Technical Strategy for Community Health Information Systems in the AfyaInfo Project:

Towards the Establishment of a True Community Health Information System

AfyaInfo
Kenya National HMIS Program

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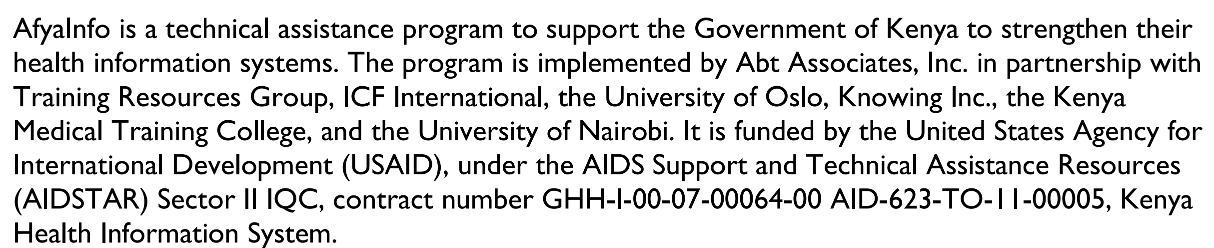

AfyaInfo is a technical assistance program to support the Government of Kenya to strengthen their health information systems. The program is implemented by Abt Associates, Inc. in partnership with Training Resources Group, ICF International, the University of Oslo, Knowing Inc., the Kenya Medical Training College, and the University of Nairobi. It is funded by the United States Agency for International Development (USAID), under the AIDS Support and Technical Assistance Resources (AIDSTAR) Sector II IQC, contract number GHH-I-00-07-00064-00 AID-623-TO-11-00005, Kenya Health Information System.

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Abbreviations

CACC	Constituency AIDS Control Coordinator
CBHIS	Community-Based Health Information System
CHEW	Community Health Extension Worker
CHIS	Community Health Information System
CHW	Community Health Worker
COBPAR	Community Based AIDS Reporting
CSO	Civil Society Organisation
CU	Community unit
DivCHS	Division of Community Health Services
DivHIS	Division of Health Information Services
DCSC	District Community Strategy Coordinator
DHIS	District Health Information Software
DHRIO	District Health Record Information Officer
DivHIS	Division of Health Information Systems
FBO	Faith-Based Organisation
HH	Household
HMIS	Health Management Information Systems
IP	Implementing Partner
KEPH	Kenya Essential Package for Health
KePMS	Kenya Program Monitoring System
M&E	Monitoring and Evaluation
MCUL	Master Community Unit List
MoH	Joint reference to the ministries of Medical Services and Public Health and Sanitation
NACC	National Aids Control Council
NASCOP	National AIDS and STI Control Programme
NHIS	National Health Information System
SW	Sector Wide
USG	U.S. Government

Introduction

In 2006 the Kenya Ministry of Health issued a strategy for the delivery of community health services, in line with the health sector's new approach to providing health care. This new approach, introduced through the Kenya National Health Sector Strategic Plan (KHSSP II 2005-2010), delineated the Kenya Essential Package for Health (KEPH). This package specifies the minimum basic health services that are to be accessible to all people. Within the KEPH is the reintroduction of community-based health service provision, also referred to as level 1 service. This level 1 service aims to empower households and communities to take a more active role in preventative and promotive health care.

Implementation of the Community Health Strategy, officially titled, "Taking the Kenya Essential Package of Health to the Community," was intensified in and after 2008, with the following strategic objectives:

- To provide level 1 services to all cohorts and socioeconomic groups.
- To build the capacity of the community health extension workers (CHEWs) and community health workers (CHWs)[1] to provide level 1 service.
- To strengthen linkages between the health facilities and communities.
- To strengthen the community in progressively realising their rights to accessible and quality care and in seeking accountability from facility-based services.

