

Policies to Address Surprise Billing Can Affect Health Insurance Premiums

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Surprise medical bills, which can occur in emergencies or when patients at in-network facilities are treated by out-of-network professionals, have drawn increasing public and policy attention. Although the main focus has been protecting patients from receiving these unfair—and potentially large—surprise bills, policies addressing surprise billing may affect health insurance premiums more broadly.

Most surprise bills are generated by emergency and ancillary providers, such as radiologists, anesthesiologists, pathologists, emergency physicians, emergency ground ambulances, and emergency outpatient facilities.¹⁻³ Unlike most medical services, for which patients have an opportunity to seek in-network providers, patients generally are not able to choose these emergency and ancillary providers. As a result, these providers can often remain out of network without significantly reducing their patient volume. Not only can this lead to patients receiving surprise bills, but evidence suggests that the ability to surprise-bill creates leverage that enables these providers to obtain higher in-network payments.⁴⁻⁶ For example, in a letter to Congress, the CEO of TeamHealth, a large emergency physician staffing company, plainly acknowledged that “balance billing...is a contract leveraging tool.”⁷

The expense of these high in-network payments is passed on to consumers and taxpayers through the cost of health insurance premiums. Therefore, although the surprise bills themselves are burdensome to individual patients, the higher in-network payments resulting from this leverage have a broader impact on total health care spending for consumers.

A federal policy eliminating surprise bills would influence in-network payments for this subset of providers and, in turn, influence health insurance premiums. To assess the impact of a federal surprise billing law on premiums, it is critical to quantify the share of total health plan medical claims spending attributable to the subset of services most likely affected, for which only partial estimates are available in the existing literature (to our knowledge).⁷

In this study, we evaluate the proportion of total medical health plan spending on ancillary and emergency services with the highest prevalence of surprise billing. This includes services performed by

ABSTRACT

OBJECTIVES: To quantify the proportion of health plan spending on services for which surprise billing is common—provided by radiologists, anesthesiologists, pathologists, emergency physicians, emergency ground ambulances, and emergency outpatient facilities—and estimate the potential impact of proposed policies to address surprise billing on health insurance premiums.

STUDY DESIGN: Analysis of 2017 commercial claims data from the Health Care Cost Institute, comprising 568.5 million claims from 44.8 million covered lives in 3 large US insurers: UnitedHealthcare, Aetna, and Humana.

METHODS: We calculate the share of total health plan claims spending attributable to ancillary and emergency services. Next, we estimate the premium impact of proposed federal policies to address surprise billing, which, by removing provider leverage stemming from the ability to surprise-bill, could reduce in- and out-of-network payments for these services, in turn affecting premiums. Specifically, we model the premium impact of reducing payment for these services (1) by 15% and (2) to 150% of traditional Medicare payment rates.

RESULTS: More than 10% of health plan spending is attributable to ancillary and emergency services that commonly surprise-bill. Reducing payment for these services by 15% would reduce premiums by 1.6% (\$67 per member per year), and reducing average payment to 150% of traditional Medicare rates—the high end of payments to other specialists—would reduce premiums by 5.1% (\$212 per member per year). These savings would reduce aggregate premiums for the nation's commercially insured population by approximately \$12 billion and \$38 billion, respectively.

CONCLUSIONS: Addressing surprise billing could substantially affect commercial insurance premiums.

Am J Manag Care. 2020;26(9):401-404. doi:10.37765/ajmc.2020.88491

TAKEAWAY POINTS

Proposed surprise-billing legislation would not only protect patients from unexpected out-of-pocket expenses, but also likely affect negotiated payments for the ancillary and emergency services that generate most surprise bills.

- ▶ More than 10% of commercial health care spending is attributable to services for which surprise billing is common: those provided by radiologists, anesthesiologists, pathologists, emergency physicians, emergency ground ambulances, and emergency outpatient facilities.
- ▶ Eliminating provider leverage stemming from the ability to surprise-bill could reduce commercial insurance premiums by as much as 5.1%, or \$212 per member per year. This could reduce aggregate premiums by approximately \$38 billion for the nation's commercially insured population.

emergency medicine professionals, radiologists, anesthesiologists, and pathologists (ERAP), as well as emergency outpatient facilities and emergency ground ambulance services. Then, we estimate the impact that potential changes in payments for these services would have on health insurance premiums.

