Introduction

In 2004, the President’s Emergency Plan for AIDS Relief (PEPFAR) began operations in South Africa, funding prevention and anti-retroviral treatment (ART) programs as the official stance of government shifted to support treatment scale-up. In the early years, a significant portion of PEPFAR funds was focused on building HIV treatment programs where none existed—supporting HIV programs in public sector facilities, NGO-run clinics, and within general practitioner networks. From an initial set of 184 sites in 2005, by 2009 PEPFAR had expanded its direct-service clinical programs into hundreds of sites. Support included funding direct patient-serving staff, commodities, and equipment as well as training, mentoring, and information management. In 2010, with the end of the period of denialism alongside a growing economy and government HIV budget, PEPFAR signed a new Partnership Framework with South Africa and began transitioning out of direct service provision. By August 2012, the U.S. government announced its plans to reduce its support to South Africa and transition out of direct-service ART provision. This process, which sparked controversy, included ending support for health worker salaries and moving a significant number of people on treatment from non-governmental sites to public sector facilities. PEPFAR funding was to decline by...
48% to $250 million by 2017 and focus away from site-level direct services and toward supporting the health system. Within a few years, however, it became evident that, even with dramatically increased government commitment and funding, South Africa’s burden of HIV and health systems challenges made reaching HIV treatment goals nearly impossible through domestic financing alone. The planned funding drawdown was deferred and, in 2017, PEPFAR’s Country Operational Plan (COP) for South Africa included $483 million.

PEPFAR currently provides approximately one-quarter of all HIV funding in South Africa. In 2015, a new PEPFAR strategy in South Africa focused that support on 27 (out of 52) high-burden districts. COP 2016 set an intention to return to significant investments in site-level direct service delivery (DSD) “in some circumstances” where it could focus on augmenting the existing public sector health services to speed achievement of 90/90/90 treatment goals and drive incidence and mortality reduction.

Four districts were designated “Scale-Up Saturation” in COP 2016—where significant PEPFAR investments were meant to help attain the 90/90/90 treatment goals by the end of fiscal year 2017. Those four districts—eThekwini, uMgungundlovu, Ekurhuleni, and City of Johannesburg Metropolitan—experience some of the highest burdens of HIV in the country and are also designated as DREAMS districts, where PEPFAR is investing in interventions focused on young women and their sexual partners (including getting men into treatment). Significant strides have been made in the districts. However, they fell significantly short of the goals set by PEPFAR. According to U.S. data, they achieved only between 71% and 76% of their FY2017 goals for people currently receiving treatment (see Table 1). Notably, all but eThekwini achieved their goals for identifying people living with HIV, but program quality was a significant problem. In these districts, PEPFAR reports 361,391 people were newly identified in 2017, but only 258,598 people were newly added to treatment, and high levels of those already on treatment were lost to follow-up. While some of these figures reflect data quality issues, the overall trends nonetheless suggest there is more that is needed from PEPFAR programming to fill the key gaps toward reaching saturation and beyond.

![Graph of Saturation Districts Missed Targets](image)

The goal of this project is to assess what the policy shift toward focus on geographies and strategic deployment of DSD means at the front lines of the AIDS response in South Africa. Much has changed in the shape of the epidemic and of the South African health system in recent years, and what worked just a few years ago may be less effective in producing impact going forward. We focus in on these four districts to understand more deeply how PEPFAR policy is being translated into interventions to change the trajectory of HIV treatment coverage in the highest burden districts. As PEPFAR looks to expand its impact by both shifting its strategies and increasing its investment through "surge" funding in the coming years, a variety of choices present themselves about how funding can be invested to achieve the strategic objectives of the program.

