



HHS Public Access

Author manuscript

Vaccine. Author manuscript; available in PMC 2015 December 08.

Published in final edited form as:

Vaccine. 2014 January 23; 32(5): 618–623. doi:10.1016/j.vaccine.2013.11.050.

Vaccination benefits and cost-sharing policy for non-institutionalized adult Medicaid enrollees in the United States

Alexandra M. Stewart^{a,*}, Megan C. Lindley^{b,1}, Kristen H.M. Chang^{c,2}, and Marisa A. Cox^{d,3}

Alexandra M. Stewart: stewart@gwu.edu; Megan C. Lindley: cvx9@cdc.gov; Kristen H.M. Chang: khmchang4@gmail.com; Marisa A. Cox: mcox@gwu.edu

^aImmunization Law and Policy Program, Department of Health Policy, School of Public Health and Health Services, The George Washington University, 2021 K Street, Suite 800, Washington, DC 20006, USA

^bNational Center for Immunization & Respiratory Diseases, Centers for Disease Control and Prevention, 1600 Clifton Road, Atlanta, Georgia 30333, USA

^cImmunization Law and Policy Program, Department of Health Policy, School of Public Health and Health Services, The George Washington University, 2021 K Street, Suite 800, Washington, D.C. 20006, USA

^dImmunization Law and Policy Program, Department of Health Policy, School of Public Health and Health Services The George Washington University, 2021 K Street, Suite 800, Washington, DC 20006, USA

Abstract

Medicaid is the largest funding source of health services for the poorest people in the United States. Medicaid enrollees have greater health care, needs, and higher health risks than other individuals in the country and, experience disproportionately low rates of preventive care. Without, Medicaid coverage, poor uninsured adults may not be vaccinated or would, rely on publicly-funded programs that provide vaccinations. We examined each programs' policies related to benefit coverage and, copayments for adult enrollees. Our study was completed between October 2011 and September 2012 using a document review and a survey of Medicaid administrators that assessed coverage and cost-sharing policy for fee-for-service programs. Results were compared to a similar review, conducted in 2003. Over the past 10 years, Medicaid programs have typically maintained or expanded vaccination coverage benefits for adults and nearly half have explicitly prohibited copayments. The 17 programs that cover all recommended vaccines while prohibiting, copayments demonstrate a commitment to providing increased access to vaccinations for adult enrollees. When developing responses to fiscal and political challenges, the programs that do not cover all ACIP recommended adult vaccines or those that permit copayments for vaccinations, should consider all strategies to increase vaccinations and reduce costs to enrollees.

*Corresponding author. Tel.: +1 202 994 4141; fax: +1 202 994 4040.

¹Tel.: +1 404 639 8717.

²Tel.: +1 202 994 4146; fax: +1 202 994 4040.

³Tel.: +1 202 994 4147; fax: +1 202 994 4040.

Keywords

Medicaid; Adult vaccination; Health reform; Health insurance

Medicaid is the largest source of funding for medical and health-related services for the poorest people in the United States [1]. Every state, DC, and 5 Territories participate in the program [2,3]. In 2011, over 19 million adults, ages 19 through 64, were enrolled in the 50 states and the District of Columbia, with almost 11 million residing in ten states (CA, NY, FL, PA, MI, OH, IL, TX, MA, and TN) [4]. The distribution of adult enrollees varied by state in 2011, ranging from 4% in NH to 19% in DC and VT [4].

While federal law outlines minimum requirements for all Medicaid programs, including mandatory benefits for a defined beneficiary population, each state retains authority to define several aspects of the program, including optional benefits, provider payment levels, and delivery systems. Vaccination services for adult enrollees are governed at the program level: each state determines which adult vaccines will be covered, enrollee cost-sharing policy, provider reimbursement policy, and the settings where vaccines may be administered.

