



The Impact on Physician Reimbursement of Changes to Workers Compensation Medical Fee Schedules

INTRODUCTION

Medical costs are more than 50% of workers compensation (WC) costs in most states. An important medical cost-control mechanism in many states is the physician fee schedule, which specifies maximum allowable reimbursements for specific medical services provided to treat WC claimants. Most states use such fee schedules to regulate payments to doctors and there is a substantial body of research to document that fee schedules are effective in controlling WC medical costs.¹

Because WC physician fee schedules set a maximum reimbursement amount, actual payments for services are often less than the fee schedule amount. The relationship between the fee schedule amount and the market price for the medical service can affect the degree to which WC payments are at the fee schedule amount versus the degree to which they are below that amount. If the WC maximum fee for a medical service is significantly higher than the market price, then the average WC reimbursement could be below the fee schedule. On the other hand, if the WC fee schedule amount is close to or even below what is usually paid in general healthcare, then one might expect most WC reimbursements to be at the fee schedule amount.²

Because WC reimbursements for medical services are not necessarily at the fee schedule amount, changes in WC reimbursements are not always strictly proportional to fee schedule changes. When a state fee schedule is changed for a specific service, the percentage change in WC reimbursements for that service can be similar to, smaller than, or even larger than the percentage change in the fee schedule. This study looks at some examples of how WC medical payments responded to a few state fee schedule changes for particular services. The study does not look at overall changes in WC medical costs. Nor do we try to draw any general conclusions that would apply to arbitrary fee schedule changes.

These examples illustrate possible effects on WC medical reimbursements of certain special circumstances and outside influences:

- The lag time for providers to respond may depend on the relationship between the current fee and prices paid by Group Health (GH) and the timing of provider network contract renewals
- Who performs the procedure and who bills for it—whether a single physician, multiple providers, or a hospital or other facility—can have a definitive influence on the reimbursement pattern and whether a fee schedule applies
- Some medical treatments are performed several times, and some are reimbursed on a time basis rather than on a per-service basis

¹For some of the NCCI research refer to the study “Making Workers Compensation Fee Schedules More Effective” and the more recent “Effectiveness of Workers Compensation Fee Schedules—A Closer Look”, available at ncci.com. The series “Benchmarks for Designing WC Medical Fee Schedules” published by the Workers Compensation Research Institute is another useful reference on how WC fee schedules control medical costs.

² Examples of these cases can be found in the NCCI research reports “Effectiveness of Workers Compensation Fee Schedules—A Closer Look” and “Medicare and Workers Compensation Medical Cost Containment,” available at ncci.com.

Although many factors can affect particular WC price changes, the study supports a few general findings:

- The change in average WC reimbursements resulting from a change in a state physician fee schedule for a given service depends heavily on the relationship between the fee schedule and the market prices for the medical services
- WC fee schedules are more effective at controlling the cost of high-volume low-priced procedures than low-volume high-priced procedures
- The impact of increasing a WC fee schedule maximum reimbursement is not simply the reverse of decreasing the scheduled amount

We use prices paid in GH as indicators of market prices for medical services. A significant majority of private sector employees are covered by an employer-sponsored GH insurance policy.³ Physicians and GH insurance companies enter into agreements that specify amounts the insurance company will pay for specific medical services. Because these agreements are mutually agreed upon, and because the volume of services provided is significant, prices paid by GH insurers are a good indicator of market prices for medical services.

In contrast, WC has accounted for less than 4% of private sector medical expenditures since 2002.⁴ Also, there may or may not be a fee agreement between a physician treating a WC claimant and the WC insurance company. As such, WC reimbursements for medical treatment of WC claimants can vary substantially from market prices, and they're frequently higher than market prices.

BACKGROUND

In this study, we look at the change in the average price paid in WC between 2002 and 2006 for several medical services relative to the change in the fee schedule amount over that period. Services reviewed are ones for which the fee schedule maximum allowable reimbursement changed significantly during that period. The amount paid for a given service may vary, so our analysis is based on comparisons among:

- The WC fee schedule amounts in 2002 and 2006
- The distribution of WC prices paid for the service in 2002, and the corresponding distribution in 2006
- The distribution of GH prices paid for the service in 2002, and again in 2006

Cases were selected to illustrate the considerable variety in relationships between WC fee schedules and distributions of reimbursements.

The GH data is from employer-sponsored health benefit plans, including PPOs, HMOs, and fee for service plans.⁵ Reimbursement amounts include contributions from all payers and include deductibles and copayments. The WC experience used in this study is from transaction-level medical data licensed to NCCI by certain WC insurers.

While WC fee schedules specify maximum allowable reimbursements for given medical services, those maximums do not necessarily apply to all types of providers and all services provided. Some providers, especially facilities, might not be subject to the fee schedule. Other arrangements, such as provider network agreements or a negotiated discount on a complex hospital bill, can effectively bypass the physician fee schedule.

CASE STUDIES

Burn Treatment in Georgia

For our first case study, we look at experience in Georgia for CPT Code 16020,⁶ a treatment for burns. While no single pattern applies to all states and all medical procedures, this case illustrates some common features of the way WC reimbursements respond to a fee schedule change. For this procedure in Georgia:

- The WC fee schedule maximum allowable reimbursement (MAR) more than doubled from \$45 in 2002 to \$110 in 2006
- In 2002, the maximum allowable reimbursement under WC was below the median⁷ payment in general healthcare

³ A BLS survey found that more than 70% of US workers in private industries were eligible for employer-sponsored medical coverage in 2006. While the survey found that only about 50% were enrolled, the difference was mainly attributed to coverage through a working spouse. More information is available at www.bls.gov/ncs [3].

⁴ For more information see the presentation "Workers Compensation and Health Reform," presented by NCCI Chief Economist Harry Shuford at the March 2009 CAS *Ratemaking and Product Management Seminar* [2].

⁵ The Group Health data was provided by Medstat, a Thomson Reuters company.

⁶ CPT, or Current Procedural Terminology, refers to a detailed coding scheme for identifying thousands of medical procedures. CPT codes are updated on a regular basis and are the standard for physicians to use when billing for services. The CPT is the intellectual property of the American Medical Association. CPT Code 16020 identifies dressings or debridement of partial-thickness burns to no more than 5% of the total body [1].

⁷ The *median* payment is the amount for which half of payments are above the amount and half are below the amount.

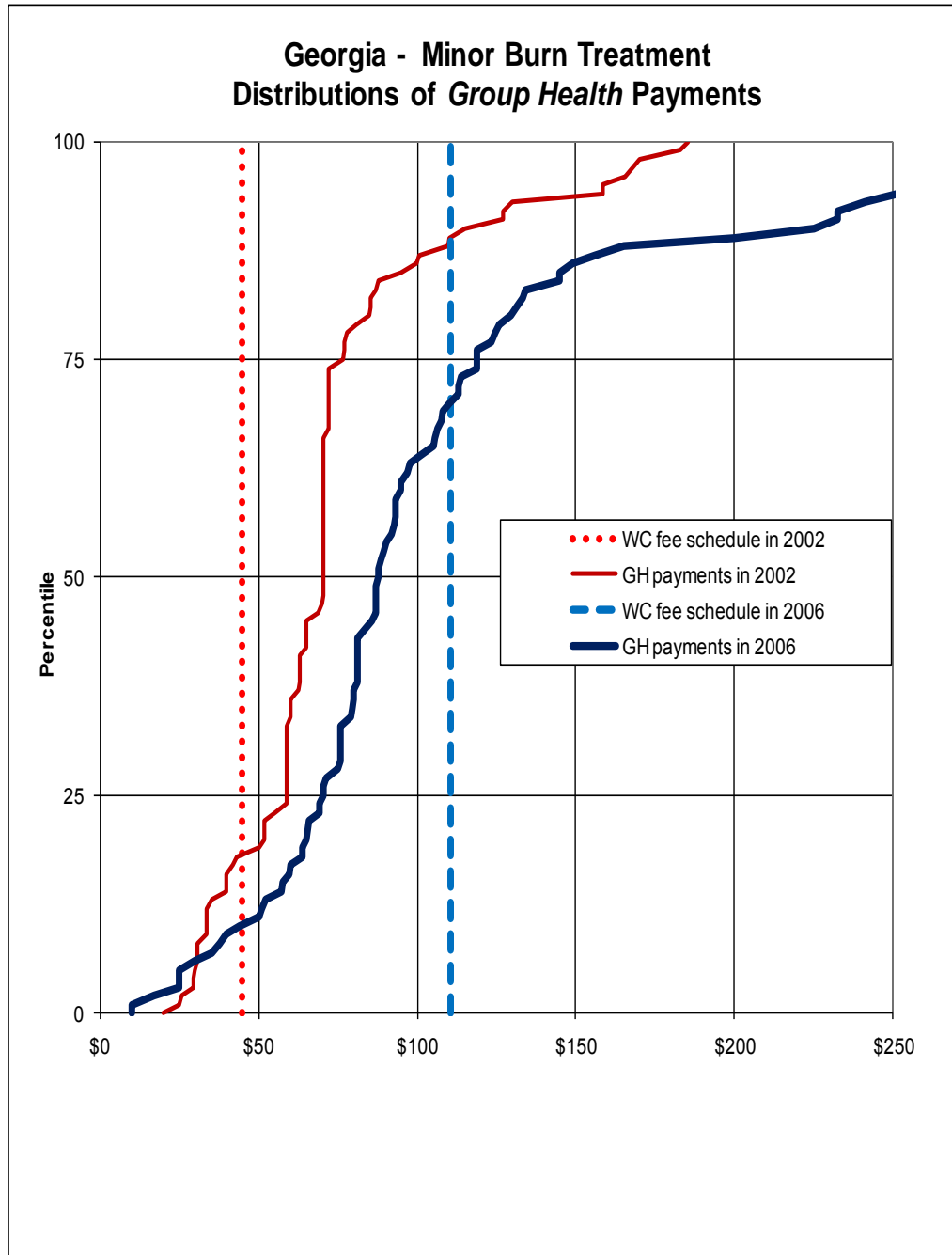
- By 2006, this situation had reversed because the MAR was set at a price greater than the typical amount paid in general healthcare

Over the period 2002 to 2006, the percentage increase in the average price paid under WC was less than the increase in the maximum allowable reimbursement.

