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Seizing the opportunity: improving young adult preventive health care.

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<https://escholarship.org/uc/item/3f69r7wr>

Journal

Adolescent Medicine Clinics, 24(3)

ISSN

1934-4287

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Publication Date

2013-12-01

Peer reviewed

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Seizing the Opportunity: Improving Young Adult Preventive Health Care

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The ongoing implementation of the Patient Protection and Affordable Care Act of 2010 (ACA) presents a significant opportunity to help improve young adult health. This is key because the transition to young adulthood is accompanied by higher rates of mortality, greater engagement in risky health behaviors, and an increase in chronic conditions. Motor vehicle deaths and homicide rates are highest during young adulthood, as are rates of substance use, sexually transmitted infections, and mental health problems.^{1–3} Unintentional injuries account for the greatest number of young adult deaths, with homicide and suicide rates now tied for the second leading cause of death.⁴

Most adolescents and young adults visit primary care settings at least once a year, therefore, primary care has been highlighted as an important setting for detection and early intervention for risk-taking behaviors and mental health issues in youth.⁵ Because young adult health problems are largely preventable, primary care visits may present a key opportunity for improving the health of young adults through preventive screening and intervention with evidence supporting the efficacy of clinical preventive services.^{3,6} Further, unhealthy behaviors tend to continue into middle and late adulthood and are linked to preventable chronic conditions and premature deaths.⁷ Yet young adults have been the least likely age group to be insured, to use ambulatory medical care services, and

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to have a usual source of care.^{8–11} Even when young adults use primary care, they infrequently receive preventive care.^{8,9,12}

The ACA has potential for improving young adult health not only through increasing health insurance coverage and health access for young adults but also through improving the content of care, including the provision of preventive services. Health insurance plans are required to cover a specified set of preventive services without cost sharing. Eliminating a number of traditional out-of-pocket costs reduces barriers to accessing preventive clinical health services.¹³ The ACA also requires the use of professional guidelines to support providers in operationalizing the preventive services mandate. Now is the time to focus on young adult preventive service guidelines.

In this article, we review (1) opportunities for improving young adult preventive health care as a result of the Affordable Care Act; (2) findings from a recent article that identified and synthesized preventive service guidelines relevant to the young adult age group³; (3) a new young adult tool for clinicians developed by University of California, San Francisco's (UCSF) National Adolescent & Young Adult Information Center (NAHIC) to facilitate the delivery of preventive services to young adults; and (4) lessons learned in implementing adolescent clinical preventive services that can inform improving young adult preventive care.

EXPANSION OF HEALTH CARE TO YOUNG ADULTS

The enactment of the Patient Protection and Affordable Care Act of 2010 (ACA) and the United States Supreme Court decision (2012) to affirm the constitutionality of components of the Act have created new opportunities for prevention by increasing health insurance coverage and health care access for young adults. The ACA improves insurance coverage of young adults by allowing young people to remain on their parent's health insurance plan until age 26; it also contains several provisions to improve the content of care and increase access to and use of preventive services. Private health insurance plans are required to cover a specified set of preventive services without cost sharing (co-payments, deductibles or co-insurance). All preventive services must be provided by a medical professional in the health plan's network in order for the patient to be exempt from cost sharing.

New private health plans or policies must cover annual well visits up to age 21, without cost sharing; well woman visits; and the following preventive services: evidence-based services with an A or B rating from the United States Preventive Services Task Force, relevant Advisory Committee for Immunization Practices recommended immunizations, and women's preventive services required by the Health Resources and Services Administration. Medicaid coverage of preventive services differs by state for adult enrollees.¹⁴ Table 1 lists preventive services covered under ACA without cost sharing by private insurers.¹⁵

Table 1

Preventive Health Care Services for Young Adults (ages 18-26) Covered Under the 2010 Patient Protection and Affordable Care Act

Services for All Young Adults (ages 18-26)

Alcohol misuse screening and counseling
 Tobacco use screening
 Blood pressure screening
 Diabetes (type 2) screening for adults with high blood pressure*
 Diet counseling*
 Obesity screening and counseling
 Cholesterol screening*
 Depression screening
 HIV screening
 STI prevention counseling*
 Syphilis screening*
 Immunization vaccines
 Hepatitis A
 Hepatitis B
 Human Papillomavirus
 Influenza
 Measles, Mumps, Rubella
 Meningococcal
 Pneumococcal
 Tetanus, Diphtheria, Pertussis
 Varicella

Additional Services Covered for Young Adults (ages 18-21)(Bright Futures recommendations)

Annual wellness visit
 Illicit drugs screening and counseling
 Suicide screening
 Safety/violence screening
 Family/partner violence (male and female)
 Fighting
 Helmets
 Seatbelts
 Alcohol while driving
 Guns
 Bullying
 Polio immunization

Additional Women's Services (ages 18-26)

