
SHOPS Plus Pilot on Private Sector Pharmacies Reporting into DHIS 2: Final Report



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About SHOPS Plus: Sustaining Health Outcomes through the Private Sector (SHOPS) Plus is USAID’s flagship initiative in private sector health. The project seeks to harness the full potential of the private sector and catalyze public-private engagement to improve health outcomes in family planning, HIV/AIDS, maternal and child health, and other health areas. SHOPS Plus supports the achievement of US government priorities, including preventing child and maternal deaths, an AIDS-free generation, and supporting the goals of FP2020. The project improves the equity and quality of the total health system, accelerating progress toward universal health coverage.

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SHOPS Plus Pilot on Private Sector Pharmacies Reporting into DHIS 2: Final Report

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Contents

- Acronyms v**
- Acknowledgments vi**
- Executive Summary vii**
- Introduction and Context 1**
- Pilot Purpose 2**
- Pilot Approach and Timeline 3**
 - Activity Design..... 3
 - Pharmacy Recruitment..... 5
 - Capacity Building 7
 - Data Collection Tool Design..... 9
 - Data Collection..... 11
 - Finalizing the Reporting System 12
 - Data Results... 14
 - Transition for Sustainability 17
- Lessons Learned and Best Practices 19**
- Conclusion 22**
- References..... 23**

Tables

| | |
|---|----|
| Table 1. Activity design stakeholders..... | 4 |
| Table 2. Family planning formulations collected..... | 10 |
| Table 3. Child health formulations collected..... | 10 |
| Table 4: Public sector and pharmacy data business processes..... | 12 |
| Table 5. Family planning data shared..... | 14 |
| Table 6. Child health data shared..... | 14 |
| Table 7. Child health commodities dispensed and reported by participating pharmacies..... | 15 |
| Table 8. DHIS 2 child health data reported by community health workers in Nairobi County..... | 16 |
| Table 9. DHIS 2 child health data reported by facilities in Nairobi County..... | 16 |
| Table 10: Transition activities..... | 17 |

Acronyms

| | |
|-------------------|--|
| CHMT | County Health Management Team |
| CHW | Community Health Worker |
| DHS | Demographic Health Survey |
| HMIS | Health Management Information System |
| MFL | Master Facility List |
| MoH | Ministry of Health |
| ORS | Oral Rehydration Salts |
| PPB | Pharmacy and Poisons Board |
| SHOPS Plus | Sustaining Health Outcomes through the Private Sector Plus |
| USAID | United States Agency for International Development |

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Executive Summary

Globally, governments and multilateral organizations have invested significant resources into efforts to increase the quality and quantity of data available to monitor progress toward global health goals. In many countries, however, these data are incomplete, as a large portion of sources of care, particularly private pharmacies, are often not included in government health management information systems (HMIS). When governments do not capture data on the private sector in their HMIS, they lack the information required to understand and provide effective stewardship of a mixed health system. Further, private sector contributions are not accounted for in national policy and strategic planning, resulting in suboptimal investment of donor and government finances and a failure to fully leverage private resources for public health goals.

In Kenya, 34 percent of all modern family planning methods are acquired through the private sector, including more than half (57%) of women seeking contraceptive pills. In addition, 28 percent of all caregivers who sought care for their child's fever, acute respiratory infection, and diarrhea went to the private sector, a statistic that varied across income levels—from 20 percent in the poorest to 45 percent in the wealthiest quintile (SHOPS Plus 2018). Despite their importance as a frontline source of both family planning and child health products in Kenya, private pharmacies have been largely left out of these efforts to improve private sector data management and sharing to date.

The Sustaining Health Outcomes through the Private Sector (SHOPS) Plus project, the United States Agency for International Development (USAID's) flagship global initiative in private sector health, designed and implemented an activity that facilitated routine family planning and child health data sharing between participating private pharmacies and the Kenyan government through DHIS 2. The activity sought to answer two major questions:

1. What are the barriers and motivations around private sector data sharing?
2. What tools, strategies, and approaches are needed to support effective and timely reporting by the private sector?

The pilot found that private pharmacy reporting through DHIS 2 involves multiple stakeholders who hold jurisdiction over different parts of their operations and who do not traditionally speak to one another. Stakeholder engagement is a key component to understand concerns and align incentives for recruitment into data sharing—and continued data sharing—over time by private pharmacies. Specifically, because this effort to link private pharmacies to public data-sharing tools was novel, a significant amount of explanation and engagement was required to orient pharmacies and help them make an informed decision on participation. In order to align incentives, the pilot initiated trainings to improve business operations and introduce participating pharmacies to DHIS 2, as most pharmacies had never heard of or interacted with the system before.

The pilot established that pharmacies operate a wide range of data management systems—ranging from paper based to individual computer systems to networked computer systems. Working across pharmacies, therefore, necessitated a flexible approach to data collection and sharing. The pilot also highlighted mismatches between how pharmacies keep stock movement information (by brand) and what gets reported into the DHIS 2 system (service/commodity data). This process necessitated developing a new data collection tool rather than using the existing public sector tools to collect data at the pharmacy level. The tool collated various brands and linked them to services/commodities that could be reported in the DHIS 2 by the pharmacies.

During the pilot period, private pharmacies shared data with the SHOPS Plus team, who handled the actual data transcription and upload into DHIS 2. Over the data collection period, some participating pharmacies dropped out and stopped sharing their data with the pilot team. Reasons for the attrition varied from a change of point of contact staff to management revisiting and querying the value addition of data sharing to their business. Most of the pharmacies that dropped off did so by being non responsive to requests for data updates.

Data was received from 35 participating pharmacies during the pilot period. Private pharmacies dispensed 6,096 emergency contraceptive pills and 4,042 combined oral contraceptive pills.

An analysis compared data available from facilities already reporting in DHIS 2 and data from participating pharmacies between January to December 2017. This showed that facilities reporting in the DHIS 2 for Nairobi County dispensed 5,876 emergency contraceptive pills and 36,297 combined oral contraceptive pills.

In a 3 month reporting period, participating pharmacies dispensed 2,801 ORS sachets, 2,015 zinc tablets and 224 bottles of zinc syrup. A comparison to data in the DHIS 2 over the same period shows that CHWs treated 1,237 children with Zinc and ORS whereas health facilities managed 34,468 diarrhea cases.

Similarly, in the same 3 month reporting period, participating pharmacies dispensed over 2,000 doses of amoxicillin. A comparison to available DHIS 2 data shows that CHWs dispensed 86 doses of Amoxil for fast breathing children and facilities managed 205,684 different types of respiratory tract infections.

Lessons learned

Based on the findings, there are several key lessons that policy makers, donors, and implementing partners across countries should keep in mind as they seek to leverage the private pharmacies in data sharing for improved decision making.

Private pharmacies are keen to contribute to improved public health and improved bottom line. Some participants were keen to access data and use them to contribute to research and publications, specifically in running various analyses on data generated by pharmacies to demonstrate the importance of the sector.

Based on the experience of this pilot, future efforts should test how public officials can use reward mechanisms to further reinforce data sharing practices and illustrate the role of private pharmacies.

Reporting burden and undue disclosure is an issue for some. Some pharmacists cited increased work load and confidentiality concerns.

