Nearly four decades into the HIV epidemic, HIV rates among adolescent girls and young women (AGYW) ages 15–24 years remain high, particularly in eastern and southern Africa. In response, the DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored and Safe) partnership was launched to reduce HIV among AGYW in 15 sub-Saharan countries.

In specific high HIV-risk communities, DREAMS delivered through the public and private sector, a comprehensive package of evidence-based, prevention strategies. These strategies went beyond the health sector to address the structural drivers that fuel AGYW’s HIV risk, including poverty, gender inequality, sexual violence, social isolation, and limited schooling.

The Population Council, with funding from the Bill & Melinda Gates Foundation and the U.S. Agency for International Development through Project SOAR, led a set of implementation science studies to capture multiple perspectives that reflect the innovative aspects of DREAMS. These mixed-method studies conducted across seven countries (Eswatini, Kenya, Malawi, South Africa, Tanzania, Uganda, and Zambia) provide critical evidence that fill knowledge gaps on how to reduce HIV risk among AGYW and their male partners.

This brief presents key findings grouped around four areas of inquiry: 1) HIV vulnerability and risk; 2) social drivers of HIV risk; 3) effects of the DREAMS approach; and 4) lessons about how to implement multi-sectoral, community-based HIV prevention programs for AGYW. These highlights from across the Council’s DREAMS implementation science portfolio can be used by implementers, policymakers, and others to improve the delivery of HIV programs and services to vulnerable AGYW and their male partners.

1 HOW CAN WE BETTER UNDERSTAND HIV VULNERABILITY AND RISK AMONG AGYW AND THEIR MALE PARTNERS?

For HIV prevention efforts to be successful, programs need to reach AGYW and their male partners who are most vulnerable to HIV acquisition and engage them in HIV services. Yet it is often a challenge to identify who is most at risk in high HIV prevalence settings. We used a latent class analysis approach to generate data-driven profiles of AGYW vulnerability and men’s HIV risk. This approach allowed us to uncover hidden groupings in data and consider multiple factors that together indicate HIV vulnerability/risk. Identifying context-specific profiles can inform more targeted outreach and programming in order to best use limited resources.

Not all AGYW in high-risk communities are equally vulnerable to HIV.

We found two distinct profiles of vulnerability among out-of-school AGYW in Kenya, Malawi, and Zambia, each defined by a grouping of factors (Figure 1).

1
Reducing HIV risk among young women and their partners

Figure 1: Multiple characteristics synergistically define high HIV vulnerability for AGYW

<table>
<thead>
<tr>
<th></th>
<th>Kenya (n=1,014)</th>
<th>Malawi (n=1,652)</th>
<th>Zambia (n=846)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher HIV vulnerability</td>
<td>32%</td>
<td>53%</td>
<td>51%</td>
</tr>
<tr>
<td>Moderate HH wealth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of adult supervision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes/often hungry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No comprehensive knowledge of HIV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No comprehensive knowledge of condoms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower support for equitable gender norms</td>
<td></td>
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</tbody>
</table>

higher HIV vulnerability profile, whereas this was not the case in Malawi or Zambia. Lack of adult supervision was a contributing factor to high vulnerability in Kenya and Zambia. Across the three country contexts, having gender inequitable attitudes and no comprehensive knowledge about HIV were consistently associated with a higher vulnerability profile. Our analysis also confirmed that AGYW with higher vulnerability profiles were more likely to practice risky behaviors (e.g., no condom use, engage in transactional sex) and experience negative health outcomes (e.g., intimate partner violence).

Subgroups of men have distinct HIV risk profiles and should be targeted differently with programming.

Much attention has been on intergenerational sex (i.e., sex between older men and AGYW) as a major driver of AGYW vulnerability. However, we found that it’s not just older men who have high HIV risk profiles. In informal settlements in South Africa, for example, a substantial proportion of younger men also had high HIV risk profiles. In informal settlements in South Africa, for example, a substantial proportion of younger men also had high HIV risk profiles. In informal settlements in South Africa, for example, a substantial proportion of younger men also had high HIV risk profiles, yet the risk profiles of older and younger men didn’t look the same (Figure 2). Men in the older high-risk group were more likely married/cohabiting, while also having multiple sexual partners who were on average much younger than themselves (by 8+ years). In comparison, younger men in the high-risk group were more likely unmarried, had multiple partners in the last year (5+ partners), and held inequitable gender views. We also found that men with higher risk HIV profiles were either less likely or no more likely to use HIV services than men with lower risk profiles.

