Trends in Teaching Sexual and Reproductive Health Skills in US Secondary Schools in 35 States, 2008 to 2018

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Abstract

BACKGROUND: Little is known about trends in implementing skills-based instruction in US schools, specifically for sexual and reproductive health (SRH). We examined state-level trends in the percentage of US secondary schools teaching SRH skills in a required course in grades 6 to 8 and 9 to 12.

METHODS: Representative data from 35 states participating across 6 cycles of School Health Profiles (2008–2018) was analyzed. The prevalence of teaching four SRH skills was assessed through lead health education teacher self-administered questionnaires. Logistic regression models examined linear trends in the percentages of schools teaching SRH skills in grades 6 to 8 and 9

to 12. Trends were calculated for states with weighted data (response rates 70%) for at least 3 cycles, including 2018.

RESULTS: During 2008 to 2018, the median percentage of schools addressing each SRH skill ranged from 63.5% to 69.7% (grades 6–8) and 88.2% to 92.0% (grades 9–12). Linear decreases in SRH skills instruction were more common for grades 6 to 8 than grades 9 to 12; linear increases were comparable for both groups. Most states demonstrated no change in the percentage of schools teaching SRH skills in grades 6 to 8 and 9 to 12.

CONCLUSIONS: Limited changes and decreases in SRH skills instruction in US secondary schools suggest efforts to strengthen SRH education are needed.

Keywords

Serving over 50 million students in the nation's public education system,[1] schools are key partners in laying a foundation for health and wellbeing during childhood, adolescence, and into adulthood. Specifically, school health programs can help youth acquire and develop the knowledge and skills necessary to practice, adopt, and maintain protective health behaviors, and are shown to have a positive effect on academic performance as well.[2–5] Evidence specific to school-based sexual health education also indicates positive effects on both health and educational outcomes for youth during key developmental stages and transitions. Researchers have linked school-based sexual and reproductive health (SRH) education, including STI/HIV and pregnancy prevention programs, with multiple youth behavioral outcomes including a delay in first sexual intercourse, reduced number of sexual partners, decreased frequency of unprotected sex, and increased condom or contraceptive use, in addition to improved academics.[2,3,5–15] As adolescence coincides with increased exploratory health behaviors,[16–22] such findings reinforce opportunities for school-based intervention to moderate sexual health risks by strengthening protective knowledge and skills and reduce inequities that emerge during this formative period.[21,22]

To increase the likelihood of such protective outcomes, schools can strengthen SRH education through an emphasis on skill development. In contrast to didactic, content-focused instruction, a skills-based approach to health education uses participatory teaching methods to facilitate understanding, practice, and mastery of health skills in the *context* of functional health information; that is, information directly relevant to students as they navigate life experiences and contexts that influence health.[23–25] Participatory teaching methods are essential in a skills-based approach, where instructional time is dedicated to practicing, assessing, and reflecting on skills to facilitate student health-promoting behavior change.[23–25] Serving as a guide, the National Health Education Standards (NHES) describe seven skills (accessing information, products, and services; analyzing influences; interpersonal communication; decision making; goal-setting; practicing behaviors to enhance health and avoid risk; and health advocacy for self and others) and outline recommendations for establishing health-promoting behaviors from pre-Kindergarten through grade 12.[26] Integrating health-promoting skills into didactic instruction has been

shown to reduce a number of adolescent risk behaviors such as sexual activity and substance use, but there are few examples of skills-based programs that integrate functional health information to complement skills development.[27–29] As such, increased promotion and use of skills-based instruction in health and SRH education has been called for in recent years.[30–32]

Although the benefits of SRH—including skills-related content and practice—are well-supported by leading health and education organizations (eg, the World Health Organization, the Society of Health and Physical Educators, the Society for Public Health Education),[27,28,30–32] implementation of sexual health education varies widely among US secondary schools.[33–37] Variation at state, district, and school levels is often informed by localized sociopolitical factors, with implications for SRH programming across grade levels.[35,36] In recent years, Federal funding streams have shifted away from abstinence-only education toward an emphasis on knowledge and skills needed to prevent HIV/STI and unintended pregnancy, but the majority of states still fail to implement recommended SRH standards.[36–38] While the influence of state- and district-level laws, policies, and course requirements on implementation is understood,[33–39] little is known about the extent to which schools incorporate skills-based instruction into existing policies and practices that directly influence the health content and skills delivered through required courses (ie, courses with any classroom instruction on health topics, including instruction that occurs outside of health education courses, that students must receive for graduation or promotion).[40] This study assessed the percentage of US secondary schools, by state, teaching four SRH-related skills during 2008 to 2018 to calculate trends in the provision of such education in grades 6 to 8 and 9 to 12, referred to in this paper as middle school and high school levels, respectively.

