enhancing individual health but also of raising the public's awareness of health in the wider, political scheme of things, thus making the electorate more effective. In the 1930s, such views seemed a matter of common sense among public health leaders. Scientific knowledge was expected to stimulate rational social action. The more we knew, the better organized we would become. Government seemed the natural instrument. And history seemed to point in that direction.

Sigerist was explicit in his own writings about the connections to be drawn between past and present. "The study of history is not a luxury," he wrote in the Terry lectures that he gave at Yale in 1938. "History is one of the most powerful driving forces in our life. Unlike animals, we are conscious of the past, and the picture we carry in us of our history determines our actions to a very large extent, whether we are aware of it or not."[3] For generations of public health activists drawing on prevailing perceptions of the history of public health, the "next step" in politics has been government-sponsored national health insurance, the natural, logical organizational move that every industrial country was expected to take.

It is easy to see today that Sigerist, like many others then and since, overvalued the progressive force of science as the rational engine of social change, as Dr Fee has pointed out elsewhere.[4] But from today's perspective, I think that is neither here nor there. One could argue, on grounds of the strategic potential that prophesies may hold as self-fulfilling entities, that his arguments were part of an ideological or political rhetoric that did not make the grade but were nevertheless, in a democracy, important to make. One could claim that the United States did in fact achieve a form of socialized medicine, since we now spend more on medical care from tax funds per capita than do most other nations (though without the checks and balances of a socialized system). One could take a very long view and claim that we are still heading in the "socialized" direction, that is toward government-sponsored national health insurance; it's just taking longer than anyone in the 1930s might have expected. But these points, while interesting, are not the points I want to make. The point that I do want to make is one Sigerist undoubtedly would have appreciated and might well have done something about, assuming he were alive today: namely, what is the history we draw on in the 1990s as the basis for our own policy predictions?

I believe we need a renewed concentration on public health history, in tune with the turn of the next century. The idea, inherited from Sigerist's time, that there is a pattern of historical progress toward greater health care coverage through responsible government action is not a useful rallying cry for the late 1990s. Socialism (or anything that smacks of socialism) will not do. Clintonism, as dramatized in the health reform proposals, espoused a commitment to rationalism and expertise that was not magically grounded in historical themes—even those of the Progressive period. This is a time for reorientations, both to contemporary possibilities and to their historical heritage. For there is not one history but many.

In today's volatile marketplace, there is a rich and diverse history of public health on which to build: the history of managed care, for example, or of the role of states, or of the for-profit sector or medical statistics. The very terms "public" and "health" cry out for reinvention in the 1990s in the light of past experience. What is the public health record of the 20th century? In what terms can we best measure it? With the old certainties no longer clear, public health lacks compelling and plausible prophesies in the policy arena that draw on history for justification, that are, indeed, part of an ongoing tale. Yet, to effect change, it is important to have the grounded certainty as to where we should be going that drove individuals such as Sigerist. This suggests, at the very least, interpretations of the past that help us to better understand the present.

Like Sigerist's generation, we, too need a strong model of public health that will serve the needs of the next decades, one imbued with organizing rhetoric that fits these decades. The model—or manifesto—will draw on rising concern about infectious and contagious diseases across the world. It will take into account the potential of communications technology. It will recognize the relationship of social class and health in terms responsive to the specific conditions of the 21st century. It will encompass the trade-offs between high-cost medical technology and other social goods, including education. It will reexamine the role of public health in (and by) government, and the relationships between government and the private sector. It will relate the value of public health, in decisive terms, to social betterment and violence prevention, looking forward across a new century. As a manifesto, like Sigerist's, it should be visionary and achievable whether or not, in the end, it is totally achieved. □

Rosemary Stevens
School of Arts and Sciences
University of Pennsylvania
Philadelphia

References

1. Fee E. The pleasures and perils of prophetic advocacy: Henry E. Sigerist and the politics of medical reform. *Am J Public Health.* 1996;86:1637–1647.
2. Miller G. Sigerist, Henry Ernest. In: Garraty JA, ed. *Dictionary of American Biography,* Supplement Six (1956–1960). New York, NY: Scribner's Sons; 1980:580.
3. Sigerist HE. *Medicine and Human Welfare.* New Haven, Conn: Yale University Press; 1941:105.
4. Fee E. Henry E. Sigerist: from the social production of disease to medical management and scientific socialism. *Milbank Q.* 1989;67(suppl 1):127–150.