Medicaid enrollees have greater health care needs and higher health risks than other individuals in the country [5,6]. Nondisabled enrollees report their health status to be fair or poor (33%) at approximately triple the rate of privately insured individuals (12%) [7] and experience disproportionately low rates of preventive care [5,8]. They may not be able to afford preventive services due to their relatively high cost in relation to enrollee incomes [9]. Under the Patient Protection and Affordable Care Act (PPACA), also known as health reform, vaccination coverage benefits remain an optional service for adult enrollees who were enrolled in Medicaid beneficiary categories established before January 1, 2014. However, beginning January 1, 2014, Medicaid programs covering all adult vaccines recommended by the Advisory Committee on Immunization Practices (ACIP) and their administration costs while prohibiting cost-sharing will receive an additional 1% Federal Medical Assistance Percentage (FMAP) [10]. The FMAP determines the amount of federal matching funds that states receive for Medicaid expenditures. Additionally, the PPACA requires programs to cover vaccines in accordance with ACIP recommendations for newly eligible adults who enroll on or after January 1, 2014.

However, because many states may not participate in program expansion under the PPACA, millions of adults who would otherwise be eligible to enroll in Medicaid will not have ensured access to vaccinations. Without Medicaid coverage, poor uninsured adults may not be vaccinated or would rely on publicly-funded programs that provide vaccinations [11].

Our study assessed benefit coverage and cost-sharing for vaccination services for non-institutionalized adults among fee-for-service programs throughout the country, excluding the 5 U.S. Territories. This review analyzes how states respond to changes in regulatory and fiscal environments and how these changes impact access to recommended vaccinations for millions of poor adults.

1. Methods

Between October 2011 and September 2012, we conducted a document review and developed and administered a survey assessing coverage and cost-sharing policy for Medicaid fee-for-service programs. The results were compared to our 2003 study entitled *The Epidemiology of US Immunization Law: Medicaid Coverage of Immunizations for Non-Institutionalized Adults* (2003 study) [12].

1.1. Document review

The document review included materials from all 51 programs. From October 2011 through March 2012, we conducted a web-based document search, using search terms: “Medicaid fee schedule,” “Medicaid physician visit cost-sharing”, and “adult Medicaid immunization or vaccination.” The search yielded state-issued provider manuals, physician bulletins and newsletters, consumer handbooks, fee schedules, commercially available state plan summaries, and Current Procedural Terminology (CPT) codes related to coverage of, cost-sharing and payment for adult vaccination services under Medicaid.

1.2. Survey population

Medicaid administrators from 50 states and DC were asked to complete a survey, and verify the results from the document review and the 2003 study. This study was exempted from review in accordance with guidelines of our Institutional Review Board (IRB).

1.3. Survey design and administration

We developed a survey in collaboration with the National Center for Immunization & Respiratory Diseases (NCIRD) Immunization Services Division (ISD) of the Centers for Disease Control and Prevention (CDC).

On March 14, 2012, we emailed a letter signed by a CDC official and the principal investigator to each Medicaid program director. The letter introduced the project, provided links and attachments to study materials, and provided instructions for submitting completed responses. The survey was disseminated using Survey Monkey, an online survey tool.

We queried administrators about the programs’ fee-for-service plans’ coverage of vaccines recommended for adults in 2012, whether the program prohibits cost-sharing for adult vaccination services, and about their reimbursement policy, anticipated response to health reform, and adult vaccination program management.

Rank order scale questions were used to prioritize the factors that influence coverage decisions [13]. Open-ended questions were used to determine how the 1% FMAP increase would affect program coverage or cost-sharing decisions for adult vaccinations and to identify the reimbursement rates for adult vaccines [13]. We used multiple choice questions to determine coverage levels for beneficiaries enrolled before January 1, 2014 and to determine the factors that influence coverage decisions [13].

Between April 2, 2012 and September 5, 2012, participants who had not submitted completed surveys received follow-up e-mails and phone calls every two weeks or as

necessary. Participants submitted completed surveys via e-mail, facsimile, or online between March 18, 2012 and September 28, 2012. No state attempted to submit a survey after September 28, 2012.

1.4. Comparison of 2012 data to 2003 study

The results of the 2003 document review included data from 50 of the 51 programs. In 2003, data from DC was unavailable; but was obtained for the 2012 update. We compared the 2003 and 2012 research results to determine whether coverage, cost-sharing, or provider reimbursement policies changed. In the 2003 study, only 1 CPT code per vaccine was used as a measure of benefit coverage and may have resulted in an underestimation of coverage. The 2012 study incorporates all CPT codes applicable to each vaccine under review to ensure accurate measurement of vaccine benefit coverage.

