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## Primary Care Use Among Commercially Insured Adolescents: Evidence From the 2018 Healthcare Effectiveness Data and Information Set

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### Abstract

**Introduction:** Improving the utilization of preventive care among adolescents is important for achieving individual-level and population-level health goals. The Healthcare Effectiveness Data and Information Set reports data submitted by managed care health plans, capturing a large number of individuals in the U.S.

**Methods:** Using Healthcare Effectiveness Data and Information Set from 2018, mean performance levels were calculated for 5 preventive care measures among adolescents. Differences in performance between states that use Healthcare Effectiveness Data and Information Set or Health Plan Accreditation and those that use neither were estimated. Analysis was conducted in January–July 2020.

**Results:** The sample included data from 39 states, with 32 that use Healthcare Effectiveness Data and Information Set or Health Plan Accreditation and 7 that do not. Adolescent vaccination coverage was 28% for the complete human papillomavirus series, 81% for meningococcal, and 88% for tetanus, diphtheria, and acellular pertussis. Access to a primary care practitioner (a 2-year measure) was 91%, and well-care visits (a 1-year measure) were 50%. When compared with states that do not use Healthcare Effectiveness Data and Information Set or Health Plan Accreditation, the mean performance of states that used either Healthcare Effectiveness Data and Information Set or Health Plan Accreditation was statistically significantly higher for 4 of the 5 assessed measures.

**Conclusions:** Healthcare Effectiveness Data and Information Set measures can help public health officials to monitor progress toward health goals, such as *Healthy People 2020*, and identify poorly performing health plans and types of preventive services in greatest need of improvement. States using Healthcare Effectiveness Data and Information Set or Health Plan Accreditation were associated with better performance in some adolescent measures, which suggests that health plan accountability may have a role in achieving health outcomes and could be an important area for future research.

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## INTRODUCTION

The Healthcare Effectiveness Data and Information Set (HEDIS), created by the National Committee for Quality Assurance (NCQA), is a widely used quality assessment tool for managed care health plans. Approximately 191 million individuals are enrolled in health plans in HEDIS.<sup>1</sup> Health plans collect performance data from 3 sources: (1) insurance claims, (2) a method combining insurance claims and medical record data, and (3) member and provider surveys. Health plans submit these data to NCQA, which publishes >90 performance measures across 6 domains of care in HEDIS. These data provide measurement standards allowing consumers and providers to compare performance across different health plans. State and local officials use HEDIS data to understand the quality of care provided and track performance improvements among health plans. NCQA also uses HEDIS measures and consumer experiences in the Health Plan Accreditation (HPA) program, which provides accreditation for health plans meeting national standards.<sup>2</sup> The use of either HEDIS or HPA (HEDIS/HPA) varies across states or jurisdictions. Even among those that use HEDIS, the ways that HEDIS can be used can vary as well. For example, HEDIS can be used to support state-level quality reporting and value-based payment programs.<sup>3</sup> In Vermont, after practices are evaluated against NCQA standards, higher-performing practices are eligible for higher payments from insurers.<sup>4</sup> Through these kinds of programs, a state's use of HEDIS/HPA could plausibly contribute to improved performance of providers in terms of delivering preventive care services.

This study focuses on preventive care measures among adolescents. In a survey of public health stakeholders in South Carolina, HEDIS was identified as a potential facilitator to improve the uptake of the human papillomavirus (HPV) vaccine for adolescents.<sup>5</sup> The objectives of this study are to (1) report findings from the commercial component of the HEDIS data that focuses on the performance measures for adolescent preventive care, specifically vaccination coverage and access to primary care practitioners (PCPs), and (2) assess the potential associations between states' use of HEDIS/HPA and health plan performance.

