



Presidential address

Celebrating Progress in Adolescent Health and Optimism for the Future



It is important to remember why we attend annual meetings of the Society for Adolescent Health and Medicine (SAHM). I believe that the fundamental thing that brings us together year after year is our deep commitment to young people. Our professional lives are dedicated to the health and well-being of young people. This is our common ground. This is why our work is important.

For my presidential address, I share with you my perspective on important changes and progress that have been made in the field of adolescent health and medicine over the past 25 years. In 1990, I was practicing as an internist and pediatrician in coastal North Carolina. I became concerned that adolescent and young adult health was being overlooked and that this was having substantial negative impact on young people and their entire life trajectories of health. I discovered the field of adolescent medicine, completed a subspecialty fellowship at the University of California San Francisco in the early 1990s, and since then have devoted my career to academic medicine. Although we all know there is a tremendous amount of work still ahead of us, I think it is important to reflect on the progress we have made in adolescent health over the past 25 years.

Change and Progress Over the Past 25 Years

Public health

In the United States, the leading cause of death and injury among adolescents is from motor vehicle crashes [1,2]. Over the past 25 years, the death rate from motor vehicle crashes among both male and female teens between 15 and 19 years of age has decreased >50%, from 33 to 13 deaths per 100,000 [2]. Over the past 25 years, the percentage of high school students who smoked one or more cigarettes in the previous 30 days rose to a high of 36% but has since dropped by half to 18% [3]. Over the past 25 years, birth rates among white, black, and Hispanic females aged 15–19 years have dropped by 50%, from 60 to 30 births per 1,000 [4]. In the United States, 21 public health objectives for adolescents and young adults were derived from the National Healthy People 2010 goals; two objectives were achieved, and significant progress was made on another 10 objectives [5].

Health care

In 1990, the American Academy of Pediatrics recommendations were for routine well-child visits every other year during adolescence, although this was controversial with some

advocating for less frequent visits [6]. It was Dr. Art Elster, an SAHM leader, who articulated the rationale and recommendations for annual routine visits during adolescence and who worked hard from his position at the American Medical Association to facilitate clinicians being able to operationalize this level of care in primary care settings [7–9]. There has been a cultural and professional shift to support annual visits, and by at least one data source, 73% of adolescents had an annual physical in 2012 [10]. The US Preventive Services Task Force has provided us with clear science-based recommendations for the content of these visits [11]. There has been expansion of contraceptive options. In 1990, only barrier methods and contraceptive pills were available, and off-label emergency contraception was being used at college student health services. Now, we have available contraceptive pills, patches, vaginal rings, Depo-Provera, long-acting reversible contraceptives, and over-the-counter emergency contraception [12,13]. We now have three vaccines specifically intended for the adolescent population—meningococcal, Tdap, and human papillomavirus vaccinations—with more on the horizon [14]. Over the past 25 years, there has been steady progress in the percentage of adolescents in the United States with insurance coverage because of expansion of Medicaid and the Child Health Insurance Program, and the Affordable Care Act passed in 2010 holds the promise of further improving adolescents' access to health insurance and health care [10]. In part because of the Affordable Care Act, there is a meaningful dialog now emerging to better define and meet the health needs of young adults [15,16].

Illness and disease

Because of steady advances in treating childhood illness and disease over the past 25 years, we have seen a steady increase in the number of children that survive into adolescence and adulthood who would have previously died during childhood [17–20]. HIV is no longer a fatal illness, but a chronic condition [21]. We have experienced an increased emphasis on recognizing risk markers for adult disease during childhood and adolescence, such as risk factors for adult cardiovascular (e.g., hypertension, obesity) and prodromal symptoms of schizophrenia or other significant mental illness, with the hope that managing these risk factors will have a favorable impact on the evolution of adult illness [22–24].

