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# McAllen And El Paso Revisited: Medicare Variations Not Always Reflected In The Under-Sixty-Five Population

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**ABSTRACT** Medicare spending for the elderly is much higher in McAllen, Texas, than in El Paso, Texas, as reported in a 2009 *New Yorker* article by Atul Gawande. To investigate whether this disparity was present in the non-Medicare populations of those two cities, we obtained medical use and expense data for patients privately insured by Blue Cross and Blue Shield of Texas. In contrast to the Medicare population, the use of and spending per capita for medical services by privately insured populations in McAllen and El Paso was much less divergent, with some exceptions. For example, although spending per Medicare member per year was 86 percent higher in McAllen than in El Paso, total spending per member per year in McAllen was 7 percent lower than in El Paso for the population insured by Blue Cross and Blue Shield of Texas. We consider possible explanations but conclude that health care providers respond quite differently to incentives in Medicare compared to those in private insurance programs.

One of the basic premises of the Affordable Care Act of 2010 is that much health care is delivered inefficiently and that savings in the medical care sector can be found by reducing unnecessary care in high-spending regions of the country. This premise is supported in part by the *Dartmouth Atlas of Health Care*, which identifies large geographic variations in Medicare spending.<sup>1</sup> One article in particular popularized the issue of geographic variation in Medicare spending: Atul Gawande's 2009 article in the *New Yorker* comparing Medicare spending in McAllen and El Paso, Texas. According to Gawande, the most likely explanation for the nearly two fold difference in per capita Medicare spending between the two cities was a change in McAllen during the mid-1990s, when health care providers adopted a greater "entrepreneurial spirit" and a "culture of money."<sup>2</sup>

One question has remained unanswered: Given that the same providers who care for Medi-

care patients generally also care for privately insured patients, do we see the same patterns of care for people under age sixty-five? A recent national analysis of commercial and Medicare spending and the use of medical services by individuals admitted to the hospital in various markets found that use of services in the Medicare and commercial markets was highly correlated, but that total spending was not. Because total spending is equal to service use multiplied by price, these findings suggest that in at least some markets, areas with higher use of services aren't necessarily areas with higher prices.<sup>3–5</sup>

To find out whether these relationships existed in McAllen and El Paso, we used 2008 claims data for individuals under age sixty-five from Blue Cross and Blue Shield of Texas (a division of Health Care Service Corporation, a mutual legal reserve company). With approximately 4.5 million members and approximately one-third of the statewide commercial health insurance market, Blue Cross and Blue Shield of Texas

is the largest commercial health insurance company in the state and the only statewide, customer-owned health insurance company. The 2008 claims data along with price-adjusted 2007 Medicare claims data provide a comprehensive look at the health care systems in the two communities. We believe that considering the populations both under and over age sixty-five offers new insights into the ability of third-party payers to control the use of medical services and spending on those services.

## Study Data And Methods

**MEASURING USE: MEDICARE POPULATION** Inferences about regional spending variations have relied almost exclusively on Medicare data for the population older than age sixty-five. This is because Medicare covers nearly 100 percent of the elderly population. Thus, when Gawande visited McAllen and El Paso, most of the estimates of spending and use of medical services came from Medicare claims data used by the *Dartmouth Atlas of Health Care*.<sup>1</sup>

These Medicare measures were adjusted for age, sex, and race. But they were not adjusted for potential differences in the prices Medicare pays per procedure, or for other variables such as disproportionate-share hospitals or medical education payments. Nor were these measures adjusted for potential differences in health status across the regions.

In this study we used price-adjusted Medicare claims data for 2007, based on the work of Daniel Gottlieb and colleagues,<sup>6</sup> which removes all regional differences in prices to construct a price-neutral index of the use of medical services. We also considered a variety of health indicators such as hip fracture rates and cardiovascular and cancer mortality in the two regions that could explain observed differences in Medicare spending.

**MEASURING USE: POPULATION UNDER AGE SIXTY-FIVE** Data for the population under age sixty-five were obtained from Blue Cross and Blue Shield of Texas. The data, aggregated by sex and age group, are for all 2008 subscribers in Hidalgo County, which includes McAllen, and in El Paso County. The counties' geographic boundaries do not exactly match those of the Hospital Referral Regions used for the Medicare data, but the overlap is considerable. There is more than 70 percent overlap in the population of El Paso County and the El Paso Hospital Referral Region and more than 80 percent overlap in the population of Hidalgo County and the McAllen Hospital Referral Region. Furthermore, all counties included in the El Paso and McAllen referral regions are socioeconomically similar to

El Paso County and McAllen County, respectively.