WHAT ARE SOME STRIKING INSIGHTS AROUND SOCIAL DRIVERS OF HIV RISK AMONG AGYW AND THEIR MALE PARTNERS?

HIV vulnerability is situated at the nexus of multiple social and structural vulnerabilities—like inequitable gender norms and lack of adult supervision.
gender norms, unequal relationship power and conflict, experience of trauma and violence, and limited access to economic resources. Yet these vulnerabilities often get insufficient attention and funding in HIV research and programs. Our studies with AGYW and with men highlight the importance of focusing on specific social drivers of risk as they may directly influence HIV vulnerability among AGYW. Our evidence supports the need for interventions that focus on couples, reduce risk during relationship transitions, and address provider stigma toward adolescent sexuality and gender norms around violence.

**Relationships are often characterized by conflict, material transactions, transitions, and inequality.**

Men described having many types of partners over time, some concurrent and a mix of short- and long-term partners. They also described conflict and miscommunication with their main partner as a primary motivation for seeking additional partners (Figure 3). Many men noted that they intentionally sought young women because they are less likely to question a man’s authority.

"The young girls are easy to handle psychologically as compared to the older ones. They are easy to play around with and they are not controlling, and they give freedom to the man to operate because she is busy in school or with domestic chores."

—Uganda, male, 32 years old

**Older AGYW have less relationship power than younger AGYW.**

AGYW in Kenya reported low levels of power in their sexual relationships, in general, and particularly among older respondents (Figure 4). AGYW with more power in their relationships had lower odds of experiencing sexual and physical partner violence, higher odds of condom use at last sex, and higher odds of knowing about their partner’s HIV status.

**Figure 3 Common trajectories for multiple partnerships among men**

Study site: Uganda (n=94 IDIs)

**Figure 4 Relationship power among AGYW**

Study site: Kenya (n=1,101)
*p < 0.05

<table>
<thead>
<tr>
<th>Age Group</th>
<th>My partner has more say than I do about important decisions that affect us*</th>
<th>If my partner wants to have sex, he would expect me to agree*</th>
<th>When my partner and I disagree, he gets his way most of the time*</th>
</tr>
</thead>
<tbody>
<tr>
<td>15–17 years</td>
<td>68%</td>
<td>54%</td>
<td>33%</td>
</tr>
<tr>
<td>18–20 years</td>
<td>46%</td>
<td>44%</td>
<td>35%</td>
</tr>
<tr>
<td>21–24 years</td>
<td>49%</td>
<td>49%</td>
<td>35%</td>
</tr>
</tbody>
</table>
Men’s own experiences of violence are common and are strongly associated with HIV risk behaviors.
We found that men in South Africa experienced or witnessed high levels of violence both during childhood and adulthood (Figure 5). In turn, these experiences were associated with HIV risk for themselves and their partners, such as having multiple sexual partners and inconsistent condom use.

Figure 5 Men’s experiences with violence

<table>
<thead>
<tr>
<th>In lifetime</th>
<th>In lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Witnessed an armed attack</td>
<td>Robbed at gunpoint/knifepoint</td>
</tr>
<tr>
<td>59%</td>
<td>39%</td>
</tr>
</tbody>
</table>

Before age 18

<table>
<thead>
<tr>
<th>In lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaten at home</td>
</tr>
<tr>
<td>77%</td>
</tr>
</tbody>
</table>

Study site: South Africa (n=962); similar findings in Eswatini

Stigma inhibits AGYW’s access to and use of pre-exposure prophylaxis (PrEP).
In Tanzania, AGYW and their parents, partners, health care providers, and policymakers agreed that AGYW need PrEP—an important technology to reduce HIV risk—due to sociocultural circumstances (e.g., violence, inability to refuse or negotiate safe sex) that increase their HIV risk. Yet stigmatizing attitudes toward adolescent sexuality and concerns about an acceleration in risk behaviors due to PrEP availability were associated with lower willingness to prescribe PrEP among providers and less support among parents and policymakers (Table 1).