**Methodology and Facilities Sample**

We visited a randomly selected sample of PEPFAR-supported facilities in the four “saturation” districts between November 2017 and January 2018. These districts account for 40% of those supported on treatment through DSD by PEPFAR in 2017 (in all 52 districts)**. Within these districts, our sample of clinics is serving approximately 20% of those reported to be receiving direct service treatment through PEPFAR. Fifty-three (53) facilities appear in the final sample, selected at random from among the actively supported PEPFAR sites in these districts. From the 437 sites supported by PEPFAR, we excluded those sites in the bottom quartile of each district in the number of people on treatment, which we assume would be low on the list of priorities for increased direct service investment. The clinics sampled had a mean of 3,335 people on ART. We also excluded mobile sites and those inside correctional facilities. Administrators at all but five selected sites agreed to participate in interviews, with one excluded because no administrator had been at the facility longer than 6 months. We conducted semi-structured interviews with lead staff at the remaining 53 sites—most often, the facility manager and/or nurse administering the HIV program—and, wherever possible, we cross-checked answers with other staff and public records. All interviews were anonymous, and facility names are masked by codes below. Interviews were recorded, transcribed, and coded with checks for inter-coder reliability.

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* Currency fluctuations make exact figures difficult, but PEPFAR COP-level spending (excluding additional HQ top-ups) represents between 22% and 27% of total HIV expenditures in 2017.

** PEPFAR differentiates between those served through direct service delivery.
The facilities visited included those covered by both the Centers for Disease Control (CDC) and USAID and served by several lead non-governmental implementing partners including Right to Care, Anova, Wits RHI, MatCH, Health Systems Trust, and Kheth’Impilo. We found few significant, systematic differences between observations at clinics served by different implementing partners and, with imperfect information about contracts, our study was not designed to distinguish differences in the performance of implementing partners.

The results below are based on interviews with facility administrators. Our data therefore represents not what implementing partners say they are doing, but instead what public sector administrators responsible for managing the staffing and throughput of the clinic report they have observed and experienced. It is, of course, imperfect data subject to limitations of recall and bias, much as any qualitative data of its nature. We found that these administrators were highly reliable narrators when it came to the size and tasks of the staff at the clinic, and the information they provided about the ART program was verified whenever it was possible to check against outside reports. An important benefit of this approach is that the subjective input of facility managers about the major barriers to increasing the quality and effectiveness of the ART program adds an important, and often missing, perspective to planning in how to spend PEPFAR funding.

**Results**

PEPFAR’s primary investment in supported facilities since COP 2015 has been in human resources for health (HRH)—directly supported staff placed at facilities, rotating or roving teams visiting facilities to provide direct services, and training and mentoring of the existing government staff. PEPFAR does not procure significant commodities and equipment for frontline clinics. As such, we focused data collection on HRH.

**Characteristics of Sample of Public Sector Facilities**

The facilities we visited had large numbers of people on treatment: 85% had at least 1,500 people on treatment, and 17% had more than 5,000.

The need for increases in human resources in South Africa to support rapid expansion of the AIDS response is well documented, with these public sector clinics providing a wide range of services as well as initiating and maintaining people on ART. The sampled clinics are, as noted, serving very large numbers on ART alone and, as such, have significant staff complements. Over half of clinics have at least 10 clinicians, and almost half have 20 or more lay staff who are paid directly by government, most of whom have some level of engagement in the ART program. While we do not have access to overall patient loads to reflect overall staffing ratios, these raw HRH levels are worth noting, because the additional impact of PEPFAR-supported staff is related to what is already in place as well as the gap in staffing needed to scale high-quality HIV services.

Of particular note is that, despite having significant government staffing complements, only half of clinics have any staff focused primarily on HIV adherence counseling and support; 89% report having no government staff focused on outreach or tracing those lost to follow-up from the ART program.
PEPFAR Support for HRH at Front-Line Facility Level

Most facilities in our sample report that there are some staff paid for by PEPFAR through local implementing partners who are based at the facility on a full-time or near-full-time basis. Our sample was home to a total of 305 such staff, which is notable because our sampled clinics serve 20% of the PEPFAR-supported ART patients in these four districts.