Well-woman visits
 Contraception
 Folic acid
 Domestic and interpersonal violence screening and counseling (women of all ages)
 Cervical cancer screening (if sexually active)
 Chlamydia infection screening
 Gonorrhea screening*
 Breast cancer genetic test counseling (BRCA)*
 Breast cancer chemoprevention counseling*
 Hepatitis B screening for pregnant women
 Rh Incompatibility screening for pregnant women
 Anemia screening for pregnant women
 Gestational diabetes screening
 Urinary tract or other infection screening for pregnant women
 Breastfeeding comprehensive support and counseling

*If at higher risk

Although the ACA has provided an unprecedented opportunity to expand health coverage, the influx of the uninsured population has increased demands on the health care system and the need to provide preventive services.^{3,16–18} Since the implementation of ACA in September 2010, about 3 million additional young adults now have health insurance through the ability to remain on their parents' private health insurance.^{19–21} Once more of the additional ACA components go into effect in 2014, with increased federal Medicaid matching funds for states that cover preventive services in their Medicaid programs and subsidized private coverage through insurance exchanges, millions more young adults may gain coverage.

Implementing such a major shift in our health care delivery approaches will require system capacity, including a health workforce trained and prepared to deliver a variety of evidence-based preventive services. It will also require recognition that for many young people, clinicians have previously not maximized opportunities for prevention and early intervention.

DELIVERY OF PREVENTIVE SERVICES TO YOUNG ADULTS IN PRIMARY CARE

The delivery of preventive services to young adults has not received significant attention in either clinical practice or the research literature. Several recent studies, using both clinician reports^{8,12} and young adult reports,⁹ conclude that current rates of service delivery are generally low. Provider report data from the National Ambulatory Care Survey and National Hospital Ambulatory Care Survey indicate that close to 70% of visits by young adults to primary care clinicians did not include preventive counseling in areas critical to young adult morbidity and mortality, such as injuries, mental health, sexually transmitted infections, and diet and exercise.^{3,12}

Likewise, young adult report data from the California Health Interview Survey (CHIS) found that less than one-quarter of respondents reported receiving diet or exercise counseling or emotional health screening, whereas about half of young adults reported STI and cholesterol screening.⁹ Further, there was variation in the delivery of preventive services related to having a usual source of care, being female, and belonging to ethnic/racial group. Whereas being female and having a usual source of care increased delivery of services, the receipt of preventive services differed by race/ethnicity in STI screening, cholesterol screening, diet counseling, and emotional health screening. Black young adults were more likely to receive STI and cholesterol screening than white young adults, whereas Asian young adults were less likely to receive STI screening and emotional health screening than whites. Latino young adults were more likely to receive cholesterol screening and diet counseling than white young adults.

Young adults' range of "usual source of medical services" creates challenges for the consistent delivery of preventive services. For example, females are most

likely to obtain care through obstetricians/gynecologists and males obtain about half of their nonemergency care through general or adult medicine physicians.⁸

YOUNG ADULT PREVENTIVE HEALTH CARE GUIDELINES

Despite the largely preventable health problems, low provision of preventive services, and potential to increase services given the ACA's insurance and preventive care provisions, there are no specific clinical preventive guidelines for this population.³

The US Preventive Services Task Force (USPSTF) includes recommendations for preventive services for individuals 18 years or older and for adolescents but does not specifically address the young adult age group. Furthermore, although the USPSTF guidelines comprise evidence-based recommendations across multiple specific health areas, recommendations are not consolidated into comprehensive preventive services. A broad consensus has emerged for comprehensive clinical preventive services for adolescent guidelines beginning with the American Medical Association's *Guidelines for Adolescent Preventive Services (GAPS): Recommendations and Rationale*²² and *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*.²³ The third and most recent edition of *Bright Futures*²⁴ includes recommendations for preventive care up to 21 years and serves as a useful starting point for comprehensive recommendations for young adults. However, *Bright Futures* targets pediatric clinicians within pediatric settings, when less than 3% of visits by young adults are to pediatric clinicians.⁸

There has therefore been a call for guidelines for young adult preventive health care.^{3,8,12,25} We³ recently identified adolescent and adult clinical preventive services guidelines relevant to the young adult age group and compared and synthesized the guidelines with emphasis on the extent to which professional guidelines are consistent with evidence-based guidelines developed by the USPSTF.

As described in the article,³ an online search was conducted for established comprehensive preventive services guidelines for adolescents and adults created by national organizations, federal agencies, health professional associations, and medical societies. (For a full description of the methods, see Ozer et al.³)

We found no specific guidelines for young adults regardless of the definition of the age range (eg, 18–24 years, 18–26 years, or 18–29 years). Because such guidelines do not exist, for the purpose of presenting our results, we selected the upper range of 26 years in response to the ACA's health insurance benefit requirement of coverage of young adults on their parents' health plan. In addition to the USPSTF, we identified consensus guidelines issued by 4 organizations that intersected with the age range of 18 to 26 years—*Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*; the American Congress of

Obstetricians and Gynecologists (ACOG); the Academy of Family Physicians; and the American College of Physicians.

