

Medicaid/SCHIP Cuts And Hospital Emergency Department Use

Cuts to public programs are likely to have ripple effects across the safety net for low-income Americans.

by **Peter J. Cunningham**

ABSTRACT: This paper uses data from the 2000–01 and 2003 Community Tracking Study household surveys to examine how decreases in enrollment in Medicaid and the State Children’s Health Insurance Program (SCHIP) and increases in the number of uninsured people would affect the volume and distribution of emergency department (ED) use among low-income people. A decrease in Medicaid/SCHIP enrollment would lead to an increase in ED visits by the uninsured but little change in overall ED volume. The results suggest that cost containment efforts that reduce eligibility and enrollment will achieve cost savings largely by reducing access and shifting costs away from Medicaid/SCHIP. [*Health Affairs* 25, no. 1 (2006): 237–247]

AS THE BUSH ADMINISTRATION AND CONGRESS consider fundamental changes to Medicaid, many state and local officials and health care providers are concerned that large cuts in Medicaid funding will simply shift the cost of caring for low-income people onto state and local governments and providers in the form of uncompensated care. In particular, there is concern that cuts in Medicaid could lead to increases in use of hospital emergency departments (EDs), many of which are already experiencing problems with overcrowding.¹ Because the uninsured are already more dependent on EDs for their care compared with their insured peers, Medicaid cuts that raise the number of uninsured people could result in a surge of uncompensated care by EDs. The effects would be particularly high on public hospitals and other “safety-net” hospitals that provide a disproportionately large amount of care to uninsured and low-income people.²

Other cost containment efforts also could inadvertently increase ED use. Many physicians are already reluctant to accept Medicaid patients because of low reimbursement, and further cuts could reduce the number of physicians who care for Medicaid patients, resulting in increased use of EDs.³ And although the availability of community health centers (CHCs) and other free clinics could mitigate the

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effects of lower access to office-based physicians, reductions in Medicaid revenue—from which CHCs derive more than one-third of their total revenue—could reduce CHC capacity in a given area and increase use of the ED.⁴

In this paper I examine the possible implications of Medicaid cost containment efforts on ED use among low-income people. Specifically, how would decreased enrollment in public programs (such as Medicaid/SCHIP) and increased uninsurance affect overall levels of ED use? How would such changes in coverage affect the relative proportion of ED visits by insured versus uninsured people? What are the implications of reductions in Medicaid acceptance rates by physicians and CHC capacity for ED use by Medicaid and SCHIP enrollees?

Study Data And Methods

■ **Data.** The main data source is the 2000–01 and 2003 Community Tracking Study (CTS) household surveys. The surveys were designed to produce representative estimates of health insurance coverage, access to care, use of services, and perceived quality of care for the U.S. population and sixty randomly selected communities in thirty-four states and the District of Columbia.⁵ The overall sample for the surveys includes about 60,000 people in the 2000–01 survey and about 46,600 people in the 2003 survey. This study focuses on nonelderly people (younger than age sixty-five) with family incomes below 300 percent of the federal poverty level.⁶ The combined sample for this study is about 34,500 people.

■ **Measures of utilization.** Respondents were asked to report on the number of visits to hospital EDs in the twelve months prior to the interview. The study focuses on ED visits that did not result in a hospital inpatient stay, which was ascertained in the survey. The analysis also includes measures of visits to other physicians in the previous twelve months. These physician visits include those that took place in a physician's office, clinic, hospital outpatient department, or any other ambulatory setting other than an ED.

■ **Measures of coverage.** Type of insurance coverage was ascertained based on the day of the interview.⁷ Four types of coverage are distinguished in this study: private insurance (including employer-sponsored and nongroup policies); Medicaid/SCHIP; other coverage types (generally Medicare disability, military coverage, and Indian Health Service); and uninsured. The analysis focuses primarily on ED use by Medicaid/SCHIP enrollees, the privately insured, and the uninsured.