Not all treatments with this CPT code are reimbursed at the same amount, either under WC or GH. To see what is driving the WC average payment increase, we look at the distributions of reimbursement amounts under both GH and WC.

The two payment curves in Figure 1a show the distributions of reimbursements for GH both before and after the fee schedule MAR changed.

Figure 1a: Burn Treatment, Distributions of GH Reimbursements for CPT Code 16020, State of Georgia, Service Years 2002 and 2006



In Figure 1a:

- The horizontal axis indicates the dollar amount of reimbursement, and the vertical axis indicates the percentage of payments at or below the given dollar amount
- For example, the point on the 2002 curve at \$70 and 50% says that, for this CPT code, 50% of GH payments in 2002 were \$70 or less
- Similarly, the point on the 2006 curve at \$150 and 85% says that in 2006, 85% of GH payments were \$150 or less

The two vertical lines in Figure 1a indicate the old and new fee schedule maximum allowable reimbursements. The chart shows that:

- Between 2002 and 2006, the maximum allowable reimbursement under WC rose much more than the average payment under GH⁸
- In 2002, only 20% of GH payments were below the maximum allowable reimbursement for WC
- In 2006, more than 70% of GH payments were below the MAR
- In 2002, the median GH payment (the amount greater than half the payments and less than the other half) was \$70, an amount greater than the WC maximum allowable reimbursement of \$45
- In 2006, the median GH payment had increased to \$85, which was then well short of the \$110 MAR

Between 2002 and 2006, the WC maximum allowable reimbursement went from being less than the apparent market rate for this service to being above the apparent market rate.

Figure 1b provides similar information for WC payments. One payment curve represents WC reimbursements for services performed in 2002, and the other curve for services in 2006.

⁸ This can be seen by comparing the areas between the Group Health payment curves with the area of the rectangle between the two MAR lines in Figure 1a. Since the rectangle has the greater area, we conclude that the MAR grew by more than the average payment.

Figure 1b: Burn Treatment, Distributions of WC reimbursements for CPT Code 16020, State of Georgia, Service Years 2002 and 2006

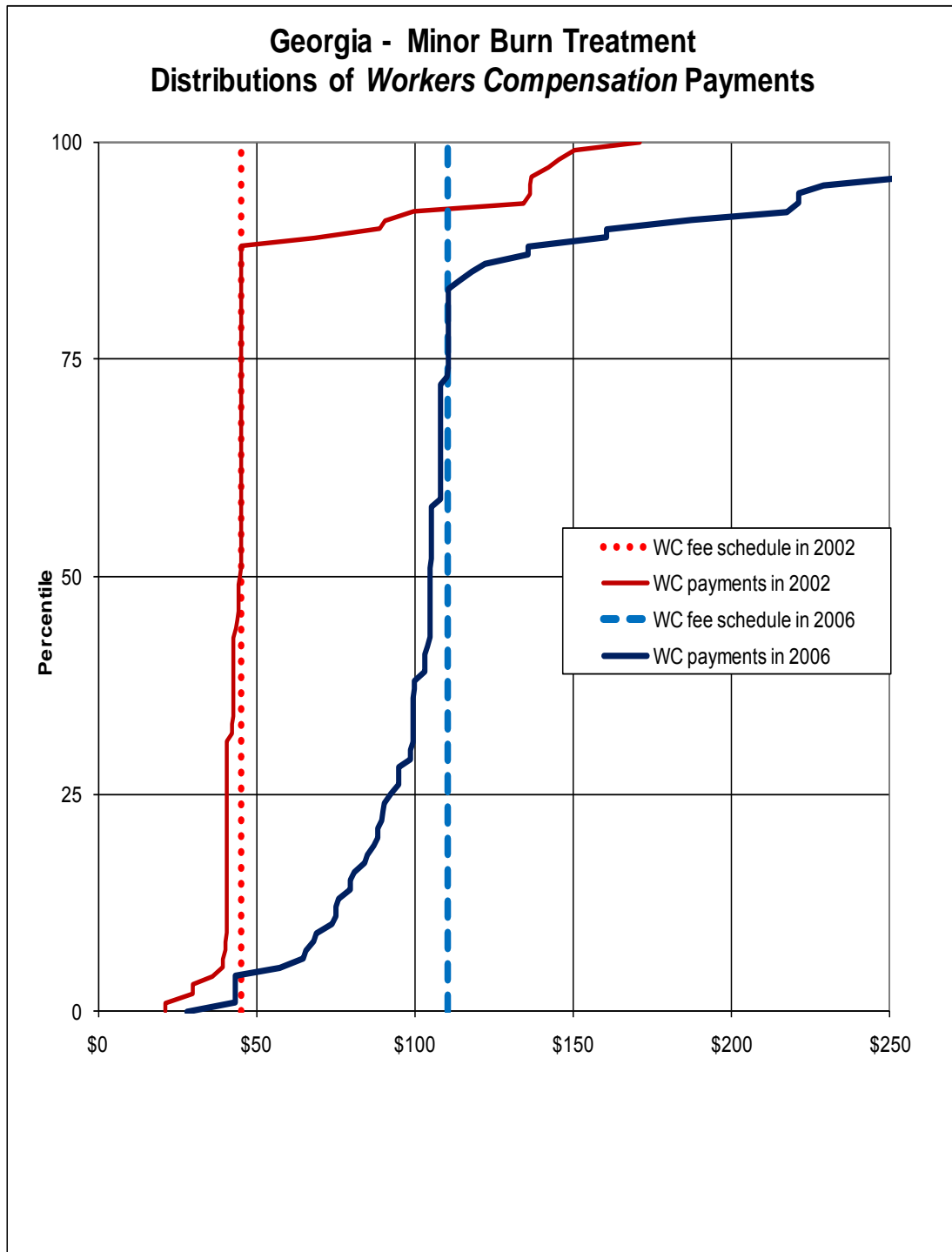


Figure 1b shows that in 2002:

- Only 10% of payments were \$40 or less
- Another 10% were above the fee schedule amount
- 80% of WC reimbursements fell within \$5 of the \$45 MAR
- About 35%, from the 50th to the 85th percentile, were concentrated at the MAR

In 2006:

- 35% of WC payments were \$5 or more below the MAR
- 15% were above the fee schedule amount
- About 50% of payments are near the fee schedule amount, down sharply from the 80% in 2002
- Only about 10% of payments were concentrated at the MAR, again down from the 35% concentration at the 2002 MAR

The net result is that the average WC payment for this procedure grew less than the change in the fee schedule.

For this procedure, it is likely that many of the WC reimbursements that exceed the MAR are due to multiple burn sites with corresponding charges for multiple applications of the treatment. This interpretation is suggested by Figure 1b, noting the small steps of the 2002 WC payment curve at twice and three times the corresponding MAR. When comparing to the schedule amount, note that the average reimbursement corresponds to somewhat more than the single application contemplated by the MAR.

The greater concentration in 2002 of WC reimbursements at or near the fee schedule, compared to 2006, makes sense.

- In 2002, the fee schedule amount was below the prevailing market price for this service, so a large proportion of providers charged more than the schedule and their reimbursement was reduced to the maximum allowable
- In 2006, the fee schedule amount was above what many providers would have otherwise charged, so a higher proportion of reimbursements fall below the increased fee schedule amount

This illustrates how the impact on actual WC reimbursements is influenced by the relationships of the fee schedule amount to market prices before and after the change to the fee schedule.

This example also illustrates another impact of fee schedules on physician reimbursement. Although there is less concentration at the fee schedule maximum in 2006 than in 2002, the 2006 fee schedule amount remains a concentration point. This concentration at an amount above the market price helps make the average WC reimbursement in 2006 greater than the average GH reimbursement. This scenario shows the potential for a WC fee schedule to artificially increase costs when its maximum reimbursements are set too far above their market price.

Office Visits in Kentucky

For ease of reference, we preface this and the remaining case studies with a brief synopsis of our observations:

In 2002, the Kentucky fee schedule for office visits was above the median amount paid in Group Health. Between 2002 and 2006, the fee schedule increased more than the average Group Health payment. The average workers compensation payment did not increase by as much as the fee schedule. In 2002, the vast majority of workers compensation payments were at the fee schedule, while by 2006, more than half of the workers compensation payments were below the fee schedule.

This case illustrates that:

- *Increasing a high maximum reimbursement can result in a smaller increase in workers compensation payments*
- *A fee schedule above market rates can draw some workers compensation payments above the market rate*

The most familiar medical procedure is the office visit. Figures 2a and 2b show GH and WC distributions of reimbursements for office visits, specifically for CPT Code 99213⁹ in Kentucky. For this service, the fee schedule increased by 17%, from a fraction over \$53 in 2002 to under \$63 in 2006.

⁹ CPT Code 99213 identifies an outpatient visit for the evaluation and management of an established patient [1].