Our recent examination of professional guidelines reflects that, when the ages of 18 to 26 years are carved out of established guidelines across specialty groups, there are a broad number of recommendations that can inform the care of young adults. Many of these recommendations are supported by sufficient evidence to receive a USPSTF grade of A or B. We have reprinted here the tables from Ozer 2012 that review and compare guidelines and synthesize recommendations.

Review and Comparison of Guidelines

Table 2 reviews guidelines for adolescent and young adult preventive care and recommendations for screening, as well as recommended components of the physical examination. Under “Adult,” we included all adult recommendations that could be applied to individuals between the ages of 18 and 26 years, excluding guidelines that do not apply to this age group (eg, prostate cancer examination for older men). In some cases, a guideline applies similarly to adolescents and adults (eg, qualified recommendations of “if sexually active” or “at risk”).

Synthesis of Recommendations

Table 3 presents a broad comparison of the evidence-based recommendations of the USPSTF and the guidelines issued by the 4 major professional organizations whose members provide most primary care to adolescents and adults. Although none of these guidelines targets young adults (18–26 years), we developed a young adult category that includes all recommendations that intersect with that age range. For example, if a relevant recommendation is for individuals 18 years or older (ie, extending beyond 26 years), we included it in the young adult category.

Our examination of guidelines concluded that there is no need to reinvent the wheel when targeting preventive services for young adults. The reviewed recommendations cover screening for many of the major risks for morbidity and mortality among young adults, including alcohol use; mental health; sexually transmitted infections; and nutrition, exercise, and body mass index screening related to high rates of obesity. Further, the major professional medical organizations, whose members deliver primary care to young adults, are fairly consistent in the preventive services that they recommend.³

The low level of overall preventive screening, coupled with inconsistencies across important health risk areas and disparities by gender and racial/ethnic group, suggests a strong need to implement these already established professional recommendations for young adult health care. The ACA requirements, as well as efforts to eliminate traditional barriers to preventive care, give an added impetus to strengthen the content of care young people receive.

Table 2. Guidelines for Adolescent and Young Adult Preventive Health Care^a

| | USPSTF ³ | | Bright Futures ¹⁴ Adolescent, Aged 11–21 y | ACOG ^{23,24} | |
|--|---|---|---|---------------------------------------|----------------------------|
| | Adolescent, Aged <18 y | Adult, Aged ≥18 y | | Adolescent, Aged 13–21 y | Adult, Aged 19–39 y |
| Substance use | | | | | |
| Alcohol (screening and counseling) | NR | ✓ All adults | ✓ | ✓ | ✓ |
| Tobacco (screening and counseling) | NR | ✓ Adults, including pregnant women smokers >18 | ✓ | ✓ | ✓ |
| Other illicit drugs (screening and counseling) | NR | NR | ✓ | ✓ | ✓ |
| Reproductive health | | | | | |
| STI screening (counseling) | ✓ All sexually active adolescents and adults at increased risk for STI | ✓ All sexually active adolescents and adults at increased risk for STI | ✓ If sexually active | ✓ If sexually active | ✓ |
| HIV | ✓ All adolescents and adults at increased risk for HIV infection | All adolescents and adults at increased risk for HIV infection | ✓ If sexually active | ✓ If sexually active | ✓ |
| Chlamydia (female) | ✓ Sexually active at ≤24 y | Recommend against screening at >25 y, unless at risk | ✓ If sexually active | ✓ If sexually active | ✓ Sexually active at <25 y |
| Chlamydia (male) | NR | NR | ✓ If sexually active | ✓ If sexually active | ... |
| Syphilis | ✓ All persons at increased risk for syphilis infection | ✓ All persons at increased risk for syphilis infection | ✓ If sexually active | ✓ If sexually active and risk factors | ✓ |
| Gonorrhea | ✓ All sexually active women if at increased risk for infection | ✓ All sexually active women if at increased risk for infection | ✓ If sexually active | ✓ If sexually active | ✓ |
| Birth control methods | ... | ... | ✓ If sexually active | ✓ If sexually active | ✓ |
| Pregnancy | ... | ... | ✓ Sexually active females without contraception, late menses, or amenorrhea | ... | ... |
| Mental health/depression | | | | | |
| Suicide screening | NR | NR | ✓ | ✓ | ✓ |
| Depression | ✓ 12–18 y when systems are in place to ensure accurate diagnosis, psychotherapy (cognitive-behavioral or interpersonal), and FU | ✓ Adults, when staff-assisted depression care supports are in place to ensure accurate diagnosis, effective treatment, and FU | ✓ | ✓ | ✓ |
| Nutrition/exercise/obesity | | | | | |
| Cholesterol level | NR | ✓ 20–35 y, screening for lipid disorders if at increased risk | ✓ >20 y | ✓ | ✓ |
| Healthy diet | NR | ✓ Adults with risk factors | ✓ | ✓ | ✓ |
| Hypertension/blood pressure | NR | ✓ >18 y | ✓ | ✓ | ✓ |
| Obesity/BMI | ✓ >6 y | ✓ All adults | ✓ | ✓ | ✓ |
| Physical activity counseling | NR | NR | ✓ | ... | ... |
| Infectious disease/immunization (CDC) | | | | | |
| Td/Tdap | ✓ >11 y, every 10 y, based on CDC | ✓ >11 y, every 10 y based on CDC | CDC | ... | CDC |
| Human papillomavirus | ✓ 11–26 y, based on CDC | ✓ 19–26 y, based on CDC | CDC | ... | CDC |
| Varicella | ✓ Based on CDC | Based on CDC | CDC | ... | CDC |
| Measles, mumps, rubella | ✓ Based on CDC | ✓ Based on CDC | CDC | ... | CDC |