■ **Estimating the effect of coverage changes on ED use.** I used regression-based methods to account for the fact that the observed differences in ED use by insurance coverage could reflect differences in individual characteristics (such as health status) as well as other health system factors. I then used the results from this regression to predict changes in aggregate ED use associated with a decrease in Medicaid/SCHIP enrollment.⁸ The regressions include a comprehensive range of factors known or likely to affect ED use, including characteristics of individuals, key health system factors that reflect proximity to EDs and other providers, and com-

munity characteristics. Despite the extensive set of control variables, differences in ED use by insurance coverage might be correlated with unobserved factors that affect the choice of insurance status (that is, selection bias). However, attempts to account for the possible selection bias resulted in regression coefficients that had a low level of statistical precision, and the differences with the estimates in this analysis were not statistically significant.⁹

I used the regression results to simulate the effects of a 25 percent decrease in Medicaid/SCHIP enrollment on aggregate ED use.¹⁰ The analysis assumed that the enrollment decreases are due to programmatic changes (for example, decreases in eligibility, increases in premiums, or enrollment barriers), rather than changes in individual or family circumstances that affect access to other sources of coverage. A 25 percent reduction in enrollment is consistent with actual or planned enrollment reductions in several states, including Oregon, Tennessee, and Texas.¹¹ Sizeable reductions in federal support for Medicaid also were being discussed as of this writing, although it is too early to know the possible effects on Medicaid enrollment nationwide.¹² Because the effects of an enrollment decrease on ED use might differ depending on the particular Medicaid/SCHIP groups targeted, I performed separate simulations assuming that enrollment reductions are concentrated among adult Medicaid enrollees, adults in fair or poor health (for example, if Medically Needy programs were targeted), and children.

The simulation analysis assumed that most of the 25 percent of Medicaid/SCHIP enrollees who lose coverage would become uninsured. CTS data show that about 12 percent of adults and one-fourth of children enrolled in Medicaid/SCHIP have access to employer-sponsored coverage, through either their own job or a spouse or parent's job (although it is not known specifically whether they have access to family coverage and how affordable the coverage is to low-income families). In the simulations, it is assumed that those who lose Medicaid/SCHIP coverage and have access to employer coverage would enroll in private insurance.¹³

■ **Estimating the effects of other factors.** The regression analysis also included health system factors that could be affected by Medicaid cost containment efforts. In particular, it included a measure of the percentage of office-based physicians in the community accepting Medicaid patients, which previous research has shown to be strongly influenced by Medicaid reimbursement rates.¹⁴ This measure is based on the 2000–01 CTS physician survey, which includes representative samples of physicians in each of the sixty CTS sites.¹⁵

The regression analysis also included a measure of CHC capacity, defined as total CHC revenue per poor person (that is, income below 100 percent of poverty) within five miles for each sample person. CHC revenue data were obtained from the Health Resources and Services Administration (HRSA) and linked to the CTS data by ZIP code.¹⁶ The measure allows for an assessment of the effects of changes in CHC revenue (which could be attributable to changes in Medicaid revenue) on ED use by Medicaid/SCHIP beneficiaries.

Study Findings

■ **Enrollee characteristics.** Compared with privately insured and uninsured people, Medicaid/SCHIP enrollees are much younger, poorer, more likely to be in single-parent families, and more likely to have health problems (Exhibit 1). Differences in health status for adults are especially notable. About 40 percent of adults with Medicaid/SCHIP describe their health as fair or poor, compared with 25 percent for uninsured and only 13 percent for privately insured people. Also, more than one-fourth of adult Medicaid/SCHIP enrollees report multiple chronic conditions, compared with 5.9 percent for uninsured and 9.5 percent for privately insured adults. The high rate of health problems among adult Medicaid/SCHIP enrollees likely reflects the fact that many qualify for Medicaid through disability and Medically Needy programs, while most children qualify based on income eligibility.

