

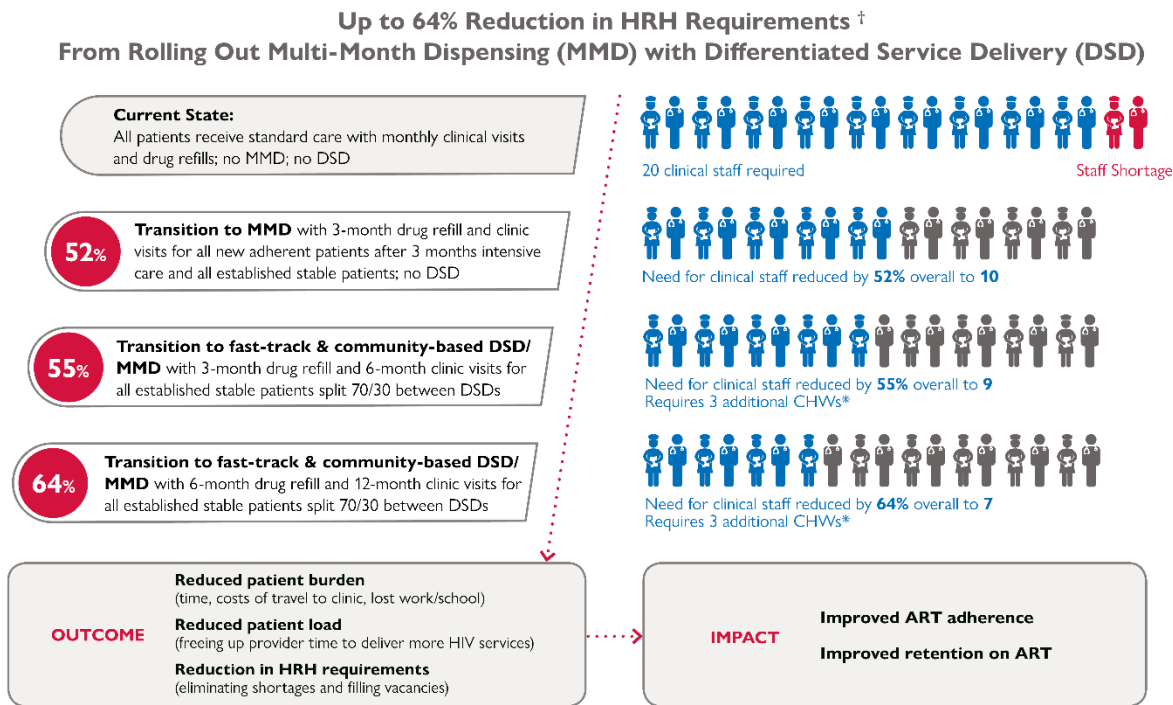
Expanding multi-month dispensing (MMD) for ART reduces HRH requirements by *two thirds* for greater treatment adherence and retention

This brief illustrates the effect of MMD on human resources for health (HRH) requirements based on an analysis of antiretroviral treatment (ART) data using the HRH Optimization Tool for ART (HOT4ART).

Multi-month dispensing (MMD) of antiretroviral drugs has become a key strategy for reaching the 95-95-95 targets for HIV testing, antiretroviral treatment (ART), and viral suppression to control the HIV epidemic. Under MMD, stable patients on ART receive several months of drug regimens thus eliminating the need for monthly clinic visits. Research has shown that patients enrolled in MMD have significantly greater treatment adherence and retention than patients following a monthly drug regimen.¹ In its 2019 guidance, PEPFAR recommends that all stable ART patients should be

offered six-month supplies, expanding previous recommendations of three-month regimens. MMD is provided through standard care as well as four facility and community-based differentiated service delivery (DSD) models.

This brief illustrates the impact of adopting the latest MMD guidance on health workforce requirements using HOT4ART and ART service data for estimating the effect. The infographic below summarizes the cumulative impact of expanding MMD in three steps. Enrolling more patients in



† Cumulative effects on HRH requirements are shown

* HRH estimates incorporate CHW time to educate, distribute drugs, follow up patients, and trace defaulters. Not considered are other tasks often conducted by CHWs such as linkage to care or referrals.

¹ Kim, Maria H.; Wanless, Richard S.; Caviness, Alison Chantal; et al. (2018) Multimonth Prescription of Antiretroviral Therapy Among Children and Adolescents: Experiences from the Baylor International

Pediatric AIDS Initiative in 6 African Countries. JAIDS Journal of Acquired Immune Deficiency Syndromes. 78:S71-S80.

MMD substantially impacts human resources for health (HRH) efficiency. Because patients need to be on life-long ART, the challenge is to serve an ever-increasing client load—a five to tenfold increase over the last eight years—while investments in HIV remain similar from year to year. HRH efficiencies are needed to ensure the quality of HIV services is maintained while serving many more patients. In this illustrative example, the demand for nurses, nurse practitioners and physicians is mostly driven by patients’ frequency of clinic visits. Requirements for pharmacists or pharmacists’ assistants and to some extent nurses depend on the frequency of drug resupplies and use of a streamlined process. The effects of MMD described below are cumulative. Staff estimates are rounded to the nearest integer; HOT4ART provides precise estimates to one decimal.