Editorial: Our View of Adolescent Sexuality—A Focus on Risk Behavior without the Developmental Context

The United States has a history of profound ambivalence toward human sexuality. This is nowhere more apparent than in our policies, regulations, and attitudes regarding the sexual behavior of children and adolescents.

Basically, the debate has stagnated for decades and is polarized around the question of whether it is best to do everything to suppress teenage sexual behavior or whether one should pragmatically accept the fact that the majority of young women and men will become sexually active with a partner during the second decade of their lives. If one adopts

Editor's Note. See related article by Schuster et al. (p 1570) in this issue.

a reality-based acceptance of teenage sexuality, the responsible public health policy ought to be to provide effective and comprehensive sex education that includes information on and access to contraceptive and sexually transmitted disease (STD)/human immunodeficiency virus (HIV) barrier methods to prevent pregnancy and sexually transmitted disease/HIV infection. Instead, the debate has been fought on emotional and irrational grounds. The argument rests on the persistent belief that sex education itself will seduce adolescents into sexual activity. It follows that schools and other educational and health channels will do better to either remain silent or discuss sexuality in a context of fear and danger that leaves no alternative to sexual abstinence.

The debate is fueled by strong beliefs and convictions of right or wrong and leaves little room for an impartial assessment of the facts and a definition of pragmatic educational goals. Scientific evidence and cross-cultural comparisons have not moved the United States towards an effective educational program for teen sexuality, pregnancy prevention, and STD/HIV risk reduction. The victims of this fruitless cultural ideological debate have been the children and adolescents left uninformed and untaught in how to reach responsible decisions about their intimate relationships with opposite- or same-sex partners. Indeed, as stated in the introduction to the Sexuality Information and Education Council of the United States (SIECUS) Guidelines for Comprehensive Sexuality Education, fewer than 10% of children in the United States receive comprehensive sex education that includes a discussion of sexual behaviors, "although two-thirds of the curricula affirm that sexuality is a natural part of life."[1]

The ambivalent and insufficient approach to sex education in schools has not deterred American adolescents from sexual behavior. Indeed, the age of first sexual intercourse has dropped for girls and boys over the last 20 years.[2] The lack of thoughtful and comprehensive sex education programs has negatively affected the rates of teen pregnancies in the United States. Persistently high rates have grave implications for many adolescent women and their children and a public cost that was recently assessed at $7 billion a year.[3]

The US rates of teen pregnancies are strikingly different from those in other countries. In societies comparable with the United States in terms of economics and culture (such as Canada, England, France, the Netherlands, and Sweden), teenage pregnancy rates are at least less than half that of the United States, and the Netherlands has virtually eliminated its pregnancy problem for teens.[4–6] The lower rates are not a result of any differences in sexual behavior of adolescents but rather are related to how and when sex education is delivered and to the ready availability of contraceptives and family planning.[2,7,8]

Rather than adopting policies based on national and international experiences on how to deliver effective sex education with the goal of eliminating negative consequences such as unwanted teen pregnancies, the US government increasingly is choosing to go the way of legislating morality. For instance, the proposed recent welfare bill contains a provision of $250 million for "abstinence education" and "promises $400 million in bonus to those states that do the best at containing or reducing their rates of illegitimate births."[9] To promote sexual abstinence without comprehensive sex education (including information on contraceptives and family planning) is futile, as has been shown many times here and abroad.[10]