■ **ED use by low-income people.** Higher rates of health problems by Medicaid/SCHIP enrollees likely account for at least some of their higher levels of ED use compared with other low-income people (Exhibit 2). More than one-third of Medicaid/SCHIP adult enrollees had an ED visit in the previous year, compared with about 20 percent of both uninsured and privately insured adults. Overall, ED visits per adult Medicaid/SCHIP enrollee are 2.5–3 times those of privately insured and uninsured adults. Although adults in fair or poor health have higher levels of ED use across all

EXHIBIT 1
Characteristics Of Low-Income Medicaid/SCHIP-Covered, Privately Insured, And Uninsured People In The CTS Sample, 2001 And 2003

Characteristic	Medicaid/SCHIP	Uninsured	Privately insured
Age			
Under age 18	61.1%	15.9%**	34.3%
Ages 18–34	19.5	42.9**	26.3**
Ages 45–64	10.4	20.8**	20.1
Ages 18–64			
Below poverty	56.6	35.1**	11.9**
Black	25.4	15.8**	14.0**
Hispanic	22.8	33.1**	15.0**
Single-parent family	30.4	13.4**	12.4**
In fair or poor health	40.3	25.2**	13.0**
2 or more chronic conditions	26.5	5.9**	9.5**
Under age 18			
Below poverty	50.0	39.5**	11.3**
Black	24.5	16.7**	13.0**
Hispanic	28.1	42.0**	14.3**
Single-parent family	56.1	36.2**	25.4**
In fair or poor health	8.5	6.4	3.2**

SOURCE Community Tracking Study (CTS) household survey, 2000–01 and 2003.

NOTES: Estimates reflect weighted averages for the two surveys. Statistical significance denotes difference from Medicaid/SCHIP. SCHIP is State Children’s Health Insurance Program.

***p* < .05

EXHIBIT 2
Differences In Emergency Department (ED) Visits, By Age Group And Insurance Coverage, 2001 And 2003

Characteristic	All low income	Medicaid/SCHIP	Privately insured	Uninsured
Ages 18–64				
ED use				
Percent with visit	22.9%	37.6%	20.2% ^a	19.8% ^a
Visits per person	0.45	0.94	0.35 ^a	0.38 ^a
Visits per person in fair or poor health	0.80	1.29	0.64 ^a	0.57 ^a
Physician visits				
Percent with visit	67.2%	84.0%	74.3% ^a	43.0% ^{a,b}
Visits per person	3.82	7.41	3.59 ^a	1.95 ^{a,b}
Visits per person in fair or poor health	6.65	10.60	6.42 ^a	2.78 ^{a,b}
Under age 18				
ED use				
Percent with visit	20.6%	24.1%	17.5% ^a	21.0%
Visits per person	0.39	0.52	0.27 ^a	0.50 ^b
Visits per person in fair or poor health	1.28	1.31	0.81 ^a	– ^c
Physician visits				
Percent with visit	78.9%	84.0%	81.4%	53.0% ^{a,b}
Visits per person	2.98	3.55	2.84 ^a	1.53 ^{a,b}
Visits per person in fair or poor health	5.22	6.02	5.85	– ^c

SOURCE Community Tracking Study (CTS) household survey, 2000–01 and 2003.

NOTES: Estimates reflect weighted averages for the two surveys. Includes only ED visits that did not result in a hospital stay. SCHIP is State Children’s Health Insurance Program.

^a Difference with Medicaid/SCHIP is statistically significant at the .05 level.

^b Difference between uninsured and privately insured is statistically significant at the .05 level.

^c Too few observations for reliable estimates.

coverage groups, ED use for Medicaid/SCHIP adults in fair and poor health is still about twice as high as for their privately insured and uninsured peers.

