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Evidence to support HIV prevention for adolescent girls and young women (AGYW) and their male partners: Results from Malawi Dreams studies with AGYW, male partners of AGYW, men living with HIV, and program implementing partners

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FEBRUARY 2020

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Through operations research, Project SOAR will determine how best to address challenges and gaps that remain in the delivery of HIV and AIDS care and support, treatment, and prevention services. Project SOAR will produce a large, multifaceted body of high-quality evidence to guide the planning and implementation of HIV and AIDS programs and policies. Led by the Population Council, Project SOAR is implemented in collaboration with Avenir Health, Elizabeth Glaser Pediatric AIDS Foundation, Johns Hopkins University, Palladium, and The University of North Carolina.



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Centre for Reproductive Health, College of Medicine, University of Malawi

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Evidence to Support HIV Prevention for Adolescent Girls and Young Women (AGYW) & Their Male Partners

Results from Malawi DREAMS studies with AGYW, male partners of AGYW, men living with HIV, and program implementing partners

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TABLE OF CONTENTS

ACRONYMS	iv
EXECUTIVE SUMMARY	1
INTRODUCTION	5
HIV/AIDS and AGYW in Malawi.....	5
Male partners and AGYW’s risk of HIV.....	5
DREAMS partnership	6
Research objectives.....	6
METHODOLOGY	7
Study design.....	7
Data collection methods.....	7
Ethical review.....	9
Data analysis	9
KEY FINDINGS	10
AGYW: respondent characteristics.....	10
AGYW: defining HIV vulnerability profiles	12
AGYW: experiences with DREAMS programming	13
AGYW: change over time in household circumstances, knowledge, attitudes, and behaviors.....	18
Volunteers and implementing partner perspectives on program implementation	25
Male partners of AGYW: characteristics & barriers and facilitators to HIV service use.....	29
MLHIV & their experiences with HIV services.....	36
DISCUSSION	41
CONCLUSION AND RECOMMENDATIONS	43
Conclusions	43
Recommendations.....	43
REFERENCES	46

ACRONYMS

AG	Adolescent girl, ages 15–19
AGYW	Adolescent girls and young women, ages 15–24
CRP	Community resource person
FGD	Focus group discussion
GBV	Gender-based violence
HIV	Human immunodeficiency virus
IDI	In-depth interview
IP	Implementing partner
MLHIV	Men living with HIV
PEPFAR	United States President’s Emergency Plan for AIDS Relief
PMTCT	Prevention of mother-to-child transmission
PLHIV	People living with HIV
PrEP	Pre-exposure prophylaxis
PEP	Post-exposure prophylaxis
TasP	Treatment as prevention
USAID	United States Agency for International Development
VMMC	Voluntary medical male circumcision
VSL	Village savings and loans
YW	Young women, ages 20–24
YAG	Young adolescent girls, ages 10–14

EXECUTIVE SUMMARY

Adolescent girls and young women (AGYW) in Malawi bear a disproportionate burden of HIV compared to their male peers—HIV prevalence is 2.3 times higher among young women aged 15–24 compared to young men of the same age (Malawi PHIA 2018). AGYW in rural areas and with less education experience an even greater burden. In Malawi, the vast majority of AGYW have left school by the age of 15 years. Reaching out-of-school AGYW with effective programs and services is key for HIV prevention efforts.

DREAMS is an initiative that aims to ensure that AGYW aged 15–24 have an opportunity to live Determined, Resilient, Empowered AIDS-free, Mentored, and Safe (DREAMS) (Saul 2018). DREAMS works in the Zomba and Machinga districts of Malawi through layered interventions with existing United States Agency for International Development (USAID) partners in order to reduce HIV incidence and violence, and empower AGYW, particularly out-of-school AGYW ages 15–24 and young adolescent girls ages 10–14.

Project SOAR, led by the Population Council, in partnership with the Center of Reproductive Health at the University of Malawi College of Medicine, conducted a research portfolio to generate evidence to reduce HIV risk among AGYW and their male partners. The specific objectives of this implementation research were to generate evidence for describing HIV-related risk factors among AGYW; assess the extent to which the overall DREAMS project contributed toward the goal of reducing HIV risk among AGYW; and to understand the characteristics of male partners and how to link them to HIV services, as well as retain men living with HIV (MLHIV) in care. This study was conducted in the Zomba and Machinga Districts. The findings of the study aimed to inform HIV prevention programs and policies with the goal of improving health programming and overall well-being of AGYW and men in Malawi and other similar settings.

METHODOLOGY

A prospective cohort study was conducted with out-of-school AGYW (age 15–24 years) participating in DREAMS programming. An interviewer-administered pre-intervention survey was conducted with 1,672 AGYW, of which 1,257 completed the survey post-intervention. To complement the quantitative data collection, focus group discussions (FGDs) and in-depth interviews (IDIs) were conducted with AGYW and DREAMS program staff. Cross-sectional qualitative studies were conducted with male partners of AGYW and with MLHIV.

KEY FINDINGS

Approximately half of AGYW had higher HIV vulnerability profiles which puts them at an increased risk of HIV due to a confluence of household socioeconomic, knowledge, and attitudinal factors.

From the baseline data we conducted sophisticated latent class analysis to identify population segments who had higher and lower vulnerability of HIV. We found two distinct HIV vulnerability profiles for AGYW in Malawi—a higher HIV vulnerability profile (47 percent of AGYW) and a lower HIV vulnerability profile (53 percent of AGYW). AGYW in the higher vulnerability profile had a high probability of supporting gender inequitable norms, living in a household of medium socioeconomic status, and having no comprehensive knowledge of HIV. Being in the higher vulnerability class was associated with increased odds of having experienced STI symptoms, very early sexual debut (before age 15 years), and pregnancy experience; and marginally associated with engaging in transactional sex and experiencing physical violence from intimate partners and sexual violence from non-partners.

There were many positive changes in HIV-related knowledge, attitudes, and behaviors from baseline to endline among DREAMS beneficiaries.

There were significant improvements in comprehensive knowledge about HIV, condoms, and prevention of mother-to-child transmission. Fewer AGYW reported having stigmatizing attitudes toward people living with HIV (PLHIV). Significantly more AGYW had a high level of support for equitable gender norms and reported higher relationship power. Over time, fewer AGYW reported sexual violence from partners and non-partners, fewer experiences of STI symptoms, and increased use of HIV testing and post-gender-based violence care.

HIV messaging and services need to be tailored to men and boys to encourage them to access HIV services.

Strategies to encourage men to access HIV services include incorporating features of initiation camps for voluntary medical male circumcision (VMMC), more targeted messaging and services aimed specifically at men, and leveraging technology and media for HIV messaging. Men also felt it was important to reach young men with HIV education and prevention information and services.

Social support and high-quality care are key facilitators for engaging men in HIV care and treatment.

Social support from friends and family as well as support groups for PLHIV facilitated antiretroviral therapy (ART) initiation and adherence among MLHIV. High quality and patient-friendly counseling as part of HIV testing was another motivating factor for initiating ART. Encouraging, supportive, open, and respectful service providers enabled MLHIV to start and remain on ART. Providers who respected their clients' privacy were much appreciated.

Effective implementation of DREAMS interventions required concerted efforts to build buy-in at the community-level, a focus on opportunities/skills enhancement for AGYW, and effective coordination across implementing partners.

Gaining support of community leaders, parents, and partners was important for being able to recruit AGYW into the DREAMS program. Retaining AGYW in the program was easier when they were offered skills or resources that may enhance their economic opportunities. Implementing partners need enough time to discuss and establish coordination of timelines, program components, and referral/linkage mechanisms for effective layering of intervention components.

CONCLUSION AND RECOMMENDATIONS

As HIV prevention programs focused on AGYW expand and continue, close attention must be paid to finding the most vulnerable AGYW. In efforts to better identify those most at risk, we found certain risk profiles of HIV vulnerability—in other words, we identified combinations of factors that synergistically contribute to HIV risk—for AGYW in different contexts.

With regards to AGYW participating in DREAMS programming, we found positive changes over time in HIV-related knowledge, attitudes, and behaviors. Recommendations for further programming to address HIV prevention among AGYW include:

- Strengthening comprehensive HIV/AIDS education for out-of-school AGYW, including building skills to effectively negotiate condom use with their partners.
- Invest in strategies to keep girls in-school and provide livelihoods support for girls who are out of school.
- Emphasize couple interventions for HIV preventions.
- Invest in facility-based and community-based interventions to prevent intimate partner violence and strengthen post gender-based violence care.
- Develop mechanisms and space for program partners to coordinate program implementation activities to maximize the effect of layered programming.

Our research suggests the need for a strategic emphasis on identifying and reaching high risk men who are not using HIV services. Finding men through informant-identified hot spot venues for community-based testing and recruitment into HIV prevention programming may prove effective.

Recommendations to reach men with HIV services include: addressing stigma and accessibility issues by partnering with community health workers and community organizations; enhancing VMMC services by incorporating features from initiation camps that appeal to men; and engaging men of all ages in the development of HIV prevention, care, and treatment messages and services. Health care providers in all facilities should continue to be trained to provide supportive and patient-centered care to PLHIV. Sustaining and expanding the outreach of PLHIV networks and groups of MLHIV could enhance men's engagement in HIV treatment. Providing ART refills

at support groups and other community sites and disbursing a larger quantity of drugs to reduce the frequency of health visits, might foster ART adherence. Finally, integrating ART services into sexual and reproductive health services or general community-based health clinics could potentially reach men who are positive but otherwise reluctant to seek services at facilities or locations that only provide HIV services or only provide them on select days.

INTRODUCTION

HIV/AIDS AND AGYW IN MALAWI

In 2016, 10 percent of all Malawians aged 15–49 were HIV-positive. Women acquire HIV at younger ages than men; HIV prevalence among young women aged 15–24 (3.4 percent) is 2.3 times higher than among young men (1.5 percent) of the same age (Malawi PHIA 2018). There are also geographic variations, with higher prevalence among youth in urban compared to rural areas. AGYW (15–24 years old) living in urban areas are three times more likely to be HIV-positive than their rural counterparts (Malawi DHS 2011). Further, HIV prevalence is higher among AGYW with no education compared to AGYW who have completed primary or secondary schooling (Malawi DHS 2011). Many AGYW lack a full range of opportunities and are too often devalued because of gender bias, leading them to be seen as unworthy of investment or protection. Social isolation, deprivation, economic disadvantage, discriminatory cultural norms, orphanhood, gender-based violence (GBV), school dropout, child marriage, and biological factors all contribute to AGYW’s vulnerability to HIV.