(continued)

Facilitating the Implementation of Preventive Services: A Young Adult Preventive Services Tool for Clinicians

As reviewed in greater detail next, clinician support tools that can be easily integrated into practice increase the delivery of preventive services. Stemming from

Table 2. Guidelines for Adolescent and Young Adult Preventive Health Care^a (continued)

| | USPSTF ⁸ | | <i>Bright Futures</i> ¹⁴ Adolescent, Aged 11–21 y | ACOG ^{23,24} | |
|---|---------------------------------|---------------------------------|---|--|---|
| | Adolescent, Aged <18 y | Adult, Aged ≥18 y | | Adolescent, Aged ~13–21 y | Adult, Aged 19–39 y |
| Influenza | ✓ If risk factors, based on CDC | ✓ Based on CDC | CDC | ... | CDC |
| Pneumococcal (polysaccharide) | ✓ If risk factors, based on CDC | ✓ If risk factors, based on CDC | CDC | ... | CDC |
| Hepatitis A | ✓ If risk factors, based on CDC | ✓ If risk factors, based on CDC | CDC | ... | CDC |
| Hepatitis B | ✓ 7–18 y, based on CDC | ✓ If risk factors, based on CDC | CDC | ... | CDC |
| Meningococcal | ✓ 11–18 y, based on CDC | ✓ If risk factors, based on CDC | CDC | ... | CDC |
| Polio | ✓ 7–18 y, based on CDC | ... | CDC | ... | ... |
| Safety/violence | | | | | |
| Family/partner violence | NR | NR | ✓ | ✓ | ✓ |
| Fighting | ... | ... | ✓ | ... | ✓ |
| Helmets | ... | ... | ✓ | ... | ✓ Defined as recreational hazards |
| Seat belts | NR | NR | ✓ | ... | ✓ |
| Alcohol while driving | NR | NR | ✓ | ✓ | ... |
| Guns | ... | ... | ✓ | ... | ✓ |
| Bullying | ... | ... | ✓ | ... | ... |
| Screening | | | | | |
| Cervical cancer screening | ✓ If sexually active | ✓ If sexually active | ✓ If sexually active | ✓ ≥21 y ^b | ✓ >21 y ^b |
| Testicular cancer screening | Recommend against | Recommend against | ... | ... | ... |
| Vision | ... | ... | After risk assessment | ... | ... |
| Hearing | ... | ... | After risk assessment | ... | ✓ |
| Anemia | ... | ... | After risk assessment | ... | ... |
| Tuberculosis | ... | ... | After risk assessment | ... | ✓ |
| Physical examination (as defined by <i>Bright Futures</i>) | ... | ... | Complete physical examination is included as part of every health supervision visit | Physical examination should be included ≥1 time during early, middle, and late adolescence | ... |
| Measure blood pressure | ... | ✓ | ✓ | ... | ✓ |
| Calculate and plot BMI | ✓ | ✓ | ✓ | ... | ✓ |
| Skin | ... | ... | ✓ | ... | ✓ |
| Spine | ... | ... | ✓ | ... | ✓ |
| Breast | ... | ... | ✓ | ... | ✓ |
| Genitalia | ... | ... | ✓ | ... | ✓ |
| BSE | Recommend against | Recommend against | ... | ... | ✓ Despite a lack of definite data for or against BSE, BSE has the potential to detect palpable breast cancer and can be recommended |

Abbreviations: ACOG, American Congress of Obstetricians and Gynecologists; BMI, body mass index; BSE, breast self-examination; CDC, Centers for Disease Control and Prevention; ellipses, no mention; FU, follow-up; HIV, human immunodeficiency virus; NR, no recommendation; STI, sexually transmitted infection; Td/Tdap, tetanus, diphtheria/tetanus, diphtheria, pertussis; USPSTF, US Preventive Services Task Force.

^a✓, ✓/Indicates a recommendation; NR, insufficient evidence to recommend for or against; "recommend against," recommend against or routinely providing the service based on the evidence.

