening plan developed**

**INDICATOR # 3.2.2**

<b>UNIT</b>			<b>DISAGGREGATE BY: Nil</b>
Yes/No			

**Results:** Yes

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**NHIS/DivHIS leadership and management competencies identified and developed**

**INDICATOR # 3.2.3**

<b>UNIT</b> Yes/No	<b>DISAGGREGATE BY:</b> Nil
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**Results:**

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target	Achieved
Overall	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**NHIS/ DivHIS management systems (planning, human resources, financial management, procurement, communication/ advocacy etc.) strengthened/ developed**

**INDICATOR # 3.3.1**

<b>UNIT</b> Yes/No	<b>DISAGGREGATE BY:</b> Nil
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**Results:** Yes

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target	Achieved
Overall	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**NHIS institutional and organizational architecture at national and subnational levels defined and developed**

**INDICATOR # 3.4**

**UNIT**

Yes/No

**DISAGGREGATE BY:** Nil

**Results:**

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**NHIS stakeholder coordination mechanisms developed, in place and functioning**

**INDICATOR # 3.6**

**UNIT**

Yes/No

**DISAGGREGATE BY:** Nil

**Results:**

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target
Overall	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**NHIS/ DivHIS short-term, medium-term, and long-term staffing requirements identified and appropriate plan developed (for implementation by Capacity Project)**

**INDICATOR # 3.8**

**UNIT**

Yes/No

**DISAGGREGATE BY: Nil**

**Results:**

Additional criteria	Baseline	FY 2012	FY 2013	FY 2014	Period 30-Sept-14	Period 31-Dec-14	Period 31-Mar-15	Period 30-Jun-15		Period 30-Sept-15	Period 31-Dec-15	Period 31-Mar-16	End of Activity
		Achieved	Achieved	Achieved	Achieved	Achieved	Achieved	Target	Achieved	Target	Target	Target	Achieved
Overall	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

## **VII. PROGRESS ON GENDER STRATEGY**

In Y4Q4, AfyaInfo supported counties in reviewing sex-disaggregated data throughout the NHIS as part of the IPDRs in the counties. This will help counties evaluate whether health programs are meeting the needs of certain populations – notably women and children – and bringing their needs to the forefront of health service planning.



## **VIII. PROGRESS ON ENVIRONMENTAL MITIGATION AND MONITORING**

The project implemented its environmental mitigation and monitoring strategy as outlined in the approved Year 4 annual work plan.



## IX. PROGRESS ON LINKS TO OTHER USAID PROGRAMS

AfyalInfo is committed to nurturing and building on the partnerships created over the life of the project, including developing solid and functional collaborative relationships with other USAID programs in Kenya. During Year 4, AfyalInfo benefited from already established partnerships and expanded the partnerships' reach and scope to fit AfyalInfo's current priorities. For example, AfyalInfo worked with several partnerships as outlined below during Year 4 to enhance the effective delivery of AfyalInfo's new iCHIS programming. The efforts included collaborations with HIS TWGs, county integrated data and performance reviews, and facility-based HIS support. Linking with other partners at the county level complements AfyalInfo and USAID's commitment to promote joint planning, monitoring, and implementation of health activities; eliminate duplication; and promote accountability for results in the health sector.

Several examples of AfyalInfo's partnerships with USAID programs are highlighted below, and in Table I.

In Year 4, AfyalInfo worked closely with:

- **CDC/Emory** at the national level to support the Directorate of Standards and Regulatory Services in developing the MFL regulatory module that links with the MIS of the regulatory boards and councils. This is a critical step in making the boards' and councils' regulatory and accreditation processes transparent to all stakeholders and also a step in making routine reporting a mandatory requirement for renewal of private licenses
- **Capacity Project (USAID), FunzoKenya Project (USAID), I-TECH (CDC) and Futures Group** to develop HIS interoperability standards, the enterprise architecture, and DSL concept notes
- **Regional USAID APHIAplus partners** to establish effective engagement with counties. For example, AfyalInfo linked with APHIAplus Western early in Year 4 to conduct an inception meeting with selected counties. That helped with the selection of facilities to receive ICT infrastructure and to establish county-level stakeholder partnerships to support efforts to increase data quality, data demand, and data use
- **IntraHealth, MSH, FACES, EGPAF, KARP, I-TECH and APHIAplus** in the delivery of MUICT training and complementary activities, including the provision of facility-level support, HIS TWGs, and development of MOH documents
- **All relevant USG and USAID partners** to support PEPFAR reporting through KePMS. AfyalInfo links directly with USG and USAID partners to ensure their requisite training to use KePMS for SAPR and APR reporting and supports the KePMS-to-DHIS2 transition

**Table 1: Partner/Stakeholder Collaboration**

Partner/Stakeholder	Activity
Kenya Pharma	Partner in delivering the MUICT program, including facility-level support and providing specific technical training for an application for supply chain management at the facility level (eSCM)
MSH	Partner in delivering the MUICT program, including facility-level support and providing specific technical training for an application for dispensing commodities at facility level (ADT)
IntraHealth	Partner in delivering the MUICT program, including facility-level support and providing specific technical training for an application for management of human resources at county, subcounty, and hospital levels (Integrated Human Resources Information System)
Christian Health Association of Kenya	Strengthens capacity using data and performance reviews
Kenya Conference of Catholic Bishops/KARP	Strengthens capacity through data quality reviews and performance; partner in delivering the MUICT program, including providing facility-level support and specific technical training to ICT staff so they can on-board the IQCare EMR application onto the AfyaInfo-supported ICT infrastructure, and in providing continual support and maintenance to KARP-supported facilities
FACES	Partner in delivering the MUICT program, including providing facility-level support and specific technical training for ICT staff so they can on-board the OpenMRS EMR application onto the AfyaInfo-supported ICT infrastructure, and in providing continual support and maintenance to FACES-supported facilities
EGPAF	Partner in delivering the MUICT program, including facility-level support and providing specific technical training for ICT staff to be able to on-board the KenyaEMR application onto the AfyaInfo-supported ICT infrastructure, and to provide continual support and maintenance to APHIAplus Western_ Nyanza/EGPAF-supported facilities
ICAP	Partner in delivering the MUICT program, including facility-level support and providing specific technical training for ICT staff to be able to on-board the Comprehensive Patient Application Database (CPAD) electronic medical record (EMR) application onto the AfyaInfo-supported ICT infrastructure, and to provide continual support and maintenance to ICAP-supported facilities
I-TECH	Partner in delivering the MUICT program, including facility-level support and providing specific technical training for ICT staff to be able to on-board the KenyaEMR application onto the AfyaInfo-supported ICT infrastructure, and to provide continual support and maintenance to I-TECH-supported facilities
APHIAplus Regional Programs	Strengthen capacity through data and performance reviews; partner in delivering the MUICT program, including facility-level support and providing specific technical training for ICT staff to be able to on-board EMR applications of county/facility choice onto the AfyaInfo-supported ICT infrastructure, and to provide continual support and maintenance to APHIAplus-supported facilities
PIMA	Strengthen capacity through data and performance reviews; collaborate in offering support to counties in the establishment and implementation of county health sector M&E TWGs

## X. PROGRESS ON LINKS WITH GOK AGENCIES

AfyalInfo has worked hand-in-hand with GoK partners to strengthen NHIS since the project's launch. In Year 4, AfyalInfo paid increasing attention to ensuring that these partnerships focus on long-term sustainability and technical and institutional capacity transfer to GoK to advance the sustainability of AfyalInfo's results.

AfyalInfo continues to work closely with the MOH DivHIME and Department of Information and Communication Technology at the national level to support the counties in executing their HIS mandate. For example, in Year 4, the national-level MOH teams participated in MUICT training for health care workers as members of the ICT infrastructure site inspection teams. The teams also participated in technical meetings with the counties, such as the joint HIS planning seminars and IPDRs. These activities were an opportunity for the national-level MOH to help oversee HIS functions while promoting capacity-building, and, therefore, sustainability of the investments. Early in Year 4, AfyalInfo and the Dept. ICT collaborated to consult with the ICT Authority and the Government Data Center at the Ministry of Treasury to identify the suitable location for the live and backup sites for the NHIS servers. The ICT Authority now has a revised oversight role over all ICT-related GoK projects in the line ministries.

AfyalInfo partnered with KEMSA (in collaboration with MSH) to strengthen county, sub-county, and facility use of HIS to improve commodity supply chain management for improved service delivery. KEMSA participated in a MUICT ToT in May 2015 whose objective was to provide county pharmacists with hands-on skills in the use of the LMIS and ADT. Toward the end of Year 4, AfyalInfo and KEMSA began to deliver a capacity-building program targeting county and sub-county pharmacists and facility managers from the facilities that AfyalInfo supported with ICT infrastructure. AfyalInfo is now supporting these facilities in ordering drugs and supplies through the LMIS.

AfyalInfo continued to work with a number of additional GoK agencies, including the CHS unit and NACC on integration of COBPART into the DHIS2, and with the CDoHs on ICT deployment in CHMTs and health facilities. We outline in Table 2 activities in which AfyalInfo and the GoK agencies collaborated.

The project supported the MOH Reproductive Health Services Unit and the UoN as they represented Kenya at the regional mHealth conference held in May 2015 in Lilongwe, Malawi. A major topic was digital health for overcoming barriers to ending preventable child and maternal deaths and achieving universal health coverage. Kenya's mHealth and HIS experiences showcased significant advancements in the field of HIS. Kenya made a presentation on the chronological developments that have shaped the advancements of eHealth. Key among them was AfyalInfo-supported interventions, including software customizations to the MFL, MCUL, and DHIS. In addition, the Kenya team featured sustainability structures such as working with the UoN as the sustainability partner to provide qualified graduates to support the NHIS and increase the pool of local developers and HIS champions to sustain the NHIS dream. This strategy was of great interest to the participants of the conference and Kenya's presentations won the 'best country' presentations. Lessons that the Kenya delegation picked up included negotiating public-private partnerships, successes and challenges of implementations of openHIE in similar countries, and the role of standards, policies, and regulatory and legal frameworks in promoting standardization and regulation in a fast-moving field such as eHealth.

**Table 2: Progress on Links to with GoK Agencies**

Stakeholder/Partner	Role	Activity
KEMSA	Partner	Participated as co-facilitators in the MUICT Phase II; provided facility- and county-level training on LMIS
UoN	Partner	Participated in the ICT deployment, including site surveys, LAN inspection, and active equipment configuration; was a co-facilitator of the MUICT Phase I and II training; led development of the DHIS2/DATIM data exchange utility
MOH DivHIME	Primary	Participated in the ICT deployment, including site surveys,

Stakeholder/Partner	Role	Activity
	stakeholder	LAN inspection, and active equipment configuration; was a co-facilitator of the MUICT Phase I and II training; facilitated joint HIS planning sessions; participated in IPDRs
CDoHs	Primary stakeholder	Participated in the ICT deployment, including site surveys, LAN inspection, and active equipment configuration; participated in the MUICT Phase I and II training; facilitated IPDRs; led joint HIS planning sessions; led development of the DHIS2/DATIM data exchange utility
MOH Dept. ICT	Stakeholder	Participated in the ICT deployment including site surveys, LAN inspection, and active equipment configuration; participated in the MUICT Phase I and II training; facilitated IPDRs; led joint HIS planning sessions; participated in the DHIS2 Advanced Academy
MOH Division of Health Standards and Quality Assurance	Stakeholder	Led the discussions on the business process enhancement for the MFL Regulators module by engaging stakeholders, such as the regulatory councils and boards and the DivHIME, on the requirement to align and use MFL and MFL code in their regulatory information systems
MOH CHS Unit	Stakeholder	Led the discussions with the NACC on the integration of the COBPART tool into the DHIS2; participated in testing the integration of the COBPART tool into the DHIS2 test environment; participated in the CHIS integration workshop
Health regulatory boards and councils	Stakeholder	Participated in the project's Strategic Partnerships joint meeting with Directorates and Regulators Stakeholders to streamline the businesses processes involved in strengthening the MFL regulators module
NACC	Stakeholder	Active and decisive in giving concurrence on integration of the COBPART tool into the DHIS2; the council participated in the CHIS integration workshop

## XI. PROGRESS ON USAID FORWARD

USAID Forward is an important priority for USAID programs. It seeks to ensure sustainable results, enhanced local ownership, and effective scale-up of proven solutions. AfyaInfo builds important consideration of all of these issues into its project design, work planning, and implementation. In Year 4 of the project, issues of country-ownership and sustainability are paramount. We highlight below selected examples of how AfyaInfo supports USAID Forward objectives.

- Throughout Year 4, AfyaInfo continued its technical and capacity-building support to strengthen the partnership between the MOH's DivHIME, DivICT, and the UoN. The purpose of this partnership is to build linkages and strengthen capacity to provide sustainable, Kenya-based NHIS systems support and hardware support. The partnership also will further development and modification of the MFL and DHIS2 platforms and other associated NHIS systems. AfyaInfo-supported DHIS2 Boot Camps provide a mechanism to support and promote the creation of a local community of Kenyan developers and technical experts capable of supporting the NHIS and its future expansion and development, thus reducing the need for external technical support for the NHIS in the future.
- AfyaInfo also built the capacity of CHMTs to help determine the HIS agenda. This included building organizational capacity to use quality data to plan, implement, and monitor health services. Eight counties held a successful IPDR and a joint HIS planning session in addition to participating in the deployment of and training on ICT in facilities.
- To advance and sustainably manage the HIS strengthening agenda in Kenya, AfyaInfo is supporting the GoK in adopting the triple helix model. The triple helix model calls for effective

collaborations among the government, academic, and business sectors. It focuses on 1) a prominent role for academic partners in innovation; 2) collaboration and mutually beneficial interaction among government, business, and academic partners; and 3) innovation through the adoption of new and unique functions of each partner. To develop the tripartite arrangement for NHIS, AfyaInfo supports the MOH in:

- Using potential HIS resources among stakeholders in public, private, and academic sectors
- Strengthening the capacity of the UoN School of Computing and Informatics and other universities and tertiary academic institutions to become centers of innovation and development
- Bridging the gap between HIS operations and research and development

## **XII. SUSTAINABILITY AND EXIT STRATEGY**

AfyaInfo's primary sustainability focus has been on nurturing the partnerships created throughout the lifespan of AfyaInfo and on supporting and empowering the MOH at the national and county levels to continue to work collaboratively to realize long-term HIS objectives. We described several areas of Year 4 focus to ensure the sustainability of AfyaInfo contributions and results in other sections. We summarize them in brief again here.