In terms of clinical staff, facilities have a relatively small PEPFAR-supported complement of staff. A significant number of sites in these districts report they have no clinical staff based regularly at the facility. The modal configuration among those that do have clinical staff is a single nurse—30% of all clinics—with another 19% that have a second nurse, and a similar portion with a regular doctor funded by PEPFAR. A handful of clinics report more than two nurses, and few facilities have regular pharmacy staff paid by PEPFAR.

Figure 5
Facilities with at least 1 Direct Service Staff Supported by PEPFAR

![Pie chart showing the percentage of facilities with at least 1 direct service staff supported by PEPFAR.]

Figure 6
PEPFAR-Supported Clinical Staff
Number of clinical HR by cadre and % of clinics

![Pie charts showing the distribution of clinical staff by cadre.]

About half of clinics have each of several PEPFAR-supported lay cadre including HIV testing counselors, data capturers, and adherence or linkage counselors, most often one person. Very few have PEPFAR-supported staff devoted to tracing those lost to follow-up or providing community outreach or services. Our understanding of the PEPFAR strategy based on COP16 and COP17 is that DSD staff are focused at public sector facilities and integrated into service delivery. We asked, on this basis, about staff based at these clinics who focus primarily on this task—but this means we may not have captured staff who are primarily based in communities reporting to NGOs who may be engaged in outreach and default tracing.

We also note that some of the lay staff primarily tasked with other roles do spend some time reaching out to those who are lost to follow-up—though upon closer questioning, it was evident that this is usually only a small part of the day-to-day work of those reported as adherence counselors, nurses, and others.

Figure 7
PEPFAR-Supported Lay Staff

![Pie charts showing the distribution of lay staff by cadre.]

Overall, public sector managers report these facility-based HRH additions are playing an important role in the service delivery structures of the clinics.

“They have filled the gaps on the department work load. We really appreciate their assistance, because if it was not for their presence here, we do not really know how we could cope with the work load.” [KZN-eTH-04]

“Patients’ waiting time has been reduced because of the professional nurse that has been allocated for HIV and ART initiation.” [GP-JNB-04]

“With the addition of data capturers in our facility, we have improved in the way we collect and analyze statistics, and as a result, our service delivery to the patients has also improved.” [KZN-uM-03]
Figure 8 represents how PEPFAR-supported HRH are distributed compared to the number of people on ART at each clinic. As reflects the frequencies shown in the tables above, most of the observations have relatively few nurses and overall HRH, clustering toward the chart bottom. Our observations cluster in the lower left where there are fewer people on ART (though all of the visited clinics have significant ART rolls) and few HRH. The upper right quadrant, meanwhile, is largely empty, reflecting the apparent lack of a systematic increase in the number of HRH or nurses as the size of the treatment rolls in a clinic increases.

Figure 8

**DISTRIBUTION OF PEPFAR-SUPPORTED HRH**

At visited facilities, the ratio of people on treatment per staff person (including all cadre) varied significantly between clinics—with an average of 999 people on ART per staff person. The patient-to-nurse ratio covered a similarly large ratio, with an average of 2,895 people on treatment per nurse. We did not have access to total patient numbers per clinic, but we note that the ratio of people on ART to total government staff was 127:1. These ratios are not directly comparable, because government staff are almost all doing more than ART, but it may help understand the limited impact of adding only small numbers of staff to a clinic.