Data use is not enough to incentivize data reporting over time. A sustained business case is necessary for retention. We learned that initial interest is high, but it wanes as time progresses because the private sector partners are continuously faced with more immediate and high priority business challenges.

Stakeholder engagement and management are essential. Achieving successful data sharing by private stakeholders requires frequent and clear communication and coordination with multiple public and private stakeholders.

Public sector data stewardship is required. Sustainability requires DHIS 2 system-level and program-level public health officials guiding the data collection and data entry of private pharmacy data.

Flexible solutions are required. Different pharmacies operated varying business systems with different sophistication levels based on business volume and management preference. Working with and through pharmacies requires agile processes and systems that can plug into the various setups that operate in the private sector.

Private sector aggregators help achieve scale. Working with pharmacies that have multiple branches is helpful in securing multiple individual reporting units through one pharmacy owner contact. Another potential form of aggregator is the business software. Some point-of-sale software solutions were popular and used in multiple pharmacies. Future activities could build on the team's work to investigate the option of collaborating with such software suppliers to generate automatic reports that are easily uploaded to DHIS 2 for participating pharmacies.

Consider updates to child health data collection tools in the national HMIS. In Kenya, existing child health collection tools do not collect as much detailed information as family planning. For example, commodity tracking is not as robust in child health compared to family planning. Country child health teams could review tools to collect different aspects of child health management, these reviewed tools can then be included in the DHIS 2 as well.

Dedicated private sector data collection tools are needed. Working with tools and processes that are optimized for the private health sector is ideal.

Nonclinical sources of care continue to play a significant role in health care service delivery. Understanding how much and what types of products and medicines move through this channel presents an opportunity to increase access to quality health care services. Pharmacies are willing to share data on services delivered at their sites.

Introduction and Context

Globally, governments and multilateral organizations have invested significant resources into efforts to increase the quality and quantity of data available to monitor progress toward global health goals. In many countries, however, these data are incomplete, as private sector data are often not included in routine collection. While some larger private sector medical facilities have been included in routine data collection—or facilities belonging to social franchises and those operated through public-private partnerships—a large portion of sources of care, particularly private pharmacies, are often not included in government health management information systems (HMIS).

Population-based surveys such as the Demographic Health Surveys (DHSs) highlight the private sector's important role in providing family planning and child health products and services (SHOPS 2015; SHOPS 2018; Ugaz et al. 2015). For example, across the 69 FP2020 focus countries, half of young modern method users (ages 15–24)—approximately 25 million young women—get their method from the private sector. In Kenya, DHS data from 2014 further highlights the importance of the private health sector.

Thirty-four percent of all modern family planning methods are acquired through the private sector, including more than half (57%) of women seeking contraceptive pills. In addition, 28 percent of all caregivers who sought care for their child's fever, acute respiratory infection, and diarrhea went to the private sector, a statistic that varied across income levels—from 20 percent in the poorest to 45 percent in the wealthiest quintile (SHOPS Plus 2018).

When governments do not capture data on the private sector in their HMIS, they lack the information required to understand and provide effective stewardship of a mixed health system. Further, private sector contributions are not accounted for in national policy and strategic planning, resulting in suboptimal investment of donor and government finances and a failure to fully leverage private resources for public health goals. This is particularly relevant in the universal health coverage era where governments can work through public-private partnerships to limit their upfront investment while meeting their universal health coverage goals (KPMG 2017).

DHIS 2 is a free, flexible, open source software that countries and donors have increasingly used to collect, report, manage, and analyze data in the health system. It is a user-friendly system that can capture key service-delivery statistics and product information with features for data visualization like GIS, charts, reports, pivot tables, and dashboards that enable easier data analysis and decision making for health care managers. Launched in 2006 by the Health Information Systems Programme at the University of Oslo, as of August 2018, the DHIS 2 software is used at national scale in 62 countries and Indian states and at pilot level in 29 countries and Indian states (DHIS 2 2018).

Kenya's Ministry of Health (MoH) adopted DHIS 2 as its HMIS software in 2010. However, most public facilities still use paper-based registers to maintain daily records of services and stocks. On a monthly basis, key health indicators are manually aggregated into summary tools and shared at the Sub County or county level, where the data are entered electronically into DHIS 2. Key informants working in the HMIS space shared that some large private hospitals and private

Rationale

When governments do not capture data on the private sector in their HMIS, they lack the information required to understand and provide effective stewardship of a mixed health system. Further, private sector contributions are not accounted for in national policy and strategic planning, resulting in suboptimal investment of donor and government finances and a failure to fully leverage private resources for public health goals.

social franchises in Kenya have also begun testing and using DHIS 2 internally, with a few even using their systems to generate reports to share data with the public sector. However, these efforts are incomplete. Despite their importance as a frontline source of both family planning and child health products in Kenya, private pharmacies have been largely left out of these efforts to improve private sector data management and sharing to date. While some organizations have done early-stage work to improve private pharmacy management and organizational capacity, this work has typically focused on deployment of business systems that collect and track sales and inventory. These data are captured and recorded in the business systems, but none has attempted to create a link to repurpose the data to support routine pharmacy data sharing into national reporting mechanisms like DHIS 2.



The Problem:

Despite the importance of private pharmacies and drug shops as a source of family planning and child health products and services, no information is captured about these transactions in the national health information system.

Pilot Purpose

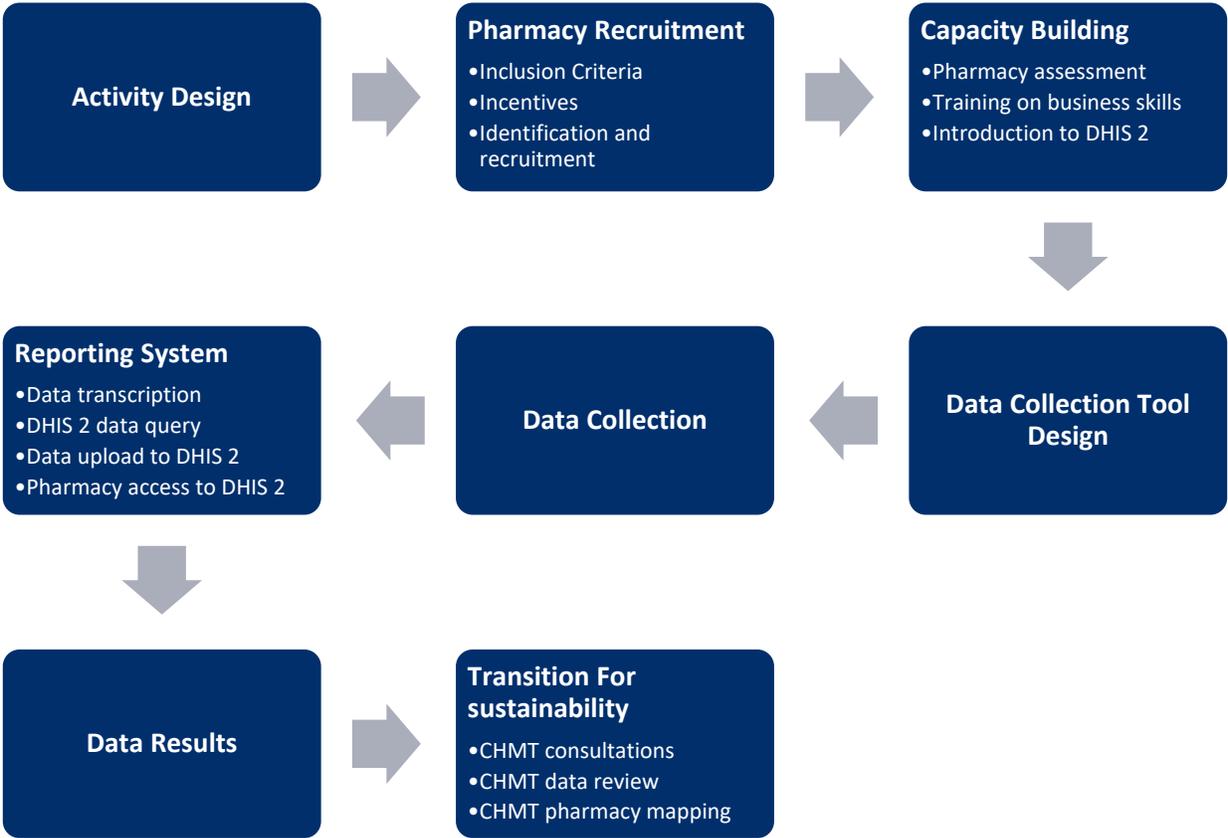
The Sustaining Health Outcomes through the Private Sector (SHOPS) Plus project, the United States Agency for International Development (USAID's) flagship global initiative in private sector health, designed and implemented an activity that facilitated routine family planning and child health data sharing between participating private pharmacies and the Kenyan government through DHIS 2. The activity sought to answer two major questions:

1. What are the barriers and motivations around private sector data sharing?
2. What tools, strategies, and approaches are needed to support effective and timely reporting by the private sector?

Pilot Approach and Timeline

This pilot required a multistep approach and the participation of a number of key stakeholders. Figure 1 outlines the approach and timeline used in implementing the activity, and the following sections provide details on each step in the activity.

Figure 1: SHOPS Plus pharmacy sharing activity approach and intervention



Activity Design



Activity Design

In the Kenyan health system, multiple stakeholders have jurisdiction over routine reporting by pharmacies through DHIS 2 (see Table 1). These stakeholders have control or influence over the different parts of pharmacy operations, data sharing, and/or review of the data. To design this activity, SHOPS Plus engaged multiple stakeholders with influence or control over national and county implementation of DHIS 2 or pharmacy operations in Kenya. Discussions with each stakeholder focused on how best to structure the activity for maximum participation by pharmacies.

Table 1. Activity design stakeholders

| | Stakeholder | Function | Role/Input |
|---|--|---|--|
| 1 | Pharmacy and Poisons Board (PPB) | Pharmacy regulator, responsible for regulation of the practice of pharmacies and the manufacture and trade in drugs and poisons | Guidance on implementation and introduction letter to pharmacies |
| 2 | MoH—Reproductive Health, Maternal, and Child Services Unit | National program-level managers of reproductive health and child health | Guidance on indicators that pharmacy data can inform |
| 3 | MoH—Division of Monitoring and Evaluation, Research, and Health Informatics | National-level DHIS 2 system and master facility list (MFL) owners | Technical guidance on data sharing between pharmacies and DHIS 2 |
| 4 | MoH—Nairobi County Health Management Team (CHMT) | County level: 1. DHIS 2 system and MFL owners 2. Program management, reproductive health and child health | Technical guidance on: 1. Data sharing between pharmacies and DHIS 2 2. Ownership/sustainability of data-sharing process 3. Review of collected data for program management, guidance on indicators |
| 5 | Pharmacy owners | Data generators, potential data consumers | Consent and support to participate in activity |
| 6 | Pharmacy attendants | Data generators and data entry/sharing | Data collection and sharing |
| 7 | University of Nairobi | USAID implementing partner for DHIS 2 administration | Guidance and input on activity implementation |
| 8 | Pharmaceutical Society of Kenya | Pharmacists Professional Association | Initial discussions on hosting activity in the association |

To align values and expectations, SHOPS Plus set up an initial project implementation committee that brought together the national-level DHIS 2 team, Pharmacy and Poisons Board (PPB), and the relevant departments at the MoH that would use the data (i.e., Reproductive Health Maternal and Child Services Unit). The committee advised on the strategy used to approach different stakeholders.

The original activity design focused on having national offices and MoH departments serve as the stakeholders responsible for policy guidance to the subnational counties. This approach yielded significant progress up to mid-2017. However, midway through implementation (May 2017), USAID placed a freeze on working with national-level MoH entities, which necessitated that the team change its strategy and work directly through the Nairobi County Health Management Team (CHMT). Establishing new relationships with reproductive health, child health, and DHIS 2 county teams and aligning incentives at this new level caused postponements in data sharing and analysis by public sector partners at the county level.

Pharmacy Recruitment

Inclusion Criteria

Pharmacy Recruitment

- Inclusion Criteria
- Incentives
- Identification and Recruitment

Based on key informant insights, pharmacies in the Nairobi metropolitan area have the largest and fastest moving stock of family planning and child health commodities. Further, SHOPS Plus also anticipated needing to work closely with pharmacies throughout the activity. Thus, proximity and ease of access to the pharmacies also informed the decision to choose pharmacies in a limited geographic area.

SHOPS Plus pursued a recruitment strategy that emphasized voluntary participation of registered pharmacies. Pharmacies were initially considered eligible for inclusion in the study if (1) they were formally registered with the Pharmacies and Poisons Board (PPB) and (2) they currently reported stocking and selling the family planning commodities.

The inclusion criteria were kept deliberately simple to encourage participation by a wide variety of pharmacy types in terms of location, size, and recordkeeping practices to generate lessons and knowledge around how pharmacies of different sizes, scales, and socioeconomic statuses would operate in the pilot. Learnings generated by participating pharmacies would inform future stakeholder approaches to working with private pharmacies and drug shops.

During the initial pilot design stage, SHOPS Plus funding focused on family planning products. With additional subsequent funding from the Child Health team at USAID/Washington and with county health official approval, the pilot scope expanded in January 2018 to include child health products. At that time, SHOPS Plus engaged existing pilot participants to request child health data. Given that SHOPS Plus was also continuing to recruit new pharmacies, they added the sale of child health products as a requirement for inclusion in the study.

Initial inclusion criteria for pharmacies in DHIS 2 pilot:

- ✓ Geographic location
- ✓ Formal registration by the regulator
- ✓ Stocking and selling family planning commodities

Incentives

Currently, an enforcement mechanism for routine pharmacy reporting does not exist in Kenya. The pilot team, therefore, determined that they could better incentivize pharmacies to participate by demonstrating value rather than by using a “stick” approach. Further, an enforcement approach that mandates data sharing would require a longer running activity led by agencies with an enforcement or regulatory mandate. These agencies would likely require capacity building and support in order for them to take on such a role, which was beyond the scope of this activity and would have significantly impacted the timeline of implementation.