Particular emphasis was placed on the creation of a community-based health information system (CBHIS), to ensure that, for the first time, accurate data would be harnessed from level 1 to inform and empower the community, as well as to feed into higher levels of the health sector and thus inform planning and decision-making. The community strategy involves realising universal access to health services through a devolved system that links the community to the formal health sector through organised units. As this strategy grows in importance, it is increasingly important to ensure that appropriate and functional systems are in place to collect data, process it, and make it accessible at all levels for relevant utilisation.

But, although Monitoring and Evaluation (M&E) was built into the strategy with a deliberate effort to ensure that "the management of health action be evidence based,"[2] the critical frameworks to lead the approaches and delineate the system were not developed. An evaluation of the community strategy implementation conducted in 2010 affirmed that "community based health information management was not very effective," further documenting that not all of the established community units (CUs)had been introduced to the Community Health Information System (CHIS), a term in use synonymously with the community strategy's data collection and reporting tools. Beyond the Division of Community Health Services' (DivCHS) CHIS, there are various data collection tools in use developed and operationalized by nongovernmental organizations. A situational review of the CHIS under the DivCHS was conducted in 2011, with three objectives:

- To get an updated and realistic understanding of CHIS as it relates to the implementation of the community health strategy.

[1] Referred to in the strategy as community owned resource persons (CORP).

- To document approaches, strategies and possible replicable models.
- To identify system gaps and technical assistance needs, to inform future effort for DivCHS to prioritise with stakeholders and development partners in current and future planning/funding activities.

The Kenya National HMIS program, AfyaInfo, is a USAID mechanism to support the Government of Kenya's Ministries of Health (MoH) in strengthening Health Management Information Systems (HMIS) from the national level, working with the Division of Health Information Systems (DivHIS), and at the sub-national level, focusing on the county HMIS offices. This arrangement will be established in the new devolved country governance structure. AfyaInfo will have a shared responsibility with other USAID partners to support HMIS strengthening at the district level.

This health information management and strengthening project was designed by USAID/Kenya to be a flagship project, contributing directly to meeting the goals of Result Area 2: *health systems strengthened for sustainable delivery of quality health services*. AfyaInfo's contributions to the results framework tend to be broader than is the case with classic service-delivery oriented projects, due to AfyaInfo's cross-cutting nature as a health systems strengthening project. Therefore, the project can also be seen as contributing (perhaps secondarily) to progress in Results Areas 1 and 3 as well.

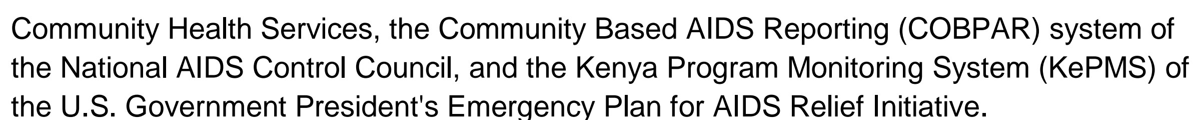
Strategic Approach

The *AfyaInfo* project has three defined outputs, all of which contribute to health systems strengthening, in line with Result Area 2. These outputs are:

1. **A unified and integrated internet-based National Health Information System, owned and managed by the host country, that generates quality data used at all levels to improve health service delivery**. This output focuses on HIS infrastructure, and on systems development, to create a unified HIS. It will be driven in part by input received through the stakeholder engagement processes anticipated to be addressed through outputs 2 and 3.
2. **Functional learning and knowledge management system, managed by the Government of Kenya, that improves the culture of information generation, knowledge capturing, and information use, by September 2015.** This output defines and implements the learning and knowledge management structures required to: drive the system through data demand and availability, build capacity to collect and use health information, and manage information gathered and data collection structures.
3. **A functional HMIS division that is capable of passing a USAID pre-award responsibility determination, having shown capabilities in leadership and management, financial management, and procurement.** Output 3 is aimed at developing the leadership and management capacity of the MoH/Division of Health Information Services needed for the agencies to assume a leadership role in developing, managing and sustaining current and future information system components over time.

