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HEALTH EDUCATION IN SCHOOLS

HOW CAN WE ENSURE IT IS ACCURATE, COMPREHENSIVE AND INCLUSIVE?

Physical health, behavioral health* and education are *linked* as poor health impacts *attendance*, *motivation and ability to learn*. Safer health behaviors are linked with improved *educational outcomes*, and higher education levels are *associated* with better health later in life. Health behaviors and preferences start to develop at a young age—improved adolescent health can contribute to *better health status* in adulthood.

Health education in schools has long been identified as a *strategy* to support children's health and well-being. States began implementing policies requiring education about alcohol and tobacco as early as the 1890s. An assessment of health education in public schools in the 1960s found considerable variability and inconsistency in topics and timing of education and led to the development of health curriculum as we know it today. Subsequently, foundations, nonprofit organizations and federal agencies, including the U.S. Department of Education and the Centers for Disease Control and Prevention (CDC), invested in developing evidence-based resources that schools may choose to use as part of instruction.

* PolicyLab's definition of behavioral health encompasses mental health and emotional and psychological well-being.

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What shapes health education in schools?

In the United States, *education policy* gives states and local-level authorities the responsibility for education (including curriculum development). As such, national requirements for schools do not exist. Rather there are voluntary standards and resources, often developed by professional associations, that state and local authorities can consider using.

State and local oversight

Health education is governed by state and local authorities. *Forty-six states* require some form of health education for all grade levels, but *variability exists* in what topics are taught.

State legislation may *target* the delivery of specific topics, such as nutrition, personal health, violence prevention or suicide prevention, or define how topics may be taught (e.g., what can and cannot be taught in sexual health). Several states (*Arizona*, *Illinois*, *New York*, *Oklahoma* and *Virginia*) passed legislation to require incorporation of mental health into health education.

Most school districts adopt a published standard to guide health education curriculum with just over *60%* of school districts specifying the *National Health Education Standards (NHES)*. School districts commonly vary school health education requirements by school level. High school health education is consistently required to reflect a broad range of topics, but it is *uncommon* for school districts to require elementary and middle schools to teach topics other than violence prevention and tobacco use prevention. Analyses have also shown state and district health education policies to have an *inverse relationship*; when state law addressed health education, there appeared to be fewer policies at the school district level and vice versa.

National resources

There are several existing resources that are available and widely used across the country. The *National Health Education Standards (NHES)* recommend that health education start in kindergarten and that by grade 3, students receive *80 hours* of health education each year, while also providing expectations for student knowledge and abilities by grade level. The *Whole School, Whole Community, Whole Child (WSCC)* framework identifies different systems that schools could leverage to provide holistic health education, while the *Characteristics of Effective Health Education (CEHE)* provide guidelines for an effective curricula to meet those broad knowledge goals. State or local education agencies or curriculum review committees can use CDC's Health Education Curriculum Analysis Tool (*HECAT*) to examine health education curricula for alignment with NHES and CEHE.

Professional organizations, including American Cancer Society, American Public Health Association, American School Health Association and American Association for Health Education, developed and updated the NHES. Other efforts that continue today include the *National Consensus for School Health Education*, which is working to develop contemporary resources for school health education, and the Future of Sex Education Initiative, which developed the *National Sex Education Standards*. It is estimated that more than 40 different *federal funding sources* support school health education. Furthermore, many nonprofit organizations play roles in school health education. The multiple funding sources and myriad of organizations involved in school health education likely contribute to health education being *organized* around specific issues (e.g., nutrition education, bullying prevention lessons).

Today, *challenges* remain around standardization and quality of health education and how to implement it in schools. The contributors to this brief, who are clinicians and researchers at Children's Hospital of Philadelphia (CHOP) and PolicyLab at CHOP, note troubling gaps in the health knowledge of their patients, and find that some youth may even be harmed by the health education they have experienced. The school setting presents an important opportunity to reach youth who may not be interacting with the health care system.

