Blantyre Prevention Strategy (BPS)
Year 4 Annual Report
June 2024

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Introduction & High-Level Year 4 Overview

> *"What we have learned from BPS is that it has allowed the districts to take up that role of leading the response, but also because of the capacity that has been built, they're now owning it. They're able to take the necessary decisions to prevent and control HIV in the district."*
>
> *– Rose Nyirenda, Director, HIV/AIDS, STI, and Viral Hepatitis Directorate, Ministry of Health (January 2024 Interview)*

Year 4 was pivotal for the Blantyre Prevention Strategy (BPS). The Blantyre District and City health teams assumed greater leadership over the planning and implementation of activities, aligning closely with national structures. BPS-funded partners shifted towards providing technical assistance rather than directing program implementation. Central priorities included expanding the BPS model beyond its initial proof-of-concept and supporting the PathToScale injectable pre-exposure prophylaxis (PrEP) implementation science study.

The Blantyre District Health Office (DHO) led data analysis to identify 11 additional sub-geographies for BPS model and program element expansion within the year, including all PathToScale site communities. By mid-year, District Coordinators took responsibility for most expansion activities, leading to rapid acceleration in programmatic activity and multi-sectoral engagement across the district. The "pillars" within the DHO where BPS functional capacities are being integrated for institutionalization are the units for Quality Improvement (QI), Environmental Health, Health Promotion, and Health Management Information Systems (HMIS). Further efforts are underway to better define and document the roles and relationships needed for sustainability. Plans are in place in Year 5 to dig deeply to understand and seek consensus on the unified Blantyre HIV prevention structure and its associated components to ensure institutionalization and continuity beyond the life of the project. Year 5 will be an important test of the system to identify any lingering weaknesses or areas in need of improvement as the District and City health teams take full control of planning and implementation of BPS-funded activities.

Initial BPS-funded evaluation results were shared at the January 2024 BPS Consortium meeting and have begun to feedback into the "BPS system". Additional evaluative study over Year 5 will shape mid-course corrections that may have been delayed due to COVID. Support for the PathToScale study have enabled the process of adapting three of the BPS core elements in Lilongwe. As planned, the BPS data system, community insights gathering model, and QI processes have become central to Malawi's testing and scale-up of injectable PrEP.

Year 4 also saw substantial progress in establishing co-financing pathways with the Government of Malawi and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). For example, Blantyre District transitioned 22 health surveillance assistants (HSAs) hired with BPS funding to

support the Integrated Disease Surveillance and Response (IDSR) pilot on to the government payroll by April 2024 with plans for the remaining HSAs to be absorbed early in Year 5. Importantly, the District incorporated BPS model elements and activities into its 2024 District Implementation Plan (DIP), prioritizing these efforts for its own funding and donor support. BPS has worked closely with the PEPFAR Malawi team during Year 4 to incorporate BPS elements into its annual and partner work plans.

In a major step forward for the sustainability of the BPS model, the PEPFAR Coordination Office included the following language in its draft COP 23 Y2 Midyear Review Addendum Strategic Direction Summary (SDS): "Pre-exposure Prophylaxis: PEPFAR Malawi continues to advance evidence-based PrEP access and technologies in Malawi. In collaboration with government, the GOM-led Blantyre Prevention Strategy (BPS) supported by the Gates Foundation has laid the groundwork for the scale up of long-acting injectable Cabotegravir for HIV for PrEP (CAB-LA) and the future introduction of new products, for example. PEPFAR Malawi has supported oversight and coordination of implementation science leading to the arrival of the first consignment of 5,400 CAB-LA vials in February 2024. GOM through PEPFAR implementing partners will implement CAB-LA supported by Georgetown University Center for Innovation in Global Health [CIGH] and University of North Carolina Project."

Through an "Expanded BPS Secretariat", the BPS Secretariat (NAC and CIGH) are sharing project management responsibilities with the Principal Environmental Health Officer, QI Coordinator, Senior Health Promotion Officer, HIV Primary Prevention Coordinators, IDSR Coordinator, and HMIS Statistician. These meetings have created a platform to engage the coordinators on the day-to-day management of the project, which includes grant and partner management, external partner liaison, logistics, and overall coordination to support sustainability planning, network model expansion, and institutionalization.

Progress was made in documenting and disseminating the BPS model and learning to audiences in Malawi and beyond. From local conferences to the International AIDS Society (IAS) 2023 science meeting in Brisbane, stakeholders shared the BPS approach, program elements, and learning. A new BPS website was launched (blantyrepreventionstrategy.com), and numerous papers are being prepared for journal submission in Year 5.

Strengthened Local Leadership

BPS has created a decentralized model for subnational HIV prevention systems by *strengthening local leadership* to utilize *data-driven decision making for improved coordination, targeting, demand generation, and service delivery*. In Year 4, the DHO demonstrated greater governance and technical leadership of the HIV prevention system in Blantyre – designing and implementing activities, mentoring and training facilities and communities, and engaging private facilities and implementing partners (IPs) more robustly.

"The Blantyre Prevention Strategy…has empowered the locals. It has been built within the public structures, through the government structures. So even if when the Blantyre Prevention Strategy goes, we have all the confidence that the learnings will continue because it has been embedded through the government system."

– Chimwemwe Mablekisi, Director of Programmes, National AIDS Commission (February 2024 Interview)

Governance

In Year 4, the Blantyre district health team began to govern the HIV response in earnest taking over activity leadership roles from the BPS-funded partners and coordinating actively with facilities, IPs, communities, and other stakeholders across the health system. From Dr. Gift Kawalazira, District Director of Health and Social Services (DHSS), to the key technical coordinators for environmental health, QI, health promotion, and HIV primary prevention, the district has taken ownership of ensuring BPS program elements are taken up and expanded across the district.

Through the leadership of the District DHSS and City, the Blantyre Coordination Team (BCT) demonstrated enhanced responsibility for the technical direction and coordination of local stakeholders, including representatives from Blantyre District and City, IPs, civil society organizations (CSOs), NAC, and select ministries, as well as the BPS-funded partners. The monthly BCT meetings have been instrumental in providing a forum for planning, coordination, accountability, and sharing of lessons in Blantyre among the BPS consortium of government and expert partners. The BCT continues to act as a critical mechanism of accountability and monitoring project implementation. During the year, the DHO technical coordinators took over responsibility for reporting on program element activities and outcomes to the group from the BPS-funded partners.

The district leadership repeatedly articulated its commitment to the systems approach for Blantyre. In October 2023, district leadership directed the health team to make the now high-performing quality management (QM) platform the hub for data review and response decision making at facilities. To support that effort, the District and BPS consortium partners worked through the remainder of Year 4 to further strengthen the capacitation and institutionalization of the district platforms. For example, Cooper/Smith and HealthQual combined data use mentoring into QI sessions to streamline the institutionalization of data use and QI elements, making it easier for the district to provide mentoring in the future. In addition, the district subsequently received approval to establish seven substantive QI positions in the DHO staff structure. It will be the first time there are permanent positions at district level dedicated to QI as currently the QI coordinator is a clinical officer who has QI as an additional duty. The QI coordinator is now a permanent member of the District Health Management Team (DHMT), which will also support entrenchment and institutionalization of the BPS-fostered, QM approach in the main government structures.

Local governance of the Blantyre HIV prevention system also was strengthened through engagement between the district and city. The joint City and District HIV Prevention TWG, which was launched in Year 3, held two meetings during the year. The TWG provides a forum for the monitoring of all HIV prevention programs across the district as well as provision of technical guidance and support in planning, implementation, scaling up, and evaluating evidence-based structural and behavioral HIV prevention interventions. The two Councils used the TWG meetings to update each other on all HIV prevention programs being implemented in Blantyre and better coordinate HIV prevention interventions in the District/City. Unfortunately, the passing of Dr. Emmanuel Kanjunjunju, City DHSS, in July 2023 slowed down some of the planned district and city engagement and strengthening of the city health office. Samden Seunda, who had been serving as the deputy DHSS for Blantyre City—and who has been involved with BPS since its earliest conceptual phase—was appointed as the new DHSS in May 2024 following a city-led recruitment process.

At the national level, Dr. Beatrice Matanje became the new CEO of NAC in October 2023. She visited Blantyre as her first field trip to understand and see BPS in action. She articulated her appreciation for the project and has become a firm ally at national level.

Consortium Governance

On January 23-26, 2024, the BPS Secretariat hosted a meeting of BPS Consortium in person in Blantyre. This meeting was the first full Consortium meeting since March 2022 and offered an opportunity to assess progress to date, review data and learning collected through programmatic implementation and the monitoring and evaluation (M&E) framework, and develop the vision and strategy for the remainder of the project. The meeting was attended by the Gates Foundation; members of the National Project Steering Committee; members of the BPS Project Management Team (PMT); and members of the BCT, including the district and city health teams, BPS partners, and MoH Digital Health Division. In addition, representatives from the African Population and Health Research Center (BPS external evaluator) and Burness (BPS external communications partner) attended.

During the meeting, Dr. Kawalazira and District Coordinators shared how Blantyre's HIV prevention system has changed and how it is functioning currently. Some key highlights of how the system now behaves included how: 1) the team is operating with one common goal; 2) the district engages and coordinates with HIV IPs; 3) community health teams are using data and connecting more meaningfully with facilities to address issues; and 4) private facilities' engagement in the system, including through supervision visits and reporting their data.

The district also presented on each program element, including the capacitation and learning that has been achieved to date. These presentations resulted in robust discussion about how the learning can inform national-level policy (e.g. next National Strategic Plan process will start in late 2025), and how the capacitation can further extend beyond HIV to other health areas. Participants worked in small groups to draft vision, strategy, operations, and tactics (VSOT)

approaches for each program element that informed Year 5 work planning and the ongoing sustainability planning process. The teams highlighted many areas to help further institutionalization in Blantyre e.g. creating terms of reference (TORs) for established tools and processes.

> *"BPS has helped to provide a clear understanding of the level of the HIV burden in Blantyre and how to come up with strategies to reduce HIV prevalence/burden in Blantyre."*
>
> *- Lighthouse Trust (2024 Testimonial)*

Technical Leadership

BPS is closing gaps in Malawi's current HIV prevention efforts by building essential technical capabilities and systems capacities—including governance and technical leadership, digital health, surveillance, quality improvement, demand generation, and community and corporate engagement—functions that are *enabling effective and efficient use of resources* for a sustainable HIV prevention response.

There were significant changes in the District and City health teams' technical leadership of the HIV prevention response in Year 4, with key DHO units and technical coordinators taking increasing ownership in planning and implementing activities, providing mentorship, coordinating, and disseminating learning. More importantly, they are using passive and active surveillance data and insights to inform where and how to target resources, supervision, and mentorship. They can focus on the underperforming facilities or activities based on the data. They also identify needs across the program elements and collaborate to plan activities that address needs across the system. Examples of that technical leadership and the collaboration across program elements are outlined in the following sub-sections.

The change was visible in several ways such as the coordinators making the presentations on programmatic implementation during the monthly BCT meetings. In addition, Blantyre's technical leadership is increasingly recognized at, and sought after by, national level. District Coordinators served as thought leaders to the organization of the Gates Foundation team field visit to Blantyre in August 2023 and the case study examples presented. In presenting to the visitors and coordinating site visits to facilities, they demonstrated the ownership and leveraging of BPS program elements to achieve district priorities and enable BPS program element institutionalization and sustainability. Second, the coordinators were engaged as experts and peer mentors to the Lilongwe DHO during the adaptation process of the three BPS program elements throughout Year 4 to support PathToScale. Several coordinators contributed to co-development exercises in Lilongwe to support PALMS, QI, and community lab adaptation. In addition, several coordinators served as thought leaders during a PathToScale partners meeting

during which they presented informally on the system change and positive outcomes of BPS support.

NAC also engaged the district to serve as an example of a good, decentralized model for sub-national HIV prevention responses to other districts whose HIV infections have increased. In March 2024, Dr. Kawalazira presented Blantyre's systems approach to the Zomba district team at NAC's invitation. Among other challenges, Zomba has an uncoordinated response, where – like the situation in Blantyre prior to BPS – IPs do not talk to each other and the two councils (Zomba City and District) do not interact. His presentation was very well received, and NAC wants to mobilize key leaders from Zomba to visit Blantyre. NAC is considering further opportunities to bring Blantyre representatives to other districts to share how their system can become well capacitated and organize, focusing first on all the major cities in the country, with BPS funding support in Year 5.

"Since the Blantyre Prevention Strategy started, we have seen improvements or changes in the overall district capacity in managing the HIV response, particularly the HIV prevention component. What has been notable is the use of data-driven approach to identifying where we have HIV prevention gaps. But also, another notable area was the use of quality improvement to come up with performance improvements. For example, where there was less uptake in pre-exposure prophylaxis as an intervention, the district was able to use quality improvement approaches to improve uptake of clients who would access to pre-exposure prophylaxis. Another notable change is where the district has been capacitated to use human centered design for health communication. And the health communication is also linked to the gaps which have been identified in the data. And, of course, the whole process also has, one of the changes that we have noticed is the process of being able to engage the communities in all the processes, even identifying, being able to engage with the communities in knowing where the gaps are and how they could all resolve the issues that are on the ground, engaging them even in identifying the solutions that would work."

– Rose Nyirenda, Director, HIV/AIDS, STI, and Viral Hepatitis Directorate, Ministry of Health (January 2024 Interview)

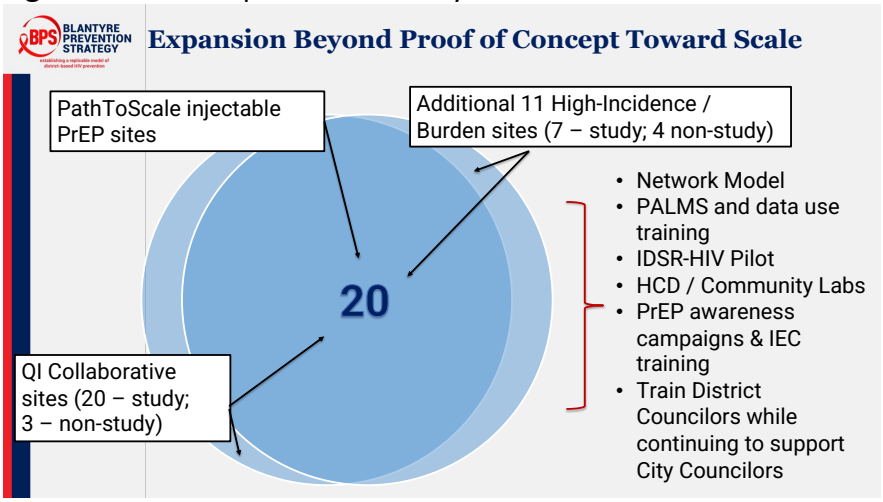
Programmatic & Capacitation Expansion in Year 4

BPS is expanding service delivery for current prevention tools and improving the introduction and scale-up of cutting-edge tools like injectable PrEP.

Over the course of Year 4, the District and City health teams, with support from BPS-funded partners and collaboration with facilities and local stakeholders, expanded the BPS local management system, program elements, and functional capacities to 11 additional high-burden and high-incidence geographies across the district, including PathToScale sites that were not capacitated on all program elements in BPS's proof-of-concept phase (**Figure 1**). In addition to

facility training on PALMS, QI, and health promotion, the network model approach was expanded to these 11 public facilities and surrounding geographies.

Figure 1. Year 4 Expansion in Blantyre



Other areas of expansion in Year 4 included bringing private clinics more into the system with increased data sharing, linkages with public facilities, and supervision visits by the District Coordinators; expanded community delivery of HIV testing and prevention services through the network model and Konda Blantyre, Konda Moyo health promotion campaigns; additional HIV prevention service delivery points and integration of HIV prevention into other clinics within facilities as a result of change ideas through the PrEPUP! QI collaborative; and training and engagement on HIV, structural risks, and data for the 15 District Councilors.

