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The Uninsured Do Not Use The Emergency Department More—They Use Other Care Less

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Abstract

There is a popular perception that insurance coverage will reduce overuse of the emergency department (ED). Both opponents and advocates of expanding insurance coverage under the Affordable Care Act (ACA) have made statements to the effect that EDs have been jammed with the uninsured and that paying for the uninsured population's emergency care has burdened the health care system as a result of the expense of that care. It has therefore been surprising to many to encounter evidence that insurance coverage increases ED use instead of decreasing it. Two facts may help explain this unexpected finding. First, there is a common misperception that the uninsured use the ED more than the insured. In fact, insured and uninsured adults use the ED at very similar rates and in very similar circumstances—and the uninsured use the ED substantially less than the Medicaid population. Second, while the uninsured do not use the ED more than the insured, they do use other types of care much less than the insured.

With the future of Medicaid and other publicly subsidized insurance uncertain, the role of insurance in steering patients toward more effective health care is under active discussion. There is a pervasive view that, relative to the insured, the uninsured both use the emergency department (ED) more and use it in less appropriate circumstances.[1–4] Similar assumptions are often made in the academic literature as well.[5–7] These views persist despite existing evidence that the uninsured do not use the ED dramatically more (or in very different circumstances) than the insured and, in fact, use the ED much less than the publicly insured.[5,8–14]

Indeed, one of the common arguments in favor of expanding health insurance coverage is that it can relieve ED crowding and reduce medical costs by shifting care to more efficient primary care settings.[15–19] This belief that health insurance coverage will reduce ED use has mixed support in the quasi-experimental literature,[7,20–24] and is not supported by the results of the Oregon Health Insurance Experiment. This randomized controlled evaluation of the

impact of expanding Medicaid to cover uninsured working-age adults found that Medicaid coverage increased ED use across a broad range of visit types, conditions, and subpopulations and that this increase persisted over the two years of the study.[25,26]

An increase in ED use as a result of the uninsured gaining Medicaid coverage is consistent with basic economic theory: Insurance lowers the cost to the patient of using the ED and therefore increases demand. But the Oregon experiment's finding was nonetheless greeted with considerable attention and surprise.[6,27–29] This surprise suggests the importance of reexamining common assumptions about patterns of ED use among the uninsured and the publicly and privately insured.

We first update prior studies of ED use by insurance status,[5,8–14] drawing on more recent data from 2013 (before the ACA was fully implemented). We show that the prior findings persist: Among working-age adults, the uninsured use the ED at very similar rates and in very similar circumstances as the insured overall—and use the ED substantially less than those on Medicaid.

We also show that while the uninsured do not use the ED substantially more than the insured, the uninsured do use other types of care much less than the insured. This may help create and perpetuate the misperception that the uninsured use the ED more than the insured.

Study Data And Methods

DATA

We drew on two national data sources to examine the use of care among insured and uninsured adults ages 19–64. We used data from the 2013 Medical Expenditure Panel Survey (MEPS) to analyze rates of use of different types of care by insurance status. MEPS is a population-based survey designed to be nationally representative of the civilian noninstitutionalized population. We defined *insured* as having had insurance of any kind at any point during 2013; among insured people, we further distinguished between the privately (those who had any private insurance coverage during the year) and publicly (insured adults who only had public insurance during the year) insured. Among the latter, we further broke out those who were ever on Medicaid during the year, which is almost 90 percent of publicly insured adults in this age range.

We used data from the 2013 National Hospital Ambulatory Medical Care Survey to analyze different types of ED visits by insurance status. The data come from a nationally representative sample of electronic patient records from ED visits. We classified a visit as *insured* if its payer type was private insurance, Medicare, Medicaid, or "other" insurance; we classified as *uninsured* those visits with payer type of self-pay, non-charge, or charity. Visits with a payer type listed as "unknown," workers compensation, or missing were excluded from the analysis. Among insured visits, we again further distinguished between those who were privately and publicly insured. Within the latter, we again broke out those visits covered by Medicaid, which represent about two-thirds of publicly insured ED visits in the age range we studied.

APPROACH

We analyzed health care use by insurance status, looking at utilization rates for different types of care: ED visits, outpatient visits, and hospital admissions.