## METHODS

The HEDIS 2019 publicly reported data contain performance assessments from 2018. The observation unit is data submitted by insurance companies with commercial managed care health plans. To ensure that the state-level estimates reported in this study were reasonably representative, the authors excluded states where the public reporting levels for companies were <70%. Measures of adolescent immunization status included HPV; meningococcal; and tetanus, diphtheria, and acellular pertussis (Tdap) vaccination coverage and measures of access to care, which included 1 PCP visit in a 2-year period and 1 well-care visit in a 1-year period (Table 1). Results are presented as means and SDs, stratified into 2 groups: (1) states using HEDIS/HPA and (2) states not using HEDIS/HPA. States' use of HEDIS/HPA was determined on the basis of information published by NCQA.<sup>3</sup> Mean differences across groups were assessed using *t*-tests and reported statistical significance of any differences at the 5% and 1% levels.

## RESULTS

Among 332 companies from 39 states (Table 1), Tdap had the highest vaccination coverage (88%), and HPV series completion had the lowest (28%). Access to a PCP, a 2-year measure, was 91%, and well-care visits, a 1-year measure, were 50%. A total of 32 states (292 companies) used HEDIS/HPA, and 7 states (63 companies) did not (Table 2). Comparing the 2 groups, the mean performance of companies in states using HEDIS/HPA was statistically significantly higher among 4 of the 5 measures, including meningococcal vaccination (difference=5.0%,  $p<0.001$ ), Tdap vaccination (difference=2.8%,  $p=0.008$ ), well-care visits (difference=5.5%,  $p<0.001$ ), and access to a PCP (difference=1.3%,  $p=0.012$ ).

## DISCUSSION

In 4 of the 5 measures, companies in states using HEDIS/HPA exhibited higher utilization of preventive services than companies in states not using HEDIS/HPA. Accountability structures such as HEDIS/HPA may contribute to improved uptake of preventive services by supporting and incentivizing related interventions, such as provider assessment and feedback,<sup>7,8</sup> text message reminders to parents,<sup>9</sup> or provider reimbursement levels linked to performance data at primary care medical homes.<sup>10</sup> A total of 2 of the 3 vaccination measures also exhibited higher rates among states using HEDIS/HPA. However, HPV vaccine series completion did not differ across states' use of HEDIS/HPA, which suggests limits on any possible effects that accountability structures can have on public health goals that have particular challenges unrelated to the quality of insurance plan.

On average, 50% of adolescents and young adults had an annual well-care visit, which was well below the *Healthy People 2020* target (75.6%). Many vaccinations are administered at well-care visits, so differences in visit utilization may contribute to differences in rates of vaccine administration. Increasing the rates of preventive visits of adolescents and ensuring that recommended vaccinations are prioritized at preventive visits are important ways to improve vaccination coverage.<sup>11</sup> HPV series completion vaccination coverage was lower than coverage of meningococcal and Tdap vaccinations. HPV, meningococcal, and Tdap vaccines are routinely recommended by the Advisory Committee on Immunization Practices for adolescents aged 11–12 years.<sup>12</sup> The HPV vaccine was the only recommended vaccine that had coverage well below the *Healthy People 2020* target (80%). In this study, HPV vaccination coverage measured completion of the HPV vaccine series, whereas Tdap and meningococcal vaccination measured the receipt of 1 dose. The coverage of a single-dose measure might be expected to be higher than the coverage of a complete series before the 13th birthday and with at least a 6-month interval between doses owing to timeliness and imperfect adherence. Many studies have documented barriers to HPV vaccination,<sup>13</sup> including parental attitudes,<sup>14</sup> vaccine safety concerns,<sup>15</sup> and costs of providers.<sup>16</sup> Although the coverage of HPV has been increasing,<sup>17</sup> these findings indicate that efforts to improve HPV series completion<sup>18,19</sup> should continue. Because identified barriers come from numerous aspects of the health system and patient homes or communities, improvements in HPV vaccination coverage may benefit from the efforts of all stakeholders.

## Limitations

This study investigated statistical associations between health measures and states' use of HEDIS/HPA, so causal implications should not be drawn. In particular, this analysis does not make adjustments for potential confounders, such as socioeconomic and geographic variation across states that could also be related to the use of preventive care. Data come from commercial managed care insurance plans operating in 40 U.S. states, so generalizations to other insured populations or the U.S. population may not be warranted. The use of HEDIS/HPA can vary across U.S. states and commercial managed care health plans, so some nuance was possibly lost by the simplified categorizations of states into users and nonusers. As an example, plans may be located in a state that does not use HEDIS/HPA, but the plan may choose to report to HEDIS and use HEDIS for performance assessment.