Figure 2a: Office Visit, Distributions of GH Reimbursements for CPT Code 99213, State of Kentucky, Service Years 2002 and 2006

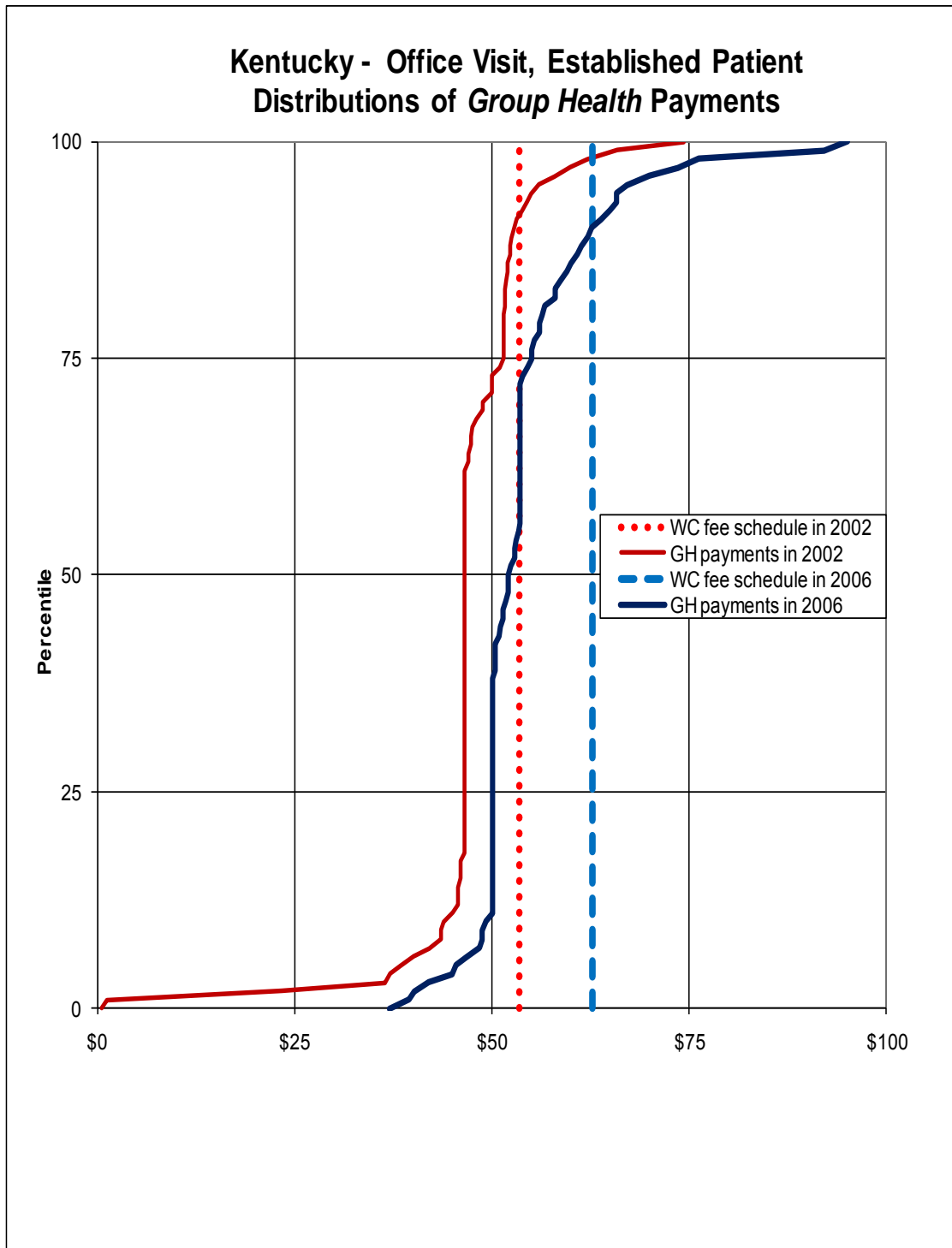


Figure 2b: Office Visit, Distributions of WC Reimbursements for CPT Code 99213, State of Kentucky, Service Years 2002 and 2006

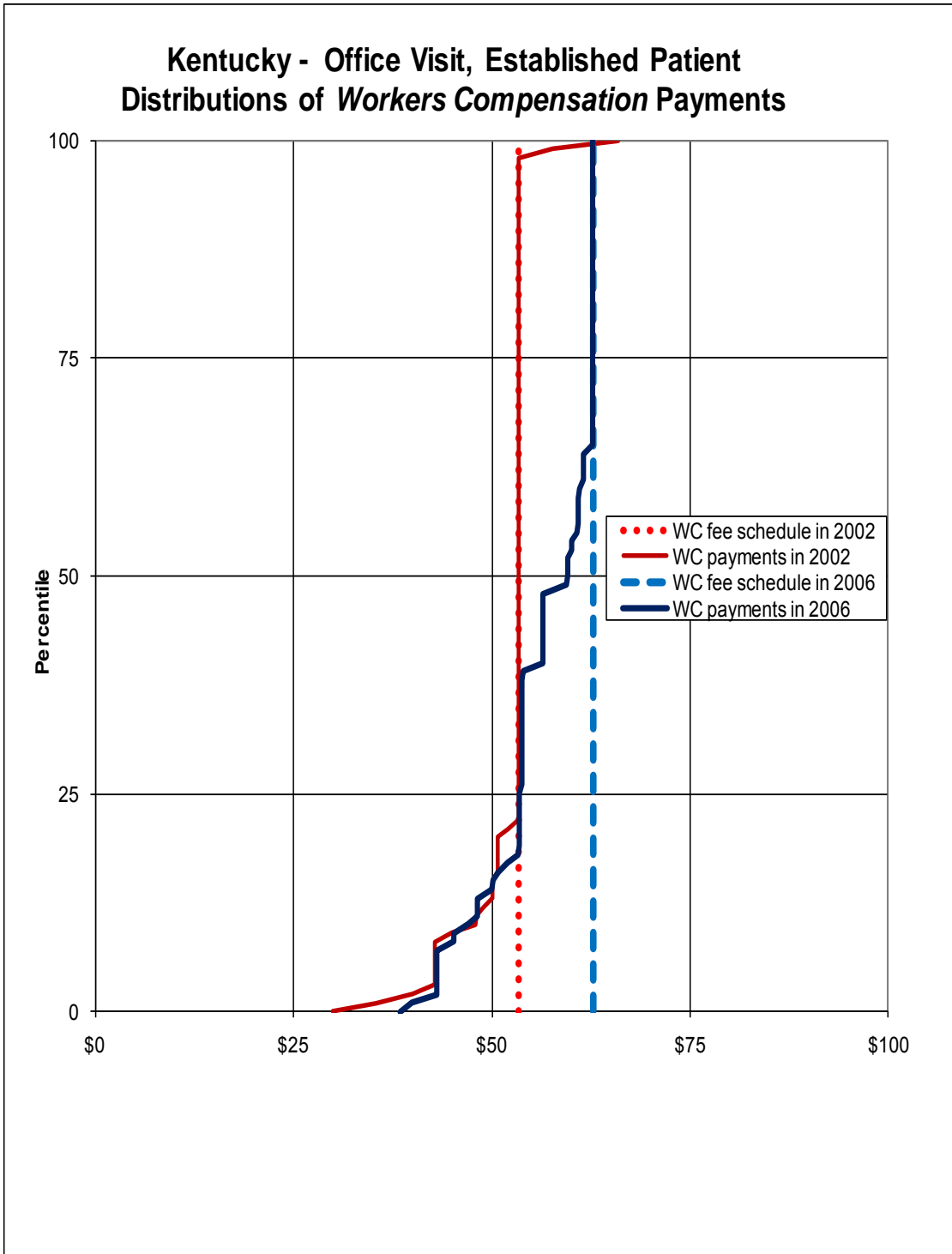


Figure 2a compares this change to GH payments:

- The GH curves in Figure 2a are quite parallel, suggesting that inflation increased prices uniformly
- For both 2002 and 2006:
 - About 90% of GH payments were at or below the MAR
 - The median GH payment is about \$10 less than the MAR
- The fee schedule amounts were above market rates in both 2002 and 2006

The area between the two vertical MAR lines in Figure 2a is greater than the area between the two GH curves, which implies that the increase in the MAR was somewhat greater than the increase in average GH reimbursement.

Turning to the WC experience, Figure 2b shows that:

- Almost all (98%) 2002 reimbursements were at or below the \$53 MAR, and all of the 2006 payments were at or below the \$63 MAR
- While reimbursements were concentrated at the MAR for both 2002 and 2006, about three-fourths of 2002 reimbursements were at the MAR as compared with only one-third at the MAR in 2006
- Even combining the concentrations at both MARs along the 2006 curve, there is still about 25% less concentration at the MAR in 2006 than in 2002

Reimbursement for office visits conforms to the Kentucky fee schedule. This makes sense because, unlike burn treatments, the same provider is unlikely to bill for more than one office visit on the same date of service.

Figures 2a and 2b suggest other aspects of WC reimbursements, such as:

- In both 2002 and 2006, high percentages of GH payments are below the applicable MAR while WC payments are concentrated at the MAR. This strongly suggests that the fee schedule increases WC reimbursements for office visits in Kentucky.
- The Kentucky fee schedule was updated in February 2006. This is consistent with the concentrations of the 2006 WC payment curve at both the old and new MARs. The concentration at the smaller MAR is, however, greater than only two months of services would account for. This concentration in 2006 at the prior MAR, the higher concentration of 2002 WC payments at the MAR, and the 25% of WC payments in 2006 between the two MARs suggest that a significant amount of time may be required for the full impact of a fee schedule change to take effect.
- The use of PPO discounts in WC has been the subject of administrative guidelines in Kentucky. Rules governing PPO were liberalized in late 2002,¹⁰ and this may have contributed to the greater degree of discounting below the fee schedule in 2006 than in 2002.