2. Results

2.1. Survey response and characteristics of respondents

By October 1, 2012, 42/51 programs (82%) responded to the survey. Of the 9 programs that did not complete the survey, 2 programs (WV, WI) declined to participate and 7 (IL, KS, NH, NC, OH, PA, and RI) did not respond.

The 42 responding programs cover approximately 16 million of the more than 19 million Medicaid enrollees ages 19 through 64 [4]. Respondents included 6 of the 10 largest programs and covered 41% of all enrollees ages 19 through 64. The median respondent program has approximately 223, 210 enrollees in this age group.

2.2. Vaccine benefit coverage

Table 1 shows changes in vaccination coverage benefits for adult enrollees between 2003 and 2012, as measured by the document review. Ninety-eight percent of all programs (50/51) cover at least 1 vaccine for non-institutionalized adult enrollees, an increase from 2003 when 94% of programs (47/50) covered at least 1 vaccine. In 2012, the majority of programs (71%, 36/51) cover all ACIP recommended vaccines, representing an 8 percentage point increase from 2003 (63%, 32/50). In 2003, AK, FL, and LA did not cover any vaccines. By 2012, AK and LA added coverage of certain vaccines, while FL continued to exclude coverage of any vaccine for non-institutionalized adults (Table 1).

Most of the states that did not cover all ACIP recommended vaccines in 2003 increased benefit coverage to include hepatitis A and B, influenza, meningococcal, and Td vaccines by 2012. However, four states (GA, ND, SD, and TX) decreased coverage since 2003. Georgia eliminated the highest number of vaccines and no longer covers MMR, varicella, Td or pneumococcal vaccines, but added HPV and zoster. Even though LA and MS cover the fewest vaccines, both states now offer HPV, influenza, and pneumococcal vaccines (Table 1).

In 2012, influenza vaccine was the most frequently covered vaccine (98%, 50/51), with 6 different formulations available for use among adults. While DE, MA, and NH are the only programs that covered all 6 influenza vaccines, 88% of programs (45/51) covered the

intramuscular (90656 and 90658), preservative and preservative-free products. The least frequently covered formulation was the preservative/antibiotic-free vaccine 90661 (6/51, 12%). In contrast, the least frequently covered vaccines were zoster (78%, 40/51) and varicella (84%, 43/51).

Between 2003 and 2012, coverage of hepatitis A vaccine increased more than any other vaccine (18 percentage point increase, 74 to 92%, from 38 to 47 programs). Coverage of pneumococcal vaccine increased the least during the same time period (2 percentage point increase, 92 to 94%, from 47 to 48 programs). No vaccines assessed in both years experienced a coverage decrease (Table 1).

2.3. Factors influencing benefit coverage decisions

Administrators were asked to rank the factors influencing their decisions to cover vaccines from most influential (1st) to least influential (5th). Most of the 42 programs responding to the survey ranked ACIP recommendations first or second (31/42). Programs also identified a recommendation to the program by a state health agency (22/42), interest from legislators and the governor (13/42), and public interest (3/42) as first or second most influential factors.

Other primary or secondary factors included approval of the Food and Drug Administration (FDA) (1/42), “good public policy,” (1/42) and good return on investment (1/42). For example, Oregon indicated the most influential factor was an OR Health Evidence Review Commission (HERC) recommendation. The HERC prioritizes health services and evidence-based guidelines for providers, consumers, and purchasers of health care in Oregon [14].

Programs cited costs associated with vaccine coverage (10/42) and lack of a state health agency recommendation (9/42) as the most influential factors when considering vaccines to exclude from coverage. Other factors ranked first or second include the desire for more long-term data (6/42), low demand or interest from state and local health professionals (5/42), and insufficient demand or interest from state legislators or governors (3/42). The lack of FDA approval (1/42) and concerns regarding medical necessity were infrequently cited (1/42).

2.4. Cost-sharing

Generally, Medicaid enrollees can be assessed multiple fees including sliding scale premiums or enrollment fees, copayments or deductibles paid to the provider, or coinsurance as a percentage of the total charges incurred for services [15]. Certain individuals are exempt from some cost-sharing: those receiving hospice care, American Indians and Alaska Natives receiving services from identified programs, and women enrolled in the Breast and Cervical Cancer Treatment Program [15,16]. Some programs prohibit cost-sharing for various categories of services. Our study examines cost-sharing in the form of copayments.