The District DHSS instructed the district and its stakeholders to focus programmatic and capacitation efforts in Years 4-5 on the current set of sub-geographies, including the original four proof-of-concept catchments and the 11 expansion catchments/facilities, and any other PathToScale sites not included in the other categories. Focusing efforts for saturation in these areas will be more efficacious than spreading efforts too thin across lower volume areas/sites and will help test the system before any additional expansion. However, there may be ways to support light-touch, low-resource capacitation for other facilities, stakeholders, and geographies, such as large-group training sessions and coordinators' routine site supervision, in Year 5 especially since there have been HIV infection increases in some of these areas of the district that have not yet received training.

"What is exciting about …BPS, is that we're able to understand our client behaviors and our client perceptions regarding use of pre-exposure prophylaxis through a quality improvement initiative, but also using human centered design. So, there were a lot of insights that were captured from the clients that informed how we designed the implementation, but even the messaging, and that has influenced even the whole service delivery approach. So, if it has influenced the oral pre-exposure prophylaxis, we know that even for injectable PrEP, we need to use the same approaches to get insights

from the clients. And moving forward, we have learned that the processes that were used to understand how we can improve uptake in PrEP, but also the client's preferences, the same processes will be used too as we implement new innovations such as injectable PrEP. So, again, that can be replicated beyond just oral PrEP, but even in other innovations that may be introduced in Blantyre, but not Blantyre alone, even across the country."

– Rose Nyirenda, Director, HIV/AIDS, STI, and Viral Hepatitis Directorate, Ministry of Health (January 2024 Interview)

Digital Health, Data Use, & Informed Decision Making

"We have seen an increase in data usage within the past two years; facilities introducing data user clinics within their facilities…. With the BPS, I've seen a lot of change and the interaction between us and the different coordinators or even the facility health personnel."

– Gosten Njunga, Programmer, Blantyre District Health Office (December 2023 Interview)

BPS activities in Year 4 demonstrated that, with dedicated training, mentorship, support, and routine data use, frontline health workers can embrace and consistently use digital tools to improve services at district and facility level. District Coordinators, facilities, and network model committees increasingly demonstrated routine, data-driven decision-making throughout the year. District Coordinators now follow quarterly indicator data and trends at each facility through PALMS. Facilities across Blantyre are increasingly reviewing their facility-level data through PALMS to inform key program decisions at their sites. Establishing reverse billing (an agreement with local network providers that allows PALMS users to access the website without purchasing internet data bundles) and encouraging facilities to "bring your own device" to work to access PALMS, rather than procuring additional facility-based hardware, provide additional opportunities for data access and use in the district.

In Year 4, additional data sources were added to support users and improve service targeting:

- Delivery Channel Mapping – Data from the community organization mapping and Service Delivery Channel Mapping (SDCM) for Blantyre and Lilongwe (**Figure 2**).
- Key Population – Key population data for men who have sex with men (MSM) and female sex workers (FSW).
- NAOMI – Revised estimates for the coming year were added to the PALMS homepage.
- MPHIA – The most recent (2020-2021) data, which is available at a district level. It is incorporated as part of the NAOMI model estimates that are used on the PALMS

homepage. Discussions are ongoing to decide whether additional use cases and modelling from this data would be useful to display in PALMS.

- PrEPUP! QIC data – HealthQual, the Blantyre DHO, and Cooper/Smith worked closely to configure the PrEPUP! QIC indicators into PALMS with a visual display that promotes easy data analysis. Incorporating PrEPUP! data into PALMS has led to increased data access by collaborative facilities and QI mentors, which allows for more frequent tracking of data trends and the ability to compare performance across facilities.

In addition, for data from the One Health Surveillance platform (OHSP), the IDSR indicators collected by HSAs have been integrated into the data pipeline. However, only four of the eight indicators are currently populated on the PALMS dashboard as discussions about indicator thresholds continue with DHA. **Figure 3** provides the current list of acquired and anticipated data sources through PALMS.

Figure 2. Screenshot of integration of Service Delivery Channel mapping into PALMS

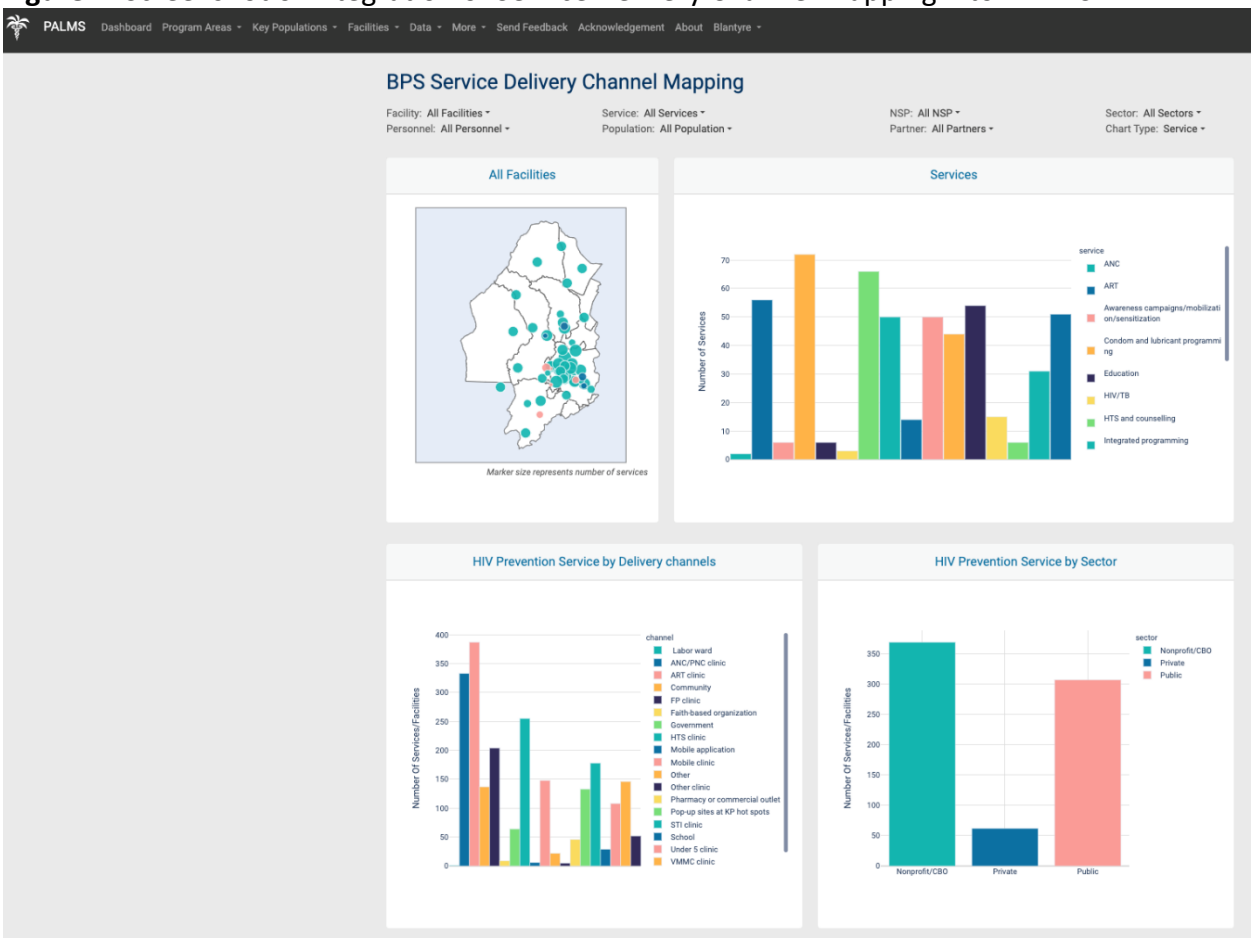
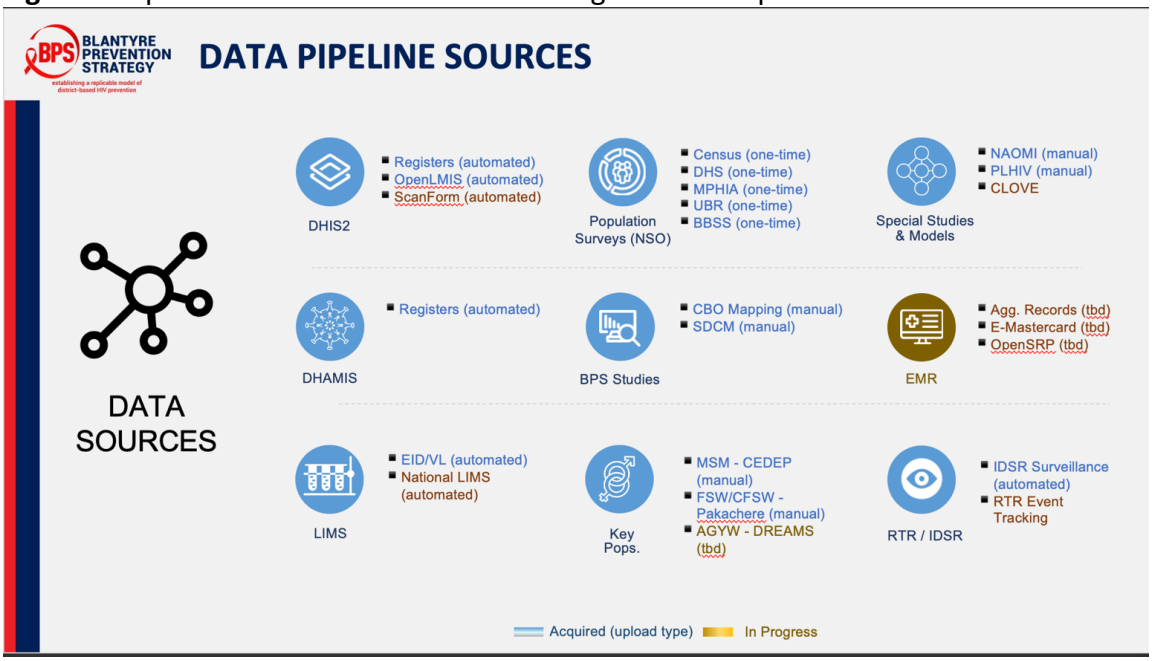


Figure 3. Updated List of Available and In-Progress Data Pipeline Sources

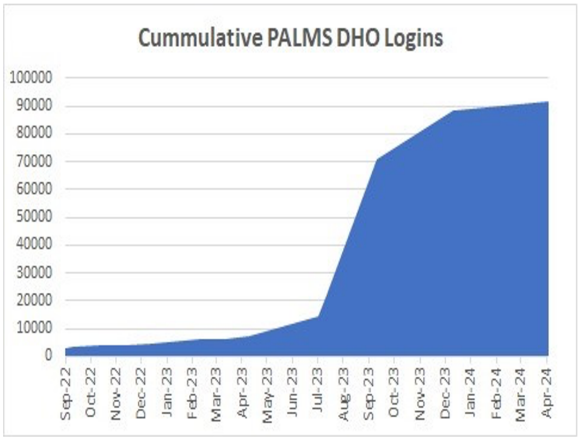


According to user analytics, there was strong PALMS user engagement in Year 4. Between March 2022 and April 2024, users visited PALMS more than 73,000 times and completed more than one million actions, spending a total of 4,632 hours on the platform (**Figure 4**). Of those visits, 50,000 occurred during Year 4 between May 2023 and April 2024, which was almost double the 21,342 logged between May 2022 to April 2023 in Year 3. Some of the increase occurred because of the expansion to the 11 additional geographies in Blantyre District and some due to the adaptation to Lilongwe District.

Figure 4. Cumulative PALMS Logins (September 2022 – April 2024)

PALMS Logins

BT DHO PALMS LogIns	
Month	Total
Sep-22	2828
Oct-22	3390
Nov-22	4053
Dec-22	4267
Jan-23	4511
Mar-23	6014
Apr-23	6451
May-23	7210
Jul-23	14540
Aug-23	20944
Oct-23	71135
Jan-24	88206
Apr-24	91811



"I think PALMS, it's really good because the data is already there. You don't have to struggle to see how you're performing. You don't have to go through several registers to see how you're performing. You don't have to take a lot of time to see how you're performing. You just go in using your phone, check how your indicators are performing, check where you're not performing, check where you're performing well. So that also we aim to improve even more where we are performing well and where we're not performing well, we come up with change ideas. We come up with solutions. We come up with PDA circles and then we test the ideas. We see which one make better and we see which one can help us to improve the HIV outcomes in our district."

– Tamanda Nzima, HTS Coordinator & QI Mentor, Blantyre Health Office (December 2023 Interview)

In Year 4, the DHO demonstrated leadership in coordinating its HIV prevention response by involving all HIV partners in routine data user clinics to ensure harmonized and data-informed activities and services. The data user clinics included PEPFAR-funded IPs, such as I-TECH, JHPIEGO, EGPAF, Lighthouse, and MACRO. During a data user clinic at South Lunzu Health Centre, I-TECH shared recency data, which suggested that men operating Kabazas (motorcycle taxis) were engaging in condomless (unprotected) sex without PrEP with their clients. After triangulating these data, South Lunzu and MACRO distributed 150 condoms and 25 self-test kits to the men in the catchment area. Prior to BPS, this data triangulation and well-coordinated HIV prevention response among partners did not occur.

To promote increased sustainability of data access through PALMS, Cooper/Smith developed a Training of Trainers (ToT) approach to train ToTs representing all key departments that support HIV prevention at the facility level (including the focal persons for PrEP, HTS, ART, QI, IDSR, HMIS, and IEC and the Assistant Environmental Health Officer (AEHO). Each ToT trained up to 20 other users in their facility. For Blantyre and Lilongwe, 164 ToTs were trained. The TOTs trained other end users in the 36 PathToScale facilities, totaling 339 and 234 end users in Blantyre and Lilongwe, respectively. The ToTs are supported through facility mentorship sessions, where the ToTs take the lead on introducing PALMS and discussing any challenges users are having. Cooper/Smith trained 10 new power users for a total of 18 power users to support PALMS usage in both Blantyre and Lilongwe.

"Often times people just assume that there is a problem without consulting data. The main problem is that for you to access data you have to go through a number of processes. But with PALMS, you have data at your fingertip that helps to identify poor performing indicators timely. With PALMS we are able to make decisions based on data in real time and PALMS Platform is user friendly therefore you can easily showcase your performance during data review meetings."

- EGPAF (2024 Testimonial)

Surveillance

In Year 4, surveillance became increasingly institutionalized at district, facility, and community levels. HSAs and community actors/informants are now successfully identifying risk spots and delivering HIV prevention packages to the same. Facility Rapid Response Teams (FRRTs) and HSAs utilize passive and active surveillance data during data review meetings, during which facilities discuss and resolve signals and risks and develop action plans. Blantyre District's Environmental Health unit leads activities in support of the IDSR-HIV program element.

Based on the IDSR/HIV SOPs developed in previous years, in Year 4, the District IDSR unit worked with Cooper/Smith to further develop and update the approach to active or event-based surveillance (EBS). Based on input from the Public Health Institute of Malawi (PHIM), which manages the national IDSR platform, as well as DHA and NAC, Cooper/Smith worked with the district to rebrand EBS as part of a new Risk Tracking and Response (RTR) approach. The RTR is an active surveillance tool that captures risks and hotspots reported by HSAs, community members, or others. Following triangulation and decision making about required actions, assignments are made within the tool. The types of action, those responsible for taking them, and deadlines are recorded. To understand the potential volume of actions to be captured and test the documentation, triangulation, and response efforts, the RTR tool was piloted in the two IDSR-HIV pilot sites, Bangwe and Mpemba, in early 2024. HSAs and FRRTs at these facilities were trained and supported through weekly mentoring sessions on how to input signals, risks, and action plans. The BPS Secretariat will conduct a learning session on the RTR tool and other tools developed with BPS support in early Year 5 to review how they have been used in practice, what modifications might need to be made, which will inform institutionalization and documentation efforts.