Overall, many clinic leaders interviewed identified both the benefits of PEPFAR-supported HRH and the continuing gaps in HRH needs. One possible explanation for why additional PEPFAR HRH has not had a larger impact is that government staff are shifting out of HIV services as PEPFAR-supported staff are added to the clinic—moving a nurse out of ART initiation to focus on childhood vaccination, for example. The result would then be no net increase in HRH working on HIV. In seeking to address this, we began with an open-ended question about what had changed about the work of staff at the clinics since the addition of PEPFAR-supported staff and followed up with a specific question about whether staff had shifted to other areas, and if so, to what areas. Overall, we found little evidence of a significant shifting of government staff out of working on HIV as PEPFAR-supported staff were added. In most clinics, no such shifting was supported. As one respondent explained:

“No, it will never happen that government staff stop doing ART. We have so many thousands, if we just left HIV to them they would bleed through their nose and ears…”

(KZN-ETH-09)

Instead, at most facilities, staff shifted their work within HIV in ways meant to increase program quality.

“Before the arrival of NGO staff, we could not do HCT [HIV Counseling and Testing] and initiation at the same time, on the same day. They have made our work much easier, as we no longer experience long queue, and waiting time for patients has been cut down dramatically. But no, there is no way to stop doing HIV, we are still very short-staffed.”

(KZN-ETH-09)

In a few clinics (13% of our sample), however, there was some report of government staff shifting away from HIV care.

“The professional nurse who was doing HIV is now concentrating on general follow-ups. She also assists in immunization when the clinic is too busy.”

(KZN-ETH-09)

We also note that we do not have data to understand whether such shifts are occurring at a higher government level—shifts of staff into or out of clinics based on district or provincial decisions. As such, there is need to ensure that policy is clear and clearly communicated to leaders in this area. At clinic level, however, there does not seem to be widespread displacement.

Table 1

**RATIOS OF PEPFAR-SUPPORTED HRH**

<table>
<thead>
<tr>
<th>PEOPLE ON HIV TREATMENT PER STAFF PERSON (ALL)</th>
<th>RANGE</th>
<th>92 to 2,767</th>
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<tbody>
<tr>
<td>AVERAGE # ON ART PER STAFF:</td>
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<table>
<thead>
<tr>
<th>PEOPLE ON HIV TREATMENT PER NURSE</th>
<th>RANGE</th>
<th>415 to 15,034</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVERAGE # ON ART PER NURSE:</td>
<td>2,895</td>
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</tbody>
</table>
PEPFAR HRH Support Through Visiting Teams

PEPFAR-funded NGOs also regularly come to the facilities as visitors to support them. Nearly half of facilities receive such visits several times a week. These visits include both direct service visitors—such as “roving teams” of clinicians meant to help boost HRH for service provision for difficult cases or at peak times—and visits from mentors, technical assistance, and training. In our data and the experience of facility managers, these visits are not distinct. The same NGOs often provide both direct service and technical visits, and, when functioning well, this interaction seems beneficial because it ties technical assistance and mentoring closely to the life of the clinic.

A significant portion of the current PEPFAR strategy relies on “roving teams” meant to fill in direct service clinical staff on a rotating basis at different clinics. It is notable, however, that only 48% of facilities report receiving PEPFAR visits several times a week.

Clinic administrators, when asked to subjectively rank the value of various types of NGO visiting support, identified providing care and seeing patients as the most valuable intervention, in their opinion. This was followed by the collection of data to review performance with them—something many administrators valued highly. These two more structured interventions were far more often identified among the most valuable compared to training, mentoring, providing advice, and similar activities.

Worryingly, however, fewer than half could identify specific ways that these data have resulted in a change in how they provide HIV services or run the clinic to improve performance. This, of course, does not mean that no changes were made—and indeed, management studies have long shown that simply identifying problems and showing staff how they are performing can improve performance. This data does, however, suggest a thinner relationship between data and mentoring than might be hoped.

Clinic administrators overall praised the trainings conducted by PEPFAR partners. In particular, the most valuable trainings identified by facility managers in the past 12 months were in Nurse-Initiated/Managed ART (NIMART) and in the Tier.net data system, along with several mentions of Centralised Chronic Medicines Dispensing and Distribution (CCMDD).