In 2003, 23/50 programs permitted and 27/50 programs did not address copayments (data from DC unavailable), while no program prohibited copayments. By 2012, 2 additional programs permitted copayments (25/51), while 21/51 programs prohibited the practice. Five programs did not address cost-sharing for vaccinations.

Copayments from \$0.50 to \$3.00 were observed in 2003. By 2012, copayments ranged from \$.50 to \$3.40 or 5% of the allowable amount the program permits a provider to bill. (Mean of maximum copayments among states with reported copayment amounts = \$2.81, median = \$3.00, mode = \$3.00). (Table 2).

In 2012, 7 programs (GA, LA, MN, NC, NE, NY, and PA) had conditional “no copayment” policies for vaccinations. These conditions depend upon the care setting, service provided, or the service provider. Four of these 7 programs (GA, MN, NE, and NY) prohibited copayments for physician, nurse practitioner, primary care, and physician extender, or private doctor office visits and services [17,18]. Pennsylvania prohibited copayments for any vaccine administered by a physician, but Louisiana prohibited copayments only for influenza vaccine administered by pharmacists. North Carolina prohibited copayments for vaccination services unless the vaccine is provided as a prescription.

2.5. Effects of health reform on benefit coverage decisions

Medicaid program administrators were asked how their programs would respond to changes proposed under health reform. Most administrators indicated that their programs will not alter coverage policy for traditionally eligible enrollees (30/42). Of these 30 programs, 23 currently cover all recommended vaccines. Twelve of these 23 programs prohibit cost-sharing. Eleven of 42 programs were unclear about how they will respond; 5 of these 11 programs currently cover all recommended vaccines and 1 of those 5 also prohibits cost-sharing. Arkansas is the only program that reported an intention to increase vaccination coverage benefits for traditionally eligible adults to ensure the same benefit coverage as newly-eligible adults. No program reported the intent to decrease vaccination coverage benefits for traditionally eligible adults.

3. Discussion

Medicaid enrollees have few assets and generally cannot afford medical insurance in the private market [5,19]. Medicaid policy related to vaccinations for adult enrollees directly impacts both the enrollee’s personal health status and the public’s health. Programs that cover all ACIP recommended vaccines and prohibit any form of cost-sharing support the Healthy People 2020 goals related to seasonal flu, pneumococcal, hepatitis B, and zoster vaccinations for adults [20,21].

Federal rules governing Medicaid do not require individual programs to include adult vaccines in their benefit packages. However, all programs, with the exception of Florida, incorporate some level of vaccination coverage benefit as part of comprehensive health care. Since 2003 when we last examined this topic, 4 states have expanded benefit coverage to incorporate all recommended vaccines. Consequently, 36 programs now cover vaccines in accordance with ACIP recommendations, including 8 of the 10 largest programs (i.e., all but FL and TX). Seventeen of these programs (17/36) also prohibit copayments. The adoption of all ACIP recommended vaccines while prohibiting copayments is an indication that adult vaccinations remain a priority for these programs.

Most responding programs noted that they do not plan to alter their coverage and cost-sharing policies in order to receive the 1% FMAP increase offered under health reform. Because the imposition of even small copayments can impair access to care for poor individuals, programs that eliminate copayments could increase access to vaccinations for enrollees [22,23]. Program administrators should evaluate all options to determine how eliminating cost-sharing and maximizing opportunities to receive additional federal funds will impact their program's ability to provide important preventive services to Medicaid beneficiaries.

We found that influenza vaccine is the most frequently covered vaccine (50/51), with 6 different formulations. The subunit preservative/antibiotic-free formulation (90661) is both the least-covered influenza vaccine and the least commonly covered vaccine in general (6/51).

Between 2003 and 2012, Alaska and Virginia experienced the greatest degree of increase in vaccine benefit coverage. Alaska had not covered any adult vaccines in 2003. By 2012, the program added coverage of all 11 recommended vaccines to its benefit package because the Department of Health and Social Services' Alaska Immunization Program discontinued provision of adult vaccines [24,25]. Virginia's benefit coverage increased from influenza and pneumococcal vaccines in 2003 to full ACIP coverage. The program cited interest from state elected officials as the most influential factor for increasing coverage.