AfyaInfo Mandates Around Community Health Information Systems

Primarily falling within the first output is the specific identification of three information systems that contain community health-related data. These are the CHIS of the Division of



Community Health Services, the Community Based AIDS Reporting (COBPAR) system of the National AIDS Control Council, and the Kenya Program Monitoring System (KePMS) of the U.S. Government President's Emergency Plan for AIDS Relief Initiative.

The Current State of Community-Based Implementation and Corresponding Information Systems

Information systems cannot be discussed in isolation from the programmatic activities that generate the data these systems house. Community-based health service delivery comprises a significant proportion of public and primary health response in Kenya. For the purpose of analysis, the modes of service delivery in the country can be clustered into two mechanisms: government and non-government programs.

Government of Kenya Community Health Services

Implementation of the Community Health Strategy, officially titled "Taking the Kenya Essential Package of Health to the Community," was intensified in and after 2008. Level 1 services are provided through a model of care at the household level to individuals. Households are organised into clusters of 5,000 and served by the MoH-trained and deployed CHWs, supervised by a MoH employee designated as a Community Health Extension Worker (CHEW) that is stationed at a supervising health facility, referred to as the link facility. In situations where there is staff adequacy, one more CHEW would be stationed on the community side coordinating activities on the ground. These components comprise a unit of service delivery that the strategy calls the Community Unit (CU), which is the organised structure responsible for coordinating for any level 1 service provision in line with the national strategy.

Insufficient allocation of resources and lack of planning in the early years of the Community Health Strategy's implementation resulted in piecemeal creation of structures and systems for service delivery. Systems related to M&E were neglected. Although M&E was built into the strategy with a deliberate effort to ensure that "the management of health action be evidence based,"[3] the critical frameworks to lead the approaches and delineate the system were not developed. Particular emphasis was placed on the creation of a Community Based Information System. The intent was to ensure that, for the first time, accurate data would be harnessed from level 1—to inform and empower the community, and to feed upward into higher levels of the health sector to inform planning and decision-making.

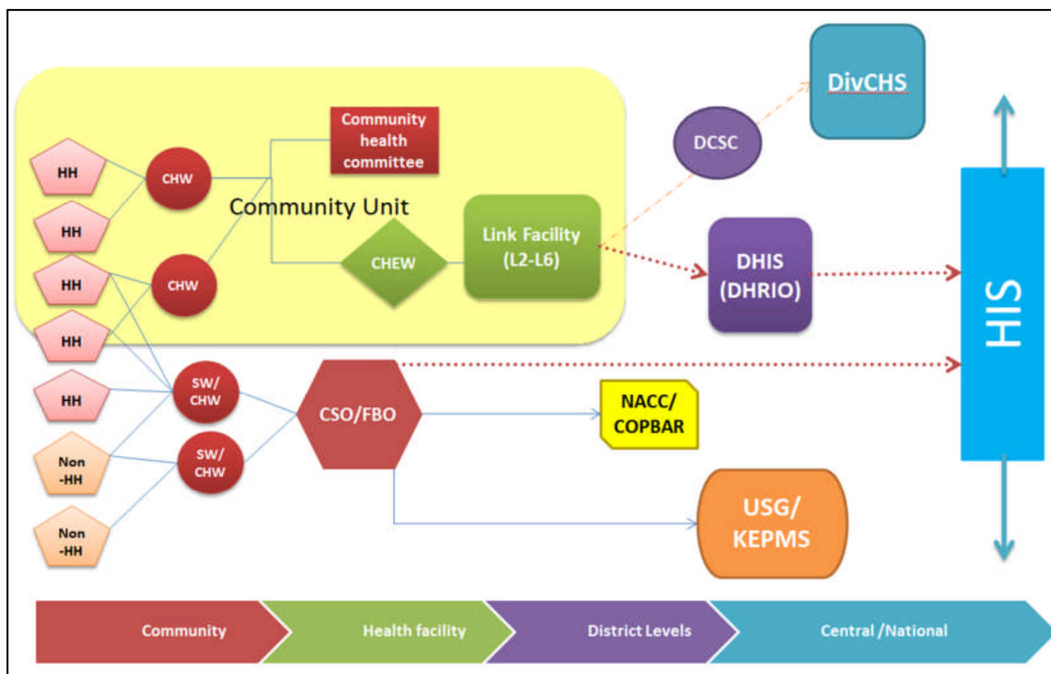
There are four official paper tools used by the MoH to support data collection at the community level. The household register, MOH513, is designed for household mapping and capturing primarily denominator information about the village's households and health needs. It is designed to be filled out every six months. The CHW service delivery log book, MOH514, is a register designed to capture service delivery data provided to households on a monthly basis, or at each point of contact. The CHEW Summary, MOH 515, aggregates Community Unit activities on a monthly basis and is used for reporting at and beyond the link facility into the health sector. Lastly, the community chalkboard, MOH516, captures similar data as the CHEW summary, and is used for reporting information back to the community. It

