



2002

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O'Connell, Lenahan; Grossardt, Ted H.; Siria, Bruce; Marchand, Scott; and McDorman, Maureen, "Efficiency Through Accountability: Some Lessons from Kentucky's Improved Medicaid Transit Service" (2002).

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Notes/Citation Information

Published in *Journal of Transportation and Statistics*, v. 5, no. 2/3, p. 73-81.

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Efficiency Through Accountability: Some Lessons from Kentucky's Improved Medicaid Transit Service

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ABSTRACT

The cost of providing nonemergency transportation to Medicaid and other transportation-eligible people has escalated sharply in the United States. In response, many states have reformed their human services transportation delivery systems. In this paper, we assess the results of Kentucky's comprehensive reform of its transit system, including the impact on the quality of transit service for Medicaid-eligible users. With three sources of data—financial and other service data, a sample of Medicaid-eligible residents, and a sample of the transit providers—we assess the effectiveness of the new system. The data show that patronage levels increased dramatically under the new process, while unit costs declined substantially. Further, despite measures taken to increase efficiency, passengers still expressed satisfaction with the service. We attribute these positive results to an improved structure of accountability. The conclusion contains implications for future reforms.

INTRODUCTION

Across the United States, there is a rising demand for transportation services for the poor, disabled, and elderly, many of whom live in rural areas not

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served by fixed-route public transit (Bernier and Seekins 1999). Medicaid transportation demand and expenses, for example, have been escalating sharply in recent years. As the population ages and as welfare recipients are required to work, this demand for transportation will grow apace. The anticipated expansion in demand for transportation services could exacerbate current financial and other strains on the system.

In response to this trend, many states have begun to reform their transportation delivery systems, especially those providing nonemergency medical transportation, the most frequently provided type of transportation (Raphael 1997; 2001). To be sure, there is room for reform. Many states maintained systems plagued with fraud and abuse as well as poor organization and overlapping services of different agencies providing transportation (Raphael 2001; HCFA and NASMD 1998). But it is also possible that attempts to reform such systems will fail to restrain costs or only do so by sacrificing the quality of service.

In this paper, we evaluate the results of a wide-ranging, 1998 reform of the transportation system in Kentucky. One of our goals is to assess the possibility that the reform effected cost savings through reductions in service. The Kentucky reform package combined two of the more popular strategies for transportation reform—capitation and a broker system—and did so in a uniquely comprehensive manner designed to enhance the accountability of the four main players in the system: the state, the brokers, the transportation providers, and the riders.

This research assesses Kentucky's comprehensive approach to reform as a model for other states. Specifically, we address these questions:

1. Did reform reduce the unit cost of providing services?
2. Did it maintain or raise the quality of service?
3. Did it reduce waste, fraud, and inefficiency?

If the reform succeeded in doing all three, then Kentucky's approach to building accountability into its system may be of use to other states. We describe the current approach to reform and then the specifics of Kentucky's transformation of its human services transportation system. After assessing the approach in terms of its impact on the ability of the state to hold the providers of services accountable, we describe the research design and data. Three pri-

mary sources of data were considered: a sample of Medicaid-eligible Kentucky residents; a sample of transportation providers; and financial and service data on the number of passengers conveyed each month, the average length of trips, and the average cost. We also conducted interviews with 15 brokers.

Recent Reforms

To reduce Medicaid transportation expenditures, many states have turned to two reforms in particular—transportation brokerages and capitated rates. These can take a variety of forms, may be combined into one reform package, or may be applied across an entire state or only in specific portions of it (Raphael 2001).

Brokerages and systems of capitation have their respective strengths and weaknesses. Under a brokerage, one broker is given the responsibility of assigning riders to providers. The broker is encouraged to select the most appropriate provider for a particular rider. Brokers can monitor the providers to eliminate waste and fraud, but their effectiveness at doing so is dubious. Some brokers are paid a fee for each ride they broker and some are paid a capitated rate for all the potential riders in their area.

Capitated rates are explicitly designed to encourage cost reduction. Brokers are given a set amount of money for each person in a region who qualifies for a specific type of transportation service, whether or not the qualified person actually uses it. It seems likely, therefore, that brokers under systems of capitation will work harder to reduce costs than brokers who are paid a fee.