This example again illustrates that when the MAR is high relative to the market rate, not all providers will be reimbursed at the MAR. Moreover, if the MAR is increased by more than inflation, some reimbursement will only increase by inflation or less. In this case, the increase in the MAR resulted in less concentration of WC payments at the MAR. Because of this, the average price for WC grew less than the increase in the MAR.

On the other hand, this example shows again that a MAR set above the usual market payment can result in WC reimbursements averaging more than the market rate.

Physical Therapy in Maryland

In 2002, the Maryland fee schedule for a physical therapy treatment was below the median amount paid in Group Health. Between 2002 and 2006, the fee schedule increased by more than half to be near the Group Health median, which had hardly changed. Workers compensation average payments grew by more than the fee schedule, due to more billings for multiple applications of the treatment.

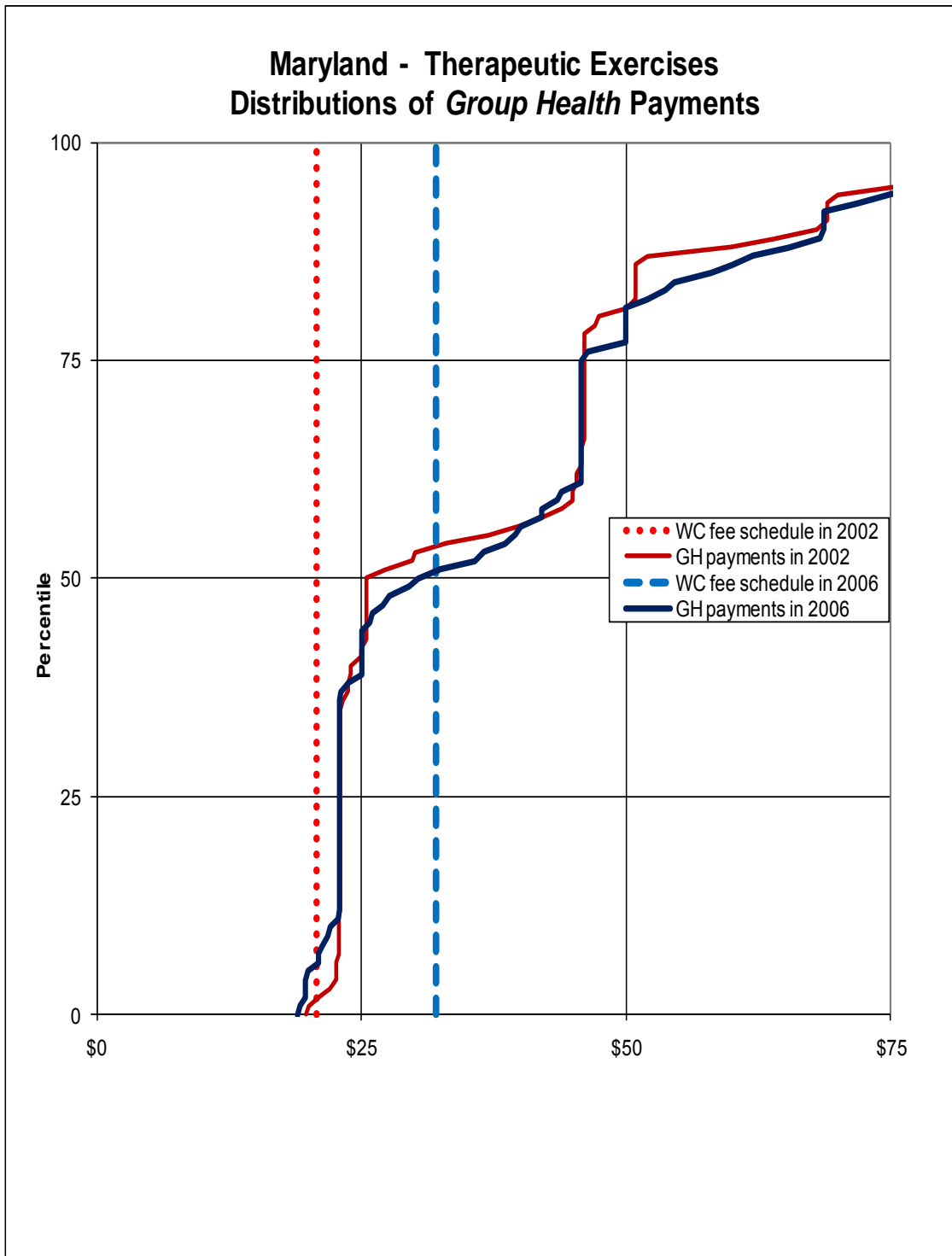
This case illustrates that:

- *In the absence of inflation, increasing a maximum reimbursement that is below the market price can significantly increase workers compensation payments*
- *The average workers compensation reimbursement responds to more than just the fee schedule, such as utilization and billing practices*

CPT Code 97110¹¹ is among the most frequently billed medical procedures for WC claims. Figure 3a shows distributions of GH and WC reimbursements for this procedure in Maryland in 2002 and 2006.

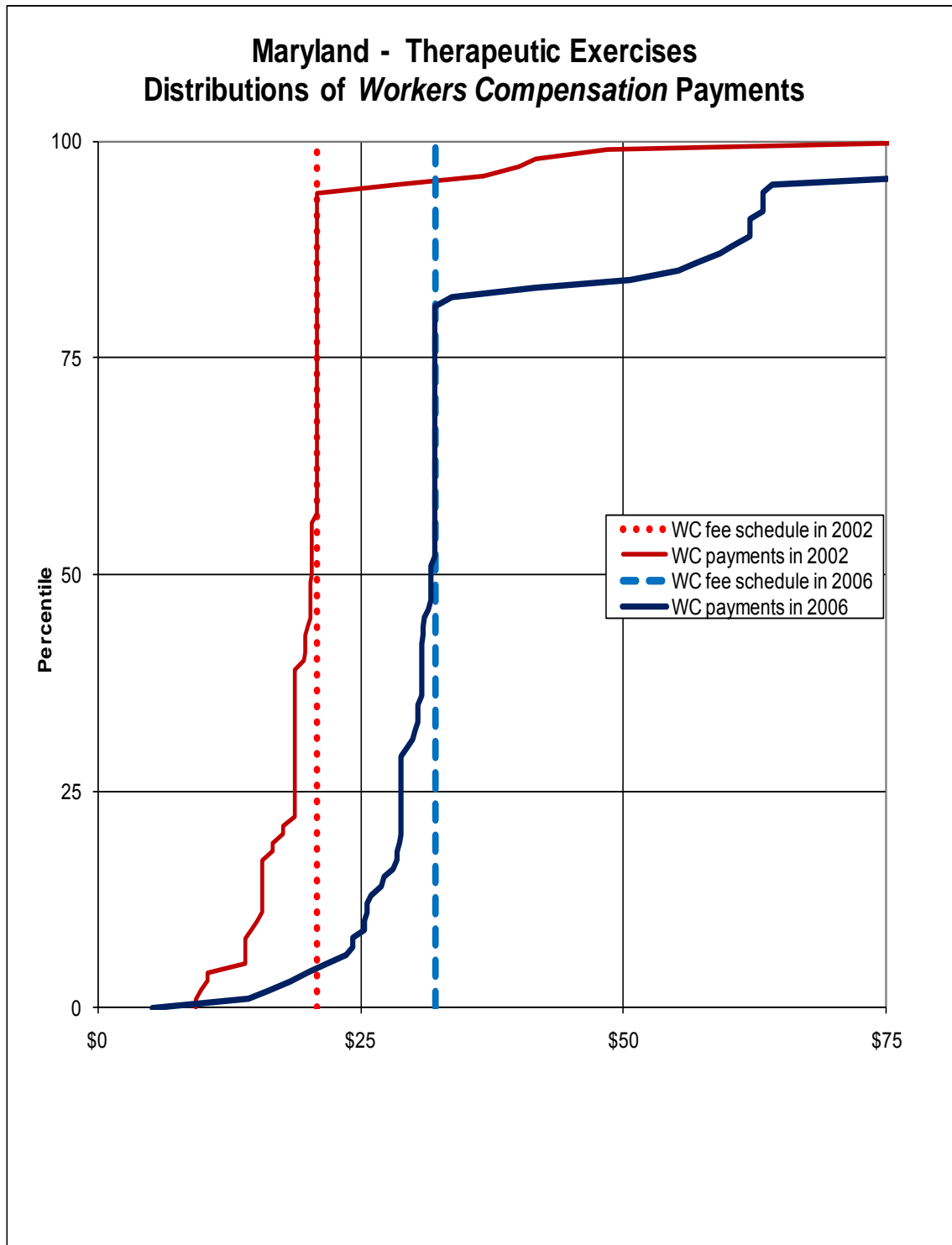
¹⁰ Refer to the September 18, 2002 bulletin from Commissioner Greathouse regarding "Negotiated Fees for Medical Services; Workers' Compensation Medical Fee Schedules."

Figure 3a: Physical Therapy, Distributions of GH Reimbursements for CPT Code 97110, State of Maryland, Service Years 2002 and 2006



¹¹ This physical medicine code identifies therapeutic exercises to develop strength and endurance, range of motion, and flexibility [1].

