



Adolescent Sexuality Education Program Outcomes Overview Fiscal Years 2019-2023

Adolescent Sexuality Education

Program Background

Background

Despite having one of the lowest teen birth rates in the country, Massachusetts (MA) experiences some of the greatest sexual health inequities by race/ethnicity, geography, and socioeconomic status. In 2021, the Hispanic teen birth rate was ten times higher than the non-Hispanic White teen birth rate in MA [1]. In 2022, youths aged 15-24 years disproportionately accounted for some of the highest rates of sexually transmitted infections (STIs) in the state compared to other age groups; the highest rates of chlamydia and gonorrhea in MA were among young adults aged 20 to 24 years [2]. Histories of racism, redlining, and maltreatment/neglect from the medical community are all contributing factors to sexual health inequities [3].

As of 2019, 70.8% of pregnancies among females 15-19 years and 51.8% among females 20-24 years were unintended in the United States [4]. Disparities persist in unintended pregnancies by socioeconomic status, education, race, ethnicity, [5, 6] immigration status, and are even greater among those who have multiple marginalities, such as those in the foster care system [6, 7]. Sexual behavior and the ability to engage in certain reproductive choices and strategies, such as using contraception to prevent unintended pregnancies, are influenced by various socioeconomic circumstances [5], particularly those perpetuated by systemic racism [8]. To advance health equity and improve sexual and reproductive health outcomes, it is necessary to address the interdependent relationship between inequitable systems, (e.g., in education, employment, housing, healthcare, criminal justice, etc.) and societal-level discriminatory practices, beliefs, and distribution of resources [8, 9, 10] that perpetuate health inequities in the first place.

Program Eligibility

The Adolescent Sexuality Education (ASE) program provides evidence-based, medically accurate, and age-appropriate sexual health programming to youths aged 10-21 across MA. Municipalities and youth populations eligible for ASE funding were those that the Massachusetts Department of Public Health identified through a statewide needs assessment as having the highest teen birth rates and highest STI rates in youth. Specific priority populations include Hispanic/Latino youth, unaccompanied minors, Black or African-American youth, LGBTQ+ youth, expectant and parenting teens, male youth, youth experiencing homelessness and sex trafficking, youth in or aging out of systems of care, and youth with physical and/or intellectual disabilities.

The goal of the statewide ASE Program is to increase life opportunities for youth by:

- Decreasing the teen birth rate in priority Massachusetts communities through increased access to evidence-based education
- Increasing educational attainment through promoting positive youth development and prevention of unintended pregnancies
- Decreasing sexually transmitted infection incidence among priority populations in selected communities through increased access to medically accurate, age-appropriate programming

To achieve these goals, community-based organizations (CBOs) partner with schools, youth opportunity programs, and clinical providers to offer comprehensive sexual health education and linkages to youth programs and clinical services.

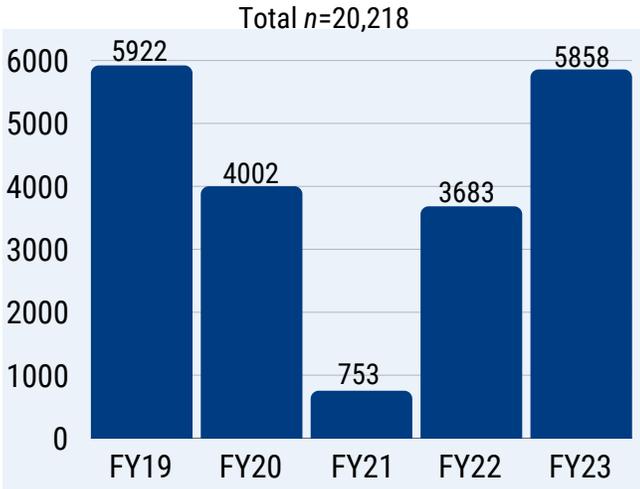
Participants in the ASE program are ages 10 to 21 years and receive evidence-based/evidence-informed sexual health curricula, positive youth development (PYD) programming, and engage in youth leadership activities. The ASE program prioritizes PYD to further support youth in reducing risk factors and enhancing protective factors related to various public health outcomes. PYD focuses on increasing protective factors for youth, such as community, school, and social connectedness, presence of caring adult and peer relationships, self-esteem/self-efficacy, and a sense of belonging. PYD programs and protective factors have been associated with reduced sexual risk behaviors, decreased substance use, and decreases in violence [11]. PYD activities may include college tours, peer leader groups, volunteer opportunities, civic education, and more.