METHODS

We analyze 2017 commercial claims data from the Health Care Cost Institute (HCCI), comprising 568.5 million claims from 44.8 million covered lives (equating to 36 million member-years) in 3 of the 5 largest US insurers: UnitedHealthcare, Aetna, and Humana.⁸ More than 90% of observed claims were in network, although there is variation across these provider types ([eAppendix A](#) [eAppendices available at [ajmc.com](#)]). We compute total plan-paid spending on professional, facility, and pharmaceutical services per member per year. We then calculate plan-paid spending attributable to ERAP professional services, identified using 2 methods: (1) HCCI provider categories and (2) Current Procedural Terminology (CPT) codes generally billed by these specialties.⁹ We also calculate the share of total plan-paid spending per member per year on outpatient emergency facility claims and emergency ground ambulance services identified by CPT codes, as recent evidence suggests that these services would be affected by surprise-billing legislation.^{2,3} Then, we estimate the impact of 2 potential changes in payments for ERAP, outpatient emergency facility, and emergency ground ambulance services on insurance premiums. We assume a baseline medical loss ratio of 90% in these estimations to align with the average ratio among large group plans, and that nonmedical spending is unchanged by policies.¹⁰

First, we analyze the impact of a 15% reduction in average payments for these services, in line with the Congressional Budget Office–estimated effects of surprise-billing legislation proposed by the Senate Health, Education, Labor, and Pensions Committee.¹¹ This proposed legislation would prohibit surprise billing and require minimum out-of-network payments equal to a health plan's median in-network payments for similar services in the same geographic region.

Second, we estimate the effects of a policy that would have the

effect of reducing payment rates for ERAP professionals and emergency service providers to 150% of Medicare's reimbursement rates for the same service. We choose this level because it is roughly the upper bound of average markups for specialists not commonly involved in surprise billing.¹²⁻¹⁴ In contrast, multiple studies estimate average in-network payments at roughly 300% of Medicare for emergency physicians, 200% of Medicare for radiologists, and 350% of Medicare for both anesthesiologists and pathologists.^{7,12,15,16} Medicare payments are intended to reflect the relative cost of

providing care, and excess commercial markups observed among ERAP professionals and emergency service providers may be driven by their ability to surprise-bill. Therefore, we expect that a policy such as network matching¹⁷—by eliminating provider leverage stemming from the ability to surprise-bill—could result in negotiated payments with markups over Medicare more similar to these other types of specialists. Although it is impossible to predict the precise magnitude of prices resulting from these policies, we estimate the premium impact of reducing average payments for these services to 150% of Medicare payments.

In this analysis, we do not compute payments as a fraction of Medicare's payment rates for each service in our data but, rather, use estimates from the literature described previously. For example, we assume that such a policy would reduce spending on radiology services by one-fourth, from 200% to 150% of Medicare's rates. For emergency ground ambulance services, we estimate that commercial plans currently pay approximately 170% of Medicare's rates ([eAppendix B](#)). We assume that emergency facility payments would face the same reduction as emergency physician payments.

RESULTS

We find that ERAP professional services account for 7.0% to 8.6% of total plan spending in 2017, depending on the definition ([Table](#)). Outpatient emergency facility claims account for an additional 3.1% of plan spending, and emergency ground ambulance services comprise 0.3% of plan spending. Average annual plan spending per member-year is \$4161 among plans in our data set, with approximately \$290 to \$357 spent on ERAP professional services, \$127 spent on emergency facilities, and \$13 spent on emergency ground ambulances.

We estimate that a 15% reduction in payments to ERAP professionals corresponds to a 0.9% to 1.2% (approximately \$37-\$50 per member-year) reduction in annual premiums per enrollee ([Figure](#)). If average in-network payments for ERAP professionals declined to 150% of Medicare rates, premiums would decline by 3.1% to 3.6% (approximately \$129-\$150 per member-year), all else staying equal.

Including emergency facilities and emergency ground ambulance services, the estimated premium reduction would increase to 1.4% to

1.6% (approximately \$58-\$67 per member-year) under the 15% payment reduction scenario and 4.5% to 5.1% (approximately \$187-\$212 per member-year) if payments declined to 150% of Medicare. Applying these premium reductions to the US commercially insured population (approximately 177 million individuals),¹⁸ we estimate that 1.6% and 5.1% reductions in insurance premiums would yield a total savings of \$12 billion and \$38 billion, respectively.