Within the ED setting, we also examined the use of ED visits based on the circumstances of the visit. There is little consensus on how to identify ED visits for conditions that might be treated in less costly settings.[30] We therefore analyzed three different, common metrics of the circumstances of the visit: triage status upon arrival, eventual diagnosis, and the likelihood that the visit might have been avoided had better primary care been available.[25,26,31]

Triage status is recorded on the patient's medical record in the National Hospital Ambulatory Medical Care Survey data. Triage reflects a preliminary assessment of urgency that is assigned to patients upon arrival at the ED; it might not reflect the patient's actual condition following more definitive evaluation and treatment.

The eventual (ex-post) diagnosis and treatment of the patient can also be used to classify visits based on the algorithm developed by John Billings and colleagues.[32] This algorithm, which we used in our analysis and which was developed to assess community access to primary care, distinguishes between emergency visits (those requiring care within twelve hours) and nonemergency visits. Within emergency visits, it further distinguishes between those that would likely be treatable in a primary care setting ("emergent, primary care treatable"), those that require ED care but might have been preventable by timely ambulatory care ("emergent, preventable"), and those that require ED care and were not preventable ("emergent, not preventable").

Our final metric identifies visits for ambulatory care–sensitive conditions using the Agency for Healthcare Research and Quality's Prevention Quality Indicators algorithm.[33] These are visits for conditions for which good outpatient care could have prevented the need for the visit or for which early intervention could have prevented complications or worsening of the condition.

LIMITATIONS

We note several limitations of our analyses. First, there is no clear consensus on how to assess the circumstances of an ED visit for "appropriateness" or "urgency"; each of the measures we present has its limitations,[30] and our results do not speak to the health value of any particular ED visit.

Second, our analysis of utilization patterns by insurance type is descriptive only and does not reflect the causal effects of insurance per se; its purpose is to help understand and interpret the results of prior causal estimates of the impact of health insurance on ED use. Relatedly, the socioeconomic, health, and demographic characteristics of the uninsured are different from those of other groups, and it is unlikely that we can control for all of these differences.

Third, the self-reports of ED visits in MEPS may undercount actual visits, with potentially differential undercounting by insurance status. We present supplementary analysis to gauge the scope of this undercount. The analysis suggests that adjustment for differential undercounting can attenuate the magnitude of some of the key differences discussed but that our qualitative conclusions are nonetheless robust.

Study Results

RATES OF CARE USE

Exhibit 1 shows the use of health care services at different sites based on insurance status. There are two key results. First, the uninsured do not use the ED substantially more than the insured overall—and, in fact, they use the ED substantially less than those on Medicaid. In 2013, 13.7 percent of insured adults had an ED visit, a slightly higher share than the 12.2 percent of uninsured adults who went to the ED. The average number of ED visits per capita is also very similar for these groups: 0.20 visits per year for insured adults and 0.18 for uninsured adults.

This coarse comparison between insured and uninsured people masks important differences among the insured. In particular, while the uninsured appear to use the ED slightly more than the privately insured, they use it substantially less than the publicly insured, including the subset of the publicly insured on Medicaid. For example, the average number of ED visits for the uninsured (0.18) is only slightly higher than for the privately insured (0.15) but dramatically lower than for adults on Medicaid (0.52). It is Medicaid enrollees' high ED use that stands out here.

Second, in contrast to the similarity of ED use by the insured and uninsured, the use of outpatient care and inpatient hospital care is much lower for the uninsured than for the insured. Only about two-fifths of uninsured adults had an outpatient visit, compared to about three-quarters of adults with private or public insurance or on Medicaid. Uninsured adults averaged about two outpatient visits per person per year, compared to about six for the insured overall and almost nine for those on Medicaid. Similarly, uninsured adults were less than half as likely to have an inpatient hospital admission (3.0 percent) as the insured (7.6 percent) overall, and less than a fifth as likely as those on Medicaid (16.9 percent). Thus, while the uninsured are not overrepresented in the ED relative to the insured, they do use the ED for a much larger share of their medical care than the insured do.