Our observations led us to a collaborative effort within PolicyLab's Adolescent Health and Well-being research portfolio to identify opportunities for strengthening school health education and ensuring that it is accurate, comprehensive and inclusive. Grounded in the expertise of pediatric health care providers and researchers, we see great importance in equipping our youth with knowledge and skills to lead healthy lives. We also recognize that school health education is only a part of the solution, and that a holistic approach includes improving youth's engagement with health care providers, too. This brief focuses

on scientific research, adolescent perspectives, and clinical experiences to highlight important considerations for planning and implementing school health education.

LISTENING TO YOUTH PERSPECTIVES ABOUT HEALTH EDUCATION

Several different CHOP research projects have included conversations with youth about their health, their identified needs, and their access to health information and resources.† While school health education was not the specific focus of these research projects, there were several consistent, relevant themes identified that are instructive for considering how to improve school health education. Notably, these conversations were most often in the context of sexual health—there is still a need to gather the youth perspective on other topics frequently included in health education (e.g., behavioral health, nutrition).

Adolescents seek information on a range of health topics from trusted sources.

In a series of qualitative interviews, youth from an urban school district prioritized access to a trusted, informed adult with information on health, especially behavioral and sexual health.[1] Youth-serving public health providers identify that there are silos and limited awareness and coordination among those supporting this school district. Given the disjointed nature of supports offered, there is a role for health education curriculum and a trusted adult to help identify the needs of students and support their navigation to services available in the community.

"I feel like a lot of people just don't know about different services. It should be advertised more. Especially mental health. That's a big issue now for teens. It's not something people take seriously."

—Youth (age 17–21)[1]

Adolescents turn to social media for health information and support, but it is not always their desired resource.

Youth acknowledge that social media is a resource that serves them both positively and negatively. Social media can help youth find information, especially in the absence of conversations with trusted adults, educators or doctors, and may also be a source of misinformation. In light of this, youth expressed mixed feelings about social media as an information source.[2] Addressing social media in health education and literacy can better equip youth with skills to navigate different resources and discern accurate information.

"Personally, in my life, like a lot of the things I went through, I had to like, look up on the internet. A lot of my education came from the internet."

—Youth (age 17–21)[1]

"Oh, so I was like in elementary school, and I think I looked up on YouTube how to hide your chest or something. And that's how I figured out what trans was because I looked up that."

—Youth (14 years old)[2]

"I think that [social media is] a really good tool, if you're putting your sources out there. Because anybody can get on social media and say whatever they want, especially doctors, and people will believe them because they have the doctor in front of their name."

—Youth (21 years old)[2]

† All participants consented to the use of these quotes in a way that does not identify them. Scientific research projects were conducted with Institutional Review Board (IRB) approval. The youth advisory group for city planning purposes was conducted in accordance with local guidelines.

Incomplete health education can negatively impact adolescents.

Adolescents note that some topics, like sexual health education and mental health services, are often limited or incomplete, leaving them insufficiently knowledgeable to make healthy decisions. For example, ***youth report*** learning about condoms, but not other forms of birth control. Other health education topics can be presented in ways that inadvertently result in unhealthy behaviors. Some nutrition education programs have been identified as a ***precursor to restrictive eating***. While a lack of comprehensive reproductive health education ***perpetuates stigma*** around menstruation. Given the impact of inaccurate and incomplete information, it is imperative that health education is consistently complete.

"Knowledge [about menstruation] is power. So, if you provide the knowledge, the people will know. And if not, then we have the stigma that we have now."

—Youth (24 years old)[2]

When and how information is shared does not always meet youth needs.

Existing standards on age-appropriate content are not fully responsive to when youth say they need information. Youth differentiate sex education from their own development physically (puberty) and psychosocially (gender). For example, ***gender-expansive***[‡] youth recommend introducing discussions about gender and puberty ***as early as*** second grade. Similarly, menstruating youth want to be more informed about their periods, and receive this information earlier and distinct from discussions about sex.[2] ***Universal school-based behavioral health services***, which includes delivery of proactive, positive behavior management practices or socioemotional learning programs, should reach all children at all ages. Engaging youth in health education decision-making will help ensure that curriculum, content and sequencing of information is responsive to their needs.

"When I got my period, I wasn't thinking about that. I still was playing with dolls and stuff. Who wants to think about sex when they get their period? That's not the first thing that comes to your mind."