^bUpdated November 20, 2009.

our previous review and synthesis of recommendations, NAHIC developed a clinician tool to facilitate the delivery of preventive care to young adults. The tool, "Summary of Recommended Guidelines for Clinical Preventive Services for Young Adults Ages 18 to 26," highlights the USPSTF's evidence-based recommendations for young adult care and indicates additional preventive services guidelines that extend beyond the evidence base of the USPSTF (eg, *Bright Futures* and ACOG; Table 4). An accompanying resource document, "Summary of Recommended Guidelines for Clinical Preventive Services for Young Adults

Table 3. Consistency of Preventive Health Care Recommendations for Young Adults^a

| | USPSTF ² | | Bright Futures ¹⁴ Adolescent, Aged 11-21 y | ACOG ^{23,24} Young Adult, Aged 18-26 y | AAP ²⁵ Young Adult, Aged 18-26 y | ACP ²⁶ Young Adult, Aged 18-26 y |
|--|-----------------------------|------------------------------|---|---|---|---|
| | Adolescent, Aged 11-17 y | Young Adult, Aged 18-26 y | | | | |
| Substance use | | | | | | |
| Alcohol (screening and counseling) | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tobacco (screening and counseling) | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Other illicit drugs (screening and counseling) | | | | ✓ | | |
| Reproductive health | | | | | | |
| STI screening and counseling | + | + | + | | + | + |
| HIV | + | + | + | + | + | + |
| <i>Chlamydia</i> (female) | + | | + | + | | |
| <i>Chlamydia</i> (male) | | | + | | | |
| Syphilis | + | + | + | ✓ | + | + |
| Gonorrhea | + | + | + | ✓ | + | + |
| Birth control methods | | | + | ✓ | | |
| Pregnancy | | | + | | | |
| Mental health/depression | | | | | | |
| Suicide screening | | | ✓ | ✓ | | |
| Depression | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Nutrition/exercise/obesity | | | | | | |
| Cholesterol level | | + | ✓ | ✓ | + | + |
| Healthy diet | | + | ✓ | ✓ | + | + |
| Hypertension/blood pressure | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Obesity/BMI | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Physical activity counseling | | | ✓ | ✓ | | |
| Infectious disease/immunization (CDC) | | | | | | |
| Td/Tdap | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Human papillomavirus | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Varicella | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Measles, mumps, rubella | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Influenza | + | + | ✓ | ✓ | ✓ | ✓ |
| Pneumococcal (polysaccharide) | + | + | ✓ | ✓ | + | + |
| Hepatitis A | + | + | ✓ | ✓ | ✓ | + |
| Hepatitis B | + | + | ✓ | ✓ | + | + |
| Meningococcal | ✓ | + | ✓ | ✓ | + | + |
| Polio | ✓ | | ✓ | | | |
| Safety/violence | | | | | | |
| Family/partner violence | | | ✓ | ✓ | | |
| Fighting | | | ✓ | ✓ | | |
| Helmets | | | ✓ | ✓ | | |
| Seat belts | | | ✓ | ✓ | | |
| Alcohol while driving | | | ✓ | ✓ | | |
| Guns | | | ✓ | ✓ | | |
| Bullying | | | ✓ | | | |

Abbreviations: AAFP, American Academy of Family Physicians; ACOG, American Congress of Obstetricians and Gynecologists; ACP, American College of Physicians; BMI, body mass index; CDC, Centers for Disease Control and Prevention; HIV, human immunodeficiency virus; STI, sexually transmitted infection; Td/Tdap, tetanus, diphtheria/tetanus, diphtheria, pertussis; USPSTF, US Preventive Services Task Force.
^a✓ indicates a recommendation; +, if at risk.

Ages 18-26: Risk Factors and Recommended Screening Tests,” that provides links and a summary of USPSTF recommended screening for each risk area can be found on the NAHIC Web site.²⁶

LEARNING FROM ADOLESCENT CLINICAL PREVENTIVE GUIDELINES: INCREASING CLINICIAN/SYSTEM SCREENING AND COUNSELING IN PRIMARY CARE

Although the ACA aims to facilitate changes in the content of care, and there are evidence-based recommendations that can inform the care of young adults, clinicians and service delivery systems will need additional support and investments to fully implement preventive recommendations.

The difficulties in delivering preventive services within busy clinical practices with competing demands and short visits have been well documented and include clinician factors, such as attitudes, lack of training, skills, and confidence to deliver services; and external factors, such as time constraints, lack of appropriate screening tools, and lack of reimbursement for services.^{10,25,27–33} Lower