To support the planned integration of the 37 BPS-supported HSAs into the government system and payroll, 220 existing (non-BPS-funded) HSAs were trained how to use PALMS and how to collect additional risk and diagnostics indicators that are not routinely collected through OHSP. In addition to utilizing HSAs to support active surveillance, the DHO plans to engage community health action groups (CHAGs) in early Year 5 to ensure adequate community involvement. The

CHAGs typically include membership from CSOs, CBOs, hard-to-reach areas, women's groups, faith-based organizations (FBOs), youth, and business representatives.

Surveillance and Response in Action

During quarter 4 of 2023, the IDSR-HIV team at Bangwe Health Center noted in PALMS that there was a decrease in the total percentage of contacts of index cases tested (65.5% against 80%). The facility rapid response team (FRRT) and HSAs developed an action plan to visit the areas where the clients were coming from and discovered behavior increasing the risk of HIV transmission (e.g. condomless sex without PrEP) was likely to be occurring in the area. The FRRT and Pakachere, a PEPFAR IP working with FSWs, organized a moonlight activity to support the community with prevention support. Through the activity, six clients were provided with PrEP. This example demonstrates how community health teams, through the IDSR-HIV approach, can identify risk and triangulate it with events happening in the communities with the help of community structures. In addition, facilities, IPs, and communities are increasingly working together to utilize their capacitation and develop collaborative and coordinated action plans or response activities that leverage resources.

Community Insights, Health Comms, & Demand Generation

Year 4 efforts focused on building the capacity of the Blantyre District Health Promotion Office (DHPO) to institutionalize the use of community labs as feedback loops between communities and facilities and support data-informed, strategic design, implementation, and evaluation of health communication campaigns. By April 2024, the DHPO had the capacity and commitment to routinely access, analyze, interpret, and translate data and relevant community insights into actionable HIV prevention health communication activities. The Blantyre District Senior Health Promotion Officer began leading strategic implementation of community labs in Blantyre and is now providing technical oversight and guidance to human-centered design (HCD) champions who conduct the labs. During the year, actions taken resulted in:

- An increase in the pool of trained HCD leads across all expansion sites;
- HCD tools developed for use during HCD trainings and to support Lilongwe adaptation;
- Successful expansion of community labs capacitation to the 11 additional high-burden facilities;
- Insights for additional programmatic topic areas collected through HCD community labs; and
- Strengthened capacity of the Blantyre District and City teams to plan, implement, measure, and report data-informed health communications activities for HIV prevention while leveraging the network model.

Community Labs

By June 2023, the Blantyre DHPO was successfully coordinating community lab implementation. The DHPO staff demonstrated an in-depth understanding of the HCD process and approach through their leadership and coordination of updating of the HCD manual, development of HCD

training presentations, and using these tools to support expansion of HCD capacity in Blantyre and Lilongwe.

The HCD Champions demonstrated their ability to plan and conduct the full cycle of the community labs including identifying challenges, conducting formative inquiry, identifying insights, prioritizing insights for action, and translating these insights into health communication interventions. Additionally, the HCD champions trained in Blantyre have confidence and demonstrated their capacity to support delivery of HCD training for peers in Blantyre and Lilongwe.

In Year 4, community labs were implemented in nine more geographies and focused on additional program areas, such as STI, condom use, HIV treatment interruption, PrEP uptake, and PrEP continuation. Generally, in the ideation stage of the community lab process, participants develop as many ideas as possible to address the issue under discussion. When moving to prototyping, the participants prioritize specific ideas to move forward with, which is usually done through a simple voting exercise where participants rank the ideas based on desirability and usability. The selected prototypes then move into several rounds of testing and refinement which informs the participants whether the prototype should be adopted at a scale. Not all community labs result in prototypes.

In Year 4 quarter 3, the DHPO sought to conclude community labs that had started in quarter 1. It was concerned the issues informed these labs may have evolved or be less relevant given the time that had passed. The DHPO led a validation exercise that included reviewing PALMS data and facility registers to ascertain if the same challenges still existed. A decision was made to combine labs with common challenges for efficiency and to harness the capacities available across different facilities. **Table 1** shows the clustered approach, the challenges being addressed, and examples of some of the prototype ideas uncovered.

Table 1. Year 4 Community Lab Prototypes Developed

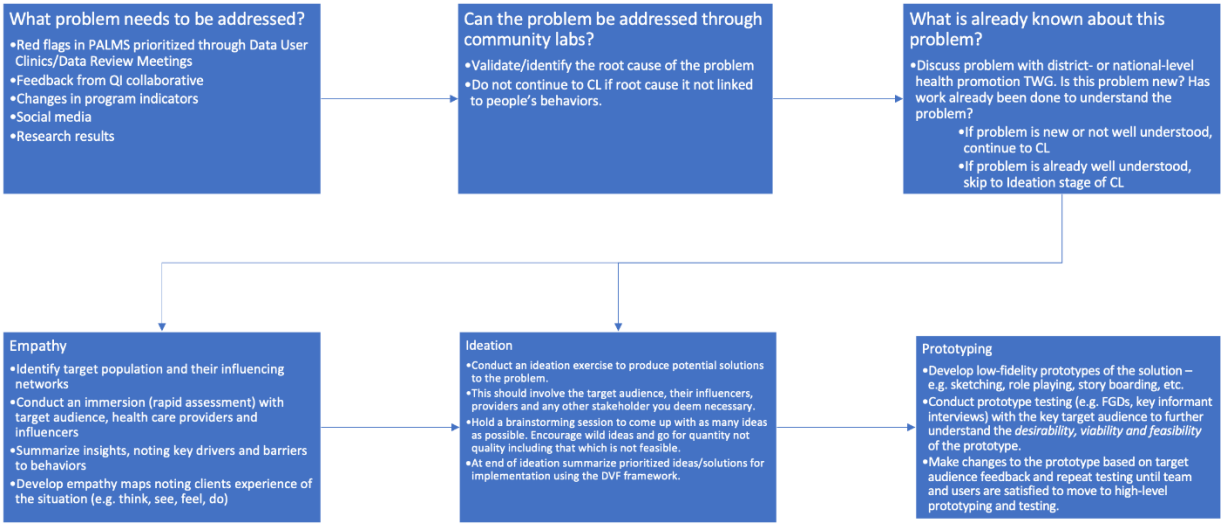
Name of Community Lab	Challenge identified	Prototypes developed
Ndirande Cluster lab (Mbayani, Ndirande, Chilomoni, Gateway, and Blantyre Adventist)	Low Uptake of PrEP among men eligible for PrEP at Blantyre Adventist Hospital (64% of Men eligible for PrEP refused to be initiated on PrEP- Facility register 2023 Q3)	1. Men's Weekend Corner - Forum for men who are using PrEP. 2. Redesigning suggestion box - Inclusion of Ombudsman contact 3. Use of PrEP Ambassadors - To motivate men to take PrEP.
South Lunzu cluster (South Lunzu, Chirimba, Nyambadwe DIC, Chirimba DIC, and Mtengo Umodzi)	Low PrEP Retention of Oral PrEP among AGYWs aged 15-19 years at South Lunzu (27.5%, PALMS 2023 Quarter 3)	1. SOP on Facility based Customer care. 2. Use of male Champions 3. Integration of PrEP in Youth Friendly Health Services
Mpemba Cluster (Mpemba and Madziabango)	Low PrEP continuation at 3 months among PrEP users (21.4% for Mpemba, 0% Madziabango Quarter 3 2023)	1. Comprehensive Counselling 2. Community Engagement meetings with Influencers 3. Engaging DREAMS Clubs 4. Outreach Clinics and Integrating with other community services. 5. Health Promotion Campaigns
Mlambe and Chileka Lab	Low PrEP Retention at 3 months among female aged 15-30 years (74, PALMS, 2023, Quarter 3)	1. Setting up of PrEP clinic 2. Developing IEC Materials on partner disclosure
MUBAS, Lighthouse, Zingwangwa, and Limbe	Low PrEP retention among PrEP users at 3 months- 7 people were initiated on PrEP and none retained for refill – 2023 Quarter	1. Health Post Radios 2. Use of SOPs 3. Client exit interviews 4. PrEP Shield Award

In reviewing community lab implementation, the DHPO and key stakeholders noted the importance of strategically implementing community labs around critical issues, rather than conducting them for the sake of conducting them. In addition to increasing efforts to strategically launch community labs, the DHPO, partners, and HCD champions noted the importance of sharing community lab insights in a rapid and structured manner. One approach they identified is to schedule stakeholder dissemination meetings as community labs are launched and use the meetings to discuss/document actions to be taken and tracked in response to community insights.

To support institutionalization and sustainability in Blantyre, as well as Lilongwe adaptation, the DHPO worked with BPS partners to create a process map (decision tree) and updated HCD manual (**Figure 5**). The process map provides "use cases" for the types of issues/contexts for when to use what elements of HCD to generate demand, examples of tools to be utilized, activities to be conducted, and expected outputs. The team adapted the HCD manual originally created by ThinkPlace (the vendor who supported the co-development of the community lab model for Malawi in Years 1-2) to the Malawian context based on implementation experience

and capacity assessments. Both tools were used in Year 4 to support additional HCD cadres and adopting the approach to Lilongwe.

Figure 5. Community lab process map



Health Communications

After utilizing a broader district-wide health promotion campaign approach in previous years, BPS-supported health communications efforts were focused in Year 4 on utilizing data to inform who, what, where, when, how, and why to conduct targeted activities. The intention was to build the capability of the DHPO to use data for this purpose as well as the capacities at facility and community levels. Described further in the Network Model section below, particular attention was paid to linking the decision making about health promotion campaigns and demand generation activities with the network model approach to provide targeted support based on specific need and context.

Blantyre District and City health teams demonstrated increasing capacity to plan, implement, measure, and report data-informed health communications activities for HIV prevention. With support from Family Health Services (FHS), the DHPO trained Information, Education, and Communication (IEC) focal persons at facilities how to identify actionable insights and plan a response including budgeting, identification of partners, and use of existing network actors to assist in response. Capabilities also were built at district and facility levels for health communications quality assurance to supervise health communications activities at network level for technical accuracy and quality of communications. Throughout the year, the DHPO built capabilities in knowledge management to document, report, share best practices, and lessons learned from one facility to the other leveraging common platforms such as the district's health communications TWG or social forums.

Blantyre District and City health offices co-developed a Data-to-Action (D2A) framework for demand generation that standardizes approaches to health communication across facilities. DHO

and City Coordinators, BPS Consortium partners, CEDEP (local IP that works with the LGBTQI community), and WHO collaborated on the development of the D2A. The D2A was designed to capture root causes of the identified indicator (program) that is underperforming, recommended actions, offices to be notified, and required resources. It also consists of the reporting elements to capture actions taken, outputs, event locations, dates of activity(ies), outcome, and feedback.

Facility teams identify red flags from PALMS and indicate the indicator of interest and the problem, e.g. low PrEP uptake, in the D2A tool along with the data source e.g. PALMS, DHAMIS, facility registers. Root causes of the problem including findings from rapid enquiry or community labs are also captured in the tool. This information should guide the FRRTs to link data to health promotion activities and problems to appropriate interventions. The facility also documents the resources that will be required for the particular intervention. The D2A is submitted to DHPO for further analysis; after the data is validated, the DHPO supports the facility to mobilize resources required to respond to the problem. After execution of the health communication campaign, the facility completes the remaining fields of the tool, including the intervention done and outcome of the event. The facility should continue to monitor progress and document the outcome of the exercise. The DHPO also uses the tool to make follow up visits to facilities and track progress after the health communications activity has been accomplished. Implementation of the tool was tested during Year 4 and additional refinements will be made as needed in Year 5.

CASE STUDY: Ndirande Health Comms Campaign

While reviewing its data in PALMS, Ndirande Health Center identified low numbers of PrEP initiation, specifically among STI clients around the Majiga, Gamulani, Zambia, and Nyambadwe areas (**Figure 6**).

Figure 6. PrEP Initiation Among Eligible STI Clients at Ndirande Health Center

MONTHS	STI CLIENTS WHO ARE HIV NEGATIVE	ELIGIBLE PrEP	INITIATED ON PrEP	PERCENTAGE
July	280	280	0	0%
August	278	278	12	4.3%
September	247	247	15	6.1%
October	302	302	16	5.3%
November	308	308	18	5.8%
December	230	230	16	7%

After exploring the issue further, the facility learned that the perception in the community was that people who use PrEP were regarded as sex workers or had multiple sexual partners. After the challenge was presented to the Ndirande network model committee, the facility came up with various interventions to address this problem i.e. intensive counseling at PrEP distribution points and community sensitization through a community football match to raise awareness on PrEP uptake among high-risk groups and address the misinformation about PrEP. The decision making was in part informed by insights from a community lab on PrEP retention that had been held in the area. During the lab, community members asked for information about PrEP to be shared in the community so that they have adequate knowledge.

The facility network model committee then held a series of planning meetings. FHS and DHPO supported the committee in stakeholder identification and involvement. During these planning meetings, the D2A tool was utilized to understand the identified problem and indicator of interest. The DHPO also guided the committee to identify key messages to address the issues. In subsequent meetings, the IEC focal person led the development of activities by reviewing and curating different groups that participated during the event. The SOPs also played a critical role in guiding the committee members to identify the needs for the activity and take the right steps in planning the event – from developing budgets, engaging IPs and community structures, booking service delivery teams, identifying a venue, event resource mobilization, and event publicity.

The activity was conducted at Nyambadwe ground in Ndirande on April 20, 2024. Information about HIV testing, STI screening, and HIV prevention products, including PEP, PrEP, and VMMC, was shared with the audience through health talks and speeches. Community members also performed edutainment activities such as drama, music, and poetry. An estimated 38,640 (19,810 males and 18,831 females) individuals (about twice the seating capacity of Madison Square Garden) participated in the event and heard the sensitization messages and health talks; 49 people were tested for HIV onsite of which 26 were initiated on PrEP; and 7,896 condoms were distributed.

"Knowledge gained on principles of human-centered design and PALMS, I see our health facilities coming up with solutions to challenges we are facing. And these solutions come from the users of the services we offer. Even our upcoming health campaigns will be data driven and informed by the community lab insights. I believe that together we can have a healthcare experience that truly prioritizes the needs and dignity of those we serve."

- IEC Year 4 Training Participant, Blantyre

Quality improvement

The focus of the QI program element in Year 4 was to institutionalize and sustain the gains made in previous years and foster district-leadership for the PrEPUP! QI collaborative. In Year 4, district-based QI mentors conducted 115 QI coaching sessions and supported 66 QI projects, some of which have been developed into QI Spotlights to share best practices. They also diversified their coaching efforts to include other health services such as Maternal and Newborn Health (MNH), Early Infant Diagnosis, TB, and HIV treatment, and seven additional individuals from different health programs, including HMIS, Laboratory, IDSR, Health Promotion, and Cervical Cancer, joined the pool of QI mentors.

Two PrEPUP! Learning Sessions were conducted on May 3-4, 2023, and October 25-26, 2023. Unlike previous sessions that relied heavily on HealthQual QI consultants, QI mentors led the two sessions; they planned and facilitated both content and storyboard sessions. The QI consultants provided only technical assistance for compiling the agenda and additional storyboard reviews.

A persistent challenge during the learning sessions was the quality of the data presented on the storyboards—most facilities lacked quality data. In response, the District QI Coordinator and QI Cluster Leads identified 14 members, drawn from strategic district programs, to join a district-level data management team established to oversee data and information management for the PrEP UP QI Collaborative. The members include four HMIS officers, five QI cluster mentors (HTS Coordinator, Community Health Coordinator, two HIV Prevention Coordinators, and ART Coordinator), one programmer, one Health Promotion Officer, one Safe-Motherhood Coordinator, QI Coordinator/STI Coordinator, and MNH clinical mentor. In February 2024, a two-day classroom training was conducted to impart the necessary skills and knowledge to support facilities in effectively managing and utilizing data for QI initiatives.

