

AM:STARs

Adolescent Medicine: State of the Art Reviews

E-Health

Alwyn T. Cohall, MD
Vaughn Rickert, PsyD
Owen Ryan, MPH, MIA
Editors

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Adolescent Medicine: State of the Art Reviews

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Jeb Weisman

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Extending Electronic Health Records to Improve Adolescent Health

Rita Kukafka, Sharib Khan, David Bell, Jeb Weisman, Alwyn Cohall

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Electronic health records have been recognized as essential for improving clinical documentation, coordination, and management of health care in addition to lowering costs and improving patient safety. In recent years, there has been a significant impetus for promoting the adoption of electronic health records, as evidenced by the numerous public and private initiatives across the United States. However, currently available electronic health records have not focused on the unique clinical, psychosocial, and health educational needs and requirements of the adolescent age group. In this chapter we discuss briefly the history, development, and adoption of electronic health records and provide examples of how electronic health records can be extended to focus on the needs of adolescents and those who care for them.

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Alwyn Cohall, Carly Hutchinson, Andrea Nye

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Has the Internet Changed Everything or Nothing? Thoughts on Examining and Using Emerging Technologies in Adolescent Health Research

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Dina L. G. Borzekowski

There are 2 ways to think about emerging technology and adolescent health research. First, one can try to understand the relationship between technology and adolescent health. This line examines whether time spent using emerging technologies or being exposed to messages and applications are associated with poorer or better health. The second way looks at how technology is and can be used through delivering interventions, data collection, or analyses. This article examines both ways of thinking. Given the limited (albeit growing) number of published studies, we use a case-study approach to illustrate relationships and methods. After discussing the purpose and findings, we highlight a study's strengths and weaknesses, not to praise or disparage a researcher's work but to critique the research. We conclude by describing common concerns in adolescent research suggesting ways to advance the field of emerging technologies and adolescent health research.

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Janis Wolak, Michele L. Ybarra, Kimberly Mitchell, David Finkelhor

We review current knowledge about adolescent Internet-mediated victimization, including Internet-initiated sex crimes in which offenders use the Internet to meet victims, unwanted online sexual solicitations, Internet harassment, and unwanted and wanted exposure to online pornography. Internet-initiated sex crimes have received considerable publicity, but the media stories have contributed to stereotypes that do not accurately portray adolescent Internet experience. Adults' concerns are valid but need to be supported with information that illuminates the real safety issues and targets the specific population of youth impacted.

PART 3: TECHNOLOGY AND BEHAVIORAL INTERVENTIONS

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Lisa A. Marsch, Warren K. Bickel, Michael J. Grabinski

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Engaging Youth in E-Health Promotion: Lessons Learned From a Decade of TeenNet Research

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Cameron D. Norman, Harvey A. Skinner

Since 1995, TeenNet Research (www.teenet.ca) has been a leader in developing strategies for involving youth and adults in co-creating e-health-promotion Web sites and behavior-change programs. In this article we review TeenNet's experience and lessons learned from more than a decade of action research with youth, with an emphasis on the guiding frameworks for participatory action research and Web-site creation and evaluation. The models are applied to the Smoking Zine (www.smokingzine.org), a 5-stage Web-assisted tobacco intervention, which is profiled with regards to its development, evaluation, and dissemination, including results from a school-based randomized, controlled trial. The prospects for using information technology to engage youth in health promotion are discussed in relation to TeenNet's past work and future interests in new Web 2.0 technologies.

Adolescents, the Internet, and Health Literacy

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Nicola J. Gray

In this article, the development of the concept and measurement of “off-line” health literacy is charted, recent development and interest in adolescent off-line health literacy is explored, and how the Internet could be useful in assessing and improving adolescents’ online and off-line health literacy skills is considered. The important issue of content filters will also be considered as it relates to adolescents’ ability to retrieve online health information about sensitive issues.

Using Interactive Behavior Change Technology to Intervene on Physical Activity and Nutrition With Adolescents

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Leanne M. Mauriello, Karen J. Sherman, Mary-Margaret H. Driskell, Janice M. Prochaska

The use of interactive technologies to promote health behaviors is a rapidly expanding field. Yet, the integration of these technologies in the development of physical activity and nutrition interventions for adolescents is in its infancy. *Health in Motion*, a multimedia obesity-prevention program for adolescents, is described as a case example of a Web-based interactive program for promoting physical activity and fruit and vegetable consumption among high school students. Lessons gathered from existing programs are summarized and used to offer future direction for advancing the development of adolescent interventions in this field.