Global health

Over the past 25 years, there has been increased attention to global adolescent health. There are now 1.2 billion young people

between the ages of 10 and 19 years globally, and we have seen increasing efforts to build awareness of the importance of adolescent health around the world [25]. Over the past 3 years, there have been highly visible publications around this theme, and the World Health Organization is launching a major effort to focus on global health among young people in the second decade of life [26–30]. SAHM's International Chapter and the International Association of Adolescent Health [31] have grown substantially, and members of both organizations were involved in a successful 10th International Association of Adolescent Health World Congress in Istanbul, Turkey in 2013. Nearly 500 participants from 55 countries attended this meeting, which was particularly exciting because of disturbances in nearby Taksim square. An editorial, written by Dr. Sabine Kleinert, appeared in *Lancet* describing the Congress and her observation that the demonstrators “were young educated people who wanted their voices heard” [32].

Science

Over the past 25 years, stronger medical, behavioral, social, epidemiologic, and public health science have emerged to improve adolescent health and health care, and this science has also become more accessible. A few of the organizations that provide high-quality summaries of research related to this age group are National Adolescent Health Information Center [33,34]; *Child Trends* [35]; Center for Disease Control and Prevention's Community Guide [36]; US Preventive Service Task Force [37]; The Cochrane Collaboration [38]; and the National Institutes of Health [39]. There has been an explosion of science related to the adolescent brain, which started with imaging studies, then functional studies, and now studies looking at connections within the brain. [40] The human genome project was completed in 2003; since then, we have understood exactly how complicated biology and chemistry can be and what we had hoped would be simple is clearly very complex [41]. This will however lay the groundwork for personalized medicine, which in the long run may be of great benefit to adolescent health.

Technology explosion

Technology has also exploded in the past 25 years. Adolescents now have access to a vast amount of information through the Internet, multiple new ways to use technology for communication, and access to new interactive modes of learning that expand far beyond traditional “school” activities [42]. Technology has provided new strategies for intervention work [43,44]. It has also created electronic medical records with the potential opportunity to improve the quality of medical care [45].

Framing adolescence

The framing of adolescent health has changed over the past 25 years. It is more balanced. We no longer focus only on the negative framing traditionally linked to adolescents. We now talk about risk factors *and* protective factors, problem-specific *and* youth development strategies to improve adolescent health, vulnerability *and* resilience. Drs. Ken Ginsburg and Sara Kinsman recently published a book with the American Academy of Pediatrics that included videotapes of many leaders in adolescent health and medicine, with the aim of reaching clinicians and community partners to use strength-based communication to

build resilience and support healthy adolescent development [46]. Dr. Steinberg will soon be publishing a book entitled “Age of Opportunity” [47]. This is framing that was nonexistent 25 years ago.

Training

In the United States, adolescent medicine became a recognized subspecialty with board certification in 1994, which was an intentional strategy to bring increased recognition and credibility to the field [48]. Mandatory adolescent medicine residency training provided by faculty with appropriate expertise became required for the first time in pediatrics in 1996. Similar language has followed in internal medicine and family medicine [49].

Future Challenges

It is important to recognize and celebrate that in each of these areas, we have made important progress or seen important change because it demonstrates what can be achieved. And yet there is still much work to be done [50]. For example, motor vehicle crashes still cause one-third of all teen deaths in the United States, and motor vehicle–related deaths remain very high in many countries across the globe [2,30,51]. We still have about one in five teens who are current smokers in the United States, and although smoking prevalence has gone down in the United States and many industrialized countries, it has skyrocketed globally [3,27]. The teen birth rate in the United States is still higher than other similar developed countries, and teen pregnancy across the globe is an ongoing concern [27]. Of the twenty-one 2010 US Critical Health Objectives for young people, no progress was seen in regards to four objectives, and data looked worse for objectives related to chlamydial infections, obesity, and mortality among 20- to 24-year olds [5]. For almost all measures of public health, there are disparities by sex, race and/or ethnicity, or socioeconomic status [50,52].