DISCUSSION

The financial burden of surprise bills for individual patients has captured public attention, but this study illustrates that provider leverage derived from the ability to surprise-bill has broader effects on health care spending—resulting in commercial health insurance premiums as much as 5% higher than they otherwise would be in the absence of this market failure. Our estimates are roughly in line with others in the literature.^{7,11}

This growing body of research indicates that policies to address surprise billing would address an important market failure that has enabled emergency and ancillary services providers to command high payment rates. Removing the ability to surprise-bill patients reduces leverage for this subset of providers in their payment negotiations with health plans. Several federal proposals employ payment standards or arbitration processes that additionally require insurers to make a minimum payment to out-of-network providers. Other policy approaches would instead address surprise medical bills by imposing “network matching” requirements, whereby emergency, ancillary, and similar professional services delivered through in-network facilities could no longer be billed on an out-of-network basis; in turn, providers of such services would have to negotiate payment with the facility and/or health plans that the facility accepts, with the ability to surprise-bill now eliminated.¹⁷

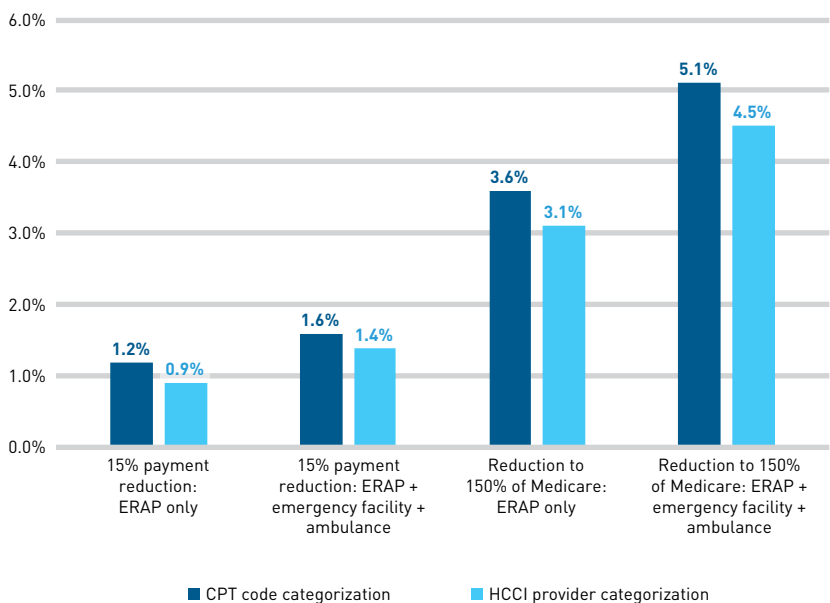
The net premium impact of any proposal would depend on the regulatory approach and generosity of any required minimum payments from health plans to out-of-network providers. If a policy were to base payment standards on something that is generally higher than payment rates today, such as provider charges, it could actually increase health insurance premiums.

TABLE. Share of Total Insurer Spending on ERAP Services Using 2 Identification Strategies

Provider category (CPT code categorization)	Share of total insurer spending	
	CPT code categorization	HCCI provider categorization
ERAP professionals		
Emergency medicine (99281-99285, 99291-99292)	1.5%	1.2%
Radiology (70010-79999, G6001-G6017, R0070-R0076)	2.3%	1.4%
Anesthesiology (00100-01999)	2.4%	2.4%
Pathology (80047-89398, P2028-P9615)	2.4%	2.0%
Sum of ERAP professional spending	8.6%	7.0%
Emergency outpatient facility		
Emergency outpatient facility (99281-99285, 99291-99292)		3.1%
Emergency ground ambulance		
Emergency ground ambulance (A0425, A0427, A0429, A0432-A0434)		0.3%
Total		
Total sum	12.0%	10.4%

CPT, Current Procedural Terminology; ERAP, emergency medicine professionals, radiologists, anesthesiologists, and pathologists; HCCI, Health Care Cost Institute.

FIGURE. Estimated Reductions in Insurance Premiums Associated With Changes in Payment for Ancillary and Emergency Services That Commonly Surprise-Bill



CPT, Current Procedural Terminology; ERAP, emergency medicine professionals, radiologists, anesthesiologists, and pathologists; HCCI, Health Care Cost Institute.

Limitations

These findings may not be generalizable beyond the 3 insurers we study, and we do not describe variation in effects across local markets. We may misattribute services to ERAP professionals, although consistent findings using 2 approaches suggest robustness. We analyze only 2 potential policy scenarios within a wider range of approaches.

TRENDS FROM THE FIELD

Although economic theory lends some intuition to the effect that different policies might have, the precise effects of different approaches on provider prices are highly uncertain and we do not account for potential secondary effects such as provider consolidation. There is also some uncertainty surrounding status quo commercial payment levels. Additional specialties may be affected by surprise-billing legislation, which would further magnify premium impacts. For example, legislation may affect inpatient facility spending incurred by patients admitted through the emergency department, but we conservatively exclude such spending from our calculations.