ED use for Medicaid/SCHIP and uninsured children is more similar and somewhat higher than it is for privately insured children, which may in part reflect the fact that Medicaid/SCHIP and uninsured children are more similar in their health status than they are to privately insured children. As with adults, ED use by low-income children in fair and poor health is much higher than for all children.

High ED use by Medicaid/SCHIP enrollees is consistent with their high use of health care in general. Physician visits for adults with Medicaid/SCHIP are on average about twice as high as for privately insured adults and almost four times higher than for uninsured adults (Exhibit 2). Differences in physician use are generally smaller for children, although use by Medicaid/SCHIP enrollees is still higher compared with privately insured and uninsured children. Physician visits are also much higher for people in fair/poor health across all coverage and age groups, although Medicaid/SCHIP enrollees in fair/poor health have much higher use than most other low-income people in fair/poor health.

■ **Insurance-related differences in ED use.** ED use by Medicaid/SCHIP adults is still higher than for privately insured and uninsured adults, even after health status differences, other individual characteristics, and health system factors are exten-

sively controlled for (Exhibit 3). The estimates reflect differences in visits per person between Medicaid/SCHIP enrollees and uninsured people, Medicaid/SCHIP and privately insured people, and privately insured and uninsured people. The actual differences are based on the group means, as shown in Exhibit 2, while the adjusted differences are derived from multivariate regression analysis. In sum, the adjusted difference reflects only the differences in use due to insurance coverage.

Adult Medicaid/SCHIP enrollees would still have about 0.25 visits per person more than uninsured and privately insured adults, even after the adjustments. In other words, differences in health status and other factors account for more than half of the differences in ED use between Medicaid/SCHIP adults and uninsured and privately insured adults. These results suggest a net decrease in ED use for adults who lose Medicaid coverage, although the decrease will be much smaller than implied by the actual differences in ED use.

Differences in individual and health system factors account for less of the differ-

EXHIBIT 3
Actual And Adjusted Differences In Emergency Department (ED) And Physician Use Between Insurance Coverage Groups, 2001 And 2003

	Difference between Medicaid/SCHIP and uninsured	Difference between Medicaid/SCHIP and private insurance	Difference between private insurance and uninsured
Ages 18–64			
ED visits per person			
Actual difference	0.56 ^a	0.59 ^a	-0.03
Adjusted difference	0.25	0.25	0.00
Physician visits per person			
Actual difference	5.5 ^a	3.8 ^a	1.6 ^a
Adjusted difference	3.7	2.3	1.4
Ages 18–64 in fair/poor health			
ED visits per person			
Actual difference	0.72 ^a	0.65 ^a	0.07
Adjusted difference	0.41	0.37	0.04
Physician visits per person			
Actual difference	7.8 ^a	4.2 ^a	3.6 ^a
Adjusted difference	5.6	3.1	2.5
Under age 18			
ED visits per 100 persons			
Actual difference	0.02	0.25 ^a	-0.23 ^a
Adjusted difference	-0.06	0.12	-0.18
Physician visits per person			
Actual difference	2.0 ^a	0.7 ^a	1.3 ^a
Adjusted difference	1.8	0.5	1.3

SOURCE Community Tracking Study (CTS) household survey, 2000–01 and 2003.

NOTES: Adjusted differences are based on predictions of use for each of the three insurance groups derived from the results of multivariate regression models that include indicators of private insurance and Medicaid/State Children’s Health Insurance Program (SCHIP) coverage, and extensive controls for individual, health system, and community characteristics. The adjusted differences for adults in fair/poor health are based on regressions that include interaction terms for insurance coverage and health status. Separate predictions are made for the probability of any use and the number of visits for users. The two predictions for each insurance group are then multiplied to obtain an estimate of regression-adjusted visits per person for each of the three insurance groups.