In recent years, the Government of Malawi’s HIV prevention efforts have included behavioral change interventions (including life skills education) for young people in- and out-of-school and the provision of youth-friendly health services aimed at increasing youth access to sexual and reproductive health (SRH) services (Malawi National AIDS Commission 2015). However, efforts to reach out-of-school youth with these services and programs have fallen short of targets. (Malawi National AIDS Commission 2015). Out-of-school youth are harder to reach with a range of social, economic, and health services. In Malawi, where only 12 percent of 15- to 24-year-old women have completed primary schooling (Malawi DHS 2011) and the vast majority have left school by the age of 15 years, reaching out-of-school AGYW with effective programs and services is a key challenge and need for HIV prevention efforts.

MALE PARTNERS AND AGYW’S RISK OF HIV

Sexual relationships with some male partners also contribute to increased HIV risk among AGYW due to: (1) power differentials that reduce the ability of AGYW to successfully negotiate condom use; (2) male partners’ increased exposure to HIV through their often larger sexual networks; and (3) men’s reluctance to utilize HIV services, including HIV counseling and testing, antiretroviral therapy (ART), and voluntary medical male circumcision (VMMC). Modeling exercises have indicated that incidence reductions can be attained among AGYW with effective implementation and coverage of VMMC and ART for men (Conly 2016). A recent review of the literature on characteristics of male partners of AGYW indicate that age-disparate partnerships with men greater than 10 years older and "sugar daddies" are not as common as partnerships with men who are 5 to 8 years older.

DREAMS PARTNERSHIP

DREAMS is an initiative that aims to ensure that AGYW aged 15–24 have an opportunity to live Determined, Resilient, Empowered AIDS-free, Mentored, and Safe (DREAMS) (Saul 2018). DREAMS is a partnership between the United States President’s Emergency Plan for AIDS Relief (PEPFAR), the Bill & Melinda Gates Foundation, and Girl Effect, as well as Johnson & Johnson, Gilead Sciences, and ViiV Healthcare. DREAMS works with partner governments to deliver a core package of interventions that addresses the structural drivers that increases girls’ risk of HIV. DREAMS aims to significantly reduce new HIV infections among AGYW by 40 percent in 15 countries in sub-Saharan Africa by providing a core package of interventions to AGYW residing in areas with high HIV prevalence.

In Malawi, DREAMS works in communities in Zomba and Machinga districts through layered interventions via existing United States Agency for International Development (USAID) partners, including One Community (OC), PCI, PSI-SIFPO-2, LINKAGES, Save the Children-ASPIRE, Yoneco, Baylor, and Dignitas. The community-based interventions are promoting positive sexual health behaviors; providing knowledge and skills to increase self-efficacy; providing economic empowerment and skills for AGYW and their families; increasing AGYW’s access to SRH services; creating an enabling environment for AGYW by supporting caregivers; addressing harmful community norms and practices; creating safe spaces for AGYW to reduce their risk of HIV; and linking AGYW to youth-friendly health services.

Among the interventions is the Go! Girl Club initiative which is being implemented by OC in Zomba and Machinga districts. The initiative aims to empower AGYW and reduce their risk for HIV and violence. While the program mainly targets 15- to 24-year-old AGYW, the program also is targeting 10- to 14-year-old girls, including young mothers aged 10–14. These out-of-school young adolescent girls (YAGs) receive the same curriculum as the 15- to 24-year-old AGYW and are encouraged to go back to school, and those with children are trained in positive parenting skills. In addition, their guardians are trained in positive parenting skills.

RESEARCH OBJECTIVES

The overall research objectives of the research activities were to generate evidence regarding HIV risk factors among AGYW; assess the extent to which the overall DREAMS project contributes toward the goal of reducing HIV risk among AGYW; and to understand characteristics of male partners and how to link them to HIV services, as well as retain men living with HIV (MLHIV) in care. This study was conducted in the Zomba and Machinga Districts in Malawi. The findings of the study will inform HIV prevention programs and policies for improving health programming and overall well-being of AGYW and men in Malawi and other similar settings. This work was done under Project SOAR, led by the Population Council, in partnership with the Center of Reproductive Health at the University of Malawi College of Medicine.

METHODOLOGY

STUDY DESIGN

AGYW

A prospective cohort study was conducted with out-of-school AGYW participating in DREAMS programming. Each DREAMS implementing partner (IP) used a systematic selection process to identify vulnerable AGYW for engagement in the program. For example, OC recruited beneficiaries with local community-based organizations working with vulnerable populations. Using the Girl Roster¹, OC visited and screened households to identify potential beneficiaries. We used a cluster sampling strategy to select study participants by age group (15- to 19- and 20- to 24-year-olds) and site from the lists provided by IPs. An interviewer-administered survey was conducted with 1,672 AGYW pre-intervention, of which 1,257 completed the post-intervention survey. To complement the quantitative data collection, focus group discussions (FGDs) and in-depth interviews (IDIs) were conducted with AGYW and DREAMS program staff (see details under Data Collection Methods).

Male partners of AGYW and MLHIV

Cross-sectional qualitative studies were conducted with male partners of AGYW and with MLHIV.

DATA COLLECTION METHODS

AGYW

This study employed a combination of quantitative and qualitative data collection activities. Interviewer administered surveys were conducted with AGYW enrolled in the DREAMS program. The surveys gathered information on respondents' characteristics; knowledge, attitudes, and behaviors; and exposure to DREAMS programs and services. The baseline survey was conducted from July to September 2017, with 1,672 AGYW. The endline, conducted from September to November 2018, captured 1,257 of those AGYW.

IDIs were conducted at baseline and endline with out-of-school AGYW enrolled in DREAMS programming to document and assess the engagement strategies used to reach them and the intervention package that they were exposed to, and to determine the facilitators and barriers to effective program implementation. Additional IDIs were conducted with out-of-school YAGs ages 10–14 who were enrolled in DREAMS programming to understand their daily lives, their

¹The Girl Roster is a programmatic tool developed by the Population Council that allows implementers to generate a census of vulnerable adolescents in their walkable program community. For information on the Girl Roster can be found here: <https://www.popcouncil.org/research/girl-roster>

experiences and trajectory through the DREAMS program, and the influence of the DREAMS program on their lives.

DREAMS program staff

FGDs were conducted with IPs, Go! Girls Clubs facilitators, and community resource persons (CRPs) who were directly involved with implementing DREAMS programming to understand their experiences and the barriers and facilitators to recruiting and retaining out-of-school AGYW in the DREAMS activities.

Table 1 Summary of qualitative data collection activities with AGYW and DREAMS program staff

	Baseline	Midline	Endline
AGYW, 15–24	12 IDIs	None	24 IDIs
YAG, 10–14	12 IDIs	None	12 IDIs
IPs	12 IDIs	12 IDIs	11 IDIs
Go! Girls Clubs facilitators	4 FGDs	2 FGDs	2 FGDs
CRPs	4 FGDs	2 FGDs	2 FGDs

Additionally, from May to June 2017, we conducted two community mapping exercises with AGYW and two with community opinion leaders (e.g., village chiefs, religious leaders, health workers) to identify locations within the two districts where AGYW meet male sexual partners. A subset of AGYW, aged 18 and older, who were enrolled in the DREAMS program, and community opinion leaders, aged 18 and older, were recruited with the support of the DREAMS implementing partners. As part of the mapping exercises, AGYW and community leaders drew maps of their communities, identifying key community boundaries (e.g., roads, rivers) and spaces and structures within the community (e.g., churches, schools, market) (MEASURE Evaluation 2016). Once these locations were marked, respondents noted the places where AGYW were likely to meet sexual partners. During the mapping exercise, we held a group discussion to identify the types of men who have sexual relationships with AGYW.

Male partners of AGYW

FGDs were conducted with men from the venues identified from the community mapping exercises. Men were eligible to participate if they were aged 18 and older and in a relationship with a woman between the ages of 15 and 24. A total of 16 FGDs, eight in each district, were conducted, with a total of 157 men. FGDs focused on men’s experiences with accessing HIV services, what they wanted from HIV services, reasons men may or may not access HIV services, and specific strategies that would enable men to access HIV services.

MLHIV

From October to November 2017, we conducted IDIs and FGDs with MLHIV. The study team met with community-based organizations and health facility administration to discuss the purpose of the study and inquire about the existence of support groups for people living with HIV (PLHIV). Through these methods, the study team was linked to support groups for MLHIV in the study sites and invited men to participate in IDIs or FGDs. IDIs were used for men who were uncomfortable meeting in a group setting. Men were eligible if they were age 18 and older and living with HIV. A total of 16 IDIs and 4 FGDs were conducted, with a total of 49 men. A common guide was used for both the IDIs and FGDs and focused on how men decide whether to use HIV care and support services, their experiences with HIV treatment services, and what men want from these services.

ETHICAL REVIEW

The study was approved by the Population Council Institutional Review Board (New York, USA) and the College of Medicine Research and Ethics Committee (CoMREC) at the University of Malawi.

DATA ANALYSIS

We conducted bivariate analyses (e.g., Chi-squares) comparing key indicators from baseline to endline among AGYW participating in both rounds of quantitative data collection ($n=1,257$). We also conducted bivariate analyses comparing sociodemographic characteristics of AGYW who were followed to endline and those who were not followed. We used latent class analysis to identify HIV vulnerability profiles based on respondent characteristics, attitudes, and knowledge, and household characteristics. Multilevel logistic or Poisson regressions examined associations between vulnerability profile and HIV-related health outcomes (such as STI symptoms, pregnancy experience), adjusting for clustering at the site-level and for age.