METHODS

Instrumentation

We used data from 6 cycles (2008–2018) of School Health Profiles (hereafter called Profiles), a national surveillance system operated by the Centers for Disease Control and Prevention (CDC). Profiles have assessed school health policies and practices in US states, school districts, and territories biennially since 1996. In each jurisdiction, CDC funds health or education agencies to conduct the surveys by using standardized questionnaires, sampling methods, data collection procedures, and data analyses.[33]

Procedure

Profiles use a repeated cross-sectional design, and each cycle's sample is independent of previous samples. Most jurisdictions draw samples of schools from sampling frames that include all secondary public schools; however, some conduct a census by inviting all secondary schools in the jurisdiction to participate. Although Profiles collects data from representative samples of schools in states, large urban school districts, and territories, this analysis is limited to state data. Data for each state is representative of secondary schools that enroll students in any of grades 6 to 12. Each state administers surveys using paper-and-pencil scannable booklets or web-based questionnaires. These questionnaires are completed by principals and lead health education teachers (eg, school personnel designated

as most knowledgeable about health education). In states conducting paper-and-pencil surveys, two self-administered questionnaires (principal and teacher) are mailed to each sampled school. In states conducting web-based surveys, a unique survey link is e-mailed directly to respondents. Participation is both confidential and voluntary. This study includes data from the teacher survey only.

Measures

Profiles collects data regarding SRH skills taught within a required course in US secondary schools, with skills assessed separately for students in grades 6 to 8 and 9 to 12. This study examines whether the following four SRH skills were taught in a required course, each measured by using dichotomous yes/no response options: (1) how to access valid and reliable health information, products, and services related to HIV/STIs and pregnancy (accessing information); (2) the influences of family, peers, media, technology, and other factors on sexual risk behaviors (influencing factors); (3) interpersonal communication and negotiation skills related to eliminating or reducing risk for HIV/STDs, and pregnancy (interpersonal communication); and (4) goal-setting and decision-making skills related to eliminating and reducing risk for HIV/STDs, and pregnancy (goal-setting and decision-making). Although the NHES include 7 health-promoting skills, only these four SRH skills are captured in the Profiles questionnaire. The NHES also list "goal-setting" and "decision-making" as two separate skills yet these are represented as one item in Profiles. The majority of these items have been assessed for grades 6 to 8 and 9 to 12 since 2008. However, the question regarding influences of family, peers, media, technology, and other factors on sexual risk behaviors was not included on the questionnaire until 2014.

Data Analysis

Following standard practice for Profiles,[33] data from participating states with response rates of 70% for each survey year were weighted to be representative of that state. For states that utilized sampling, data were weighted to account for likelihood of school selection and nonresponse. For states that used a census, results were weighted to account for nonresponse. States needed 3 years of weighted data to be included in the analysis so that linear trends could be calculated through unadjusted logistic regression modeling. Furthermore, states must have obtained weighted data in 2018 to be included in the analysis. Analysis included a total of 35 states; sample sizes and response rates varied across states and years. For example, in 2018, the sample size ranged from 72 to 581 and response rates ranged from 70% to 86% for the lead health education teacher questionnaire. For any particular question, a state may have had data for all years back to when the question was first asked, or they may have had fewer years of data in various patterns. However, throughout this manuscript, we will refer to trends for the longest time span, 2008 to 2018. The median percentage of schools across states that taught each SRH skill to students was calculated for each cycle. Models were run separately for each SRH skill to examine linear trends in the percentage of secondary schools that taught the skill in grades 6 to 8 and grades 9 to 12. SRH skills taught in a required course served as the dependent variable, and a linear time component was the independent variable. Trends were considered statistically significant if the P-value for β was <.05.