Throughout Year 4, the project continued to work with MOH staff to ensure ownership and leadership. For example, AfyaInfo trained and supported MOH staff in assuming direct responsibility for HIS functions, including the NHIS service desk, the National eHealth Steering Committee, and the National HIS Coordinating Committee. These entities for stakeholders' coordination and HIS end user support are critical in securing self-reliance in managing HIS.

In Year 4, AfyaInfo strengthened the technical capacity of the UoN to support development, enhancement, and maintenance of NHIS applications through skills transfer, technical assistance, and improvement of ICT infrastructure. AfyaInfo continues its efforts to build a pool of local talent capable of managing and sustaining the NHIS, including supporting MOH and UoN representatives' attendance at the DHIS2 Advanced Academy in Zambia. AfyaInfo also offered opportunities for HIS undergraduate and graduate students to support project implementation. This included roles as co-facilitators in the Meaningful Use of ICT program and technical support in ICT deployment and configuration. In Y4Q4, AfyaInfo began providing technical assistance to the UoN Enterprises and Services to manage external funding.

AfyaInfo continues to strengthen partnerships among the MOH, the private sector, and academia through identification of, and in Year 5 formalization of, agreements to use resources that contribute to the sustained operation of, research about, and use of NHIS. In Y4Q4, the project began its work with the MOH to foster and expand relationships with private sector and academic stakeholders that will result in both bilateral and trilateral formal relations, such as the pending MoU between the MOH and UoN.

In addition, at the national level, several AfyaInfo achievements contribute to long-term sustainability of NHIS systems strengthening. For example, during Year 4, AfyaInfo, in collaboration with partners and other stakeholders, supported the MOH and the county Departments of Health in holding the first National Health and Leadership Congress. The Congress brought together the counties' health leadership, including County Executives for Health, County Chief Health Officers, County Directors, Hospital Board Directors, facility and community program representatives, other public organizations, faith-based organizations, private sector actors, development and IPs, and non-governmental organizations. The Congress served as an important mechanism for the MOH to launch 25 strategic health sector documents. Five had AfyaInfo support, including: the Annual Health Sector Performance Report 2013/2014, Monitoring and Evaluation Framework for the Health Sector, Data Quality Assurance Protocol, Data Quality Audit 2014 Report, and Guidelines for Conducting Data Quality Reviews. These national policy and guidelines documents help to

institutionalize the NHIS strengthening agenda within Kenya's health sector and ensure a solid foundation for the MOH to continue to reinforce NHIS improvements over time.

In Year 4, the project intensified its approach of partnership with the county governments. For example, AfyaInfo provided direct technical support to CHMTs to build institutional capacity to sustain progress made in strengthening county HIS. The project prioritized strengthening the county HIS stakeholder coordination functions to increase the capacity of counties to enforce national and county HIS guidelines such as those related to EMRs. Through the IDPRs, AfyaInfo strengthened the counties' capacity to bring together HIS stakeholders to develop clear roles and responsibilities for facility-level HIS support. In addition, through structured consultative meetings, AfyaInfo negotiated with counties to commit to take on all the recurrent costs associated with the ICT infrastructure deployed in the health facilities. These include the costs for internet connectivity, logistical support for county ICT departments to provide maintenance and support to the health facilities, and ICT accessories and consumables. For example, AfyaInfo together with the USG interagency delegation met with senior county leaders of Migori, Homa Bay, and Siaya, including the governor, deputy governor, CECs and county directors. They committed to securing health facilities, providing power through solar generators, budgeting for ICT Officers, and taking up such recurrent costs as internet support. These commitments will go a long way toward ensuring that the county owns and sustains the investment over time.

Moreover, AfyaInfo's support to the DivHIME in developing and finalizing its own 2015–2016 Annual Work Plan helps build the capacity of the DivHIME to plan and budget for NHIS priorities in the future. And in Y4Q4, AfyaInfo helped the DivHIME finalize the revised national HIS Strategic Plan (HIS SP) 2014–2017. AfyaInfo supported a four-day workshop in June 2015 during which participants from the DivHIME made final alignments in the document to reflect structural and functional changes at the State Department of Health. The revised HIS SP takes into account the legal and structural changes that have come into effect following the devolution of health care delivery in Kenya in 2013. The HIS SP provides a roadmap for the national-level DivHIME to execute its mandate by setting clear strategic directions for implementation in major management areas. With the revised HIS SP, the DivHIME will be able to roll out and monitor annual activities aligned to its constitutional mandate to ensure effective management of devolved HIS.

In addition, AfyaInfo made significant progress in Year 4 to enhance the capacity of county ICT Technical Officers and CHRIOs to sustain AfyaInfo support through the nascent MUICT program. Increased collaboration with service delivery partners in the MUICT programming is a key sustainability strategy since service delivery partners are in the facilities and communities.

### XIII. SUBSEQUENT QUARTER'S WORK PLAN

**TABLE 3: SUBSEQUENT QUARTER'S WORK PLAN**

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
<b>Output 1. Establish a strong, unified and integrated web-based host country-owned and managed NHIS that generates quality data used at all levels to improve health service delivery.</b>			
<b>Subtask 1.2. Establish an IT infrastructure capable of supporting development, deployment, and maintenance of a unified and integrated web-based NHIS.</b>			
<i>Subtask 1.2. National level</i>			
<p><b>1.2.1</b> Review and improve standards, protocols and guidelines for improving HIS applications.</p>	<ul style="list-style-type: none"> <li>The Standards and Guidelines for E-Health Systems Interoperability was reviewed and validated by the following key stakeholders: The Ministry of Health, ITECH, Futures Group, Ministry of Finance, Egerton University, Savannah Informatics and private contributors.</li> <li>MoH approval and signing of Standards and Guidelines for E-Health Systems Interoperability in February 2015.</li> </ul>		<p>National- and county-level stakeholder sensitization and dissemination planned for Year 5 through various eHealth forums.</p>
<p><b>1.2.4</b> Extend/strengthen the integrated NHIS service desk through provision of infrastructure, training and technical support.</p> <p>Train MoH ICT and county ICT department staff on systems being deployed at the county, and oversee the cascading of this training to facilities for sustainability.</p>	<ul style="list-style-type: none"> <li>Conducted Advanced DHIS2 training for 15 HIS/ICT officers (national MoH); conducted refresher training for 15 HIS/ICT officers (national MoH) on NHIS service desk; convened monthly operational review meetings for the NHIS service desk.</li> <li>Addressed a number of service requests (tickets) directly through AfyaInfo staff seconded to MoH and by UoN.</li> <li>Division of ICT (two) and Community Health Services Unit (two). Worked with MoH to ensure that the service desk has capacity to address software issues affecting NHIS.</li> </ul>		<p>On-boarding of USG IP systems onto the NHIS Help Desk; establishing an escalation protocol from facility [up to] – subcounty – county – national level for support.</p>

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
<p><b>1.2.5</b> Continued development of NHIS applications enhancements and integration (DHIS2, MFLv2.0 [MCUL, Regulatory Module], CHIS).</p>	<ul style="list-style-type: none"> <li>• Led development of the first-ever MFL service catalogue by MoH and HIS stakeholders; it will be used to update the MFL.</li> <li>• Developed draft MFLv2.0 Systems Requirements Specifications (SRS) and outlined MFLv2.0 development roadmap.</li> <li>• AfyaInfo and the MoH launched the beta version of the MFLv2.0. The MFLv2.0 went through a process of MoH reviews to refine and enhance its capabilities based on the user specifications.</li> <li>• Achieved full-cycle integration of MFL into iHRIS and iHRIS into DHIS2 in partnership with CDC Emory, Capacity Bridge and MoH. The partnership also achieved significant development of an iHRIS API which will aid in linking rHRIS with both the MFL Regulatory Module and the DHIS2. Led Kenyan DHIS2 upgrade to version 2.16, which has enhanced features for report generation and vitalization for case/single event-based data, including in-patient module and sample tracking.</li> <li>• Migrated DHIS2 and training test environments to the UoN-based server. Upgrade was preceded by thorough testing that involved MoH and UoN.</li> </ul>		<p>Data migration in the MFLv2.0, an MFLv2.0 database update, and official release of the MFLv2.0.</p> <p>Complete a 2015 MFLv2.0 database update covering 47 counties.</p>
<p><b>1.2.7</b> Support to create a local community of NHIS developers/champions for the enhancement and continued support of NHIS in Kenya.</p>	<ul style="list-style-type: none"> <li>• Facilitated second-ever NHIS boot camp (a six-week training) at the UoN; 20 ICT students trained – drawn from four leading Kenyan universities.</li> <li>• Organized DHIS2 Advanced Academy, which increased the number of DHIS2 expert-level staff from four to eight.</li> </ul>		<p>NHIS Hackathons at the UoN.</p>

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
<p><b>1.2.8</b> Support the development of a change management/governance strategy for DHIS2/MFL deployment and operation. Collate and document the data governance for NHIS.</p>	<ul style="list-style-type: none"> <li>Completed formulation of a change management and data governance strategy.</li> <li>Finalized internal reviews of the data governance strategy. Added system change requests into the service desk application. As a result, NHIS service desk team are now able to track requested changes, or escalate the requests, assign tasks, and resolve problems or develop solutions.</li> </ul>		<p>National and county stakeholder sensitization and dissemination planned for Year 5 through various eHealth forums.</p>
<p><b>1.2.11</b> Continued support and management of NHIS hosting requirements.</p>	<ul style="list-style-type: none"> <li>Configured live and mirror hosting servers at MoH – the servers were procured in Year 3.</li> <li>Supported MoH in locating test server for NHIS at UoN School of Computing and Informatics. Ensured highest possible availability and accessibility of the DHIS2, MFL and MCUL by hosting these NHIS applications in a commercial cloud.</li> <li>Established a Useful environment test lab at the UoN.</li> </ul>		<p>Continue to work closely with MOH to migrate DHIS2 and host it locally. To handover support and administration functions to MOH and UON.</p>
<p><b>1.2.12</b> Support national-level MoH in updating the MFL Implementation Guide to include standard operating procedures, tools, etc. for updating and maintaining MFL.</p>	<ul style="list-style-type: none"> <li>Stakeholder validation of the MFL Service Catalogue is complete.</li> <li>Developed draft MFLv2.0 SRS and outlined MFLv2.0 development roadmap.</li> </ul>	<p>MFLv2.0 Implementation Guide developed and pending MoH official release of the MFLv2.0.</p>	<p>Final release of MFLv2.0 Implementation Guide.</p>
<p><b>1.2.13</b> Support USG service delivery IPs and use the updated MFL Implementation Guide to improve data quality.</p>	<ul style="list-style-type: none"> <li>Integrated PEPFAR Site List (iPSL) list is being updated.</li> </ul>	<p>Pending MoH official release of the MFLv2.0 and MFLv2.0 Implementation Guide.</p>	<p>Support the MoH and USG service delivery IPs in updating the MFLv2.0 upon release .</p>
<p><b>Subtask 1.2. County level</b></p>			
<p><b>1.2.2</b> Continue procurement and deployment of ICT infrastructure in the selected counties and facilities (the extent of procurement and deployment will be determined by the final budget obligation made by USAID), and build the CHIN.</p>	<ul style="list-style-type: none"> <li>Received CO approval for the ICT equipment procurement; placed purchase orders for all the requisite equipment and services. Continued engaging the COR and leadership of various counties on facility selection. Scheduled and convened inception meetings with health leaderships of five counties (Kericho, Bomet, Machakos,</li> </ul>	<p>Some technical issues were addressed following the USG site visits in June 2015.</p>	<p>Completion of active equipment verification and hand-over to county/facilities.</p>