Qualitative data were analyzed using thematic analysis. Lead study investigators drafted the initial codebook, which was further refined by the broader study team comprising five researchers who coded all of the transcripts. All research team members discussed and agreed upon the standard codebook to be applied across all transcripts, after which codes were applied systematically across all respondent interviews. Codebook modification and thematic analysis were both performed iteratively as codes and themes were refined based on additional data arising from the transcripts.

KEY FINDINGS

AGYW: RESPONDENT CHARACTERISTICS

At baseline, there were 1,672 AGYW in the cohort study, and 75 percent of those were followed to endline (n=1,257). There were some sociodemographic and site level differences between the 1,257 AGYW who were followed through to endline and the 415 AGYW who were not followed and thus were not included in the quantitative analysis of changes from baseline to endline. Initial analysis assessed differences between AGYW in our cohort (n=1,255) and those lost to follow-up between rounds 1 and 2 (n=415). Attrition was highest among AGYW who were: formerly or never married (p<0.01), orphans (p<0.001); and from Zomba (p<0.001).

The average age of the AGYW cohort was 21 at baseline and 22 at endline (Table 2). Less than 1 percent were currently enrolled in school at baseline, and 3 percent were enrolled at endline, a significant increase (p<0.001). Eighty-seven percent were currently employed at baseline and significantly more (93 percent) were currently employed at endline (p<0.001). Nearly all had ever had sex at baseline and significantly more had ever had sex at endline (96 vs. 98 percent, respectively, p<0.001). Significantly less AGYW were currently sexually active at endline (73 percent at baseline vs. 70 percent at endline, p<0.05). Significantly more AGYW were ever married, currently married, or ever pregnant at endline compared to baseline.

Table 2 Characteristics of the AGYW cohort (N=1,257)

	Baseline	Endline
Average age (SD)	21 (2.2)	22 (2.3)
	%	%
Currently enrolled in school	1	3***
Currently employed	87	93***
Sexual activity		
Ever had sex	96	98***
Currently sexually active	73	70*
Marriage & pregnancy		
Ever married	81	88***
Currently married	65	69**
Ever pregnant	89	95***
Self-reported HIV status	2 ^a	2

*p<0.05; **p<0.01; ***p<0.001

^a51 respondents at baseline had never tested for HIV

Twelve AGYW participated in IDIs at baseline and 24 at endline (Table 3). The average age of AGYW was 19.3 years at baseline and 21.1 years at endline. Most participants in both rounds had completed Standard 1–8. A greater proportion of AGYW were married at endline compared to baseline (70 vs. 50 percent, respectively). The mean number of children was 1.1 at baseline compared to 1.2 at endline. Casual work was the most common occupation in both rounds. All AGYW reported having been HIV tested at endline, and 63 percent of them engaged in couples counseling and testing. Ninety-two percent of AGYW at endline reported participating in DREAMS for more than one year.

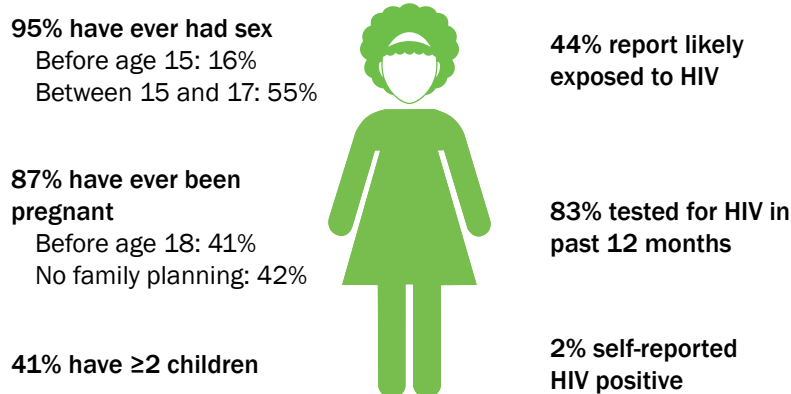
Table 3 Characteristics of the IDI AGYW participants (N=36)

Characteristic	Baseline sample (n=12)		Endline sample (n=24)	
	n	%	n	%
Age (mean (sd))	19.3	3	21.1	2
Education				
None	0	0	1	5
Standard 1–8	10	83	17	71
Form 1–4	2	17	6	25
Marital status				
Never married	6	50	4	17
Married	6	50	17	70
Divorced	0	0	3	13
Number of children (mean)	1.1	1	1.2	1
Occupation				
Casual work/laborer	5	42	12	50
Farming	1	9	4	17
Business	3	25	3	13
Other (e.g., business)	3	25	3	13
Unemployed	0	0	2	8
Reported ever tested for HIV	—	—	24	100
Couples testing and counseling				
Yes	—	—	15	63
No	—	—	9	38
Duration of DREAMS participation				
Less than 1 year	—	—	2	8
At least 1 year	—	—	22	92

AGYW: DEFINING HIV VULNERABILITY PROFILES

AGYW in the Zomba and Machinga sites are at high risk for HIV. Our baseline survey showed that sexual experience began early for most AGYW in our sample and was soon followed by childbearing. While the majority had tested for HIV in the past year, 41 percent thought they were at high risk of HIV acquisition (Figure 1).

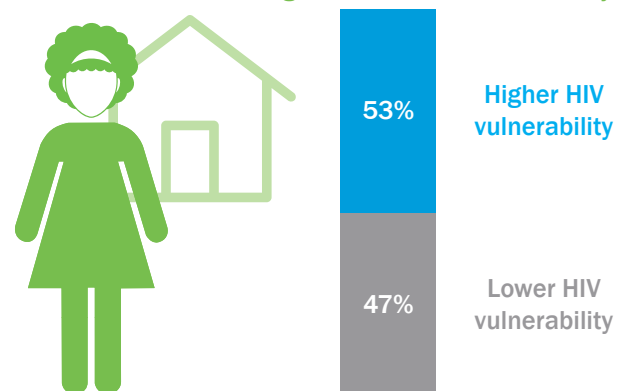
Figure 1 DREAMS AGYW: Baseline behavioral characteristics (n=1,672)



A key challenge in HIV prevention programming is identifying the most at-risk AGYW in communities with high HIV prevalence. We conducted innovative latent class analysis to assess the set of factors (including food insecurity, orphanhood, socioeconomic status [SES], marital status, mobility, HIV and condom knowledge, and gender norms attitudes) that synergistically influence HIV vulnerability among out-of-school AGYW and identify vulnerable segments of the population. We found two distinct HIV vulnerability profiles among AGYW in Malawi with good fit statistics (Figure 2). From our sample of over 1,500 out-of-school AGYW, the higher and lower vulnerability profile comprised 53 percent and 47 percent of the sample, respectively. AGYW in both profiles had a high probability of being currently married, perceiving themselves at high risk of HIV exposure, and not having comprehensive knowledge of condoms, but having a low probability of being mobile and being a double orphan. Distinguishing characteristics between the two profiles are that the higher vulnerability profile had a high probability of support for gender inequitable norms, a medium household SES, and no comprehensive knowledge of HIV.

Multilevel logistic and Poisson regressions adjusting for clustering at the site-level and for age showed that being in the higher vulnerability class compared to the lower HIV vulnerability class was associated with increased odds of having experienced STI

Figure 2 Two distinct profiles among out-of-school AGYW at R1: Higher and lower vulnerability



symptoms, very early sexual debut, and pregnancy. Being in the high vulnerability class was also marginally associated with engaging in transactional sex and experiencing physical violence from intimate partners and sexual violence from non-partners (Table 4).

Table 4 Associations between being in the high HIV vulnerability profile, HIV-status, and HIV-related risk behaviors and experiences

	AdjOR (95% CI)
HIV positive (self-reported)	1.60 (0.74–3.47)
STI symptoms	1.44 (1.16–1.78)
First sex ≤15 years	1.24 (1.00–1.54)
Pregnancy experience	2.19 (1.63–2.95)
Multiple sexual partners	1.16 (0.84–1.60)
Engaged in transactional sex	1.71 (0.97–3.01)
Sexual violence from intimate partners	1.12 (0.86–1.46)
Physical violence from intimate partners	1.26 (0.95–1.66)
Sexual violence from non-partners	1.36 (0.95–1.92)
HIV test in the last 12 months	1.04 (0.94–1.14)
Condom use at last sex	1.11 (0.84–1.46)

Note: Multilevel logistic and Poisson regression adjusted for clustering at the site-level and for age

AGYW: EXPERIENCES WITH DREAMS PROGRAMMING

Positive perceptions of DREAMS’ effect on HIV risk

Overall, the vast majority (86 percent) of the 1,257 AGYW in the cohort reported at endline that being part of DREAMS lowered their HIV risk. Additionally, more than 9 out of 10 reported that DREAMS caused them to take measures to reduce their HIV risk (93 percent). Nearly three-quarters reported that they shared information about HIV with other girls in their community because of DREAMS (72 percent).

AGYW felt DREAMS program staff were knowledgeable

AGYW felt that the peer facilitators and CRPs were knowledgeable about DREAMS topics, they felt comfortable seeking advice and referrals from them, and they found they were readily available when issues arose. A third of AGYW were accompanied to a health center by a facilitator or CRP (Table 5).

Table 5 AGYW views about DREAMS program staff

	AGYW (n=1,257) Endline (%)	
	Facilitator	CRPs
Knowledgeable about DREAMS topics	93	87
Felt comfortable seeking advice or referral	86	78
Readily available when an issue arose	82	68
Accompanied to a health service by peer facilitator or CRP	32	
Top 3 services accompanied		
HIV testing	89	
Family planning/contraceptives	61	
STI testing/treatment	10	

Exposure to DREAMS programming

At endline, AGYW had nearly universal exposure to most DREAMS primary interventions. There was limited exposure, in the form of referrals for related to food assistance, GBV care, and back-to-school support, on an as needed basis. A majority of the AGYW had been exposed to six to eight DREAMS program components (73 percent of 15- to 19-year-old girls and 83 percent of 20- to 24-year-old young women) (Table 6). There were no significant differences by site in terms of exposure to the primary interventions, except that a greater proportion of AGYW in Machinga participated in the village savings and loan (VSL) program.