We obtained 2008 data for 65,701 Blue Cross and Blue Shield of Texas members in McAllen (Hidalgo County) and 66,657 in El Paso. The data were for all enrollees in the plans described below, and they represented 10 percent of the population younger than age sixty-five in each county, using county population estimates from the 2008 American Community Survey.<sup>7</sup>

The Blue Cross and Blue Shield of Texas subscribers for whom we obtained data include insured "lives" (or covered individuals) as well as lives for which this insurer does not bear financial risk but provides administrative services (known as Administrative Services Only subscribers). Members of preferred provider organizations and point-of-service plans were included, but not members in health maintenance organization and indemnity plans, because data for the latter plans were not easily comparable. Members in the federal employee program and the Texas Health Insurance Pool were included, but members who are primarily insured through Medicare were excluded.

The age distributions were slightly younger in McAllen compared to El Paso: 37 percent versus 36 percent of enrollees, respectively, were younger than age 25; 44 percent versus 39 percent of enrollees were ages 25–49; 19 percent versus 26 percent of enrollees were age 50 and older. Only a very small percentage of people in this sample were older than age 65. The age distribution was similar for people of both sexes.

Expenditures were based on allowable charges and represented payments to the health care providers, including insurance payments and any deductibles, copayments, and coinsurance paid out of pocket by the patient. In contrast, Medicare claims data report only the amount actually reimbursed by Medicare, which is less than the total amount paid that is shown in the Blue Cross and Blue Shield of Texas data.<sup>8</sup> Only fee-for-service payments were reported. Pharmacy and mail-order drugs were excluded.

Spending was categorized in three broad groups: inpatient admissions; outpatient services; and professional services, which includes lab work, x-rays, physician office visits, stress tests, immunizations, annual physicals, and electrocardiograms, as well as services provided by nonphysicians. Spending for home health care, medical durable equipment, and skilled nursing facilities was included in professional services but could not be separately identified. However, such charges are likely to be minor in these age groups.

Outpatient and professional claims were further categorized as claims for surgery and anes-

thetia, imaging, laboratory and pathology, evaluation and management, and other services. Blue Cross and Blue Shield of Texas provided aggregated utilization measured by frequency per thousand members; cost per unit (the total cost divided by number of units); and cost per member per year. Inpatient costs per member per year were further categorized based on major diagnostic categories: neonatal, maternity, musculoskeletal system, digestive system, circulatory system, and respiratory system.

There are similar issues in adjusting these data for prices and for the health status of patients as in the Medicare claims data. Although we know utilization measures—admissions or visits—and expenditures, we do not know whether the spending per unit of service varies between the two regions because the approach to treatment may differ or because prices may differ. For example, a patient admitted to the hospital with a circulatory problem may be treated more intensely in McAllen, which means that the patient may receive more tests and services. Also, the price per admission—even for a similar procedure—could differ between the two regions. Unfortunately, we do not have the necessary information to determine which of these two hypotheses is correct.

A straightforward approach to capturing cost-of-living differences across the two regions is to use the Medicare hospital wage index for inpatient and outpatient spending and the geographic adjustment factor for spending for professional services.<sup>9</sup> The wage index and geographic adjustment factor were nearly identical in the two areas: 0.9141 and 0.931, respectively, for El Paso County and 0.9136 and 0.931, respectively, for Hidalgo County. Because we recognize that this approach does not capture differences in prices contracted by Blue Cross and Blue Shield of Texas, we included both spending and use when comparing the two regions.

It is even more difficult to compare health status across the two groups. Given that those enrolled in Blue Cross and Blue Shield of Texas for both regions represent roughly 10 percent of the total population in each county, we assume that the insured populations represent the relatively healthy group of employees with jobs that provide health insurance benefits.

**LIMITATIONS** There are several limitations to this study. First, we considered just two regions in Texas. One of them, McAllen, is clearly atypical compared with other regions in the United States in terms of health services use and total spending. It is not clear how much we can generalize these results to the rest of the country. Second, we lacked good data on pricing, outcomes, or clinical services for the population

under age sixty-five. Nor were we able to separate out differences in prices per procedure versus the level of care provided per hospital admission or physician visit.