Figure 3b: Physical Therapy, Distributions of WC Reimbursements for CPT Code 97110, State of Maryland, Service Years 2002 and 2006



The Maryland MAR for CPT Code 97110 increased by more than 50%, from \$21 in 2002 to \$32 in 2006. For GH, the distribution of payments changed very little over that time frame. Relating the WC distributions in Figure 3b with the vertical lines that correspond to the MARs shows that:

- A very high proportion (95%) of 2002 WC reimbursements were at or below the \$21 MAR; that proportion declined for 2006, with about four-fifths of reimbursements at or below the \$32 MAR
- While WC reimbursements were concentrated at the MAR for both 2002 and 2006, that concentration declined somewhat from about 40% in 2002 to about 30% in 2006
- Both WC payment distributions, but especially that for 2006, have a noticeable concentration point at about double the MAR

The charts are based on reimbursements for services billed by CPT code. It is not uncommon for billings for CPT Code 97110 to reflect multiple applications of the physical medicine treatment. The GH chart shows a step at \$23 and another at double that amount, \$46. This is also the main reason for the “hump” in the graph of 2006 WC payments at about twice the MAR, as well as the similar, but less pronounced, bend in the 2002 WC payment distribution.

This case illustrates how a significant change in the fee schedule can produce a major change in WC reimbursements even as market rates remain fairly fixed. The more pronounced bend in the WC curve for 2006 may account for the smaller concentration of the 2006 distribution at the MAR, as compared with 2002. The graph suggests proportionately more multiple applications for WC in 2006 than in 2002. As a result, the average WC payment increased by even more than the 52% increase in the MAR.

An increase in the average reimbursement does not always mean that the price per application also increased. In this case, after accounting for multiple billings, the price per application of the service grew by about 50%, which is less than the increase in the MAR and smaller still than the increase in the average reimbursement.

Here we find a shift to more physical therapy treatments per bill. It is not clear whether this shift is due to:

- An increase in utilization (delivery of more services),
- Administrative changes to make billing more efficient, or
- Other factors

Further research would be needed to determine the reasons for this shift.

Surgery in Florida

In 2002, the Florida fee schedule for carpal tunnel surgery was near the median price paid in Group Health. Between 2002 and 2006, the fee schedule amount increased by more than one-fourth, while the Group Health median remained about the same. The fee schedule was also refined to vary by geographic region within Florida. Workers compensation average payments grew by about the same amount as the fee schedule, even though, for both years, half of workers compensation payments exceeded the schedule.

This case illustrates that:

- *Setting the fee schedule at or above the market rate does not ensure that most workers compensation reimbursements will not exceed the schedule*
- *Comparing the workers compensation proportion of payments that exceed the fee schedule with that for Group Health can identify potential abuses and suggest reforms*

Surgical intervention for carpal tunnel syndrome, CPT Code 64721,¹² provides a fairly common WC medical procedure that is considerably more expensive than the other procedures considered in this study. Figure 4a compares GH experience with the WC MARs in Florida in 2002 and 2006.

¹² CPT Code 64721 refers to neuroplasty and/or transposition of the median nerve at carpal tunnel [1].

Figure 4a: Carpal Tunnel Surgery, Distributions of GH Reimbursements for CPT Code 64721, State of Florida, Service Years 2002 and 2006

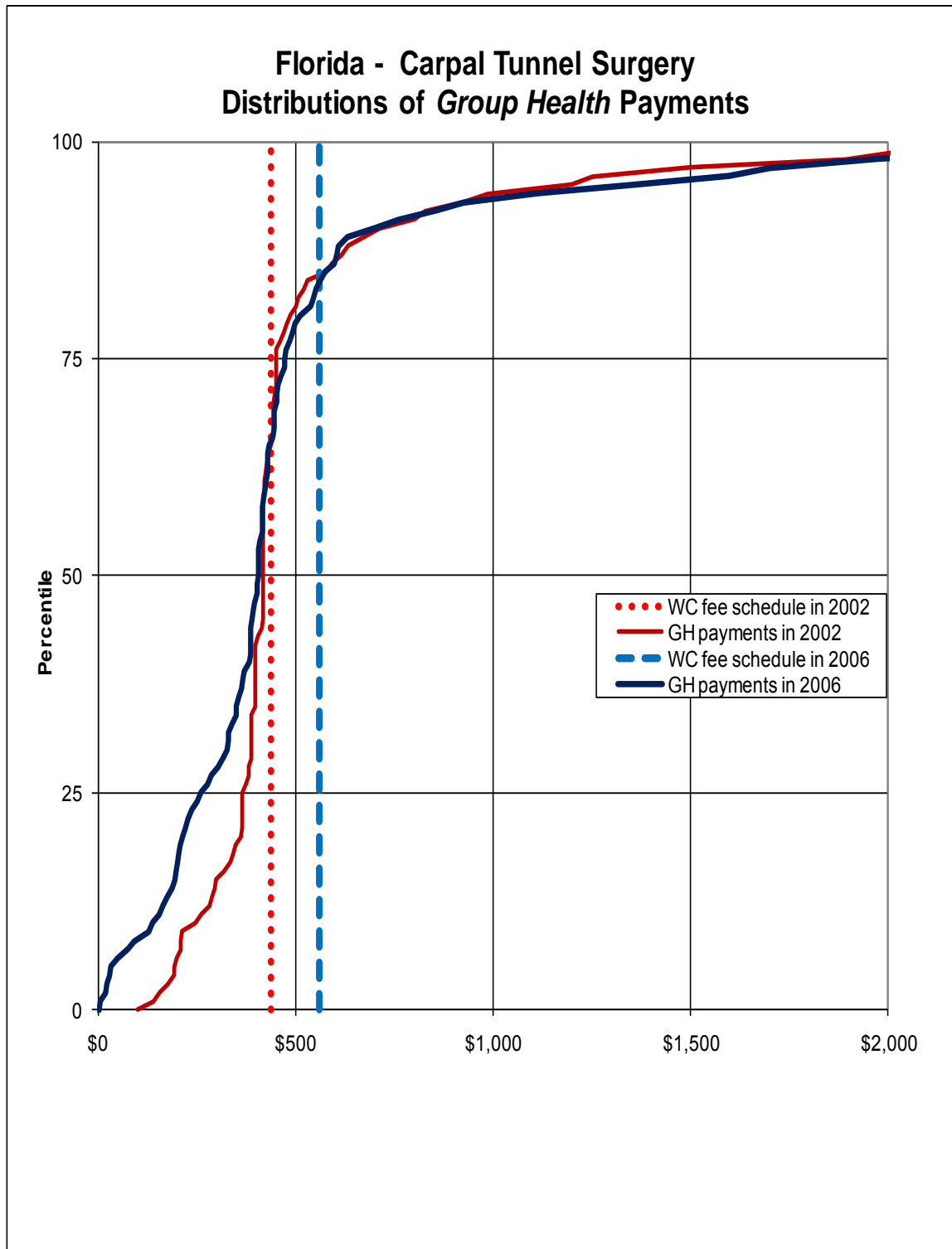
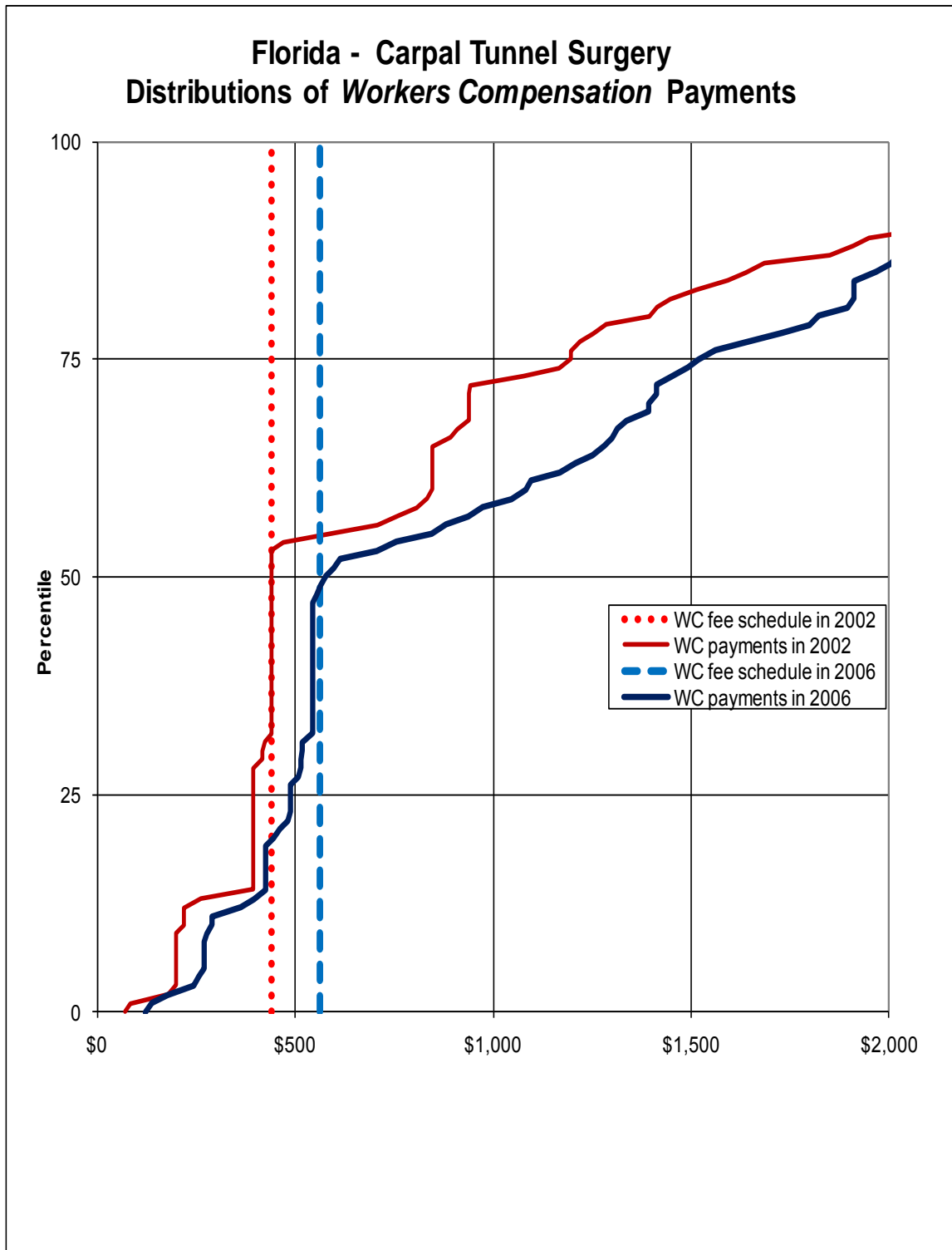