Between fiscal years (FY) 2019 and 2023, CBOs funded by ASE provided programming to over 20,000 youths in 18 communities (see Appendix A) across the state. Seventy-seven percent (77%) of all participants attended at least 70% of their programming sessions. Pre- and post-surveys are completed by consenting participants at the start and end of programming. The length of the program may span from one week to over six months depending on the organization, curriculum, setting, and population served. Participant survey data is used to analyze sexual health behaviors, knowledge, and the presence of protective factors, such as connection to an adult. To measure changes in knowledge and behaviors from program entry to program exit, pre- and post-surveys are matched by participants' unique ID numbers and fiscal year.

Important to note are the effects of the COVID-19 pandemic on programming, particularly during the FY 2021 period. Several ASE-funded CBOs were able to facilitate ASE sessions for the first six months of FY 2021 via various program modifications, including virtual sessions and hybrid models. Overall, the CBOs' capacity to conduct ASE sessions and engage youth participants was severely limited by the widespread impacts of the pandemic on the workforce and society. Additionally, MDPH only used paper surveys (compared to online) during this time so the number of completed youth surveys was very low. As a result, data from FY 2021 was omitted from graphs/tables in this report where FY data is displayed.

The purpose of this report is to highlight the work conducted over the past five fiscal years in the funded communities, the importance of comprehensive sexuality and PYD education, positive program outcomes, and discuss areas of improvement based on available program data.

Figure 1
Number of Youth Served by Fiscal Year by ASE



Who Does ASE Serve?

Between FY 2019 and 2023, ASE reached over **20,000** youths in 18 municipalities across the Commonwealth. Seventy-nine percent (79%) of youth served during these years fell within at least one of the ASE priority populations identified as highest need for services based on the best available data. While the surveys do not collect demographics on all of the identified priority populations, the table and graphs below display participant demographic data collected from FY 2019-2023 pre-surveys. All percentages are rounded to the nearest one-tenth of a percent. Denominators for each table will vary depending on the number of responses to each survey question.

Table 1 <i>ASE Participant Demographics</i>	n (%)
LGBTQ+ (<i>n</i> =17632)	2969 (16.8%)
Male youth (<i>n</i> =17587)	7166 (40.7%)
Long-term learning disability (<i>n</i> =16678)	1341 (8.0%)
Youth experiencing unstable housing (<i>n</i> =16776)	812 (4.8%)
Self/family involved with DCF (<i>n</i> =16640)	1573 (9.5%)

Figure 2
Participant Grades (n=16,835)