Such governmental policies—ideological, ineffective, and nonpragmatic—also are permeated by a negative and often hostile attitude towards human sexuality, especially as it finds expression in the unfolding life course of young people. One might argue that governmental edicts merely reflect political trends that fluctuate between conservativism and liberalism and more or less restrictive or permissive attitudes toward human behavior. It is of greater concern when a similar bias pervades the work of behavioral scientists as it does the views of politicians or proponents of religion. In the United States, increasingly, studies on adolescent sexuality are solely or predominantly conceptualized, assessed, and discussed within the context of risk behavior: risk for pregnancy, risk for STDs, and for HIV infection. Too rarely one finds discussions of sexual feelings or behavior as a normal aspect of human development expressed from early childhood on and intensely experienced by many young people in their teens. Positive aspects of adolescent sexuality rarely are mentioned nor is sexual competence considered something that needs to be learned.[11] The possibility that the postponement of sexual behavior beyond the adolescent years may have its own undesirable consequences is entirely absent from the current scientific discourse.

In this light, I see the article by Schuster and colleagues in this issue of the Journal as too narrowly focused on sexually transmitted disease/HIV risk behavior because it lacks such a consideration of normal adolescent sexuality.[12] The term "adolescent virgins" in the title and in their classifications of high-school students, as well as in the general scientific literature, unquestionably introduces a tone of morality rather than of objectivity. (The authors' disclaimer—that they intend no moral judgment but use the term "virgin" to avoid a cumbersome description for young people who have not experienced vaginal intercourse—does not avoid the persuasive moral judgmentalism connotation). More importantly, the reason for their focus on genital practices of adolescents who have not engaged in vaginal intercourse remains vague. The authors state that an assessment of genital behavior of adolescents without experience of intercourse is important to gain a broader assessment of risk behavior for STDs/HIV.[12] This reason is convincing for anal intercourse, which turns out to be extremely rare in their samples, and, to a certain extent, for fellatio and cunnilingus. However, for masturbation with a partner, the case is dubious. Mutual masturbation without penetrative sex may well be seen as safer sex ("outercourse"), rather than behavior that raises concerns about risk. The authors write that behaviors such as masturbation with a partner "can introduce adolescents to social situations and emotional reactions for which they may be ill prepared." Certainly true, but that is exactly the point being made here. To become a competent sexual being takes experience and thoughtful information. The authors continue, "These activities may also lead to riskier sexual activities."[12] This dictum could suggest an equation with initiation into drug use. Behaviors that carry as little risk for STD/HIV infection and conception as does masturbation between high-school students do not equate with gateway drugs. Even had the cycle of progression been established, the possible implica-

tion that adolescents should have no sexual interactions at all may well be damaging as well as misguided. For that matter, merely kissing another person may well lead to riskier sexual behavior, too. Does that make it a reason for concern?

I'm sure that Schuster et al. did not intend to convey such a restrictive view of adolescent sexuality. Their goal of examining teen sexual behavior besides vaginal sexual intercourse is laudable and important. However, the omission in the article of any discussion of the normal developmental context of adolescent sexuality leaves room for considering it as one more piece in a predominant pattern of discussions of adolescent sexuality that focus solely on risk, danger, and negative consequences. The place of sexuality as a major and positive dimension of human development seems to be increasingly neglected in the empirical study of teenage sexuality and in our messages to young people. There is reason to be concerned that the unintended consequences of a narrow focus on fear and disease may lead to increased rates of sexual inadequacies, sexual distortions, and interpersonal problems for an entire generation. □

Anke A. Ehrhardt
HIV Center for Clinical and Behavioral Studies,
College of Physicians and Surgeons, Columbia University, and
New York State Psychiatric Institute
New York, NY

Acknowledgment

The author acknowledges support from grant P50MH43520 from the National Institute of Mental Health.