^aActual difference is statistically significant, *p* < .05.

ence in physician use between Medicaid/SCHIP and uninsured adults (about one-third). The adjusted results suggest that Medicaid/SCHIP adults who lose coverage would decrease their use by about 3.6 physician visits per person if they became uninsured, and about 2.3 visits per person if they gained private insurance. For privately insured people who become uninsured, the number of physician visits would decrease by about 1.4 per person.

Somewhat surprising is that both ED and physician use continues to be higher for Medicaid/SCHIP adults than privately insured adults, even after individual characteristics and health system factors are controlled for. Also, use differentials between privately insured and uninsured adults are much smaller than those between Medicaid/SCHIP and uninsured adults. This might reflect the fact either that Medicaid/SCHIP enrollees have no copayments and deductibles for medical care use, or that the copayments are nominal compared with those for privately insured people (generally three dollars or less per visit). For low-income people with private insurance, sizable deductibles and copayments could be a major disincentive to use services, especially for EDs, where copayments tend to be higher than for office-based services.

■ **The effects of Medicaid/SCHIP enrollment cuts on total ED use.** A sizable reduction in Medicaid/SCHIP enrollment would have little impact on overall ED use among low-income people, although it would greatly increase the proportion of visits made by uninsured people. Exhibit 4 shows the effects of a 25 percent decrease in enrollment among Medicaid/SCHIP adults, adults in fair or poor health, and children. Among low-income adults, a 25 percent decrease in Medicaid/SCHIP enrollment nationally would decrease ED visits by fewer than 600,000 (less than 2 percent). However, while providers in general might see little change in ED volume, a higher share of those visits would come from uninsured patients. The percentage of all ED visits made by uninsured people would increase about five percentage points, from 24.4 percent of all ED visits to about 29 percent.

To the extent that enrollment reductions are concentrated on people in fair or poor health—for example, if changes were made to the state’s Medically Needy program—then the decrease in ED volume would be about one-third larger (about 900,000 visits). However, the increase in both the number and proportion of ED visits by uninsured people would also be larger, comprising about 30 percent of all visits by low-income people.

The increase in the proportion of ED visits by the uninsured would be even greater if Medicaid/SCHIP enrollment reductions were focused on children, which reflects the fact that average ED use between Medicaid/SCHIP and uninsured children is more similar than for adults. While overall ED volume among low-income children would be virtually unchanged, the proportion of visits by uninsured children would increase nine percentage points, from 15 percent of all ED visits to 24 percent.

■ **Effects on Medicaid acceptance rates and CHC capacity.** Medicaid cost

EXHIBIT 4
Simulated Change In Aggregate Emergency Department (ED) Use Associated With A 25 Percent Reduction In Medicaid/SCHIP Enrollment, 2001 And 2003

	All low income	Medicaid/SCHIP	Privately insured	Uninsured
25% decrease in adult Medicaid/SCHIP enrollment				
Total visits (thousands)				
Actual	34,472	8,578	13,852	8,403
Simulated change – overall ^a	-592	-2,144	182	1,370
Simulated change – fair/poor health ^b	-929	-2,942	147	1,866
Percent of all ED visits by persons in coverage group				
Actual	100.0%	24.9%	40.2%	24.4%
Simulated change – overall ^a	100.0	-5.9	1.2	4.8
Simulated change – fair/poor health ^b	100.0	-8.1	1.5	6.2
25% decrease in child Medicaid/SCHIP enrollment				
Total visits (thousands)				
Actual	16,811	7,540	5,896	2,517
Simulated change	78	-1,885	409	1,524
Percent of all visits in coverage group				
Actual	100.0%	44.9%	35.1%	15.0%
Simulated change	100.0	-11.3	2.2	9.0

SOURCE Community Tracking Study (CTS) household survey, 2000–01 and 2003.