RESULTS

Table 1 presents overall medians and ranges for the percentage of secondary schools across states that taught SRH skills in a required course in grades 6 to 8 and grades 9 to 12 for each year. In grades 6 to 8, for each year beginning in 2008, the skill taught in the lowest median percentage of schools was how to access valid and reliable health information, products, and services related to HIV/STI and pregnancy. The skill taught in the highest median percentage of schools varied considerably by year, shared across the other three SRH skills. For grades 9 to 12, the SRH skill taught in the lowest median percentage of schools each year was goal-setting and decision-making to eliminate or reduce HIV/STIs and pregnancy risk. As with grades 6 to 8, the skill taught in the highest median percentage of schools for grades 9 to 12 varied by year.

A summary of the linear time effects in the percentage of schools that taught each SRH skill in a required course for grades 6 to 8 and 9 to 12 is presented in Table 2. Overall, more states experienced statistically significant decreases than significant increases in teaching SRH skills in grades 6 to 8; however, more than 65% of states showed no linear change. For grades 9 to 12, more states showed significant decreases in teaching SRH skills than increases, but like middle school level trends, most states (more than 75%) showed no linear change.

Between 2008 and 2018, more states showed decreases in SRH skills-based instruction at the middle school level than at the high school level. Decreases were most common for goal-setting and decision-making skills as well as interpersonal communication and negotiation skills, with 28.5% of states showing a decrease in instruction for these two skills in grades 6 to 8. Moreover, a quarter (25.7%) of states had a decrease in instruction on how to access valid and reliable HIV/STI and pregnancy information, products, and services, and 22.9% reported a significant decrease in teaching the influences of family, peers, media, technology, and other factors on sexual risk behaviors. Only 5.7% to 8.6% of states reported increases in any of the four SRH skills taught in a required course for grades 6 to 8.

States reported fewer decreases in SRH skills instruction at the high school level (8.6% −14.3%). Instruction on goal-setting and decision-making showed the greatest decrease (14.3%) between 2008 and 2018, comparable to trends reported for grades 6 to 8. Slightly fewer states (11.4%) had decreases in instruction related to accessing valid and reliable health information and factors that influence sexual risk behaviors; only 8.6% of states reported decreases in interpersonal communication and negotiation skills taught in grades 9 to 12. In contrast to grades 6 to 8, where fewer states had increases (5.7%−8.6%) than decreases (22.9%−28.5%) in SRH skills taught, the percentage of states with increases (5.7%−8.6%) and decreases (8.6%−14.3%) in skills taught in grades 9 to 12 were more similar.

State-by-state comparisons in overall decreases and increases in teaching each of the four SRH skills in a required course are presented in Table 3. Increases and decreases did not occur consistently across states or grade levels; however, a few states saw decreases in the same skills taught for both middle and high school levels. For example, Hawaii showed a

significant decrease in instruction on accessing information, interpersonal communication, and goal-setting and decision-making for both 6 to 8 and 9 to 12 grade groups. Similarly, North Dakota saw a significant decrease in accessing information, influencing factors, and interpersonal communication skills taught at both middle and high school levels. Of the seven states that saw any skill decrease for both middle and high school levels (AK, DE, HI, KY, MT, ND, VT), 85.7% saw a decrease in at least two of the same skills and 57.1% saw a decrease in all of the same skills. Massachusetts reported the only increase in teaching the same SRH skill—influencing factors—for both middle and high school. Only one state, Alabama, showed decreases in teaching all four SRH skills, and this was only for grades 6to 8. Similarly, only Maryland experienced increases for all four SRH skills taught, and this was also for grades 6 to 8. Tables showing the percentage of schools in each state that taught the sexual health and reproductive health topics by grade and year, and the resulting trends, are available in Appendix S1.