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
	<p>Nakuru and Kilifi).</p> <ul style="list-style-type: none"> <li>All active and passive procurement complete; quality assurance tools implemented; installation of ICT in 116 sites (105 facilities and 11 CHMTs) completed.</li> </ul>		
<b>Subtask 1.3. Take up management of KePMS and support USG PEPFAR partners in using this system for semi-annual and annual program reporting.</b>			
<i>Subtask 1.3. National level</i>			
<b>1.3.1</b> Support the USG SIITT in extracting and managing data from the NHIS for PEPFAR reporting.	<ul style="list-style-type: none"> <li>Successfully serviced several data requests from SI on MER and IPSL; responded to ad hoc request.</li> <li>Responded to all SI ITT ad hoc requests received during APR 2014.</li> </ul>		
<b>1.3.2</b> Continuous training of new M&E officers on the NHIS.	<ul style="list-style-type: none"> <li>Trained USG partners M&amp;E officers on KePMS.</li> <li>Trained M&amp;E and data officers from six IPs (KCDF, HealthStrut, LVCT, Equity, AMURT and Hope World Wide Kenya) during APR 2014 reporting. Provided technical assistance to other IPs by phone and email.</li> </ul>		Support USG SI ITT in training IPs on Quarter 3 DATIM reporting.
<b>1.3.3</b> Continue to support APR 2014 and SAPR 2015 reporting through KEPMS/DATIM.	<ul style="list-style-type: none"> <li>APR 2014 roadmap developed and shared with the SI team; completed APR 2014 system updates and testing that incorporates OGAC guidance received in August 2014.</li> <li>Supported all PEPFAR IPs in successfully reporting their APR 2014 performance on time and in accordance with OGAC reporting guidance.</li> <li>Project continued to provide support for SAPR 2015 preparations.</li> </ul>		Support USG SI ITT for Quarter 3 DATIM reporting.
<b>1.3.4</b> Continuous documentation of additional OGAC reporting requirements.	<ul style="list-style-type: none"> <li>OGAC guidance incorporated into the APR 2014; conducted harmonization of integrated IPSL.</li> </ul>		
<b>1.3.5</b> Continue K2D TWG meetings to manage activities during and after the	<ul style="list-style-type: none"> <li>Convened one (KePMS to DHIS2) K2D TWG meeting to share DQA Report 2014 with USG</li> </ul>		Finalize development and testing of the Joint Partnerships Results Portal (JPRP)

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
transition of K2D.	IPs. Newly developed K2D portal was also shared at the meeting.		and the Kenya Public Health & Environment System (KEPHES) to prepare for APR16 Q1 reporting
<b>1.3.6</b> Provide liaison between MoH and USG SIITT in matters involving PEPFAR reporting.	<ul style="list-style-type: none"> <li>Afyainfo participated in the regional DATIM training in South Africa in December 2014 on behalf of PEPFAR.</li> </ul>		Support DivHIME customize the new routine data capture forms including revised MOH 731 into the DHIS2
<b>1.3.7</b> Organize technical consultative feedback meetings and DATIM training for USG IPs to ensure effective and efficient use of NHIS/USG reporting systems for PEPFAR reporting.	Complete		
<b>1.3.8</b> Support K2D transition for USG reporting systems.	<ul style="list-style-type: none"> <li>JPRP beta version launched with CDC, USAID, and UoN.</li> </ul>		Develop a mechanism to allow partners to enter MER indicator disaggregation.
<b>1.3.10</b> Continuous enhancement of PEPFAR outputs for reporting (OGAC, UNAIDS and Universal Access).	<ul style="list-style-type: none"> <li>During Q1, addressed report request for IPSL and finalization of MER.</li> <li>No request for enhancement of PEPFAR outputs during APR 2014.</li> </ul>		Develop collation sheets and DATIM ready worksheets for Q3.
<b>1.3.12</b> Customize DATIM training materials for Kenya and delivery of DATIM training to USG IPs, including user navigation and technical reporting.	<ul style="list-style-type: none"> <li>Complete; training materials modified to reflect Kenya context.</li> </ul>		
<b>1.3.13</b> Develop data exchange utility between KePMS, DATIM, and DHIS2.	<ul style="list-style-type: none"> <li>Data exchange system developed in advance of SAPR 15 reporting period.</li> </ul>		Test optimized data exchange utility in advance of APR 2015 reporting.
<b>1.3.14</b> Develop PEPFAR/Kenya-specific processes with IPs and SI ITT for data review by IPs and US SI team.	Complete		
<b>1.3.15</b> Develop PEPFAR/Kenya change management protocol for DATIM.	Complete		
<b>Subtask 1.4. Integrate CHIS, COBPAR system, and KePMS into unified NHIS.</b>			
<i>Subtask 1.4. National level</i>			
<b>1.4.1</b> Improve integrated CHIS reporting into NHIS.	<ul style="list-style-type: none"> <li>Supported the CHS Unit in uploading the revised MoH 515 onto DHIS2.</li> <li>Worked with Head/Community Health Services Unit in getting an official communication to CHIS owners from the MoH</li> </ul>		Once final testing complete, port COBPAR tool onto the live DHIS2 environment.

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
	<p>Director of Medical Services to facilitate integration of systems with the DHIS2.</p> <ul style="list-style-type: none"> <li>Supported the customization of the revised MoH 515 into DHIS2. CHIS datasets fed into the DHIS2 now include expanded indicators from community health programs.</li> <li>Supported NACC's M&amp;E and ICT team in developing COBPAR roadmap and data exchange process.</li> <li>Integrated COBPAR tool on the DHIS2 test environment.</li> </ul>		
<b>Subtask 1.5. Establish a functional national data warehouse (databank) with the appropriate data storage capacity, data confidentiality, and data security for every user type.</b>			
<i>Subtask 1.5. National level</i>			
<b>1.5.3</b> Support the MoH in stakeholder coordination and resource leveraging through Output 3.	<ul style="list-style-type: none"> <li>Project providing technical support to UoN, MoH and SI partners to discuss needs for the data service layer and warehouse.</li> </ul>		Continued support to the DIVHIME and Dept. ICT to convene stakeholders during the development process of DSL, EA and MFLv2.0.
<b>1.5.4</b> Sensitize priority system owners on the availability and usability of existing APIs (MFL, DHIS2) for health information exchanges.	<ul style="list-style-type: none"> <li>Sensitization meetings held with system owners (rHRIS, iHRIS and eSCSM).</li> <li>Sensitized Uasin Gishu County on availability of DHIS2 APIs. Supported Uasin Gishu HMIS developers on HMIS and DHIS 2 integration.</li> </ul>		
<b>1.5.5</b> Use the existing APIs to develop a DSL for data exchange between ready applications.	<ul style="list-style-type: none"> <li>Re-focused and re-drafted ToR for DSL.</li> <li>Jointly with MoH, concretized Enterprise Architecture and DSL development roadmap. Engaged Futures Group's HMIS Activity and secured collaboration in the Enterprise Architecture and DSL development under a TWG spearheaded by DivHIME's eHealth Unit. Released RFPs for Enterprise Architecture and DSL development short-term technical assistance as per terms of reference developed in Q1.</li> <li>UoN Computing for Development Lab (C4D</li> </ul>	DSL development delayed due to lack of UoN in-house capacity.	On-boarding of DSL development support staff to work with UoN and MoH to develop DSL and data warehouse; begin development.

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
	Lab) and AfyaInfo developed concept and roadmap for completion.		
<b>1.5.6</b> Deliver the enterprise architecture as part of the request by the MoH to the project to support the review of the E-Health Strategy.	<ul style="list-style-type: none"> <li>With MoH, re-focused and re-drafted terms of reference for Enterprise Architecture.</li> </ul>	Extensive stakeholder discussions have delayed, but enhanced, the process.	Completion of the EA and initiation of Data Warehouse (DWH) and DSL development.
<b>Output 2. Establish a functional GoK-managed learning and knowledge management system that improves the culture of information generation, knowledge capturing and information use.</b>			
<b>Subtask: 2.1. Develop GoK-managed Learning and Knowledge Management System (LKM) for the health sector .</b>			
<i>Subtask 2.1. National level</i>			
<b>2.1.1</b> Finalize DQA and validate findings.	<ul style="list-style-type: none"> <li>Worked with MoH to finalize draft DQA Report 2014 using feedback from validation meetings – having supported the MOH in convening internal validation meetings and final MoH-wide validation meeting.</li> </ul>		
<b>2.1.2</b> Disseminate DQA findings to stakeholders.	<ul style="list-style-type: none"> <li>DQA report disseminated to stakeholders and partners through a variety of national and county forums.</li> </ul>		
<b>2.1.4</b> Develop templates for DQA plans.	<ul style="list-style-type: none"> <li>DQA plan templates developed, standardized, and included in the DQA Protocol.</li> </ul>		Support counties in institutionalizing DQA through the Integrated Data and Performance Reviews.
<b>2.1.5</b> Develop standardized tools and templates for data review forums.	<ul style="list-style-type: none"> <li>Standardized tools and templates for the data review forums approved by the MoH and disseminated to national stakeholders.</li> </ul>		Support counties in institutionalizing DQA through the Integrated Data and Performance Reviews.

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
<i>Subtask 2.1. County level</i>			
<p><b>2.1.3</b> Develop and disseminate standardized tools, templates and protocols for data review forums to eight focal counties: Data Quality Protocol Performance Review Template Data Review Template</p>	<ul style="list-style-type: none"> <li>Disseminated draft DQA Report 2014 to one county (Uasin Gishu).</li> <li>Disseminated DQA Report 2014 findings and draft DQA Protocol to 12 county teams.</li> <li>Standardized data and performance tools, templates, and protocols disseminated to eight focal counties as part of the Joint Planning Seminar.</li> <li>Initiated discussions on DQI Plans with 12 counties.</li> </ul>		<p>Introduce and support the institutionalization of the DQA protocol, data review templates and performance report templates to 12 counties through county leadership meetings and IDPR forums</p> <p>Sensitize 12 counties on using the DQA tools via the DHIS2.</p>
<p><b>2.1.8</b> Provide support for county Quarterly Data Reviews for eight focal counties.</p>	<ul style="list-style-type: none"> <li>Eight counties supported in carrying out preparatory activities for the development of quarterly reports using IPDR guidelines and tools.</li> <li>Developed eight County Data Improvement Plans.</li> </ul>		<p>Support one Integrated Data and Performance Review in 12 counties .</p>
<p><b>2.1.9</b> Provide support to the Quarterly Performance Review Forums for eight focal counties.</p>	<ul style="list-style-type: none"> <li>Supported Kiambu and Siaya Counties in holding stakeholder forums to review their Annual Health Sector Performance Reports for the Financial Year 2013/2014.</li> <li>County Performance Reports; seven counties supported in conducting Integrated Data and Performance Review forums (Nairobi, Busia, Homa Bay, Migori, Siaya, Kisumu and Uasin Gishu).</li> </ul>		<p>Support one Integrated Data and Performance Review in 12 counties .</p>
<b>Subtask 2.3. Conduct capacity-building programs to develop institutional and human capacity to launch and manage LKM agenda in health sector.</b>			
<i>Subtask 2.3. National and county levels</i>			
<p><b>2.3.1</b> Conduct HIS orientation for health managers.</p>	<ul style="list-style-type: none"> <li>Trained CHMT members of one county (Mombasa) in Y4Q1 – 44 counties have been trained to date (trainings began in Year 3).</li> <li>Conducted HIS orientation for health managers from RH,TB,NASCOP,DVI and MCH programs</li> </ul>	<p>Three counties (Nakuru, Murang'a and Embu) could not participate in the NHIS CHMT due to security .</p>	<p>Conduct NHIS TOTs for the national MOH and 47 counites</p>

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
	on DHIS2 and DHIS2 data cleaning		
<b>2.3.2</b> Conduct trainings for public, private, faith-based organization and USG partners in HIS including MFL, MCUL, DHIS2 and data management, data quality, and data use.	<ul style="list-style-type: none"> <li>Trained data managers of 11 counties in Y4Q1 – 46 counties have been trained to date (trainings began in Year 3).</li> <li>Mini DHIS/MFL orientation sessions conducted at the Kenya Health and Leadership Congress.</li> </ul>	One county (Embu) could not participate in the trainings as scheduled due to security.	Conduct an NHIS ToT refresher training for CHMTs(CDOHs, CHRIOs, and 1 other CHMT member) from 47 counties, USG IPs representatives and National level MOH programs. Support NHIS TOTs to cascade NHIS training to CHMTs and select SCHMTs in 12 counties.
<b>2.3.4</b> Continue to train USG partners on using DHIS2 and reporting through DATIM.	<ul style="list-style-type: none"> <li>Conducted one-on-one talks with USG partners (including Measure, I-TECH, EGPAF and APHIAplus) on HIS capacity-building.</li> <li>Conducted DHIS2 orientation for USG partners at K2D meeting.</li> <li>Sixty-two USG partners and 180 participants trained on DATIM reporting; 50 PEPFAR Inter-Agency Team participants trained.</li> </ul>		
<b>Subtask 2.4. Develop a range of appropriate information products, create demand for these products and establish relevant public awareness and dissemination forums and systems to ensure use of these information products.</b>			
<i>Subtask 2.4. National level</i>			
<b>2.4.7</b> Support the MoH in developing HIS informational products at the national level.	<ul style="list-style-type: none"> <li>Supported DivHIME in producing Quarterly Health Information Bulletin, Issue 1 and 2; supported dissemination of the same through PIMA, a leading community of practice.</li> <li>Supported DivHIME in producing and disseminating Quarterly Health Information Bulletin, Issue 3.</li> <li>MoH supported in developing Annual Health Sector Performance Report and quarterly Bulletin for September-December 2014.</li> <li>Supported DivHIME in drafting the Annual Statistical Report 2014</li> </ul>		Support finalization of 2014 Annual statistical report Support development and dissemination of 3 HIS bulletins  With DivHIME (M&E unit), support performance review for regulatory bodies and national level MOH programs
<b>2.4.9</b> Participate in relevant forums to disseminate, create awareness of, and provide support on information tools and	<ul style="list-style-type: none"> <li>Provided technical assistance to NASCOP in developing DQA tools, and participated in</li> </ul>		Continued participation in ad hoc MOH meetings