In November 2023, Suzike Likumbo became the district's QI Coordinator. Since assuming this role, she and her deputy QI coordinator have demonstrated excellent capabilities in managing the QI Collaborative. For example, since December 2023, Quality Improvement Support Team (QIST) meetings have been well-structured and well-attended by QI mentors and DHMT members. In addition, the monthly QI mentor meetings were fully transitioned to be part of the routine district

QIST meetings, which has resulted in increased frequency of QIST meetings and improved the effectiveness of planning and coordinating QI activities in the district. The QI mentor meetings previously focused on planning QI activities within the district. The QIST meetings, led by the District Medical Officer (DMO), provide a more sustainable forum for QI planning, aligning with the guidance and structure of the MoH's Quality Management Directorate (QMD). These meetings are now co-facilitated by the QI Coordinator and the DMO with participation by health coordinators, DHMT members, other district-based QI IPs, and QI mentors. The QI unit conducted 10 QIST meetings in Year 4, compared to none in the previous year. Enhanced coordination among partners and QI mentors has facilitated cross-learning, as IPs such as GAIA, EGPAF, and WHO, present their QI work and progress during district QIST meetings.

Another change in the QI program element in Year 4 was incorporation of PrEP stigma as a focus area for improving the quality of care in PrEPUp! facilities based on the HealthQual model used in other environments. The methodology uses surveys configured on the REDCap online platform, hosted by the MoH Digital Health Division (DHD). There are two separate surveys: a self-administered survey for healthcare workers and a client survey administered by ombudsmen and QI mentors. These surveys gather data on healthcare workers' attitudes towards key populations and clients accessing PrEP, as well as clients' experiences with PrEP services at the facilities. The first round of QIS+D data collection started in April 2024 in 18 facilities. The information will inform change ideas, QI mentorship, and other interventions at facility and community levels.

Another change in Year 4 was the introduction of affinity groups, which are focused communities of practice among providers working on the same health areas. During the year, 65 healthcare workers (HCWs), including mentors and focal persons for STI and Family Planning, were oriented on the importance of affinity groups in improving integration, sharing learnings, developing SOPs, and linking to the PrEPUP! collaborative. Following the establishment of two affinity groups focused on PrEP services for STI and FP (**Figure 7**), most of the facilities started offering PrEP in the Outpatient Department (OPD) targeting STI clients. Other outputs included:

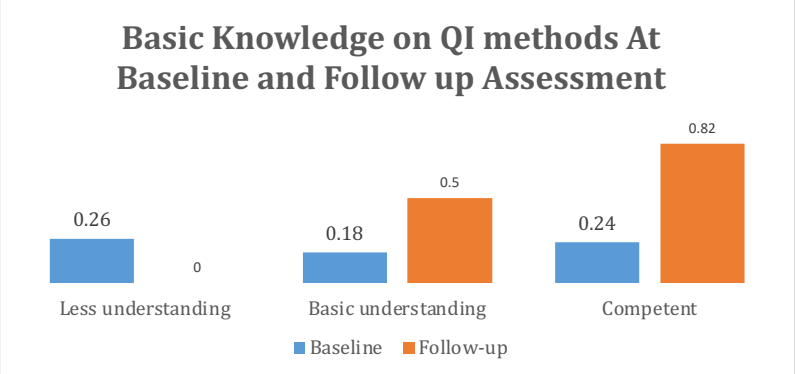
- Creation of WhatsApp groups for the two affinity groups.
- Five Zoom meetings held with the STI-PrEP affinity group focused on the integration of PrEP with STI services.
- Providing guidance on integrating PrEP into STI services.
- Sharing newly developed SOPs on the integration of PrEP services from DHA.
- Offering clinical guidance on the management of STIs.
- Tracking QI projects on the integration of PrEP into STI services.
- Achieving integration of PrEP into STI services in 14 of 18 facilities.

Figure 7. Blantyre Affinity Group Participants

STI Affinity Group		**FP Affinity Group**
Mbayani HC	Chileka HC	Chilomoni HC
Ndirande HC	Mlambe HC	Ndirande HC
Limbe HC	Mpemba HC	Limbe HC
Madziabango HC	Chilomoni HC	
South Lunzu HC	MUBAS	
Gateway HC	Chirimba HC	
Bangwe HC		

BPS-supported capacitation in QI has led to notable improvement in the use of QI methods, tools, and skills among district healthcare workers. HealthQual conducted updated organizational assessments in Year 4, which indicated a 58% improvement in QI knowledge among HCWs, with scores rising from 24% to 82%. HCWs attributed this improvement to regular QI coaching, the ability to convene independent QI meetings at facility level, QI training provided to frontline workers, and participation in QI learning sessions (**Figure 8**). Competence in using QI tools also improved by 56% (22% to 78%) while the functionality of QI teams improved by 50% (5% to 55%). These results indicate that more HCWs in the 23 PrEPUP! facilities are now capable of using QI methods and effectively utilizing QI tools, suggesting that substantial capacity has been built for QI in these health facilities. The increased capabilities of staff allow QI mentors to focus on reviewing QI projects at the facility level rather than teaching QI team members how to use tools or develop change ideas. This progress is further evidenced by the initiation of new QI projects (focused on improving PrEP continuation and service integration, as opposed to the previous focus on PrEP uptake) and the quality and sophistication of presentations made by facilities at the October 2023 learning session.

Figure 8. Comparison of Basic QI Knowledge Between Baseline and Year 4 Assessments



Furthermore, in Year 4, seven additional QI mentors from various health programs, including HMIS, Laboratory, IDSR, Health Promotion, and Cervical Cancer, developed the necessary capabilities to join the existing pool of QI mentors. They gained these skills through mentoring by the QI consultant, district QI coordinator, and QI cluster leads. This development suggests that the QI coaching and mentoring program can be sustained within the district, with the new QI mentors now able to extend QI practices beyond proof-of-concept sites and clinics within

facilities to other services. Another indication of improved capacitation and institutionalization is that the two learning sessions in Year 4 were largely led independently by QI mentors. With sufficient resources, the DHO has the capability to organize its own learning sessions without external support, indicating that these sessions can continue beyond BPS.

Whole Health System

While BPS efforts have largely focused on building HIV prevention-related capabilities and capacities, those same skills can and are being applied to other health and disease areas across the district. Further, the establishment of the QM platform as the central location for data review and decision making at facility level will further expand the extension of the BPS-supported capabilities and capacities to other services. As described above, HCWs and focal persons from other facility departments have been trained in data use for decision making, surveillance, QI, health promotion, and community insight gathering. They also have become HCD champions and QI mentors – stretching capacity and linkages across the health delivery system.

The merger of QI mentors' meetings with QIST meetings was a necessary move by the DHO to further support this effort. Previously, QIST meetings had become irregular, but this merger has helped ensure that QIST meetings are conducted monthly. Since IPs also attend these meetings, the spread of QI is facilitated through the exchange of knowledge, harmonization of QI tools, and enhanced coordination of QI activities for all health areas within the district. In addition, the DHO established a QI mentor cluster approach during Year 4 with each cluster lead responsible for several facilities. The mentors report to the QI coordinator and facilitate facility-to-facility peer mentorship across their clusters. The QI mentors established Whats App groups for each cluster, which include representatives from various facility departments – expanding mentorship and knowledge sharing beyond the HIV department.

The utilization of the QI platform and the training of other clinic department staff has paved the way for facilities to apply data analysis and QI skills to the management of STIs and for delivery of FP and MNCH services, e.g. some facilities have utilized BPS-supported knowledge, tools, and skills to inform changes in their birth/delivery locations. In addition, some IPs with QI in their portfolios are adapting the BPS-supported tools for other services. For example, GAIA adapted QI baseline assessment tools to support their MNH programs and trained its own district-based QI mentors for MNH.

Unification of the Local Health System Through Community, Civil Society, and Multi-sectoral Engagement

The BPS vision of enabling an integrated local management system capacitated to use data to target response, demand generation, service delivery, and address structural risk is being demonstrated in Blantyre under strong coordination from the DHO and City with robust engagement of multisectoral partners. BPS's innovative approach has created a more *unified*

local health system that links political and community leaders, public and private health clinics, community-level entities, and others, under city and district leadership—improving delivery and sustained use of HIV prevention services in Blantyre.

As mentioned above, the District Coordinators demonstrated greater capacity to engage and coordinate stakeholders across the system including public and private facilities, IPs, and civil society / community groups. There was improved coordination particularly on health communication at district, facility, and community levels. For example, the DHPO led health communications technical working group meetings with partners implementing HIV prevention activities in the district for improved coordination, information sharing, joint planning, and collaboration of HIV prevention demand creation activities. Strengthening the DHPO's ability to organize routine TWG meetings has helped to improve the coordination of public health messages and multi-sectoral activity implementation. In addition, the revitalized QIST meetings (described in the QI section above) have become a platform for knowledge sharing, harmonization of QI tools, and improved coordination of IPs.

Political Level

In Year 4, as part of BPS efforts to engage political leaders in the local health system and leverage their leadership to enhance the delivery and sustained use of HIV prevention services in Blantyre, BPS further strengthened the capacity of Ward Councilors to address the social and structural risk drivers of HIV in Blantyre. Interventions focused on 1) expanding the structural risk reduction working group to include Blantyre District Councilors; 2) capacitating Ward Councilors to recognize their roles in advocating for the enactment of new bylaws and active enforcement of existing bylaws targeted at the structural drivers of HIV in Blantyre; 3) continued training and orientation for Ward Councilors on HIV prevention strategies; and 4) developing tools and resources to support and institutionalize the HIV prevention work of Ward Councilors.

In Year 4, five training and consultative sessions were held to continue support to City Councilors and engage District Councilors. In August 2023, Pakachere oriented 15 Blantyre District Ward Councilors on Blantyre's HIV landscape. Subsequent sessions involved joint training for the 36 City and District Councilors on accessing HIV-related data through PALMS, new technologies and strategies for HIV prevention, and their oversight roles, including the accountability and advocacy responsibilities of the Ward Councilors to transform HIV in Blantyre.

The Councilors continued to utilize their training for individual actions within their Wards. One Councilor visited a health center in his Ward to meet with a support group for those living with HIV/AIDS. After learning of their financial challenges, he successfully included 50 people living with HIV in a social protection program. Councilors also integrated HIV prevention messages into various community events—ranging from funerals and weddings to football matches. For example, one Councilor engaged barber shops to discuss new HIV prevention technologies and distributed condoms. Another engaged football players and established a pathway for the players to access condoms at a health facility. While a third directly engaged households.

A specific example of councilor action involved a Ward Councilor who used data in PALMS to identify high ART default rates in his constituency. With support from the Blantyre DHO, he organized an awareness session at a local tertiary institution that combined entertainment with education, focusing on HIV infection risks and the importance of treatment adherence. During the session, students received HIV self-test kits, and some were counseled back to care. In Year 5, such meaningful feedback loops between Councilors and the Blantyre City and District health offices will be strenghened. Routinizing regular updates from the health offices to the Councilors and from the Councilors to the health offices on the HIV prevention activities they have implemented will support the cohesive system and sustainability of these important relationships.

Figures 9 and 10. Blantyre City Ward Councilor Leonard Chimbanga performing a song on HIV prevention for Malawi University of Business and Applied Sciences (MUBAS) students during a Love Blantyre, Love Life campaign

Another positive outcome of the Councilor engagement has been improved communication and coordination between the District and City Councils and with community organizations and IPs working in the district. Joint Council meetings have fostered a mutual understanding of how partners in HIV prevention are operating within the City and District. However, these meetings have thus far been facilitated through BPS, and efforts will be made in Year 5 to institutionalize joint council meetings formally.

One barrier to IP and community organization engagement in the city previously had been that the City Executive Committee (CEC) at Blantyre City Council had not been active. Development partners and CSOs have been presenting their projects and work plans to the District Executive Committee (DEC) for approval to work in both the district and city. As a result, the City Council was unaware of, and unable to follow up with, partners engaged in HIV prevention within the city. Following BPS-supported trainings and mentorship, City Councilors are now better informed about the partners working in the city's HIV sector, and the Council has recommended reviving the CEC, which will ensure that partners are accountable to the established government structures and improve collaboration between organizations and Councilors in each Ward.

Effort also was made in Year 4 to work with the Councilors on opportunities to utilize their HIV prevention training and political capital to create or enforce existing bylaws that address or mitigate structural risks. Following trainings and consultative sessions, Blantyre District Ward Councilors recognized the need for robust bylaws to help them adequately perform their oversight role in HIV prevention. As a result, some HIV-related provisions were included for consideration in draft district bylaws that would restrict minors from being present at bars and rest houses (either as staff or paying customers) and mandate the availability of condoms at these locations if enacted.

However, there are bureaucratic obstacles to the process of drafting and enacting bylaws. To enact the Blantyre District Council's proposed HIV-related bylaws, they require approval from the full Council, the Ministry of Local Government, and the Ministry of Justice before their official adoption. The bylaws enactment process at the Blantyre City Council follows a similar bureaucratic process, leading to uncertainty regarding the timeline for official adoption. In Year 5, options to support the bylaw process will be explored, including to engage CSOs who could monitor and provide oversight of the councils' actions on HIV, which could potentially expedite the adoption of the HIV-related bylaws.

In Year 5, focus will be on institutionalizing the Councilors' roles in HIV prevention and the HIV response. Pakachere has worked with the District and City health offices to draft a reference guide to support current and future councilors on HIV prevention efforts, which will be reviewed and finalized in Year 5.

Facility Level

By coordinating with implementing partners, stakeholders, and local actors, facilities at the district level can now launch cohesive and collaborative multi-sectoral health communication

campaigns. One notable example is from Chilomoni Health Center, where HTS providers used passive surveillance (by monitoring data from PALMS and HTS registers) data and active surveillance from the community to identify a rise in new HIV infections within the Mulunguzi catchment area. They discussed these findings with the QIST, FRRT members, and other health workers during a data review meeting. After consultations with the facility's IEC focal person, the DHPO, the network model committee (comprising local and faith leaders), CBOs, and other HIV prevention partners, the facility team decided to organize a Konda Blantyre, Konda Moyo event in Mulunguzi. The event successfully initiated 23 individuals on PrEP and two individuals on ART. This initiative exemplifies effective facility-led data utilization for action and demonstrates excellent coordination among the facility team and various health system stakeholders, contributing to the development of a unified local health system.

"After the coming of Blantyre Prevention Strategy, we started learning about how we can utilize our data to make sure that we know which areas we need to focus more and take our resources more. …what we do is, every month, we look at the data, and then we analyze the data, and then we take our activities there. …This has helped us to reduce or to have more outcomes based on where exactly the problem is. …PALMS and the BPS has helped Zingwangwa Health Center as a team to focus more on areas that we need to."

- Mirriam Hanjahanja, Facility-in-Charge, Zingwangwa Health Center (December 2023 Interview)

"the network model is comprised of multiple non-government organizations, CBOs, faith-based organizations. In regards to the whole entire system, it is to improve the collaboration as well as the coordination, because we're talking of usage of resources and decision-making based on the data. …this network model also works hand in hand with the facility rapid response team in response to whatever is happening in the catchment area. They're also responsible, as private clinics are also part of the network model, so that also enhances and provides collaboration with several stakeholders. ….To take it into perspective, there was a point in time where we used our data, we had to look through our data, we were registering a number of these STIs. …, the network model [committee] together with the community responded in demand creation by involving other key stakeholders. …Together with implementing partners, we had to conduct a roadshow where we had the point of demand creation. …All these parts are coming together with the data that is there. It has really improved in responding to the HIV risk…. It's not just all about pulling in resources, but the prioritization and the understanding of the gravity of the situation, based on the data that is there, has really helped us."