CONCLUSIONS

Providers affected by surprise-billing regulation—ERAPs, emergency outpatient facilities, and emergency ground ambulances—comprise more than 10% of total plan spending. Policies addressing surprise billing can meaningfully influence commercial insurance premiums. A well-designed policy to address this market failure could therefore reduce consumer health care spending. ■

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Source of Funding: This work was funded by Arnold Ventures. The funding source had no involvement in the collection, analysis, and interpretation of data; in the writing of the manuscript; or in the decision to submit the article for publication.

Author Disclosures: Dr Trish is a consultant to Cedars Sinai Medical Center and for a capital management firm, both outside the specific issue of this paper; has performed expert witness work for the Blue Cross Blue Shield Association and Premera, outside the specific issue of this paper; and has received speaking fees from MultiPlan. The remaining authors report no relationship or financial interest with any entity that would pose a conflict of interest with the subject matter of this article.

Authorship Information: Concept and design (ELD, BL, LA, ET); acquisition of data (ET); analysis and interpretation of data (ELD, BL, LA, ET); drafting of the manuscript (ELD, BL); critical revision of the manuscript for important intellectual content (ELD, LA, ET); and obtaining funding (LA, ET).

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eAppendix A. Provider Network Status Summary

Provider Category (CPT Code Categorization)	CPT Code Categorization, % of claims in sample			HCCI Provider Categorization, % of claims in sample*		
	In- network	Out-of- network	Missing network	In- network	Out-of- network	Missing network
Emergency Medicine (99281-99285, 99291- 99292)	74.2%	17.2%	8.6%	78.3%	14.2%	7.5%
Radiology (70010 – 79999, G6001 – G6017, R0070 – R0076)	93.5%	3.5%	3.0%	92.6%	4.7%	2.7%
Anesthesiology (00100 – 01999)	85.5%	8.5%	6.0%	87.1%	7.6%	5.3%
Pathology (80047 – 89398, P2028 - P9615)	94.4%	3.8%	1.8%	92.2%	5.6%	2.2%
Emergency Outpatient Facility (99281-99285, 99291- 99292)	92.8%	5.0%	2.2%			
Emergency Ground Ambulance (A0425, A0427, A0429, A0432-A0434)	13.8%	42.5%	43.7%			
Total Sample	92.2%	4.9%	2.9%	90.2%	6.5%	3.3%

*Total sample network composition applying HCCI provider categorization includes the CPT-based definitions for emergency outpatient facility and emergency ground ambulance.

eAppendix B. Status Quo Emergency Ground Ambulance Commercial Payment to Medicare Payment Ratio

We were unable to identify recent estimates of the ratio of commercial allowed amounts to Medicare allowed amounts for emergency ground ambulance services, so we computed our own estimates using 2017 HCCI commercial claims and the Centers for Medicare and Medicaid Services' (CMS) *Medicare Provider Utilization and Payment Data: Physician and Other Supplier Public Use Files* for calendar year 2017.¹ The following HCPCs Codes were included in the analysis:

1. A0427 – Advanced Life Support Level 1, emergency transport
2. A0429 – Basic Life Support, emergency transport
3. A0432 - Paramedic Intercept (PI), rural area transport furnished by a volunteer ambulance company
4. A0433 – Advanced Life Support Level 2
5. A0434 - Specialty Care Transport (SCT)

First, we computed the average ratio of allowed amounts to charges for both commercial and Medicare services using the HCCI and CMS data, weighting by claim volume. We calculated that the average Medicare allowed amount to charge ratio is 0.418 and the average commercial allowed amount to charge ratio is 0.710. In other words, on average, Medicare pays 41.8% of billed charges and commercial health plans pay 71.0% of billed charges for emergency ambulance services.

Then, applying these values, we estimated the ratio of commercial allowed amounts to Medicare allowed amounts as:

$$\begin{aligned} & (\text{commercial allowed amount/commercial charge})/(\text{Medicare allowed amount/Medicare charge}) \\ & = 0.710 / 0.418 \\ & = 1.70 \end{aligned}$$

We concluded that commercial health plans have allowed amounts roughly 170% of Medicare allowed amounts, and we employed this status quo value in our estimates of policy impact on insurance premiums.

¹ Medicare provider utilization and payment data: physician and other supplier. CMS. Updated November 19, 2019. Accessed January 10, 2020. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Provider-Charge-Data/Physician-and-Other-Supplier>