The differences in Exhibit 1 may reflect differences in the underlying characteristics of populations having different insurance coverage. Indeed, as emphasized by the Institute of Medicine's Committee on the Consequences of Uninsurance,[34] the uninsured tend to be sicker and to delay care relative to the insured. As noted, the goal here is to be descriptive, instead of attempting to provide causal estimates of the impact of insurance coverage on ED use. Still, it is helpful to investigate the extent to which the results in Exhibit 1 reflect differences in underlying demographics across the populations. Exhibit 2 therefore repeats the analysis in Exhibit 1, after adjustment for differences in demographics and self-reported health. This adjustment makes the prior findings starker, if anything. Other studies have used more extensive adjustors and reached similar conclusions.[14] Online Appendix A provides

more detail on the methods we used, the challenges with more extensive adjustments, and robustness to alternative approaches including more extensive adjustment.[35]

Another concern with Exhibit 1 is that utilization is self-reported, and it has been noted in the literature that MEPS may undercount ED visits—and may do so differentially by insurance type.[36,37] Appendix B addresses this issue in more depth and reports the results from two important sensitivity analyses.[35] First, we followed the work of Ning Tang and colleagues and approximated rates of ED visits by insurance status by combining National Hospital Ambulatory Medical Care Survey data on counts of ED visits by insurance status with census data on population counts by insurance status.[9] While a somewhat cruder metric, it confirms the prior findings that ED visits may be undercounted in MEPS and suggests that they may be disproportionately undercounted for the uninsured. Using these adjusted estimates, however, the main results continued to hold: The uninsured still use the ED much less than Medicaid patients (although, as shown in Appendix Exhibit A1, the estimated utilization by the uninsured is now about half as much as that of those in Medicaid, instead of the one-third rate reported in Exhibit 1).[35]

Second, we used additional data from a low-income population in Oregon, for which we can directly measure both the population denominator and ED use in administrative data; this supplementary analysis (see Appendix Exhibit A2) confirms the finding in MEPS that the uninsured use the ED much less than those with Medicaid.[35]

TYPES OF CARE USE

In addition to rates of care use, we also examined types of ED care use. Exhibit 3 reports the results. Like the frequency of ED visits from Exhibit 1, the conditions and circumstances for ED visits in Exhibit 3 are also quite similar for the insured and the uninsured. Moreover, here the circumstances for ED use are also quite similar between the uninsured and the publicly insured or Medicaid-covered adults. These findings hold across all three measures of the circumstances of the visit: triage status upon arrival, coding based on eventual diagnosis, and the likelihood that the ED visit might have been prevented through better primary care.

For example, about 38 percent of the uninsured’s visits are classified as immediate/emergent or urgent, which is slightly lower than for insured adults (about 44 percent) but very similar to that for Medicaid-covered adults (about 40 percent). A similar share of visits is classified as “emergent, not preventable”: 21.3 percent for the uninsured compared to 23.2 percent for the insured and 19.5 percent for Medicaid patients. The share of visits that are potentially avoidable with better primary care (visits for ambulatory care–sensitive conditions) is in fact slightly lower for uninsured than insured or Medicaid-covered adults.

Once again, we consider how these results are affected by adjusting for differences across the populations with different insurance. Exhibit 4 shows that they are not. Appendix A8 provides more detail.[35]

Discussion

There is a widely held perception that Medicaid coverage for the previously uninsured will lower emergency department use. This perception seems to be grounded, at least in part, in the widespread belief that the uninsured have higher rates of ED use overall and that they use the ED in less “appropriate” circumstances than the insured do. In this article we offer insights into the potential sources of the disconnect between the evidence and the conventional wisdom.

First, we confirm prior findings that among working-age adults, the uninsured may use the ED somewhat more than the privately insured, but they use it substantially less than those on Medicaid. The uninsured also use the ED in similar circumstances and for similar conditions as their insured counterparts. Indeed, a striking finding is the similarly high rate of visits for both the insured and the uninsured for conditions that are likely nonemergent (roughly one-fifth) or potentially amenable to being treated in other settings (another third).

Our descriptive findings that—contrary to the conventional wisdom—the uninsured use the ED much less than those on Medicaid are consistent with empirical evidence of the impact of insurance on ED use. Results from a randomized evaluation of Medicaid coverage in Oregon found that Medicaid coverage of the previously uninsured increased ED use.[25,26] Likewise, the RAND Health Insurance Experiment from the 1970s, which randomized the amount of consumer cost sharing among insured individuals, found that having more comprehensive coverage increased ED use.[38]

Results from quasi-experimental studies are more mixed. For example, some analyses of the ACA-related Medicaid expansions in 2014 found that Medicaid increased use of and access to the ED,[21,22] while others found that it decreased ED use.[38] Analysis of the 2006 health insurance expansion in Massachusetts has found either no effect on ED use[7] or reduced ED use.[23] Recent work highlights that the relationship between insurance and ED use is likely complex and may vary based on the characteristics of the population covered, the nature of the insurance for the newly covered, and the availability of care for the uninsured, among other factors.[20,39] Methodological differences may also be a factor.