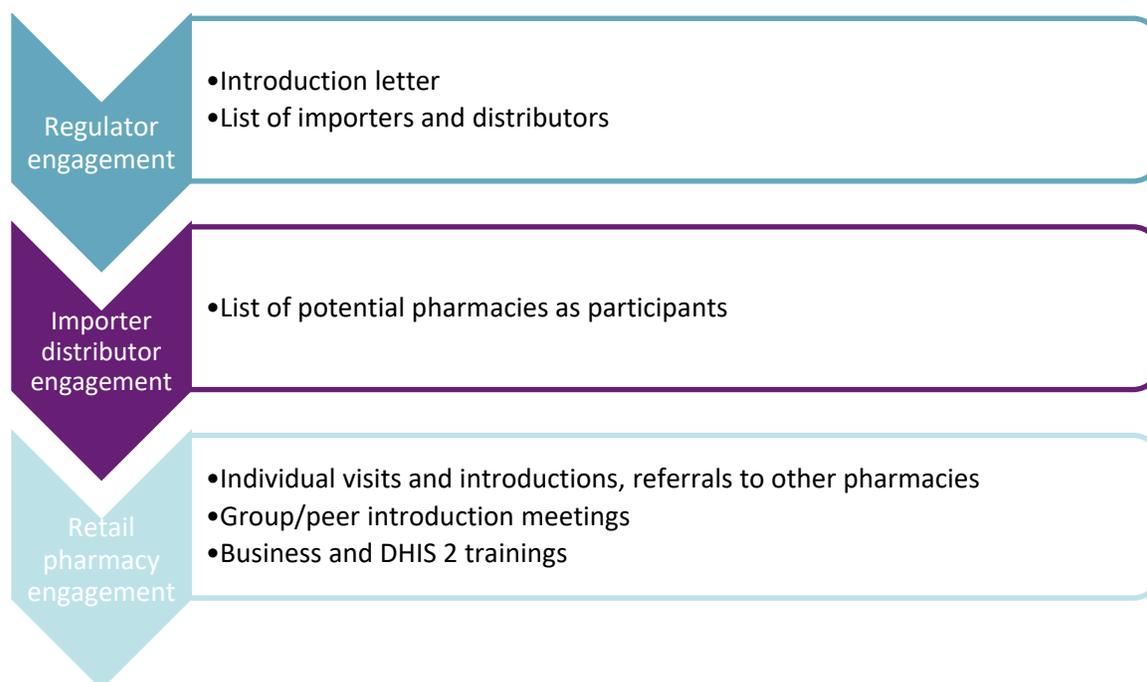
SHOPS Plus included a mix of nonfinancial incentives to encourage pharmacy participation. First, the project offered business and management trainings to participating pharmacies to maximize the value of improved data management and use. Second, participating pharmacies were told they would be given access to data on morbidity trends from DHIS 2 that they could use as market intelligence for pharmacy business-growth planning. Participating pharmacies

later highlighted their own motivations for participating outside of these two offerings. Reasons included the desire to establish linkages with the public sector to potentially open themselves to act as a distribution point for MoH services and commodities like vaccines and contraceptives; a belief that shared records for quality patient management was their contribution to good/proper pharmaceutical practice; and a desire to be seen participating in a best practice. From their perspective, data sharing could be used by regulators to help differentiate pharmacies in ethical practice and to filter out non-ethical pharmacies.

Identification and recruitment

SHOPS Plus undertook a three-step process to identify and enroll pharmacies (see Figure 2).

Figure 2. Three-step process to identify and enroll pharmacies



Regulator engagement. PPB informed the SHOPS Plus pilot team that developing a pharmacy-reporting culture was a shared interest in this activity. They advised SHOPS Plus to begin recruitment of pharmacies by working with the importers and distributors and provided a list of key family planning importers and distributors for the team to engage. They then sent an introduction letter to these same importers and distributors. The PPB introduction letter helped importers and distributors to feel at ease providing input on which retail pharmacies to approach for participation in the data-sharing activity.

Importer/distributor engagement. SHOPS Plus consulted with pharmaceutical importers and distributors about the pharmacies that ordered large numbers of relevant commodities. Such pharmacies would likely generate large amounts of data to demonstrate the potential value of including these outlets in HMIS (i.e. those around the Nairobi area, larger pharmacies, and pharmacies with multiple branches). Engagement with the importers and distributors resulted in initial list of pharmacies to reach out to for recruitment.

Retail pharmacy engagement. SHOPS Plus approached the pharmacies through individual pharmacy visits and group meetings that brought pharmacy owners together. Given that each independent pharmacy has unique business processes, the individual pharmacy visits afforded the pharmacy owners an opportunity to discuss their participation in the activity and raise questions about its impact on their operations. The individual pharmacy visits also allowed SHOPS Plus to corroborate that the pharmacies sold family planning and child health commodities. The group meetings helped build credibility for the activity and provided peer support. Both approaches generated additional pharmacy contacts, and SHOPS Plus expanded the initial list generated by importers and distributors using a snowball approach to identify and recruit additional pharmacies to participate.

Access to aggregated data in DHIS 2 was a driving factor in pharmacy participation. Conversely, loss of comparative advantage from sharing data was a major disincentive for participation.

The recruitment process faced its share of challenges. Pharmacists who participated in the meetings questioned the business case for pharmacies to take on an additional reporting burden. In response, SHOPS Plus highlighted that contributors of data could be given access to the aggregate data reported into DHIS 2 in return. Some pharmacies viewed this as a plus, as they understood that the data could help inform their business strategy—by helping them match stocking trends to disease burden—and possible

expansion into other regions. This was a key driver of participation in the data sharing. Another notable incentive to participate was the business skills training opportunities.

Some pharmacies chose not to participate and share data because of data security concerns related to loss of competitive advantage and possible regulatory or tax backlash. Of the 102 pharmacies contacted, 45 agreed to participate in the pilot, and 39 submitted data for the pharmacy dashboards in DHIS 2. Some pharmacies were dropped from the activity for a variety of reasons primarily related to data quality issues from inadequate recordkeeping practices.

Capacity Building

Pharmacy Assessment

Capacity Building

- Pharmacy assessment
- Training on business skills
- Introduction to DHIS 2

Given that working with pharmacies on routine data sharing was novel, SHOPS Plus developed a checklist to assess pharmacies' data management capacity. Once pharmacies confirmed their willingness to participate, SHOPS Plus used the pharmacy assessment checklist to collect information that would shape the technical assistance provided in the training sessions. This checklist

covered three key areas:

- 1) Review of data-management process and infrastructure based on the existing data-management processes, task assignment, accountability structures, reporting requirements (internal and external), data capture tools (forms and registers), and availability/use of point of sale applications. This review also determined the availability and use of any information and communication technology infrastructure.
- 2) Review of current data capture of family planning commodities (the focus commodities at the initial stages of the pilot), including identifying the availability and management of family planning services and commodities and the extent to which it can be organized to meet DHIS 2 data sharing requirements. When the pilot later incorporated child health

products in January 2018, SHOPS Plus staff completed a similar review exercise as part of its monthly data sharing visits.

- 3) Assessment on skills and competencies on information and communication technology and DHIS 2.

The assessment established that data management and infrastructure varied across pharmacies. This ranged from paper-only data systems to pharmacies that used network computer systems. Staff skills and competencies on information and communication technology varied as well. These findings reinforced the utility of training participants on records management and DHIS 2. As a result, SHOPS Plus decided to more proactively support data sharing to ensure quality, rather than rely on a “push” system of receiving data from pharmacies. In addition, the assessment highlighted that pharmacy data collection and management are organized around the unit of sale rather than service offered. As explained in more detail later, this finding led SHOPS Plus to develop data collection tools that transcribe pharmacy sales data for family planning and child health commodities into service delivery data. Finally, the assessment found that some pharmacies operated both wholesale and retail sales from one location. This helped pilot staff ensure that wholesale data were excluded and only retail data were shared.