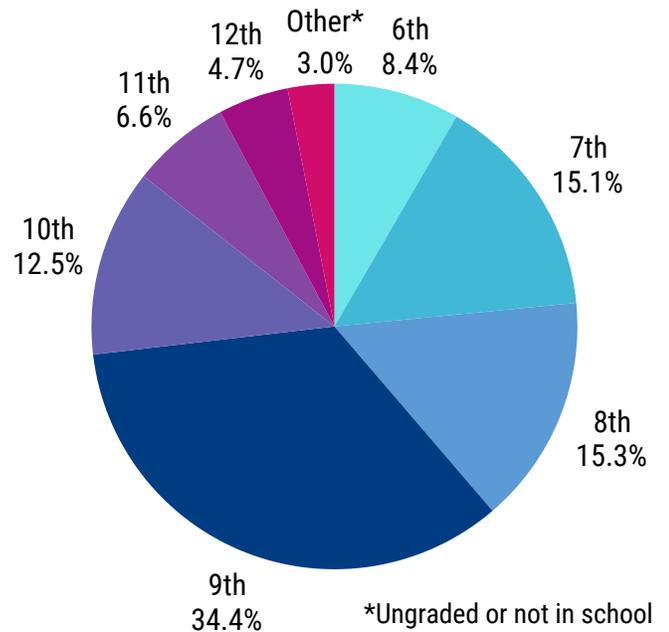


Figure 3
Participant Ages (n=16,845)

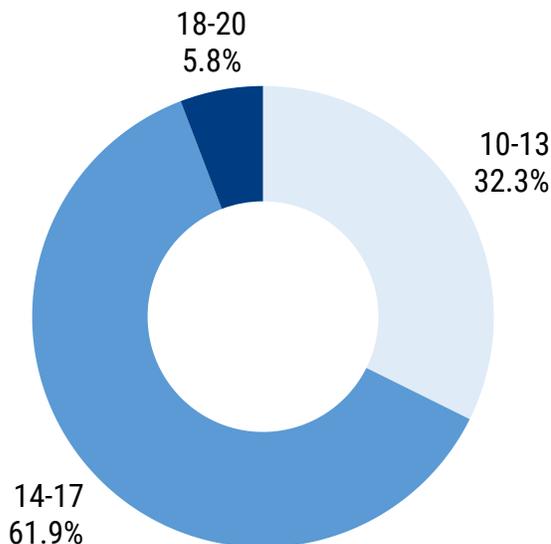
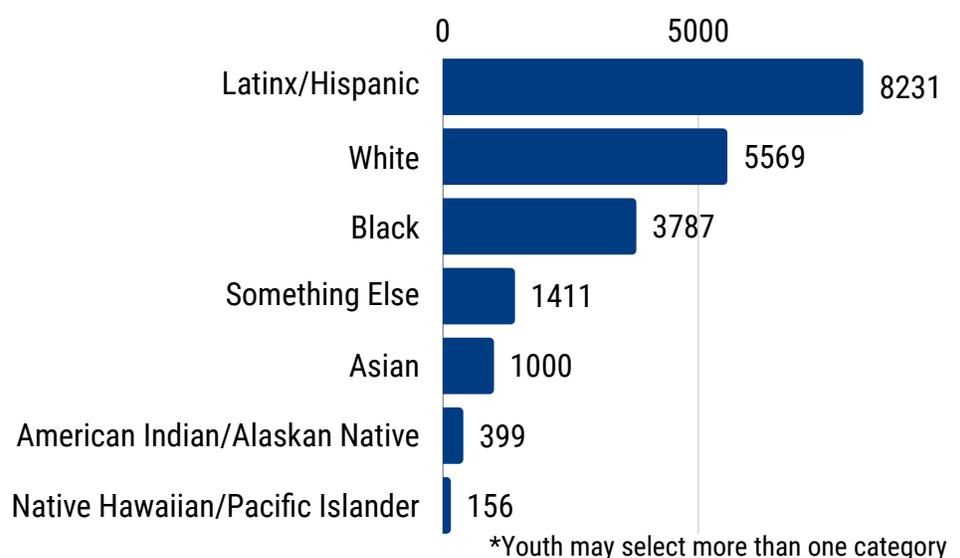


Figure 4
*Participant *Race/Ethnicity (n=16,716)*



Program Outcomes

Connectedness to An Adult

A goal of the PYD framework is to enhance healthy relationships between youths and caring, trusted adults in their lives. Results from the matched survey dataset showed that over the course of the program, there was a 6.2% increase (McNemar’s $\chi^2_{1df}=144.9, p<.0001$) in the percent of youth reporting they had a teacher or other trusted adult they can talk to if they have a problem (80.5% at program entry compared to 85.5% at program exit). Among youths who did not have an adult to talk to at program entry, 51.2% ($n=867$) reported having an adult to talk to by program completion.