Second, we show that the uninsured use other types of care such as outpatient visits or hospitalizations much less than the insured. As a result, uninsured patients are most likely encountered in the ED. This may contribute to the enduring misperception that the uninsured use the ED more than the insured: It is not that they use the ED more than other populations, but rather that they use other types of care less than other populations. Our finding is also consistent with a robust finding of both the experimental and quasi-experimental literature: Insurance increases access to and use of health care.[38,40,41] Indeed, the Institute of Medicine’s major reviews of the consequences of uninsurance highlighted barriers to access among most types of care.[42] There is therefore consensus in the literature that insurance expansions increase health care use.[20]

The key distinction in care use, therefore, is the relative paucity of use of non-ED care—such as in clinics or hospitals—by the uninsured compared to the insured. This reflects both financial and nonfinancial access barriers encountered by the uninsured. The Emergency

Medical Treatment and Labor Act (EMTALA) provides the uninsured with a legal right to care through the ED, although it does not protect them against the financial consequences of expensive ED visits. The uninsured, however, may be legally denied care in non-ED settings. Other nonfinancial barriers to health care access for poor populations—both insured and uninsured—include factors such as stigma, difficulty finding and building relationships with providers, and confusion about insurance benefits or the cost of care.[43,44]

As policy makers contemplate large-scale changes in health insurance programs and subsidies, a realistic view of the existing patterns of health care use is valuable. Our results contribute to the body of evidence that the uninsured use the ED at similar rates and in similar circumstances to the insured overall—but much less than those covered by Medicaid. At the same time, we find that the uninsured use other services substantially less than their insured counterparts and dramatically less than those on Medicaid—a result that is consistent with the existing literature on the barriers to non-ED care faced by the uninsured.[24,34] This suggests that a focus on ED utilization alone may be misguided.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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EXHIBIT 1

Use of health care services among US adults, by insurance status, 2013

	Uninsured adults	Insured adults	Privately insured adults	Publicly insured adults	Adults on Medicaid
N (individuals)	5,853	15,930	12,115	3,815	3,410
EMERGENCY DEPARTMENT VISITS					
Any	12.2%	13.7%	11.1%	28.9%	29.3%
Average no. of visits per capita	0.177	0.202	0.149	0.521	0.523
Standard deviation	0.649	0.604	0.443	1.352	1.355
OUTPATIENT VISITS					
Any	41.8%	76.6%	76.7%	75.7%	74.5%
Average no. of visits per capita	2.144	6.215	5.731	9.111	8.729
Standard deviation	7.658	10.676	8.720	21.144	21.325
HOSPITAL ADMISSIONS					
Any	3.0%	7.6%	6.2%	16.0%	16.9%
Average no. of visits per capita	0.036	0.095	0.075	0.219	0.230
Standard deviation	0.252	0.356	0.275	0.767	0.800

SOURCE Authors' analysis of data from the 2013 Medical Expenditure Panel Survey.

NOTES Adults are those ages 19–64. All results are weighted using final person weights, which are designed to be nationally representative of the civilian noninstitutionalized US population. Standard deviations shown are for average number of visits per capita for the corresponding subsample.

EXHIBIT 2

Use of health care services among US adults, by insurance status, adjusted for demographics and self-reported health, 2013

	Uninsured adults	Insured adults	Privately insured adults	Publicly insured adults	Adults on Medicaid
N (individuals)	5,853	15,930	12,115	3,815	3,410
EMERGENCY DEPARTMENT VISITS					
Any	9.6%	14.3%	13.0%	22.0%	22.4%
Average no. of visits per capita	0.126	0.214	0.187	0.383	0.383
Standard deviation	0.011	0.007	0.007	0.028	0.029
OUTPATIENT VISITS					
Any	47.6%	75.2%	76.0%	81.3%	81.4%
Average no. of visits per capita	2.649	6.097	5.802	8.757	8.634
Standard deviation	0.231	0.118	0.139	0.330	0.377
HOSPITAL ADMISSIONS					
Any	2.0%	7.9%	7.2%	13.3%	14.3%
Average no. of visits per capita	0.021	0.099	0.088	0.178	0.194
Standard deviation	0.005	0.004	0.004	0.016	0.018

SOURCE Authors' analysis of data from the Medical Expenditure Panel Survey.