Business Skills Training

To strengthen pharmacy operations and improve the usefulness of the data-sharing activity to both the pharmacies and the public stakeholders, SHOPS Plus offered trainings to participants. The trainings covered two areas: (1) an orientation to the DHIS 2 system, as most pharmacies had never heard of or interacted with the system before, and (2) skills-building sessions to improve business operations of the pharmacies through data use. The pharmacies particularly appreciated the business skills trainings, as they recognized a direct benefit to their business operations and they typically would not be able to invest in such trainings. Five trainings were conducted—two DHIS 2 orientation trainings and three business trainings.

Participants were consulted in selecting relevant business topics from a comprehensive list of more than 15 training areas. Participating pharmacies selected Saturday mornings as the most suitable training timing, as it allowed them to release their staff without adversely affecting their business operations. Each topic area was covered during a half-day training. The business skills training modules included three selections from the Business for Health training program developed under the SHOPS Plus predecessor project, Strengthening Health Outcomes through the Private Sector (SHOPS), with private health enterprises:

1) Personality Impact on Customer Service and Business Success

This module introduces a personality model to participants and helps them understand their personality and its impact on business decisions. The module helps participants understand personality trait similarities and differences and their impact on team work

as well as customer interactions. The module further provides recommendations on how to improve communication in order to manage such differences.

“The personality training will positively affect my business—giving business skills to help in handling different personality traits both in the office and our clients”

-KAM pharmacy participant

2) Manage Medications and Medical Supplies

This module builds skills in medication and medical supply stock management and movement. Emphasis is placed on record keeping for efficient stock management, including monitoring product quality, minimizing damages, and conducting inventory.

3) Understanding Your Business, Your Customers, and Your Competitors; Understanding the Market

This module helps participants identify who their customers are, rank the factors that made their customers choose them, analyze why it is important to know who their customers are, determine who their competition is, and identify ways to be more competitive in their market.

DHIS 2 Orientation Training

The DHIS 2 orientation trainings were adapted from the seven-day MoH DHIS 2 training manual that is used for public sector staff. The MoH trainings covered a comprehensive set of areas for staff who would be engaging with the system, primarily health record information officers. SHOPS Plus adapted the trainings to cover only those areas most relevant to the pilot participants. These included an overview of DHIS 2 and navigation, data entry, data analysis, and report generation in DHIS 2. As explained in further detail in the data collection section of the report, data entry was handled by the SHOPS Plus team. The SHOPS Plus trainings more heavily emphasized the content data review and analysis in DHIS 2.

Data Collection Tool Design

Data Collection Tool Design

Having established a level of readiness among pharmacies to share data in DHIS 2, SHOPS Plus then developed a data-collection tool to capture the relevant data from the pharmacies. The Excel-based tool was to be used in paper form to collect data from the pharmacies. It is important to note that DHIS 2 in Kenya was designed to capture information from public health facilities (such as service statistics), and tools and processes are optimized accordingly. It is not designed to capture retail sales data, as is most appropriate for a pharmacy setting.

One challenge of incorporating data from private pharmacies is that their operations, standards, and even naming conventions differ from the public health system. An example of this disconnect is that public sector data collection is organized around drug formulary names (e.g., paracetamol), while pharmacies' commodity purchases, record keeping, and client purchase choices are largely organized by brand names (e.g., Panadol, Calpol, and Cetamol are all brands of paracetamol). This discovery necessitated the creation of a private pharmacy-specific data collection tool that aggregates brand names into formulary names. The brand name list was generated through a series of individual pharmacy visits where the pharmacists advised on the available brands in the market. The brand name lists informed the data-collection tool that was used to collect data by brand name at pharmacy level. The data were later analyzed and entered into DHIS 2 using formulary names.

Pediatric illnesses and medicines present a unique complexity because the dosage for managing an illness varies by child body weight. Medicine manufacturers have responded to the need by manufacturing varying strengths of medicines (e.g., paracetamol to be used by children of different weight bands). In addition, manufacturers produce different formulation of medicines to help improve adherence and treatment success in children. Examples of formulations include tablets, dispersible tablets, capsules, and syrups. Child health data collection and tabulation was particularly complex, given the varied strengths and volumes of some of the pediatric

formulations. Tables 2 and 3 outline the family planning and child health formulations and brands whose monthly sales were recorded in the pilot.

Table 2. Family planning formulations collected

| # | Contraceptive | TYPE |
|-----|---------------|----------------|
| | Brand Name | |
| 1. | Microgynon | Monthly Pills |
| 2. | Microgynon FE | Monthly Pills |
| 3. | Microlut | Monthly Pills |
| 4. | Cerazett | Monthly Pills |
| 5. | Diane35 | Monthly Pills |
| 6. | Femiplan | Monthly Pills |
| 7. | Hyan FC | Monthly Pills |
| 8. | Julee | Monthly Pills |
| 9. | Loestrin | Monthly Pills |
| 10. | Marvelon | Monthly Pills |
| 11. | Mercilon | Monthly Pills |
| 12. | Yasmin | Monthly Pills |
| 13. | P2 Original | Emergency pill |
| 14. | P2 Generic | Emergency pill |
| 15. | DMPA | Injection |
| 16. | Evra | Patch |
| 17. | Today | Spermicide |

Table 3. Child health formulations collected

| # | Medication | Therapeutic Area | Size/Qty/Type |
|-----|------------|------------------|---------------|
| | Brand Name | | |
| 1. | Calpol | Fever | 60ml |
| 2. | | Fever | 100ml |
| 3. | Neladol | Fever | |
| 4. | Cetamol | Fever | 60ml |
| 5. | | Fever | 100ml |
| 6. | Panadol | Fever | Infant |
| 7. | | Fever | 5-12y |
| 8. | Parol | Fever | |
| 9. | Toto-mol | Fever | |
| 10. | Paralief | Fever | 125ml |
| 11. | | Fever | 250ml |
| 12. | Amoxil | ARI | 125ml |
| 13. | | ARI | 250ml |
| 14. | | ARI | Capsules |
| 15. | Penamox | ARI | 125ml |
| 16. | | ARI | 250ml |
| 17. | Kemoxyl | ARI | |

Data Collection

Data Collection

It is necessary to reflect on the data collection and data entry process used for public health facilities as a reference point for the pilot's activities. The HMIS has two main components: frontline clinicians and health records information officers.

Frontline clinicians provide clinical services and record these in permanent registers at the facilities. At the end of each month, frontline clinicians or facility-level health records information officers must aggregate data for select priority indicators and enter them into standardized, hard copy (paper) summary tools. This must be done and delivered by the fifth of each month.

Health records information officers sit at the sub county level and receive (or fill) the aggregate data from the summary tools submitted by facilities. They are responsible for entering the data from manual summary tools into the electronic DHIS 2 system. This function is specific to the health records information officers because frontline clinician DHIS 2 digital system competence and confidence levels vary *and* the number of users accessing and uploading to the system must be manageable.

This activity worked with private pharmacies that operate unique systems and processes as determined by the business owner. Using a standardized reporting system and sharing data externally were both new concepts to the participating pharmacies.