[3] *Taking the Kenya Essential Package for Health (EPH) to the Community: A Strategy for the Delivery of Level One Services,* Ministry of Health, June 2006. Pg.33.

is intended to be semi-mobile so that it can be carried and displayed at chief's barazas, action days.

A national review of the CHIS conducted in 2011[4] identified deficiencies, finding that the above set of tools constitute an incomplete programme reporting system, rather than a fully functioning information system that can harness community health data for use at different levels. Although there is a module in the District Health Information Software 2 (DHIS 2) for the MOH515, it is not widely used by community units for reporting, and therefore quality CHIS data is not accessible through DHIS 2 by DivCHS or the wider health sector, as intended. As a result of CHIS being an incomplete and manual system in practice, DivCHS accesses data ad hoc at the request of its members through the District Community Strategy Coordinator, as shown in the red dotted lines in Figure 1. To date there is not a systematic mechanism for the DivCHS to access data from all functional Community Units, nor does it have a reliable mechanism to know which units are functional and providing services.

Figure 1. Current implementation and information flow of community health activities



Key: HH=Household; CHW=Community Health Worker; FBO=Faith-Based Organization; CSO=civil society organization; DHRIO=District Health Records and Information Officer; NACC=National AIDS Control Council

<u>Non-government Community Health Services</u>

Health services are otherwise provided at the community level through non-government entities of various compositions. Civil society and faith-based organisations represent the full range of non-government entities that support community health service delivery, either mirroring the Community Strategy or using donor-supported programme models. Reporting mechanisms for CSO-related programs are almost exclusively donor-specific. There is a singular exception for CSO HIV-specific data that is reported to the Government of Kenya's NACC through the COBPAR system, but other health-related activities go unreported to the government. Still, as it currently stands, there are no standard mechanisms to harness,

[4] Case Study Review of the Kenya Community Health Information Systems (CHIS), June 2011.