—Youth (16 years old)[2]

Adolescents describe how health education can be alienating or affirming, depending on the content and educator.

In particular, youth that identify as gender expansive find that sexual health education with a heteronormative approach ***does not reflect*** their experiences, ***nor equip*** them with the knowledge and resources to stay healthy and safe. Youth also identify that health education and educators who acknowledge or share similar lived experiences can be supportive. Health education decision-making needs to both consider the content and the delivery so that it is welcoming to all youth.

"If [school staff] come from that community they... have firsthand knowledge about everyday struggles and resource needs."

—Youth (age 17–21)[1]

"There are different relationship norms and boundaries depending on the genders involved. The curriculum is heavily geared toward cishet[§] relationships."

—Youth (age 17–21)[1]

"I hated when I'd go into school and...[hear] females do this. I feel like, I'm not that. It would just be like dismissing trans people."

—Youth (18 years old)[2]

‡ ***Gender expansive:*** An umbrella term sometimes used to describe people who expand notions of gender expression and identity beyond perceived or expected societal gender norms.

§ ***Cishet:*** A term used to refer to an individual who is both cisgender (whose gender identity aligns with the one associated with the sex assigned to them at birth) and heterosexual.

IDENTIFYING PRIORITIES FOR SCHOOL HEALTH EDUCATION

Our research and practice have helped us to better understand some youth perspectives on school-based health education and inform the recommendations that follow. While many align with existing national standards, we also offer new considerations for identifying school health education.

1. Health education taught in schools should be comprehensive

Comprehensive health education should incorporate physical and behavioral health. It should also support skill building related to communication, information seeking, and decision-making, as identified in the Whole School, Whole Community, Whole Child and Characteristics of Effective Health Education.

Health has long been recognized by the ***World Health Organization (WHO)*** as "complete physical, mental and social well-being and not merely the absence of disease or infirmity." In the wake of the behavioral health crisis, behavioral health experts are ***recommending*** the promotion of systematic behavioral health education as part of a comprehensive health education curriculum to both destigmatize mental health and equip youth with resources to access care, including preventive care. In addition to building knowledge, commonly identified ***skill sets***—including health literacy—are related to positive health outcomes. Skills related to health navigation, decision-making, and medication or treatment-adherence can support accessing health care.

2. Health education curricula should be medically accurate

Given the developmental vulnerability of children, misinformation or flawed content poses a potential risk to both their current and future health and welfare. Health education programs that disseminate false or misleading information do more harm than good. For example, incomplete and inaccurate sex education contributes to increasing ***risky sexual behaviors*** and ***poor behavioral health*** among gender-expansive youth. Concerns exist about ***unintended consequences***, such as weight stigma and disordered eating, from school-based ***nutrition education*** in schools that separates foods into "good" or "healthy" and "bad" or "unhealthy" categories and emphasizes weight loss or flawed indicators such as body mass index (BMI).

Sexual education and/or HIV education is required by at least ***18 states*** to be medically accurate. Within the ***legislation*** from these states, the definitions of medical accuracy vary as well as the institution/person required to implement the standards (e.g., local school authorities, state health department, education department). Conversely, ***seven states*** (as of early 2022) prohibit or discourage discussion of LGBTQ topics in health education. Some states (***Nevada***, ***North Dakota***) have passed legislation that require use of evidence-based mental health resources and programs in health education.

At the local level, most school districts (***85%***) report having a health council, committee or team that addresses health education at school. ***Involving*** health care providers or researchers in this committee or its review process could assist in determining medical accuracy in the health curriculum. Health care providers can also help to ensure that material, even if medically accurate, is delivered in a non-stigmatizing fashion.

3. Health education should be age appropriate

Health education is recommended for all school-age children (pre-K through 12th grade) and to be developed and implemented in a logical sequence. The ***National Health Education Standards*** provide indicators of what students should know or be able to do in specific age ranges and the ***Characteristics of Effective Health Education*** calls for age-appropriate content and strategies.