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
products.	<p>NASCOP M&amp;E Conference.</p> <ul style="list-style-type: none"> <li>Continued participation in scheduled or ad hoc MoH forums.</li> <li>Introduced the JPRP at the health sector M&amp;E TWG inauguration meeting and at the USG IPs training on DATIM.</li> <li>Supported reproductive health services unit to prepare for and make a presentation on country progress on mHealth e at the regional eHealth meeting in Malawi</li> </ul>		
<b>2.4.11</b> Support Joint Annual Performance Review at the national level (budgeted with Annual County Performance Review Summit).	<p>Supported DivHIME's M&amp;E Unit in conceptualizing and drafting a program for national-level Health Congress.</p> <p>Project participated in preparations and facilitation at the Kenya Health and Leadership Congress.</p>		Support counties in preparing for the 2015 Kenya Health Congress through the IPDRs.
<i>Subtask 2.4. County level</i>			
<b>2.4.8</b> Support eight focal counties in developing HIS informational products, which may include reports, bulletins and maps. Support development of county M&E plans in four counties.	<ul style="list-style-type: none"> <li>Supported 12 counties in developing Annual Health Sector Performance Reports for Financial Year 2013/2014.</li> <li>Three counties supported in presenting their reports, maps and bulletins during the Kenya Health Congress.</li> </ul>		<p>Provide technical support to the 12 counties in developing a Annual Performance Review Report for 2014/2015</p> <p>provide technical support to the 12 counties in developing two HIS bulletins and populating their RMNCH scorecards .</p>
<b>Output 3. Establish a functional HMIS division that is capable of passing a USAID pre-award responsibility determination leadership and management, financial and procurement capability.</b>			
<b>Subtask 3.1. Develop/implement appropriate capacity-building programs to strengthen management and coordination structures based on already existing policies and governance structures.</b>			
<i>Subtask 3.1. National level</i>			
<b>3.1.1</b> Support DivHIME in formulating Divisional AWP.	<ul style="list-style-type: none"> <li>Supported preparation of DivHIME Annual Work Plan (AWP) 2014/2015.</li> </ul>		DivHIME AWP 2015-2016
<b>3.1.2</b> Support DivHIME Stakeholder Coordination Secretariat strengthening.	<ul style="list-style-type: none"> <li>Conducted initial planning for establishment of DivHIME Stakeholder Coordination Secretariat; provided technical assistance to a joint DivHIME and MoH partners meeting for</li> </ul>		<p>Support development of a HIS partnership coordination strategy</p> <p>HISCC stakeholder meeting</p>

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
	<p>eHealth stakeholders.</p> <ul style="list-style-type: none"> <li>Terms of reference for HISCC incorporated into the revision of the Health Sector Partnership and Coordination framework by MoH.</li> </ul>		Development of TORs for TWGs for eHealth, HIS and M& E units for customisation to county TWG TORs
<b>3.1.4</b> Support DivHIME/AfyalInfo monthly project review meetings.	<ul style="list-style-type: none"> <li>Convened DivHIME/AfyalInfo meeting for November to review joint Q3 activities and harmonize strategies. Cancelled December meeting due to unavailability of MoH team.</li> <li>Quarterly meeting held to discuss post-MTR findings and integrated county strategy.</li> </ul>	DivHIME requested quarterly rather than monthly meetings.	
<b>3.1.5</b> Support DivHIME/MoH HISCC quarterly meetings.	<ul style="list-style-type: none"> <li>Drafted HISCC terms of reference.</li> </ul>	Ongoing but with difficulty, since MoH is in the process of revising the entire partnership and coordination framework, and DivHIME prefers to have this processes completed before the HISCC is established	HISCC stakeholder meeting
<b>3.1.1.7</b> Conduct joint AfyalInfo/ DivHIME work planning for AfyalInfo Year 5 work plan.	<ul style="list-style-type: none"> <li>Conducted a year 5 workplanning meeting attended by DivHIME, Dept ICT and County representatives</li> </ul>	Joint workplanning was not feasible due to lack of synchronised calendars with MOH. This was mitigated by the project being represented at the AWP meetings for the three DivHIME units and the joint division AWP meeting to ensure that the divisions priorities were captured in the Year 5 workplan and vis versa	
<b>3.1.1.8</b> Support USAID and the MoH in reestablishing the Project Oversight Committee.	Incomplete	This activity was on hold pending USAID engagement of the MoH leadership.	
<b>3.1.1.9</b> Conduct an institutional assessment of the UoN School of Computing and Informatics.	<ul style="list-style-type: none"> <li>UoN and project developed joint scope of work and advertised for local Kenya firm.</li> </ul>	Final report to be completed in July 2015.	Provide targeted organizational support to the UoN to meet USG funding requirements.
<b>Subtask 3.2. Develop and implement appropriate capacity-building programs to strengthen financial, technical and human resources management systems.</b>			
<i>Subtask 3.2. County level</i>			

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
<p><b>3.2.1</b> Strengthen human and institutional capacity in 12 counties receiving ICT to ensure adoption and use by developing and conducting a comprehensive Meaningful Use of ICT Training. Recruit, select, and train a cadre of HIS /ICT mentors and mentees in mentorship skills. Develop and disseminate an all-inclusive mentorship package targeted at different groups to counties/implementing partners in 18 counties.</p> <p>Develop a system for tracking mentorship activities, conduct mentorship activities in 18 counties, and monitor implementation of cascading mentorship to the subcounties. Support on-the-job training /mentorship in selected counties.</p>	<ul style="list-style-type: none"> <li>• Prepared concept note to guide the operationalization of the provision of organizational development support to facilities that have benefitted or are primed to benefit from AfyaInfo ICT infrastructure deployment. Conducted a Rapid Training Needs Assessment for those beneficiary facilities in order to identify their organizational development needs.</li> <li>• Developed leadership and management training (for counties) concept note; conducted Rapid Training Needs Analysis in three counties – Machakos, Homa Bay and Uasin Gishu – to identify gaps and training needs in advance of the AfyaInfo ICT deployment.</li> <li>• Phase I complete; 192 participants from 12 counties trained. Phase 2 complete with 96 participants trained.</li> <li>• HIS Staffing Needs Assessment (in order to develop County HIS Staff Development Plan) completed in 1 county (Busia); staffing needs identified for three counties (Uasin Gishu, Busia, Homa Bay) as part of Strategic Plan development.</li> <li>• HIS Staffing Needs Assessment for Machakos County integrated with their County HIS Strategic Plan development.</li> <li>• Jointly with I-TECH, conducted data use OJT in Uasin Gishu County (2 HFs/20 participants trained). Again jointly with ITECH, conducted HIS and ICT OJT in Uasin Gishu and Homa Bay counties (8 HFs/64 participants trained).</li> </ul>	<p>Strategy for the implementation of this activity revised to incorporate feedback from the USG site visits.</p>	<p>Phase II on site visits by peer consultants and Phase III model facilities.</p> <p>ICT Technical Training</p>

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
<p><b>3.2.2</b> Support the development of County 18-Month HIS Action Plans in eight focal counties</p>	<ul style="list-style-type: none"> <li>• Eight counties completed a HIS Joint Action Planning activity and completed the reports.</li> <li>• Held a three-day workshop to formulate the Machakos County HIS Strategic Plan.</li> <li>• Total of three counties – Homa Bay, Uasin Gishu and Busia – have formulated HIS Strategic Plans and the plans are ready for dissemination to internal and external stakeholders.</li> </ul>		<p>Ad hoc support to counties requiring support to address issues identified in the Plan</p> <p>Support 12 counties with HIS stakeholder coordination plan development and establishment /strengthening of HIS/M and E/ICT TWGs in line with USG interagency team visit' recommendations</p> <p>Support the orientation of CHMTs in 12 counties on their role in institutionalising their county stakeholder coordination plan</p>
<p><b>3.2.3</b> Support the county-level stakeholder secretariat strengthening to conduct data and performance reviews in eight focal counties.</p>	<ul style="list-style-type: none"> <li>• County HIS stakeholders mapped and County HIS Stakeholder Coordination Plan completed for two counties (Uasin Gishu and Busia). As part of process, three county HIS stakeholder meetings convened in Uasin Gishu, Migori and Homa Bay as follows: Homa Bay (HIS Stakeholders Meeting), Migori (EMR/HIS Joint Capacity- Building Planning) and Uasin Gishu (HIS Stakeholders Meeting).</li> <li>• Shared HIS Stakeholder Plans for Uasin Gishu and Busia with the County HIS officers – the two HIS Stakeholder Plans were developed in Q1.</li> <li>• Stakeholders supported in conducting IPDRs for Nairobi, Uasin Gishu, Busia, Kisumu, Migori, Homa Bay, and Siaya Counties.</li> <li>• Stakeholder coordination concept notes to be developed for Migori, Homa Bay and Siaya Counties.</li> </ul>		<p>Support for the HIS/ M&amp;E /EMR/ICT TWGs in the twelve counties to be able to effectively prepare for and conduct TWG meetings.</p> <p>Support twelve counties to set up/strengthen HIS/ M&amp;E /EMR/ICT TWGs</p>

Planned Year 4 Activities	Summary of Activity Status During Year 4	Notes on Implementation Challenges During Year 4	Planned for Year 5
<b>Cross-Cutting</b>			
4.1 Coordinate the M&E of the effects of integrated county interventions on data quality (timeliness, accuracy and completeness) in eight focal counties.	<ul style="list-style-type: none"> <li>Baseline data collected during Meaningful Use of ICT training; research tools and templates developed; Internal Review Board approval received.</li> </ul>		Finalization of data collection approach and selected analysis.
4.2 With USAID, hold regular high-level meetings with the MoH leadership to secure project support and buy-in.	<ul style="list-style-type: none"> <li>One-on-one meetings held with senior director-level representatives in the MoH.</li> </ul>		Continue to hold meetings with high-level MoH leadership at the national level and county level to promote project visibility.
4.3 Present to MoH the MTR report and post-MTR re-programming of the project.	<ul style="list-style-type: none"> <li>Findings and realigned strategy presented to the DivHIME.</li> </ul>		
4.4 Conduct stakeholders meeting for dissemination of the AfyaInfo MTR report.	Incomplete	This activity has been on hold pending USAID direction on dissemination strategy discussed post MTR.	

## XIV. FINANCIAL INFORMATION

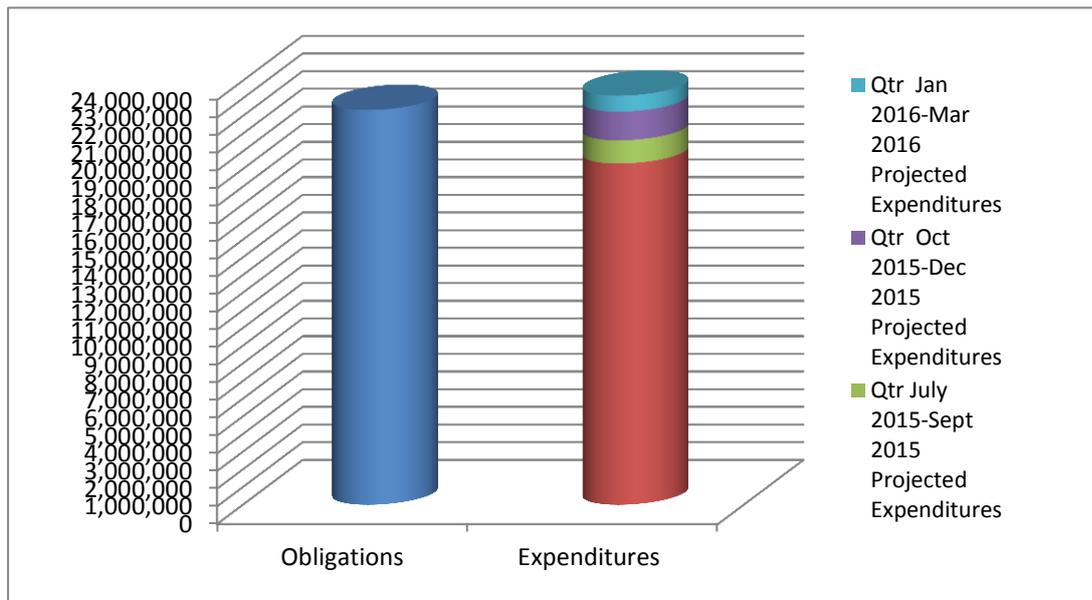
As of June 30, 2015 the cumulative obligations were \$20,287,134.98. A further obligation amounting to \$2,052,000 was received on August 10, 2015, increasing the cumulative obligations to \$22,339,134.98 as of the end of Q1Y5. Obligations to date are equivalent to 68% of the Estimated Award value of \$32,802,647.

During Year 4 there were significant expenditures due to the implementation of the ICT Infrastructure Phase II activity.

### Cash Flow Report and Financial Projections (Pipeline Burn Rate)

The following chart compares the total obligated funds to cumulative actual expenditures as of June 30, 2015, and projected expenditures for the next quarters through March 2016.