Capitated rates may produce their own set of problems. In most states, capitation is operated through Medicaid health maintenance organizations (HMOs). As a condition of receiving a Medicaid contract, the HMO must provide transportation services. This has the advantage of shifting the risk of excessive cost to the HMO. It does, however, present a problem associated with managed health-care—reductions in quality or access to service. Obviously, states do not want to reduce costs by reducing either the quantity or quality of service. So a means must be found to ensure that service providers continue to make appropriate, timely, and comfortable transportation available to all who need it.

From the limited amount of research on some of these reform efforts (Raphael 1997; 2001), the turn to brokerages and capitated rates may be reducing costs in the states. Logically, the reforms can save money through three distinct means: 1) improvements in the organization and delivery of services, 2) reductions in the amount of fraud, and 3) reductions in the quality of the service provided.

TRANSIT DELIVERY BEFORE AND AFTER REFORM

Kentucky's set of state reforms is considered very comprehensive. It divided the entire state into 16 mutually exclusive brokerages so that all transportation-eligible Kentuckians in all the state's 120 counties had access to transportation for the first time (Michels and Bogren 1998). It then devised a capitation system based on the number of transportation-eligible citizens in each region. The capitated rate per person, which varies from program to program, is multiplied by a percentage of the potential users to arrive at a lump sum, which is agreed on in the contract with the broker. This places a limit on the state's financial liability, but it also places limits on the broker's capacity to pay the providers. To remain solvent, the brokerage must avoid paying the providers more money in total than it receives from the state.

In addition to the Medicaid-eligible, the Human Services Transportation Delivery Program (HSTDP) covers most other programs with a transportation component, including Temporary Assistance to Needy Families (TANF), vocational rehabilitation, and services for the blind. Each broker is allocated a lump sum to provide transportation in its area. After paying providers, the broker keeps the remainder. Unlike other states with capitated rates, Kentucky does not rely on HMOs to broker services.

The HSTDP is a significant departure from the prior transportation delivery system. Previously, transportation services were funded separately by the various government transportation programs affiliated with Medicaid, TANF, Vocational Rehabilitation, or the Department for the Blind. Most of the actual transportation was provided by private companies and in some cases by not-for-profit organizations such as Community Action Agencies. This fragmented approach proved expensive; the cost of

providing nonemergency transportation in Kentucky increased 270% between 1991 and 1998 (Planning and Technology Solutions Team 2000).

Before the broker program, the official policy required a customer to access service by calling the local Community-Based Service Office, which would then provide a voucher to the recipient for a trip. In reality, however, people needing transportation to a doctor's office, training center, hospital, or other legitimate destination often called a private transportation provider directly. The provider (e.g., a cab company) determined eligibility and then conveyed the recipient to his or her destination. Subsequently, the provider was compensated by the state.

By law, many other types of trips were not covered by Medicaid and other governmental programs, including those to the pharmacy and supermarket. In general, Medicaid recipients were allowed to obtain rides only to approved medical facilities and TANF recipients only to approved training facilities and work sites. For other types of rides, riders had to pay out of pocket. It was difficult, however, for authorities to monitor the actual services rendered, and it was feared that taxpayers were paying for numerous unauthorized trips (e.g., to a pharmacy or hairdresser).

Under the new HSTDP capitated-broker program, the recipient calls the broker, who determines eligibility and then assigns the rider to a transportation provider. Preauthorization is required for the service rendered, and the broker pays the provider for the specific service authorized.

Under the new HSTDP broker program, it is in the brokers' monetary interest to keep the payments to their transportation providers as small as possible. Cost control can be accomplished in a variety of legitimate ways: 1) by reducing the incidence of payment for unauthorized rides, 2) by carrying more than one rider on a specific trip, and 3) by reducing the length of rides. The brokers are also rewarded for minimizing payment to providers for trips to unauthorized destinations, such as the drugstore and supermarket.

These changes in the structure of financial incentives, though in theory an improvement, also set up some possible disincentives. Since the brokers receive a lump sum payment, they may attempt to make ends meet by limiting the number of legitimate trips outright or by filling the vehicle, thus increasing pas-

sengers' ride time or time spent waiting to be picked up while additional passengers are picked up. It is therefore possible that financial savings may be purchased at the price of rider satisfaction.