Figure 4b: Carpal Tunnel Surgery, Distributions of WC Reimbursements for CPT Code 64721, State of Florida, Service Years 2002 and 2006



In this case, the MAR for CPT Code 64721 increased by about \$123 in Florida, from \$439 in 2002 to \$562 in 2006. The \$562 is an average, since the 2006 fee schedule varies by geographical region. The GH graph shows that nearly three-fourths of the reimbursements are below the smaller MAR with no inflationary growth in prices from 2002 to 2006. The corresponding vertical segments of the WC curves in Figure 4b reveal that:

- For both years, about half the procedures were reimbursed at amounts above the MAR. While in some instances this may be due to having the procedure done for both wrists, the implication is that, for many cases, the fee schedule is not applied. One way that this happens is when a facility bills for the procedure and circumvents the physician fee schedule. This particular circumstance has prompted reforms in Florida, in particular, the implementation of fee schedules for hospitals and Ambulatory Surgical Centers (ASCs).
- The concentration at the MAR declined somewhat from about 20% in 2002 to about 15% in 2006, which may be at least partially due to the new MAR varying by region.
- The shift at the MAR is mirrored throughout the entire distributions, with the 2006 reimbursement distribution consistently to the right of the 2002 distribution.

This Florida case study illustrates how changes to WC medical fee schedules are not restricted to updating fee amounts but can also involve structural changes, such as:

- Refining the fees to reflect urban/rural or other regional cost differences
- Including additional schedules, such as a hospital fee schedule, to regulate a greater proportion of medical costs
- Using alternative coding schemes, such as Diagnosis Related Groups (DRGs) or Ambulatory Payment Classifications (APCs), designed to promote efficiency by reimbursing for a course of treatment rather than for individual procedures

This is another example where an increase in the MAR increases WC reimbursements even while the market price level does not increase. The 2002 and 2006 GH curves cross each other, but WC curves shift consistently higher for 2006. The average GH reimbursement did not increase, but the average WC payment grew by about the 25% increase in the MAR. In this case, a similar increase in the WC mean and MAR cannot be attributed to payments being concentrated at the MAR.

Figure 4 also shows that here the fee schedules draw only a small portion of the WC payment curves back nearer to market rates, as measured by the GH curve. For 2006, only 50% of WC reimbursements were at or below the MAR while about 85% of GH reimbursements were at or below the 2006 WC MAR. This suggests a potential for abuse of the WC system.

Emergency Room Visit in Alabama

In both 2002 and 2006, the Alabama fee schedule set a price for a visit to an emergency room that was below the average paid in Group Health. Between 2002 and 2006, the fee schedule amount increased by about 12% while both the average Group Health and average workers compensation reimbursement rose by more than that. For both workers compensation and Group Health insurance, one-third of payments exceed the workers compensation fee schedule maximum allowable reimbursement.

This case illustrates that:

- *The presence of a fee schedule may not change the shape of the reimbursement distribution*
- *Physician fee schedules are not always effective at controlling facility fees*

The preceding case of CTS surgery in Florida is an instance where, despite a scheduled fee in excess of the median market rate, a high percentage of WC payments exceed the MAR. The pattern for CPT Code 99283¹³ in Alabama also has significant percentages of payments above a MAR, which, in turn, is greater than the median Group Health payment. Figure 5a compares GH experience to the WC fee schedule amounts in Alabama in 2002 and 2006.

¹³ CPT Code 99283 identifies an emergency department visit for the evaluation and management of a patient [1].

Figure 5a: Emergency Room Visit, Distributions of GH Reimbursements for CPT Code 99283, State of Alabama, Service Years 2002 and 2006

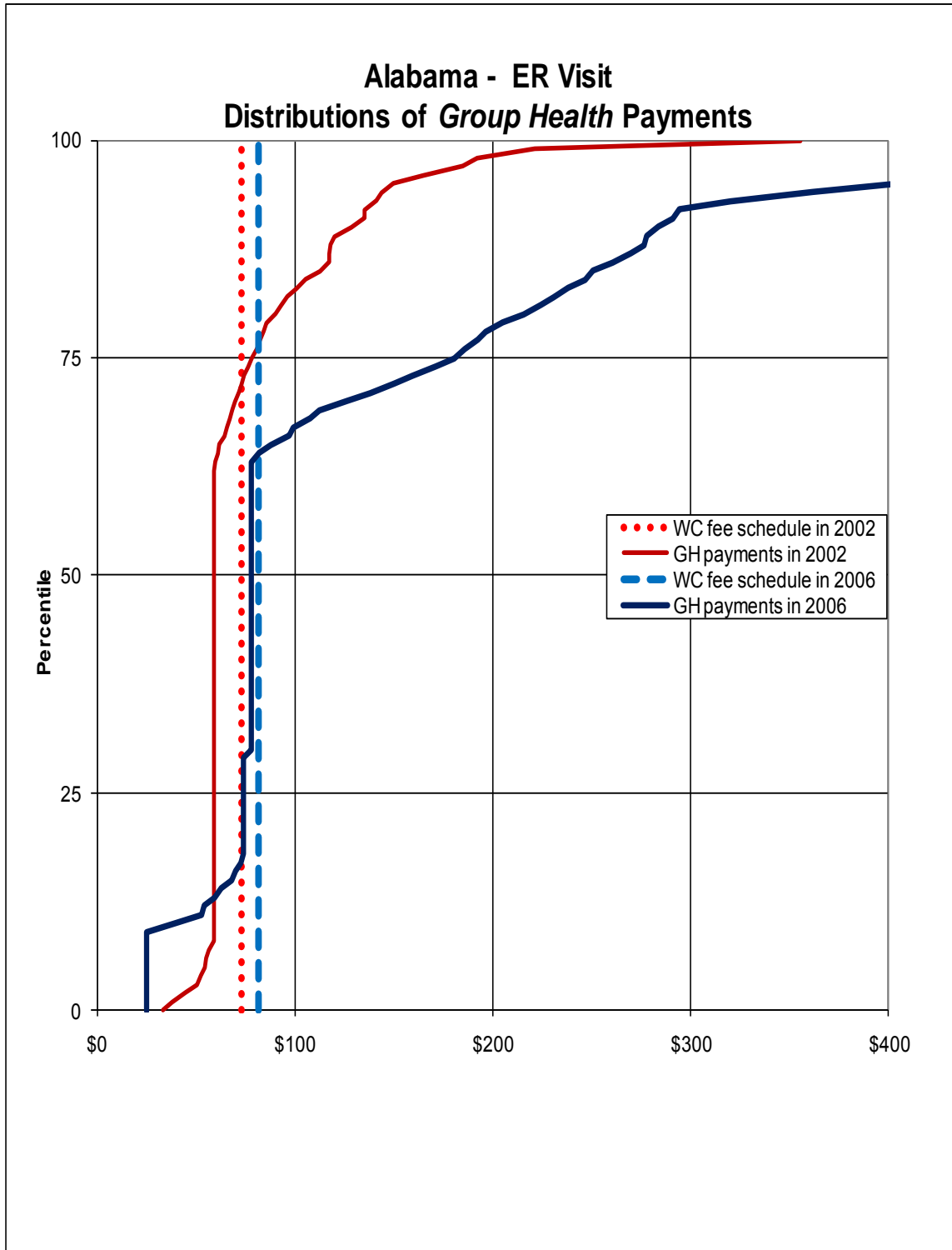
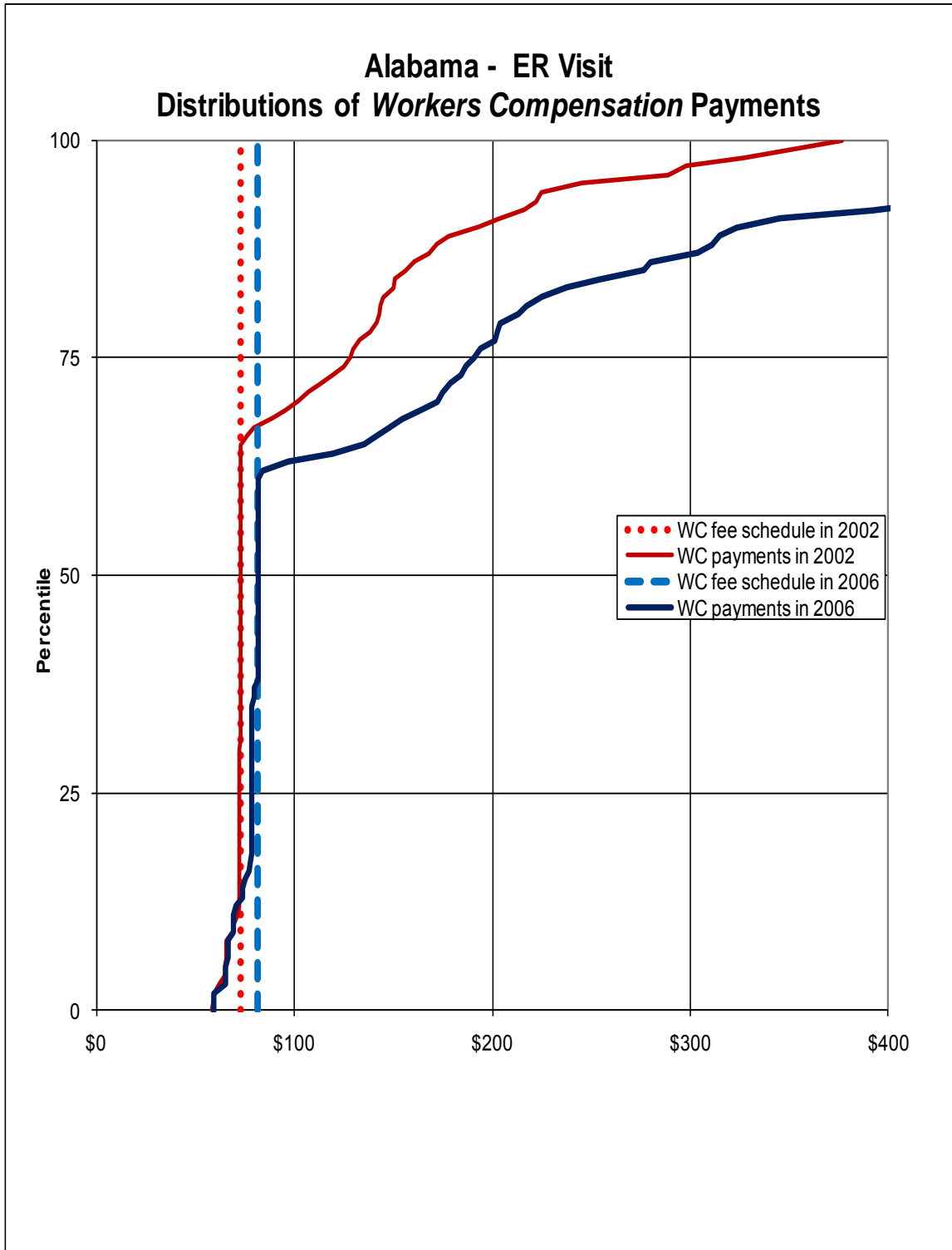