Third, the individuals in our sample under age sixty-five were not representative of the entire under-sixty-five population in the two regions, given that our sample was limited to the Blue Cross and Blue Shield of Texas enrollees. Furthermore, one cannot generalize about the extent of variation in the under-sixty-five population with a sample size of only two counties.

Fourth, some of the differences in the use of Medicare services between McAllen and El Paso, particularly for home health services, could also represent financial irregularities. This possibility is suggested by a recently settled case in which the McAllen-based South Texas Health System denied all allegations but did agree to pay \$27.5 million to settle a case involving “sham” payments to physicians to reward them for referring patients to the South Texas Health Systems’ hospitals.<sup>10</sup> One might therefore expand the definition of *entrepreneurial spirit*<sup>2</sup> of health care providers to include gray-area legal arrangements.

## Study Results

**VARIATIONS IN MEDICARE USE AND SPENDING** Total price-adjusted Medicare spending was 86 percent higher in McAllen than in El Paso, and was 75 percent above the national average in 2007 (Exhibit 1). Of the 306 US Hospital Referral Regions, McAllen ranked second only to Miami in terms of overall price-adjusted Medicare spending.

Medicare spending in McAllen was 63 percent higher than in El Paso for inpatient care, 32 percent higher for outpatient care, and 65 percent higher for Part B professional services. There was little difference in spending for durable medical equipment (Exhibit 1).

The largest difference was for home health care: Spending in McAllen was 4.63 times the average in El Paso, and 7.14 times the national average. On the other hand, hospice spending in McAllen was just a quarter of the level in El Paso and the United States.

In 2007, Medicare enrollees in McAllen were far more likely to be admitted to the hospital and to die in the hospital than they were in El Paso (Exhibit 2). They were also much more likely to be seen near the end of their lives by more than ten physicians—a good measure for fragmentation, in that the involvement of a large number of physicians typically signals a lack of coordination of care provided to patients.<sup>11</sup> Finally, there were sharp differences in the extent of

# EXHIBIT 1

## Price-Adjusted Medicare Spending Per Enrollee In McAllen And El Paso, Texas, And The United States, 2007

Type of Medicare spending	El Paso (N = 15,867)	McAllen (N = 8,192)	United States (N = 5,133,054)	Ratio: McAllen to El Paso	Ratio: McAllen to US Average
Per capita total reimbursements	\$7,947	\$14,817	\$8,451	1.86	1.75
Inpatient hospital stays	3,580	5,851	4,076	1.63	1.44
Outpatient services	763	1,011	920	1.32	1.1
Part B spending	2,110	3,486	2,354	1.65	1.48
Part B durable medical equipment	413	464	312	1.12	1.49
Home health care	765	3,541	496	4.63	7.14
Hospice services	284	74	294	0.26	0.25

**SOURCE** Dartmouth Atlas of Health Care, Medicare price-adjusted spending measures updated to 2007, using the methods in Note 6 in text. **NOTE** N denotes number of enrollees (20 percent sample).

cardiac surgical procedures; again, rates were higher in McAllen.

**VARIATIONS FOR THE INSURED POPULATION UNDER AGE SIXTY-FIVE** Surprisingly, and in contrast to the Medicare data, for the population insured by Blue Cross Blue Shield of Texas, total spending per member per year in McAllen was 7 percent lower than in El Paso. Although spending for professional and inpatient services were similar in the two regions, spending for outpatient services in McAllen was 31 percent less. Use of medical services was also similar or somewhat lower in McAllen compared to El Paso. Inpatient admissions in McAllen were 84 percent of admissions in El Paso; professional and outpatient services in McAllen were 94 percent and 72 percent, respectively, of those in El Paso (Exhibit 3).

Comparisons between McAllen and El Paso for use or spending within types of outpatient visits and professional services—including surgery and anesthesia, imaging, laboratory and pathology, evaluation and management, and others—yielded similar results (not shown). Cost per unit for outpatient visits and professional services was similar in McAllen and El Paso, although cost per unit for inpatient admission was higher in McAllen (Exhibit 3).