Table 1 Factors associated with providers’ UNWILLINGNESS to prescribe PrEP

<table>
<thead>
<tr>
<th>Adj. IRR† (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative attitudes toward AGYW sexuality</td>
</tr>
<tr>
<td>Belief that PrEP will lead to increased risk behavior</td>
</tr>
</tbody>
</table>

†Adjusted for provider demographics, prior PrEP knowledge, other facility factors (e.g., stockouts)
*p<0.05

3 WHAT ARE THE EFFECTS OF DREAMS’ MULTI-SECTORAL, COMMUNITY-BASED APPROACH TO HIV PREVENTION?

The DREAMS partnership brought a new lens to HIV prevention programming, one that extended beyond the health sector and outside the health facility. This comprehensive package of interventions implemented at-scale at each of the DREAMS sites offered a unique opportunity to understand the effects of this program and its approach. Employing both traditional and new data science techniques, our analyses unpacked program effects for AGYW and their male partners. Such careful and rigorous assessments of program efforts are needed to ensure that investments are accomplishing the desired results and that these results are sustained in the long-term.

High exposure to DREAMS interventions and significant shifts in knowledge, attitudes and HIV testing behaviors were found among AGYW.
Across sites, AGYW had high-levels of engagement with the various DREAMS program components and felt that DREAMS has positively shifted their self-perception of risk, their behaviors, and ability to seek care (Figure 6).
Now that I am aware of these issues surrounding the HIV virus and how it can be contracted or avoided that is why I stopped my old way of putting my life at risk because of my participation in the [GoGirls!] club....

—23 yr old, Zomba, Malawi

Figure 6 Significant improvements in HIV knowledge, self-efficacy, & HIV testing

Malawi (n=1,255)

<table>
<thead>
<tr>
<th></th>
<th>2016–2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV knowledge</td>
<td>48%</td>
<td>61%</td>
</tr>
<tr>
<td>I would be able to ask a doctor or provider questions</td>
<td>44%</td>
<td>65%</td>
</tr>
<tr>
<td>HIV test in the last 12 months</td>
<td>83%</td>
<td>93%</td>
</tr>
</tbody>
</table>

***p<0.001
Note: similar results in Kenya and Zambia

There were limited shifts in other HIV-related risk behaviors among AGYW. Yet, exposure to multiple program components may have influenced outcomes in the right direction.

Looking across our study sites in three countries (Kenya, Malawi, and Zambia), only AGYW in Malawi reported a significant reduction in having two or more sexual partners, while consistent condom use was lower over time across all three settings, and transactional sex seemed to be increasing in both Zambia and Kenya. However, while consistent condom use decreased overall, Figure 7 shows that higher consistent condom use was found among adolescent girls who received key program interventions. Our analyses exploring associations between program exposure and HIV-related outcomes sheds light on the importance of layered programming (participants receiving multiple interventions simultaneously) in achieving program outcomes. For instance, the likelihood of consistent condom use increased from 33 percent to 57 percent among 15- to 19-year-olds who received economic support, completed the safe space/social asset building curriculum, and received educational support.

Male partners of AGYW enrolled in DREAMS benefited from interventions that addressed social and gender norms.

The men who participated or were exposed to intervention content through their partner noted a number of benefits. Men cited improved couple communication and conflict resolution with their partners, reported a reduction or elimination of their side partners, and noted greater impetus to link to HIV services.

“[My partner] and I now know how to communicate with each other...we no longer have arguments over simple things....

—Male partner, Mukono, Uganda

“The meeting taught me, as a person, to be safe, and practice self-control.... Have one partner [and] stop admiring other women....

—Male partner, Sembabule, Uganda
WHAT ARE WE LEARNING ABOUT HOW TO IMPLEMENT A MULTISECTORAL COMMUNITY-BASED HIV PREVENTION PROGRAM FOR AGYW?

DREAMS provided a unique opportunity to understand the strategies for and the challenges of implementing multi-sectoral programs in affected communities. Our findings show that DREAMS programming relied on the technical and organizational capacity of implementing partners to work in new ways.