## CONCLUSIONS

This study makes several contributions. The reported performance measures can help public health officials monitor progress toward the target levels of vaccination coverage and healthcare access and help identify low-performing health plans that may benefit from technical assistance. The states using HEDIS/HPA show better performance in some measures. Developing, utilizing, and evaluating accountability structures in health insurance and healthcare delivery systems is an area of ongoing research<sup>20,21</sup> and may help identify healthcare arrangements to better attain individual-level and population-level health goals.

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**Table 1.** Summary of Immunization and Preventive Care Measures for Adolescents Reported by HEDIS

Health plan performance measures	Mean	% (SD)	Measure definitions from HEDIS <sup>d</sup>
<b>Vaccinations</b>			
HPV	27.5	(8.7)	Individuals 13 years of age who had completed the 2 dose HPV vaccine series by their 13th birthday
Meningococcal	81.1	(9.5)	Individuals 13 years of age who had 1 dose of meningococcal vaccine by their 13th birthday
Tdap	87.6	(7.5)	Individuals 13 years of age who had 1 Tdap dose by their 13th birthday
<b>Access/utilization of preventive care</b>			
Well-care visits	49.9	(11.9)	Individuals 12–21 years of age who had at least 1 comprehensive well-care visit with a PCP or an OB/GYN practitioner during the measurement year
Access to PCP	90.5	(4.4)	Individuals 12–19 years who had a visit with a PCP during the measurement year or the year before the measurement year

*Note:* Number of states=39. Number of companies=332. The analysis included 39 states that have at least 70% public reporting.

<sup>d</sup>Descriptions and additional details of the HEDIS measures are available online from the National Committee for Quality Assurance.<sup>6</sup> GYN, gynecologist; HEDIS, Health Effectiveness Data and Information Set; HPV, human papillomavirus; OB, obstetrician; PCP, primary care practitioner; Tdap, tetanus, diphtheria, and acellular pertussis vaccine.

Summary of Immunization and Preventive Care Measures for Adolescents Reported by HEDIS, Stratified by States' Use of HEDIS and HPA

Table 2.

Measures from HEDIS	Use either HEDIS or HPA				Use neither HEDIS nor HPA				Comparison	
	Mean % (SD)	25th percentile	75th percentile	Mean % (SD)	25th percentile	75th percentile	Mean difference	p-value		
Vaccinations										
HPV	27.2 (8.5)	21.7	30.5	29.1 (9.7)	22.4	34.0	-1.9	0.139		
Meningococcal	81.9 (9.3)	76.7	88.8	77.0 (9.2)	70.9	84.3	5.0	<0.001***		
Tdap	88.0 (7.5)	85.9	93.2	85.4 (7.3)	80.4	90.8	2.7	0.008***		
Access/utilization of preventive care										
Well-care visits	50.9 (12.1)	42.8	58.2	45.4 (9.3)	38.7	52.1	5.5	<0.001***		
Access to PCP	90.8 (4.5)	88.4	93.8	89.4 (3.77)	87.91	92.07	1.3	0.012**		
Number of states	32	—	—	7	—	—	—	—		
Number of companies	292	—	—	63	—	—	—	—		

Note: Boldface indicates statistical significance.

\*\*  $p < 0.05$ ,

\*\*\*  $p < 0.01$

The analysis included 39 states that have at least 70% of public reporting. The District of Columbia is not a U.S. state, but the term state is used for simplicity. States identified as using HEDIS or HPA (HEDIS/HPA) included Arizona, California, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nevada, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia, and Wisconsin. States identified as not using HEDIS/HPA included Colorado, Delaware, District of Columbia, Idaho, Kansas, North Carolina, and Washington.

HEDIS, Health Effectiveness Data and Information Set; HPA, Health Plan Accreditation; HPV, human papillomavirus; PCP, primary care practitioner; Tdap, tetanus, diphtheria, and acellular pertussis vaccine.