Exhibit 4 shows further comparisons of medical services use, cost per unit, and per capita spending by age group and sex for this privately insured group. There were no major differences in spending by sex: Spending in McAllen was 93 percent of that in El Paso for males and 94 percent for females, and there were only minor differences in use of medical services by sex.

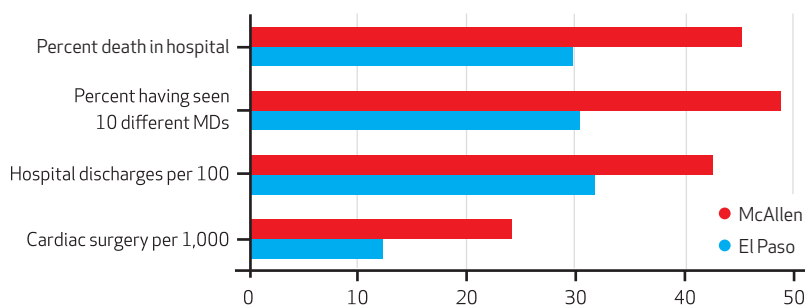
However, there were larger differences by age. For those age fifty and younger, use rates were generally similar or lower in McAllen than in El Paso—particularly for the population ages 25–50, for whom use of inpatient, outpatient, and professional services in McAllen were 66 per-

cent, 80 percent, and 86 percent, respectively, of those in El Paso. Patterns were similar for spending measures. The exception was the 51 percent higher use of professional services and spending among those under age 25 in McAllen.

It was in the population age 50 and older—largely people ages 50–64—that strong differences between El Paso and McAllen in the use of inpatient medical services and spending emerged. Indeed, as Exhibit 4 shows, inpatient admissions for the Blue Cross and Blue Shield of Texas population age 50 and older were 89 percent higher in McAllen. Per patient inpatient spending for this same age group was 117 percent higher in McAllen—roughly the same difference as the overall difference in the use of Medicare services and spending. In part, the higher inpatient use of medical services and costs for this group are offset by lower outpatient medical services use and spending, leaving overall spending in McAllen for this age group 23 percent above those in El Paso. That is still well below the 86 percent Medicare differential between the two cities.

# EXHIBIT 2

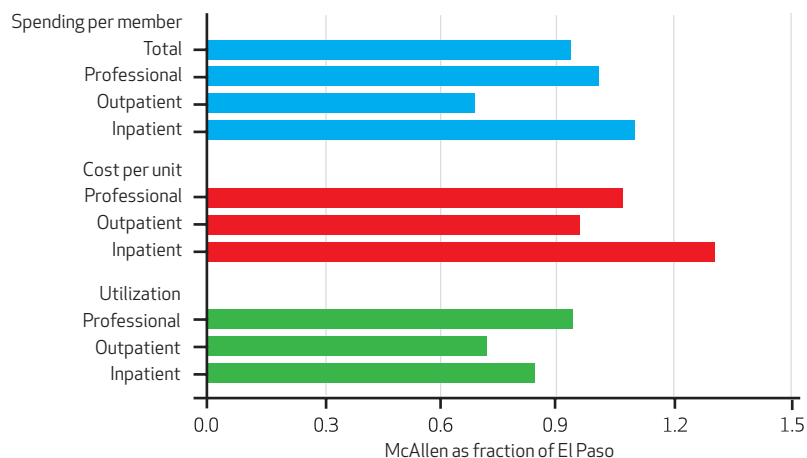
## Medicare Utilization Rates In McAllen And El Paso, Texas, 2006



**SOURCE** Dartmouth Atlas of Health Care.

## EXHIBIT 3

## Spending, Cost Per Unit, And Use, Per Blue Cross And Blue Shield Of Texas Enrollee In McAllen As A Fraction Of El Paso, 2008



SOURCE Blue Cross and Blue Shield of Texas.

Finally, Exhibit 5 reports inpatient admissions and costs per member in the two communities, by major diagnostic categories. The data indicate that use and spending are fairly similar in the two cities for admissions related to maternity and digestive, circulatory, and respiratory system conditions. Admissions and spending related to the musculoskeletal system and neonatal service spending (not utilization) are higher in McAllen.