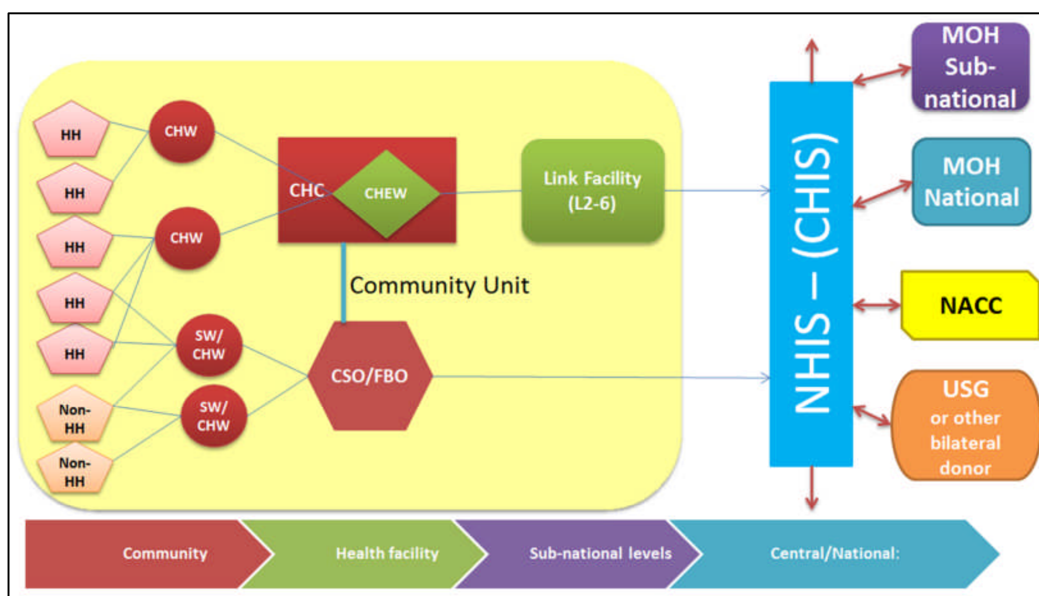
report or share information with the Ministry of Health for community-based programme activities, as even the COBPAR system is not formally shared with the ministry of health.

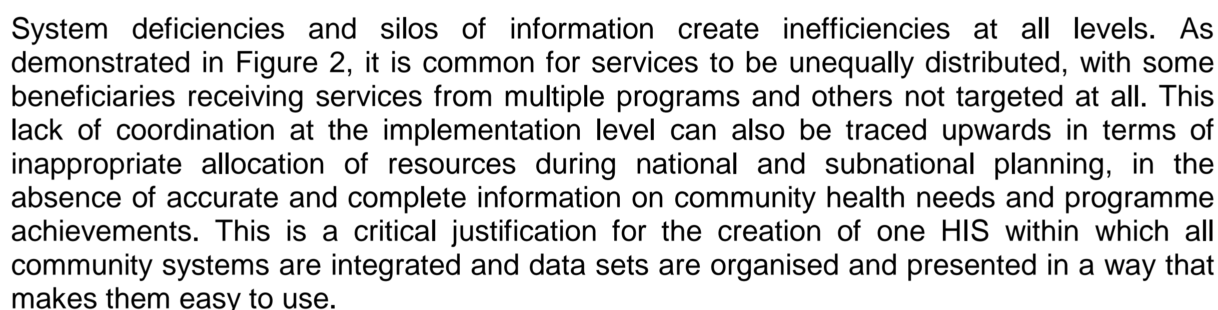
The COBPAR is a reporting sub-system rolled out by the NACC in 2006 to enable implementers with community-based interventions to report on a quarterly basis about their activities. The COBPAR is now fully electronic, with clients distributed across the country and a server resident at the NACC headquarters in Nairobi. The system is web-based and therefore enables immediate data capture and timely access and availability to various audiences. Data flows into the system through a paper-based reporting tool that is e-filled by CSOs on a quarterly basis. The system also captures HIV-specific service delivery by service type, CSO management and financial data. The reports are filled out by the CSO in a duplicate register, and a copy is sent to the Constituency AIDS Control Coordinator (CACC), who then passes it up to the regional level for electronic entry into the system for access at the national level. As shown by the figure below, CSO data that is reported to NACC is not officially accessible to the Ministry of Health for wider consumption or decision-making. This is primarily the result of policy and regulatory gaps around non-government actors in community health, where financially and institutionally they have clear regulatory mechanisms, but there is no clear policy to guide their role in supporting provision of health-related services and subsequent sharing of that information. As indicated by figure 1, CSO data that is reported to NACC is not formally accessible to the Ministry of Health for wider consumption or decision-making.