STRUCTURE OF ACCOUNTABILITY

Most definitions of accountability focus on its essential characteristic: answerability (Rosen 1998; Miller 1991; O'Connell et al. 1990; Dwivedi and Jabbar 1989; Caiden 1989; Romzek and Dubnick 1987; Frink and Ferris 1998).

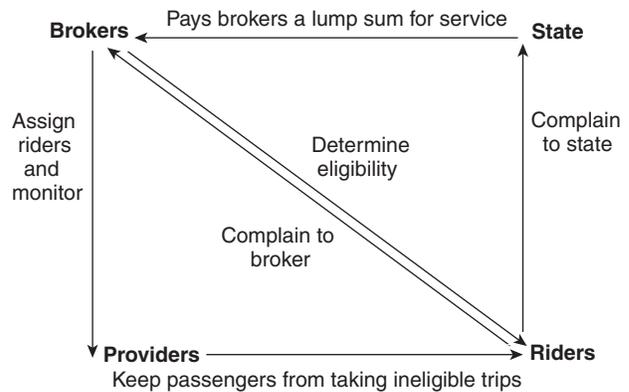
Building accountability into government institutions is no easy task, as an individual or entity can be answerable to more than one party and for more than one task. All these can conflict in various ways. For example, accountability to customers for the quality of service can conflict with accountability to taxpayers for cost-effectiveness.

Under the old system for transportation, there appeared to be a breakdown in the structure of accountability. Working from a variety of offices in the state capital, state agencies were ill-positioned to monitor and regulate the providers. As a result, transportation providers seemed to be giving unauthorized rides to customers and/or charging for more miles than necessary (Michels and Bogren 1998). Although the customers were happy with the services paid for by the government, many of these services were inappropriate.

The capitated broker system was designed to increase accountability and alleviate these problems. Under this system, each broker is responsible for rides provided in a specific region. Presumably, to keep expenditures below the lump sum established by the system of capitated payments, brokers are motivated to maximize the efficiency of service delivery in their region.

Accountability cannot be guaranteed, however. There is always the possibility that the broker and provider will cut corners in ways that lower the quality of service. For that reason, Kentucky's reform also calls for a mechanism for transit users to register complaints with their brokers and/or the state. The state keeps a record of these complaints, and they can lead to a loss of contract in future years. Thus, the brokers can be held accountable by the state for lapses in service. Figure 1 shows the

FIGURE 1 The Structure of Accountability Under the Capitated Broker System



four principle players in the accountability structure: brokers, providers, riders, and the state. The state holds brokers accountable through the contract to broker all rides in a region in return for the capitated payment. This motivates brokers to minimize costs. Brokers in turn hold riders and providers accountable by determining rider eligibility and assigning riders to a provider. Brokers are motivated to eliminate all forms of waste and fraud in order to minimize their expenditures. With broker payments limited to eligible trips only, providers will be motivated to deny ineligible trips to riders. Riders, for their part, will hold the state and the brokers accountable by filing complaints about service quality, which will motivate brokers to maintain the quality of service and access to care.

In another phase of this research, the 15 active HSTDP brokers were interviewed (a lawsuit over which company would broker the 16th region delayed its entry into the program). The brokers indicated much concern for the needs of the users: several reported a policy of routine spot checks of their providers to see that pickups were punctual; most reported a policy of inspecting the providers' vehicles to see that they were up to the safety codes. Brokers also indicated that the complaint system was working. Users of the services had access to both the state and their regional broker should they have cause for concerns regarding the system. The positive statements of the brokers notwithstanding, there is still a chance that the broker system may not be providing satisfactory service. A complete assessment of the new system requires, therefore, a dual focus: one on costs; the other on customer satisfaction.

METHODS

To assess the ability of the new system to hold the various parties accountable, several types of data were needed: 1) before and after statistics on costs and ridership, 2) surveys of transportation users, and 3) surveys of transportation providers. Rider assessments of the service after reform are critical. Presumably, if riders are indeed satisfied with a service after reform, the cost savings of that reform did not come at the expense of quality service.

Our estimate of the reduction of fraud or waste is necessarily indirect. Clearly, reform has the potential to reduce the income of some providers more than others. Presumably, the brokers will shift business to the more efficient providers when assigning riders. The inefficiencies of the old system may be most likely among for-profit providers who specialized in Medicaid transportation and were quite small. If this was the case, we would expect to find that, under the new system, brokers shift riders to the larger providers, especially those providers that can cluster rides.

