School-Based Health Education: What Works?

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Increasingly, health care reform efforts are focusing on interdisciplinary, comprehensive approaches to health care delivery. I argue that school health education is a vital part of improving the health of this nation's citizens and that effective school-based education must be comprehensive, continuous, and interdisciplinary and must offer information, motivation, and skills. The National Center for Health Education, the nation's leading private organization focusing solely on comprehensive health education, has developed Growing Healthy, a comprehensive school-based curriculum aimed at promoting healthy lifestyle choices for children in grades kindergarten through six, now in over 9,000 elementary schools in 42 states. Students participating in the Growing Healthy program showed greater benefits in their health knowledge, attitudes, and behaviors than participants in three targeted, one-shot (health education) programs. Further studies have shown that school-based health education programs that start early and continue through several grades provide significant and sustained effects on overall health knowledge, attitudes, and practices. [Am J Prev Med 1994;10(suppl 1):30–2]

Lisbeth Schorr, in her seminal book with Daniel Schorr, *Within Our Reach: Breaking the Cycle of Disadvantage,* asserts that we know enough to act, we know enough to avert "rotten outcomes" for kids.[1] The book was a breakthrough in two very important ways: it stripped the defense of ignorance from those who were inactive on behalf of children, and it clearly presented what we know about effective programs.

Programs that aim to make a difference in children's lives, Schorr tells us, will likely succeed if they are comprehensive, family-centered, intensive, flexible, and staffed by professionals who respect those they serve. Simple, clear, obvious, yet powerful—a useful model, I submit, for health education. My goal in this article is to follow Schorr's lead, to argue that we know enough about school-based health education to act and to perceive the relevant challenges.

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I speak as the former president of the National Center for Health Education (NCHE), a 17-year-old national nonprofit organization created by a presidential commission. NCHE was established to be the nation's leading private organization focused on health education; today it is the only national organization solely focused on comprehensive health education. Its mission is to extend the reach and power of education for health. It focuses on children and youth and the means to help them grow up whole and healthy in today's society.

NCHE designs and disseminates health education interventions. It is responsible for the development and management of Growing Healthy, a nationally validated comprehensive health education curriculum for grades kindergarten through six. Growing Healthy is now in over 9,000 elementary schools in 42 states. In the current work with Growing Healthy and in its other initiatives, NCHE is particularly interested in learning more about how to engage families and communities in supporting healthy choices for youth. Under a five-year cooperative agreement with the Centers for Disease Control (CDC), it is providing technical assistance to 16 cities across the country to develop and support coalitions to promote comprehensive school health education. With funding from Exxon and MetLife, it is producing a series of parent guides to help parents communicate with their children about important health risks such as substance abuse and AIDS. NCHE is working with the "I Have A Dream" Foundation, again with funding from MetLife, to integrate health education into existing

community-based programs so that adolescents at greatest risk of preventable disease learn to value their health and to make effective decisions about it. And it is also collaborating with a national network of health education professionals, parents, teachers, and others to pilot a revised elementary health education curriculum that addresses in a comprehensive context some of the newest and most significant threats to children's health development, such as violence. In all these efforts, NCHE seeks to extend knowledge, to focus attention on the community-based side of health education and promotion, and to learn how to link the school to the home and community.

Existing efforts to develop school-based clinics can bridge health services and health education and help young people facing an immediate medical or health question connect their behavior to their health. The developing health care reform package should continue to include funding for both school-based clinics and comprehensive school health education. And the federal administration, as well as state and local officials, should cease funneling health education monies into discrete, disconnected streams. Drug-free school funds should be allocated to support comprehensive health education efforts, not limited only to antidrug programs. The risks our children face do not present separate, isolated instances.

Early signals from the Clinton administration's new drug czar are favorable. Kristine Gebbie, shortly after her appointment, indicated that education and prevention would be among her first priorities.[2]

School health has been a significant part of NCHE's work for its 17 years of operation. What have we learned? What works? The prerequisite for effective school-based health education is a comprehensive approach. Schorr emphasized the significance of comprehensive services in her analysis of programs serving children and families. The same is true for education.

What would comprehensive school-based health education look like? The CDC has provided us with a cumbersome but specific definition. Basically, the CDC calls for a skills-based, sequenced K–12 curriculum, addressing a range of categorical health problems and issues, managed and taught by trained staff, and involving parents and the community.[3] (For a list of the eight components of comprehensive school health education, see the Appendix.)

The CDC set comprehensive school health education as a key goal. It is not alone. The Public Health Service's Year 2000 goals call for 75% of the nation's schools to provide comprehensive school health education by the year 2000, and former President Bush's first education goal for the year 2000 asserts that all children should arrive at school healthy and ready to learn.[4]

Leaders in both health and education are calling for an increased focus on the school as a place to reach children and to teach them how to manage their health and risky behaviors. The American Medical Association and the National Association of State Boards of Education joined forces to form the National Commission on the Role of the School and the Community in Improving Adolescent Health. The commission's report, *Code Blue,* outlined an action plan to reverse the increasing morbidity and mortality among children and adolescents. Specifically, *Code Blue* urges schools to emphasize health and development and calls for a "new kind of health education"—one that meets the CDC's definition of comprehensive health education.[5] And the Council of Chief State School Officers examined the dynamic between health needs and school performance and argued in a recent report, *Beyond the Health Room,* that efforts to expand school health education should become an integral part of the school reform movement.[6]

What has so convinced these professionals? Why does a comprehensive approach to health education work better than a single issue or targeted strategy?