## Discussion

We have revisited the proverbial tale of two Texas cities, in which per capita price-adjusted Medicare spending in McAllen was \$6,870 (86 percent) higher than in El Paso in 2007. Those use and spending results, however, were not mirrored in the commercially insured population, except, as we noted, in one subcategory.

Why, then, are spending and use of medical services for the population under age sixty-five

## EXHIBIT 4

## Use, Cost Per Unit, And Spending Per Blue Cross And Blue Shield Of Texas Enrollee In McAllen And El Paso, By Age And Sex, 2008

Age (years) and sex	Medical services per 1,000 members			Cost per unit			Spending per enrollee		
	McAllen	El Paso	McAllen as % of El Paso	McAllen	El Paso	McAllen as % of El Paso	McAllen	El Paso	McAllen as % of El Paso
<b>INPATIENT ADMISSIONS</b>									
All	60	71	84%	\$12,074	\$ 9,250	131%	\$ 726	\$ 660	110
0-24	45	74	61	9,734	7,818	125	438	577	76
25-50	52	78	66	9,153	7,702	119	474	604	78
50+	108	57	189	17,179	14,924	115	1,862	857	217
Males	47	55	85	14,933	11,563	129	695	633	110
Females	73	87	84	10,332	7,886	131	754	685	110
<b>OUTPATIENT VISITS</b>									
All	694	967	72	739	771	96	513	746	69
0-24	407	441	92	620	794	78	253	350	72
25-50	648	811	80	796	919	87	516	746	69
50+	1,355	1,922	70	744	671	111	1,008	1,290	78
Males	628	989	63	728	689	106	457	681	67
Females	758	947	80	748	852	88	566	806	70
<b>PROFESSIONAL SERVICES</b>									
All	30,372	32,290	94	34	32	107	1,027	1,022	100
0-24	22,154	14,636	151	32	42	77	719	615	117
25-50	29,788	34,728	86	35	31	112	1,028	1,074	96
50+	47,599	52,878	90	34	28	120	1,621	1,505	108
Males	28,668	33,179	86	30	25	118	849	831	102
Females	32,000	31,459	102	37	38	98	1,198	1,201	100
<b>ALL MEDICAL SERVICES (INPATIENT, OUTPATIENT, PROFESSIONAL)</b>									
All							2,266	2,428	93
0-24							1,410	1,542	91
25-50							2,019	2,423	83
50+							4,491	3,652	123
Males							2,001	2,146	93
Females							2,519	2,693	94

SOURCE Blue Cross and Blue Shield of Texas.



covered by Blue Cross and Blue Shield of Texas so different for the Medicare population? We consider several explanations.

**VARIABLE NATURE OF SPENDING FOR THE ELDERLY** The greatest variability in Medicare spending between the two Texas regions occurred in home health care, where the use of medical services in McAllen was 4.6 times that in El Paso. But even when home health care is excluded, there is plenty of variation in the Medicare data. We observed greater variation among the Medicare population even for similar types of services. The rate of cardiac surgery was twice as high for the Medicare population in McAllen than in El Paso (Exhibit 2), yet circulatory admission rates were similar in the insured population younger than age sixty-five (Exhibit 5).

More puzzling is why hospitalization rates were higher among McAllen Blue Cross and Blue Shield of Texas enrollees ages 50–64 (89 percent above rates in El Paso), but outpatient and professional services were lower. One possibility is that the higher hospitalization rates reflect ambulatory care-sensitive conditions such as asthma or diabetes that could be but aren't being treated on an outpatient basis. But we did not observe the same patterns in the population over age sixty-five, for whom Medicare Part B spending in McAllen was much higher than in El Paso.