**Chart I: Obligations vs. Current and Projected Expenditures**



**Table 4: Budget Details**

Table 4: Budget Details

Total Estimated Cost: \$32,802,647

Cumulative Obligations: \$22,339,135

Cumulative Actual Expenditures: \$19,309,689

Obligations as of Sept 30, 2015	Actual Cumulative Expenditures as of June 30, 2015	Qtr. July–Sept 2015 Projected Expenditures	Qtr. Oct–Dec 2015 Projected Expenditures	Qtr. Jan–Mar 2016 Projected Expenditures
<b>22,339,135</b>	<b>19,309,689</b>	<b>1,313,262</b>	<b>1,627,179</b>	<b>900,000</b>
<i>Salary and wages</i>	3,196,417	197,050	160,295	160,295
<i>Fringe benefits</i>	1,342,495	82,761	67,324	67,324
<i>Overhead</i>	1,153,895	69,485	51,102	51,102
<i>Consultants (short-term technical assistance)</i>	405,959	30,606	128,966	52,823
<i>Travel, transportation and per diem and misc.</i>	526,444	55,910	36,520	24,000
<i>Allowances</i>	420,896	3,554	1,454	0
<i>Other direct costs</i>	1,500,858	130,517	181,953	124,779
<i>Programmatic costs</i>	3,234,822	269,220	348,531	97,485
<i>Equipment</i>	1,901,519	12,033	20,000	0
<i>Subcontracts</i>	2,333,909	226,361	362,441	164,888
<i>Handling charge</i>	97,196	5,918	11,251	4,790
<i>G&amp;A</i>	2,102,277	155,513	165,238	101,570
<i>Total estimated costs</i>	18,216,688	1,238,927	1,535,074	849,056
<i>Fixed fee</i>	1,093,001	74,335	92,104	50,944
<b>Total estimated cost plus fixed fee</b>	<b>19,309,689</b>	<b>1,313,262</b>	<b>1,627,179</b>	<b>900,000</b>
<i>Salary and wages</i>	Salaries and wages are in line with the organization's HR policies. The staffing levels have remained fairly steady from the previous year. In June 2014 there were 17 employees and in June 2015 there were 16 employees following the exit of one employee in March 2015.			
<i>Fringe benefits</i>	Calculated as per awards conditions and prevailing Abt-approved NICRA rates.			
<i>Overhead</i>	Calculated as per award conditions and prevailing NICRA rates. The rates are consistent with the previous reporting period: Overhead Regular at 39% and Overhead Site at 15.50%.			
<i>Consultants (short-term technical assistance)</i>	Consultant expenditures are in line with approved work plans and budgets.			
<i>Travel, transportation and per diem and misc.</i>	Travel costs are in relation to project staff. Participant travel is generally charged to Programmatic Costs.			
<i>Allowances</i>	Allowances include danger pay for home office staff travelling to Kenya to provide short-term technical assistance. This is charged in accordance with allowance information on the U.S. Department of State's website.			
<i>Other direct costs</i>	Other direct costs include general office operating costs.			
<i>Programmatic costs</i>	Programmatic activities are aligned to the detailed implementation plan.			
<i>Equipment</i>	The majority of equipment costs in this reporting period are procurements for ICT Infrastructure Phase II, which began in October 2014, with the bulk of the expenditures being incurred by June 2015.			
<i>Subcontracts</i>	The subcontracts are consistent with agreements signed with the subcontractors UoN, ICF and TRG. Other professional service agreements charged to this line item include services related to the installation of ICT Infrastructure Phase II.			
<i>Handling charge</i>	Calculated as per award conditions.			
<i>G&amp;A</i>	Calculated as per award conditions.			
<i>Total estimated cost</i>	Total of all costs exclusive of fee.			
<i>Fixed fee</i>	Calculated as per award conditions.			

## **XV. ACTIVITY ADMINISTRATION**

### **Constraints and Critical Issues**

#### **Personnel**

The project was fully staffed through most of Year 4, with one staff member leaving in March.

#### **Changes in the Project**

N/A

#### **Contract, Award, or Cooperative Agreement Modifications and Amendments**

During Year 4, the project's obligations were increased by \$3,893,568.98, from \$16,393,565 to \$20,287,134.98. The obligation increases were as follows:

- Contract modification #4, September 30, 2014 – \$1,147,903.98
- Contract modification #5, September 30, 2014 – \$245,665
- Contract modification #6, March 14, 2015 – \$2,500,000

Another obligation of \$2,052,000 was received in August 2015, increasing the cumulative obligations to \$22,339,134.98.

Discussions on modifications to the contract are ongoing. The proposed modifications are the result of refocused PEPFAR priorities and the midterm review findings.

## XVI. INFORMATION FOR ANNUAL REPORTS

### A. Budget Disaggregated by County

Obligation	1 <sup>st</sup> Quarter July 2014– Sept 2014	2 <sup>nd</sup> Quarter Oct 2014– Dec 2014	3 <sup>rd</sup> Quarter Jan 2015–Mar 2015	4 <sup>th</sup> Quarter Apr 2015–June 2015
Total Obligation: \$22,339,134.98	\$1,393,569	\$0	\$2,500,000	
Nationally Spread Expenditures:	\$994,938.31	\$1,077,148.40	\$2,484,645.85	\$1,623,417.26

### B. Budget Disaggregated by Earmarks

	1 <sup>st</sup> Quarter July 2014– Sept 2014	2 <sup>nd</sup> Quarter Oct 2014– Dec 2014	3 <sup>rd</sup> Quarter Jan 2015–Mar 2015	4 <sup>th</sup> Quarter Apr 2015–June 2015
HIV/AIDS	\$838,335.02	\$907,605.24	\$2,093,562.59	\$1,367,891.38
Malaria	\$31,141.57	\$33,714.74	\$77,769.42	\$50,812.96
Family Planning/RH	\$89,743.44	\$97,158.79	\$224,115.06	\$146,432.24
Other MCH	\$35,718.28	\$38,669.62	\$89,198.78	\$58,280.68
Note: Each year the COR/ Agreement Officer's Representative (AOR) should be consulted regarding which earmarks are applicable to the project, and the amounts.				

### Subawards

#### New Subcontracts

There were no new subcontracts during the reporting period. However, subcontracts for local vendors Knowing Ltd and CHS were terminated following completion of the assigned SOW.

Total amount in the approved budget for subcontracts: **\$4,687,296**

Total amount subcontracted to date: **\$3,375,804**

**Table 5: Subawardee Details**

Subawardee Name	Start Date	End Date	Amount for This Subawardee	Cumulative Obligated Amounts	Date Last Audit Conducted	Regions of Implementation
ICF Macro, Inc.	July 4, 2011	March 31, 2016	\$1,450,981	\$1,223,290	Not audited	National
Training Resources Group, Inc.	June 1, 2011	March 31, 2016	\$1,582,001	\$1,108,702	Not audited	National
Knowing Limited	April 15, 2012	February 13, 2015	\$112,288	\$112,288	Not audited	National
University of Nairobi	November 1, 2012	December 31, 2015	\$209,532	\$209,532	Not audited	National
Center for Health Solutions	July 15, 2013	December 31, 2014	\$21,001	\$21,001	Not audited	National
Totals			\$3,375,804	\$2,674,814		

Since the end of the project's Year 4, subawardee ICF Macro has received a ceiling increase of \$227,691 on September 15, 2015.

### Summary of Non-USG Funding

No non-USG funding was received during the reporting period.

#### A. Type of Accounting System Used During Reporting Period

The project has been using Quicken accounting software since its inception in June 2011.



## XVII. GPS INFORMATION

Table 6: GPS Information

Implementing Mechanism/Activity	Task	Activity Name	Implementing Partner	Subawardee	Amount	Start Date	End Date	Nationwide?	Location	Admin I (County)	Longitude	Latitude	Precision Code
AfyalInfo	I	HIS infrastructure and systems development to create a unified NHIS	Abt Assoc.			June 2011	May 2016	Y	Nairobi	Nairobi			Local or national capital
AfyalInfo	I	Development and maintenance of NHIS's web-based MFL/MCUL databases	Abt Assoc.	Knowing Ltd		Apr 2012	May 2016	Y	Nairobi	Nairobi			Local or national capital
AfyalInfo	I	Management of KePMS and support to PEPFAR partners until a unified NHIS is fully functional and the KePMS is transitioned into it	Abt Assoc.	ICF International		June 2011	May 2016	Y	Nairobi	Nairobi			Local or national capital
AfyalInfo	I	Support MOH in capacity-building for local partners based on their competitive advantages to become providers for NHIS maintenance, development and training	Abt Assoc.	UoN		Nov 2012	Dec 2015	Y	UoN School of Computing and Informatics	Nairobi			Near exact location
AfyalInfo	I	Temporary hosting of MOH test and development servers	Abt Assoc.	UoN		Nov 2012	Dec 2015	Y	UoN School of Computing and Informatics	Nairobi			Near exact location

Implementing Mechanism/Activity	Task	Activity Name	Implementing Partner	Subawardee	Amount	Start Date	End Date	Nationwide?	Location	Admin I (County)	Longitude	Latitude	Precision Code
AfyalInfo	1	Sensitize priority system owners on the availability and usability of existing APIs (MFL, DHIS2) for health information exchanges	Abt Assoc.			Dec 2014	Dec 2014	N	CHMT Offices	Uasin Gishu			Near exact location
AfyalInfo	2	Development, testing, and implementation of HIS Training Quality Assurance and mentorship program	Abt Assoc.	CHS		July 2013	May 2016	Y	Nairobi	Nairobi			Local or national capital
AfyalInfo	2	Strengthen the MOH's Learning and Knowledge Management structures	Abt Assoc.			June 2011	May 2016	Y	Nairobi	Nairobi			Local or national capital
AfyalInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Homa Bay			Near exact location
AfyalInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Siaya			Near exact location
AfyalInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Kisii			Near exact location
AfyalInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Bungoma			Near exact location

Implementing Mechanism/Activity	Task	Activity Name	Implementing Partner	Subawardee	Amount	Start Date	End Date	Nationwide?	Location	Admin I (County)	Longitude	Latitude	Precision Code
AfyaInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Kiambu			Near exact location
AfyaInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Murang'a			Near exact location
AfyaInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Machakos			Near exact location
AfyaInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Nairobi			Near exact location
AfyaInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Bomet			Near exact location
AfyaInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Uasin Gishu			Near exact location
AfyaInfo	2	Support development of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Kisumu			Near exact location
AfyaInfo	2	Support development of County Health Sector Annual	Abt Assoc.			Nov 2014	Nov 2014	N	CHMT Offices	Kericho			Near exact

Implementing Mechanism/Activity	Task	Activity Name	Implementing Partner	Subawardee	Amount	Start Date	End Date	Nationwide?	Location	Admin I (County)	Longitude	Latitude	Precision Code
		Performance Report for FY 2013/14											location
AfyalInfo	2	Support stakeholder review of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Dec 2014	Dec 2014	N	CHMT Offices	Kiambu			Near exact location
AfyalInfo	2	Support stakeholder review of County Health Sector Annual Performance Report for FY 2013/14	Abt Assoc.			Dec 2014	Dec 2014	N	CHMT Offices	Siaya			Near exact location
AfyalInfo	3	Build capacity of DivHIME's leadership and management necessary to drive NHIS unification effort (national, county) and sustain it over time	Abt Assoc.			June 2011	May 2016	Y	Nairobi	Nairobi			Local or national capital
AfyalInfo	3	Strengthen DivHIME's leadership, management and coordination structures (national, county)	Abt Assoc.	TRG		June 2011	May 2016	Y	Nairobi	Nairobi			Local or national capital
AfyalInfo	3	Support County HIS Strategic Plan formulation	Abt Assoc.	TRG		Nov 2014	Nov 2014	N	CHMT Offices	Machakos			Near exact location

# ANNEX I: REPORT ON ENVIRONMENTAL MITIGATION ACTIVITIES

## YEAR 4 (JULY 2014–JUNE 2015) ENVIRONMENTAL MITIGATION AND MONITORING PLAN REPORT

Submitted by: Kenya National Health Information Systems Program

(Kenya NHIS Program) (operating as AfyaInfo)

Implementing Partner: Abt Associates

### A. Summary of Program

In June 2011 USAID/Kenya signed a five-year contract with Abt Associates to implement the Kenya National Health Information Systems Program (AID-623-TO-11-00005) (AfyaInfo). AfyaInfo is using organizational development, capacity-building, and systems development to help the GoK's health ministries (MOH) establish an integrated, web-based, unified National Health Information System (NHIS) that will serve as the sole source of data for all health sector stakeholders, thus eliminating the need for the existing vertical monitoring and reporting systems.

### B. Evaluation of Program Result Areas and Activities with Respect to Environmental Impact Potential

As stated in the Environmental Mitigation and Monitoring Plan Determination, the purpose of the project is to provide technical assistance to the Kenya MOH DivHIS. The technical assistance activities undertaken by the project in Year 3 did not have any direct impact to the environment.

As a result of 22 CFR 216 §216.2 (c) Categorical Exclusions, AfyaInfo is not required to have an **Environmental Mitigation and Monitoring Plan**:

- i. The action does not have an effect on the natural or physical environment. Section 2 (c) (2) list the following classes of actions that are not subject to the procedures set forth in §216.3:
- ii. Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment
- iii. Document and information transfer
- iv. Studies, projects or programs intended to develop the capability of recipient countries to engage in development planning, except to the extent designed to result in activities directly affecting the environment.

### C. Determination

Based on the criteria and actions for exclusion cited above, and in consideration of the three AfyaInfo result areas described in the program summary, Abt can categorically state that activities under the AfyaInfo project in Year 3 did not have any direct correlation or impact to the environment. Accordingly, Abt determines that the AfyaInfo project would not be subject to the Environmental Mitigation and Monitoring Plan procedures set forth in §216.3. Abt further submits in support of this determination that the AfyaInfo project does not fall into any of the “classes of actions normally having significant effect on the environment” listed in §216.2 (d).