Contrary to some common perceptions, age-appropriate education does not increase risky behavior. For example, teaching ***sex education*** does not lead to increases in sexual activity nor does teaching adolescents about ***body image*** contribute to poor body image or efforts to change body image. However, delaying education can contribute to risky behaviors. As highlighted in the previous section, children and youth are seeking information on topics such as gender and puberty earlier than they are commonly part of the health curriculum. Similarly, ***social–emotional education*** for children, as early as first grade, and adolescents has been shown to be protective against suicidal ideation and attempts.

Bright Futures ***Guidelines*** and ***Recommendations for Preventive Pediatric Health Care*** steer pediatric clinical practice in terms of screenings and preventive topics to cover in pediatric well-child visits. As research on what is "age appropriate" in health education continues to evolve, efforts should be made to align these clinical recommendations and school health education curriculum. Importantly, youth perspective should be taken into consideration when determining what is age appropriate.

4. Health literacy should be a focus of health education

As described in a ***National Academy of Medicine discussion paper***, ***health literacy*** ¶ among youth is critical to their ability to make informed decisions and help prepare them for adulthood. The ***health literacy*** of parents and caregivers is

¶ ***CDC*** defines health literacy as an individual's ability to find, understand, and use information and services to inform health-related decisions and actions for themselves and others.

also linked to their child's health. Caregivers have information gaps, making it more important that youth are learning from evidence-based curriculum in school. Communicating key health facts to youth and their caregivers can offer the opportunity to caregivers to extend the health education at home and support healthy behaviors. For example, it was recently documented that caregivers are unaware of ***healthy sleep duration*** guidelines for youth.

Health literacy as it relates to social media is increasingly pressing. ***Almost all*** youth use social media and many spend significant portions of their day on devices. While evidence points to a ***negative relationship*** between social media and health, including behavioral health and eating disorders, social media is also a ***mechanism to reach*** and engage youth. School health education offers an opportunity to help youth become health literate across mediums.

5. Cultural humility is essential to health education

School health education, like all education, has the potential to alienate children and adolescents if it is not delivered in a way that resonates with youth. In clinical settings, there has been a welcome shift to deliver care and health information with cultural humility—recognizing the perspective and experiences and learning approaches that a patient holds. It is essential for school health education to be delivered using culturally inclusive learning strategies, teaching methods and materials. Flexibility in the curricular content and in implementation strategies is important to ensure the information reaches the widest audience. This requires dedicated support to the professional development of current and future educators. Health education should also address how broader contextual forces shape health, such as ***racism*** and ***climate change***.

6. Access to comprehensive health education should be equitable

The linkage between education and health equity is ***well documented***. The relationship between education and health equity has multiple ***pathways***, including the building of health knowledge, skills and behaviors. In the absence of comprehensive requirements and resources and with known variation across the country, inequitable access to health education is likely. Resource-constrained schools may be ***unable to prioritize*** health education or offer a comprehensive curriculum without supplemental capacity or funding. The politicization of health education, in both resource rich and constrained environments, may exacerbate health inequities.

LOOKING FORWARD

In preparing our youth for healthy futures, we must ensure equitable access to school health education that is comprehensive, medically accurate, age-appropriate, and which emphasizes health literacy. In this brief, we offer relevant research with a focus on work that specifically includes adolescent perspectives and from it, offer recommendations to inform discourse on core components of health education. While the youth perspectives in this brief emphasize sexual and reproductive health, our recommendations reflect a holistic definition of health.

Recognizing that school health education decision-makers include state and local officials, we offer recommendations relevant across these levels. We acknowledge that individual schools and local education authorities face many competing priorities and often have limited resources and capacity. However, at a societal level, health education has the potential to support healthier future generations and promote preventive activities.

It is important to note that many factors contribute to youth developing their own health knowledge and information. Issues of stigma, bias and misinformation are a result of many different influences in a child's development, inclusive of health care providers. As such, school health education is only one strategy to support the development of informed and capable youth.

There are many groups who are involved in school health education, and we hope that health care providers and systems can be helpful partners. More important, though, is that youth are engaged in planning and decision-making. Only by incorporating the perspective of youth can we ensure that health education is meeting their needs and giving youth the opportunity to be their healthiest selves.

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