“We used to ask a nurse from the other clinics to come and initiate our patients on ART. If we referred our patients to her clinic, many were lost along the way. [NGO] funded the NIMART training for our professional nurses. This NIMART training allows us as nurses to diagnose, make assessment, take bloods and offer treatment. Our numbers moved from 200 to 1000 clients taking treatment a month. It is a great achievement.” (KZN-U-M-09)

“The training on the Tier.net, which helped us to understand what data needs to be captured and why. There is no guesswork anymore, and no running around when the district office is asking for certain numbers. Everything is done on time. It is very easy to retrieve data from the system and check your clinic performance.” (KZN-E91-12)
While it is beyond the scope of this report to evaluate the interaction with broader pre- and in-service training regimes, it is notable that these particular two pieces came out far and away most often, reflecting a surprising unmet need. It is not clear how much of this is due to staff turnover and need for re-training or whether these facilities have not previously received such training, but centralizing and regularizing it might well increase efficacy and efficiency compared with some current PEPFAR models. These topics are also largely one-off trainings that should not require significant repeated and ongoing training, barring major staff turnover.

Again, worryingly, 58% could not identify any specific practice, ways of providing care, protocols, or innovations introduced at the facility because of the trainings.

**Figure 13**

<table>
<thead>
<tr>
<th>COULD NOT GIVE ANY EXAMPLES</th>
<th>58%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXAMPLES GIVEN</td>
<td>42%</td>
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**Front-Line Health Leaders’ Priorities**

We asked facility managers to identify the biggest barriers or challenges holding back increasing the number of people identified, initiated, and retained in care. The biggest three identified were the following:

Staff shortages resulting in lack of capacity to trace lost patients and build effective retention programs, especially for mobile populations:

“We are dealing with a mobile community. They migrate from one place to the other after case finding and become lost to follow-up and come back when they are seriously sick, and sometimes they give us wrong addresses and wrong names, and we have nobody to follow up.” (GP-JNB-07)

“If we can trace more, we will need more nurses—otherwise the waiting period will increase, or else other nurses from chronic will have to do initiation and the general chronic will suffer. We will require more nurse initiators. But as of now, we do not have someone to trace, so we have a problem before that one.” (KZN-JM-02)

“We have only one professional nurse, and no one is specifically attending to the HIV patients—and this despite the fact that we have a huge number of HIV positive patients at this facility. HIV patients are not retaintable/traceable because they keep on changing their residential addresses and provide us with wrong telephone numbers. I believe that if we have more tracers and community workers, this problem would be probably resolved.” (KZN-eTH-04)

Both physical space and lab infrastructure remained a significant problem:

“Infrastructure is the biggest problem. We cannot accommodate as many people as we would love to. Even [NGO] has a problem, because we cannot give them enough working space. They just manage to get a corner somewhere and do their work.” (KZN-JM-02)

“The lab results, the turn-around time, sometimes the errors, the queries on the results. So often the patients have no results to report and then they stop coming back. They say, ‘I’ll come next time’ but don’t.” (GP-EX-08)

“The nurses still lack working spaces (rooms) and this impact negatively to the privacy of the patients, so more park homes are needed here.” (KZN-eTH-07)

Particularly notable was the sense among respondents that clinics were not particularly well suited to supporting patient retention in many cases, and that some barriers might best be addressed by community-based service delivery.

“Patients do not want to wait for long at the clinic each and every time. They have to go to work, and sometimes the attitude of the nurses is not right for the patients and that makes them just stop coming in, which you can understand.” (GP-JNB-16)

“We do not work on weekends, and so we miss the working population. We need to rethink this, maybe make better use of these ideas going outside into community or workplaces for the chronics.” (KZN-JM-10)

“We like this use of pick up points. It works well when we can. But we do not have transport, we rely on rides from our nurses or sometimes from the NGO’s staff. And then if one member of the staff is out, we have a hard time. This situation does impact negatively, as we do sometimes cancel our visits, which frustrates us.” (KZN-eTH-07)

Many facility leaders mentioned the benefits of the Centralised Chronic Medicines Dispensing and Distribution (CCMDD) models but noted the gap between CCMDD and facility-based efforts to support adherence and retention.
The overall sense from facility leaders is that PEPFAR-funded NGOs could be more focused on addressing these challenges with additional capacity. Only 56% said they believed the work of these NGOs was focused on these barriers.