With the understanding that the public health system employs a whole cadre of health care workers who act as the interface between facility monthly reports and the DHIS 2 software and that pharmacies would not have the necessary experience and skill level to enter their data electronically into DHIS 2, the SHOPS Plus team opted to act as a temporary interface and collect the data directly and upload them into DHIS 2 on behalf of the pharmacies—in essence, playing a role similar to the health record information officers. The SHOPS Plus team also routinely reviewed all the data collected and conducted repeat visits/queries focused on data quality checks where necessary.

SHOPS Plus used a mix of data-collection methods at different pharmacies, necessitated by individual pharmacy business operation and preference. Data collection methods included:

- a) In-person visits in which the:
 - i. paper data collection tool was filled with brand sales information at the pharmacy by pharmacy staff as the SHOPS Plus data collector waited
 - ii. SHOPS Plus data collector dropped off tool to be collected at a later date
 - iii. data collector and pharmacy staff jointly filled out tool
 - iv. soft copy is sent in to the pharmacy but a follow-up visit is made to check the data collection
 - v. data collector is handed the pharmacy sales receipt book to sift and collect the data needed
- b) Delivery of data collection tool in soft copy via email or WhatsApp
- c) Delivery of filled data collection tools at the various group trainings and meetings with pharmacies

In contrast to the public health system, the private sector is more diverse and lacks a standardized recordkeeping system and reporting tool. Therefore, concerns about sensitive and proprietary information made it difficult to inspect the source documents from which pharmacies generated their reports. In isolated incidences, some data would be reported or adjusted from memory rather than system generated. These data were subjected to data quality reviews in subsequent meetings with the pharmacy involved. In these meetings, pharmacies had the opportunity to confirm or correct the data.

In line with funding timing and support, SHOPS Plus collected data in a phased manner starting with family planning data between July to December 2017; between January and March 2018, the pilot incorporated additional indicators for child health data. Over the course of data collection and as relationships were strengthened, some pharmacies began recording data manually in their daily operations specifically to respond to the data requirements for this activity rather than wait for a data collector to come and request the information. Conversely, there was also attrition of some participating pharmacies, with some pharmacies ending their data sharing with the pilot team. Reasons for the attrition varied from change of point of contact to management revisiting and querying the added value of data sharing to their business. Most of the pharmacies that dropped off did so by being non responsive to requests for data updates.

Finalizing the Reporting System

Data Transcription

Reporting System

- Data Transcription
- Data Upload
- Pharmacy Access

Once data were made available at the pharmacy level, the next phase was to organize the data into a format that could be uploaded into DHIS 2. As highlighted earlier, the existing DHIS 2 data reporting business process is optimized toward MoH structures and systems. In order to recognize opportunities to plug in other service delivery points, such as pharmacies, into the DHIS 2 routine reporting it is

necessary to understand the system. Table 4 compares existing DHIS 2 public data processes and pharmacy operations.

Table 4: Public sector and pharmacy data business processes

| Comparative view of data collection and reporting processes for data sharing pilot | | |
|--|---|---|
| | Public sector | Pharmacy Operations |
| 1 | Data are entered at the facility level into standardized paper permanent registers | Data are entered into the unique business records system at point of sale |
| 2 | Data in permanent registers are entered into paper summary tools at facility level | Data are extracted from business system and input into data collection tool |
| 3 | Paper summary tool data are entered into an electronic mirror version of the summary tool on DHIS 2 | Data from data collection tool are transferred to a query/upload form |
| 4 | Data are accessible and analyzable on DHIS 2 | Data are uploaded to an existing summary tool in DHIS 2 |
| 5 | | Data are accessible and analyzable on DHIS 2 |

SHOPS Plus made numerous technical considerations to determine how pharmacy data could be input into the DHIS 2 system based on current operations. The first consideration was which summary tool in the DHIS 2 system would house the pharmacy data. A review of existing tools in DHIS 2 helped identify two potentially relevant tools for pharmacies' family planning data.

- 1) **MoH 711.** This tool collects information on services offered to clients—including type of contraceptive received, whether it was a new visit or a follow-up visit, and information on client age among other indicators.
- 2) **Facility Contraceptive Consumption Report Tool.** This tool collects information on family planning commodities by family planning method—combined oral contraceptive pills, Progestin-only pills, Injectables, implants (1-Rod), implants (2-Rod), emergency contraceptive pills, IUCDs, male condoms, female condoms, cycle beads, and others.

Considering that the typical pharmacy service is a short and quick interaction that does not collect a lot of client data, the MoH 711 tool was deprioritized and the Facility Contraceptive Consumption Report Tool was prioritized for the family planning data.

A review of existing child health summary tools in DHIS 2 was conducted to determine where to house the pharmacy data. Considering where to house the child health data presented a more complex challenge. Upon review of relevant child health indicators and summary tools within the DHIS 2, the team identified the two closest relevant tools for pharmacies child health data.

- 1) **MoH 705.** This tool collects information on services offered to clients, specifically the *number of cases* treated for childhood fever, pneumonia and diarrhea.
- 2) **CHW tool.** This tool collects information on services and the *treatment used* for diarrhea at the community level.

The MoH 705 was considered inappropriate, as the data required that there be some level of diagnosis to then offer the treatment. Adding pharmacy dispensing information onto this tool would not be appropriate, as the tool collects clinical data. The CHW tool was also dropped as an option, as it only measured one health area at the community level. In the end, both tools were not used, as neither of them captured the commodities distributed for the management of childhood pneumonia and diarrhea. Instead, the team collated and analyzed the child health data in Excel format. These data were shared and discussed with the CHMT alongside data in the DHIS 2 system.

Data Upload

The second technical consideration was how to upload the collected information into the DHIS 2 system. The SHOPS Plus team engaged with MoH Reproductive Health and Nairobi CHMT for concurrence on using the Facility Contraceptive Consumption Report tool and data alignment with pharmacy data. The team suggested automation of the data entry tool into an upload tool for direct importation to DHIS 2 to ease the process of data entry for pharmacy data during the pilot phase.

Pharmacy Access

The third technical consideration focused on the identification of pharmacies within DHIS 2. Because private pharmacies are not actively/routinely managed and regulated by MoH (which manages the DHIS 2 system), reporting is difficult to enforce. In addition, the creation of unique identifiers for the pharmacies in the master facility list took longer than anticipated at the start of the activity, contributed in part by a change in focus from working at the national level to working

with the county-level MoH. These considerations informed the decision to create a single shared pharmacy login account for the participating pharmacies rather than individual accounts.

Data Results

Data Results

A summary of family planning and child health data that were collected is shown in Tables 5 and 6. As an illustrative example of the potential contributions of the private sector, an analysis of data available in DHIS 2 from January to December 2017 showed that facilities reporting in the DHIS 2 for Nairobi county dispensed 5,876 emergency contraceptive pills and 36,297 combined oral contraceptive pills while the 35 private pharmacies that participated in the pilot activity between July to December 2017 distributed 6,096 emergency contraceptive pills and 4,042 combined oral contraceptive pills. As highlighted earlier in the data collection section of the report, some pharmacies dropped off over the data collection period. This resulted in lower reporting numbers towards the end of the data collection and sharing period.