Table 4

Summary of Recommended Guidelines for Clinical Preventive Services
for Young Adults ages 18-26
UCSF Division of Adolescent and Young Adult Medicine

| | Preventive Services | All (√) | At Risk (+) | Screening Test/ Procedure and Other Notes |
|-----------------------------------|---|------------|----------------|--|
| Nutrition/Exercise/Obesity | | | | |
| <input type="checkbox"/> | Hypertension/Blood Pressure† | √ | | Screening every 2 years with BP <120/80 |
| <input type="checkbox"/> | Obesity/BMI | √ | | [Weight (lb.)/Height (in)] × 703 |
| <input type="checkbox"/> | Cholesterol level | | + | Agnes 20+; Test: Total cholesterol, HDL-C samples |
| <input type="checkbox"/> | Healthy diet† | | + | Intensive behavioral dietary counseling |
| Substance Use | | | | |
| <input type="checkbox"/> | Alcohol (screening and counseling) | √ | | NIAAA Screening, AUDIT, |
| <input type="checkbox"/> | Tobacco (screening and counseling) | √ | | 5-A Framework (Ask, Advise, Assess, Assist, Arrange) |
| <input type="checkbox"/> | Illicit drugs (screening and counseling) | √ | | √ Bright Futures* and ACOG** |
| Mental Health/Depression | | | | |
| <input type="checkbox"/> | Depression (screening and treatment) | √ | | Screening Questions; Staff-assisted depression care supports should be in place |
| <input type="checkbox"/> | Suicide screening† | √ | | √ Bright Futures and ACOG |
| Safety/Violence | | | | |
| <input type="checkbox"/> | Family/partner violence | √ | | |
| <input type="checkbox"/> | Fighting | √ | | √ Bright Futures and ACOG |
| <input type="checkbox"/> | Helmets | √ | | √ Bright Futures and ACOG |
| <input type="checkbox"/> | Seat belts | √ | | √ Bright Futures and ACOG |
| <input type="checkbox"/> | Alcohol while driving | √ | | √ Bright Futures only |
| <input type="checkbox"/> | Guns | √ | | √ Bright Futures and ACOG |
| <input type="checkbox"/> | Bullying | √ | | √ Bright Futures only |
| Reproductive Health | | | | |
| <input type="checkbox"/> | HIV | √ | | HIV Screening |
| <input type="checkbox"/> | STI (screening and counseling)† | | + | High-Intensity Counseling Interventions |
| <input type="checkbox"/> | Syphilis | | + | VDRL |
| <input type="checkbox"/> | Gonorrhea† | | + | NAATs; Vaginal culture (self swab preferred) |
| <input type="checkbox"/> | Chlamydia (female)† | | + | NAATs; test if ≤24 and sexually active or if ≥25 and at increased risk |
| <input type="checkbox"/> | Chlamydia (male)† | | + | √ Bright Futures only |
| <input type="checkbox"/> | Birth control methods | √ | + | √ ACOG, + Bright Futures |
| <input type="checkbox"/> | Pregnancy | | + | + Bright Futures; Sexually active without contraception, late or absent menses, or heavy irregular bleeding |

| Cancer Screening | | | | |
|--|---------------------------------|------|---|--|
| <input type="checkbox"/> | Cervical cancer | | + | Females ages 21+: Cytology (pap smear) every 3 years |
| <input type="checkbox"/> | Testicular cancer | √ | - | - USPSTF; √ Bright Futures for all males 18-21 |
| Infectious Disease/Immunizations (CDC Recommendations) as of 02/2013 | | | | |
| <input type="checkbox"/> | Td/Tdap | √ | | Booster every 10 years |
| <input type="checkbox"/> | Human papillomavirus | √ | | HPV 4 vaccine for males and females, 3 lifetime doses |
| <input type="checkbox"/> | Varicella (LIVE VACCINE) | √*** | | 2 lifetime doses (4-8 weeks apart) ***See below |
| <input type="checkbox"/> | Measles, mumps, rubella | √ | | 1 or 2 lifetime doses |
| <input type="checkbox"/> | Influenza | √ | | 1 dose annually |
| <input type="checkbox"/> | Pneumococcal | | + | PCV13: 1 lifetime dose PPSV23: 1-2 lifetime doses |
| <input type="checkbox"/> | Hepatitis A | | + | 2 lifetime doses |
| <input type="checkbox"/> | Hepatitis B† | | + | 3 lifetime doses |
| <input type="checkbox"/> | Meningococcal | | + | 1 or more lifetime doses |

Guidelines as of 09/2013, subject to change.

Bold = US Preventive Services Task Force (USPSTF) A or B Recommendation or CDC recommendations for immunizations.

√ = All young adults

+ = Young adults at risk

- = Recommended against

† At time of publication, recommendation was being reviewed and updated.

* Bright Futures: recommendations are for annual visits, up to age 21.

** American Congress of Obstetricians and Gynecologists (ACOG) recommendations, up to age 26.

*** The varicella vaccine should **NOT** be given to patients with immunodeficiency, including those with autoimmune disease, cancer, or being treated with steroids.