Table 6 Exposure to primary and secondary interventions

	15-19 (n=371) %	20-24 (n=883) %
Primary interventions		
Social asset building	98	98
Access to contraceptive information and services	93	96
Access to condoms and information	95	96
HIV testing services	94	96
Secondary interventions		
Combination socioeconomic approaches	89	92
Participated in VSL groups	62	73
Parenting skills	81	92
Participated in parent groups	56	62
Post-violence care	1	2
Food security/nutrition	1	0.2
Back to school support	1	1

Many AGYW experienced periods of non-participation in DREAMS programming

Despite the high level of DREAMS program exposure, at endline, more than three quarters of the 1,257 AGYW (77 percent) reported periods of non-participation over the last year. The mean number of interruptions was 8.4 (SD, 12.3). More than half of these AGYW had an interruption that lasted one month or longer (55 percent). The main reasons for interruptions were sickness (48 percent), looking after family (24 percent), lost interest in program (17 percent), and was away from the community (17 percent).

Experiences with Go! Girls Clubs

Of the 47 AGYW who facilitated Go! Girls Clubs, most felt comfortable and supported by CRPs to facilitate the clubs but needed additional types of support to conduct the clubs. For example, 38 percent knew how to refer girls to services. Only one third reported receiving sufficient training (30 percent) and 1 in 5 reported having the necessary materials to conduct club sessions (21 percent) (Table 7).

Table 7 Experiences with Go! Girls Clubs

	Endline (N=47) %
Comfortable facilitating clubs	92
Had enough support from CRP	72
Easy to form clubs	40
Knew how to refer girls to services	38
Received sufficient training	30
Had the necessary materials to conduct club sessions	21

Among 24 AGYW participating in IDIs at endline, 22 had participated in DREAMS activities for more than one year. Both YAG and AGYW reported one of the primary reasons for their sustained participation in DREAMS programs, especially Go Girls! Clubs, was increased SRH knowledge and skill building through social interactions with other women. Important discussions centered on issues specific to women. They relayed learning about HIV, condom use, pregnancy prevention, STIs, menstrual hygiene, and gender equality. Discussions on treatment as prevention (TasP), pre-exposure prophylaxis (PrEP), or post-exposure prophylaxis (PEP) did not emerge in the qualitative data. Further, AGYW linked this increased knowledge to an increased ability to better manage their health and decision-making about their health. Among those who were married, AGYW reported that their husbands, most of whom were supportive of their participation in DREAMS, equally benefited from their increased knowledge and abilities as they shared all information with their husbands.

I used to live another type of life whereby I wanted to have extramarital affairs. All this was a result of me being ignorant that there is an HIV epidemic out here that one can contract by not practicing in a safe sex life. 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 club I am a member of. So I can say that I have seen the value of this DREAMS program in my life.

—Zomba, age 23

Moreover, YAG noted that their primary source of knowledge about HIV and SRH was from their participation in Go Girls! Clubs. Only a few noted receiving such knowledge from school, friends, or parents while others mentioned the information received from some of these latter sources was redacted.

The difference is that at this other place (the school) they hide some of the issues [referring to HIV and pregnancy prevention] from us while at the Go Girls! club they tell us everything.

—Zomba, age 13

Most AGYW participated in village savings and loans groups

Seventy percent of AGYW participated in VSL groups at endline. Of the 30 percent who did not participate, 36 percent said they didn't participate because they didn't have money to contribute and 59 percent said their club didn't have a VSL. Among those who participated in VSL groups, 78 percent felt the VSL helped their financial situation. The top reasons why the VSL helped them included being able to save money (56 percent) and purchase goods, food, and other things they needed (82 percent). Among those who participated but did not feel the VSL helped their financial situation, the main reason was that they didn't have money to contribute (59 percent) (Table 8).

Table 8 VSL participation among those who participated (n=893)

	Endline %
VSL helped financial situation	78
Saved money	56
Purchased goods, food, things needed	82
Started a business	20
Paid for school	1
VSL did not help financial situation	23
Didn't have money to contribute	59
Not interested in the VSL	6
Not eligible to participate	2

Based on in-depth interviews, most AGYW held a positive view of the VSL program. Interest rates, rules, structures, and amounts to contribute to the program were independently set by each club. To participate in the VSL program, AGYW reported engaging in a variety of activities, including

casual work/labor and small businesses. A few girls described receiving financial support from their husbands to contribute to the program as well as assistance with repaying loans that they took from the program.

We encourage one another to get the money not more than two thousand Kwacha so that everyone may be able to return it without any problem. We have never has that challenge in our bank.

—Machinga, age 22

My husband was doing some piece work [casual laborer], as he was doing the piece work I made losses in my business and he said if you have made the losses aaaaah like this let us help each other, he then searched for piece work and gave me the money. I took 10 and returned 12 and he gave me to pay back. When I paid back, I said I should wait until when I will need it again.

—Machinga, age 26

AGYW noted the biggest benefits of VSL were improved financial literacy and ability to save money for future purchases, which increased their feelings of financial security. They reported taking out loans of varying sizes (1200MKW–20,000MKW, roughly equivalent to US\$2–20) and using them for necessities (e.g., soap, food) and for large purposes, including transport to hospital, starting a business, purchasing a bicycle, or building a home. Most reported being able to repay the loans with interest.

My life has changed in that I did not know about bank, but now it's like my life has changed; I have known how to save money.

—Machinga, age 18

It happened that I have bought some chicken..., I have bought a cloth..., and at the moment that chicken has hatched..., it has 13 chicks and plus it..., making it 14. And for them if they are to grow, then it means that tomorrow I will be getting them and sell them.

—Zomba, 23

Some AGYW reported challenges with the VSLs they participated in, including high attrition by members, theft of money by group facilitators, and the need for additional administrative guidance and materials. A few AGYW did not participate in VSLs because the fees to participate were prohibitive.

The first one is that others took loans, but they didn't repay because they didn't have money to repay, and the second challenge is that sometimes others they don't come because maybe they are sick.

—Machinga, age 20

This program has faced problems like in the beginning when we were starting Go Girls club, we were a lot of people and everyone understood it. But when they saw that the people who brought this thing are not coming to visit us, they saw that it is not important because it's not that we can just be going to learn while the person who brought this thing is not coming to visit us an see how we are learning.

—Zomba, 21

AGYW: CHANGE OVER TIME IN HOUSEHOLD CIRCUMSTANCES, KNOWLEDGE, ATTITUDES, AND BEHAVIORS

Household circumstances

Nearly all AGYW felt connected to adults (e.g., adults in the household knew their whereabouts during the day or night) at baseline and endline, with no significant differences between rounds. Significantly fewer AGYW experienced hunger in the past month at endline compared to baseline (15 vs. 22 percent, $p < 0.001$) (Table 9).

Table 9 AGYW's household circumstances (N=1,257)

	Baseline (%)	Endline (%)
Parental supervision/monitoring	99	100
Hunger in the past month	22	15***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Improved knowledge of HIV

There were significant improvements in comprehensive knowledge about HIV, condoms, and PMTCT. However, there were also decreases in knowledge of TasP, oral PrEP, and PEP (Table 10).

Table 10 Change in comprehensive knowledge (N=1,257)

	Baseline %	Endline %
Comprehensive knowledge of		
HIV	48	61***
Condoms	27	31**
Knowledge of		
PMTCT	34	56***
TasP	37	21***
PrEP	15	7***
PEP	15	6***

*p<0.05; **p<0.01; ***p<0.001

Less stigma reported at endline

Nearly 50 percent of AGYW reported that they might face stigma and discrimination if they acquired HIV, compared to 36 percent at endline (p<0.001). Additionally, 69 percent of AGYW reported having stigmatizing attitudes toward PLHIV at baseline, while only 43 percent reported having stigmatizing attitudes at endline (p<0.001) (Table 11).

Table 11 Change in anticipated stigma and stigmatizing attitudes (N=1,257)

	Baseline %	Endline %
Any anticipated stigma if HIV positive	50	36***
Have stigmatizing attitudes toward PLHIV	69	43***

*p<0.05; **p<0.01; ***p<0.001

The majority of AGYW who participated in IDIs perceived HIV as a threat in their community, seeing it as a life-altering diagnosis that negatively impacts a person's quality of life and causes stress and anxiety. A few AGYW did not see a HIV diagnosis as grave due to available medications. Key influencers of a person's quality of life, stress, and anxiety were the perceived roles stigma and discrimination played in women's social wellbeing. AGYW thought stigma and discrimination prevented women from disclosing their status and not adhering to medication. AGYW, however, recognized that stigma and discrimination are wrong and noted that they do not discriminate against PLHIV.

When a young woman is HIV positive and on treatment they become worried, they don't associate with others because maybe she is afraid that people will discriminate her, and others even commit suicide and that's a big problem.

—Machinga, age 20

When someone is living with HIV, we do not discriminate him. Long ago when someone is severe wasted people believed they will get HIV after shaking hands with someone who is infected with HIV, but no one can get HIV by shaking hands with infected person unless you all both have cuts in the hands. But shaking hands while both of you have nothing, there is no problem.

—Machinga, age 26

Support for more equitable gender norms and higher relationship power

Significantly more AGYW at endline had a high level of support for equitable gender norms (24 vs. 43 percent, $p < 0.001$) and reported higher relationship power (23 percent vs. 41 percent, $p < 0.001$) when comparing baseline to endline (Table 12).

Table 12 Change in support for gender norms and in relationship power

	Baseline %	Endline %
Support gender-equitable norms***		
Low	43	24
Medium	34	33
High	24	43
Relationship power***		
Low	44	26
Medium	33	33
High	23	41

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Reduction in some risky sexual behaviors

At endline, there were significant decreases in reports of two or more sexual partners in the last year and alcohol use before sex, and a significant increase in contraceptive use. There were decreases in consistent condom use and transactional sex with a casual partner, but these were not significant. There was an increase in transactional relationships with AGYW's main partners (Table 13).