Table 5. Family planning data shared

| Data Element | 35 pharmacies | 26 pharmacies | TOTAL |
|-----------------------------------|----------------|----------------|---------------|
| | Jul - Dec 2017 | Jan - Mar 2018 | |
| Combined oral contraceptive pills | 4,042 | 2,804 | 6,846 |
| Family planning injections | 34 | 38 | 72 |
| OTHERS (Patches, Spermicide) | 276 | 172 | 448 |
| Emergency contraceptive pill | 6,096 | 5,193 | 11,289 |

Table 6. Child health data shared

| Data Element | 24 Pharmacies Total Q1 2018 |
|-------------------------------|--------------------------------|
| Paracetamol | 2,929 |
| Amoxicillin ¹ | 2,091 |
| ORS sachets ² | 2,801 |
| Zinc Tabs | 2,015 |
| Zinc Syrup | 224 |
| Zinc/ORS co-pack ³ | 7 |

¹ Amoxicillin counted as unique bottles of syrup and a complete dose of 15 capsules of 250mg; participating pharmacies did not have dispersible amoxicillin in stock at the time of the pilot; ² Individual low osmolarity ORS sachets; ³ Zinc ORS Co-pack

Diarrhea Management

These data compare zinc and oral rehydration salts (ORS) dispensed at pharmacies alongside cases of diarrhea managed by CHWs and health facilities as reported in the CHW and MoH 705 tools in Nairobi County. Participating pharmacies reported dispensing 2,801 sachets of ORS, 2,015 zinc tablets, 224 bottles of zinc syrup, and 7 co-packs of zinc and ORS; during the same pilot period, CHWs treated 1,237 children with zinc and ORS, and facilities managed 38,468 diarrhea cases.

Pneumonia/Upper Respiratory Tract Infections

These data compare Amoxil dispensed at pharmacies alongside fast breathing managed with Amoxil by CHWs and different types of respiratory tract infections managed at health facilities as reported in the CHW and MoH 705 tools in Nairobi County. These data leave out other antibiotics that could be used in the management of pneumonia that were found at the pharmacy, as these are not contained in the national treatment guidelines for pneumonia. Participating pharmacies dispensed 2,092 doses of Amoxil. During the same period, CHWs dispensed 86 doses of Amoxil for fast breathing children, and facilities managed 205,684 different types of respiratory tract infections.

Fever

These data compare paracetamol dispensed at pharmacies alongside fever cases managed by CHWs and health facilities as reported in the CHW and MoH 705 tools in Nairobi County. The data include only paracetamol and leave out other fever treatment medications found at pharmacies. Participating pharmacies dispensed 2,929 doses of paracetamol; CHWs managed 1,576 cases of fever; facilities managed 19,938 fever cases.

A comparative analysis of shared pharmacy child health data to date reported in the DHIS 2 shows significant contribution of pharmacies dispensing commodities in the three childhood illnesses as reflected in Tables 7, 8, and 9 below.

Table 7. Child health commodities dispensed and reported by participating pharmacies

| Pilot pharmacy data element | Total Q1 2018 |
|-----------------------------|---------------|
| Paracetamol | 2,929 |
| Amoxicillin | 2,092 |
| Zinc and ORS | 5,047 |

Table 8. DHIS 2 child health data reported by community health workers in Nairobi County

| CHW data element | Jan | Feb | Mar | Total Q1 2018 |
|--|------------|------------|------------|----------------------|
| Number of children treated with ORS + Zinc | 395 | 514 | 328 | 1,237 |
| Number of children with fast breathing treated with Amoxil | 35 | 21 | 30 | 86 |
| Number of fever cases managed | 506 | 489 | 581 | 1,576 |

Table 9. DHIS 2 child health data reported by facilities in Nairobi County

| Facility outpatient data element | Jan | Feb | Mar | Total Q1 2018 |
|---|------------|------------|------------|----------------------|
| Diarrhea cases | 12,361 | 14,740 | 11,367 | 38,468 |
| Fevers | 5,100 | 6,502 | 8,336 | 19,938 |
| URTI | 32,397 | 40,483 | 42,154 | 115,034 |
| Asthma | 674 | 821 | 1,042 | 2,537 |
| Tonsillitis | 5,341 | 6,700 | 8,283 | 20,324 |
| Pneumonia | 3,519 | 4,955 | 6,166 | 14,640 |
| Other respiratory tract infections | 14,767 | 18,167 | 20,215 | 53,149 |

Transition for Sustainability

Transition For sustainability

- CHMT consultations
- CHMT data review
- CHMT pharmacy mapping

From pilot inception, sustainability was a key concern. At startup, the SHOPS Plus team worked closely with the relevant national stakeholders, and toward the end of the pilot, the team focused transition efforts on the Nairobi CHMT. The transition process involved a range of close-working meetings (outlined in Table 10) that focused on data review, data collection plans, DHIS 2 upload, and pharmacy mapping for Master Facility List (MFL) inclusion. Pharmacy mapping allows for inspection and collection of pharmacy details as a county health service delivery point. This information is input into the MFL, and a unique ID number is generated. In the future, health management can then include facilities in the MFL in planning. Pharmacies in one sub county unit were successfully mapped, and by the end of the pilot were awaiting input into the MFL. Through these discussions, the SHOPS Plus team and MoH jointly decided that the assignment of a dedicated team from the MoH would be critical for driving the agenda of coordinating the private sector such as pharmacies. This team would also design and ensure sustained business processes and tools for health data sharing.

“This is the first time that the Private Pharmacies and the Nairobi County have come together in an open forum”

-Nairobi CHMT member at close-out meeting

Table 10: Transition activities

| Meeting | Date | Objective | Outcome |
|-----------------------------|-----------|---|---|
| Nairobi County CHMT meeting | 15-Jan-18 | Introduce activity at county level and work on a sustainability/ownership plan | (1) Guidance provided on guidelines for data collection; direction on child health indicators to be followed up (2) Advised that a sub county MoHs meeting would be set up for team to work with |
| Sub county HMT meeting | 24-Jan-18 | (1) Introduce project's activity at sub county level and work on a sustainability/ownership plan (2) Discuss data collection tool, creation of pharmacies in MFL and DHIS 2, pharmacies reporting directly onto DHIS 2, and their involvement in routine data collection | (1) Input on concerns and improvements to data collection and guidance to work with a core team (2) A data collection tool was decided upon (3) A core team of four was set up to work directly with project team |

| Meeting | Date | Objective | Outcome |
|---|-----------|---|--|
| Sub county core working group meeting | 26-Feb-18 | Finalize child health Indicators; the data collection tool; creation of pharmacies in MFL; feasibility of operationalization with MoH routine system, e.g., data collection system; and integration into routine forms receipt by sub county health record information officers | <p>(1) Three indicators were finalized for the data collection tool for child health, i.e., fever, ARI (URTI in DHIS), and diarrhea</p> <p>(2) Some revisions were made to the data collection tool</p> <p>(3) Mapping is required for creation of pharmacies in MFL and sub county team available to undertake it</p> |
| Private pharmacy and county close-out meeting | 25-Apr-18 | Provide update/data analysis on data collected on family planning and CHS products sold by private pharmacies | <p>(1) Due to the outcome of the pilot project, the county can now consider private pharmacies as health facilities that can report data for use at government level</p> <p>(2) There needs to be public-private partnerships formed so both can work together to meet the country's (health) targets</p> <p>(3) As Nairobi County, they need to identify hurdles that would prevent these public-private partnerships from being formed</p> |
| MFL mapping on ground | 25-Apr-18 | To map private pharmacies for creation into MFL | Successfully mapped pharmacies with Starehe Sub county health records officer |
| MFL Mapping on ground | 26-Apr-18 | To Map private pharmacies for creation into MFL | Successfully mapped pharmacies with Starehe Sub county health records officer |

Lessons Learned and Best Practices

The objective of this activity was to generate lessons on engaging private pharmacies to increase sharing of private sector data. Key takeaways from this novel pilot are offered below and include enablers and barriers to the sharing of data by private pharmacies.