DISCUSSION

We examined state-level trends in teaching SRH skills in a required course in US secondary schools from 2008 to 2018. Most states showed no linear change in skills taught over time. Among those that did, we observed more decreases than increases in teaching the four SRH skills of interest. Decreases in SRH skills taught were more common for grades 6 to 8 than for grades 9 to 12; however, both grade spans experienced similar trends of limited increases in SRH skills taught. Median percentages of schools teaching each SRH skill in a required course were higher for grades 9 to 12 than for grades 6 to 8. These findings add state-level context to recent work from Lindberg and Kantor,[35,36] who note a significant decrease in student-reported receipt of essential SRH topics over time, although not SRH skills, specifically. Their research also observes that adolescent receipt of SRH topics is less likely to occur in middle school than in high school. For many students, however, formal instruction on key topics is not received until after the first sex has already occurred.[36] Given the majority of SRH education takes place at the high school level,[40] it may not be unexpected to see a divestment in skills-based instruction in grades 6 to 8, particularly in response to reports of changing curriculum requirements and time allotted for health education among younger students.[26,40,41] However, this reduces opportunities for younger adolescents to practice and adopt key SRH skills that may prevent or reduce risk behaviors before first sex.[16,35,36]

Approximately a quarter of states saw linear decreases in middle school level instruction for three of the four SRH skills examined: accessing information, interpersonal communication and negotiation, and goal-setting and decision-making. For the fourth skill, influencing factors, fewer states showed decreases. This skill also had the largest percentage of states with linear increases for grades 6 to 8 and the highest median percentage in 2018, suggesting that it may be prioritized over others during SRH education. For younger adolescents, the connection between peer, parental, media, and other influences with the initiation of a range of health risk behaviors is well established,[42–47] and may provide context for these findings. Although the relationship between social influences and health behavior continues into older adolescence, we did not observe sustained increase in understanding influencing factors or other SRH skills taught at the high school level. As adolescents experience increased

risk-taking and independence from middle school into high school,[16] the importance of maintaining high percentages of or increasing SRH skill instruction in high school is critical for helping adolescents practice and maintain health-promoting behaviors as they transition into young adulthood.

Existing research on effective health education curricula highlights not only the importance of age- and developmental-appropriateness, but also a logical progression of content and skills as students advance from pre-Kindergarten through grade 12 (ie, scope and sequence).[23] The NHES recommend that students in grades 3 to 12 receive a minimum of 80 hours of health education instruction per academic year.[26] Policy that dedicates more time to elementary and middle school health education, and specifically SRH content and skills, could bolster student skill mastery before the onset of sexual risk behaviors in later adolescence.[48,49] In complement, health curriculum requirements and robust preparation of teachers—particularly for those who teach health content outside of traditional health education classrooms—can further strengthen implementation of skills-based instruction to promote student health and wellbeing once supportive policies are in place.[48–50] However, a majority of states continue to favor abstinence education over other SRH content and skills, with implications for curricular and instructional priorities at district and school levels.[37]

For schools experiencing constraints on health education instructional time and resources, cross-curricular integration can help strengthen the scope and sequence of SRH skill instruction across grades 6 to 8 and 9 to 12.[23,26] In this approach, a progression identifies opportunities to introduce and apply health-promoting skills, broadly, in other disciplines (eg, English literacy, science) to help support student skill mastery at the middle school level. Once students transition into high school health education courses, they would then have an existing foundation on which to further learn, practice, and apply health-promoting skills in a variety of settings.[48] The ability to learn and practice skills in grades 6 to 8 and then reinforce them at the high school level not only facilitates adherence to a logical progression of content and skills required for effective health education; it aligns with what we know about effective skills-based instruction.[24,25,30]

Findings from this study suggest that implementation of skills-based SRH education in secondary schools has stalled. Despite increased calls from the field for skills-based instruction in health education in alignment with the existing NHES,[24,25,31] the majority of states had no change, and several had decreases in the percentage of schools teaching SRH skills in a required course between 2008 and 2018. Over one-third of states have no requirements regarding SRH skills, and among those that do have requirements, they do not encompass the full set of NHES skills. This landscape sets the tone for implementation at district and school levels, where adequate time is necessary for students to learn, practice, and apply health-promoting skills in the classroom and beyond. Moreover, state-level trends suggest that SRH skills could be sequenced more appropriately to better align skills and concepts learned in grades 6 to 8 with those learned in grades 9 to 12. Integrating health education skill development for SRH and other topics (eg, mental and emotional health) into other academic subject areas could support skills-based instruction in the absence of a health education course or limited instructional time and resources. However, further research is

needed to determine which health education skills are best aligned with non-health topics (eg, accessing information and science, influencing factors and social studies).