Table 13 Change in risky sexual behaviors

	Baseline %	Endline %
Among sexually active (n=1,207)		
2+ sex partners in the last year	7	4***
Contraceptive use	59	66***
Among current sexually active (n=922)		
Consistent condom use	6	6
Alcohol use before sex	1	0.3*
Transactional relationships & sex		
Started/stayed in a relationship with main partner for material gain (among all AGYW)	11	8*
Engaged in transactional sex (among sexually active; n=1,207)	4	3

*p<0.05; **p<0.01; ***p<0.001

Most AGYW knew their partner's HIV status

Among AGYW with a partner in the last year, there were increases in knowledge of partners' sexual concurrency and partner's use of alcohol before sex, but these were not significant. There was a significant increase in knowledge of partner's HIV status (86 vs. 94 percent, p<0.001) (Table 14). Of AGYW who knew their partner's HIV status at endline, 89 percent learned about it via couples' counseling and 83 percent of couples had been tested within the last year at a government health facility. A low proportion of AGYW reported having a partner who is living with HIV (1.5 percent) (Table 15).

Table 14 Change in partner's behaviors and awareness of partner's HIV status

Among AGYW with partner in last year	Baseline %	Endline %
Partner had other partners	26	28
Partner drank alcohol before sex	9	10
Knowledge of partner's HIV status	86	94***

*p<0.05; **p<0.01; ***p<0.001

Table 15 Details on partner's HIV status and testing experience

	Endline (%) N=1,142
Learned about status	
Partner informed AGYW	10
Couples counseling	89
Other	1
When tested together	
Within the last year	80
In the last 1–2 years	15
3+ years ago	5
Where tested	
Government health center/Hospital	83
DREAMS IPs	5
Community health center	10
Other	2
Partner is HIV+	2

*p<0.05; **p<0.01; ***p<0.001

Interviewed AGYW reported that they often tested with their partners, confirming the high couples' testing rates results in the quantitative data. There appeared to be an even split regarding who initiated the conversation around testing, but all AGYW reported having a positive experience at the health facility when testing with their partners.

When we went there, we found the doctor and we told them that we wanted to get tested, so they welcomed us and told us to feel free. We sat and one by one we got tested. And they said now you need to protect yourselves since you are negative so there is need to care.

—Machinga, 22

Increased self-efficacy and HIV testing

AGYW reported high and increased self-efficacy around going to a health clinic, visiting a clinic for HIV testing, accessing HIV care, and asking questions during clinic interactions (Table 16). AGYW also reported significantly higher rates of HIV testing in the last 12 months (83 vs. 93 percent, p<0.001). Significantly fewer AGYW reported STI symptoms, and a greater proportion sought STI care, although this difference was not significant (Table 17).

Table 16 Changes in self-efficacy to receive health services

Feel confident to... (N=1,257)	Baseline %	Endline %
Go to a health clinic	95	98***
Visit a clinic to get an HIV test	97	99***
Access HIV care and treatment	96	99***
Ask doctor or provider questions	44	65***

*p<0.05; **p<0.01; ***p<0.001

Table 17 Changes in uptake of HIV testing and STI care

	Baseline %	Endline %
HIV testing (last 12 months)	83	93***
STI symptoms	30	22***
Sought STI care (among those who reported STI symptoms)	49	51

*p<0.05; **p<0.01; ***p<0.001

The high HIV testing rate at baseline and increased testing at endline was furthered explained by AGYW in the qualitative interviews. Most AGYW explained they had tested for HIV in order to know their status. Some noted they were unaware of their partners' sexual behaviors and therefore, it is possible their partners could transmit the virus to them. A few noted being tested as part of routine and antenatal care. The majority reported testing occurred outside and before their engagement in the DREAMS program activities, primary at health centers and hospitals. A few girls did note they tested as a result of DREAMS and one girl reported testing with her friends in her Go Girls! Group. All AGYW reported a positive testing experience, marked by confidentiality, privacy, feeling welcome, and receiving proper counseling.

And I also thought that I should know the status of my blood, because with the man that we parted might have left me with a problem.

—Machinga, age 23

Fewer experiences of partner violence and more post-violence care seeking

Among those who were sexually active, there were significant decreases in physical and sexual violence from partners. Among all AGYW, there was a significant decrease in sexual violence from non-partners as well. Further, significantly more AGYW sought GBV care after experiencing violence from a husband or partner (18 vs. 49 percent, p<0.001). A greater proportion of AGYW sought GBV care after experiencing violence from a non-intimate partner as well, but this difference was not significant (Table 18).

Table 18 Changes in experiences of violence and uptake of care

	Baseline %	Endline %
Among sexually active	n=922	n=961
Physical violence from partners	16	12**
Sexual violence from partners	17	5***
Among all AGYW	(N=1,257)	
Sexual violence from non-partners	9	3***
Sought GBV care (after experiencing violence from a husband or partner)	18	49***
Sought GBV care (after experiencing violence from a non-intimate partner)	22	40

*p<0.05; **p<0.01; ***p<0.001

Both YAG and AGYW recognized girls' and women's vulnerability to physical and sexual violence in their communities and considered them problems, describing instances of sexual harassment, abuse, rape, and being forced into marriages.

It happens but it is not very often. Maybe you will be walking then a boy just runs at you and touches your breast.

—Zomba, age 13

Although there were significant decreases in reports of violence in the quantitative results, many AGYW felt the violence women experienced was “caused” by women's behavior, including not respecting their husbands, lack of subordination to their husbands, and unnecessarily aggravating situations.

Maybe if you were the one who has provoked somebody, then that person retaliates then you maybe saying that is violence but that isn't violence because you are the one who started the whole thing...Maybe you have done something wrong that means your husband will get angry and beat you... Maybe you have done something that the husband didn't like, maybe he told you to give him bathing water so, if you didn't do it he gets angry and beats you.

—Zomba, age 18

However, they noted that some support structures existed in the community for women who experience violence, including reporting the incident(s) to authorities/police, family members, community leaders/elders, and NGOs. AGYW also listed DREAMS organizations and facilitators as support for young women who experience violence, specifically receiving mental health support from DREAMS organizations in the community. Though support structures exist, some AGYW reported that violence goes unreported due to fear of relationship dissolution or continued violence.

If our member has been harassed, she reports to the facilitator and the facilitator reports to CRP and the CRP writes a letter to the police or to the chief.

—Machinga, age 22

I think they are afraid of...what can I say, let me just give an example; I have a relationship with a guy and one day he says let's have sex, and I refuse. He has forced me and it has happened that is abuse, so when I have gone to lodge a complaint at the police or at the elders here in the village, what I think people are scared is that the relationship will end.

—Zomba, age 19

To end this fear and to prevent violence, AGYW advocated for more involvement of community leaders/elders in violence prevention efforts; these leaders should take a stand against violence and encourage women to report violence against them. They also noted that violence prevention organizations should be more visible in the community so women know where to go for support. A few girls highlighted the need for conflict resolution and communication skills for couples. Still, some thought women needed to change their behaviors to avert violence.

The NGOs should be easily accessible so that men become aware that they can face consequences of abuses.

—Machinga, age 22

VOLUNTEERS AND IMPLEMENTING PARTNER PERSPECTIVES ON PROGRAM IMPLEMENTATION

Findings from FGDs with volunteers including Go! Girls Clubs facilitators and CRPs as well as IDIs with IPs, are summarized based on three overarching areas: reaching and retaining AGYW, coordination and program implementation, and suggestions for improving the program.

Reaching AGYW

IPs noted that identifying and selecting the most vulnerable AGYW was a challenge. They used strategies including peer supporters and gaining support of village headmen and chiefs to find the most at-risk AGYW. Additionally, gaining support and fostering collaboration between IPs, government, communities, and health facilities proved effective at reaching AGYW.

In order to keep AGYW in DREAMS programming, CRPs encouraged the girls and explained to them how the program would help their future, even if the short-term benefits were not obvious. AGYW felt energized by frequent visits and encouragement by the volunteers. One IP at endline explained that they used a consultative process in which youth were asked what they expected at health facilities, and this was validated by experts in youth programming. This approach enabled youth to feel a sense of ownership which led them to volunteer in the youth corner at health facilities and as mentors. Another way AGYW were retained in programming was through the layering approach where the project took advantage of already existing partners' structures like ASPIRE school mentors, mothers' groups, and drop-in centers to reach AGYW and FSWs.

Challenges to retaining AGYW

IPs noted that there was attrition due to AGYW having higher expectations of DREAMS programming than what was provided. Some AGYW expected food and others expected initial money when joining a VSL group, but neither were provided.

Other AGYW lost interest in the program, particularly once the DREAMS toolkit was completed. Some facilitators noted that they repeated chapters and AGYW requested new books. The facilitators said that in order to retain AGYW, they had to say that there were new aspects of the program that were coming soon, but they were not actually sure that this was the case.

We have manage to retain them because we lie to them that things will be ok, ishalla ishalla, good things are coming.

—Facilitator, endline

There was stigma from husbands and mothers-in-law in particular because they felt the clubs did not actually provide any real benefits and that the facilitators were wasting their time instead of doing other households chores, particularly in clubs where the lessons were repeated and the attendance dwindled.

Other challenges include community-level hysteria around blood suckers/vampires which affected mobilization in many areas.² Facilitators mentioned cultural influences that pose a challenge such as norms that girls should drop out of school and get married.

Coordination of DREAMS components

In the early stages of program implementation, a coordination system among IPs managed by Peace Corps volunteers was developed, which helped overcome initial communication and referral challenges. IPs noted that facilitators, peer educators, and other outreach staff were instrumental to the success of DREAMS implementation.

Success with program implementation

There were many notable successes with program implementation mentioned by CRPs, facilitators, and IPs. CRPs mentioned that the provision of transportation to reach distant villages was useful.

The components that are working well are like for instance they gave us bicycles to use for transportation so when we are going to the places we use them.

—Community resource person, early phases of implementation

Overall, IPs felt that the comprehensive delivery model was effective at engaging AGYW- school clubs, Go! Girls clubs, mother's groups, and peer groups. Provision of HIV-related services (e.g.,

²In Malawi in late 2017, there were rumors of vampires which caused disruption and violence. (<https://www.bbc.com/news/world-africa-41692944>).

testing and condom distribution) in the community increased access and use. The program was successful at bringing integrated health services not only to youth in their communities but in their schools as well. One IP in Zomba at endline said that the program was a success because youth were engaged from the program design stage to the evaluation stage. Another IP said the program has been successful at engaging the broader community including clients of female sex workers, traditional leaders, and law enforcement.