At program entry and exit, participants report whether in the past 3 months they have talked one-on-one with a trusted adult, such as a parent, guardian, counselor, or teacher, about the following topics: puberty, sexual and reproductive health, STI prevention, pregnancy prevention, how to know when ready for a boyfriend/girlfriend, how to know when ready for a sexual relationship, how to talk with a partner about whether or not to have sex, available birth control methods, family’s expectations of them, and life goals. Table 2 displays results from the matched survey dataset.

Table 2 <i>Report Discussing Topic with a Trusted Adult in Past 3 Months (n=8507)</i>	Program Entry <i>n (%)</i>	Program Exit <i>n (%)</i>	Positive (↑) or Negative (↓) Difference from Entry to Exit
Puberty	2991(35.2%)	4134 (48.6%)	↑
Basic facts about sexual reproduction	1685 (19.8%)	3008 (35.4%)	↑
STI prevention	1412 (16.6%)	2922 (34.3%)	↑
Pregnancy prevention	1758 (20.7%)	3256 (38.3%)	↑
How to know when ready for a boyfriend/girlfriend	2032 (23.9%)	2734 (32.1%)	↑
How to know when ready for a sexual relationship	1128 (13.3%)	2279 (26.8%)	↑
How to talk with partner about whether to have sex or not	945 (11.1%)	2279 (26.8%)	↑
Available birth control methods	1236 (14.5%)	2583 (30.4%)	↑
Parent/guardian’s expectations	3808 (44.8%)	3682 (43.3%)	↓
Life goals	6572 (77.3%)	6118 (71.9%)	↓
<i>NOTE: All results were determined to be statistically significant using McNemar's chi-square test, $p<.05$</i>			

There was a statistically significant difference in the proportion of youth who reported talking with an adult across all topics ($p<.05$) from program entry to exit (Table 2). Although the percentages from program entry to exit decreased for discussing a parent/guardian’s expectations and life goals, all other topics showed a positive change, which is an exceptionally favorable outcome of the ASE program. However, since FY 2019, there has been a steady decline in the proportion of youth reporting talking with an adult across all topics by fiscal year (see Appendix B). In particular, the percentages of youth talking about STI prevention and available birth control methods with a trusted adult were 42% and 41.5% lower, respectively, in FY 2023 than in 2019.

*All percentages are rounded to the nearest one-tenth of a percent

Program Outcomes

Sexual Health Knowledge and Behaviors

Birth Control Use

Out of all ASE participants who completed the pre- and post-surveys, 7.9% ($n=729$) reported having vaginal sex within the past 3 months with an opposite-sex partner. Among these participants, there was a statistically significant increase in birth control use from the time of program entry to exit. Among youths who reported not using an effective method of birth control at program entry, 49.1% reported using one during their last sexual encounter at the time of program completion (McNemar's $X^2_{1df}=27.5$, $p<.0001$). Figure 5 displays birth control use at the time of program entry and exit among participants who had vaginal sex with an opposite-sex partner within the past 3 months from the matched survey dataset.

Condom Use

A subset of the matched survey dataset including participants who had sexual contact in the past 3 months ($n=1006$) was created to measure reported condom/barrier method use and condom negotiation skills.

At the time of program completion, 50.9% reported using a condom or barrier method during their last sexual encounter to prevent STIs. Among youths who reported no condom use at program entry, 26.3% reported using one during their last sexual encounter at program exit which was a statistically significant finding (McNemar's $X^2_{1df}=6.3$, $p=0.0098$). Although 85.9% of participants who've had sexual contact either agreed or strongly agreed that they could talk to their partner about using a condom before having sexual contact at the time of program exit, it was not significantly different from the results of the pre-survey, where 83.6% reported having the skills ($p=.136$).