Figure 5b: Emergency Room Visit, Distributions of WC Reimbursements for CPT Code 99283, State of Alabama, Service Years 2002 and 2006



Here the MAR for CPT Code 99283 increased by 12% from \$73 in 2002 to \$82 in 2006. The WC and GH distributions are quite similar for both 2002 and 2006. The GH graph shows a somewhat greater inflationary increase because the median payment was below the MAR in 2002 and very close to the MAR in 2006. The WC curves in Figure 5b show that:

- For 2002, about 35% of the emergency room visits were reimbursed at amounts above the MAR. That proportion grew to 40% in 2006. This is another case where a physician fee schedule is often avoided because a facility bills for the procedure. Hospitals are often reimbursed using negotiated discounts, with the emergency room visit being only one of many charges on the bill.
- Although high proportions exceed the MAR, there are still reimbursements concentrated at the MAR. The proportion declined somewhat from about 50% in 2002 to about 40% in 2006.
- From 2002 to 2006, reimbursements that exceed the MAR increased by much more than the 12% increase in the MAR, with those above the 90th percentile almost doubling.

Inflation drove the GH cost upward by more than the 12% increase in the MAR from 2002 to 2006. The WC reimbursement rate was above the GH rate in 2002 but became essentially the same as the GH rate in 2006. Both WC and GH show a high proportion of reimbursements exceeding twice or even three times the median rate. This case study reinforces the observation that costs are difficult to control in an emergency room setting.

Radiology in Oregon

In 2002, the Oregon fee schedule for a shoulder X-ray was above the median amount paid in Group Health. Between 2002 and 2006, the fee schedule lowered that amount but kept it above the Group Health median. The Group Health reimbursement level remained about the same over that time frame. The distribution of payments for a shoulder X-ray is complicated by having many payments separated into a fee for reading the X-ray and a fee for taking the X-ray. The workers compensation payment level declined from 2002 to 2006 and moved closer to that for Group Health.

This case illustrates that:

- *Component payments produce a distinctly different pattern for the reimbursement distribution*
- *Low inflation and regular maintenance can help fee schedules keep the prices paid for care on workers compensation cases consistent with the medical marketplace*

This final case study looks at a decrease in the MAR for CPT Code 73030¹⁴ in Oregon. Figures 6a and 6b chart the distributions of reimbursements for GH and WC that occurred in conjunction with a reduction in the MAR for shoulder X-rays in Oregon between 2002 and 2006.

A 9% decrease in Oregon's WC fee schedule maximum reimbursement for a shoulder X-ray decreased WC physician reimbursement by nearly the same percentage. This provides another example in which the fee schedule change matches the overall change in reimbursement. But, again, a closer look at actual reimbursements shows that this is not because payments conform to the schedules. With three-fourths of WC reimbursements falling below the fee schedule, there must be other factors at work.

This case study involves a complication in the way medical fee schedules work. The curves for both WC and GH are more spread out than for the other services in this report, with the multiple vertical steps on each of the WC curves indicating payments being made at several different amounts. The reason for this pattern is that the radiologist who reads a shoulder X-ray may not work for the same provider as the technician who takes the X-ray. Fee schedules deal with this by breaking the amount for an X-ray into two components: a professional component for reading the X-ray and a technical component for taking the X-ray. Both are billed under CPT Code 73030.¹³ The MARs shown here correspond to a single "global fee" for the full X-ray service. The presence of component payments produces the stair-shaped curves in Figure 6.

¹⁴ This CPT code refers to a radiological examination of the shoulder (complete, minimum of two views). This CPT code should be supplemented by a "modifier" in the event that the charge is only for reading the X-ray (professional component) or only for doing the study (technical component) [1].

Figure 6a: Shoulder X-Ray, Distributions of GH Reimbursements for CPT Code 73030, State of Oregon, Service Years 2002 and 2006