Findings also highlight additional opportunities for future research. First, measuring and understanding the relationship between knowledge acquisition and skill development and health outcomes is crucial. We have yet to identify whether certain health-promoting skills (eg, interpersonal communication) are more strongly associated with improved sexual health outcomes than others (eg, goal-setting). Establishing such relationships could support the prioritization of skills-based health education, improve scope and sequence and curriculum development or selection, as well as influence state and local requirements regarding SRH content provided in schools. Moreover, studies to investigate the instructional time required for students to learn, practice, and apply health-promoting skills in a required course are scant.[22] Additional evidence that connects dosage of instruction with not only health-promoting skill performance and behavior outcomes, but also with broader outcomes such as academic performance and social-emotional learning competencies (eg, self-awareness, self-respect) will further support the implementation and prioritization of health education.

A systematic assessment of empirically supported health curricula to determine how skills are introduced, reinforced, and measured is an additional area for future research and one that is overdue. This will require the use of evidence-informed tools such as CDC's Health Education Curriculum Analysis Tool (HECAT)[51] or ETR's Tool to Assess the Characteristics of Effective Sex and STD/HIV Education Programs (TAC)[52] to identify characteristics for analyzing skill-based health education curricula and their associations with health behaviors. Such research would advance our understanding of how skill transferability happens between health topic areas (eg, students apply communication skills developed in violence prevention to support a mental and emotional health-promoting behavior). Related is a need to further assess health education teachers' comfort and skill in delivering instruction on SRH skills, as well as the connection between professional development, teacher instructional competencies, and student health and academic outcomes.

Limitations

This study is not without limitations. Profiles data represent public secondary schools from states included in the analysis ($n = 35$). Although every state included in this study had weighted data from 2018 and at least 2 other survey years during 2008 to 2016, not every state had data from every survey year. Some states have data spanning the entire study period, while others may only include trends between 2012 and 2018, so the trend analysis is not entirely comparable. Furthermore, because of the large number of states and variables in this study, analyses were restricted to linear trends for simplicity. The inclusion of quadratic or higher-order trends may have revealed more complex patterns in teaching SRH skills by grade level over time, including patterns of overall increase, decrease, or leveling off.

Another limitation is that data are based on self-report by lead health education teachers at the secondary school level, and both over- and underreporting is possible. In addition, although Profiles data report SRH skills taught as reported by lead health education teachers, they do not assess the quality of such instruction. We cannot determine how

much instructional time was spent on each SRH skill, what participatory methods were used to engage students, or whether instruction was age- and developmentally appropriate or inclusive. Furthermore, the definition of "required course" used in this study also limits our understanding of the setting in which SRH skills were taught. A required course may be a health education class, but it could also be a science or physical education class. Because this study only captures four NHES skills, we are also unable to determine whether teachers focused on other health-promoting skills during a required course (eg, advocating for self and others or self-management of health behaviors).

Conclusions

Our findings improve understanding of state-level trends in the implementation of skill-based instruction in sexual health education through required courses in US secondary schools. Because SRH skills can reduce risks and behaviors associated with HIV/STIs and unintended pregnancy among youth,[2,3,7–15] the limited improvements in teaching key SRH skills observed between 2008 and 2018 suggest efforts to strengthen SRH education are needed. Moreover, the notable decreases in skills-based instruction at the middle school level are cause for concern. Future research that establishes and measures the relationship between skill development and health and academic outcomes may increase prioritization of skills-based SRH education in state and local policy. At the school level, increased understanding of what skills-based curricula and instruction look like, as well as barriers to implementation, can help guide future curriculum development and teacher training to ensure prevention education that equips youth with the information and skills to avoid or reduce HIV/STIs, and unintended pregnancy.

IMPLICATIONS FOR SCHOOL HEALTH

There are several implications for school health that should be considered in light of the findings of this study:

- Prioritize health education course requirements and offerings for pre-K-12 students and ensure adequate instructional time—as outlined in the NHES—for health. This will facilitate the ability to effectively develop skills and provide multiple opportunities for skill practice and reinforcement related to SRH and other priority health topics.

- Integrate SRH content and skills, as well as other health-promoting skills, into curricula in both middle and high school health education courses. Develop a scope and sequence for SRH-related skills to be addressed in health education courses across grade levels and ensure scaffolding of curriculum materials to reinforce skill development, practice, and assessment. Self- and peer-assessment strategies that allow students to practice skill progressions in safe environments may help improve skill proficiency and track progress over time.