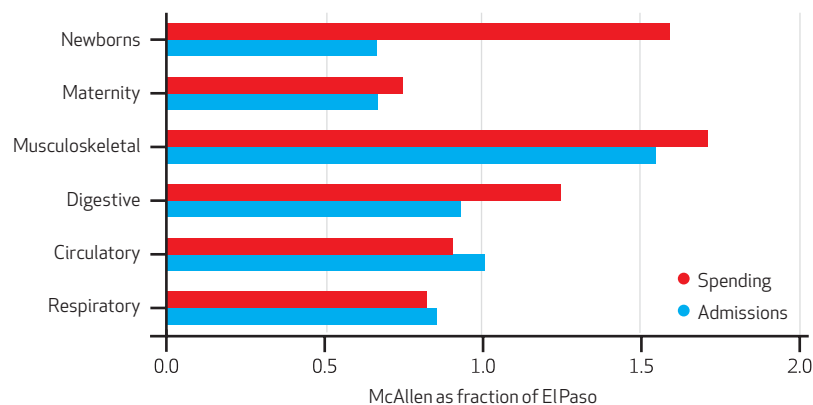
**PRICES FOR THE NONELDERLY POPULATION** We did not see any difference in prices arising from Medicare price adjustment. Previous studies have suggested that although practice patterns of physicians and hospitals are correlated for the populations under and over age sixty-five,<sup>4,5</sup> regional price differentials among Medicare, Medicaid, and private insurance fees can be quite pronounced.<sup>3,12,13</sup> Because we found a lack of variation for Blue Cross and Blue Shield of Texas enrollees in the use of medical services and spending, we do not believe that systematic price differences can explain the patterns. That said, spending per admission in McAllen (Exhibit 4) is somewhat higher.

**DIFFERENCES BETWEEN THE TWO COMMUNITIES** McAllen and El Paso are similar communities in many ways: Both are along the Texas-Mexico border, and they have similar demographic and socioeconomic characteristics. Yet they are not identical. Can socioeconomic factors or health status explain why Medicare enrollees account for so much more utilization in McAllen, but these differences are not observed in the under-sixty-five, privately insured population?

Consider first the nonelderly population. According to the Centers for Disease Control and Prevention's (CDC's) Behavioral Risk Factor Surveillance System and US census county-level

## EXHIBIT 5

**Inpatient Admissions And Spending Per Blue Cross And Blue Shield Of Texas Enrollee, By Major Diagnostic Categories, McAllen As A Fraction Of El Paso, 2008**



**SOURCE** Blue Cross and Blue Shield of Texas.

data, the population of McAllen is less educated than the population of El Paso. It has lower per capita income, substantially more poverty, and more recently arrived immigrants.<sup>7</sup> In light of the somewhat poorer socioeconomic status, particularly among the nonelderly, the lack of difference in spending by the under-sixty-five population in McAllen is somewhat surprising.

However, despite a lower private insurance rate in McAllen, it is likely that Blue Cross and Blue Shield of Texas draws from similar distributions of people with employer-provided health insurance coverage. Approximately 10 percent of the population younger than age sixty-five in each county is enrolled in the Blue Cross and Blue Shield of Texas plan. In this view, the two groups exhibit similar socioeconomic and health status, which is consistent with our findings of similar use of health care services.

For the over-sixty-five population—nearly equivalent in these two cities to the fee-for-service Medicare population—the differences in Medicare spending could be the consequence of variations in socioeconomic status. The poverty rate in the population over age sixty-five in McAllen (Hidalgo County) was 24.3 percent in 2007—higher than that in El Paso (20.7 percent). But given this modest difference, and the findings of two recent studies suggesting that poverty explains at best a small fraction of regional variations in Medicare spending,<sup>14,15</sup> socioeconomic status alone is not a plausible explanation of the spending differences between the two cities.

Another difference between the two cities is that in 2007 a larger portion of the population ages 18–64 was without health care coverage in McAllen compared to El Paso (56 percent in

McAllen versus 40 percent in El Paso). In theory, this difference could explain subsequently higher Medicare spending in McAllen as the previously uninsured reach age sixty-five. However, based on a recent study,<sup>16</sup> the magnitude of the estimated effects is very small—on the order of \$160 per Medicare enrollee.

But perhaps health status in the population over age sixty-five differs between El Paso and McAllen. A recent study by the Medicare Payment Advisory Commission applied Hierarchical Condition Category adjustments to spending measures. It found that after risk and price adjustments, McAllen was still above the national average, but no longer an outlier with regard to per capita spending.<sup>9</sup> One concern with this approach to risk adjustment is the sensitivity of the Hierarchical Condition Category adjustments to higher intensity rates; more procedures lead to a larger number of coded diseases.<sup>17</sup>