ART service delivery and HRH constraints at baseline

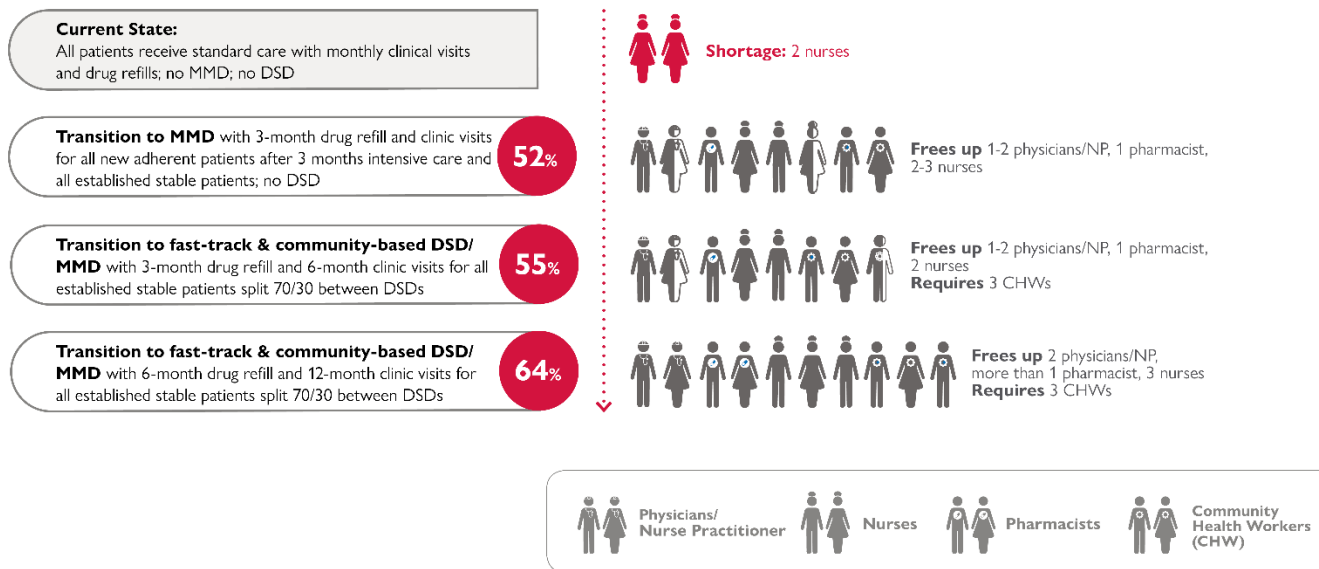
The illustrative health facility has about 5,000 patients on ART annually, with about 15 percent new and 85 percent established patients. Assuming a time before the introduction of DSD, all patients were enrolled in standard care requiring monthly clinic visits and drug supplies. This health facility has 18 medical and allied professional staff with 5 nurses, 2 nurse practitioners, and 2 pharmacists assistants delivering most ART. Based on client contact times for ART services gathered from actual ART providers, the illustrative facility needs about 20 health professionals in total including over 6

nurses and 2 nurse practitioners. Overall, this facility was short 2 nurses.

Transitioning all stable established and new patients to 3-month MMD reduces staff requirements by up to 52%

The first step to improving client retention and HRH efficiencies is to enroll all established stable patients in MMD. Based on clinical experience, about 15 percent of established ART patients will be deemed not stable, show treatment failure, or require ongoing psychological support in need of monthly standard care. Experience has also shown that after an initial period of intensive care for the first three months, about 85 percent of new patients can be considered stable and be enrolled in a 3-month MMD regimen for the remainder of the first year. Based on this evidence, this facility can enroll 83 percent of its stable patients in a 3-month MMD regimen. This step alone would eliminate any staff shortage reducing overall staff requirements by 52 percent from 20 to 10. It lowers the need for nurses by 57 percent from over 6 to less than 3, and for nurse practitioners by 52 percent from over 2 to 1. The effect of 3-month supplies on pharmacists’ assistants is comparable with a 48 percent reduction from about 2 to 1.

