Only 12% of American adults have proficient health literacy, defined as a set of skills needed to effectively function in the health care system. This is troubling given that health literacy is a stronger predictor of health than age, income, employment status, educational level, or race. A growing body of research also shows that low health literacy is associated with worse child health outcomes, higher health care costs, and elevated mortality rates.

Although Americans are increasingly expected to be knowledgeable consumers of health care, it is clear that many individuals lack the core health literacy skills needed to understand their health insurance. This inadequate understanding of health care information creates challenges beyond the selection of a health insurance plan or payment calculations. Poor health literacy, including health numeracy, extends into one’s ability to seek care at an appropriate time, navigate through the health system, and share in important medical decisions.

In this Perspective, we describe national efforts to combat low health literacy rates and argue that they fail to adequately prepare children and adolescents to be health-literate adults. We then propose several steps for educators, health care providers, and policymakers to improve health literacy among children and adolescents in the United States.

IMPROVING HEALTH LITERACY: CURRENT STRATEGIES AND WHY THEY FALL SHORT

The US Department of Health and Human Services, the National Academy of Medicine (NAM), and state consortiums have developed sweeping proposals to improve health literacy. These proposals provide an evidence-based framework for policymakers, organizations, and individuals who are interested in improving health literacy in their communities. Nevertheless, it remains unclear whether these recommendations have changed practice in educational, health care, or community settings or have led to improved health literacy.

The National Action Plan to Improve Health Literacy, developed by the Department of Health and Human Services, and recommendations from the NAM encourage diverse sectors to play a role in improving
health literacy in the United States. However, most programs designed to improve health literacy are isolated within health care settings and narrowly focus on individuals who are already enrolled in a health insurance plan or who have already developed at least 1 chronic condition. Furthermore, interventions targeted at adults who are actively trying to navigate the health care system and may already have chronic illness may be timed too late for optimal impact.

The NAM suggests that initiatives to improve health literacy through primary and secondary education could lead to better health and decrease the cost of health care in the United States. Unfortunately, many states have removed health education requirements or reduced the requirement to ≤1 credit in high school. If states do require health curricula in public schools, a health literacy component is not typically mandated. This weakening of health education has occurred despite the near certainty that future generations will experience a complex and increasingly expensive health care system.

### STEPS TO IMPROVE HEALTH LITERACY THROUGH PUBLIC EDUCATION

Efforts to improve health literacy will have a greater national impact if they start before adult-onset chronic diseases are established, ideally while children and adolescents are developing their health behaviors. Such efforts must include the public education system, with particular attention paid to curricula, funding, partnerships, and measurement.

### Curricula

Although health education has been cut markedly in many states, the National Health Education Standards (NHES) provide a potential path forward. The NHES is a framework that aims to improve students’ comprehension of health promotion and disease prevention and to enhance their ability to access health services and information and advocate for community health. However, most schools have not rigorously enforced the NHES because they are neither mandated nor explicitly funded. If the NHES were mandated, it would ensure that students are exposed to essential health education topics and prepared to make informed health care decisions in the future.

The NHES could also be updated to reflect the complexities of navigating health insurance and health care in the Affordable Care Act era. Such an update could offer a novel opportunity for interdisciplinary education. For instance, economics courses could include lessons on financial risk, in which students weigh the risks and benefits of high-deductible plans versus traditional health insurance plans. Students could learn how to calculate out-of-pocket expenses from co-pays and co-insurance in math class. Science teachers could discuss the evidence base for immunization and other public health measures. Social studies classes could include topics on the social determinants of health and associated health disparities. These topics would broaden the current content typically covered in health education courses (Table 1).

### Funding

Funding for such programs should be provided, in part, by health care institutions that are highly motivated to have patients use health care services in ways that best align with their health conditions and acuity. Government health programs, in particular, have a strong incentive to partner with state and local education systems to develop programs that improve health literacy. We acknowledge that this funding recommendation is a departure from how such programs currently function and fund initiatives, but we believe it would be possible to finance educational opportunities in a manner similar to how some states fund early childhood home-visiting programs (eg, benefits would not be mandatory but could be bundled into Medicaid managed care plans).

### Partnerships

Opportunities for partnership already exist between health care and education sectors. For example, school-based health centers, which have medically trained professionals, are located in 49 out of the 50 states and are increasingly prevalent in public schools. Supplementary funding for health literacy education could help school-based health centers expand their role and serve as a source of comprehensive health literacy education for students and families.

In addition, many health insurance companies now provide families with an incentive when they visit a gym 3 times per week. Similar partnerships could be developed with school systems, so that families receive a discount or incentive when they attend health literacy programs and skill-building sessions. Health care systems and providers could also

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**TABLE 1 Current and Proposed Health Literacy Topics in Public K–12 Education**

<table>
<thead>
<tr>
<th>Current Health Education Topics</th>
<th>Proposed Additional Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injury and violence</td>
<td>Health systems</td>
</tr>
<tr>
<td>Sexual behaviors</td>
<td>Scientific rationale for public health interventions</td>
</tr>
<tr>
<td>Alcohol and drug use</td>
<td>Health literacy</td>
</tr>
<tr>
<td>Tobacco use</td>
<td>Deductibles and cost-sharing</td>
</tr>
<tr>
<td>Nutrition</td>
<td>International health</td>
</tr>
<tr>
<td>Physical activity</td>
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</tbody>
</table>

Adapted from the Centers for Disease Control and Prevention’s 8 priority adolescent risk behaviors, which are monitored through the Youth Risk Behavior Surveillance System.
help school systems develop a health curriculum that presents complicated health policy as more approachable content for young learners.

**Measurement**

Finally, as efforts to improve health literacy are amplified, successes and failures must be measured. Although public and private stakeholders have invested considerable resources to improve health literacy, rates of health literacy among adolescents have never been measured at the national level. We agree with previous authors who have recommended the incorporation of existing health literacy screens (eg, Newest Vital Sign or REALM-Teen) into national surveys such as the Youth Risk Behavior Surveillance System or the National Survey of Drug Use and Health. These surveys, in particular, would allow for both national- and state-level estimates of health literacy.

**CONCLUSIONS**

Educational investments earlier in the life span can improve health literacy in the United States. Critical steps toward improving health literacy include mandated and updated health curricula, sustainable funding sources, cross-sector partnerships, and measurement of health literacy among the adolescent population. Encouraging partnerships between health care and education is a novel, yet practical approach to fund and disseminate these efforts. Enhancing health literacy offers great potential to improve the health of children and to provide them with tools to be more informed and capable consumers of expensive and limited medical resources in adulthood.

**ABBREVIATIONS**

NAM: National Academy of Medicine
NHES: National Health Education Standards

**REFERENCES**


Promoting Health Literacy for Children and Adolescents
Tyler N.A. Winkelman, Martina T. Caldwell, Brandon Bertram and Matthew M. Davis
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DOI: 10.1542/peds.2016-1937 originally published online November 10, 2016;

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