Many adolescents still do not get routine preventive health care, and when they do, the quality of services varies dramatically [10,53]. Less than half of adolescents spend time alone with a clinician or discuss health-related behaviors [10]. The rates of delivery of science-based recommendations, such as chlamydia screening among sexually active girls and adolescent vaccination, remain lower than science-based recommendations among young children [54–56]. Although we have more contraceptive options, we continue to struggle to connect teens who would benefit to the most effective options [13]. Our progress in increasing the number of adolescents and young adults with insurance needs to continue, and we will need to work to increase the chance that the promise of the Affordable Care Act translates into increased utilization of high-quality health care services among this age group [10,16]. We do not have a health care system well organized to provide longitudinal care through adolescence into adulthood in a way that will reliably provide high-quality ongoing health care, which is especially important for adolescents with chronic medical or psychiatric illness, and for adolescents with modifiable risk factors for adult-onset disease [15,57]. We have not developed a science-based or sophisticated understanding of how we might reach parents in or through clinical settings to engage them in parent interventions to improve adolescent and young adult health.

There is a tremendous amount of work still to be done in global health [51]. We need more good science, and we need to understand how to effectively translate the science we have into

good practices, programs, and policy. We are very early in our understanding of brain function and behavior, and have a long way to go before we know how to optimize brain development during the adolescent years and how to prevent or better treat neuropsychiatric illness. Genetic medicine is going to become very complicated. Whole genome sequencing will become widely available very soon, and we do not understand how to interpret results. There are now discussions about the potential for including this with newborn screening [58]. There are important questions we need to pay attention to. Who will make decisions about testing? When and how should adolescents be told test results? What will be the impact of adolescents knowing genetic risks?

Technology is here to stay. Favorable and potentially unfavorable impacts on adolescent and young adult health will need to be studied. For those of us in the clinical world, the challenge of maintaining confidential adolescent health care within the context of electronic medical records is huge, and I am delighted that there are smart, young, talented, tech-savvy members of SAHM who are helping us meet this challenge [45]. Although we have become better at articulating a more balanced framing of adolescence and adolescent health in regards to strengths and vulnerabilities, I believe that as a society we continue to underestimate the opportunity inherent in adolescent development and we need to advocate to change that. In regards to education, the need is great. We represent a small group of professionals with deep knowledge of adolescent health and medicine, and we must understand that we will never be able to directly serve 1.2 billion young people across the globe. We are experts, champions, thought leaders, and teachers who must develop strategies to disseminate our knowledge and understanding of adolescent health to the many professionals who directly serve young people.

The Role of Society for Adolescent Health and Medicine—Past and Future

The Society for Adolescent Medicine held its first annual conference 45 years ago, and this is an organization formed by a small group of physicians who recognized that the needs of adolescents were not being met [48]. The organization has always recognized the important role of health care and medicine in supporting adolescent health. Over the past 25 years, it has increasingly recognized that in addition to health care, adolescent health is influenced—and can be improved—by efforts involving families, communities, the larger sociopolitical geographic environment, and through schools. This has become a very stable and successful organization, with between 1,100 and 1,300 members each year since 1990. It has grown more multidisciplinary. In 1990, the name of our journal changed from the *Journal of Adolescent Health Care* to the *Journal of Adolescent Health*, and the journal has continued to have increasing impact over the past 25 years. In 2009, the organization made the transition in its name to SAHM. SAHM has made the successful transition to a professional management company and has improved its finances and its organizational capacity. SAHM members are having clear local, regional, national, and global impact. We are recognized as experts. We are champions and opinion leaders. We develop programs with tremendous influence. Our research and our ability to translate research have influence. We have impact in our leadership roles across all settings.

I believe that SAHM is extraordinarily well positioned to continue to make major contributions to understanding and improving adolescent health over the next 25 years. I believe this will be a very exciting time because of the growth in SAHM's potential, the increasing attention to adolescent and young adult health globally, and because important science will be emerging to help us. I think there are three main strategies to maximize SAHM's impact on adolescent and young adult health over the next 25 years. The first has to do with each member individually. Each of us has a personal journey, during which we make choices about how we will use our own specific interests and strengths, within whatever environment we find ourselves in, to make our own contributions to improving adolescent health. This organization improves adolescent health by helping you to be successful in your own personal journey and careers. Second, we need to increase SAHM membership, with a focus on young professionals, supporting multidisciplinary growth and supporting international growth. Third, we need to maximize organizational capacity and influence. There are many things that are only possible and certainly more influential, when done as a group. We need to leverage the expertise and credibility of our organization to have maximum influence. The major activities to accomplish this include increasing adolescent health training and/or education; disseminating research to inform practice, programs, and policy; increasing science-based advocacy; and increasing strategic collaborations such as our successful partnership this year with the Society for Research on Adolescence.