- If health education course or instructional time is limited, consider cross-curricular connections for developing health skills. There are many opportunities within other school subjects for SRH skills to be delivered. For example, accessing valid and reliable information is a skill that could easily be addressed

in other academic areas, such as English/Language Arts, where core texts or reading materials could incorporate complex character relationships (eg, family, peer, or dating). Teachers may then prompt students to analyze how relationships can influence health behaviors and outcomes (eg, mental and emotional wellbeing).

These considerations may support US secondary schools and school districts in improving or maintaining trends in SRH skills instruction, further facilitating students' understanding and application of SRH skills to reduce risks and behaviors associated with HIV/STIs and unintended pregnancy.

Human Subjects Approval Statement

As a surveillance system, School Health Profiles has been determined to be exempt from review by the Centers for Disease Control and Prevention institutional review board. However, some individual states and school districts have chosen to submit their Profiles surveys for review; approval has been granted in all of these cases.[6]

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1.

Medians and Ranges of Percentages of Secondary Schools that Taught Sexual and Reproductive Health Skills in a Required Course in any of Grades 6, 7, or 8 or 9, 10, 11, or 12 During the Surveyed School Year, 35 States, *School Health Profiles*, 2008 to 2018

Sexual and Reproductive Health Skills Taught	2008 Median % (Range)	2010 Median % (Range)	2012 Median % (Range)	2014 Median % (Range)	2016 Median % (Range)	2018 Median % (Range)
Grades 6, 7, or 8						
How to access valid and reliable health information, products, and services related to HIV/STIs and pregnancy	71.9 (53.3–82.3)	65.6 (41.9–81.3)	65.8 (34.4–81.6)	65.5 (32.8–85.2)	62.7 (30.4–86.3)	63.5 (28.4–90.6)
The influences of family, peers, media, technology, and other factors on sexual risk behaviors	—	—	—	73.6 (36.4–90.3)	71.2 (38.0–81.6)	69.7 (42.0–82.9)
Interpersonal communication and negotiation skills related to eliminating or reducing risk for HIV/STIs and pregnancy	74.4 (50.9–87.8)	69.7 (39.3–84.7)	70.0 (36.5–85.3)	71.4 (31.8–89.6)	68.0 (31.5–86.7)	66.8 (31.8–90.7)
Goal-setting and decision-making skills related to eliminating or reducing risk for HIV/STIs and pregnancy	76.4 (56.7–86.9)	70.8 (38.9–87.4)	67.7 (35.1–90.7)	70.6 (31.8–89.7)	66.3 (30.7–86.5)	65.4 (29.3–92.8)
Grades 9, 10, 11, or 12						
How to access valid and reliable health information, products, and services related to HIV/STIs and pregnancy	92.2 (63.9–100)	92.5 (61.7–99.0)	91.4 (70.9–100)	90.3 (55.9–100)	90.8 (51.2–100)	92.0 (54.9–100)
The influences of family, peers, media, technology and other factors on sexual risk behaviors	—	—	—	92.1 (58.4–100)	91.2 (53.2–100)	90.8 (57.8–100)
Interpersonal communication and negotiation skills related to eliminating or reducing risk for HIV/STIs and pregnancy	91.4 (63.1–100)	90.7 (58.2–100)	91.4 (75.2–98.5)	91.2 (52.6–100)	90.7 (54.0–100)	90.5 (53.4–100)
Goal-setting and decision-making skills related to eliminating or reducing risk for HIV/STIs and pregnancy	92.2 (64.1–100)	89.1 (56.9–98.9)	89.9 (73.1–100)	89.5 (50.0–100)	88.7 (52.3–97.2)	88.2 (50.9–100)

Table 2.