Fifteen programs do not cover all ACIP recommended vaccines. Generally, the least frequently covered vaccines were HPV, varicella, and zoster. These vaccines are among the most recently recommended and most expensive vaccines. We noted that HPV and varicella vaccines are routinely indicated for use in children and may only be appropriate for adults as a catch-up service. Zoster vaccine is used in older adults, many of whom may be eligible to receive the vaccination under Medicare, the public insurance program serving adults ages 65 and older and qualified persons with disabilities. These age-related recommendations may partially explain the lack of vaccination coverage benefits among some programs.

We surmise that the size of the population at risk for vaccine-preventable diseases compared to the benefit programs expect to realize from vaccination, relative to the cost may determine vaccine coverage. Medicaid administrators may prefer to conserve resources and wait until their state public health department recommends a particular vaccine to the program. However, some programs may have decided to allocate their resources differently. The few states that decreased coverage since 2003, or covered the fewest vaccines have chosen to cover HPV and/or zoster, while excluding benefit coverage of older vaccines.

We think these examples illustrate the difficult and complicated process that program administrators must navigate when considering which vaccines to cover. Even though programs indicated that an ACIP recommendation was the most significant factor when determining whether to cover a vaccine, in the final analysis, cost has the greatest impact on vaccination benefit coverage decisions. These responses suggest that the effects of the nationwide economic recession, state budget and policy processes, fluctuations in revenue, long-term spending commitments, and each program's response to reduced funding for other

vaccine programs, combine to compel fiscal limitations that result in benefit coverage decisions that impact access to vaccines [26].

Our study has three main limitations. First, our survey excluded data from the 5 U.S. territories that participate in the Medicaid program, affecting our ability to identify the policies affecting enrollees in those areas. Second, our data collection excluded contracts from Medicaid managed care plans, limiting our efforts to examine policies that affect a significant portion of enrollees. An average of 66% of all Medicaid enrollees participate in some form of managed care. While this number includes many children and adults with children [27], a significant number of adults receive Medicaid services through managed care plans. Future research related to vaccinations for adults enrolled in Medicaid could address these limitations by including Medicaid programs operating in the Territories and managed care plans. Finally, our 2003 study excluded review of certain CPT codes that were active for hepatitis A and B, and influenza vaccines. As a result, our findings for 2003 may underestimate insurance benefit coverage for those vaccines.

Over the past 10 years, Medicaid programs have typically maintained or expanded vaccination coverage benefits for adults, and nearly half have explicitly prohibited copayments.

The 17 programs that cover all recommended vaccines while prohibiting copayments demonstrate a commitment to providing increased access to vaccinations for adult enrollees. When developing responses to fiscal and political challenges, the programs that do not cover all ACIP recommended adult vaccines or those that permit copayments for vaccinations, should consider all strategies to increase vaccinations and reduce costs to enrollees.

Our findings suggest that Medicaid administrators are committed to developing policies that provide adult enrollees with evidence-based methods to protect themselves and the public's health and safety. When compared to other preventive services or medical benefits, vaccines are a cost-effective tool against infectious disease.

Acknowledgments

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention. The CDC provided funding for the study. CDC scientists collaborated with GW researchers to design the survey, review project findings, and develop this manuscript. The authors thank the Medicaid program administrators who, despite limited resources and busy schedules, completed the survey and provided their expertise.

References

1. Social Security Amendments of 1965 (Title XIX of the Social Security Act), Pub. L. No. 89-97, 79 Stat. 286.(Jul. 30, 1965).
2. HHS.gov/Recovery [Internet]. Department of health and human services: state and territories Medicaid program awards- recovery act, section 5001 grants. <http://www.hhs.gov/recovery/statefundsfmap-text.html> [cited 2013 Feb 21]
3. Medicaid [Internet]. National conference of state legislatures. Medicaid; 2013. [cited 2013 Feb 21] <http://www.ncsl.org/issues-research/health/medicaid-home-page.aspx>

