Mailman School of Public Health
Case Consortium @ Columbia
Columbia University

MSPH-14-0008.2

Swaziland, HIV and Option B+: What Can We Afford?

Epilogue

In the Swaziland Technical Working Group, the international organizations ICAP and Médecins Sans Frontières (MSF) proposed pilots of Option B+ treatment programs at a small number of clinics. The Swaziland Ministry of Health approved the pilots in December 2012. MSF would run one pilot, and ICAP another. At the same time, data from other countries was showing up in the research literature. One paper, published on March 12, 2013, provided estimates on the potential impact and cost-effectiveness of the Option B+ rollout in Malawi based on modeling research:

> Option B+ not only prevents infant infections, but also improves the ten-year survival in mothers more than four-fold. This translates into saving more than 250,000 maternal life years, as compared to mothers receiving only Option A or B, with savings of 153,000 and 172,000 life years respectively.
>
> In Malawi, Option B+ represents a favorable policy option from a cost-effectiveness perspective to prevent future infant infections, save mothers' lives and reduce orphanhood. Although Option B+ would require more financial resources initially, it would save societal resources in the long-term and represents a strategic option to simplify and integrate HIV services into maternal, newborn and child health programmes.[1]

In March 2013, Médecins Sans Frontières presented preliminary data based on three months of operations of its Option B+ pilot to the Technical Working Group; in turn, ICAP

[1] Olufunke Fasawe et al., "Cost-Effectiveness Analysis of Option B+ for HIV Prevention and Treatment of Mothers and Children in Malawi," *PLOS ONE*, 2013. See: http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0057778

This epilogue was written by Eric Smalley for the Case Consortium @ Columbia and the Mailman School of Public Health. (0914)

presented preliminary data from its Option B+ pilot, called Safe Generations, in September and October 2013. On September 19, 2013, Safe Generations completed the Option A to Option B+ transition at the antenatal clinic at the Siteki Public Health Unit in Swaziland's rural Lubombo region. The clinic was the first of 10 to make the change. The transition involved intensive training for the clinics' healthcare workers so they could test, counsel and prescribe drugs during a single encounter with the pregnant woman, rather than requiring multiple visits. The ICAP staff also worked with clinic staff to modify patient flow within the clinic to facilitate adoption of Option B+.[2]

The data from the pilots convinced the Swaziland National AIDS Programme (SNAP) to initiate a phased nationwide Option B+ rollout by the end of 2014. The Technical Working Group agreed to the approach at its April 28, 2014 meeting. "We wanted to use these pilots to teach us how to phase in our B+ as a country," says SNAP Director Dr. Velephi Okello. "We didn't want to go Malawi-style, of going, boom, everywhere." She explains:

> We want to learn site by site. We're working on how to phase it in in terms of facilities—which facilities will start B+ first. We have learned a lot from [Safe Generations] because it was also done in a phased-in manner, one facility at a time.[3]

The transition involved improving drug stock management and blood sample collection at the clinics. Though each clinic could perform HIV testing on the spot, the Swazi government intended to monitor viral loads, which entailed collecting, preparing and storing blood samples for processing at a central laboratory, says Okello.

> You need a centrifuge [and] a fridge in each of the facilities, just to make sure that when they collect the [necessary blood samples], they spin them immediately and freeze them. So these are things that need a lot of logistics improvements within each facility. So that's why we will move step by step with each facility.

Budget woes. Even with a phased rollout, Swaziland's shift to Option B+ proved a major challenge. Delays in payments to drug suppliers and budget snafus that directed antiretroviral funds to other areas of the healthcare system put SNAP in a bind. "We've been finding ourselves with very, very, very shaky stock levels," says Okello. "Most clinics have one month or [less], so we are hand-to-mouth now," she says. "We are used to talking four- to six-months buffer."

---

[2] "In Swaziland, ICAP's Safe Generations study transitions clinics and patients to Option B+ for PMTCT," *ICAP*, November 4, 2013. See: http://icap.columbia.edu/news-events/detail/with-safe-generations-clinics-and-patients-in-swaziland-begin-the-transitio

[3] Author's interview with Dr. Velephi Okello in Mbabane, Swaziland on May 29, 2014. All further quotes from Okello, unless otherwise attributed, are from this interview.

Some clinics ran out of particular drugs, which led them to shift patients to different regimens. "This whole ruckus here is really making us worried about our retention rates," says Okello. SNAP was closely monitoring stock levels and anticipated deliveries of antiretroviral drugs. "I see a situation where we may be delayed from shifting [to Option B+]," says Okello. "The stock levels are going to be the crunch."

But Swaziland had to contend with more than just expanding treatment under Option B+. In June 2013, the World Health Organization (WHO) issued new guidelines that called for lifelong antiretroviral therapy for any HIV-positive people with an HIV-negative partner, for children under five, and for anyone with a CD4 count below 500.[4] In addition, the Swazi government planned to make viral load measurement a key component of its treatment-as-prevention strategy. Viral load was the best indicator of whether an HIV-positive person posed a risk of transmitting the virus and therefore should receive antiretroviral treatment.

One study found that using viral load as the determinant for who received antiretroviral treatment in Swaziland would double the number of newly eligible HIV-infected people compared to the move to adopt Option B+. Shifting to the 2013 WHO guidelines would increase the percentage of HIV-positive people receiving treatment from 67 to 77 percent; using viral load measurements would increase the percentage from 67 percent to 88 percent.[5] The first step was to monitor viral loads in pregnant women, but the question was how to pay for it, says Okello. "We have decided that we will stop CD4 counts at some point and continue viral load, so that we don't run both." She explains:

> In the beginning it will be viral load and CD4. So CD4 we will just do as a baseline test. And then at six months we will do viral load to check if they are suppressed, and then at 12 months we'll do CD4 counts again. And then after that, we will continue with viral loads once a year.

As with all compromises, there were trade-offs. There were reasons to maintain CD4 counts as a measure. "Some clinicians argue that you still need CD4 counts to understand the risk to the person for opportunistic infections," says Okello. "But it's now an issue of resources." If Swaziland could manage it, viral load measurement could help treatment-as-prevention succeed in ultimately controlling the country's HIV-AIDS epidemic. "B+ in Swaziland is not an isolated

---

[4] WHO website. See: http://www.who.int/mediacentre/news/releases/2013/new_hiv_recommendations_20130630/en/

[5] Naomi Bock et al., "Potential Impact of Viral Load on ART Eligibility Criteria in Swaziland," Conference on Retroviruses and Opportunistic Infections (CROI), 2014. See: http://croiconference.org/sites/all/abstracts/999.pdf

concept," says ICAP's Dr. Harriet Nuwagaba-Biribonwoha. "It is being considered in the overall concept of treatment-as-prevention." She explains:

> If you can treat people—minimize the [community] viral load—hopefully you can minimize new infections. It may be that pregnant women go first. Maybe children under five go next. But eventually, Swaziland is looking at it more globally: treat everyone.[6]

[6] Author's interview with Dr. Harriet Nuwagaba-Biribonwoha in Mbabane, Swaziland on May 29, 2014.