The health risks facing children and adolescents are not discrete problems but a set of interconnected issues. So, logically, an effective response accounts for all the factors at play. Our wish to disconnect the issues is either a defense against our feelings of inadequacy or a result of training, professional or otherwise, or—worse—just habituation to dollar flow. But, in any case, our wish to separate the issues does not make them discrete. Jessor's and Jessor's early work illustrated this point, and Joy Dryfoos's most recent book, *Adolescents at Risk: Prevalence and Prevention,* confirms it, particularly for adolescents.[7,8] Children who exhibit one behavior that puts them at risk—such as substance abuse—often are involved in other risky behaviors, whether smoking cigarettes or having unprotected sex. A comprehensive and integrated approach addresses an interconnected set of problems.

Yet, beyond the logic, does evidence prove that comprehensive approaches work better than categorical ones? Indeed. In perhaps the "gold standard" of school health education studies, the CDC and Abt Associates compared Growing Healthy with three other targeted health education curricula by examining a sample of 30,000 students in 20 states. The study found that Growing Healthy (then known as the School Health Curriculum Project) showed the strongest statistically significant effects on knowledge, attitudes, and behaviors. They found one of the most striking behavioral correlates of exposure to Growing Healthy among seventh graders: based on self-reports, almost three times as many students in a control group began smoking in the first half of the seventh grade as students enrolled in Growing Healthy.[9]

Other critical prerequisites for school-based education efforts are an early start and continuous and continual follow-up. The closest analogy for medical professionals is compliance. A full dose of comprehensive school health education means beginning early, in kindergarten or preschool even, and following students, with developmentally appropriate material, through high school. Random doses of health education, a semester here and there, make no more sense than random doses of penicillin. Yet only 32 states require health education "at some time" K–12; 19 states require health education "some time" during grades 1–6, and 22 states require it in either grade 7 or 8.[10]

Again, the evidence that dosage makes a difference is clear, as we learned in the CDC/Abt studies involving Growing Healthy. That study of school health education included a substudy of cumulative effects of exposure to different levels of intensity of instruction across several grades.[11] It found that both program intensity and continuity make a difference. Even though short-term gains in specific health knowledge can be achieved by targeted one-shot programs, 40 to 50 hours of instruction per grade were necessary for even moderate improvements in overall health knowledge, attitudes, and practices. The study also documented that school health programs continued through several grades affect attitudes and behaviors more strongly.

Not surprisingly, similar findings have been documented in studies of preschool programming and its effects on later

achievement. Even preschool programs of proven effectiveness, like Head Start, have little or no long-term effect beyond the first grade without follow-up. Some evidence, though, suggests that impacts can be sustained if Head Start is supplemented with follow-up interventions (McCarton C, unpublished paper, 1991).

Further, we know that school-based education must develop three factors: information, motivation, and skills. Too often we stop with providing health information, imagining that, if children just know the facts, they will act accordingly. For a child to act responsibly about her or his health requires knowledge, some of it topic-specific, but more of it motivational. The child needs some sense that what she does today matters tomorrow, that she will have a tomorrow, that she can affect tomorrow with today's behaviors, and, finally, that she has the capacity (skills and will) to act healthfully. These issues of self-esteem and self-effectiveness matter; peer culture and the skills to negotiate within it set a course for a child. A child who learns to put on a seat belt perceives the notion of prevention and, with assistance and affirmation, can carry that perception forward into multiple aspects of life.

School health programs must be sensitive to young people's goals, values, aspirations, and even fears. When children hear a message that ignores their needs and opportunities, they disconnect. School health education programs should teach skills so that children can act on their knowledge and beliefs about themselves. Researchers have identified decision making and communication skills, often called life skills, as keys in affecting youths' risk-taking behaviors.[8,12] By instilling in students a personal sense of competency and ability to cope with and manage risk, life skills training can enable children to take charge of their health.

A final point to reiterate: health education stops short of full effectiveness unless it is linked to services. I want to be clear here. Although the NCHE is committed to the importance of health education, no one should imagine that health education can replace health care. The two work when linked. Healthy schools will have both comprehensive health education programs and easy access to health services for their students. Healthy children and a healthy society need both.

APPENDIX

Comprehensive School Health Education: What Does It Involve?

1. A documented, planned, sequential program of health education for students in grades kindergarten through twelve.
2. A curriculum that addresses and integrates education about a range of categorical health problems and issues (e.g., HIV infection, drug abuse, drinking and driving, emotional health, environmental pollution) at developmentally appropriate ages.
3. Activities to help young people develop the skills they will need to avoid: (a) behaviors that result in unintentional and intentional injuries; (b) drug and alcohol abuse; (c) tobacco use; (d) sexual behaviors that result in HIV infection, other sexually transmitted diseases, and unintended pregnancies; (e) imprudent dietary patterns; and (f) inadequate physical activity.
4. Instruction provided for a prescribed amount of time at each grade level.
5. Management and implementation in each school by a trained coordinator.
6. Instruction by teachers trained to use the curriculum.
7. Involvement of parents, health professionals, and other concerned community members.
8. Periodic evaluation, updating, and improvement.

Source: Centers for Disease Control's Interim Operational Definition of Comprehensive School Health Education.

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