NOTES: The simulated change in visits for Medicaid/State Children’s Health Insurance Program (SCHIP) is based on the actual visits per person for 25 percent of the Medicaid/SCHIP sample (0.94). The simulated change in visits for the part of the 25 percent of the Medicaid/SCHIP sample that becomes uninsured is based on the adjusted visits per person for Medicaid/SCHIP enrollees (computed as the actual visits per person for Medicaid/SCHIP less the adjusted difference between Medicaid/SCHIP and uninsured; see Exhibit 3). The simulated change in visits for the part of the Medicaid/SCHIP sample who become privately insured is based on the adjusted visits per person for Medicaid/SCHIP (computed as the actual visits per person for Medicaid/SCHIP less the adjusted difference between Medicaid/SCHIP and privately insured people; see Exhibit 3).

^a Assumes that the 25 percent decrease is randomly distributed among the adult Medicaid/SCHIP population.

^b Assumes that the 25 percent decrease affects people in fair/poor health.

containment efforts might inadvertently increase ED use other than through reductions in enrollment. For example, the results show that a decrease in Medicaid acceptance rates by physicians—which could be caused by cuts in reimbursement rates for physicians—is associated with a higher probability of ED use by Medicaid/SCHIP adults (findings not shown).¹⁷ A 10 percent decrease in acceptance rates increases the probability of ED use by about four percentage points.

The results also show that reductions in CHC capacity increases the probability of ED use for both adult and child Medicaid/SCHIP enrollees, although the effects do not appear to be as great as those for Medicaid acceptance rates by office-based physicians. The results show that a 10 percent decrease in CHC capacity increases the probability of an ED visit by less than one percentage point. The lack of a larger effect of CHC capacity could reflect the fact that about half of Medicaid/SCHIP enrollees do not live close to CHCs (within five miles) and therefore would be unaffected by any changes in capacity. Also, reductions in CHC capacity might have greater effects on access to primary care—which tends to be the main focus of most CHCs—whereas ED use might be more sensitive to the availability of specialty care in the community to Medicaid/SCHIP enrollees.

Discussion And Implications

The high use of hospital EDs by Medicaid/SCHIP enrollees reflects a number of factors, including high need and overall use of medical care, low cost sharing, and lower access to office-based physicians (because of relatively low reimbursement levels). Although the uninsured are dependent on EDs for their care to a much greater degree than low-income insured people, they still use EDs less often than Medicaid/SCHIP enrollees as a result of fewer health problems, an overall lack of financial access to medical care, and concerns about incurring high medical bills.

Thus, cost containment efforts that lead to decreases in Medicaid/SCHIP enrollment and increased uninsurance are likely to lead to a small net decrease in ED visits, rather than a net increase. However, the aggregate decrease in ED visits is much smaller than might be expected, given that ED use among Medicaid/SCHIP adults is almost three times that of uninsured adults. ED volume will not decrease as much as might be expected because those who lose Medicaid/SCHIP coverage and become uninsured are likely to have much worse health and higher need than those who are now uninsured. Also, a loss of coverage results in a more severe loss of access to office-based physicians, resulting in greater dependence on EDs as one of the few sources of care available to uninsured people.

Many hospitals will likely see a sizable shift in visits from Medicaid to uninsured clients, which will probably increase uncompensated care levels in EDs. The effects will likely be more acutely felt in urban public and other “safety-net” hospitals, which tend to have disproportionately large numbers of both types of patients. For example, after Oregon eliminated the state’s Medically Needy program, ED visits at a large urban hospital increased 17 percent for uninsured people and decreased 20 percent for enrollees in the state’s Medicaid program.¹⁸

A limitation of this analysis is that it assumes no other policy or health system changes in response to cost containment strategies that reduce Medicaid/SCHIP enrollment. To counter a surge in demand for ED care by uninsured people, some hospitals—particularly private hospitals with no obligation to serve the uninsured—could seek to limit the amount of care they provide in the ED to uninsured people or implement more stringent eligibility standards for charity care. This could lead to an increasing concentration of uninsured people seeking care at public or other safety-net hospitals, which could strain these facilities’ capacity and lead to long waiting times and reduced access. At the same time, concern about ED overcrowding, increased uncompensated care caseloads, and reduced access to care among the low-income population could compel policymakers and providers to lobby for more public funds to offset funding cuts in Medicaid and SCHIP, such as bolstering access to primary care for uninsured people through increased funding of CHCs.