Rolling Out Multi-Month Dispensing (MMD) and Differentiated Service Delivery (DSD) Significantly Reduces HRH Requirements to Correct Staff Shortages and Fill Vacancies †



† Cumulative effects on HRH requirements are shown

Transitioning all stable established patients to 6-month DSDs/3-month MMD reduces staff requirements by up to 55%

With the introduction of DSD patients gain easier access to treatment, which improves adherence and retention. While in the previous scenario clinic visits and drug resupplied happened at the same time, each takes on a different schedule when DSD and MMD are combined. In this scenario, 83 percent of patients remain on a 3-month MMD regimen, but drugs are dispensed through fast-track and community-based DSD models. In addition, the time between clinic visits is increased from 3 to 6 months for 71 percent of established stable patients. Patients are split 70/30 between fast-track and community-based DSD models. The community-based models require the engagement of over 3 community health workers (CHW) who take on drug distribution, education, treatment follow up, and defaulter tracing. Moreover, nurses or other staff spend additional time on training and supervising CHWs and supplying them with pre-packaged drugs. The schedule for stable new patients (12 percent) remains unchanged at a 3-month resupply and clinic visit; and all non-stable patients (17 percent) remain in standard care.

The reduced frequency of clinic visits has a small additional effect reducing staff requirements by 55 percent overall from 20 to 9. The small effect is due to the additional effort required from nurses to support community-based service delivery, which increases the need for nurses and lowers the reduction from 57 percent in the previous scenario to 55 percent. Without a community-based DSD a 66 percent reduction could have been achieved. In a scenario where all stable patients are enrolled in community-based DSD the reduction in the requirement for nurses would have decreased to 30 percent, and, given the variation in client contact times, potentially to no reduction at all. Pharmacists assistants are not affected under this scenario.

Transitioning stable established patients to 12-month DSDs/6-month MMD reduces staff requirements by up to 64%

The latest PEPFAR guidance for the treatment of stable patients goes a step further calling for annual clinic visits and a 6-month drug supply. All other conditions remaining the same as in the previous scenario, a shift to 12-month DSDs with 6-month MMD would reduce staff requirements overall by 64 percent from 20 to 7. Less than 1 pharmacist assistant would be needed, also a 64 percent reduction. The need for nurses is reduced by 65 percent, but, as before, nurses spend additional time supporting community-based ART delivery. Without such a DSD model the need for nurses would have decreased by 71 percent.

Implementing the latest MMD guidance increases HRH efficiency significantly for improving ART adherence and retention

These three scenarios show that MMD when combined with facility-based (fast-track) and community-based DSD for stable established patients can substantially impact HRH efficiency by reducing staff needs for ART by almost two thirds. While in this illustrative clinic nurses and nurse practitioners were the most overworked cadres that saw immediate benefits from MMD, other staff such as pharmacists' assistants and laboratory technicians experienced a substantial reduction in their workload as well. As the data show, MMD regimens and DSD models impact staff requirements differently, with the former mostly affecting the need for pharmacists' assistants and the latter affecting the need for clinical staff.

It also matters which types of DSD models are implemented. Community-based DSDs require CHWs and substantial support from nurses or other facility staff, which offsets reductions in staffing needs due to MMD. There are other drug delivery modalities that were not modeled here such as automated pick-up points ("ATMs," lockers), or the use of commercial pharmacies. These could reduce the need for CHWs and free up additional time of facility-based staff.

MMD combined with DSD frees up health workers for correcting staffing gaps and filling vacancies. In addition, health facilities can use task-sharing to address HRH inefficiencies. These approaches together ensure that more staff are available to attend to more ART patients, to provide other HIV services such as HIV testing and to focus on improving service quality. More service providers can greatly improve patient waiting times and client satisfaction, which both increase retention on ART.

PEPFAR's focus on a sustainable control of the HIV epidemic makes HOT4ART a valuable tool for health facilities to optimize the use of existing staff in the context of unchanging financial resources and for governments and implementing partners to more efficiently and effectively plan for future transitions of donor-supported health workers to local funding. Without HOT4ART, this assessment of the HRH impact of MMD would have required time-consuming data collection and calculations. HOT4ART made this a timesaving exercise, because the tool already includes all the necessary data and algorithms for estimating the impact of a more efficient ART service delivery on HRH. The tool is available for use by country teams and other users without the need for technical assistance. [HOT4ART](#) is available on the [HRH2030 website](#) together with a [user guide](#), [HRH efficiency case studies](#), and [video tutorials](#).



Photo Credit: Eric Bondou/PEPFAR.

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About HRH2030

HRH2030 strives to build the accessible, available, acceptable, and high-quality health workforce needed to improve health outcomes.

Global Program Objectives

1. **Improve performance and productivity of the health workforce.** Improve service delivery models, strengthen in-service training capacity and continuing professional development programs, and increase the capacity of managers to manage HRH resources more efficiently.
2. **Increase the number, skill mix, and competency of the health workforce.** Ensure that educational institutions meet students' needs and use curriculum relevant to students' future patients. This objective also addresses management capability of pre-service institutions.
3. **Strengthen HRH/HSS leadership and governance capacity.** Promote transparency in HRH decisions, strengthen the regulatory environment, improve management capacity, reduce gender disparities, and improve multi-sectoral collaboration for advancing the HRH agenda.
4. **Increase sustainability of investment in HRH.** Increase the utilization of HRH data for accurate decision-making with the aim of increasing investment in educating, training, and managing a fit-for-purpose and fit-for-practice health workforce.



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