## ANNEX II: YEAR 4 LIST OF DELIVERABLES

ACTIVITY OUTPUT		TYPE OF OUTPUT	STATUS
<b>Cross-Cutting</b>			
2.	MUICT Pre-Training Assessment	NHIS Resource	Final
<b>OUTPUT 1</b>			
3.	APR 2014 Collation Sheet	NHIS Resource	Final
4.	Data/System Governance and Change Management	Strategy	Final
5.	Final MFLv2.0 Implementation Guide	NHIS Resource	Final
6.	Master Facility List Version 2.0	NHIS Application	Beta
7.	MFL Service Catalogue	NHIS Resource	Final
8.	MFLv2.0 Development Technical Roadmap	Technical Roadmap	Final
9.	MFLv2.0 SRS	NHIS Resource	Final
10.	KePMS – DATIM Collation Sheets	NHIS Resource	Continuous
11.	SAPR 15 Roadmap and Data Management Plan	NHIS Resource	Final
12.	PEPFAR/Kenya Change Management Protocol for DATIM	NHIS Resource	Final
13.	K2D Portal/JPRP	NHIS Application	Beta
14.	County ICT deployment Site Survey Standard Checklist	NHIS Resource	Final
15.	ICT Deployment Status Tracking Tool	NHIS Resource	Final
16.	ICT Active Equipment Deployment Checklist	NHIS Resource	Final
17.	Userful EMR Partner Deployment documentation	NHIS Resource	Final
18.	Kenya e-Health Information Systems Interoperability Standards	NHIS Resource	Final
<b>OUTPUT 2</b>			
19.	Data Quality Assurance Protocol	NHIS Resource	Final
20.	DQA 2014 Report	Assessment Report	Final
21.	DQA Protocol Addendum – Guidelines for Conducting DQA	NHIS Resource	Final
22.	Mini DQA for Facilities Template	NHIS Resource	Final
23.	Standardized DQA Templates	NHIS Resource	Final
24.	Standardized Tools and Templates for the Data Review Forums	NHIS Resource	Final
25.	Performance reporting ,planning and review guidelines	NHIS Resource	Edition I/Draft
26.	Nairobi County Data Quality Improvement Plan 2015	NHIS Resource	Final

27.	Uasin Gishu County Data Quality Improvement Plan 2015	NHIS Resource	Final
28.	Machakos County Data Quality Improvement Plan 2015	NHIS Resource	Final
29.	Busia County Data Quality Improvement Plan 2015	NHIS Resource	Final
30.	Kisumu County Data Quality Improvement Plan 2015	NHIS Resource	Final
31.	Migori County Data Quality Improvement Plan 2015	NHIS Resource	Final
32.	Homa Bay County Data Quality Improvement Plan 2015	NHIS Resource	Final
33.	Siaya County Data Quality Improvement Plan 2015	NHIS Resource	Final
34.	Annual Health Sector Performance Reports Templates and Guidelines	NHIS Resource	Final
35.	Nairobi County Annual Health Sector Performance Report	Assessment Report	Final
36.	Uasin Gishu County Annual Health Sector Performance Report	Assessment Report	Final
37.	Machakos County Annual Health Sector Performance Report	Assessment Report	Final
38.	Busia County Annual Health Sector Performance Report	Assessment Report	Final
39.	Kisumu County Annual Health Sector Performance Report	Assessment Report	Final
40.	Migori County Annual Health Sector Performance Report	Assessment Report	Final
41.	Homa Bay County Annual Health Sector Performance Report	Assessment Report	Final
42.	Siaya County Annual Health Sector Performance Report	Assessment Report	Final
43.	Kisii County Annual Health Sector Performance Report	Assessment Report	Final
44.	Bungoma County Annual Health Sector Performance Report	Assessment Report	Final
45.	Kakamega County Annual Health Sector Performance Report	Assessment Report	Final
46.	Kericho County Annual Health Sector Performance Report	Assessment Report	Final
47.	Quarterly Health Information Bulletin for July–Sep 2014	NHIS Resource	Final
48.	Quarterly Health Information Bulletin for Sep–Dec 2014	NHIS Resource	Final
49.	All-Inclusive Mentorship Package	NHIS Resource	Final
50.	Nairobi County Performance Review Report 2015	NHIS Resource	Final

51.	Uasin Gishu County Performance Review Report 2015	NHIS Resource	Final
52.	Machakos County Performance Review Report 2015	NHIS Resource	Final
53.	Busia County Performance Review Report 2015	NHIS Resource	Final
54.	Kisumu County Performance Review Report 2015	NHIS Resource	Final
55.	Migori County Performance Review Report 2015	NHIS Resource	Final
56.	Homa Bay County Performance Review Report 2015 Final	NHIS Resource	Final
57.	Siaya County Performance Review Report 2015	NHIS Resource	Final
58.	Nairobi County Rapid Assessment DQA Findings 2015	NHIS Resource	Final
59.	Uasin Gishu County Rapid Assessment DQA Findings 2015	NHIS Resource	Final
60.	Machakos County Rapid Assessment DQA Findings 2015	NHIS Resource	Final
61.	Busia County Rapid Assessment DQA Findings 2015	NHIS Resource	Final
62.	Kisumu County Rapid Assessment DQA Findings 2015	NHIS Resource	Final
63.	Migori County Rapid Assessment DQA Findings 2015	NHIS Resource	Final
64.	Homa Bay County Rapid Assessment DQA Findings 2015	NHIS Resource	Final
65.	Siaya County Rapid Assessment DQA Findings 2015	NHIS Resource	Final
66.	Nairobi County Integrated Data and Performance Review Report	NHIS Resource	Final
67.	Uasin Gishu County Integrated Data and Performance Review Report	NHIS Resource	Final
68.	Busia County Integrated Data and Performance Review Report	NHIS Resource	Final
69.	Kisumu County Integrated Data and Performance Review Report	NHIS Resource	Final

70.	Migori County Integrated Data and Performance Review Report	NHIS Resource	Final
71.	Homa Bay County Integrated Data and Performance Review Report	NHIS Resource	Final
72.	Siaya County Integrated Data and Performance Review Report	NHIS Resource	Final
73.	Nairobi County Health Facility Map	NHIS Resource	Final
74.	Uasin Gishu County Health Facility Map	NHIS Resource	Final
75.	Machakos County Health Facility Map	NHIS Resource	Final
76.	Busia County Health Facility Map	NHIS Resource	Final
77.	Kisumu County Health Facility Map	NHIS Resource	Final
78.	Migori County Health Facility Map	NHIS Resource	Final
79.	Homa Bay County Health Facility Map	NHIS Resource	Final
80.	Siaya County Health Facility Map	NHIS Resource	Final
81.	Kisii County Health Facility Map	NHIS Resource	Final
82.	Bungoma County Health Facility Map	NHIS Resource	Final
83.	Kakamega County Health Facility Map	NHIS Resource	Final
84.	Kericho County Health Facility Map	NHIS Resource	Final
85.	Annual health sector performance report 2013/014	NHIS Resource	Final
<b>OUTPUT 3</b>			
86.	County HIS Plan Guidance	NHIS Resource	Final
87.	County HIS Joint Planning Template	NHIS Resource	Final
88.	Nairobi County HIS Joint Plan	County Plan	Final
89.	Uasin Gishu County HIS Joint Plan	County Plan	Final
90.	Machakos County HIS Joint Plan	County Plan	Final
91.	Busia County HIS Joint Plan	County Plan	Final
92.	Kisumu County HIS Joint Plan	County Plan	Final
93.	Migori County HIS Joint Plan	County Plan	Final
94.	Homa Bay County HIS Joint Plan	County Plan	Final
95.	Siaya County HIS Joint Plan	County Plan	Final
96.	HIS Strategic Plans for Machakos and Uasin Gishu	County Plan	Final
97.	HIS Stakeholder Coordination for Busia and Uasin Gishu	County Plan	Final
98.	DivHIME Annual Work Plan 2015–2016	NHIS Resource	Final
99.	Facility-Based Organizational Development Support Concept Note	Concept Note	Final
100.	Leadership and Management Capacity-Building Concept Note	Concept Note	Final
101.	Leadership and Management Capacity-Building Training Materials	NHIS Resource	Final
102.	Concept Note for HISCC Relaunch	Concept Note	Final

103.	Concept Paper on Collaborative Effort Towards Meaningful Data Use	Concept Note	Final
104.	Meaningful Use of ICT (Phase I) Training of Trainings Manual	NHIS Resource	Final
105.	Meaningful Use of ICT (Phase I) Participant Manual	NHIS Resource	Final
106.	Meaningful Use of ICT (Phase I) Facilitators Guide	NHIS Resource	Final
107.	Meaningful use of ICT (Phase II) Participant Manual	NHIS Resource	Final
108.	Meaningful use of ICT(Phase II) Facilitator Manual	NHIS Resource	Final
109.	County Stakeholder Plan Template	NHIS Resource	Final
110.	County Stakeholder Plan Guidance	NHIS Resource	Final
111.	Busia County HIS Stakeholder Coordination Plan	NHIS Resource	Final
112.	Uasin Gishu County HIS Stakeholder Coordination Plan	NHIS Resource	Final
113.	HIS Staffing Plan Guidance and Template	NHIS Resource	Final
114.	Staffing Assessment Interview Guide	NHIS Resource	Final
115.	MCUL Job Aid	NHIS Resource	Final
116.	MFL Job Aid	NHIS Resource	Final
117.	DHIS2 Job Aid	NHIS Resource	Final
118.	Userful Job Aid	NHIS Resource	Final
119.	Userful Admin Job Aid	NHIS Resource	Final
120.	Data Management Job Aid	NHIS Resource	Final
<b>Contractual</b>			
121.	Monthly eBulletins (every month)		Final
122.	Quarterly Reports (Yr4Q1, Y4Q2, Y4Q3, Y4Q4)		Final
123.	Work Plan (Year 4) and Year 4 Supplemental Work Plan		Final
124.	Midterm Review Evaluation Booklet		Final
125.	USG Site Briefing Booklet		Final



## ANNEX III: CHALLENGES WITH ICT INFRASTRUCTURE PROCUREMENT AND DEPLOYMENT

### Summary of ICT Deployment Challenges and Solutions

Stage	Challenges	Solutions
ADS/Contracting Officer approval process/procurement	<ul style="list-style-type: none"> <li>Lead time</li> <li>Import of equipment; printers, for example, took over five months to arrive</li> </ul>	<ul style="list-style-type: none"> <li>Collaborated closely with Contracting Officer's Representative during process.</li> <li>Collaborated closely with vendors to ensure timelines for importing equipment were adhered to.</li> </ul>
Identification of sites	<ul style="list-style-type: none"> <li>Counties' preference to self-identify facilities, some of which did not have a high volume of HIV/AIDS care and treatment</li> <li>Existing ICT in USG partner-supported sites</li> </ul>	<ul style="list-style-type: none"> <li>Held inception meetings with each county management team to discuss and secure buy-in on selection criteria and to determine final site selection.</li> <li>Prioritized selection of sites not yet supported with ICT by USG partners.</li> </ul>
Site surveys	<ul style="list-style-type: none"> <li>Delays due to unavailability of county and facility staff to work with the subcontractors and facilitate their work</li> <li>Significant security and physical infrastructure issues (water leakage, lack of power, distance between buildings)</li> </ul>	<ul style="list-style-type: none"> <li>Worked with county management teams to secure buy-in and support from facility management during site survey process</li> <li>As an immediate solution, in consultation with USAID and county leadership, eliminated any sites where major security or physical infrastructure issues would jeopardize the ICT; worked with county and facility management to address needed improvements in civil works.</li> </ul>
LAN installation	<ul style="list-style-type: none"> <li>Complex management of three LAN installation vendors, and some specific issues of quality workmanship</li> <li>Limited access to facilities during high peak service hours (to avoid service disruptions); limited access after-hours (weekends and after 5 p.m.)</li> </ul>	<ul style="list-style-type: none"> <li>Implemented an intensive quality assurance process to oversee: vendor delivery of LAN, including vendor orientation; establishment of acceptable quality standards; and regular on-site visits with vendor teams.</li> <li>Worked individually with county management teams and facility management to secure access after-hours so as to not disrupt patient care.</li> </ul>

<p>Active equipment</p>	<ul style="list-style-type: none"> <li>• Lack of burglar bars, perimeter fencing and other security measures</li> <li>• Facility requests for equipment to be placed in non-priority service areas</li> <li>• Time required to on-board partner applications</li> <li>• Time required to conduct verification and sign off</li> </ul>	<ul style="list-style-type: none"> <li>• Worked with facility management to address security issues and install additional measures; some sites still remove the equipment daily from workstations and put it in storage.</li> <li>• Worked with facility management to ensure placement of equipment in priority service areas.</li> <li>• Secured partnerships with USG partners and national-level mechanisms to provide support for on-boarding and training on applications (e.g., FACES, KEMSA, ICAP).</li> <li>• Secured additional support from county ICT Officers to provide verification and configuration.</li> </ul>
<p>Meaningful Use of ICT (see below)</p>	<ul style="list-style-type: none"> <li>• Securing meaningful use of applications</li> <li>• Regular connectivity to the internet for reporting</li> </ul>	<ul style="list-style-type: none"> <li>• Implemented MUICT program to support the change management process for using and maintaining the equipment, and to support the development of technical skills in using national-level applications, including the MFL, DHIS2 and KEMSA; trained ICT Officers on administration and maintenance.</li> <li>• Provided the facilities with regular GSM SIM cards for the routers, allowing for data bundles top-up using regular scratch cards.</li> </ul>

## ANNEX IV: SELECTED SUCCESS STORIES FROM YEAR 4

### Year 4 Quarter I

**Partnering for Health Facilities Capacity-Building.** In September 2014, AfyaInfo and I-TECH conducted joint HIS training for two health facilities of Uasin Gishu County, Turbo Sub-District Hospital and Burnt Forest Sub-District Hospital. The training focused on Electronic Medical Records orientation and meaningful data use at the facility level. The training, which was health facility-based, was an initial step toward implementing a collaborative approach among partners for efficient and effective capacity-building for counties' management and health facilities. The move is geared toward reducing duplication of effort by partners and efficient use of health workers' time. The approach reduced health workers' time spent in training and expended partner resources for the training. The counties hailed the approach, as it allowed the health workers to attend training while providing services.