Sexually Transmitted Infection Screening

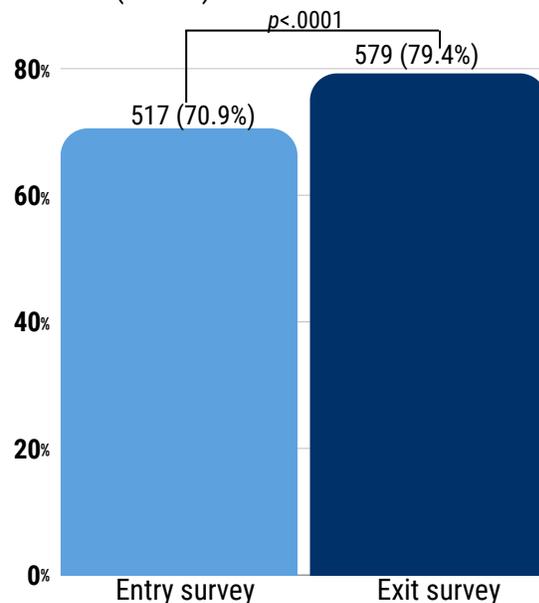
Using the same subset of the matched survey dataset of participants who've had sexual contact, 38.4% ($n=379$) of participants reported ever being tested for STIs at the time of program completion. Among youth who reported never being screened for STIs at program entry, 18.4% reported being screened by the time they completed ASE programming which was a statistically significant increase (McNemar's $X^2_{1df}=23.8$, $p<.0001$).

A subset of the post-survey dataset of participants who've had sexual contact in the past three months was used to run multivariate regression to analyze whether inequities exist in the data between STI screenings and demographic factors. For every one year increase in age, youth had a 62.6% higher odds of being screened for STIs ($p<.001$). Other demographics associated with screening were female gender identity and Black race. The odds of being screened among female participants were 247% ($p=.002$) higher than non-females and the odds among Black youth were 41.1% ($p=.012$) higher than their non-Black peers. Those who identified as Asian had 47.2% ($p=.009$) lower odds compared to non-Asian youth to report ever being screened.

Multivariate analyses from the same subset of the post-survey data show that those who reported having an adult to talk to if they have a problem had 46.9% ($p=.011$) higher odds of reporting ever being screened compared to those without an adult to talk to, controlling for age, gender, race/ethnicity, and LGBTQ+ status. Furthermore, youth who spoke to an adult about STIs in the past 3 months had 34.4% ($p=.005$) higher odds of being screened compared to those who did not talk about STIs with an adult in the past 3 months, controlling for the same demographic factors.

Figure 5

Birth Control Use At Time of Program Entry and Exit ($n=729$)