Cost containment measures that simply restrict or reduce eligibility and inhibit access to primary medical care could reduce Medicaid program costs, but much of these cost savings are likely to be shifted to safety-net providers and other state or

local programs in the form of higher costs of caring for the uninsured. Although ED volumes and overcrowding might not increase, the loss of Medicaid revenue and increase in uncompensated care could reduce hospitals' ED capacity and their ability to respond to public emergencies. At the same time, access to care among Medicaid/SCHIP enrollees—especially many adult enrollees with high medical needs—will be severely diminished.

The high use of EDs by Medicaid beneficiaries should be of concern to policy-makers, especially since about half of ED visits are for nonurgent medical problems.¹⁹ Redirecting much of this care into more appropriate primary care settings not only will save on program costs, but also could lead to improved access to and quality of care. Moreover, reducing nonurgent ED use and making care delivery more efficient are much more likely than enrollment reductions to achieve cost savings without shifting these costs elsewhere.

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NOTES

1. L.R. Brewster, L.S. Rudell, and C.S. Lesser, "Emergency Room Diversions: A Symptom of Hospitals under Stress," Issue Brief no. 38 (Washington: Center for Studying Health System Change, 2001).
2. P.J. Cunningham and J.H. May, "Insured Americans Drive Surge in Emergency Department Visits," Issue Brief no. 70 (Washington: HSC, 2003).
3. P.J. Cunningham and L.M. Nichols, "The Effects of Medicaid Reimbursement on Access to Care of Medicaid Enrollees: A Community Perspective," *Medical Care Research and Review* (forthcoming); and A.F. Coburn, S.H. Long, and M.S. Marquis, "Effects of Changing Medicaid Fees on Physician Participation and Enrollee Access," *Inquiry* 36, no. 3 (1999): 265–279.
4. Bureau of Primary Health Care, "The Uniform Data System—Data" (calendar year 2003 data), <http://bphc.hrsa.gov/uds/data.htm> (accessed 28 October 2005).
5. R. Strouse, B. Carlson, and J. Hall, *Community Tracking Study: Household Survey Methodology Report 2000–01 (Round Three)*, Technical Pub. no. 46, <http://www.hschange.com/CONTENT/602/602.pdf> (accessed 28 October 2005).
6. The sample is restricted to low-income people so that comparisons of ED use across insurance coverage groups are made for people with roughly similar income levels. The definition of "low income" used to identify the sample for this analysis did not take into account differences across communities in the cost of living. However, sensitivity analyses show that adjustments for cost-of-living differences would have virtually no impact either on point estimates of ED use by insurance coverage or on simulating the effects of Medicaid enrollment reductions.
7. Since ED and physician visits reflect the preceding twelve months, some people with a certain type of coverage on the day of the interview could have had a different type of coverage for some or all of their ED visits (that is, changed coverage during the year). The CTS data indicate that about 80 percent of people had the same type of coverage throughout the year as they had on the day of the interview. Restricting the analysis to people who had the same type of coverage throughout the year did not change the results.
8. The details of the research methodology are described extensively in an online Research Brief, available at <http://content.healthaffairs.org/cgi/content/full/25/1/237/DC1>.
9. To account for the possibility of selection bias in the analysis, a conventional two-stage least-squares model was estimated. The first-stage models predicted the probability of private insurance and Medicaid/SCHIP coverage for each sample person, with key instrumental variables in the analysis including

public program eligibility, health insurance costs, and employment characteristics. The predicted insurance coverage variables were then entered into a second-stage model of ED use. The effects of predicted insurance coverage on ED use exhibited the same general patterns as the actual measures of insurance coverage, although the low level of statistical precision of these estimates makes them unsuitable for predicting effects on aggregate ED use.