IPs also noted that VSL groups have been used to layer other interventions, and the entire family is benefiting from AGYW's participation in these groups. Additionally, VSL groups have made girls more self-reliant.

At endline, IPs noted that the working relationship with the Ministry of Gender and Social Welfare has been strengthened in addition to the District Health Office. This allowed referral for further management of girls that have experienced violence to the Gender Officer.

Challenges with program implementation

Initially, facilitators were met with doubt in their communities about their abilities to lead a group, but training helped build their confidence.

We met a lot of challenges, initially people used to insult us by saying we cannot lead a group but when we went for training we are able to lead a group and those people who started insulting us are appreciating saying that we are teaching the group very well.

— Facilitator, early phases of implementation

Tracking referrals was a notable challenge mentioned by most IPs. The referral system took longer to set up than planned, since the system design process was interrupted by staff turnover at IPs and plans were lost. Additionally, referral slips were often not taken to services or returned after services, so tracking was difficult. One IP began sending volunteers with AGYWs in order to manage this process. Service providers sometimes did not write on the referral card issued by the referring IP due to too much paperwork.

There were frustrations with VSL regarding misunderstandings about who would provide the initial funding, potential mismanagement of funds, and a lack of office oversight/supervision of the clubs and VSL program. Some CRPs mentioned that office level representatives did not visit clubs or even know when they were taking place.

Even the boss who is responsible for VSLs do not know that this VSL is here or there even when facilitators have misused the money the club members come to us if we go to the office they just say tomorrow. Some clubs have disappeared because of this, bosses don't come to supervise they leave it to us as if it's us who are working with one community but they have forgotten that we are volunteers.

—CRP, endline

Suggestions to improve and enhance DREAMS programming

Implementation and coordination

Volunteers mentioned that there is a need to dedicate more time to engaging with and gaining support from village chiefs and headmen. This could increase participation of AGYW.

Additionally, while some volunteers were provided with bicycles, others noted that there was a need for additional transportation support to implement activities in distant villages. Specifically, some CRPs said that even though they were given bicycles, they weren't given enough money to maintain the repair costs for their bikes, so they ended up walking. Another recommendation was that volunteers should be provided with a salary or increased monetary support. There is a need to address increasing demand for the program with the same amount of staff who are either not paid or paid very little.

What we do it's a lot of work, it's not volunteering it's a job They should consider us. maybe every month they should give us something. K6000 is just too small for us.

—CRP, endline

Volunteers and IPs mentioned that they would like a clear explanation of how the monitoring data are being used. They felt that the results and data should be relayed to all implementers, including volunteers, so that they can understand how the results are being used to inform programming.

GBV services need to be strengthened as well. Specifically, some CRPs felt that they were given little guidance on where and how to report instances of GBV that are reported to them by the girls. In general, CRPs felt they needed more training. Further, CRPs would appreciate a forum to discuss and address challenges. CRPs felt that their complaints should be listened to, taken seriously, and addressed in a timely manner. One such complaint mentioned at endline included requests to fix their phones promptly, which are needed to write their monthly reports.

Additionally, there needs to be sustained coordination and communication with government institutions, and health facilities and quality of care should continuously be strengthened.

Some IPs felt that it would have been better if all program components could have been integrated and delivered at the same time; for example, HIV testing and motivational information about contraception offered simultaneously or one after the other. Additionally, IPs noted that there should be more funding for mobile services, as many youth have access to mobile services compared to facility-based services.

Intervention components

IPs and volunteers mentioned that AGYW need income-generating activities in order to facilitate their engagement in VSL.

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 they advised that we should 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.

—Facilitator, early phases of implementation

Additionally, IPs felt that scholarships should be provided for all groups of AGYW to go back to school. Other areas mentioned by IPs to include in DREAMS programming include nutrition support and personal hygiene management.

IPs and volunteers alike commented on the need to engage boys as well. One IP at endline discussed how they adapted the program to include boys in youth clubs while maintaining the girls' clubs.

Overall, IPs discussed how just the provision of information is insufficient. There is a need to review the toolkit and tailor it to different age groups and marital statuses rather than having one toolkit for all the girls.

Additional engagement

Volunteers discussed the need to gain buy-in from parents, guardians, and male partners of AGYW. One IP mentioned the need to engage with the Ministry of Education so that they are invested and have a sense of ownership. Additionally, IPs mentioned the need for increased engagement with the MoH and Ministry of Gender. Going forward, one IP suggested bringing in the private sector to ensure continuation of the scholarship program post-donor support for more girls to be brought back to school. Finally, at endline, one IP said that the DREAMS program should be scaled up nationwide to engage AGYW and their communities from all parts of Malawi.

MALE PARTNERS OF AGYW: CHARACTERISTICS, BARRIERS, AND FACILITATORS TO HIV SERVICE USE

Figure 3 displays one of the maps created by AGYW participants during the community mapping exercises. For example, AGYW reported meeting male partners who were vendors at markets, bars, hostels, bushes, and on the main road, while they met male partners who were teachers at schools, rest houses, football grounds, and hostels.

Figure 3 Map created by AGYW participants showing where they meet different types of male partners



Table 20 Locations where AGYW meet male partners

	Machinga	Zomba
Initiation ceremonies for boys	X	
Rest houses/lodges	X	X
Markets/trading centers	X	X
Bars	X	X
Construction company offices	X	
Along the road/hills/bushes	X	X
In schools/teachers' homes	X	X
Riverbanks	X	
Football grounds	X	X
Estates		X
Church	X	X
Village breweries		X
Health centers		X
Video showrooms		X

Characteristics of male partners

Table 21 illustrates the occupations of the male partners that participated in the FGDs. The mean age of male partners interviewed was 27.5 years old. Male partners in Machinga were slightly younger than the average (26) and male partners in Zomba were slightly older (29). The most common profession of male partners in Machinga was teacher (21 percent), and in Zomba was transporter (20 percent). The locations where AGYW meet male partners differed in Machinga and Zomba.

Table 21 Age and occupation of male partners

By district	Machinga (n=78)	Zomba (n=79)	Total (n=157)
Age (mean (range))	26 (18-55)	29 (18-50)	27.5 (18-55)
Profession	%	%	%
Businessman	12	13	12
Teacher	21	9	15
Transporter	6	20	13
Football player	9	13	11
Student	17	0	8
Barber	3	9	6
Vendor	12	4	8
Farmer	3	8	5
Health worker	8	0	5
Manual laborer	1	8	4
Fishermen	3	0	1
Other	8	18	13

Barriers to seeking HIV services

Fear of testing positive

For many men, being HIV-positive equaled death. They feared a reduced quality of life would result from living with HIV. Relationship dissolution was a prominent concern, whereby if the man tests positive but his wife or partner tests negative, the relationship will end.

Most of the time when men go for testing they tend to be worried that if I test HIV positive they change their mode saying that I am dead, so they tend to be afraid and shy and do not go but they do not know that they can find themselves a bright future after going there.

—Zomba, 25, Chip Seller

Mmm, I remember I had an uncle who at one point went to the hospital together with his sexual partner where they got tested for HIV/AIDS. When the results came out it was

discovered that my uncle was found HIV positive while the female partner was found HIV negative. As a result the marriage ended. So most of the time people are afraid of this outcome.

—Machinga, 25, Barber

Internalized and externalized stigma

Men described both internalized and externalized stigma being barriers to service use. Internally, some men noted that they feel ashamed accessing the services. Externally, they feared being treated differently by others if they were living with HIV.

...there is a myth which says that when a person had HIV testing and the results are that person is HIV positive then that person will be segregated...and people will be talking about me in the community; therefore, to avoid being discriminated they prefer to remain the way they are without going for HIV testing. Also, they know that when they will be living they will have stress and they will not have friends who they can chat with and at their home there will be insufficient support for him; then it is better just to stay as the way he used to do.

—Machinga, 52, Teacher

Lack of privacy and confidentiality

Men explained that HCWs are from their community and if they were to access testing services and test positive, the HCWs would reveal their status to their community. They also noted there are specific days when health facilities serve PLHIV and by this schedule, people in the community automatically become aware of your status. These factors amplified stigma and discrimination. As a result, men chose either to not access services or to travel outside of their communities for services.

At a close hospital like here at Thondwe as he has said that they tend to be shy that people will see them receiving the ARVs so they tend to go to a hospital that is far like at Zomba so that people should not notice, instead the people should just see them (men) boarding a minibus and thinking that maybe they (men) are going in town when actually they are going to the hospital to receive HIV services, so it's because of shyness.

—Zomba, 38, Teacher

I think the issue of privacy when working on the part of health workers is what makes people not go for HIV testing because these health workers they don't keep it as a secret. It has spread everywhere and that is another thing which makes us think that I should not go there.

—Machinga, 35, Veterinary Officer

Men also noted drawbacks to accessing VMMC services because they are provided in public locations that do not ensure privacy. And if done in private, they are released on the same day of the procedure when they are in pain and walking awkwardly. Therefore, everyone near the facility knows what they have done.

To say the truth. This circumcision issue it has reached a point where we are ashamed of it. It has no respect. We plead with the hospital staff to change the approach. When they were starting it was better. They were able to circumcise a person in their car. They stay with the man and they chat with him and they depart in the evening. But as of now, as I am talking now. Last week I went to Mwandama. So, it's a public place. They just use a sheet to cover... The same place it's a market place. People are watching and they say, "eh this is the circumcision."

—Zomba, 48, Foreman

Presence of female providers impact perceptions of VMMC

Men shunned VMMC due to female providers performing the procedure or female HCWs being in the room. This is rooted in tradition as circumcision is traditionally done by men in the presence of other men. When accessing VMMC, men searched for places where men were administering care.

The other reason why men tend to be afraid of circumcision is because a lot that are found there are women so they get shy to go to these places but if it was possible for men to conduct circumcision it would have been good, because even if a woman sees you entering that room you tend to be shy.