Similarly, donor-reported data, like that generated by U.S. supported programs, are captured through the KePMS, a Microsoft Access based database used by its implementing partners for monitoring and reporting their activities. With respect to data flow, KePMS data may be shared bilaterally, government to government. However, the KePMS is not structured in such a way that the implementing partners have an obligation or mechanism to report their data directly to the Ministry of Health, as a result of the aforementioned policy gap. Although US Government implementing partners are encouraged to report HIV data to COPBAR, the gap still remains for non-HIV data.

Figure 2 depicts the current parallel programmatic implementation and information flow for community health activities. It captures activities and information-sharing through the community strategy, NACC and for USG-supported programs.

Figure 2. Improved implementation and data flow of community health activities





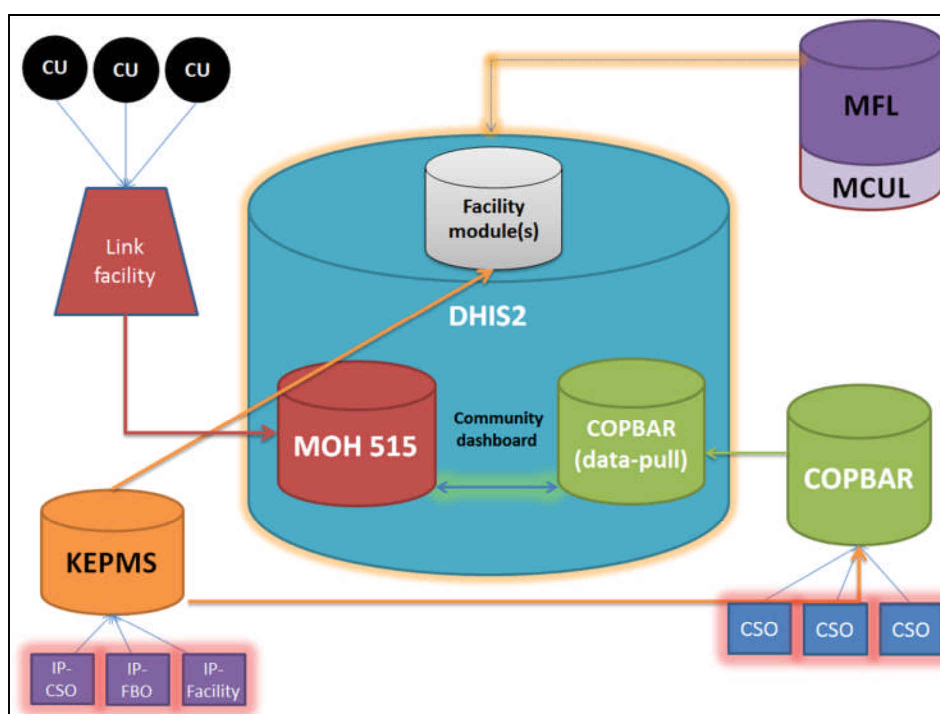
System deficiencies and silos of information create inefficiencies at all levels. As demonstrated in Figure 2, it is common for services to be unequally distributed, with some beneficiaries receiving services from multiple programs and others not targeted at all. This lack of coordination at the implementation level can also be traced upwards in terms of inappropriate allocation of resources during national and subnational planning, in the absence of accurate and complete information on community health needs and programme achievements. This is a critical justification for the creation of one HIS within which all community systems are integrated and data sets are organised and presented in a way that makes them easy to use.

The conceptualisation of a true CHIS, as a sub-system of the National Health Information System. is one that harnesses identified and clearly need-driven minimum essential data from all community-level programmatic implementation, and streamlines implementation for better regulation, monitoring and decision-making based on a complete data set accessible to all relevant users. Parallel systems are removed and replaced with one mechanism, National Health Information System(NHIS) to report health data.