During my 1-year presidency, I will focus on four activities. First, I would like to pilot a "SAHM Stars Program" designed to consistently and publicly acknowledge people and organizations that inspire SAHM members. This program will also publically honor the legacy of past, present, and future SAHM members and generate donations to be used for specific young trainee and advocacy projects. Second, I will create a task force, as requested in our new Strategic Goal #5, to explore options for SAHM to directly engage adolescents and young adults and their families. I will ask the task force to answer two specific questions: (1) How might young people and families meaningfully help SAHM achieve its goals? And (2) How might SAHM effectively reach young people and families to deliver science-based information about adolescent health and health care? Third, I will continue discussions initiated at this meeting involving the collaboration between SAHM, Society for Research on Adolescence, and the Office of Adolescent Health to facilitate the creation of an adolescent health research agenda. Fourth, Dr. Katzman has done an extraordinary job of leading a revision of SAHM's strategic goals to be focused and actionable, and organizing the structure of how we work so that there will be more interaction, collaboration, and synergy between SAHM's committee members and chairs, the Board of Directors, and SAHM leadership. I will be helping to move this forward in a way that helps SAHM align with and reach its strategic goals.

I am honored by this opportunity to lead SAHM. This is a vibrant organization, with a wonderful membership, and we together accomplish an impressive amount of very meaningful work to improve the lives of young people. Remember our common ground, our deep commitment to young people. Recognize that the field has made important progress over the past 25 years, and that the next 25 years are going to be exciting. Recognize your impact and the impact of SAHM, and feel

confident that you and this organization are poised to influence the health and well-being of young people around the globe well into the future.