—Zomba 38, Barber

Experiences of long waiting times at health facilities

The long waiting times at health facilities disrupt men's livelihoods; they are missing work and losing money when having to wait in line for hours for services. This barrier is especially pertinent for those of lower socioeconomic status.

You find that they can go to a place where there are many people to get tested. They sit on the line where they wait for ages to access these services. When they are in this place time has gone and they cannot find customers to make some money. They realize that this was a result of being delayed at the health facility. While they were delaying there their colleagues that were working maybe have earned money amounting to maybe K3,000 or the other one has earned K4,000. In the end they just decide that they were just wasting time at the health facility to the point that they make a decision that next time they are called for such services they will not go....

—Machinga, 40, Businessman

Reasons why men access HIV services

Self-care

Men stated that those who accessed HIV services did so because they valued their health and well-being. Therefore, they wanted to know their status and for those who are positive, they want to know how to maintain their health. Additionally, some men are aware of their HIV risk and access testing services as a result.

We just want to know how we are and to plan to say; what should I ought to be doing? If you know not, it is not good. You can harm yourself because you lack knowledge. You start taking ARVs at later days while your body is too weak because you did not know.

—Machinga, 20, Estate Worker

Most people get tested so that they should know their HIV status in order for them to plan for their lives. If they tend to be positive, they should change their ways, and if they also tend to be negative, they should also change their ways.

—Zomba, 35, Bike Hire

Peer and partner influence

Men described obtaining knowledge from their peers and taking cues on where to access HIV services. Men also described going for HIV testing due to the encouragement or insistence from their partners, especially a new partner.

Others also go for testing based on being encouraged by their fellow friends.

—Zomba, 26, Bike Repairer

Others go for testing when they find a lady (partner) the lady may insist to go for testing.

—Zomba, 30, Bike Hire

Strategies to encourage men to access HIV services

Use or incorporate features of initiation camps for VMMC

Men explained that circumcision is traditionally done at initiation camps and therefore, a similar set-up would be preferable to attract men to VMMC services. Reasons why they preferred initiation camps include a greater degree of privacy, faster healing time, a longer stay before going home, men are conducting the procedure, and the camps follow tradition. However, some men noted that hospital settings are good if they can incorporate aspects from the initiation camps.

I think where men can go and get circumcision is through the initiation ceremonies.... The place where you have only men there.

—Zomba, 19, Football Player

If the man is not ashamed of circumcision and being mentioned, it is good at the hospital; but those who can conduct the operation should be men and it should be a private area. Whereby if a person is coming out there, people should not see him coming that side and know that he had the operation.

—Machinga, 23, Vendor

Greater consideration of men's needs

Some men discussed that SRH services, including HIV services, are targeted to women and girls. They want to see more services aimed specifically at men, service locations or times that are only for men, and steps taken to ensure men are comfortable with their care provider.

...a lot of these organizations just focus on girls. So if their interventions target girls the most it is a problem for us as boys to see or find where we fit in as males. Some organizations should concentrate on the other side and attend to the needs of us boys. If this was possible then it would be much better.

—Machinga, 19, Student

There should be indeed a special place where men of our age can go (to seek HIV services). A special place so a person will be like ok there are only men like us so let's go and seek services. There should not be women there.

—Zomba, 26, Bike Repairer

Home-based services: To alleviate long waiting times and privacy concerns at health facilities, men suggested that health workers should come to their homes to administer HIV prevention, treatment, and care services. This strategy could be established by partnering with existing community organizations.

What I wish could be done in the future is put in place people who could come in the community like door to door. I remember in the past there were some people who were doing HIV testing right away at their door steps.

—Machinga, 36, Teacher

Leverage technology and media for HIV messaging

While mass media is already used for HIV messaging, men noted that other types of technology are becoming increasingly common. They cited the internet as an easy and useful source for accessing information about HIV and at times, preferable over standard group-based education forums. Therefore, finding ways to use the internet to reach men could increase their use of services.

I just wanted to add about the internet that it is a good method to get the information, because we can have the questions..., they can be talking about the information we already got [at meetings]. ... When you are using the internet you just check the information which is there and if you have questions you can do so that other people can answer you. Therefore, you go direct where you want to know.

—Machinga, 52, Teacher

Focus on youth

Men discussed the importance of reaching young men with HIV education and prevention information and services. They thought that young men do not have the proper education or do

not have activities that prevent them from engaging in HIV risk behaviors. They mentioned HIV education for youth and ensuring options to engage youth in low-risk activities outside of school.

The method that can help us is to meet with youths often. We meet and we discuss the dangers of HIV. This is one method that can help us to prevent HIV. If we have nongovernmental organizations where we can meet with them to discuss HIV-related issues. This way, it can help the youths to protect themselves from HIV and its causes.

—Zomba, 27, Grocery Shop Worker

In our community we have to have youth clubs or groups where we can meet and discuss things that have to do with HIV and AIDS.

—Zomba, 19, Businessman

MLHIV AND THEIR EXPERIENCES WITH HIV SERVICES

Characteristics of MLHIV

The mean age of men who participated in IDIs and FGDs in Zomba was 46 and in Machinga was 35 (Table 22). The most common occupation among men in Zomba and Machinga was farmer. Overall, men in Zomba had been living with HIV longer than men in Machinga.

Poor health was a key motivator for starting HIV treatment, and improved health was a facilitator of ART adherence.

Most respondents noted their decision to get tested for HIV and start ART was driven by poor health. They reported frequent illnesses that affected their daily lives before starting ART.

I started because I had too many problems. I was failing to work, I could not even hold a hoe to start farming. My whole body was weak that I could not even have sex with my wife.... But when I started taking my medication, my body went back to normal.... The medication is working and if the government had not introduced this treatment, I could have been dead by now.

—IDI participant, Machinga

Table 22 Demographic characteristics of MLHIV participating in IDIs and FGDs

	Zomba (n=25)	Machinga (n=24)
Age [mean (range)]	46 (28–72)	35(21–58)
Occupation		
Farmer	11	12
Manual laborer	3	2
Businessman	3	5
Guard	2	1
Expert client	2	1
Other	4	3
Years living with HIV		
<1 year	2	6
1–5 years	8	11
6–10 years	7	4
10+	8	3

The majority of respondents had started ART the same day or within a few days of testing positive. All participants acknowledged that being on ART greatly improved their health. Most respondents noticed that they rarely got sick after starting ART. Others reported that their physical strength also improved due to being on ART. Although they experienced side effects from the medications, they continued to take them because of the benefits gained.

... this medication has its goodness, that there is a big difference in the way we were and how we are, we can see the difference. ...ever since we started taking this medication, we are able to do any kind of job, and very freely and without any worries.

—FGD participant, Machinga

Social support facilitated ART initiation and adherence.

Supportive family and friends

Some respondents described initiating ART after receiving advice and encouragement from family and friends. Other respondents reported being motivated by stories and experiences of people who were already on ART.

There is a friend...he could look at me and tell me if you follow the instructions on how to take the drugs.... He is the one who has been saving my life through the drugs. He encourages me on how to take the drugs.

—FGD participant, Machinga

I made the decision to start taking medication because of the people who had the problem the same as mine. They have been taking medication for a long time, so I was like aah me too I have to go for HIV testing because of how I was feeling. I see that they are very strong and there is no problem with them, so I decided to be in this group.

—FGD participant, Zomba

Support groups for PLHIV

The presence of support groups of PLHIV, in their communities, especially those for men, encouraged men to stay on ART. In addition to group meetings, the support groups regularly traveled around the communities visiting men who are HIV positive to give them encouragement to get tested and stay on ART.

They are our friends who started before us, they have their groups which they call support groups. They go around the villages to see [talk to] people who are sick.... They persuade them in a good way, so that they go and get necessary support at the health facilities.

—FGD participant, Zomba

Counseling at the health facilities

High quality and patient-friendly counseling as part of HIV testing was another motivating factor for initiating ART. Respondents reported that only after the health service providers counseled

them was when they understood what it meant to be HIV-positive, allowing them to make the decision to be on ART.

Firstly, it is because of the counseling that I received when I had gone to the hospital for testing. The counseling touched my heart. Before receiving the counseling I was ignorant... thinking that if a person has this problem [HIV] then he or she is damaged or will die. But...I saw that it was wise for me to follow the counseling and that it helps me.

—IDI participant, Machinga

...[due to the] counseling they gave me I saw that it was better I start taking my treatment. When they explained to me the situation that I am in, I had to start taking treatment, I followed the procedure of taking medication.

—IDI participant, Zomba

Service provider attitudes

Respondents described service providers who were supportive, encouraging, open, and respectful as enabling them to start and remain on ART. They also applauded those providers who respected their clients' privacy.

I came here because I wanted privacy. The doctors here keep it confidential as such my disease will not be known by others.

—IDI participant, Machinga

...we are very relaxed there. We are comfortable to explain ourselves without regret... whether you are sick or you feel itchy we are able to speak it all out....

—FGD participant, Zomba

Respondents identified several social and structural barriers to ART use.

Fear of inadvertent disclosure and anticipated stigma from community and partners

Respondents described that some MLHIV shunned ART because they were concerned that others would see them at the health facility, know their status, and stigmatize them. The men noted that there are specific days when PLHIV are seen at the clinic. Therefore, when they seek services at that facility on those days, their status is being revealed to their communities. In response, some men reported they, their partners, and other men intentionally seek services at health facilities in distant towns or districts to keep their status a secret.

They should respect us, they shouldn't appoint a specific day for us, we should receive treatment just like the other patients—that could be better.... You are able to know that this person has it [HIV] even though they haven't come in the open.

—IDI participant, Machinga

I started receiving treatment [outside my area] but...after my research it showed that privacy had started at the [health] center, it gave me much courage to ask for transfer and go back to my area and receive treatment.

FGD participant, Zomba

Further, respondents noted that other MLHIV avoided ART services due to anticipated stigma and discrimination from the community and fears of relationship dissolution.

...there are some people when they hear that so and so is on medication, say things that are disappointing, maybe talking about who is on treatment. So if you listen to these people they can make you stop taking the medication....