When asked how they would reprogram existing funds or spend any increase in available funding, facility managers say they would prioritize increasing the number of paid staff regularly based at their facility and funding the direct service work at the clinic above all else. While data and performance review received some support for increase, only a handful of clinic leaders said they need more training or mentoring as a priority.

Finally, we asked clinic managers about the incentive structure within the public sector. While PEPFAR implementing partners have targets they are required to hit and are incentivized to speed testing and enrollment and increase retention rates, we were curious about whether the public sector staff managing these facilities had similar incentives. We therefore asked if there was any benefit to scale up faster or improve retention rates—or any consequence if they did not. Overall, respondents repeatedly expressed that they understood the benefits to the community of reaching HIV treatment saturation and felt a professional obligation to move as quickly as possible. As one put it,

“The benefit will be that the clinic won’t be crowded with terminally ill people, the nurses will be able to concentrate on other chronic and follow-ups, that is the hope at least that keeps us going.” (GP-JNB-13)

However, they also expressed a recognition that doing so would come with significantly increased workload and very few benefits to themselves, the clinic, or their staff.

“We get more work is what it means,” noted one respondent, “and I don’t think my nurses want more work, they are very unhappy with me right now.” (GP-JNB-15)

This suggests a significant area of work for PEPFAR and Government of South Africa—to seek to align incentive structures such that the NGOs and public sector workers have clear and similar incentives to focus on scale-up.
**Discussion**

Through visits to a random sample of facilities in high-priority districts in South Africa with large numbers of people on HIV treatment, we were able to gather a useful picture of how PEPFAR policy shifts are being translated into practice and how funding is reaching the front-lines of the AIDS response. Data gathered from health facility managers and clinicians suggests an important role for PEPFAR-supported initiatives, some weaknesses that may be limiting impact, and opportunities for both shifts and additions to what is funded that might increase impact. PEPFAR’s primary investment at this level is in a small cadre of health workers based at or visiting each clinic. With high ratios and low per-clinic numbers, these may not be sufficient to provide the additional service intensity needed. We also found that the distribution of PEPFAR-supported HRH is not well aligned with the patient load of a facility. In the larger clinics, it is likely that a significantly larger complement of both clinical and lay workers is necessary to change the trajectory of scale-up and retention. While existing mentoring and training activities are valued by front-line facility leaders, they are valued less than other inputs, and there is some reason to believe they are not making significant changes in practice. South Africa has a mature AIDS response in which many of these training and mentoring activities have been ongoing for years, and so a level of diminishing returns could be expected. Moving some funding out of these areas and into new priorities might well be warranted.

As PEPFAR considers both re-prioritizing and increasing funding, facility managers themselves have insights about what is needed. They prioritize increased direct service staff—especially increases to outreach, treatment literacy, and lost-to-follow-up tracing, which our data suggests is a particular gap in both government- and PEPFAR-funded HRH capacities. Meanwhile, interviewees also identified significant limitations in facility-based models of initiation and ongoing care that mirror the increasing consensus seen in both the South Africa National Strategic Plan and globally that building alternatives is necessary. In the words of one uMgungundlovu facility leader, “We need to rethink this.” Differentiated service delivery; community-based drug pick-up and adherence support; and disruptive models that are better at reaching young people, working people, men, key populations, and others are likely key to achieving ambitious goals. With the possibility of new funding for PEPFAR South Africa on the horizon, there may be an opportunity to move more of the program’s money to the front-lines of the AIDS response, including both a greater focus on filling key gaps in direct service at facilities and helping take community models of care to scale.

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