4. US Department of Commerce. Final report. Washington (DC): US Census Bureau; 2012 Sep. Income, poverty, and health insurance coverage in the United States: 2011. Report No. P60-243 <http://www.census.gov/hhes/www/poverty/data/incpovhlth/2011/index.html>
5. Kaiser Family Foundation. Final report. Washington (DC): Kaiser Commission on Medicaid and the Uninsured; 2010 Jun. Medicaid, a primer. Report No. 7334-04 <http://www.kff.org/medicaid/7334.cfm>
6. Center for Health Care Strategies, Inc. The faces of Medicaid: the complexities of caring for people with chronic illnesses and disabilities. 2011. <http://www.chcs.org>
7. Holahan, J.; Kenney, G.; Pelletier, J. Final report. Washington (DC): Robert Wood Johnson Foundation; Urban Institute; 2010 Aug. The health status of new Medicaid enrollees under health reform. <http://www.urban.org/uploadedpdf/412206-health-status.pdf>
8. Schneider, A.; Garfield, R. Vol. Chapter II. Kaiser Family Foundation; Washington, DC: Medicaid and the uninsured; 2003. Medicaid benefits; p. 52 <http://www.kff.org/medicaid/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=14260>
9. Swartz K. Health care for the poor: for whom, what care, and whose responsibility. Focus. 2009; 26(2):69–74. [cited 2013 Feb 21].
10. The Patient Protection and Affordable Care Act, Pub. L. No. 111-148, 124 Stat. 119-1025 (Mar. 23, 2010) and The Health Care and Education Reconciliation Act of 2010, Pub. L. No. 111-152, 124 Stat. 1029.
11. Perlino, CM. Final report. American Public Health Association; Washington (DC): Medicaid, prevention and public health: invest today for a healthier tomorrow. <http://www.apha.org/NR/rdonlyres/675F96CD-7701-4049-89BDD96625A6A3BE/0/MedicaidReport.pdf>
12. Rosenbaum, S.; Stewart, A.; Cox, M.; Lee, A. Final report. Washington (DC): The George Washington University, School of Public Health and Health Services; 2003 Nov. The epidemiology of US immunization law: Medicaid coverage of immunizations for non-institutionalized adults. <http://www.sphhs.gwumc.edu/departments/healthpolicy/dhpublications/pubuploads/dhpPublication5F6FC614-5056-9D20-3D48DB884F5C18C8.pdf>
13. HowTo.gov [Internet]. US general services administration office of citizen services and innovative technologies: basics of survey and question design. <http://www.howto.gov/customer-experience/collecting-feedback/basics-of-survey-and-question-design#semantic-differential> [updated 2013 Feb 19; cited 2013 Feb 21]
14. Oregon Health Evidence Review Commission. HERC coverage guidance process. 2012 Apr. <http://www.oregon.gov/oha/OHPR/herc/docs/cg/process.pdf>
15. Agency for Healthcare Research and Quality. Cost-sharing definition. Archives: agency for healthcare research and quality. 2012. [cited 2013 Feb 21] http://archive.ahrq.gov/chip/text/content/cost_sharing/cost_sharing.htm
16. Medicaid.gov [Internet]. Department of health and human services, centers for medicare and Medicaid services; <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Cost-Sharing/Cost-Sharing-Exemptions.html>
17. Nebraska State. Manual letter #83-2011: chapter 3-000 payment for Medicaid services. Nebraska Department of Health and Human Services, Medicaid Services; 2011 Oct 23.
18. New York State. New York State Department of Health, Medicaid Program. 2006 May 25. Information for all providers: general policy.
19. Klees, BS.; Wolfe, CJ.; Curtis, CA. Final report. Baltimore (MD): Centers for Medicare and Medicaid, Department of Health and Human Services; 2011. Brief summaries of Medicaid and Medicaid: title xvii and title xix of the social security act. <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareProgramRatesStats/downloads/MedicareMedicaidSummaries2009.pdf> (In Press)
20. US Department of Health and Human Services. Immunization and infectious diseases objectives. Washington (DC): Healthy People 2020; 2012. <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=23>
21. Centers for Disease Control and Prevention. Vaccination coverage estimates from the national health interview survey: US 2008. Atlanta (GA): NCHS Health E-Stat; 2009 Jul. <http://www.cdc.gov/nchs/data/hestat/vaccinecoverage/vaccinecoverage.pdf>