Cite as: National Adolescent and Young Adult Health Information Center (2013). Summary of Recommended Guidelines for Clinical Preventive Services for Young Adults ages 18-26. San Francisco, CA: National Adolescent and Young Adult Health Information Center, University of California, San Francisco. Retrieved from <http://nahic.ucsf.edu/cps/YAGuidelines>.

than guideline recommended levels of preventive screening for adolescents in primary care^{10,30,34–36} prompted the development of primary care interventions to increase screening for risky behaviors.^{31,37,38} Research has shown that it is possible to increase preventive services to teenagers.⁵ These successful models for increasing screening and counseling in primary care can inform the delivery of preventive services to young adults.

Multiple models have been shown to increase preventive screening.^{5,31,37,39–45} These effective interventions involve (1) use of theoretical frameworks to guide implementation of screening and counseling; (2) interactive educational or workshop formats; and (3) multifaceted interventions involving 2 or more modalities (eg, audit and feedback, reminders, standardized instruments, and involving local opinion leaders and reaching local consensus).^{46,47}

Primary care interventions that have increased the delivery of preventive services to adolescents have demonstrated the effectiveness of clinician training to increase self-efficacy and skills and the importance of integrating clinical decision-making supports, such as screening and charting tools, that are targeted, easy to use, and fully integrated into the clinic system.^{3,5,48} These “training and tools” interventions have been used to increase clinician screening and counseling across studies that employ a generalized approach—attempting to address multiple health behavior areas^{31,39,41,49–53}—as well as in interventions that have targeted specific risk areas, such as substance use,^{44,54} tobacco use,⁵⁵ and sexual health.⁵⁶

The training component has varied in length and types of training related to office-based practice. For example, studies that focused on implementing preventive screening across multiple risk areas have used different formats, including 4 brief grand round sessions across 1 academic year³⁷; 1 full-day training³⁸; and 3 3-hour interactive workshops conducted 1 to 2 weeks apart.⁴¹ Interventions that have targeted increasing clinician screening in specific risk areas have generally conducted relatively brief clinician training sessions lasting about 1 hour, for example, in the areas of smoking prevention and cessation,⁵⁷ depression prevention,⁵⁸ and alcohol reduction.⁵⁴

The tools component has focused on enhancing clinician decision-making supports, such as patient psychosocial screening assessments⁵⁹ and prompts and cues for providers integrated into patient charts, screening and charting forms, and office systems.^{31,41,49,51} Whereas many of the research interventions in the past have used paper-and-pencil tools,^{31,37,41,51,59} the tools component has become increasingly focused on integrating technology into clinical primary care through interventions, such as personal digit assistants (PDA),³⁹ computerized behavioral screening,^{42,54} Internet-based approaches,⁵⁸ and an iPad screening module.⁶⁰

In addition to the development of technology-based patient and clinician interventions, the successful implementation of a health information technology intervention into a clinical setting hinges on electronic medical/health record integration (EMR/EHR).⁶¹ Prior adolescent preventive services screening and intervention studies have had promising results but require integration with EMR systems for widespread and consistent implementation.^{62,63} Data on patient portal implementations, a component of the EHR, suggest that use and effect on clinical indicators are much higher when the system is enhanced to include interactive features such as previsit surveys.^{64–68} If patient screening tools and provider reports and reminders operate within the existing EMR workflow, the feasibility and acceptability of the preventive content modules by providers and patients may be increased.⁶¹

As this overview indicates, there are multiple intervention studies that can serve as useful models for increasing young adult screening and counseling during primary care office-based visits, as well as visits in other clinical settings. Next, as

examples, we focus on 2 different types of training and tools interventions that have increased clinician screening and counseling and show promise of reducing risk behaviors among adolescent patients. The first model reflects a generalized approach using training and paper/pencil tools; the second focuses on the specific risk area of substance use utilizing a computerized interactive intervention.

Examples of Models to Increase the Delivery of Adolescent Preventive Services

Generalized Approach—Targeting Multiple Risk Areas In our own research⁵⁰ we first implemented a clinical preventive services intervention in 3 large pediatric clinics within a managed care organization. Targeted risk areas included: sexual behavior, alcohol and other substances, tobacco, and safety (helmet and seat belt use). We found that: (1) provider training on screening and brief counseling in risk areas; (2) integrating customized screening and charting tools; and (3) providing the additional resources of a clinic health educator, resulted in a dramatic improvement in delivery of services, with rates of discussion of the 6 targeted behaviors increasing from an average of 47% to 94% of the time.

Building on this initial work, we incorporated the delivery of targeted preventive services to all 13- to 17-year-old patients who visited the intervention clinics for a well visit and used an experimental design to further test the effects of a training and tools intervention. We found that the intervention increased providers' efficacy to deliver preventive services,^{32,48} and resulted in increased screening and counseling across all risk areas, relative to comparison clinics, with screening rates increasing from an average of 58% to 83%.³¹

All training and tools materials developed and integrated into these research interventions are available to the public through the National Cancer Institute's Research Tested Intervention Programs (RTIPS) Web site: <http://rtips.cancer.gov/rtips/programDetails.do?programId=983929>.