Phase One: Activation of Current Systems

The first phase of the establishment of a true CHIS focuses on strengthening existing systems and platforms for wider reporting coverage, better data quality, and better access to community health data. This phase also focuses on supporting behaviour modification around perceptions and practices involving community health data to date. The primary systems that the DivHIS has invested heavily in for facility-related health data are the Master Facility List (MFL) and the DHIS 2 (See Figure 3). The MFL creates an inventory of all health facilities with unique identification codes, thus creating a foundation for all subsequent reporting into the DHIS 2. To enable the same for community units, an extension to the MFL called the Master Community Unit List will be created and linked to the DHIS 2. The MOH 515 is already available for data entry in the DHIS 2. The project will support activation of this module by facilitating training to all functional Community Units established through the Master Community Unit List (MCUL), and will support infrastructure development to enable reporting and access to the DHIS 2. A COBPAR data pull will be enabled into the DHIS 2, and community dashboards will be created to demonstrate how the two data sets can be processed and presented for use. KePMS, which is anticipated to be phased out by 2014, is proposed to have its data sets activated in this phase of the true CHIS, primarily by reinforcing reporting into COPBAR and MOH513. This is mainly a behavioural practice for USG implementing partners to become accustomed to the Government of Kenya reporting mandates, while policy negotiations and indicator harmonisation processes are under way. This will create a more permanent and long-term mechanism for community-based reporting outside of the community strategy program.

Figure 3. Phase one of CHIS strategy



Key: IP=Implementing Partner

Phase Two: Reorganisation and Transition into a True CHIS

Building on the platform established during the first phase, phase two moves towards reorganising current systems and data sets to reflect the updated policy, regulatory and implementation stream. The basis for this reorganisation follows the logic of service delivery mechanisms and regulatory mandates around health services. In-depth analysis of implementation and information systems current and ideal, in Figures 1 and 2, suggests approaching the organisation of data sets by modes of service delivery across programs. Services delivered in both government and non-government programs at the community level can be grouped most easily into household and non-household community health services.

The true CHIS, depicted in the orange cylinder in Figure 4, merges all the community data through reorganisation of data sets by service delivery mode (Community Unit or CSO) and type (household or non-household). The MCUL will serve as the registry structure for all data entered by Community Units; a similar registry structure within the Fanikisha database will be used for data entered by health CSOs. The registry structure will align to create one CHIS. COBPAR and MOH515 data sets are then classified by type. The data pull in DHIS 2 will be deactivated, and the MOH513 module in DHIS will evolve and represent the full CHIS (technologically sitting inside of the DHIS 2, or a data pull of a separate sub-system, which can be determined at a later date based on the DivHIS preference for long-term management of the wider system). Community dashboards will be created based on changing needs over time.