References

1. National Guidelines Task Force. *Guidelines for Comprehensive Sex Education, Grades Kindergarten–12th Grade.* New York, NY: SIECUS; 1991.
2. Ehrhardt AA. Sex education for young people. *Natl AIDS Bull.* 1993;6:32–35.
3. Holmes SA. Public cost of teen-age pregnancy is put at $7 billion this year. *New York Times.* July 13, 1996:A19.
4. Jones EF, Forrest JD, Goldman N, et al. *Teenage Pregnancy in Industrialized Countries: A Study Sponsored by the Alan Guttmacher Institute.* New Haven, Conn: Yale University Press; 1986.
5. Hayes C. Risking the future. In: Hayes C, ed. *Adolescent Sexuality, Pregnancy, and Childbearing.* Vol 1. Washington, DC: National Academy Press; 1987.
6. Hess LE. Changing family patterns in western Europe: opportunity and risk factors for adolescent development. In: Rutter M, Smith DJ, eds. *Psychosocial Disorders in Young People.* Chichester, England: John Wiley & Sons, 1995:105–117.
7. David HP. European perspectives. Transnational Family Research Institute. Presented at the CPR/NICHD Workshop on Negotiating the Paths for Parenthood; February 8–9, 1993; Bethesda, Md.
8. Dryfoos J. What the United States can learn about prevention of teenage pregnancy from other developed countries. *SIECUS Rep.* 1985;14:1–7.
9. Putnick J. Welfare bill: legislating morality? *New York Times.* August 19, 1996:B1.
10. Frost JJ, Forrest JD. Understanding the impact of effective teenage pregnancy prevention programs. *Family Plann Perspect.* 1995;27:188–195.
11. Rutter M. Psychosexual development. In: Rutter M, ed. *Scientific Foundations of Developmental Psychiatry.* London, England: Heinemann; 1981:322–339.
12. Schuster MA, Bell RM, Kanouse DE. The sexual practices of adolescent virgins: genital sexual activities of high school students who have never had vaginal intercourse. *Am J Public Health.* 1996;86:1570–1576.

Annotation: The Use of Educational Attainment as an Indicator of Socioeconomic Position

In this issue of the Journal, Zhu and colleagues present an interesting analysis of the relationship between education and smoking.[1] They conclude that the smoking histories of persons with the lowest levels of education, 8 years or less, are more like those with 12 years of education than those with 9 to 11 years. Both those with low education and those with 12 years of education are less likely to be current smokers, to ever have smoked, or to be heavy smokers, and more likely to have quit smoking than those with 9 to 11 years of education. Zhu et al. recommend that, in analyzing smoking and targeting smoking cessation programs, those with low education be distinguished from those with 9 to 11 years of education.

Zhu et al. suggest that, in both data collection and analysis, "when describing the relation between an outcome variable and a continuous explanatory variable, the scale of the latter should be carefully examined before it is categorized," and that the findings of their study need to be replicated using other data sets. These are excellent suggestions. Their article, however, offers the reader an opportunity to think about the meaning of educational attainment and some of its limits as an indicator of social class position.

The usual way in which an education question is framed in our surveys—namely, what is the highest grade of school completed—invites its use as a continuous variable. Ample justification for this use is found in results, like those that Zhu et al. report, that show monotonic relationships, with years of education over the range describing most of the US population. Education, no doubt, has its own rewards.

For some purposes, however, a distinction should be drawn between 12 years of education and a high-school diploma, or between 16 years and college graduation. The effect of one year of education may not be equal to the effect of another; the attainment of certain milestones, the passing of examinations, or the completion of requirements, are significant for both the achieving individual and for prospective employers, customers, and licensing authorities.[2] Additionally, to measure education in years is to treat all educational institutions equally. This measure equates a year in a liberal arts college with a year in a military academy, with a year in an engineering school, and with a year in a trade school. American educational institutions are enormously diverse. To measure their impact in years certainly is to abstract, to simplify, and to iron out this diversity.

Diversity among American educational institutions goes far beyond the content of their subject matter. State and local governments largely control public education, and both private and religious institutions offer alternatives to public education. Nonetheless, every state currently requires school attendance for at least 9 years, between the ages of 6 to 8 and 16 to 18.[3] Although there have been some adjustments over time, this has been the basic pattern since Mississippi became the last state to pass a compulsory education law in 1918.[4]

Editor's Note. See related article by Zhu et al. (p 1582) in this issue.