NOTES Data are adjusted based on covariates to be representative of the adult population ages 19–64: sex, age (in ten-year bins), indicator for married, indicators for race/ethnicity (non-Hispanic white, non-Hispanic black, non-Hispanic other/multirace, Hispanic), indicator for twelve or more years of education, poverty status indicators (less than 100 percent of the federal poverty level, 100–124 percent, 125–199 percent, 200–400 percent, more than 400 percent), and indicators for self-reported health (fair/poor, good, excellent/very good). All results are weighted using final person weights, which are designed to be nationally representative of the civilian noninstitutionalized US population. Standard deviations shown are for average number of visits per capita for the corresponding subsample.

EXHIBIT 3

Types of emergency department (ED) visits for US adults, by insurance status, 2013

	Uninsured adults	Insured adults	Privately insured adults	Publicly insured adults	Adults on Medicaid
Weighted visits (thousands)	17,191	54,443	26,040	24,698	16,483
N (visits)	2,973	10,412	4,748	4,815	3,353
BY TRIAGE STATUS					
Immediate/emergent	6.2%	7.7%	7.9%	7.4%	6.4%
Urgent	31.7	36.1	35.9	35.4	33.8
Semiurgent/nonurgent	37.2	29.9	27.6	31.6	34.6
No triage/unknown	25.0	26.4	28.5	25.6	25.2
BY EVENTUAL DIAGNOSIS					
Nonemergent	23.0%	22.5%	21.2%	23.9%	24.9%
Emergent					
ED care not needed (primary care treatable)	33.2	32.8	33.9	31.8	32.6
ED care needed, preventable	5.1	5.7	4.9	6.6	6.6
ED care needed, not preventable	21.3	23.2	25.6	20.7	19.5
Unclassified	17.3	15.7	14.4	16.9	16.5
BY CONDITION					
Chronic	15.0%	15.6%	13.6%	17.8%	17.2%
Ambulatory care-sensitive condition	4.3	5.7	4.6	7.3	7.0

SOURCE Authors' analysis of data from the 2013 National Hospital Ambulatory Medical Care Survey.

NOTES Adults are those ages 19–64. Visits for childbirth are omitted.

EXHIBIT 4

Types of emergency department (ED) visits for US adults, by insurance status, adjusted for demographics, 2013

	Uninsured adults	Insured adults	Privately insured adults	Publicly insured adults	Adults on Medicaid
Weighted visits (thousands)	17,191	54,443	26,040	24,698	16,483
N (visits)	2,973	10,412	4,748	4,815	3,353
BY TRIAGE STATUS					
Immediate/emergent	6.6%	7.6%	7.6%	7.4%	7.1%
Urgent	32.4	35.8	35.6	35.1	33.7
Semiurgent/nonurgent	35.9	30.3	28.3	32.0	33.4
No triage/Unknown	25.1	26.3	28.5	25.5	25.8
BY EVENTUAL DIAGNOSIS					
Nonemergent	22.6%	22.6%	21.8%	23.5%	23.7%
Emergent					
ED care not needed (primary care treatable)	32.9	32.9	34.1	31.9	32.1
ED care needed, preventable	5.3	5.7	4.8	6.6	6.7
ED care needed, not preventable	21.8	23.1	25.0	21.0	20.5
Unclassified	17.5	15.7	14.2	17.0	17.0
BY CONDITION					
Chronic	15.5%	15.5%	13.2%	17.9%	18.3%
Ambulatory care-sensitive condition	4.6	5.6	4.5	7.1	7.0

SOURCE Authors' analysis of data from the National Hospital Ambulatory Medical Care Survey, 2013.

NOTES Adults are those ages 19–64. Adjusted based on covariates to be representative of nonchildbirth ED visits by the adult population ages 19–64: sex, age (in ten-year bins), and indicators for race/ethnicity (non-Hispanic white, non-Hispanic black, non-Hispanic other, Hispanic). Visits for childbirth are omitted.