- 1) Private pharmacies are keen to contribute to improved public health and an improved bottom line.** This pilot effort demonstrated that private pharmacies are willing to share data if given appropriate support and platforms to do so. All pharmacies participated purely on a voluntary basis. They took on an additional reporting burden, participated in meetings, and willingly shared data without any regulatory compulsion. This pilot, therefore, represents an important milestone in understanding how countries can comprehensively engage the full range of private health sector actors in data sharing efforts. Pharmacies highlighted both the recognition of their role in health care and the connections with public health stakeholders as well as the potential to improve their understanding of their local markets as motivating factors to share data. Similar efforts in other countries could draw on this experience to design their own basket of reputational and financial benefits that incentivize private pharmacies to share data. Such benefits could include highlighting high performers that routinely provide high-quality data to HMIS, linking data sharing to participation as a distribution point for public health services like vaccines and family planning, and others.
- 2) Stakeholder engagement and management is essential.** Achieving successful data sharing by private stakeholders requires frequent and clear communication and coordination with multiple public and private stakeholders. This process of upfront stakeholder engagement and management of stakeholder concerns is the most significant factor for successful outcomes. Ensuring that private pharmacists' incentives and fears are well understood and mitigated is key. Once the processes and protocols of engagement and reporting are defined and understood, the technology adjustments that are required are straightforward in comparison.
- 3) Flexible solutions are required.** By nature, the private sector thrives on innovation and the space to effectively and efficiently respond to market needs. Different pharmacies operated varying business systems with different sophistication levels based on business volume and management preference. Pharmacies also had different preferences on data collection, data review timing, and frequency. Governments and donors seeking to generate increased data sharing from private pharmacies should, therefore, create agile processes, tools, and systems that can plug into the various set-ups that operate in the private sector.
- 4) Data use is not enough to incentivize data reporting over time. A sustained business case is necessary for retention.** Maintaining the private sector incentives to participate in public health initiatives like data sharing requires a clear business case and incentives. While initial interest in the reputational benefits of participating is high, it can wane as time progresses because the private sector partners are going through immediate business cycles and challenges that present newer and more urgent considerations for them to respond to. In the absence of regulatory enforcement, governments and donors need to make sure that data sharing arrangements contain long-term, sustained incentives that become integral to a private pharmacy's business operations. Potential incentives could include marketing activities that increase customer numbers, such as a marketing campaign that identifies participating pharmacies as participating in good pharmaceutical practice or a 'pharmacy finder' phone app that

helps patients and prescribing doctors identify reputable pharmacies close to them. An additional incentive could be publicly-sponsored professional development opportunities that private pharmacies become eligible for based on their data sharing practices.

- 5) **Pharmacy data viewing at aggregate level with data input at the individual level is required.** Many participating pharmacies cited their desire to gain greater understanding of their local markets as a key motivating factor for sharing data. It is therefore important that they can view more than just their own data on the DHIS 2 dashboards. However, they also desire to protect their information from competitors in their immediate vicinity. Governments and donors should, therefore, design their DHIS 2-based systems to balance data access and viewing rights so that private outlets can view information at the aggregate level and input data at the individual indicator level. This will increase pharmacy willingness to participate in data sharing without loss of competitive advantage while offering valuable data for business growth plans.
- 6) **Private sector aggregators help achieve scale.** Working with pharmacies that have multiple branches is helpful in securing multiple individual reporting units through one pharmacy owner contact. As many countries are now seeing the introduction and expansion of pharmacy chains, these new actors could be an important channel for reaching larger number of private pharmacies. New business software and technology solutions are another potential form of aggregator. In Kenya, point-of-sale software solutions were popular and used in multiple pharmacies. In other countries, private technology companies are seeking to develop and roll out similar platforms. In future activities, governments and donors should investigate how they can work with such software suppliers to automatically generate and submit monthly reports to DHIS 2 for participating pharmacies.
- 7) **Reporting burden and undue disclosure is an issue for some.** From observation, we learned that the larger pharmacies were less likely to join in the activity. Possible reasons could be that the work load would be significantly higher due to the larger scale of their operations *or* the business case did not make sense for them given their scale and size. We also observed that data and operations confidentiality for some was a major concern, so much so that they opted out of participating in the activity. For these outlets, it is likely that incentives would not be enough to garner their participation in a data-sharing program; they would likely require regulatory enforcement of participation.
- 8) **Public sector data stewardship is required. Holding DHIS 2 system-level and program-level public health officials accountable for the collection and recording of private data is required for sustainability.** These officials would be responsible for utilizing the data for decision making and ensuring that there is a feedback loop for the private sector. Public sector stewardship is critical for sustained data collection and appropriate and effective utilization.
- 9) **Use the opportunity to link routine reporting to pharmacy regulatory requirements.** Country regulators often have some requirements for their pharmacies. It is possible to link a pharmacy record in the regulator system to the DHIS 2 system. This could help with tracking pharmacies that are currently reporting and link the record to their regulatory requirements in future. A multiple agency team will be needed to develop and implement this in countries. This would likely require capacity building and support to enable them to take on such a role.
- 10) **Dedicated private sector data collection tools are needed.** Working with tools and processes that are optimized for the private health sector is ideal. Governments seeking to generate more data from private counterparts should create dedicated private sector

data collection tools and reports in the DHIS 2 to help ease the reporting burden. These would be optimized for private sector operations, and would mitigate any challenges with reporting would not negatively affect public sector reporting rates. Dedicated private sector tools would allow for the full reporting cycle of a review of data timeliness, completeness, and quality with a review by stakeholders.

- 11) Consider updates to child health data collection tools in the national HMIS.** In Kenya, existing child health collection tools do not collect as much detailed information as family planning. For example, commodity tracking is not as robust in child health compared to family planning. Stakeholders indicated that this difference is partially due to significant donor investments to track and measure progress towards global FP2020 goals. For stakeholders working in child health or other health areas where measurement has not been prioritized as heavily, donors and governments should review existing tools to ensure that they collect all the relevant aspects of child health management. Where there are gaps, then donors and governments must first invest in updating these indicators and tools before starting any effort to increase private sector data sharing.

Conclusion

Nonclinical sources of care continue to play a significant role in health care service delivery. Understanding how much and what types of products and medicines move through this channel presents an opportunity to increase access to quality health care services. Pharmacies are willing to share data on services delivered at their sites.

This activity generated lessons on recruiting and retaining pharmacies in routine data sharing. Sincere, sustained stakeholder engagement is key to data sharing and joint data review with both private and public sector health care stakeholders. However, achieving sustained, long-term reporting by the private sector regulatory enforcement and other incentives should be explored to ensure ongoing timely reporting.

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