Highly vulnerable AGYW were hard to reach. DREAMS implementing partners used a variety of screening tools to identify at-risk AGYW for enrollment into the DREAMS program. Early-on in DREAMS program implementation, we showed that DREAMS programs were able to recruit thousands of vulnerable AGYW (e.g., who came from vulnerable households/were orphans/ experienced violence). However, out-of-school and sexually active AGYW were not as well represented amongst the DREAMS program beneficiaries (Figure 8). These early insights enabled programmers to shift their efforts to ensure outreach to these very vulnerable groups.

Successful program implementation depends upon the quality of the mentors. Knowledgeable, empathetic, and available mentors were a key ingredient in recruiting and retaining AGYW in DREAMS programming. In fact, 92 percent of AGYW in Kenya, 86 percent in Malawi, and 86 percent in Zambia felt comfortable seeking advice or referral from a mentor.

“ I have mentored these girls, so I’m looked up to as a role model in the community, so it has really impacted me, and I have learned a lot from the girls that I have been mentoring...I never thought I would change these girls’ lives or the way they think.... All this makes me happy, and (I) walk with my head up in the community.

—Mentor, Zambia

Approaches to retaining adolescent girls (AG) versus young women (YW) in the DREAMS programming requires an understanding of each group’s needs and circumstances.

AG and YW across Kenya, Malawi, and Zambia had dissimilar perceived benefits of DREAMS participation. AG were more receptive to building social networks and gaining knowledge, however YW were keen to access skills, training, and tangible resources or options to enhance their livelihood skills.

“ In my opinion, I feel that for the people to be motivated we should be provided with money to start a business so that the profits can be deposited in a VSL [village savings and loan] they advised that we should

Figure 8 Comparison of DREAMS participant versus non-participant characteristics early in the program implementation to refine outreach efforts
establish. At the moment the people are demotivated...and we don’t know ways which we can encourage them...so in my opinion what is needed is money to established businesses.

—DREAMS implementing partner, Malawi

**Introduction of new biomedical technologies for AGYW requires an understanding of factors that influence demand and effective use, as well as provision of quality services.**

In Tanzania we found that to foster PrEP uptake among AGYW, parents wanted strategies on how to counsel their daughters regarding HIV prevention, partners wanted to be included in decision-making around PrEP and to have access to the drug themselves, health care providers wanted institutional support and counseling tools to allow for this new workload and clientele, and AGYW wanted social support networks to help them effectively use PrEP and product marketing that did not stigmatize them, their behaviors, or the product.

**Program implementers need support too.**

We found that DREAMS program implementers requested support with a number of technical skill sets, such as guidance for how to program for AGYW, how to reach marginalized groups, how to address HIV-related stigma, how to address power and gender dynamics and implement gender-transformative programming, and how to use data to guide programming. Furthermore, implementers needed new systems of communication, coordination, and management across organizations delivering various parts of the multi-component intervention packages.

“At the beginning everyone was trying to figure out how you put the pieces together. Everyone was running with their own targets, but I think even at the

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**Figure 9** Introducing PrEP for AGYW requires multi-level considerations


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Highlights from the DREAMS implementation science research portfolio
community level, there were different partners implementing DREAMS, so sometimes the schools were confused....

—Management staff, DREAMS implementing partner, Zambia

Our research reveals the importance of building technical and organizational capacity among new implementing partners for effective programming with AGYW and men.

A WAY FORWARD

Multiple factors such as age, gender norms, relationship power, access to resources, geography, to name a few, influence HIV vulnerability/risk and service use. DREAMS took a uniquely comprehensive approach to HIV prevention programming—aiming to address this nexus of vulnerabilities—at a very large scale. There is much to be gleaned from this innovative partnership.

Here we presented a brief snapshot of key findings around who was most at-risk, what social drivers were important in this context, what program effects were detected, and what strategies were implemented, accessed, and valued. As a global HIV prevention community—which includes program implementers, researchers, advocates, policymakers, and donors—we need collective action to sustain the investment in comprehensive HIV prevention programming that seems to be yielding promising results for those most affected by HIV. We need complementary efforts to tackle the identified gaps, plus evidence generation to appropriately adapt programs to other settings and monitor sustainability over time.

For more resources and information about the DREAMS Implementation Science Research portfolio, please visit: knowledgecommons.popcouncil.org/series_dreams or contact Dr. Sanyukta Mathur at smathur@popcouncil.org.

REFERENCES


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