**Uasin Gishu County HIS Strategic Plan Workshop.** In September 2014, AfyaInfo in collaboration with DivHIME, supported Uasin Gishu County in holding an HIS strategic planning workshop attended by 30 participants from all the sub-counties. AfyaInfo and DivHIME personnel facilitated the workshop. Dr. Martha Muthami, the Head of the HIS Unit of the Ministry of Health, was the co-facilitator. Silas Kosgey, the Uasin Gishu County Health Records Information Officer (CHRIO), was also in attendance. An outcome of the meeting was a draft framework and raw data that the MOH will use to formulate the HIS Strategic Plan. The objective of the workshop was to support the county in developing a roadmap for HIS activities in the next four years. Also in September, AfyaInfo supported the Uasin Gishu CHMT in holding an HIS stakeholders' forum to agree to a common vision for HIS strengthening in the county. Developing mechanisms for coordinating HIS stakeholders in the county was a recommendation following the County HIS assessment undertaken in October 2013. The meeting discussed issues related to HIS ICT deployment in the county, EMR implementation updates, strengthening county data demand and information use, and dissemination of the draft Data Quality Assurance report. Participants agreed that a series of next steps would take place, including regular forums to provide stakeholder updates. The meeting was attended by the CEC; ICT and e-government; Mr. Barnabas Sang, the Chief Officer - Health; Mr. Wilson Kemei, Chief Officer-ICT and e-government; Mr. Ediwn Kemboi; and the County Director of Clinical Services, Dr. Billy Lubanga.

**NHIS Service Desk Prepares for County Cascade.** AfyaInfo supported the development of the NHIS Service Desk launched early in 2014 to improve user access to services such as remote troubleshooting, resolving problems with ICT infrastructure, and real-time user support to use HIS priority systems. The NHIS service desk is operational and accessible at a public IP address: <http://servicedesk.health.go.ke/portal>. In August 2014, AfyaInfo supported the MOH in jointly conducting a five-day workshop to strengthen the capacity of HIS officers. The aim was to increase the number of HIS officers available to run the service desk at the national level and to help with the cascading of the service desk to the counties to support the CHIN. AfyaInfo trained HIS officers on service desk functionality and on the development of a data and systems governance framework. Such a framework improves accountability, data quality, and data security across all the levels of NHIS. In addition, the framework will guide the fast-track development of data governance policies, standards, and guidelines that will improve data stewardship and ownership. This will lead to increased quality of data within the systems.

**AfyaInfo Extends NHIS Training to Hard-to-Reach Counties Trained in NHIS.** Data managers from hard-to-reach counties of Mandera, Wajir, and Garissa participated in the August, 2014, NHIS training. The training was held at the same time as training for data managers from Meru, Nyandarua, Kirinyaga, and Tharaka Nithi counties. Participants are now able to access the data entry platforms and manipulate the systems to mine data for use within the counties. They also took the

opportunity of their newly assigned data access rights to update their data to reflect county-level changes in line with devolution planning. A total of 30 participants from the three hard-to-reach counties and 39 from the other four counties received the NHIS training package and users updated or assigned their rights of access to DHIS, MFL and MCUL.

**AfyaInfo and MOH Drafts Issue 2 of Quarterly Health Information Bulletin.** In September 2014, a joint AfyaInfo and MOH team developed the Quarterly Health Information Bulletin Issue 2. This was an improvement of Issue 1 of April 2014, which various users across the world reviewed. Their feedback informed development of Issue 2. As a result, Issue 2 has new analyses, including maps to highlight service use comparisons across Kenya by county. It also includes the recently implemented Reproductive Maternal and Child Health Scorecard outlining how counties are performing across several priority health sector indicators. AfyaInfo will share the Issue 2 bulletin for review and feedback with the community of practice referred to as PIMA (comprising more than 950 M&E and HIS professionals across the world) and all records officers in the counties and programs.

**Homa Bay and Migori County Hold HIS Stakeholder Meetings.** AfyaInfo is supporting selected counties in strengthening their HIS and better coordinating HIS stakeholders to limit duplication of activities among stakeholders. In August, AfyaInfo facilitated planning and execution of two county HIS stakeholder meetings in Homa Bay and Migori. The purpose of the meetings was to ensure coordinated execution of HIS activities in the counties. The two separate meetings brought together the respective internal and external county HIS stakeholders to discuss: how to establish a common vision for HIS, measures for coordinating stakeholders, progress on ICT infrastructure deployment, and how to develop a joint capacity-building plan. External HIS stakeholders present were AfyaInfo, APHIAplus, EGPAF, I-TECH, FACES, and MSFF. Internal stakeholders were county ICT and health departments.

**Uasin Gishu County ICT Staff Receive NHIS Service Desk Training.** AfyaInfo launched a skills transfer initiative in Uasin Gishu to build a local team of Useful experts at the NHIS Service Desk. This initiative supports national- and county-level deployment and maintenance of the CHIN. Long-term sustainability of the CHIN requires that counties serve as the first level of support to health facilities and that they champion any further deployments. AfyaInfo and HP Kenya2 have taken the initial step by training nine MOH and five University of Nairobi participants on Useful. In July 2014, the NHIS Service Desk team visited Uasin Gishu County to cascade the Useful training to 10 county ICT staff. As a result, ICT staff of Uasin Gishu County have the capacity to install and troubleshoot Useful desktop and network environments and undertake infrastructure installations.

#### **Health Facility Staff Trained to Use NHIS Infrastructure in Homa Bay and Uasin Gishu**

**Counties.** As AfyaInfo installs the ICT infrastructure to support HIS functions in four counties (Uasin Gishu, Homa Bay, Kisumu, and Busia), AfyaInfo and the MOH have supported end users in meaningful use of this infrastructure through comprehensive OJT support. In July 2014, AfyaInfo trained more than 60 health workers in eight high-volume facilities to use Useful, MFL, MCUL, and DHIS2. Users are now comfortable entering their service delivery data and accessing their health facilities and community units' data, increasing access and timeliness of data.

**AfyaInfo Expands Training for County Data Managers.** Since early 2014, AfyaInfo has supported the MOH in rolling out HIS trainings for data and health managers for more than 650 county staff in 35 counties. In July 2014, more than 35 data managers received the NHIS training as part of the AfyaInfo and MOH-expanded NHIS trainings. The data managers represent Nyeri, Marsabit and Isiolo Counties and participated in the AfyaInfo-designed five-day training on the MFL, MCUL, and DHIS2. Topic areas included general data management, data quality, and information use. As a result of this training, users are able to use NHIS software, understand general data management and information use, and apply these skills to their HIS roles.

## **Year 4 Quarter 2**

**New Community Health Extension Worker Summary Customized into DHIS2.** As NHIS user requirements consciously evolve, AfyaInfo continues to develop and enhance the system to meet user needs. In October 2014, AfyaInfo incorporated the revised Community Health Extension Worker Summary (Form MOH 515) into the DHIS2. MOH's Community Health Services Unit spearheaded this effort. The dataset fed into the DHIS2 will include the expanded indicators from community health programs. AfyaInfo will support the Community Health Services Unit as it manages the transition process of data collection using the new tool.

**Test Server for NHIS Applications Installed at University of Nairobi.** In October 2014, AfyaInfo supported the MOH in locating the test server for the NHIS at UoN's School of Computing and Informatics. By hosting the test server, the university will improve its ability to support trainings and provide technical support for the NHIS over time. In addition, the testing site will serve as a development and incubation environment for innovative health informatics applications by university ICT/computer science students trained during AfyaInfo-supported annual health informatics Boot Camps (i.e., six-week trainings on maintenance of the DHIS2, MFL and other systems and health databases). This shift enables the migration of the test server from a local commercial cloud to the University so that the MOH will incur no further costs. Both the MOH and UoN will benefit from this arrangement. Institutionalizing this test environment will strengthen sustainability of the NHIS.

**Successful Upgrade to DHIS Version 2.16.** After thorough testing, AfyaInfo supported the MOH in November 2014 in upgrading the Kenyan DHIS2 from version 2.13 to 2.16, which has enhanced features for report generation and vitalization for case-/single-event-based data, including inpatient module and sample tracking. This version comes with long-awaited functionality that enables data staging and an approval process and includes an improved user interface and ability to plug in new utilities such as third party applications. AfyaInfo will continue to support the MOH in taking full advantage of version 2.16, with an emphasis on operationalizing the in-patient reporting module.

**DHIS2 and iHRIS Interoperability Achieved.** AfyaInfo has worked with Capacity Bridge to actualize MFL, iHRIS, and DHIS2 interoperability. MFL data (unique code and identifiers) are now being pulled into the iHRIS system through an API. The interoperability of the three systems helps standardize facility-specific data and provide it in the iHRIS. In November 2014, AfyaInfo and Capacity Bridge conducted a working meeting in which iHRIS data was for the first time pulled into the DHIS2 through API. This major achievement brought us one step closer to full interoperability, and the two USAID-funded activities will continue to work together to develop an automatic exchange of data among the three systems. MFL, iHRIS, and DHIS2 interoperability will provide Kenya HIS users the opportunity to use the service delivery data and the human resources data for more-layered, complete data analyses on the live DHIS2 environment.

**Twelve Counties Develop their First Health Sector Annual Performance Reports.** The County Government Act 2012 provides for annual performance reports to the county assembly. In November 2014, the MOH's M&E Unit developed, with the support of AfyaInfo, standard templates and a procedure to help counties develop Health Sector Annual Performance Reports for FY 2013/14. Additionally, AfyaInfo supported 12 counties through multi-county cluster workshops in drafting their first-ever Health Sector Annual Performance Reports. The counties are: Homa Bay, Siaya, Kisii, Bungoma, Kiambu, Murang'a, Machakos, Nairobi, Bomet, Uasin Gishu, Kisumu, and Kericho. At the workshops, AfyaInfo supported the counties with data analysis, interpretation, presentation, drafting of the reports, and with final formatting and printing. For the period under review, the Health Sector Annual Performance Reports highlight county health profiles, policy environment, health care organization and investments, performance of various health indicators, and financial expenditure. AfyaInfo and the MOH presented the Health Sector Annual Performance Reports at the National Health Congress in January 2015.

**Meaningful Use of ICT in Facilities Assessed.** The goal of the AfyaInfo-supported ICT infrastructure is to increase access to and use of health information for decision-making at the facility

and county level. In December 2014, AfyaInfo conducted a rapid TNA in three counties – Machakos, Homa Bay, and Uasin Gishu – to identify gaps and training needs in advance of the AfyaInfo ICT deployment, which began in January 2015. AfyaInfo conducted the TNA in 12 facilities within the three selected counties that have benefited or will benefit from the AfyaInfo ICT infrastructure deployment. Preliminary findings indicate ICT use may improve not only through better basic ICT skills, but also through the provision of clear incentives for using ICT routinely and a better understanding of clear organizational benefits for using ICT. AfyaInfo used the TNA results to optimize ICT use by informing facility- and county-level training and targeted support to complement the ICT rollout, which began in early 2015.

### **AfyaInfo Supports Stakeholders' Review of Financial Year 2013/2014 Health Sector**

**Performance Reports.** AfyaInfo supported Kiambu and Siaya Counties in holding stakeholder forums to review the health sector performance reports, developed with AfyaInfo support, for the Financial Year 2013/2014. Stakeholders included the Chief Officer for Health (Siaya), County Director for Health (Kiambu), county and sub-county health management team members, APHIAplus Kamili and other regional health partners. AfyaInfo brief stakeholders on the status of impact indicators, major achievements made in service delivery during the performance period, investments, challenges encountered, and emerging recommendations and priorities for Financial Year 2015/2016. Such forums provide an opportunity for stakeholders to review and contribute to health sector performance reports.

**DHIS2 Test Server set up at the University of Nairobi.** The installation and operationalization of the DHIS2 test server environment at the UoN School of Computing and Informatics was completed in December 2014. Once the hardware was delivered (including a high-end HP server, two desktops, and cooling systems), AfyaInfo worked with the UoN ICT Department to obtain public IP addresses and set up four virtual machines for the Kenya DHIS2 test environment. The transfer of the test environment is an important step for both AfyaInfo and the MOH to ensure long-term sustainability of DHIS2. From a technology and systems support perspective, locating the test server at the UoN provides ubiquitous access to the test environments of DHIS2, MCUL, and MFL for application testing, development of new features, and routinely addressing technology-related user requirements. Further, the migration will eliminate the recurring costs for commercial cloud services AfyaInfo previously financed, which the MOH otherwise would incur over time.

## **Year 4 Quarter 3**

**AfyaInfo Contributes to Successful National Health and Leadership Congress.** AfyaInfo, in collaboration with partners and other stakeholders, supported the Ministry of Health and the counties' Departments of Health in holding the first National Health and Leadership Congress. The Congress brought together counties' health leadership including County Executives for Health, County Chief Health Officers, County Directors, Hospital Board Directors, and facility and community program representation. Other stakeholders that participated included public organizations, faith-based organizations, private sector actors, development and IPs, and non-governmental organizations. The Congress launched 25 strategic health sector documents. AfyaInfo helped develop five of them: the Annual Health Sector Performance Report 2013/2014, Monitoring and Evaluation Framework for the Health Sector, Data Quality Assurance Protocol, Data Quality Audit 2014 Report, and Guidelines for Conducting Data Quality Reviews.