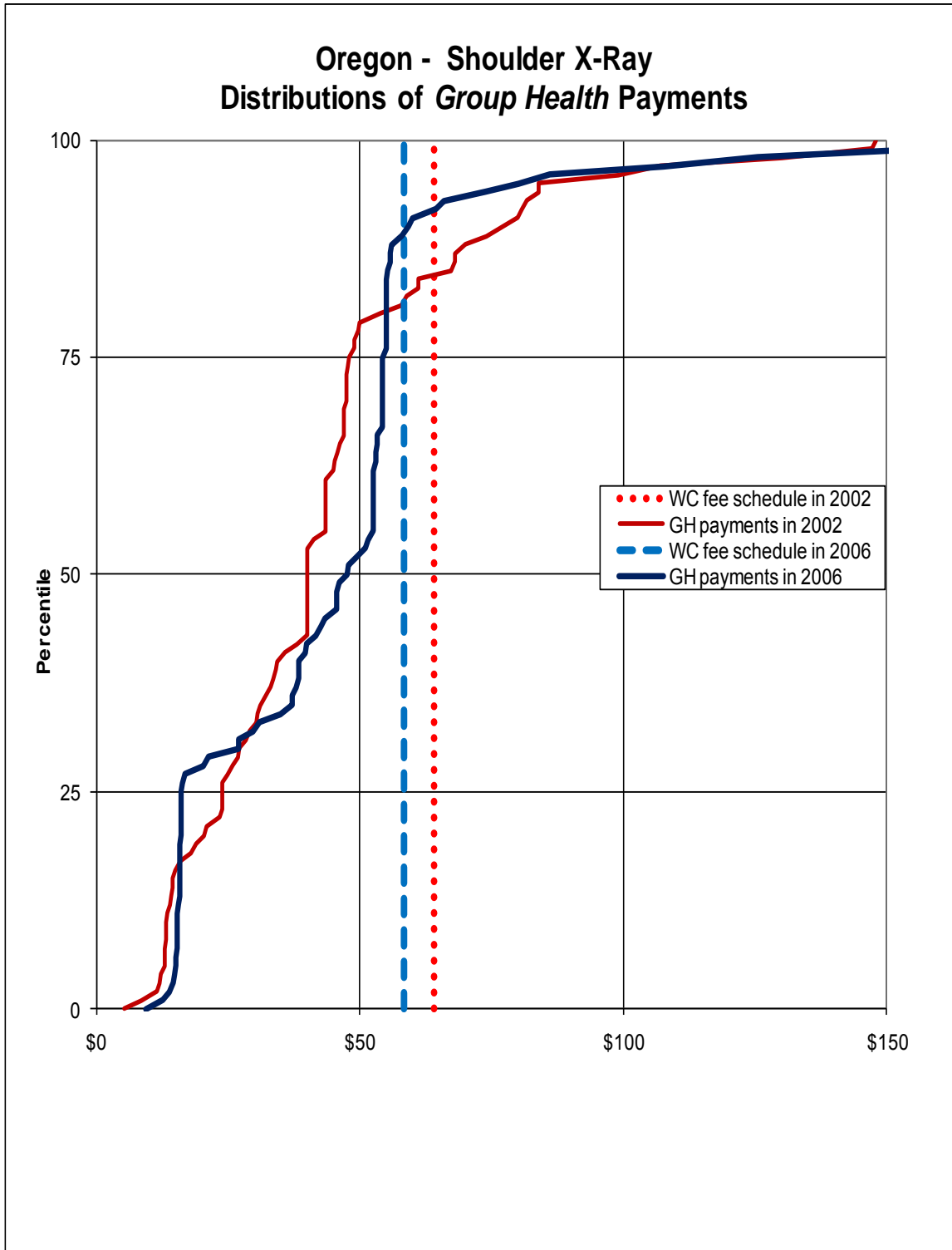
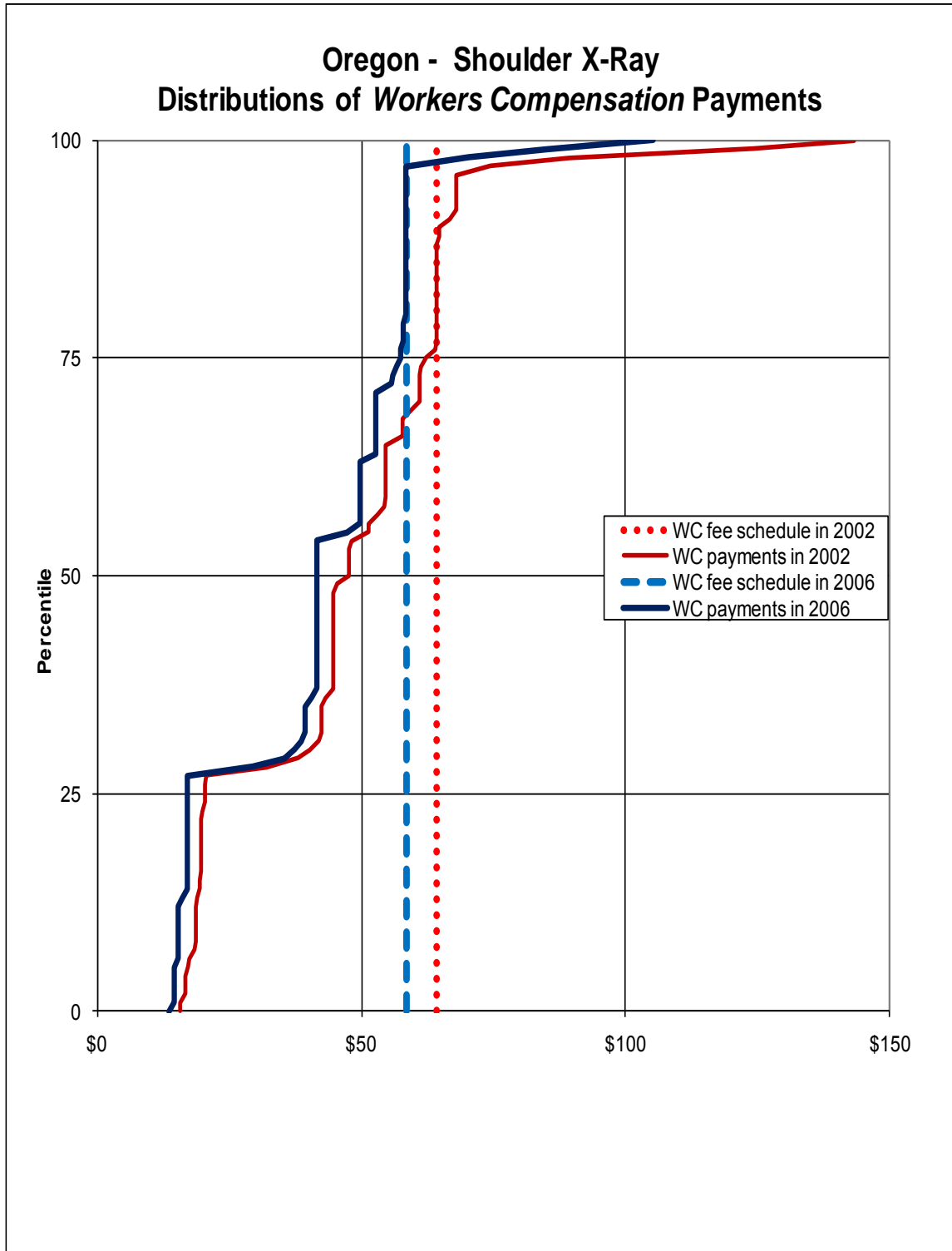


Figure 6b: Shoulder X-Ray, Distributions of WC Reimbursements for CPT Code 73030, State of Oregon, Service Years 2002 and 2006



The Oregon MAR for CPT Code 73030 dropped from \$64 in 2002 to \$58 in 2006. Comparing the GH experience with the fee schedule change, Figure 6a shows that:

- More than 85% of GH reimbursements were below those MARs, due in part to reimbursements for only one component of the full X-ray service
- There was very little change in market price over that time period

The WC curves in Figure 6b show that for both 2002 and 2006:

- There are vertical steps at around \$20 and \$40 due to separate reimbursements for professional and technical components, respectively. These would combine to around a \$60 “global” fee that may then be compared with the MAR.
- Comparatively few procedures were reimbursed above the MAR. Component billings contribute to this. It is interesting that as the MAR was reduced, the percentage at or below the MAR increased from about 90% in 2002 to over 95% in 2006. This suggests the influence of outside factors, such as more bill review or more provider network arrangements keyed to the fee schedule.
- About three-fourths of payments were made below the MAR, making the proportion concentrated at the MAR increase somewhat, from about 15% in 2002 to about 20% in 2006.

The shift at the MAR is mirrored throughout the entire distributions, with the 2006 WC reimbursement curve shifting to the left of the 2002 curve. This parallel pattern indicates a stable mix between professional, technical, and global billings for CPT Code 73030.

Although complicated by component billings, this example provides a near “textbook” picture of how a WC medical fee schedule change should function. For 2002, in Oregon, the average WC reimbursement for a shoulder X-ray was only slightly higher than the market rate, and the downward correction in the MAR lowered it to just under the market rate by 2006.

CONCLUDING REMARKS

These six case studies only begin to cover the variety of changes in physician reimbursement patterns as fee schedules change. The cases were selected from different states and different types of procedures. Generally speaking, the variation in pattern is greater between states than between procedures—but every procedure in every state has its own story.

Recall several general observations on how such changes influence costs in light of the case studies:

- *The change in average WC reimbursements resulting from a change in a state physician fee schedule depends heavily on the relationship between the fee schedule and the market prices for medical services.* All of the case studies speak to this. Consider, for example, the case study of a physical therapy procedure (CPT Code 97110) in Maryland (Figures 3a and 3b). While multiple applications complicate the picture somewhat in that case, the change in the fee schedule maximum reimbursement, from below to above the market rate, dramatically shifted the average WC reimbursement from well below to near parity with the average GH market rate. By contrast, the radiology example (CPT Code 73030) in Oregon (Figures 6a and 6b) illustrates some advantages of keeping fee schedules in line with market prices.
- *WC fee schedules are more effective at controlling the cost of high-volume low-priced procedures than low-volume high-priced procedures.* The physical therapy case study (CPT Code 97110) is a good example of a high-volume low-priced procedure. These procedures are typically very concentrated at the fee schedule MAR amount, making the impact of a change theoretically easier to predict but not necessarily so in practice (Figures 3a and 3b). The CTS surgery case study (CPT Code 64721) illustrated that even when the fee schedule maximum reimbursement is set above market rates, there can still be a tendency for reimbursements of expensive procedures to exceed the fee schedule maximum reimbursement. In theory, this would suggest greater unpredictability of the cost impact of changing the fee schedule maximum reimbursement for expensive procedures, even though the impact may prove surprisingly predictable in practice (Figures 4a and 4b). Another contrast arises when considering the doctor’s office visit case study (CPT Code 99213: high volume, low price) as compared with the much more variable and more expensive emergency room visit (CPT Code 99283: low volume, high price). Again, the high-volume low-cost procedure is more concentrated at the fee schedule maximum reimbursement, but this does not necessarily translate into success at keeping prices below the market rate.
- *The impact of increasing a WC fee schedule maximum reimbursement is not simply the reverse of decreasing the schedule amount.* In the last case study on shoulder X-rays (CPT Code 73030—Figures 6a and 6b), a decrease in the maximum reimbursement produced a near constant proportional shift over the complete distribution of physician payments—even though there was rather little concentration at the fee schedule amount. Contrast this with two case studies of high-volume low-cost procedures: CPT Codes 97110 and 99213, which showed a greater change in the pattern of WC physician payments despite their having higher proportions of reimbursements at the fee schedule amount. The office visit (CPT Code 99213) case study also showed how some providers are motivated to increase fees

above market rates after an increase in the WC fee schedule. A profit motive would help explain why some providers increase their prices when the fee schedule goes up, but it would not necessarily suggest the opposite response if the schedule were to go down.

Medical fee schedules have been around for many decades and have been shown to be an effective means to control medical costs in WC. Regulating reimbursements to physicians is perhaps also the most straightforward means for controlling medical costs for Medicare and GH, as well as for WC. With the advent of more complex billing schemes, such as Medicare's Ambulatory Payment Classifications (APCs) and Diagnosis Related Groups (DRGs), the task of building and maintaining WC medical fee schedules is becoming more challenging. These billing schemes and other reforms, such as treatment protocols, are meant to address utilization of services as well as prices. To meet the challenges these pose to monitoring, estimating, and ultimately controlling WC medical costs, it is important to make optimal use of information that reflects the entire medical marketplace.

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