- Ernest Takomana, Assistant Environmental Health Officer based at Bangwe Health Center, Blantyre District (December 2023 Interview)

Network Model

At the beginning of Year 3, BPS introduced "the network model" – linked networks – in sub-geographies of the district. The BCT originally selected four pilot geographies in Year 3, and as mentioned above, an additional 11 were added over the course of Year 4 based on HIV incidence and burden. The 15 linked networks collaboratively utilize data, share experiences, and gather community insights to address gaps in service delivery, health communication, and demand generation. Over the last two years, multi-sectoral network committees, established in these geographies around the public health facilities, have provided a platform for community leaders and partners to play an active role in decision making, including in using data to inform where health promotion and services should be targeted. Each committee developed an action plan for the year specific to their community with indicators to track progress. Most committees meet routinely to review data from PALMS and work together to plan and implement activities informed by the data and local need.

A central objective of the approach was to ensure that local entities are equipped to coordinate with others within their catchment area to ensure coordinated resource allocation and referrals. The networks vary in composition but include political and community leaders, local governance and public health structures, public health clinics, private (for-profit and not-for-profit) clinics and other service delivery, CBOs, and CSOs, under the coordination of the district and city health offices. The committees have been particularly important in bringing communities into the data review and activity planning processes. Previously, community leaders were usually not part of planning and decision-making processes for community activities, but rather just told when one was occurring. The network committees have provided a platform for community leaders and representatives of different sectors to play an active role, including in using data to inform where health promotion and services should be targeted, which also helps ensure activities address local need and the right audiences. The network model also is helping to sensitize local chiefs to go into their catchment areas to help with demand creation and provide service information.

In Year 4, each cluster reported an increase in coordination between the public facility and local stakeholders operating in the facility catchment area, particularly with private facilities. For example, the Mpemba network was able to review STI data from private facilities for the first time, and in Bangwe, Pakachere stepped in to provide 7,200 condoms to the public health center, which had run out of condoms.

Community participation has been important to identifying active surveillance signals and therefore potential pockets of risk. The DHO has noted that it would not be able to conduct vital HIV activities e.g. HIV testing, without that community participation. Network committees used PALMS data and their own programmatic observations to trigger actions in their communities often in partnership with Konda Blantyre, Konda Moyo health communications campaigns. For

example, after a hot spot was identified within the catchment area, the Mpemba committees planned a coordinated outreach to conduct HIV testing and provision of other HIV prevention services in collaboration with staff from the Mpemba Health Centre. In Chirimba, the network committee collaborated with the Konda Blantyre, Konda Moyo committee to conduct road shows that provided health education and distributed 6,000 condoms to 15 bars. As the system continues to be strengthened, the DHPO would like to see facilities be the center of health communications and demand generation activities in any given area with partners engaging the network model committee before implementing any activity.

Network Model in Action

In 2023 Quarter 4, HSAs from Mpemba Health Centre reported that there were more risky behaviors happening in the communities due to an increased number of bars in the area such as Mphasa bar where female sex workers were understood to be engaging in unprotected sex. The Mpemba FRRT analyzed the report from the HSAs and developed an action plan. Working through the network committee, HSAs and MACRO (PEPFAR IP working in the community) organized a moonlight community event to help the people in the identified hot spots during which 1,000 condoms and 46 self-test kits were distributed. MACRO also connected HIV testing; 40 clients were provided with PrEP and 6 clients were linked to ART clinics.

The approach has successfully demonstrated that the local management system envisioned by the project is not only possible but can thrive. It has demonstrated how multi-sectoral stakeholders can come together – under the leadership of the DHO – to use data, link service delivery, and address challenges in their communities for a more effective HIV response. The networks are the optimized system in action – capacitated with the prevention cascade capabilities and health system enabler capacities. The approach forms a framework for articulating Blantyre's future unified HIV response in sustainability plans and district-level toolkit.

Multi-sectoral Partnership: Implementing Partners & Private Sector Clinics

"BPS has improved a spirit of collaboration with other stakeholders who are implementing prevention programs at facility and district level."

– EGPAF (2024 Testimonial)

The district coordinators also utilized their improved governance and technical leadership capabilities during the year to engage more robustly with donor-funded IPs and private clinics. Prior to BPS, the donor-funded IPs, e.g. I-TECH, MACRO, and EGPAF, often worked in isolation from, and did not share data with, the district. Through data user clinics and network model committees, the district has increased its engagement with the partners. During the 2024 DIP

preparation process, the district engaged with IPs to develop one plan and one budget for the district to comply with new requirements of the Health Sector Strategic Plan III (2023 – 2030). The DHO arranged joint discussions with the partners to discuss gaps in the health response and how they can work together over the next year.

According to MoH guidelines, private clinics are supposed to be supervised by the closest public facilities, which are supposed to provide the private clinics any needed data collection tools. Each private clinic is to report its data to the public facility, which submits it to the HMIS. The DHO is supposed to review all data for the entire catchment area during supervision. However, prior to BPS, none of these practices were happening routinely. In Year 4, district health coordinators leveraged relationships created through the network model committees and QI collaborative and conducted supervision and mentorship visits to private clinics. They were able to identify gaps the facilities were facing when providing HIV prevention services and to mentor them on how to enter data into the PrEP and STI registers. In addition, they facilitated sharing of reports between private facilities and public facilities within their catchment areas.

Community and Civil Society Engagement

BPS supported further incorporation of community insights in Year 4 as well as participation in the planning and implementation of HIV prevention activities in Blantyre. Through the HSAs working in the communities, community engagement in the network model committees, and integration of community health teams, there is robust and routine engagement happening with communities across the district. District coordinators, facility staff, HSAs, and partners can now sit with communities and review PALMS, discuss where risk venues or behaviors are happening, share input on where to conduct activities, and plan activities together. Through the network model, communities are leading because it is not just district going to them with interventions; the communities are understanding the issues, leading the interventions, and taking ownership of response efforts. The DHO has expressed appreciation for the linkages created and the flow of information that is facilitating more informed service delivery. Further, connectivity between communities and the public health facilities improved as community health teams integrated into facility surveillance teams in Year 4. Community health teams also are integrating HIV service delivery with other community health services and involving other community groups (CHAG, VHCs, ADCs, CDCs), which has expanded the reach of BPS-supported capacitation into other health services.

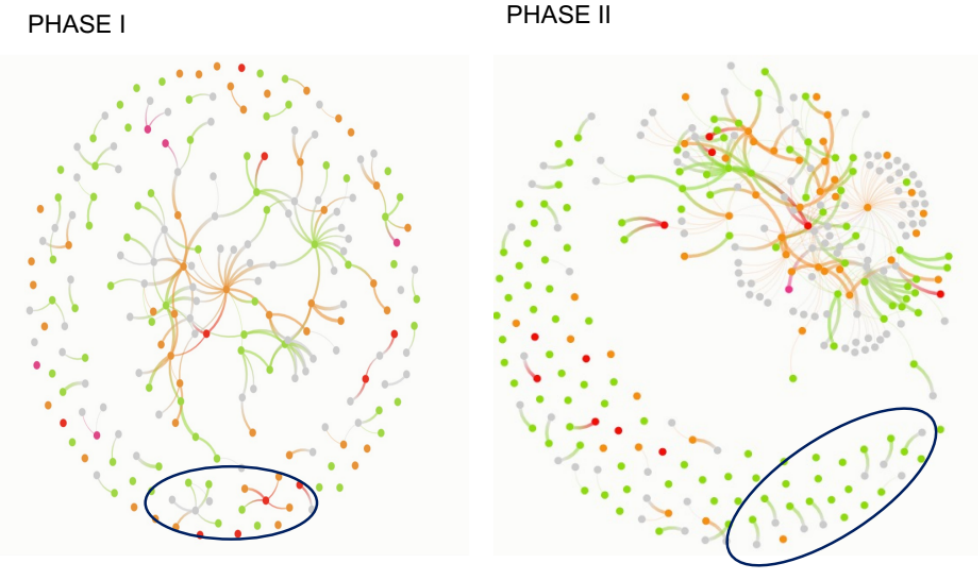
"It all starts with our data in the PALMS and then going to get the insights from the people: What is it that is happening? How best can we help them? What [are] their preferences? We have also observed that this has also helped in terms of community participation, especially also through the network model that we have also worked together. We have been working together to make sure that we implement activities together with the communities. We have also seen that there's high acceptance because people are able to see that this problem is evidence-based… They are able to accept that yes, it's really a problem in our area and this is happening because maybe we have a lot of broad roles or maybe because people, there's poor health seeking behavior, or maybe people do not use HIV products and services, or maybe because of the socioeconomic status in our area. People are able to accept. When we are coming up with activities, they're also able to give up their ideas on how best we should respond to a particular issue."

- Chrissy Banda, Senior Health Promotion Officer, Blantyre District (December 2023 Interview)

Community Organization Mapping

The increased connectivity and linkages between all levels across the Blantyre HIV prevention system was validated by the results of the second round of the community organization mapping exercise completed in Year 4. The mapping provides a comprehensive landscape of HIV prevention services delivered by NGOs, CBOs, FBOs, and facilities and how these services are offered in Blantyre. The first round was launched at the end of Year 1 and showed very little in the way of linkages between community organizations and between organizations and health facilities (Figure 11). Coupled with data from the service delivery mapping (also Year 1-2) and early implementation learning, the first round of the community organization mapping informed the launch of the network model to build and strengthen those linkages. In the second round, we hoped to see fruits of that labor with improved linkages between organizations and with facilities.

Figure 11. Linkages Between Community Organizations



In the second round, 154 organizations were included in the final sample. Of those, 92 (60%) organizations had at least one connection with another organization, while 146 (95%) had at least one connection with a health facility. Though many CSOs operate independently, some organizations work together to provide HIV prevention services in Blantyre. Of the 35 repeat organizations from both data collections, 12 increased their connections to other organizations, and 14 increased their connections to other health facilities over two years. As shown in Figure 12, some organizations continued to play central cluster roles and the number of those organizations grew substantially between phases I and II. In addition, almost all health facilities included in phase II were connected to at least one community organization (Figure 13).

Figure 12. Expanded number of organizations playing central cluster roles

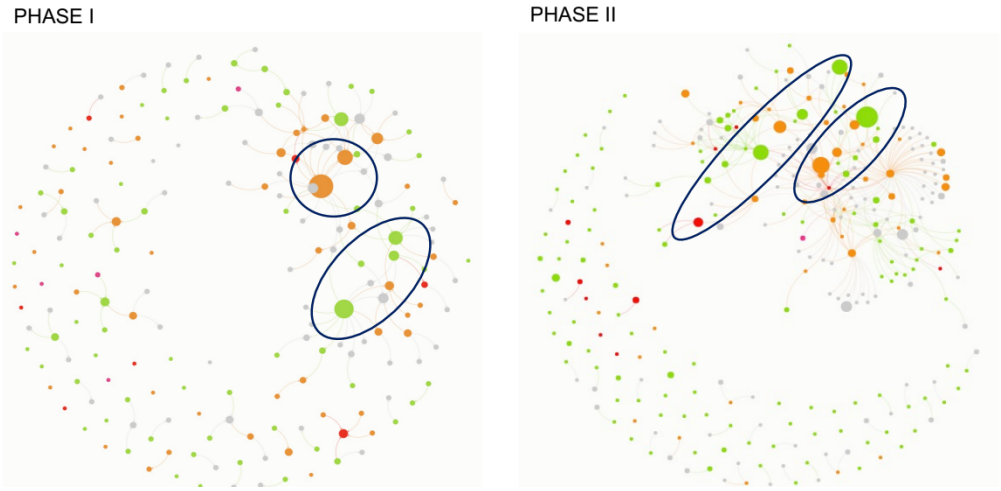
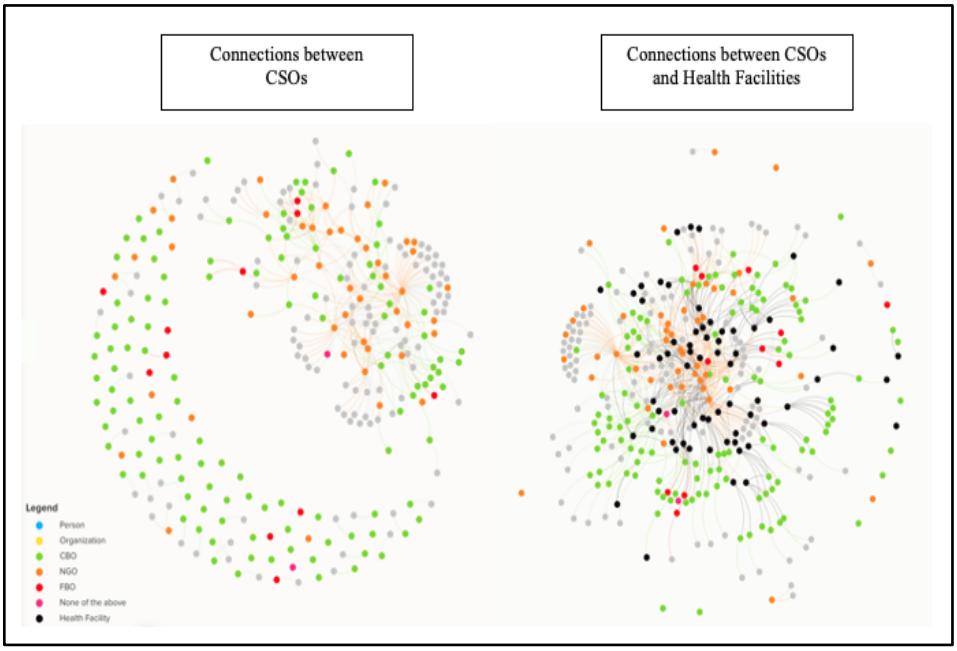
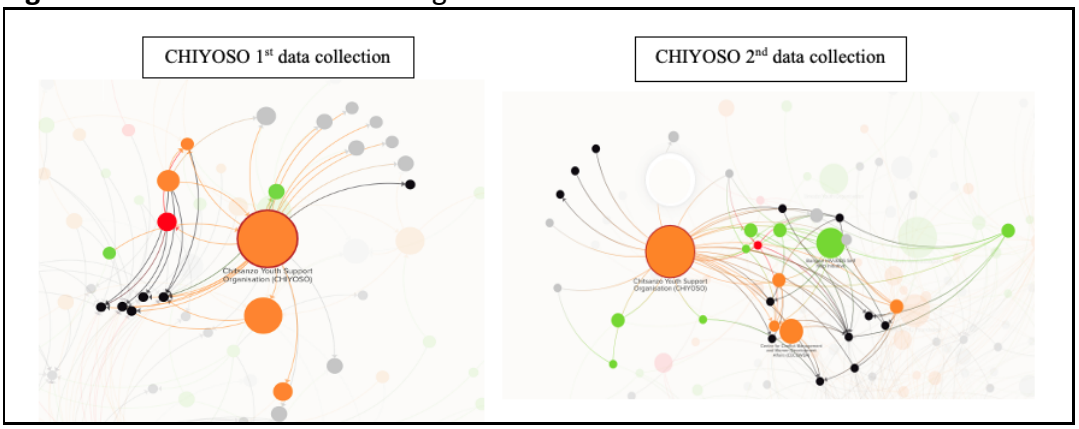


Figure 13. Network maps between CSOs and CSOs and Health Facilities in Blantyre for the 2nd Phase



Chitsanso Youth Support Organization (CHIYOSO) is an example of a well-connected community organization. In the phase I data collection, CHIYOSO was connected to 14 other community organizations and 6 health facilities (**Figure 14 left image**). It conducted HIV programming jointly with five other organizations in Blantyre. CHIYOSO was found to be one of the most connected organizations, playing a central role in a cluster. However, there was room for improvement in its connectivity to health facilities. By phase II, CHIYOSO had doubled its number of connections to health facilities (12) and slightly decreased its connections to other CSOs (12) (**Figure 14 right image**).