22. Keeler, EB. Effects of cost sharing on use of medical services and health. Santa Monica (CA): RAND Corporation; 1992. <http://www.rand.org/pubs/reprints/RP1114.html>, Report No.: RP-1114
23. Wright BJ, Carlson MJ, Edlund T, DeVoe J, Gallia C, Smith J. The impact of increased cost sharing on Medicaid enrollees. *Health Aff.* 2005 Jul-Aug;24(4):1107–16.
24. Wood L. Bulletin No. 31: only pediatric/adolescent vaccines to be supplied by state beginning in 2011. Alaska department of health and social services, section of epidemiology. 2010 Oct 6.
25. Alaska Medical Assistance Provider Billing Manuals. Section I: pharmacy services policies and procedures. 2012 Mar. www.medicaidalaska.com/dnld/PBMPharmacy.pdf
26. Kaiser Family Foundation. Final report. Washington (DC): Kaiser Commission on Medicaid and the Uninsured; 2012 Nov. Why does Medicaid spending vary across states: a chartbook of factors driving state spending. Report No. 8378
27. Kaiser Family Foundation. Medicaid managed care enrollees as a percent of state Medicaid enrollees. Jul 1. 2011 <http://www.statehealthfacts.org/comparemaptable.jsp?ind=217&cat=4>

Table 1

Medicaid coverage of vaccines for adult enrollees 2003 v. 2012 ($n = 51/51$).

States covering all ACIP recommended vaccines for adults in 2003 and 2012 ($n = 25$)													
State	Illinois Indiana Iowa Kansas Maine				Maryland Michigan Minnesota Montana Nebraska			Nevada New Hampshire New Mexico New York Oregon		Pennsylvania Vermont West Virginia Wisconsin Wyoming			
	Flu	PNEUMO	TD	TDAP ^a	HEP.A	HEP.B	MMR	MENING	HPV ^a	VAR	ZOS ^a		
Alabama	+	+	+	+	+	+	+	+		+			
Alaska	+	+	+	+	+	+	+	+		+			
Arizona	+	+	+	+	+	+	+	+		+			
Arkansas	+	+	+	+	+	+	+	+		+			
Colorado	+	+	+	+	+	+	+	+		+			
District of Columbia	+	+	+	+	+	+	+	+		+			
Florida	+	+	+	+	+	+	+	+		+			
Georgia	+	+	+	+	+	+	+	+		+			
Kentucky	+	+	+	+	+	+	+	+		+			
Louisiana	+	+	+	+	+	+	+	+		+			
Massachusetts	+	+	+	+	+	+	+	+		+			
Mississippi	+	+	+	+	+	+	+	+		+			
Missouri	+	+	+	+	+	+	+	+		+			
N. Jersey	+	+	+	+	+	+	+	+		+			
N. Carolina	+	+	+	+	+	+	+	+		+			
N. Dakota	+	+	+	+	+	+	+	+		+			
Ohio	+	+	+	+	+	+	+	+		+			
Oklahoma	+	+	+	+	+	+	+	+		+			
Rhode Island	+	+	+	+	+	+	+	+		+			
S. Carolina	+	+	+	+	+	+	+	+		+			
S. Dakota	+	+	+	+	+	+	+	+		+			
Tennessee	+	+	+	+	+	+	+	+		+			
Texas	+	+	+	+	+	+	+	+		+			

FL: does not cover any vaccines for non-institutionalized adults

States covering all ACIP recommended vaccines for adults in 2003 and 2012 (<i>n</i> = 25)													
State	Flu	PNEUMO	TD	TDAP ^a	Maryland Michigan			Nevada New Hampshire New Mexico New York Oregon		Pennsylvania Vermont			ZOS ^a
					Illinois Indiana Iowa Kansas Maine	Minnesota Montana Nebraska	HPV ^a	MMR	MENING	HPV ^a	VAR	West Virginia Wisconsin Wyoming	
Coverage of vaccines for adults in 2003 (+), 2012 (●), or neither 2003/2012 (grey box)													
Utah	+ ●	+ ●	+ ●	●	+ ●	+ ●	+ ●	+ ●	●	●	●	+ ●	●
Virginia	+ ●	+ ●	●	●	●	●	●	●	●	●	●	●	●
Washington	+ ●	+ ●	+ ●	●	+ ●	+ ●	+ ●	+ ●	+ ●	+	+	+ ●	+
+ 2003 Totals:	43/50	47/50	40/50	<i>a</i>	38/50	42/50	42/50	42/50	39/50	<i>a</i>	40/50	40/50	<i>a</i>
● 2012 Totals:	50/51	48/51	47/51	46/51	47/51	49/51	46/51	47/51	47/51	44/51	43/51	40/51	40/51

Vaccination benefits and cost-sharing policy for non-institutionalized adult Medicaid enrollees.