In preparation for the Congress, AfyaInfo supported 12 counties in developing County Health Performance reports (2013/2014). For the first time ever, three of these counties presented their report at the Congress. The reports were well received. In addition, AfyaInfo supported counties in exhibiting their developed materials, including county health-related reports, maps, and bulletins developed with the support of the project. AfyaInfo supported Congress participants in moderating and managing Congress sessions and offered a skill-building session on the HIS MFL, MCULs, and District Health Information Software 2.0 (DHIS2).

**Successful HIS Joint Planning Seminars with Homa Bay and Siaya Counties.** In February 2015, AfyaInfo held a successful first-ever Joint Planning session with Homa Bay and Siaya Counties. This exercise integrated AfyaInfo county-level activities in existing county strategic plans and annual work plans into a 12-Month Action Plan, which will guide AfyaInfo's collaboration and support within each county. Representatives from the county (CECs, CDOH, COH, and CO-ICT) participated. In each of the two counties, participants agreed on and scheduled activities relating to HIS ICT infrastructure deployment, data and information, and organization development. AfyaInfo will replicate this process in the remaining six project focal counties.

**MOH Program Develops New Data Tool Following AfyaInfo-led HIS Training.** In September 2014, AfyaInfo conducted DHIS2 Advanced Training to expand the pool of national-level DHIS2 administrators. This five-day training built the capacity of MOH staff from the Division of Monitoring and Evaluation, Health Informatics, and MOH Programs. One component of the training focused on HIS tool development and design for DHIS2. Using skills from the training, one participant, Mr. Paul Malusi, M&E Officer from the Division of National Public Health Laboratories, led the revision of the MOH 706 or Laboratory Test Data Summary Report for DHIS2. In January 2015, the MOH uploaded the new MOH 706 tool on DHIS2. The data tool makes laboratory data available to the DHIS2. Assigning of rights for the new tool to facilities is currently under way.

**AfyaInfo Supports the MOH and Counties in Validating the Standardized Data Quality Review Package.** AfyaInfo has supported the DivHIME in developing a draft Data Quality Review Package. The package outlines the steps to be taken in conducting a successful Data Quality Review. This includes the preparatory activities, gathering of data, development of a report, engagement of stakeholders to deliberate on the report, and charting the way forward through development of Data DQI Plans. In January 2015, seven counties convened to review and validate the package with the MOH. These counties included Nairobi, Machakos, Homa Bay, Migori, Kisumu, Siaya, and Busia. The forum was enriched by experiences shared by three USG IPs: MEASURE Evaluation (PIMA), MSH, and Applying Science to Strengthen and Improve Systems (ASSIST) Project-Kenya. AfyaInfo will support the DivHIME in disseminating the package to all counties and will support eight counties in institutionalizing the standard data quality review process.

**AfyaInfo Supports Stakeholders' Validation of the Performance Review Package.** AfyaInfo supported the MOH's Monitoring and Evaluation Unit in developing a package to standardize the Health Sector Performance Reviews across all levels. At the request of the Unit, AfyaInfo integrated this package into the MOH Performance Reporting and Planning Guidelines developed in 2014 with support from AfyaInfo and other partners. The Performance Review Package supports the continuum of performance report development, including the review with stakeholders, and priority setting and planning based on the identified priorities. In January 2015, AfyaInfo brought together stakeholders to validate the integrated Performance Review and Planning Package. AfyaInfo sensitized stakeholders to the continuum and the timing of these events along the Financial Year calendar, and they provided input on the improvements of the process. The package will help build the capacity of counties and lower levels of government on the standardized procedures for performance reporting, review, and planning. AfyaInfo will support eight counties during their Performance Review and Planning cycles.

**Counties develop 12-month HIS action plans.** As part of project activities to strengthen the county capacity to develop and implement plans for HIS activities, AfyaInfo supported joint HIS planning seminars for Machakos, Nairobi, Migori, and Busia Counties. The objective of the joint planning seminar is to develop 12-month action plans for HIS. Areas the counties identified include: HIS ICT deployment, DQI, and HIS staff development. During the seminars, AfyaInfo shared results from preliminary AfyaInfo-supported MOH assessments, including the Data Quality Audit, County Readiness Assessment, Stakeholder Mapping Assessment, Data Demand and Information Use Assessment, and HIS Assessments. AfyaInfo introduced the AfyaInfo-supported Performance and Data Review processes and templates.

**County Integrated Performance and Data Quality Reviews kick-off.** The AfyaInfo-supported standardized data and performance review promotes joint planning, implementation, and monitoring of the health strategic plans at various levels. It ensures wide stakeholder engagement and buy-in to county health priorities and ultimately results in better resourcing of county plans, linkages between health priorities and financial investments, and identification of priorities for the next planning cycle. In March 2015, AfyaInfo kicked off the Integrated Data Quality and Performance Review forums with Migori, Homa Bay, and Siaya Counties. Participants included County Health Management Teams, sub-county teams, health facility managers, and partners. Prior to the forums, AfyaInfo supported the county to conduct rapid assessments within each county to identify data quality issues and to verify data for selected indicators. During the review forums, selected stakeholders reported on their performance against the targets set out in their annual work plans and identified shortfalls requiring attention. Then AfyaInfo and the stakeholders verified the data in performance reports and identified data quality gaps. The counties together with their sub-counties and major facilities received support in developing midterm performance reports for 2014/15 during the forums.

**Meaningful Use of ICT Training – Phase I.** AfyaInfo implemented the Meaningful Use of ICT Training Program for 192 trainees from the 12 counties receiving integrated county HIS support. The objective of the training was to strengthen the institutional and human capacity needed for county- and facility-level staff to be able to secure meaningful use and adoption of the AfyaInfo-deployed ICT. The training entailed an organizational development and change management intervention to ensure adoption and use of ICT by transforming participants into prime change agents within their areas of influence. Trainees included facility managers, data managers, CHRIOs, CHMT members, and ICT county officers. Using simulation, the training environment facilitated practical orientation sessions in the Useful environment (including basic computer skills for first-time users), DHIS, MFL, and MCUL. The ICT staff received hands-on technical training on installation, administration, maintenance, and troubleshooting. All participants signed personal commitment forms to promote change, including indicating timelines and milestones to be achieved, and submitted a copy of their action plans to AfyaInfo, which will use them for follow-up during Phase II (post-deployment) training.

Health service delivery IPs also participated in the trainings and facilitated application-oriented sessions that exposed participants to four applications (iHRIS and iHRIS-Train (IntraHealth), eCSM (Kenya Pharma), and ADT (MSH)) that will potentially be implemented at the facilities represented, using the ICT infrastructure established with AfyaInfo support.

## Year 4 Quarter 4

**DivHIME Annual Work Plan (AWP 2015–16) Finalized.** AfyaInfo supported the DivHIME in formulating the 2015–2016 AWP. Staff from the DivHIME's four units (HIS, M&E, e-Health, and Vital Registration) and external partners (I-TECH, Measure Evaluation, PIMA Project, and AfyaInfo) undertook a review of the 2014–15 AWP ahead of embarking on a rigorous process of identifying and costing the activities to undertake during 2015–2016.

**Ministry of Health, AfyaInfo, and USG Delegation Visit Facilities in Migori, Siaya, and Homa Bay Counties.** A delegation of representatives from the DivHIME, USAID, CDC, county leadership, and AfyaInfo visited more than 20 facilities that have benefited from the comprehensive ICT investment in health facilities in Migori, Homa Bay, and Siaya Counties. The delegation sought to understand how the ICT investment contributes to improved data quality and improved service delivery. It consisted of national-level MOH leadership, USAID and CDC representatives, and an AfyaInfo team. These representatives met with county leadership, facility in-charges, and USG service delivery partners to discuss successes, challenges, and the way forward to harness the power of the USG investment. These meetings identified the gains the project has made in ICT deployment and identified lessons learned to sharpen the AfyaInfo implementation strategies going forward. The facility management teams and county leadership in the three counties recommitted to playing an active role to ensure

achievement of gains from the investment, including paying for securing facilities, providing ICT staff ongoing support and maintenance, and paying recurrent costs. This was a critical step to local ownership and sustainability of the investments.

**National-level HIS Strategic Plan (2014–17) finalized.** In the reporting quarter, AfyaInfo supported the DivHIME in finalizing the revised HIS Strategic Plan (HIS SP). This activity included a four-day workshop in June during which participants drawn from the DivHIME made final alignments in the document to reflect structural and functional changes at the State Department of Health. The revised HIS SP takes into account the legal and structural changes that have come into effect following the devolution of health care delivery in Kenya in 2013. The HIS SP provides a roadmap for the national-level DivHIME to execute its mandate by setting clear strategic directions for implementation in major management areas. With the revised HIS SP, the DivHIME will be able to roll out and monitor annual activities that are aligned to its constitutional mandate to ensure effective management of devolved HIS.

**County HIS Strategic Plans (2014–17) disseminated to stakeholders.** The project has been supporting counties in developing the HIS strategic plan to clarify the strategic and operational priorities for strengthening HIS in the next 4–5 years. To this end, AfyaInfo supported joint HIS planning seminars for Machakos, Nairobi, Migori and Busia Counties. The objective of the joint planning seminar is to develop 12-month action plans for HIS. Areas the counties identified include HIS ICT deployment, data quality improvement and HIS staff development. During the seminars, AfyaInfo shared results from preliminary AfyaInfo-supported MOH assessments, including the Data Quality Audit 2014, County Readiness Assessment, Stakeholder Mapping Assessment, Data Demand and Information Use Assessment, and HIS Assessments. The project introduced the AfyaInfo-supported standardized Performance and Data Review processes and templates.

AfyaInfo disseminated the nearly final draft HIS plans for these four counties (Machakos, Nairobi, Migori, and Busia) – developed with input from a variety of stakeholders – to members of the county health management teams to get their input. The project will support finalization and institutionalization of these plans, including presentations to the respective County Health Management Teams, with representation of the county assembly members, in the coming quarter.

**Integration of the Community-Based Program Activity Reporting system into iCHIS.** The community health information system in Kenya was largely siloed, with each implementing agency developing its own data collection and reporting system. In previous years, AfyaInfo worked with the respective GoK/MOH departments to develop a comprehensive conceptual model for CHIS integration. As part of Year 5 work, the project planned to integrate any residual but mature parallel CHIS and review the progress of the CHIS-NHIS integration. In June, with the continued guidance and support of the DivHIME, the project worked with the respective stakeholders, NACC (where COBPAR is currently housed), and the Division of Family Health, Community Health Services Unit to finalize the testing and implementation of stakeholder feedback on the integrated CHIS/COBPAR tool, which is currently on the test site. By end September (Y5Q1), the project aims to fully finalize the integrated CHIS/COBPAR tool, and develop an operational plan for mapping stakeholders' responsibility on data entry, training and the deployment mechanism on the DHIS2 active site.

**Master Facility List Version 2 (MFLv2.0) Tested by Stakeholders.** In June, MFLv2.0 went through a process of reviews by the Ministry of Health to refine and enhance its capabilities based on the user specifications. Version 2 includes new features that reflect structural changes following devolution. This includes the addition of data fields such as wards, the ability to search by health service, and an option for users of the facility to leave feedback and rate the facility. During July and August, AfyaInfo and the Ministry of Health (National and County/Sub-county Health Management Teams), in partnership with the local developers (Savanah Informatics), USG implementing partners, and the UoN, completed the data migration from the first version of the MFL to MFLv2.0. In addition, AfyaInfo will continue with bilateral initiatives to integrate priority systems with MFLv2.0 and DHIS2.

**AfyalInfo and KEMSA Partner to Improve Commodity Management.** As part of the AfyalInfo-led Meaningful Use of ICT program, AfyalInfo has partnered with the Kenya Medical Supplies Agency and implementing partner Management Sciences for Health (MSH) to strengthen county and facility use of information systems to improve commodity supply chain management for improved service delivery. KEMSA's Logistics Management Information System enables automated ordering of supplies and commodities at facility, sub-county and county levels. MSH's ADT enables automated stock management at facility level. KEMSA and MSH participated in the AfyalInfo MUICT Phase II training-of-trainers in May 2015 with a focus on building the capacity of county pharmacists through the provision of hands-on demonstrations of the LMIS and ADT respectively.

**Lessons Learned as Counties Complete First Integrated Data Quality and Performance Reviews:** Since March 2015, AfyalInfo has supported seven counties (Busia, Homa Bay, Kisumu, Migori, Nairobi, Siaya, and Uasin Gishu) in conducting Integrated Data Quality and Performance Reviews using newly standardized tools and templates. The reviews have brought out issues regarding data quality, including lack of tools, inadequate skills in data management, limited human resources, and inadequate investments in the continuum of data management. The reviews also included performance vis-à-vis health sector indicators and current and future investments in health systems building blocks (e.g., human resources and infrastructure). Each county came to important decisions influencing the management of health in the counties, including staff reorganization, human capacity strengthening measures, supervisory and monitoring activities, resource allocation, and development of county-specific data quality improvement plans, among others.

**Demand for County-Specific Data Visualization Increases.** As a result of the visibility at the National Health Congress of the AfyalInfo-developed county-level Health Facility Distribution Maps, AfyalInfo has received an increase in requests for technical support from counties to develop health information resources. In Nairobi County, the CHRIO issued a directive to each SCHRIO to prepare a map illustrating the distribution of health facilities across all wards. The SCHRIOs must present the map

as part of a presentation on health service delivery performance in each sub-county during the AfyalInfo-supported Integrated County Data and Performance Review meeting. AfyalInfo supported the SCHRIOs in using ward-level GIS data to complete map generation for the development of 17 ward maps. The project sees an increasing appreciation and demand for data in non-traditional form (tables and graphs), an indication that the different formats and available data provide health information in a form relevant to the users' knowledge base and needs.