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References

- [1] National Center for Injury Prevention and Control. 10 Leading causes of death by age group, United States–2010. Available at: <http://www.cdc.gov/injury/wisqars/leadingcauses.html>. Accessed May 31 2014.
- [2] Child Trends. Motor vehicle deaths-indicators on children and youth. Child Trend Data Banks 2012 November.
- [3] Centers for Disease Control and Prevention. Trends in current cigarette smoking among high school students and adults, United States, 1965–2011. 2013; Available at: http://www.cdc.gov/tobacco/data_statistics/tables/trends/cig_smoking/. Accessed May 27, 2014.
- [4] Office of Adolescent Health. Trends in teen pregnancy and childbearing. 2014; Available at: <http://www.hhs.gov/ash/oah/adolescent-health-topics/reproductive-health/teen-pregnancy/trends.html>. Accessed May 27, 2014.
- [5] Jiang N, Kolbe LJ, Seo DC, et al. Health of adolescents and young adults: Trends in achieving the 21 critical national health objectives by 2010. *J Adolesc Health* 2011;49:124–32.
- [6] Strain JE. AAP periodicity guidelines: A framework for educating patients. *Pediatrics* 1984;74(5 Pt 2):924–7.
- [7] Elster AB, Kuznets NJ. *AMA Guidelines for Adolescent Preventive Services (GAPS): Recommendations and rationale*. Baltimore: Williams & Wilkins; 1994.
- [8] Levenberg P, Elster A. *Guidelines for Adolescent Preventive Services (GAPS)—Implementation and resource manual*. Chicago, IL: American Medical Association; 1995.
- [9] Levenberg P, Elster A. *Guidelines for Adolescent Preventive Services (GAPS): Clinical Evaluation and Management Handbook*. Chicago, IL: American Medical Association, Department of Adolescent Health; 1995.
- [10] Park MJ, Brindis CD, Vaughn B, et al. Adolescent health highlight. *Health Care Services*. Vol #2013–10: Child Trends and the National Adolescent and Young Adult Health Information Center at the University of California San Francisco; 2013.
- [11] US Preventive Services Task Force. Child and adolescent recommendations. U.S. Preventive Services Task Force. Available at: <http://www.uspreventiveservicestaskforce.org/tfchildcat.htm>; 2013. Accessed September 13, 2013.
- [12] U.S. Selected Practice Recommendations for Contraceptive Use, 2013: Adapted from the World Health Organization selected practice recommendations for contraceptive use, 2nd edition. *MMWR Recomm Rep* 2013; 62(RR-05):1–60.
- [13] Gavin L, Moskosky S, Carter M, et al. Providing quality family planning services: Recommendations of CDC and the U.S. Office of Population Affairs. *MMWR Recomm Rep* 2014;63:1–54.
- [14] Akinsanya-Beyosolow I. Advisory Committee on Immunization Practices recommended immunization schedules for persons aged 0 through 18 years - United States, 2014. *MMWR Morb Mortal Wkly Rep* 2014;63: 108–9.
- [15] Ozer EM, Urquhart JT, Brindis CD, et al. Young adult preventive health care guidelines: There but can't be found. *Arch Pediatr Adolesc Med* 2012;166: 240–7.
- [16] Lau JS, Adams SH, Boscardin WJ, Irwin Jr CE. Young adults' health care utilization and expenditures prior to the affordable care act. *J Adolesc Health* 2014;54:663–71.
- [17] Reiter A. Non-Hodgkin lymphoma in children and adolescents. *Klin Padiatr* 2013;225(Suppl 1):S87–93.
- [18] Tuchman LK, Schwartz LA, Sawicki GS, Britto MT. Cystic fibrosis and transition to adult medical care. *Pediatrics* 2010;125:566–73.
- [19] D'Alto M, Diller GP. Pulmonary hypertension in adults with congenital heart disease and Eisenmenger syndrome: Current advanced management strategies [published online ahead of print May 14, 2014]. *Heart* <http://dx.doi.org/10.1136/heartjnl-2014-305574>.
- [20] Quinn CT. Sickle cell disease in childhood: From newborn screening through transition to adult medical care. *Pediatr Clin North Am* 2013;60: 1363–81.
- [21] Maartens G, Celum C, Lewin SR. HIV infection: Epidemiology, pathogenesis, treatment, and prevention. *Lancet* 2014;384:258–71.
- [22] Delaney L, Smith JP. Childhood health: Trends and consequences over the life course. *Child Disabilities* 2012;22.
- [23] Park MJ, Brindis CD, Vaughn B, et al. *Adolescent Health Highlight: Chronic conditions*. San Francisco, CA: University of California, San Francisco; 2013.
- [24] Assadi F. The growing epidemic of hypertension among children and adolescents: A challenging road ahead. *Pediatr Cardiol* 2012;33:1013–20.
- [25] Gore FM, Bloem PJ, Patton GC, et al. Global burden of disease in young people aged 10–24 years: A systematic analysis. *Lancet* 2011;377: 2093–102.
- [26] United Nations Children's Fund (UNICEF). *The state of the world's children 2011: Adolescence—An age of opportunity*. New York, NY: United Nations Children's Fund; 2011.
- [27] United Nations Children's Fund (UNICEF). *Progress for children: A report card on adolescents*. New York, NY: United Nations Children's Fund; 2012.