We further evaluated the effect of the screening and counseling intervention on adolescent behavior by following a longitudinal cohort of ethnically diverse 14-year-old pediatric patients who met with their provider during the scheduled well-visit, followed by a brief session with the clinic health educator. The health educator intervention reinforced the intervention prevention messages delivered by the provider, with a focus on increasing adolescents' self-efficacy to make healthy decisions and avoid risky behavior,⁶⁹ and collaborating on setting realistic goals to build the skills and confidence to change specific behavior. Our findings indicate that 1 year later, at 15 years of age, increased screening and counseling resulted in relatively greater adolescent helmet use, with non-significant trends towards increased seatbelt use and reduced tobacco use among males, and delayed initiation of sexual activity.⁵¹

Specific Risk Area—Targeting Substance Use A recent study examined the effects of a computer-facilitated screening and brief advice system (cSBA) focused on increasing screening and brief counseling for substance use.⁵⁴ The research was implemented in 9 medical offices in New England within the United States, and 10 offices in Prague, Czech Republic. The 1-hour provider training included a demonstration of the cSBA program, review of a sample provider report, and a 20-minute video demonstrating provider brief counseling. As a result of the intervention, provider delivery of brief advice to adolescents in the area of substance use doubled within the United States clinics and quadrupled in Prague.

The computer-facilitated screening and brief advice system consists of a self-administered screening that asks adolescent patients about current (last 12-months) and lifetime use of substances, followed by the CRAFFT screen if indicated, a 6-item valid tool for adolescent substance use screening.^{70,71} As part of the computer program, teens were given immediate feedback about their level of risk (high, medium, low) and all teens reviewed 10 pages of scientific information and true stories about the health risks of substance use. Clinicians received a provider form with screening results, risk levels, and brief talking points for a provider/adolescent discussion (for details see Harris et al, 2012).⁵⁴ The intervention seems promising for reducing substance use with results indicating less alcohol use among adolescents in New England primary care clinics, and less marijuana use among teenagers in the Prague clinics.

These exemplars of practice-based interventions have potential implications for the delivery of clinical preventive health care services for young adults. Although the ACA has facilitated changes that may help improve young adult health, clinicians and service delivery systems will clearly need additional support and investments to implement preventive recommendations and be in adherence with federal requirements.

NEXT STEPS IN IMPROVING THE DELIVERY OF PREVENTIVE SERVICES TO YOUNG ADULTS

To facilitate the delivery of preventive services to young adults, we have reviewed and synthesized current professional recommendations for young adult preventive care and presented a young adult clinician tool that summarizes USPSTF evidence-based and other guideline recommendations. In addition, we suggest that the previously developed materials for providers and health care systems in the successful interventions to increase preventive service delivery for adolescents can be modified and applied to increase the screening and counseling of young adults. Further, the extensive materials developed in conjunction with the *Bright Futures Guidelines* for adolescents up to age 21 years,²⁴ can be extended for use with young adults. Young adults receive health care across a range of medical specialties⁸ and settings, for example through institutions such as col-

lege health and the military, as well as primary care practice clinics. The implementation of recommended preventive services will need to be tailored for the appropriate specialty and setting.

Across a variety of settings, the use of interactive computerized technology has great potential for integration into young adult health care. In addition to computerized patient screening instruments and provider printouts that have been tested in adolescent interventions, we now have the opportunity for full integration into the electronic medical record. This both facilitates workflow and allows for specific young adult templates (such as the Table 4 young adult clinician tool) to be integrated into the EMR that can serve as a documented checklist for clinicians.⁷² Health care systems are making substantial investments in developing electronic health patient portals that allow for clinicians and patients to communicate through shared results, messaging, and appointment requests. As health care access has increased for young adults, patient portals may help to engage young adults in their health care, particularly as this generation is technologically savvy and may prefer to spend less time in face-to-face appointments.

There will continue to be increasing demand upon the health care system with the expansion of health insurance coverage under the ACA, a movement toward incorporation of an identifiable medical home, as well as greater accountability for the health and well-being of health insurance covered lives. There is now an opportunity to shift the health care system to one that further promotes prevention and early intervention. The delivery of evidence-based preventive services to young adults provides an opportunity to reduce morbidity and mortality, decrease health-damaging behaviors associated with the development of chronic illnesses, and assist in achieving health-promoting behavior.³

ACKNOWLEDGMENTS

The development of this article was supported by grants from the Maternal and Child Health Bureau, Health Resources and Services Administration, US Department of Health and Human Services (U45 MC 00002 and U45 MC 0023), the Agency for Healthcare Research & Quality (R21 HS020997), and the National Science Foundation (1255694 and 1344670).

We appreciate the helpful input to the manuscript from Abigail English, JD, Center for Adolescent Health & the Law, and Charles E. Irwin, Jr., MD, University of California, San Francisco; and the assistance of Anthony Kung in the preparation of the manuscript.

FINANCIAL DISCLOSURE OBLIGATIONS

The authors have no disclosures to declare.

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