Figure 4. Phase two of CHIS strategy

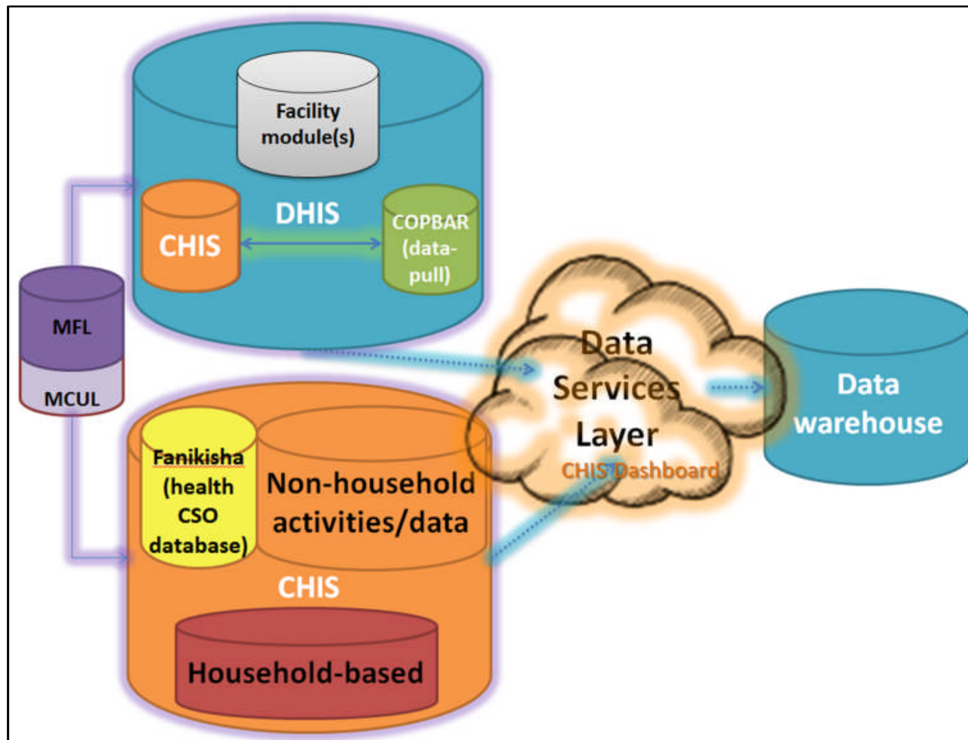
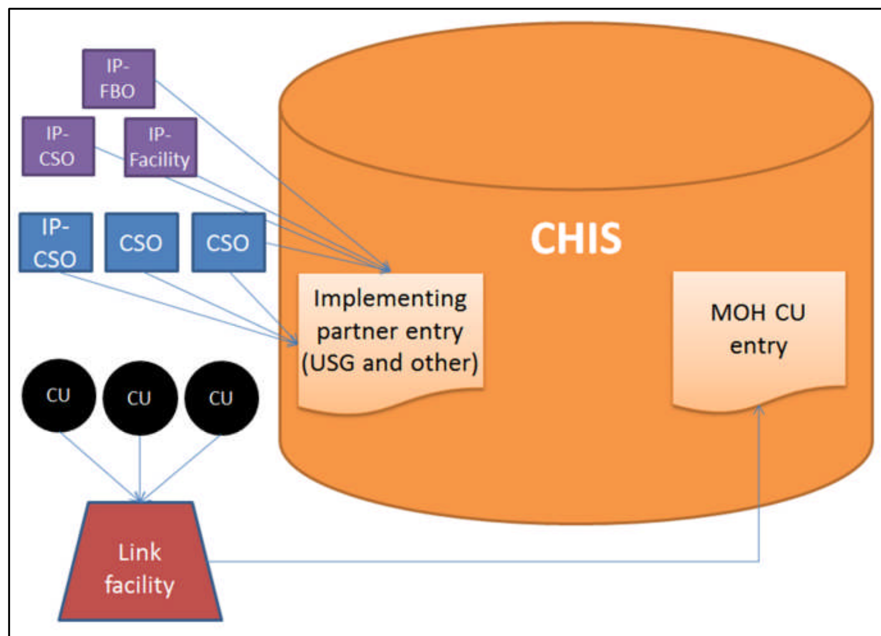


Figure 4 presents an alternative view of what the CHIS will look like, where entry is seen by type of service provider rather than by services, and where any actor providing health services at the community level can contribute to and access level 1 information through this system, irrespective of special programs, service delivery or financial support. The CHIS is managed and owned by the Government of Kenya, which provides access to any other party who wishes to support or further their community health strategic objectives, as demonstrated by the points of access in Figure 5.

Figure 5. Depiction of CHIS data entry by service provider



Phase Three: Actualising the Technical Strategy

Political processes are required for this technical strategy to be adopted and owned by all the system owners. These processes have been under way since the start of the project, and will continue to ensure comprehensive engagement, technical consultation, and finalisation of the vision and strategic approach to integration of community-related data into the NHIS. This will be evidenced through a policy document describing the final and endorsed technical strategy and data dissemination plan, facilitated through inter-government and stakeholder discussions and negotiations. Key stakeholders in the process include the DivHIS, DivCHS, NACC, USG and the National AIDS and STI Control Programme (NASCOP).

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