Harnessing Technology for Adolescent Health Promotion

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Paula M. Castaño, Raquel Andrés Martínez

Sexually active adolescents are at risk for unintended pregnancy. Teen pregnancies can be prevented by consistent use of birth control, such as oral contraceptives. However, many teens forget their daily doses and eventually stop using oral contraceptives altogether. Teen pregnancies are more likely to be medically complicated and can adversely impact the teen, her child, and their community. Cell-phone use is becoming widespread, and teen cell-phone users frequently use text messaging. We describe a study in which we use cell-phone text-messaging technology in a novel way: we provide daily oral contraceptive dosing reminders and educational messages and evaluate oral contraceptive continuation at 6 months. We will use the information we obtain to develop specific, practice-based interventions to improve reproductive health programs and policies.

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Ann McPherson, Aidan Macfarlane	

The Internet is an exciting resource for providing immediately available, evidence-based, health information for young people in an age-appropriate form on a 24 hours/day, 7 days/week basis. www.teenagehealthfreak.org is a United Kingdom-based Web site designed to take advantage of this. The content of the site, which is the leading teenage health Web site on a Google search, contains both the diary of a hypochondriac 15-year-old boy and a virtual doctor's surgery. It also allows for young people to e-mail health-related questions and receive relevant answers from a health expert. Analysis of the content of these e-mails indicates the unmet health needs and concerns of young people. Future developments of the site include linking the site www.youthhealthtalk.org, a Web site that contains videotaped interviews with young people who have a variety other health concerns.

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Alwyn Cohall, Montsine Nshom, Andrea Nye	

Youth development programs have the potential to positively impact psychosocial growth and maturation in young adults. Several youth development programs are capitalizing on youths' natural gravitation toward technology as well. Research has shown that youth view technology and technologic literacy as positive and empowering, and that youth who master technology have increased self-esteem and better socioeconomic prospects than their counterparts. Technology-centered youth development programs offer a unique opportunity to engage youth, thereby extending their social networks, enhancing their access to information, building their self-esteem, and improving their self-efficacy. This article provides an overview of the intersection between youth development and technology and illustrates the ways technology can be used as a cutting-edge tool for youth development.

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Preface

E-Health

Technological advancement and its integration into everyday life profoundly affect how we entertain, learn, and communicate. For example, instead of purchasing a CD of a favorite band or vocalist (or a vinyl record for those of us who are really old), we can log onto a computer and use a secure connection to purchase and download a song or album from the Internet onto our MP3 player or iPod without ever having to leave the comfort of our office or living room. But beyond entertainment, technological advancements have the potential to impact learning and communication about health. For example, “[m]ore than any other communication medium or health-related technology, the Internet has the greatest potential to promote health and prevent disease for individuals and communities throughout the world.”¹ Many adults are turning early and often to the Internet for information, support, and guidance about health care matters. Adolescents are similarly predisposed and likely more adept at obtaining information from this source.

These amazing, mysterious, and rapidly emergent young people who both charm and confound us might very soon be our partners, employees, or even managers, but they’ll definitely become—if they aren’t already—our prospects and customers. Do we have any real clue about how they will interact with technology, and it with them, in the coming few years? Are we prepared to think and behave in the new ways that such, uh, different customers will require?²

Although this quote refers to the intersection of the business community with adolescents, it is relevant to their health as well. As health providers, public health practitioners, educators, and advocates for young people, it is important that we understand and appreciate how adolescents think about and use all the technology available to them. We, as professionals, must develop strategies to maximize the potential of technology to play significant roles in enhancing adolescent health and well-being.

We have divided this issue into 3 sections. The first section, “Technology in Clinical Care,” examines the development and implementation of electronic systems designed to improve clinical interactions between health care providers and adolescents in a variety of care settings such as hospitals, mobile vans, clinics, and private offices. The second section, “Technology and Research,” addresses how innovations in technology can be integrated into adolescent health

research. We have tried to offer illustrations of how technology can be used to gather information from adolescents as well as more sophisticated methodologic approaches to examine the effect that technology has on the health and well-being of adolescents. The final section, “Technology and Behavioral Interventions,” uses a case-based format to identify and highlight cutting-edge examples of how computer and Web-based interactive programs have been designed to support innovative adolescent health promotion activities. In addition, the section explores opportunities for using technology to attract and retain young people in youth development initiatives.

As co-editors, we gratefully acknowledge the support of Drs Strasburger and Greydanus, who helped to shape and conceptualize this edition of *AM:STARS*, and Diane Beusoleil and her staff for their editorial assistance. In addition, we thank all of our contributing authors who worked diligently and creatively to prepare an excellent array of thoughtful articles that provide a useful foundation that can be applied to youth around the globe to enhance and improve their health and well-being.

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