Other evidence suggests that the health of the elderly in McAllen is comparable to, or better than, that in El Paso. The mortality rate, adjusted for age, sex, and race, for all Medicare enrollees, including the Medicare managed care population, was 4.74 percent in McAllen in 2005 (the most recently available year)—below El Paso's rate of 4.96 percent and the national average of 5.06 percent.<sup>1</sup> In theory, one could argue that the additional health care spending in McAllen was the cause of the lower mortality rate. This seems unlikely, particularly in light of the often modest improvements in health outcomes resulting from higher health care spending.<sup>18</sup>

In addition, mortality from cardiovascular disease and cancer was lower in McAllen, as was the rate of hip fractures in the Medicare population. According to 2004 data from the State of Texas, cardiovascular deaths were 235 per 100,000 in McAllen, compared to 252 per 100,000 in El Paso. The corresponding rates of cancer deaths were 131 per 100,000 in McAllen and 162 per 100,000 in El Paso. Based on 2005 *Dartmouth Atlas* data, hip fracture rates, adjusted for age, sex, and race, were 6.3 per 1,000 in McAllen and 7.8 per 1,000 in El Paso. Although the evidence on health differences between the two communities is not definitive, differences in health or socioeconomic status do not appear to explain the gap in Medicare use.

**ROLE OF PRIVATE INSURERS** Another explanation that can potentially address the puzzling data is the different policies and mechanisms used by Blue Cross and Blue Shield of Texas and by Medicare to manage the use of medical services. For example, a recent article by Tomas Philipson and colleagues suggested that tighter management of the use of medical services by

commercial insurance companies results in smaller variations in private-sector health care compared to Medicare.<sup>19</sup> They found less regional variation in medical services use for ischemic heart disease in the under-sixty-five privately insured population than in the (mostly) over-sixty-five Medicare population.

Might the Blue Cross and Blue Shield of Texas approach to management of medical services use similarly explain the more modest variation in these two regions, particularly in the population under age fifty? For example, this insurer's members with high-severity and high-expense conditions are contacted by a Blue Care adviser, who encourages members to participate in management programs. Chronic conditions and complex cases are managed through a variety of condition-specific management programs based on evidence-based interventions.<sup>20</sup>

Blue Cross and Blue Shield of Texas has also developed several mechanisms to encourage cost-effective care by providers. All elective inpatient admissions must be preauthorized, and counseling before admission and after discharge is used to establish postoperative goals and identify discharge planning needs. Furthermore, triggers such as a catastrophic event or claims higher than \$50,000 per month activate a case management process that entails reviews of potential alternative treatment plans and follow-up after discharge from acute care.

In contrast, there are fewer medical service controls in Medicare. Although the federal government can threaten providers with jail time and fines for fraud, unreasonable and unnecessary treatments are rarely monitored or prosecuted. Furthermore, it is unclear how the "utilization review plan" would be expected to scale back the use of medical services in practice.

Medicare still enjoys some advantages over private insurance in its ability to set prices for payment to providers. Private insurance companies by contrast must negotiate prices. Yet for managing the use of medical services, private insurers have the advantage of a "threat point" at which they can ultimately refuse to contract for services to specific physicians or hospitals—something that Medicare cannot do.

## Conclusions

We have demonstrated that the sharp differences in the use of Medicare services between El Paso and McAllen, Texas, were not generally found in the population of Blue Cross and Blue Shield enrollees under age sixty-five in Hidalgo County (McAllen) and El Paso County. We considered several explanations for these patterns, including differences in prices, health, incomes, and

other factors. Ultimately, we hypothesize that some part of the puzzle may be explained by private insurance companies and Medicare exhibiting very different interactions with local health care providers.

Thus, our study is consistent with Gawande's finding of a "culture of money"—increasing the use of profitable Medicare services when there is diagnostic and procedural discretion and clinical latitude—but that such a culture may also be constrained by private insurance plans with their more stringent reviews of the use of medical services.

Because our study was limited to just two regions, we do not know to what extent providers may compensate for lower pricing from Medi-

care by negotiating higher prices, or cost shifting, to private insurance.<sup>21</sup> Nor do we entirely understand why hospitalization rates for the privately insured residents of McAllen who are older than age fifty are so much higher—and outpatient rates so much lower—than in El Paso.

Further research is needed, such as the variations study mandated by the Affordable Care Act that is now being carried out under the auspices of the Institute of Medicine. But our preliminary results are consistent with the idea that health care providers can respond quite differently to incentives embedded in large federal programs such as Medicare compared to those present in private insurance programs. ■

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