Summary of Linear Time Effects in the Percentage of Secondary Schools That Taught Sexual and Reproductive Health Skills in a Required Course in Grades 6, 7, or 8 and 9, 10, 11, or 12 During the Surveyed School Year, 35 States, School Health Profiles, 2008 to 2018

Sexual and Reproductive Health Skills Taught	States with Statistically Significant Linear Decreases, No. (%)	States with Statistically Significant Linear Increases, No. (%)	States with No Statistically Significant Linear Change, No. (%)
Grades 6, 7, or 8			
How to access valid and reliable health information, products, and services related to HIV/STIs and pregnancy	9 (25.7)	2 (5.7)	24 (68.5)
The influences of family, peers, media, technology, and other factors on sexual risk behaviors	8 (22.9)	3 (8.6)	24 (68.5)
Interpersonal communication and negotiation skills related to eliminating or reducing risk for HIV/STIs and pregnancy	10 (28.5)	2 (5.7)	23 (65.7)
Goal-setting and decision-making skills related to eliminating or reducing risk for HIV/STIs and pregnancy	10 (28.5)	2 (5.7)	23 (65.7)
Grades 9, 10, 11, or 12			
How to access valid and reliable health information, products, and services related to HIV/STIs and pregnancy	4 (11.4)	2 (5.7)	29 (82.8)
The influences of family, peers, media, technology, and other factors on sexual risk behaviors	4 (11.4)	2 (5.7)	29 (82.8)
Interpersonal communication and negotiation skills related to eliminating or reducing risk for HIV/STIs and pregnancy	3 (8.6)	2 (5.7)	30 (85.7)
Goal-setting and decision-making skills related to eliminating or reducing risk for HIV/STIs and pregnancy	5 (14.3)	3 (8.6)	27 (77.1)

Table 3.

State-by-State Observed Increases and Decreases in Teaching Sexual and Reproductive Health Skills in a Required Course in Grades 6, 7, or 8 or 9, 10, 11, or 12 by State, 35 States, 2008 to 2018

State	Grades 6–8				Grades 9–12			
	AI	INF	IC	GS	AI	INF	IC	GS
Alabama	→	→	→	→	—	—	—	—
Alaska	→	←	→	→	→	—	—	→
California	—	→	—	—	—	—	—	—
Delaware	—	→	—	—	—	→	—	—
Florida	—	—	—	—	—	—	—	—
Georgia	→	—	→	→	→	—	—	→
Hawaii	→	—	→	→	—	—	→	—
Idaho	—	—	—	—	—	—	—	—
Illinois	—	—	—	—	—	—	—	—
Kansas	—	—	—	—	→	—	—	—
Kentucky	→	→	→	→	—	—	→	—
Maine	—	→	→	→	—	←	←	—
Maryland	←	←	←	←	—	—	—	—
Massachusetts	—	←	—	—	—	←	—	—
Michigan	—	—	—	—	—	—	—	—
Minnesota	—	→	←	—	←	—	←	←
Mississippi	—	→	←	←	—	—	—	—
Missouri	—	—	—	—	—	—	—	—
Montana	→	—	→	→	—	→	—	←
Nebraska	—	—	—	—	—	—	—	—
New Hampshire	←	→	—	—	—	—	—	←
New Jersey	—	—	—	—	—	—	—	—
New Mexico	—	—	—	—	—	—	—	—
New York	—	—	—	—	—	—	—	→
North Carolina	—	→	—	—	—	→	—	—
North Dakota	→	→	→	—	→	→	→	—

State	Grades 6–8				Grades 9–12			
	AI	INF	IC	GS	AI	INF	IC	GS
Ohio	→	—	→	→	—	—	—	—
Oregon	—	—	—	—	←	—	—	—
Pennsylvania	→	—	→	→	—	—	—	—
Rhode Island	—	→	—	—	—	—	—	←
South Carolina	—	—	—	—	—	—	—	—
South Dakota	—	—	—	—	—	—	—	—
Tennessee	—	—	—	—	—	—	—	—
Utah	—	—	—	—	—	—	—	—
Vermont	—	—	—	→	—	—	—	→
Virginia	—	—	—	—	—	—	—	—
Washington	—	—	—	—	—	—	—	—
West Virginia	—	—	—	—	—	—	—	—
Wisconsin	—	—	—	—	—	—	—	→

↑, significant linear increase; ↓, significant linear decrease; –, no linear change.

AI, Accessing valid and reliable health information, products, and services specific to HIV/STI and pregnancy prevention; INF, influences of family, peers, media, technology, and other factors on sexual risk behaviors; IC, Interpersonal communication and negotiation skills eliminating or reducing risk for HIV/STIs and pregnancy; GS, goal-setting and decision-making skills to eliminate or reduce HIV/STIs and pregnancy.