- [28] US Agency for International Development. *Youth in development: Realizing the demographic opportunity*. Washington, DC: US Agency for International Development; 2012.
- [29] Sawyer SM, Afifi RA, Bearinger LH, et al. Adolescence: A foundation for future health. *Lancet* 2012;379:1630–40.
- [30] World Health Organization. *Health for the world's adolescents: A second chance in the second decade*. Geneva, Switzerland: World Health Organization; 2014.
- [31] International Association for Adolescent Health. Available at: <http://www.iaah.org/>. Accessed July 17, 2014.
- [32] Kleinert S. Adolescent health, youth participation, and Taksim square. *Lancet* 2013;381:2136.
- [33] National Adolescent and Young Adult Health Information Center (NAHIC). Available at: <http://nahic.ucsf.edu/>. Accessed June 24, 2014.
- [34] National Adolescent and Young Adult Health Information Center. *Health care data for adolescents and young adults—An overview of major data sources*. San Francisco: University of California San Francisco; 2013.
- [35] Child Trends. Available at: <http://www.childtrends.org/>. Accessed June 24, 2014.
- [36] Centers for Disease Control and Prevention. *The Guide to Community Preventive Services*. 2008; Available at: <http://www.thecommunityguide.org/index.html>. Accessed June 24, 2014.
- [37] US Department of Health and Human Services Agency for Healthcare Research and Quality. US Preventive Services Task Force—Child and adolescent health recommendations. 2014; Available at: <http://www.ahrq.gov/clinic/tfchildcat.htm>. Accessed June 24, 2014.
- [38] The Cochrane Collaborative. Available at: <http://www.cochrane.org/>. Accessed July 22, 2014.
- [39] NIH Research Matters. 2014; Available at: <http://www.nih.gov/researchmatters/index.htm>. Accessed June 24, 2014.
- [40] National Institute of Health. The brain initiative. 2014; Available at: <http://www.nih.gov/science/brain/index.htm>. Accessed June 24, 2014.
- [41] National Human Genome Research Institute. All about the human genome project. 2014; Available at: <http://www.genome.gov/10001772>. Accessed June 24, 2014.
- [42] Pew Research Center. Pew research internet project. 2014; Available at: <http://www.pewinternet.org/>. Accessed June 24, 2014.
- [43] Guse K, Levine D, Martins S, et al. Interventions using new digital media to improve adolescent sexual health: A systematic review. *J Adolesc Health* 2012;51:535–43.
- [44] Farrer L, Gulliver A, Chan JK, et al. Technology-based interventions for mental health in tertiary students: Systematic review. *J Med Internet Res* 2013;15:e101.
- [45] Gray SH, Pasternak RH, Gooding HC, et al. Recommendations for electronic health record use for delivery of adolescent health care. *J Adolesc Health* 2014;54:487–90.
- [46] Ginsburg KR, Kinsman SB, eds. *Reaching teens: Strength-based communication strategies to build resilience and support healthy adolescent development*. Chicago: American Academy of Pediatrics; 2014.
- [47] Steinberg L. *Age of Opportunity: Lessons from the New Science of Adolescence*. Chicago, IL: Eamon Dolan/Houghton Mifflin Harcourt. In press.
- [48] Prescott HM. *A doctor of their own—The history of adolescent medicine*. Cambridge, Massachusetts and London England: Harvard University Press; 1998.
- [49] Accreditation Council for Graduate Medical Education (ACGME). 2014; Available at: <https://www.acgme.org/acgmeweb/>. Accessed May 25, 2014.
- [50] Park MJ, Scott JT, Adams SH, et al. Adolescent and young adult health in the United States in the past decade: Little improvement and young adults remain worse off than adolescents. *J Adolesc Health* 2014;55:3–16.
- [51] Lozano R, Naghavi M, Foreman K, et al. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: A systematic analysis for the global burden of disease study 2010. *Lancet* 2012;380: 2095–128.
- [52] Park MJ, Paul Mulye T, Adams SH, et al. The health status of young adults in the United States. *J Adolesc Health* 2006;39:305–17.

- [53] Mangione-Smith R, DeCristofaro AH, Setodji CM, et al. The quality of ambulatory care delivered to children in the United States. *N Engl J Med* 2007;357:1515–23.
- [54] Centers for Disease Control and Prevention. Chlamydia screening among sexually active young female enrollees of health plans—United States, 2000–2007. *MMWR Morb Mortal Wkly Rep* 2009;58:362–5.
- [55] Nguyen TQ, Ford CA, Kaufman JS, et al. Infrequent chlamydial testing among young adults: Financial and regional differences. *Sex Transm Dis* 2008;35:725–30.
- [56] Heijne JC, Tao G, Kent CK, Low N. Uptake of regular chlamydia testing by U.S. women: A longitudinal study. *Am J Prev Med* 2010;39:243–50.
- [57] Lion KC, Mangione-Smith R, Britto MT. Individualized plans of care to improve outcomes among children and adults with chronic illness: A systematic review. *Care Manag J* 2014;15:11–25.
- [58] Goldenberg AJ, Dodson DS, Davis MM, Tarini BA. Parents' interest in whole-genome sequencing of newborns. *Genet Med* 2013;16:78–84.