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## Use of Clinical Preventive Services in Infants, Children, and Adolescents

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At each stage from birth to young adulthood, the use of clinical preventive services (CPSs) provides an opportunity to intervene early to improve outcomes for many costly and complex conditions and to modify important disease-defining risk factors.<sup>1</sup> A number of important provisions of the Affordable Care Act (ACA) will provide impetus to improve the use of CPSs, in particular, the provision that such services are now covered without cost sharing.<sup>2</sup>

The Centers for Disease Control and Prevention (CDC) has collected baseline data and reported detailed information on a select set of CPSs for children to serve as a benchmark to measure change following ACA implementation.<sup>3</sup>

The selected CPSs were identified by the CDC because they represent important public health issues for which CPSs exist, the service was underused before ACA implementation, and national data (largely parent and self-report or provider office-based surveys) were available to establish a baseline (defined as prior to 2012). Other important CPSs for children were not included in the report because of the lack of national data to track the clinical service (eg, screening for body mass index was considered, but surveillance data on screening in clinical care were not available), or the utilization of the CPS was already at high levels (eg, many infant immunizations). Not all of the CPSs included in the CDC report have a US Preventive Services Task Force (USPSTF) grade A or B or a comparable evidence review process recommendation (eg, Advisory Committee on Immunization Practices); but all, with the exception of dental visits and preventive services by dentists, like dental sealants, are now covered under the ACA.<sup>3</sup>

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## STATUS AT ACA IMPLEMENTATION

The key findings on the 11 highlighted services suggest that millions of children are not benefitting from some important preventive health care opportunities. Perhaps most concerning is that the data show a wide divide in the provision of some CPSs by race/ethnicity, geography, and health care coverage—with a general finding that CPSs were underused in children from less-advantaged circumstances (eTable in the Supplement).

Before delivery, although the overall prevalence of women who received breastfeeding advice from their health care practitioner was high, 17% reported that they did not receive breastfeeding counseling, integral to initiating and continuing breastfeeding. However, the percentage reporting receiving physician advice was higher in groups known to have lower breastfeeding rates (eg, non-Hispanic black women and poor women) relative to those with higher breastfeeding rates.

In infancy and early childhood, although 98% of all newborns were screened for hearing loss, 50% of children with a failed newborn hearing screen lacked documentation of a follow-up audiology evaluation. Without initiation of early diagnosis and subsequent communication services, the benefits of newborn hearing screening can be diminished.<sup>4</sup> Only 21% of all infants and toddlers were assessed in a standardized way for developmental delays. A higher percentage of parents (52%) reported informal monitoring (ie, discussion and questioning by the health care practitioner about parental concerns), but informal screening is less likely to result in appropriate identification of children with delays.<sup>5</sup> About one-third of children aged 1 to 2 years had screening for lead poisoning.

In early and middle childhood, when major chronic disease risk factors begin to emerge, key findings from the report indicate that between 56% and 86% of children did not receive preventive dental care, including topical fluoride application and dental sealants. Some dental services offered by physicians (eg, oral fluoride supplementation in preschool children and pediatric oral health risk assessments) are now covered as CPSs without cost sharing in the health insurance marketplace.<sup>3</sup> Although 78% of children are reported to have had their vision evaluated by age 6 years, important disparities were found, with Hispanic children and poor children less likely to be examined. One-quarter of children did not have their blood pressure routinely recorded as part of well child care, with younger children, children covered by public insurance, and those without a usual source of care less likely to have this CPS.

In adolescence and young adulthood, the focus of CPSs includes the complex issues of risky lifestyle behaviors (eg, tobacco and alcohol use) and sexual health (eg, screening for sexually transmitted diseases [STDs] and preventing unintended pregnancies among sexually active adolescents), presenting important prevention opportunities. Tobacco use screening was reported in nearly 70% of office visits. However, among those who screened positive, only 20% received cessation counseling or provision of medications. Preventing tobacco use or progression from experimentation to use in adolescents is key because most adult smokers initiated smoking by age 18 years.<sup>6</sup> About two-thirds of adolescent girls and most adolescent boys had not completed the human papillomavirus (HPV) vaccination

series. Although a higher prevalence of HPV series initiation was found in black populations, Hispanic populations, and those living below the poverty level, these groups had lower series completion rates than their respective comparison groups.

Among sexually active adolescent girls, 60% did not receive chlamydia testing as recommended, even for a physician visit with symptoms and signs consistent with infection. Testing rates were higher in select risk groups but many opportunities for testing were missed and testing rates in all subgroups were suboptimal. Although the majority of adolescent girls (77%) and boys (63%) received some reproductive services (contraceptive services, gynecological services [for adolescent girls], and STD counseling), there were important gaps in some essential services, including 30% of sexually active adolescent girls who did not receive contraceptive services and the majority of adolescents (both adolescent girls and boys) who did not receive STD counseling, testing, or treatment.

## CONCLUSIONS

This comprehensive review of CPSs in children and adolescents provides important insights into screening practices in the United States. However, there are some limitations. Some data are self-reported, and it is possible that clinicians conducted more screening than is reported. In addition, some of the metrics considered important by some professional societies have not been endorsed by others. For example, the USPSTF found insufficient evidence to assess the balance of benefits and harms for speech and language screening in young children and screening for hypertension and lead poisoning in high-risk children, resulting in I statements (insufficient) rather than A or B recommendations.

Improved use of evidenced-based CPSs for children may prevent illness, reduce the long-term adverse health effects associated with some disorders, and improve health behaviors, with a net result of children who are more likely to become healthy, productive adults.<sup>7</sup> The ACA, with a focus on prevention, improves health care coverage for preventive services and provides health care, community, and public health support to the provision of CPSs. The report on CPSs provides an array of metrics to monitor the uptake of CPSs over time. Improvements in surveillance data—to track services that do not currently have data and to improve the usefulness of existing service utilization data—are essential. Such data could then serve as national indicators for how well the health care community, public health, and policy makers are serving children.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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