Figure 14. CHIYOSO Cluster Linkages



The results of the second CSO network analysis results were disseminated to key Blantyre district and city stakeholders and integrated into PALMS in January 2024. District health coordinators, facilities, and network model committees have begun to use this data when planning HIV prevention activities. For example, the Blantyre Health Promotion Officer has worked with

facilities and network model representatives to identify from the data which organizations are working within the catchment area of health facilities for engagement to support Konda Blantyre, Konda Moyo campaigns.

Institutionalization and Sustainability

"Sustaining the gains is not just the responsibility of BPS; it's the responsibility of all. If this is working, it's on all the stakeholders to buy-in to keep it running."

- Dr. Gift Kawalazira (March 2024)

Y4 processes and outcomes

Sustainability has been part and parcel of BPS's approach since the project's outset starting with the co-design process and engagement with, and training / capacitation of, a broad range of stakeholders. In quarter 4 of Year 3, a series of workshops began with district stakeholders focused on the institutionalization and sustainability of each BPS program element and its related components. During an April 2023 workshop, District, City, BPS Consortium, and other district-level stakeholders met over three days to brainstorm about sustainability and institutionalization for individual BPS work streams. Participants outlined initial sustainability visions specific to each program element. The workshop was an important first step in the process and identified several areas for further elucidation.

Sustainability planning continued in September 2023 with a session focused on further defining specific functions and roles needed for institutionalization and sustainability. The BPS Secretariat convened a follow-on sustainability planning meeting in Blantyre in October 2023 with a small group of key District and City health staff and BPS-funded partners to review institutionalization to date for each program element and create SMART objectives for institutionalizing each program element by the end of project. The discussion yielded important information to guide next steps and informed the development of work plans for Year 5. During the BPS Consortium meeting in January 2024, breakout groups comprised of District and City health staff and BPS-funded partners collaborated to create draft VSOT plans for each program element. The BPS Secretariat conducted key informant interviews (KIIs) in March 2024 to elucidate insights about the system building and institutionalization to date from the smaller group of District and City health staff and BPS-funded partners. A summary of these sessions is in **Figure 15**.

Figure 15. Summary of Sustainability Planning Exercises in Years 3-4

	April 2023	August 2023	October 2023	January 2024	March 2024
Objectives	Initial workshop to brainstorm components needed for institutionalization and sustainability of each program element	Continued discussion to define components needed for sustainability	SMART objective brainstorming by program element	VSOT brainstorming by program element	KIIs to gain insights on systems building and institutionalization
Participants	district, city, BPS partners, IPs, and multi-sectoral stakeholders	district and city health coordinators + BPS partners	district and city health coordinators + BPS partners	district and city health coordinators + BPS partners	district and city health coordinators + BPS partners
Outcomes	Identified: 1) level of understanding among various district-level stakeholders, 2) areas for further elucidation, 3) challenges to be addressed and opportunities to support institutionalization and sustainability	Highlighted that actions are underway to support institutionalization for each program element building off of April discussions. Identified need to continue to define the functions of the system to be institutionalized and sustained and roles and responsibilities across the system.	Highlighted some myopia across the core team about the desired system vision and specific systems objectives to achieve it. Identified collective need to move beyond output-oriented vision.	Highlighted different levels of maturity in thinking about the institutionalization and sustainability needs of each program element. Highlighted need to use system thinking and map the system to drive toward VSOT consensus and inform process mapping and finalization of tools, SOPs/TORs, and other documentation for institutionalization.	Validated the need for a system mapping exercise to elucidate and document roles, responsibilities, and relationships across the system to be institutionalized. Highlighted need to put the district and city health teams full in the lead to test the degree of capacitation and institutionalization to date.

Through these sessions, there has been progress in articulating the vision for the institutionalized Blantyre HIV prevention system and its various components. One of the takeaways from the process over the last year is that there is need to gain consensus on, and document holistically, the entire HIV prevention system – complete with process maps, defined roles and responsibilities, and feedback loops – as it has evolved in Blantyre. Individual actors have differing vantage points and engagement with program elements or functions of the system. As a result, each actor has myopia to their component(s) of the system. The full system as it has evolved and how it needs to be institutionalized has not yet been articulated. Achieving consensus on, and clearly documenting, Blantyre's HIV prevention system and outlining process maps for how the system operates functionally is essential to all next steps in the institutionalization and sustainability planning process.

To support this effort, CIGH has engaged an expert in systems thinking from the University of North Carolina to facilitate a systems mapping and group model building exercise with local stakeholders in Blantyre in late June 2024. Applying systems thinking approaches at this stage will allow us to capture insights from across the district, document how the system is operating, and identify where there are gaps in capacitation, documentation, and institutionalization, which will inform further support to the district in Year 5. The goals of the exercise are to:

- Document roles and responsibilities of every functional role and actor within the system;
- Define ownership of functional responsibilities, including certain decisions and deployment of specific tools and methodologies;
- Identify the relationship of each functional role and actor to others within the system;

- Document expected feedback loops, i.e. how functional roles communicate with each other and how processes serve as inputs / outputs to each other; and
- Elucidate the rules needed to sustain the system, including review and alignment of existing tools, TORs/SOPs, etc. to the unified vision and creation of additional rules to fill gaps.

After the systems mapping, the BPS Secretariat will work with the BCT to review existing process maps drafted to support individual program elements with the goal of synthesizing and/or expanding upon those to develop process maps, i.e. decision trees and if-then options, that cover functionality throughout the system. Process mapping will form a legacy approach that can be utilized by current and future system actors. It will outline the when, where, why, how, and who of the system functionality that has been created, including how tools and SOPs/TORs should be used in the future. The systems and process mapping, along with updating tools and SOPs/TORs based on the outcomes, will become central to Blantyre's HIV prevention response beyond the life of the project, provide accountability mechanisms, and protect against attrition by establishing guiding principles for how the system operates. In addition, it will provide a foundation for developing the adaptation toolkit that other districts can use to adapt the BPS model to their own contexts. Further, these processes will identify resources needed to achieve sustainability, including from government and donor sources. Over the course of Year 5, the system will be tested through district and city-led planning and implementation of HIV prevention activities to identify any adjustments that need to be made before the project ends.

PALMS Institutionalization and Transition

Institutionalizing PALMS through administrative and technical transition of system management to the DHD continues to be an important priority. The technical transfer plan developed in close conversation with DHD will be implemented in Year 5. Leveraging funds from the PathToScale study (as the ongoing sustainability of PALMS is also critical to study success), Cooper/Smith worked closely with DHD to recruit two roles – a Software Developer and Product Owner – who started with DHD in March 2024. They are being trained on PALMS before handing over the technical maintenance of the products.

Part of the transfer to DHD will include refining and strengthening the PALMS user management systems to ensure that DHD can approve new profiles and address user issues in an effective and timely manner. Over the last two years, a National Help Desk was established to support all DHD-managed tools (using RedMine), and helpdesk SOPs were validated by Blantyre users and approved by MoH senior management in April 2024. This DHD-led platform will support users on issues tracking and new feature requests as part of the BPS sustainability plan. While a plan to train Blantyre users on the national helpdesk has been developed, staffing limitations at DHD are hindering implementation.

Lighthouse "would like to see HCD, QI, and PALMS data system… continue so that we create demand to HIV prevention services, provide quality attractive care, and have access to our data so that timely interventions are done accordingly."

– Lighthouse Trust (2024 Testimonial)

Co-financing pathways

Progress was made during Year 4 to establish sustainable co-financing pathways with the Government of Malawi and PEPFAR to support continued use of BPS-supported tools, methodologies, and processes embedded into district-level systems as BPS support ends. The most sustainable pathway is incorporation of these BPS-supported elements into the district's own budget. Per the original agreement, the district transitioned 22 HSAs out of the 37 project-supported HSAs on to the government payroll. The remaining 13 HSAs recruited to support the IDSR-HIV pilot will be included in subsequent recruitment processes by July 2024; the other two have reached retirement age. In addition, the district worked with facilities and partners to incorporate functionality and activities fostered under BPS into the 2024 DIP – the annual mechanism through which the district outlines how it will use its government financial allocation as well as priorities for support by partners. Under the Health Sector Strategic Plan (HSSP) III, districts have been directed to develop one plan, one budget, and one M&E system. Individual facility plans are supposed to incorporate the work of supportive IPs and roll up into the larger district plan. Dr. Kawalazira directed the district to capture everything related to the QM platform in the DIP for funding and institutionalization in the district system.

There also was further engagement with the PEPFAR Malawi team during Year 4 related to incorporating elements of the BPS model into its annual and partner work plans. With CIGH support, Dr. Kawalazira and the district health team presented about BPS (and broader district landscape) to the PEPFAR Country Operational Plan meetings at the beginning of February for consideration for inclusion in the updated COP. Dr. Kawalazira highlighted the systems change and how the BPS project, working holistically with partners across the district, has supported capacitation, coordination of multisectoral partners, and improved governance.

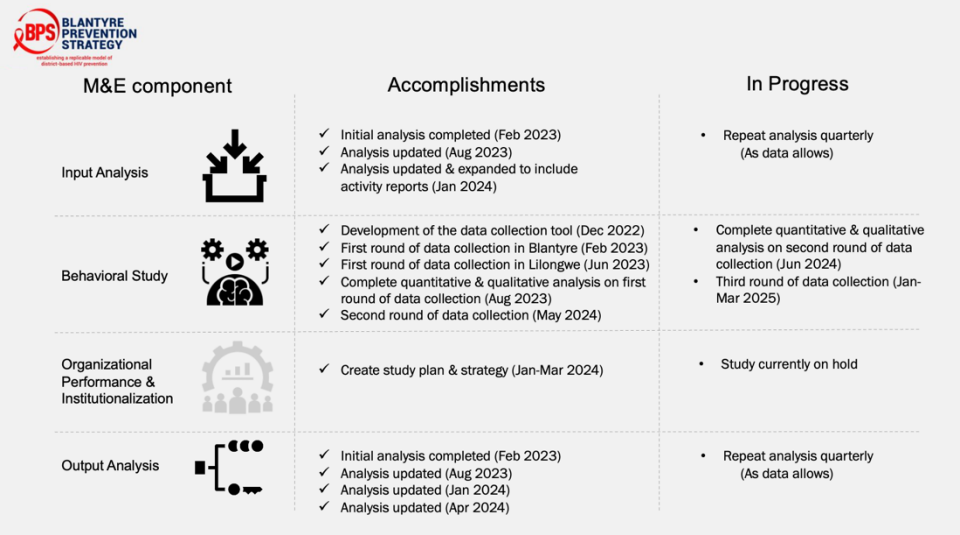
In addition, at PEPFAR's request, and with specific guidance from the PCO and USAID, CIGH provided language on BPS to be included in the PEPFAR COP SDS, which guides future policy/allocation decisions for partners and should enable future financial support for Blantyre, Lilongwe, and adaptation elsewhere. The final language is featured in the introduction section above. Some IPs included language in their work plans to facilitate continued support of the functionality and activities fostered through BPS in Blantyre as well as utilization of the approaches in the other districts they support.

In Year 5, efforts will be made to engage national-level ministries and donors further to leverage resources in support of institutionalization, sustainability, and expansion. As described above, NAC will lead an effort to educate other districts about the BPS model. Further engagement will also be made with representatives from the Ministries of Finance and Local Government who sit on the BPS steering committee. As the Ministry of Local Government has responsibility over Malawi's decentralized governance structures, they will be engaged on ways to not only institutionalize Blantyre's system but also to potentially adapt the BPS model to other parts of the country.

M&E

Efforts continued during Year 4 to implement the BPS M&E framework, which the PMT approved in Year 3. It includes four main components: input analysis, output analysis, behavioral study, and organizational performance study. In addition to routine activity and implementation monitoring by CIGH, the BPS Secretariat, and the BCT, data collection and analysis continued for the first three components in Year 4 with results and learnings were collected and identified from these M&E activities (**Figure 16**). An important additional data collection in Year 4 to support understanding of BPS outcomes in Blantyre, as well as provide a baseline for PathToScale implementation, was behavioral study data collection in Lilongwe. The Gates Foundation also engaged APHRC as the external evaluator for BPS; their scope of work and protocol were finalized in May 2024.

Figure 16. Status of M&E Data Collection at End of Year 4



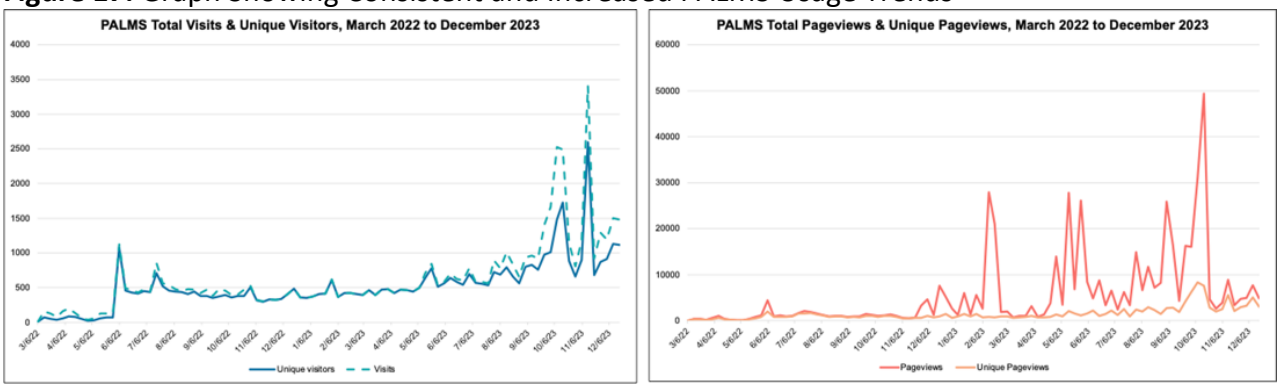
Current Study Instruments & Findings

Input Analysis

The input analysis aims to provide an understanding of the BPS activities that occurred and to what extent. Input analysis activities were expanded in Year 4 to include activity report data. As demonstrated in the Technical Leadership section above, BPS-supported activities have

continued to occur regularly and at increasing rate in Year 4. For example, increased QI coaching, community labs, health communications activities, and PALMS usage. **Figure 17** illustrates PALMS use trends between March 2022 and December 2023.

Figure 17. Graph Showing Consistent and Increased PALMS Usage Trends



Output Analysis

The output analysis utilizes routinely reported data to help understand how BPS activities affected HIV intervention uptake. Quarterly updates were made to the output analysis using routinely collected data to explore the relationship between BPS activities and HIV prevention uptake. Updated output analysis continued to show that BPS QI collaborative sites are seeing rapid PrEP uptake compared to non-QI collaborative sites in Blantyre and Lilongwe (**Figure 18; Figure 19**). **Figure 20** illustrates differences in PrEP continuation in the Pakachere-supported KP sites in both Blantyre and Lilongwe. Because BPS is a non-randomized systems level intervention, determining causal effects can be difficult, and confounding and selection effects can contribute to bias. Still, observed trends are promising and warrant further investigation.