10. The simulation involved recomputing ED visits per person for 25 percent of the weighted Medicaid/SCHIP population and adding this total to the uninsured and privately insured visit counts. For the majority of the 25 percent sample who become uninsured, ED visits per person were computed by subtracting the adjusted difference in ED visits per person between Medicaid/SCHIP and uninsured people (Exhibit 3) from the actual number of ED visits per person for Medicaid/SCHIP (which reflects the ED visit rate for uninsured people who have the same sample characteristics as Medicaid/SCHIP enrollees). For the small number of the 25 percent who are assumed to enroll in private coverage, ED visit rates are computed by subtracting the adjusted difference in ED use between Medicaid/SCHIP and private insurance from the actual number of ED visits for Medicaid/SCHIP.
11. D.C. Ross and L. Cox, *Beneath the Surface: Barriers Threaten to Slow Progress on Expanding Health Coverage of Children and Families* (Washington: Kaiser Commission on Medicaid and the Uninsured, October 2004); C. Mann and S. Artiga, *The Impact of Recent Changes in Health Care Coverage for Low Income People: A First Look at the Research Following Changes in Oregon's Medicaid Plan* (Washington: Kaiser Commission, June 2004); and L. Ku and V. Wachino, *The Potential Impact of Eliminating TennCare and Reverting to Medicaid: A Preliminary Analysis* (Washington: Center on Budget and Policy Priorities, 15 November 2004).
12. S. Parrott, A. Sherman, and B. Hardy, "House Budget Resolution Would Require Much Deeper Cuts in Key Low-Income Programs than Senate Budget Plan," 7 April 2005, <http://www.cbpp.org/3-30-05bud.pdf> (accessed 28 October 2005).
13. It is unlikely that all who have access to employer coverage would enroll in that coverage. However, there is no previous research to offer guidance on what the take-up rate would be for Medicaid/SCHIP enrollees who lose coverage, and sensitivity analysis shows that assuming a lower employer coverage take-up rate (for example, 60 percent) would have little effect on the results.
14. Cunningham and Nichols, "The Effects of Medicaid Reimbursement."
15. N. Diaz-Tena et al., "Community Tracking Study, Physician Survey Methodology Report 2000–01 (Round 3)," Technical Pub. no. 38 (Washington: HSC, 2003). Site-specific estimates from the 2000–01 survey were used for both the 2000–01 and 2003 household survey samples in this analysis, since the 2003 physician survey was not available at the time of this writing. Ideally, separate measures for specialists and general practitioners would have been constructed, since they might differ in their willingness to see Medicaid patients. However, site-specific samples of physicians are not large enough in many sites to support statistically valid estimates separately for specialists and generalists.
16. Similar measures have been linked to the CTS data in other analyses of the effects of safety-net providers on medical care access and use. See P. Cunningham and J. Hadley, "Expanding Care versus Expanding Coverage: How to Improve Access to Care," *Health Affairs* 23, no. 4 (2004): 234–244; and J. Hadley and P. Cunningham, "Availability of Safety Net Providers and Access to Care of Uninsured Persons," *Health Services Research* 39, no. 5 (2004): 1527–1546. Although the sample for this analysis uses the threshold of 300 percent of poverty, the measure of CHC capacity is normalized using 100 percent of poverty because of the availability of census data by ZIP code, and because CHCs are used disproportionately by the poor.
17. The results for the effects of Medicaid acceptance rates and CHC capacity on ED use for Medicaid/SCHIP enrollees are based on the same regression models, run separately for Medicaid/SCHIP enrollees. To view the results of this analysis, see the online Research Brief (Note 10).
18. Mann and Artiga, *The Impact of Recent Changes*.
19. Cunningham and May, "Insured Americans Drive Surge."