—IDI participant, Zomba

Some do not go to the hospital to get medication because they are afraid people will be talking about them.... When women get married, they hide the drugs, or they leave it in their parents' house because they are afraid of separation instead of telling their partner about their status. Even when we find a sexual partner, usually we are not open to tell her I am on this medication.

—IDI participant, Machinga

Food insecurity and coping with the side effects of HIV treatment

The requirement to eat a well-balanced diet when taking ART to alleviate the drugs' side effects was a burden for most respondents, who reported that they did not have sufficient income to eat such a diet.

...the body gets weak...when we work, we lose a lot of energy. We need support in terms of food [grants]...we struggle to buy matemba. Nevertheless, at the hospital they advise us to eat a balanced diet.... But when the support [referring to food] comes, it goes to the village headmen and does not reach the intended beneficiaries, the HIV-positive people. The support is distributed to the people they know.

—IDI participant, Machinga

Long waiting times and time away from work

Respondents expressed concerns about the long waiting times at health facilities that disrupted their livelihoods and other daily activities, sometimes resulting in missed appointments. Some respondents indicated that men should not be left to wait in long queues because they go to work.

Because there are a lot of people at the health facilities, we end up missing our appointment as we want to take care of our families first. When we go, the doctor asks what happened for us to miss the last appointment and that also discourages us because they act as if they don't care that we have to provide for our families and the long queues deter us from coming. So I think that they should organize that men be assisted quickly.

—FGD participant, Zomba

Distance and travel to the health facilities

Some respondents reported that health facilities are very far from where they live which sometimes caused delays in picking up their medications. Others reported that they had trouble securing transportation to the health facilities, causing further delays in accessing ART medications.

...there are our friends who have the same problem like us who stay in very far places, so the challenge is transportation.... Because, there are some who stopped taking their medicine and the health care workers try their best to locate them but they have difficulties to reach out to those people due to lack of transportation. So these organizations could try to help these people with transportation.

—FGD participant, Zomba

DISCUSSION

We conducted mixed-methods research in the Zomba and Machinga districts to generate evidence regarding HIV risk factors for AGYW; assess the extent to which the overall DREAMS project contributed toward reducing HIV risk among AGYW; and to understand characteristics of male partners and how to link them to HIV services, as well as retain MLHIV in care. This set of studies yielded important insights that can be used to strengthen HIV prevention programming and services for AGYW and men. A main limitation of this set of studies was the lack of appropriate control groups; however, we used multiple types and sources of data to triangulate the key findings.

We found that AGYW vulnerability is multi-faceted—AGYW in our sample had early sexual debut, early pregnancy experiences, high levels of sexual and physical violence, recent STI experiences, and limited condom use. Our innovative and contextually-nuanced latent class analysis delineated sub-groups of out-of-school AGYW that were particularly vulnerable to HIV. Our segmentation analysis reveals that 53 percent of the out-of-school AGYW in our sample had high vulnerability to HIV and that being in the higher HIV vulnerability group (compared to the lower HIV vulnerability group) was associated with a range of negative HIV-related outcomes. AGYW in the higher vulnerability group should be reached first with HIV prevention programming.

We also found that AGYW had good exposure to DREAMS programming. Most of the AGYW had received six to eight program components of DREAMS' multi-pronged approach. AGYW had very positive perspectives on their engagement with the DREAMS program and many even told others/their peers about what they had learned in the program. At the same time though, illness, responsibilities of looking after family members, mobility, and losing interest in the program led to frequent and lengthy periods of non-participation among AGYW.

Over time, there were some significant positive changes in AGYW's knowledge, attitudes, and experiences related to HIV risk. For instance, there were substantial improvements in AGYW's knowledge about HIV transmission, condoms, and PMTCT. There were also significant improvements in key social drivers of HIV vulnerability—with AGYW reporting more equitable gender attitudes, higher relationship power, and less sexual violence in the last year. AGYW had high and increasing self-efficacy about seeking health care. And most AGYW knew of their partner's HIV status. However, there were no significant shifts in condom use and increase in starting or staying in a relationship for material gain (i.e., transactional relationship).

Overall, DREAMS IPs and volunteers including Go! Girls Clubs facilitators and CRPs reported successful experiences implementing comprehensive multi-sectoral programming, as well as some challenges. A coordination system was managed by Peace Corps volunteers, which helped with communication among IPs and referrals. IPs used strategies to recruit high-risk girls including gaining support from village headmen and chiefs. IPs reported that some AGYW dropped out of DREAMS programming because they expected food as well as initial money for VSL groups. Facilitators were empowered through trainings that helped them deliver the DREAMS

curriculum successfully. However, they also discussed challenges with AGYW losing interest in the program when the curriculum was repeated. Referral tracking remained a challenge, but IPs managed to use innovative methods to improve tracking, including sending volunteers with AGYW to facilities to manage the process.

The male partners of AGYW in Malawi are diverse in their demographic characteristics and in the locations where they meet AGYW. Through community mapping we were able to find male partners of AGYW. Men identified several barriers to seeking HIV services, such as fear of testing positive, stigma, long waiting times, lack of privacy and confidentiality, and the use of female health care workers to provide certain services. Concerns about their health and well-being and encouragement from peers and partners could facilitate men's HIV service use.

MLHIV had favorable attitudes toward ART and recognized that its use had greatly improved their health. In particular, MLHIV noted the support of family and friends, PLHIV support groups, high quality counseling, and supportive service providers as key facilitators of their ART initiation and continued use. Barriers to effective ART use included lack of food to eat the required well-balanced diet and long waiting times and distance to health facilities. Further, anticipated stigma and fear of community gossip and relationship dissolution also impeded men's ART initiation and use.

CONCLUSION AND RECOMMENDATIONS

CONCLUSIONS

As HIV prevention programs focused on AGYW expand and continue, close attention must be paid to finding the most vulnerable AGYW. While research to date shows a range of factors associated with HIV acquisition, our analyses show that there are certain risk profiles of HIV vulnerability—in other words, combinations of factors that synergistically contribute to HIV risk—for AGYW in different contexts.

Our DREAMS implementation science work shows that community buy-in and skills training for AGYW were helpful in keeping AGYW engaged in DREAMS programming. Active and engaged mentors/program staff who conducted outreach to AGYW were also critical. Further, our work shows that IPs need enough time to discuss and establish coordination of timelines, program components, and referral/linkage mechanisms for effective layering of intervention components. This is especially true when multiple prime IPs or government entities are working in the same sub-national unit. For example, we learned during our advisory board meetings in Malawi that Ministries were unsure under whose purview the response to GBV lies. We also found that routine DREAMS implementing partners meetings (in-country communities of practice) facilitated by PEPFAR country teams, where partners can share and discuss their challenges, strategies, and innovations for layering, contribute greatly to enhancing effectiveness of program implementation efforts.

Our research suggests a strategic emphasis on identifying and reaching high risk men who are not using HIV services. Finding men through informant-identified hot spot venues for community-based testing and recruitment into HIV prevention programming may prove effective. Further, improving men's understanding of the multiple benefits of early testing and treatment, including TasP, is likely to improve their engagement in these services. Beyond messaging for a particular sub-population like men, we believe that in communities with high HIV prevalence, it is critical to promote HIV treatment literacy at the population level, to enable informed health decision-making and adequate support for seeking timely HIV treatment and care.

RECOMMENDATIONS

HIV prevention among AGYW

- Strengthen comprehensive HIV education, including specific information about PrEP, PEP, and TasP, for out-of-school AGYW that includes building skills to effectively negotiate condom use with their partners.

- Invest in strategies to keep girls in school or re-enroll girls, and/or provide opportunities for training and economic advancement for out-of-school girls to reduce both risk of HIV and early marriage.
- Sustain strengthening linkages to STI screening and care services.
- Emphasize HIV risk avoidance within the context of stable relationships. Most AGYW are sexually active and in relatively long-term relationships, with high fertility desire, and low condom use.
- Assess both partner and relationship characteristics to comprehensively understand AGYW's HIV risk.
- Invest in strategies to prevent partner violence against AGYW and mitigate its impacts through both community- and facility-based efforts..

Implementation of DREAMS

- A system to manage coordination between IPs and referral tracking is important to the success of a comprehensive, multi-sectoral program.
- Buy-in from village leaders can help engage AGYW and their communities. Additionally, there needs to be sustained coordination and communication with government institutions and health facilities, and quality of care should continuously be strengthened.
- Expectations regarding what the program is providing to AGYW need to be clear from the start.
- Facilitators need training to feel empowered to run Go! Girls Clubs successfully.
- Toolkits and information for AGYW should be tailored for different age groups and marital statuses.
- AGYW need support with income-generating activities in order to facilitate their engagement in VSL.
- Services should be integrated and delivered at the same time, such as HIV testing and motivational information about contraception.
- Mobile services should be adequately funded to reach youth.
- Programming should engage boys as well.

Male partners of AGYW

- To reach the male partners of AGYW, who are diverse in their ages, occupations, and where they meet AGYW, design and implement home, community, and venue-based (e.g., workplace, hotspots) strategies.
- Address HIV stigma and accessibility issues by partnering with community health workers and community organizations, who are viewed as more client-friendly, to provide education and HIV services. Training on providing quality services, including stigma reduction, is needed at health facilities.
- Consider enhancing VMMC services by incorporating features from initiation camps that appeal to men, such as privacy, having male healthcare providers, and longer recovery times before

release.

- Engage men of all ages early in the development of HIV prevention, care, and treatment messages and services. Leverage technology and mass media to communicate the messages and promote services.

MLHIV

- Program efforts should continue to train health care providers in all facilities to provide supportive and patient-centered care to PLHIV.
- Sustaining and expanding the outreach of PLHIV networks and groups of MLHIV could enhance men's engagement in HIV treatment.
- MLHIV, like many women, adolescents, and children living with HIV, may need access to programs that address food insecurity. Further, innovative service delivery models, such as providing ART refills at support groups and other community sites and disbursing a larger quantity of drugs to reduce the frequency of health visits, might foster ART adherence.
- Integrating ART services into SRH services or general community-based health clinics could potentially reach men who are positive but otherwise reluctant to seek services at facilities or locations that only provide HIV services or only provide them on select days.

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