Figure 18. PrEP Uptake in Lilongwe and Blantyre

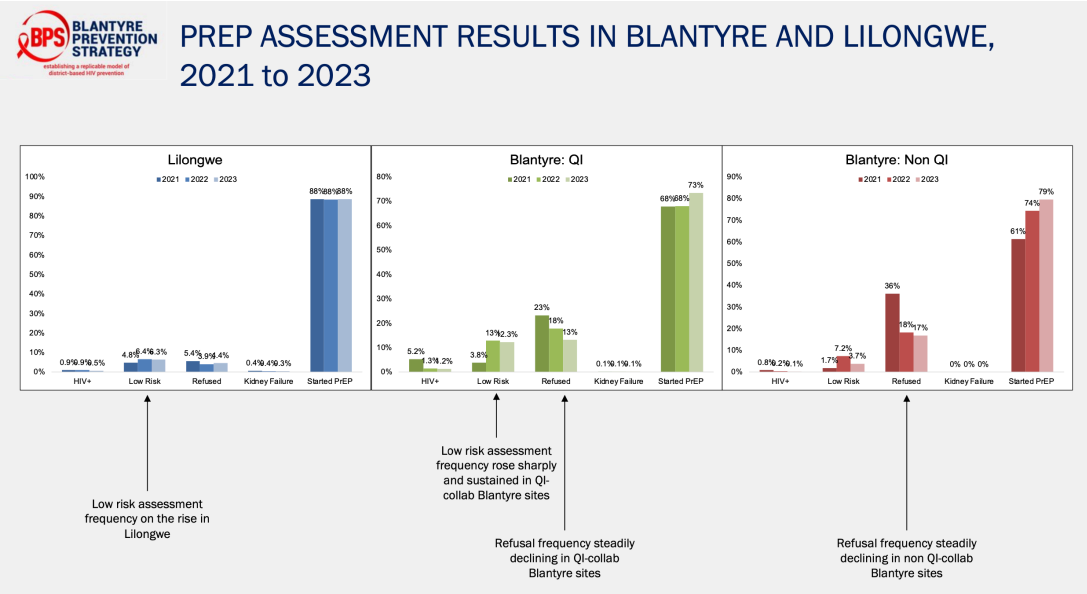


Figure 19. Comparison of PrEP Programmatic Data Between Blantyre QI Sites, Blantyre Non-QI Sites, and Lilongwe Sites

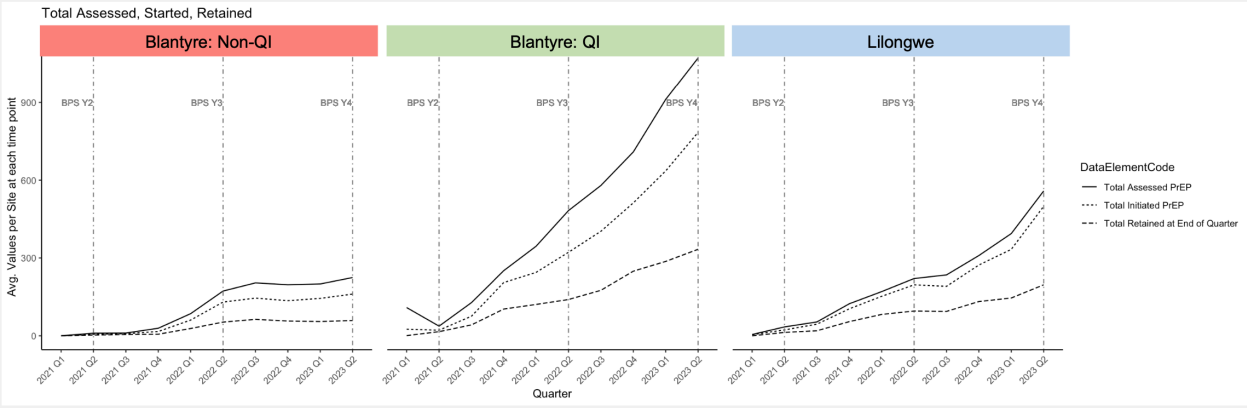
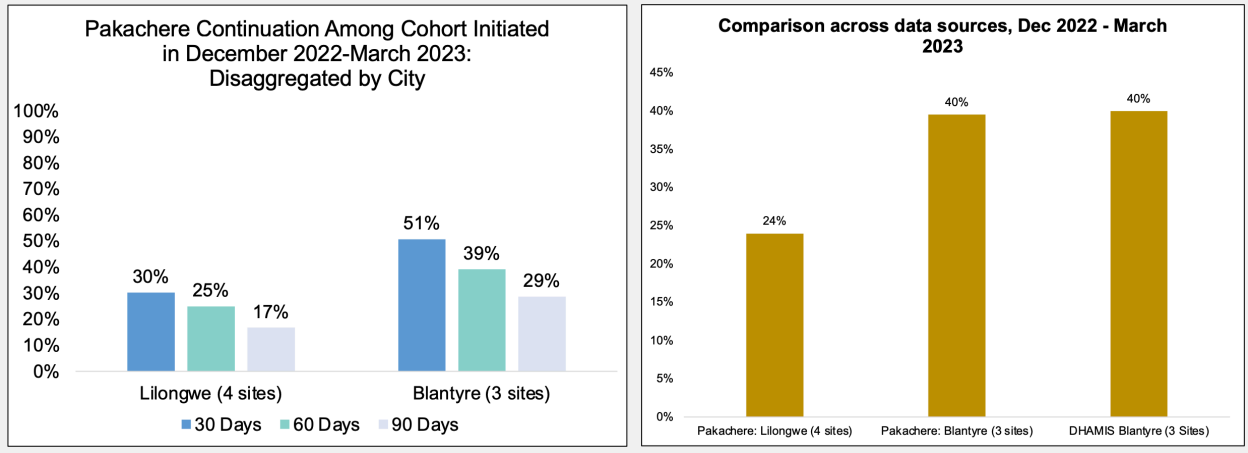


Figure 20. PrEP Continuation in Pakachere-Supported Clinics in Lilongwe and Blantyre



Behavioral Study

The behavioral study is designed to gather data on participants' attitudes, behaviors, and capacities to understand if BPS activities yielded expected capacities. The first round of behavioral study data collection in Blantyre was completed in Year 3, which provided an initial understanding of capabilities and attitudes towards HIV prevention, data, and decision making in Blantyre following nearly three years of BPS implementation. That first round of data collection established the level of exposure surveyed individuals had to BPS activities and found that for all four domains assessed (demand and uptake, surveillance and response, QI, and data and information) most respondents reported increased involvement over the previous 12 months (**Figure 21**). Individuals' attitudes and agency related to BPS activities in Blantyre were largely positive, and individuals reported the highest capacity in the surveillance and response and data and information domains (**Figure 22**).

Figure 21. Increased Involvement of Respondents in BPS Domain Activities in Previous 12 Months (First Blantyre Behavioral Study Data Collection)

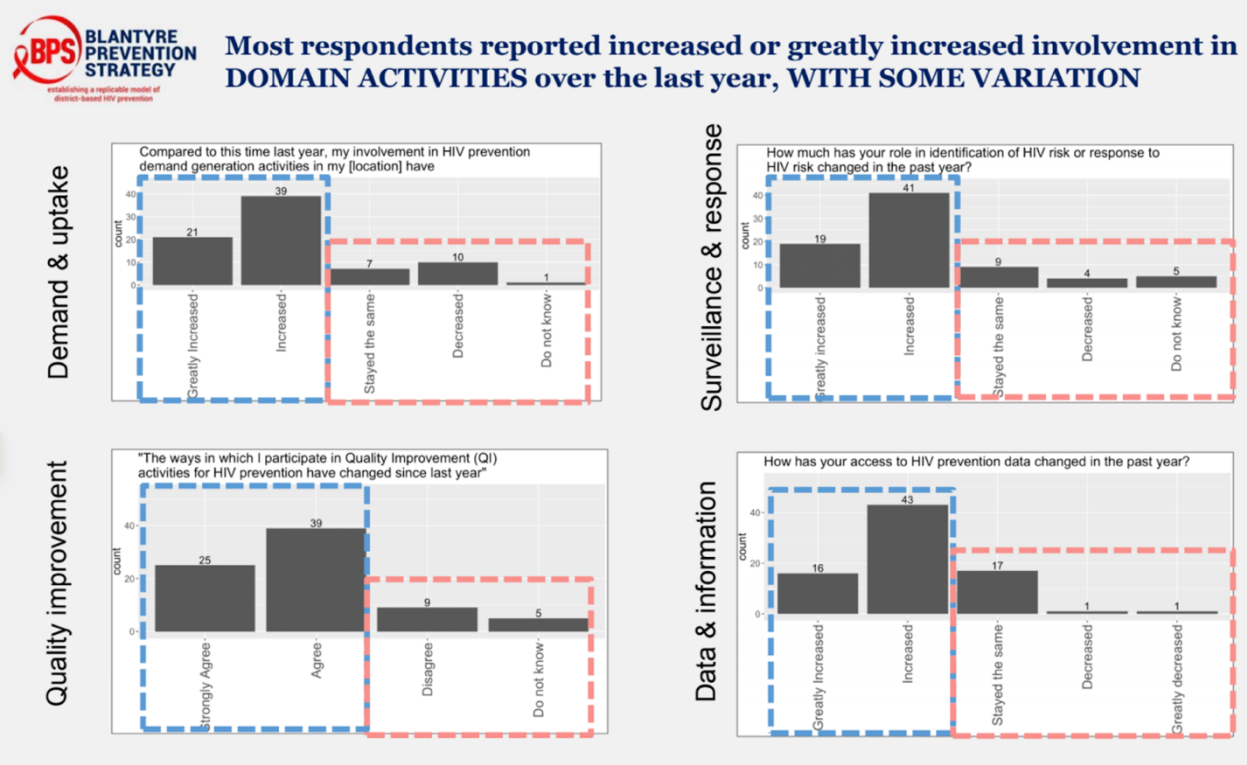
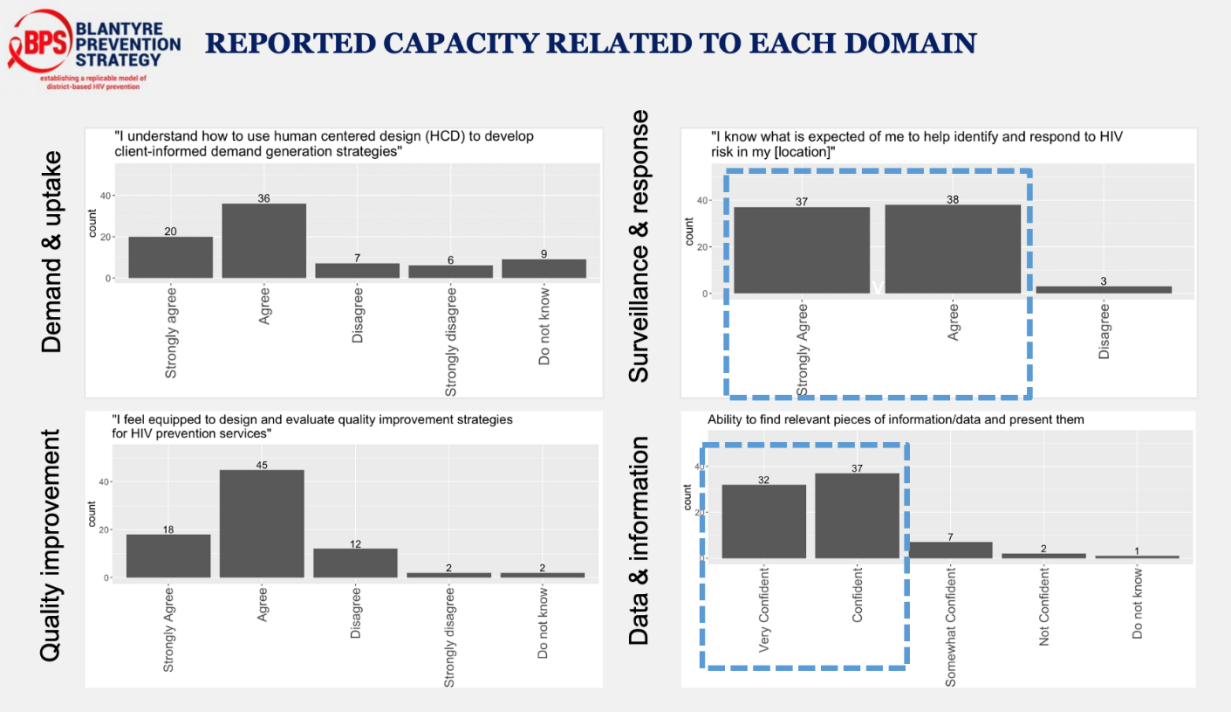


Figure 22. Reported Capacity in First Blantyre Behavioral Study Data Collection



Throughout the M&E efforts, data from Lilongwe that was collected prior to BPS adaptation has served as a proxy for a BPS naïve population due to the lack of baseline data in Blantyre, which helps contextualize the data collected in Blantyre. However, Lilongwe is a district with its own unique set of challenges, partner dynamics, and interventions, and therefore, it cannot be considered a perfect control. The Lilongwe baseline behavioral survey data collection and its analysis was completed by the end of 2023, providing additional findings and insights to understand the degree of systems change in Blantyre. As shown in **Figure 23** and **Figure 24**, there is less understanding of key HIV prevention domains in Lilongwe compared to Blantyre. Blantyre respondents were more likely to indicate they have increased access to data, are making data-informed decisions, and are utilizing QI processes.

Figure 23. BPS is Accelerating Program Change

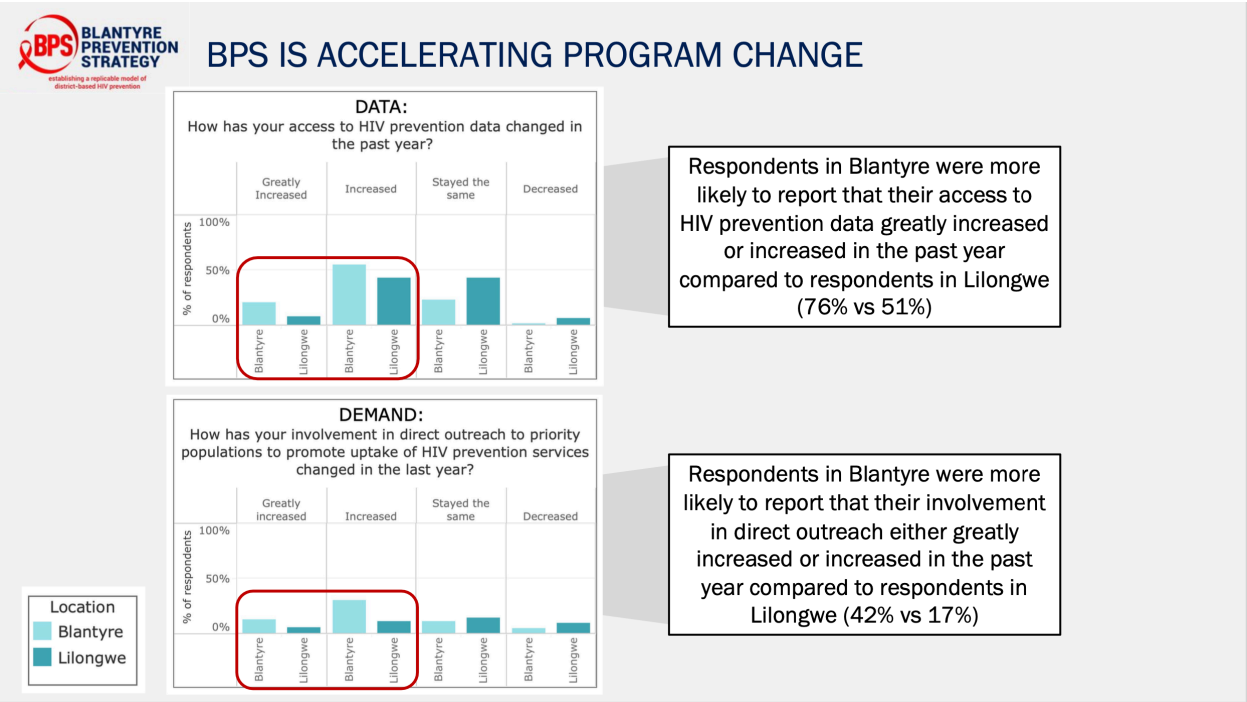
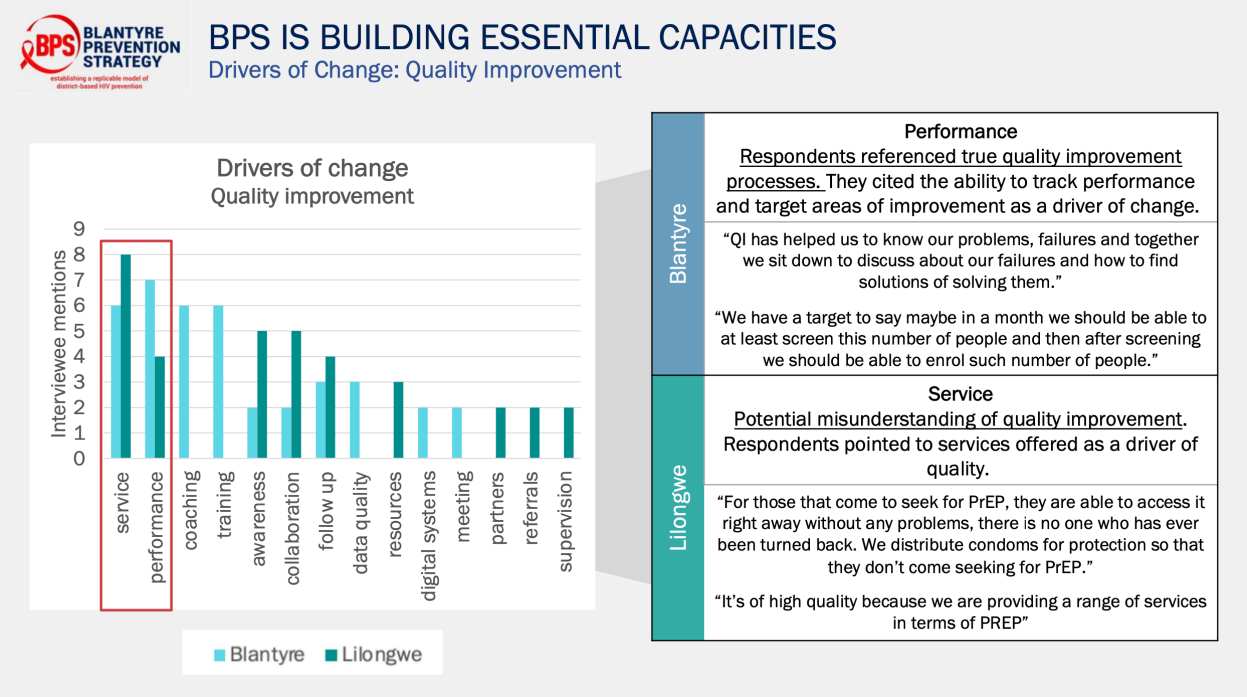