*All percentages are rounded to the nearest one-tenth of a percent

Program Outcomes

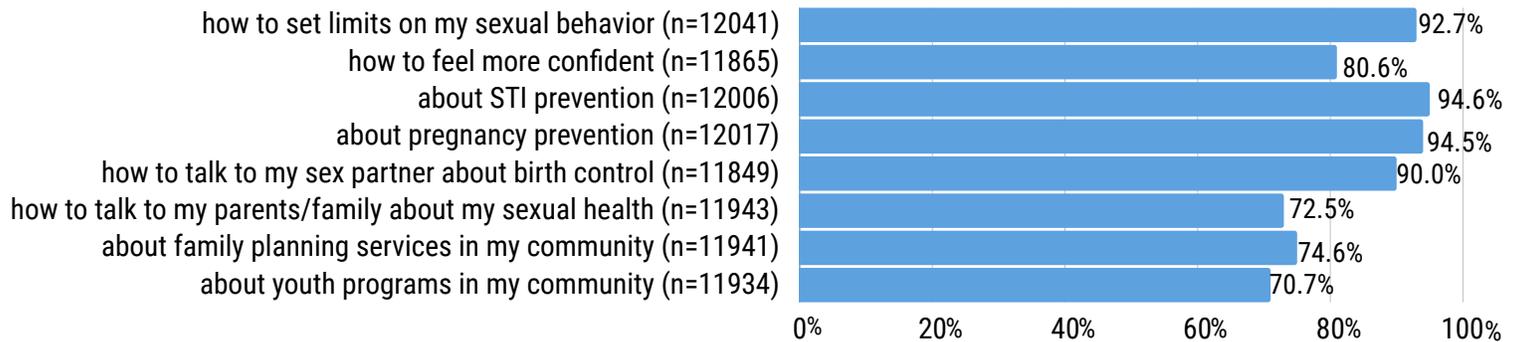
Program Learning Outcomes and Ratings

Reported Learning Outcomes

At program completion, the vast majority of participants either agreed or strongly agreed that the ASE program helped them learn about topics ranging from sexual and reproductive health prevention to available services/programs in their community (Figure 6). On the post-surveys, participants were most likely to agree that they learned how to prevent STIs (94.6%) and pregnancy (94.5%) in the program and least likely to report learning about youth programs in their communities (70.7%). Figure 6 displays each topic category, the denominator for each category, and the results from the post-survey dataset.

Figure 6

"This Program Helped Me To Learn..."

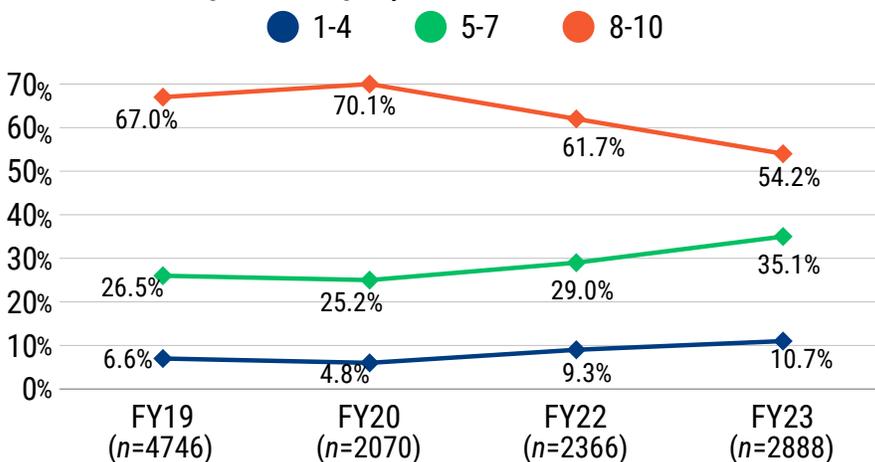


Program Ratings & Recommendation Scores

Overall, participants report that they enjoy the ASE program. When asked if they would recommend the ASE program to a friend, 48.9% (n=5950) reported “definitely”, 44.5% (n=5422) reported “maybe”, and 6.6% (n=808) reported “no way”. Although the aggregate recommendation scores are high, there has been a 14.3% decrease in the percentage of participants who would “definitely” recommend the ASE program to a friend and a 42.2% increase in the percentage of participants who responded “no way” in FY 2023 than in FY 2019.

Figure 7

Overall ASE Program Ratings by Fiscal Year



On a scale of 1 to 10, 1 being “I hated this program” and 10 being “I loved this program”, the most frequently selected score was a 10 across all fiscal years (Figure 7). Compared to FY 2019, the percentage of youth rating the program highly (8-10) decreased by 19.1% in FY 2023. The middle (5-7) and lowest (1-4) scoring ranges experienced the greatest percentage increases in reporting in FY 2023 than in FY 2019, by 32.5% and 62.1%, respectively.