DC: 2003 data unavailable; FLU: influenza; PNEUMO: pneumococcal; TD: tetanus-diphtheria; TDAP: tetanus-diphtheria-acellular pertussis; HEP. A: hepatitis A; HEP. B: hepatitis B; MMR: measles-mumps-rubella; MENING: meningococcal; HPV: human papillomavirus; VAR: varicella; ZOS: zoster.

Bold: covers all recommended vaccines in 2012.

^aNo recommendation in 2003.

Table 2

Medicaid cost-sharing for adult vaccination service 2003 v. 2012 (*n* = 51/51).

STATE	2003 Cost-sharing			2012 Cost-sharing		
	Permit	Prohibit	Not addressed	Permit	Prohibit	Not addressed
Alabama	●A C	-	-	●A C	-	-
Alaska	-	-	●	●C F	-	-
Arizona	●A	-	-	●D	-	-
Arkansas	-	-	●	-	●	-
California	●A	-	-	●A	-	-
Colorado	●B C	-	-	●B C	-	-
Connecticut	-	-	●	-	●	-
Delaware	-	-	●	-	-	●
Dist. of Col.	DC: 2003 data unavailable					
Florida	●B	-	-	●B	-	-
Georgia	●B C	-	-	●C H	-	-
Hawaii	-	-	●	-	-	●
Idaho	-	-	●	-	●	-
Illinois	●A	-	-	-	●	-
Indiana	-	-	●	●B	-	-
Iowa	-	-	●	●C	-	-
Kansas	●A E	-	-	-	●	-
Kentucky	-	-	●	-	●	-
Louisiana	-	-	●	●E	-	-
Maine	-	-	●	●C	-	-
Maryland	-	-	●	-	●	-
Massachusetts	-	-	●	-	●	-
Michigan	-	-	●	●B	-	-
Minnesota	-	-	●	●H	-	-
Mississippi	●A B	-	-	●C	-	-
Missouri	●A B	-	-	●A C	-	-
Montana	●A B	-	-	●A B	-	-

STATE	2003 Cost-sharing			2012 Cost-sharing		
	Permit	Prohibit	Not addressed	Permit	Prohibit	Not addressed
Nebraska	● B C	-	-	● B C	-	-
Nevada	-	-	●	-	●	-
N. Hampshire	-	-	●	-	-	●
N. Jersey	-	-	●	-	●	-
N. Mexico	-	-	●	-	●	-
N. York	-	-	●	● C H	-	-
N. Carolina	● C	-	-	● I	-	-
N. Dakota	● B	-	-	● B	-	-
Ohio	-	-	●	-	●	-
Oklahoma	● A C	-	-	-	●	-
Oregon	● C	-	-	-	●	-
Pennsylvania	● E	-	-	●	-	-
Rhode Island	-	-	●	-	●	-
S. Carolina	-	-	●	● C D	-	-
S. Dakota	● B	-	-	● C F	-	-
Tennessee	-	-	●	-	●	-
Texas	-	-	●	-	-	●
Utah	●	-	-	-	●	-
Vermont	● C	-	-	● C	-	-
Virginia	● A C	-	-	● A C	-	-
Washington	-	-	●	-	●	-
West Virginia	-	-	●	-	-	●
Wisconsin	● A B C	-	-	-	●	-
Wyoming	● B	-	-	-	●	-
TOTAL:	23/50	0/50	27/50	25/51	21/51	5/51

Vaccination benefits and cost-sharing policy for non-institutionalized adult Medicaid enrollees.

Bold: covers all recommended vaccines in 2012. Data as of 2012. A-E Copayment for physician/outpatient hospital services: A = \$1.00; B = \$2.00; C = \$3.00; D = \$4.00; E = scaled cost-sharing (\$.50 for services <\$10, \$1 for <\$25, \$2 for <\$50, \$3 for <\$50+); F = 5% allowable amount; H = no copayment for office visits only; I = no copayment unless immunization is a prescription.