Figure 24. BPS is Building Essential Capacities



The second of two additional rounds of the behavioral study data collection in Blantyre began at the end of Year 4. These additional rounds will add to understanding about how individuals' capacities and attitudes may have changed overtime in the presence of extended BPS programing. The additional data from Lilongwe and future rounds of data collection will inform conclusions (with caveats) as to which capabilities and attitudes are attributable to BPS. Further rounds of the behavioral study and input and output analysis will allow us to better understand how outputs and outcomes change over time, particularly as BPS becomes more embedded in Lilongwe.

Organizational Institutionalization

The organizational performance component aims to understand which BPS capacities are being successfully sustained and institutionalized. However, this component is on hold to reconsider how best to structure and implement the assessment. It is one of several studies planned for Year 5 described below.

Strengthening the Knowledge Base Through Special Implementation Science Studies

The M&E activities through Year 4 have enabled progress on answering key questions in the BPS M&E framework including the activities implemented, the outcomes of those activities on service uptake, and changes in capabilities. In addition, the external evaluation will hopefully provide important information that will help understand whether BPS has met its intended outcomes. However, there are gaps in our knowledge that will not be met by the current instruments or external evaluation.

In Year 5, additional qualitative and mixed methods implementation science and special studies will be designed, implemented, and documented. Focus areas include:

- The role of community labs in eliciting community preferences and ideas for healthcare improvement;
- Institutionalization of BPS-supported tools, methodologies, and capabilities in key organizations within the Blantyre HIV prevention system;
- The effectiveness and outcomes of the Councilor training on HIV and structural risk reduction; and
- BPS case study collection and documentation.

Design and protocol development will occur in Year 5 quarters 1-2, data collection (pending IRB review) in quarters 2-3, and analysis and manuscript drafting in quarters 3-4 with the goal of manuscript submission for all products by end of Year 5.

Model Adaptation & Learning Dissemination

"Quality improvement…is one element that I think we have already started implementing in other districts in Malawi, but it's also one element that even other countries may want to adopt or other countries maybe have already adopted, because we have already shared this initiative in conferences. So, we are seeing the elements being implemented or scaled up across the country in Malawi as we develop capacities of the districts to manage the HIV response. But we can also see these elements being adopted even in other countries. I think it all depends on how far we are able to share the best practices that we've learned from BPS.

…the four elements have been, number one, data for decision making, focusing on data use and making decisions and coming up with strategies to resolve the performance gaps. The second element has been use of quality improvement processes, whereby the facility teams or the community members are able to come up with change ideas to improve the areas where they have gaps. And then, also another component is health communication, both in quality improvement and health communication using human centered design, whereby you don't just come up with the solutions, but those that are accepted by the community. And the other element has been the community engagement itself. So, the community being engaged even from the data that is coming out of the facilities, or the community being engaged in the whole design for health communication in the quality improvement. So, the community being engaged in all key areas of importance. So, those are the key elements that have worked in Blantyre, and Malawi is going to replicate them across the country."

– Rose Nyirenda, Director, HIV/AIDS, STI, and Viral Hepatitis Directorate, Ministry of Health (January 2024 Interview)

District stakeholders are sharing the systems change and their own valuation therein to entities outside the district, including other districts in Malawi, national-level stakeholders (e.g. TWGs, MPF), and local and global convenings (e.g. International AIDS Society conferences). In addition to the adaptation of BPS program elements to support PathToScale in Lilongwe, there has been extension of the BPS approach to other health services (as described above in the Whole Health System section). WHO also adopted the HealthQual-created storyboards templates used in the PrEPUp! learning sessions for use in their own QI learning sessions.

Blantyre District Coordinators also have been recognized for their capacity at national level. Many of the coordinators have been selected by the MoH to serve as national-level mentors. For example, six QI mentors have been engaged in providing national-level QI trainings (Suzike Likumbo, Catherine Kassam, Ken Lowa, Annielisa Majamanda, Tamanda Mzima, and Gilbertha Chisamba). Three other QI mentors (Omar Mbeti, Ellida Bvutula, and Mirriam Hanjahanja) were engaged in planning and delivering a QI training for the MNH health program at a private hospital in Blantyre in February 2024.

Lilongwe Adaptation

BPS partners successfully supported the adaptation of the data access and use, community insights, and QI program elements to Lilongwe over the course of Year 4 to support the PathToScale study. As noted above, Blantyre District Coordinators also were engaged as experts and peer mentors to the Lilongwe DHO and contributed to co-development exercises in Lilongwe. Several meetings were held in Year 4 with stakeholders in Lilongwe to share the BPS program elements and discuss the co-development process for adapting the processes and tools in Lilongwe. During one meeting on October 4, 2023, BPS partners provided overviews of the BPS program elements, the learning and systems change BPS has supported in Blantyre, and the co-development process with participants from DHA, NAC, PEPFAR IPs, facilities, and CSOs. The meeting was opened by the Director of HIV/AIDS, STI and Viral Hepatitis in the Ministry of Health who said that through BPS there is improved data usage and capacity of community health structures, which has helped to reverse the trajectory of new HIV infections and incidence in Blantyre. She said based on the success of BPS in Blantyre, the initiative has been earmarked to be adapted for implementation in Lilongwe because it also has high number of new HIV infections and incidence. She mentioned that there are plans to adapt all the other BPS program elements and encouraged all key stakeholders to continue collaborating and support the adaptation of BPS to Lilongwe for the country to achieve the targeted reduction in the number of new HIV infections to less than 11,000 by 2025.

Media & External Communications

We worked to revitalize our external communications strategy in Year 4 by engaging a new external communications partner, launching a new BPS website, and disseminating information and learning about the BPS model to local and global audiences. The new website blantyrepreventionstrategy.com is becoming the landing page over time for sharing the BPS model, case studies, learning, and publications. The page will be re-launched at the beginning of

July with a storytelling-forward approach that will feature a video on the BPS-supported capacitation and systems change in Blantyre and audio and video clips from interviews conducted with national and district government officials, facility staff, and BPS partners. We will feature the video during the BPS satellite at the AIDS 2024 conference in Munich.

At the beginning of 2024, BPS's work with City Councilors and their resulting activities was the focus on a nationwide news story in Malawi: Blantyre Councilors take a stance against HIV.

One area of capacitation needs to support the dissemination of BPS learning is strategic communications knowledge and skills. In partnership with Burness, strategic communications training will be held in the district in early September 2024 to build the capacity of key district, city, and partner staff to communicate effectively about Blantyre's HIV prevention system and BPS learning to Malawian and global audiences. In addition, the BPS Secretariat will work with Burness, the government, and partners will produce standardized presentations and talking points for use by BPS Consortium members to improve consistency in learning dissemination.

Publications

BPS Program Director Sara Allinder's commentary, "Ending AIDS by Elevating Subnational Governance", was published in mid-December 2023 on Think Global Health. In the piece, she highlights BPS as an example of how prioritizing and investing in sub-national public health governance systems through the sustainability efforts underway by PEPFAR, UNAIDS, and others can yield important dividends toward ending HIV as a public health threat by 2030.

BPS Consortium members, including government and partner collaborators are developing several manuscripts (see Table 2 below) to share conceptual processes and learning about BPS, its program elements, and specific interventions. CIGH plans to send several of the papers to the Foundation for initial review shortly.

Table 2. Planned Publications in Year 5

Theme	Working Title	Target Journal	Expected Submission
Structural risk	Engaging Councilors to Address Structural and Social Drivers of HIV Infections in Blantyre City: A Formative Study	*International Journal of Health Policy and Management*	April 2024 (submitted)
Conceptual framework and implementation	A health systems approach to more effective subnational HIV prevention: The Blantyre Prevention Strategy	*BMJ Global Health*	June 2024
Sub-national Systems Building	Strengthening District Health Systems to Achieve Malawi's Decentralization Objectives: Lessons Learned from Malawi's Blantyre Prevention Strategy	*Health Systems & Reform*	June 2024
Data systems/ targeting	Development of Malawi's prevention adaptive learning and management system (PALMS): a multisectoral digital health solution to accelerate HIV prevention	*Journal of Medical Internet Research*	June 2024

QI for HIV prevention	Using Quality Improvement to Close HIV Prevention Gaps: Approach, Early Results, and Sustainability	*Frontiers of Reproductive Health (Accelerating to 2030 – Doubling Down on HIV Prevention to End HIV/AIDS as a Public Health Threat Series)*	July 2024
COVID Innovations	Partnering with Communities: A Sustainable Approach to Enhancing Epidemic Preparedness and Response	*Plos Global Health*	July 2024
Coordination/ targeting/ community engagement/ quality delivery	A Network Analysis of HIV Civil Society Organizations to Enhance HIV Prevention Service Delivery in Blantyre, Malawi	*TBD*	July 2024
Targeting analysis	Health Facility and Contextual Correlates of HIV Test Positivity: A Multi-Level Model of Routine Programmatic Data from Malawi	*BMJ Epidemiology & Community Health*	August 2024

Conferences

BPS Consortium members presented on BPS activities, outcomes, and learning in local and global conferences during Year 4. As part of the IAS biannual science meeting in July 2023, the Government of Malawi and CIGH co-hosted a satellite session titled "District-based HIV prevention: Defining the functions of a coherent & sustainable response." The session in Brisbane, Australia, was co-chaired by Dr. Kawalazira and Sara Allinder. Speakers including Rose Nyirenda; Patricia Munthali Khomani, BPS Program Officer, Cooper/Smith; and Dr. Charles Holmes, BPS PI and Director, CIGH highlighted the innovations achieved through BPS's unique approach to building a more effective, district-led health system. The session featured case studies about BPS's learning in data access and use and in creating linked networks involving community, facility, district, and political leaders through videos featuring Suzike Likumbo, STI Coordinator, Blantyre District, and Grace Kumwenda, formerly of Pakachere.

In September 2023, NAC hosted a national HIV/AIDS dissemination workshop in Lilongwe. Patricia Khomani presented the data pipeline and PALMS and Moses Enock (HealthQual) presented on the PrEPUP! QI collaborative as best practices. Also in September, the MoH QMD hosted the National QI Conference, which featured two abstracts presented by the former District QI Coordinator: *"PrEP Up! A quality improvement collaborative (QIC) to scale-up PrEP in health centers in Blantyre, Malawi"* and *"Using a PrEP Collaborative to Strengthen Spread of Quality Improvement (QI) in Blantyre, Malawi."*

"Even from the learnings from Blantyre, we even seen that, I think within Malawi, we can also benefit from the learnings from the Blantyre Prevention Strategy. And we're scaling it to Lilongwe. …it's something that even our neighboring countries, either in the SADC region or in the COMESA region, they can learn from the Blantyre Prevention Strategy. Maybe they cannot replicate wholesale, but there are some key areas,

particularly the data component. When we meet in the SADC region for the SADC meetings for the HIV and health sector, we hear that there is no data. Sometimes there are a lot of data gaps because it's either we don't have ways of collecting the data or we don't know how best to analyze the data."

– Chimwemwe Mablekisi, Director of Programmes, National AIDS Commission (February 2024 Interview)

Forecasting for Year 5 and beyond

Year 5 Priorities

In Year 5, the District will lead strategic planning and implementation of activities with project management support from the BPS Secretariat and limited TA from BPS-funded partners. As noted above, the focus will be on the current set of geographies; later expansion will be informed by learning from implementing the system in Year 5. Blantyre District DHSS has said Year 5 needs to be the district's year to "sink or swim". BPS partners' focus in Year 5 will be to support institutionalization needs and documenting and disseminating BPS activities, outcomes, and learning in TORs, SOPs, academic publications, external communications products, implementation science studies, and development of an adaptation toolkit. The systems mapping group model building exercise in late June will inform institutionalization and sustainability activities through the rest of Year 5, including refining existing TORs, SOPs, and tools. Attention also will be focused on translating BPS learning and tools to national-level policies and guidelines.

Our priorities heading into year 5 are to:

- Conduct Systems Mapping Group Model Building in Q1 (late June, 2024) to help synthesize the system and inform what institutionalization and sustainability activities are needed through rest of years 5-6;
- "Test the system" with the District in the lead on strategic planning and implementation of activities;
- Continue to build district/city-level capacity especially in strategic planning, project management, monitoring and oversight, data interpretation, and communications;
- Fill in gaps in BPS M&E through special studies;
- Document and disseminate learning, including M&E, institutionalization tools (e.g. TORs, SOPs), external communications materials, and journal publications; and
- Translate BPS learnings to national-level policies and guidelines and through an adaptation toolkit.

Lingering Challenges

In Year 5, efforts will be made to address lingering challenges to implementation, evaluation, and institutionalization. As noted above, there was rapid acceleration in programmatic activity and expansion of capacitation and engagement across the district in Year 4, but additional support is

needed to reach consensus on and document the unified structure. There also is need to strengthen/establish platforms for shared learning in the district, such as through reporting tools, knowledge management resources, and TWGs or other fora, which will be explored in Year 5. There has already been attrition and turnover of BPS-capacitated staff (e.g. HCD champions). Establishing the shared learning platform, routine and continuation training, and documenting the SOPs/TORs etc. will help protect against future attrition.

Two critical, inter-related challenges to address in Year 5 include the institutionalization of PALMS and translation of BPS learning to national-level policies and guidelines. DHD, DHA, NAC and Cooper/Smith are developing a Year 5 workplan for PALMS institutionalization activities that will include a Government plan for supporting PALMS expansion, including transition to a government-owned and managed URL. Further expansion of BPS elements is anticipated to gain traction as further data and implementation science emerge demonstrating its feasibility and effectiveness.