*All percentages are rounded to the nearest one-tenth of a percent

Follow Up & Next Steps

ASE program outcomes related to adult connectedness and sexual health/behavior are overwhelmingly positive. Investigating possible gaps in programming, support, or services available to youth is important to ensure the program meets the needs of Massachusetts youth. Specifically, investigating potential causes for the decreasing percentage of youth who speak with trusted adults is vital. Research shows that a high-quality parent-adolescent relationship is associated with improved adolescent sexual health and behavior outcomes, including lower levels of STIs and unprotected intercourse [12, 13]. The ASE data show that having an adult to talk to about a problem and speaking with a trusted adult about STIs are significantly associated with STI screening, underscoring the vital role supportive adult figures play in adolescent development and sexual health. Moreover, the decreases in the percentages of youth reporting talking with adults about sexual health and positive development topics are particularly concerning against the backdrop of the current mental health crisis among adolescents and the current political climate surrounding sexuality education. Opportunities for further analysis of the ASE program are outlined below.

Follow-up analyses of the ASE program should include:

- An external evaluation that includes:
 - qualitative data of ASE participants', their parent/guardians', and ASE facilitators' experiences with the program, with a focus on ASE priority populations
 - suggestions for additional topics that should be included in the program/curricula
 - identifying areas of unmet needs for both participants and facilitators, including the decline of participant rating and recommendation scores and any technical assistance MPDH can provide to ensure CBOs are connecting participants to community resources
- An internal evaluation that includes:
 - exploring knowledge/behavioral outcomes by subsets of the ASE participant population (such as LGBTQ+ youth, by race/ethnicity, or other ASE priority populations)
 - comparing ASE-related outcomes to state and/or national health outcomes, such as results from the Youth Risk Behavioral Survey

Appendix A

ASE Funded Community Based Organizations	Communities Served	Years Funded
Action for Boston Community Development	Boston	FY19-FY25
CARE Center	Holyoke	FY19-FY25
Citizens for Citizens	Taunton	FY19-FY25
Cambridge Health Alliance	Everett, Revere, Somerville	FY19-FY25
Family Services of Merrimack Valley	Lawrence	FY19-FY25
Gladys Allen Brigham Community Center, Inc.	Pittsfield	FY20-FY25
Girls Inc. of Lynn	Lynn	FY19-FY25
Girls Inc. of the Valley (Formerly, Girls Inc. of Holyoke)	Chicopee, Holyoke, Springfield	FY19-FY25
Greater New Bedford Vocational (Formerly, Southcoast Coast Hospital Group Inc.)	New Bedford	FY19-FY20
Lowell Community Health Center	Lowell	FY19-FY25
Making Opportunities Count	Athol, Fitchburg, Leominster	FY19-FY25
Planned Parenthood League of Massachusetts	Boston, Springfield, Worcester	FY19-FY25
ROCA Inc.	Chelsea , East Boston, Everett	FY19-FY25
River Valley Counseling Center	Chicopee, Holyoke, Springfield	FY19-FY25
Sociedad Latina	Boston	FY19-FY25
Worcester Youth Center	Worcester	FY19-FY25
Seven Hills (Formerly, YOU Inc.)	Southbridge	FY19-FY25

Appendix B

Talking with a trusted adult one-on-one within the past 3 months about these topics, by fiscal year					
Topic of Discussion	FY2019 (%)	FY2020 (%)	FY2022 (%)	FY2023 (%)	Percent change from FY19 - FY23
Puberty	54.1	45.6	45.6	38.6	-28.6%
Basic facts about sexual reproduction	41.9	33.0	32.2	27.9	-33.4%
STI prevention	41.4	34.0	30.0	24.0	-42.0%
Pregnancy prevention	46.1	38.0	32.9	27.1	-41.2%
How to know when ready for bf/gf	36.5	32.0	28.9	24.3	-33.4%
How to know when ready for sexual relationship	31.6	26.7	23.8	19.5	-38.3%
How to talk with partner about whether or not to have sex	32.3	26.3	23.6	19.6	-39.3%
Available birth control methods	37.1	28.8	26.4	21.7	-41.5%
Parent/guardian/family's expectations	49.7	45.8	37.3	30.5	-38.6%
Life goals	79.1	71.7	65.1	56.4	-28.7%
<i>NOTES:</i> Results are from post-survey dataset					

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