Financial, Mileage, and Usage Data

Financial, mileage, and usage data were examined in order to compare conditions before and after implementation of the HSTDTP broker system. Data representing “before” conditions were obtained from the Kentucky Cabinet of Health Services. For each month in federal fiscal year 1997 (October 1996–September 1997) and for each county, information was provided on the total miles of service, the number of trips, and the total amount of payment for Medicaid transportation. This period was selected because it was the last full federal fiscal year before onset of the reform. Individual county data were then aggregated into totals based on the new regions under control of a broker. Fiscal year totals and monthly averages of miles, trips, and payments were summarized and average monthly cost-per-trip, cost-per-mile, and miles-per-trip indices were calculated for each region.

Data representing “after” conditions were obtained from the Kentucky Transportation Cabinet (KYTC). In order to assess the actual changes experienced in the various indices of efficiency of performance, broker data for 1999 were compared with the comparable calendar months of federal fiscal year

1997. For each broker region, data were provided on the amount paid to the broker by KYTC, the aggregate amount paid to subcontractors by the broker, total Medicaid transportation trips provided within the region, and the total miles for these trips.

User Survey

The Urban Studies Institute at the University of Louisville, with the assistance of the University of Kentucky Transportation Center, developed a telephone questionnaire of approximately 100 questions. The survey instrument probed the experiences of Medicaid transportation clients with the services they received before and after the start of the HSTDTP. Survey participants were queried about their frequency of usage of HSTDTP transportation services, the type of vehicle on which they are most often a passenger, and their judgment of the transportation service in terms of driver helpfulness and courtesy; trip safety, timeliness, and dependability; and vehicle cleanliness, comfort, and maintenance.

The broker in each of the 15 participating HSTDTP regions supplied current lists of persons eligible for Medicaid transportation service in that region. Where telephone numbers were not included on the lists, survey researchers at University of Louisville attempted to find them using various techniques. Next, the researchers randomly called users. In order to obtain approximately 100 completed surveys in each HSTDTP region, the interviewers had to place two telephone calls for each completed survey. Unfortunately, the University of Louisville Survey Research Center did not compute a true response rate, because many of those calls were second calls to the same phone number. Thus, the true response rate, though unknown, was greater than 50 percent. Since we are concerned with before and after comparisons across the entire state, we did not adjust the sample for population size within regions.

Provider Survey

We sent a written survey to all the providers in the state. Some were small, private sector companies, some were nonprofits, and some were brokers who also provided transportation. Since most of the providers were active in the previous system, the survey instrument was designed to elicit assessments of change. Specifically, we wanted to see if the providers

TABLE 1 Variables and Related Questions from the Provider Survey

Group trips. "I have been able to group trips effectively with the new broker system." Strongly agree = 5; agree = 4; neutral = 3; disagree = 2; strongly disagree = 1.

Quality. "The overall quality of service I provide to my Medicaid riders has improved under the new system." Strongly agree = 5; agree = 4; neutral = 3; disagree = 2; strongly disagree = 1.

Brokers are fair. "The broker has a fair procedure for allocating trips among all the providers in my region." Strongly agree = 5; agree = 4; neutral = 3; disagree = 2; strongly disagree = 1.

More second riders. "My organization's average number of second passengers (of all kinds) per trip under the broker system has:" increased = 3; remained the same = 2; decreased = 1.

Revenue change. "My organization's revenue for Medicaid transportation services under the broker system has:" increased = 3; remained the same = 2; decreased = 1.

Share of trips are Medicaid. "What share of your trips is for Medicaid?" Nearly all = 4; three-fourths = 3; one-half = 2; one-fourth or less = 1.

Companies with vans and buses. All companies with vans or buses were coded 1; all others were coded 0.*

Small taxi companies with no vans and buses. All providers with 10 or fewer cabs and no vans or buses were coded 1; all others were coded 0.*

*The two variables about organization type and size were based on responses to this question: "How many of each type of vehicle do you have: buses, taxis, minivans, and other?"

were adding passengers on each run. We also wanted to see if the brokers were referring riders to the small companies, especially those without vans and buses. We also asked about assessments of the fairness of the brokers' allocation of rides. Of 160 providers, 102 returned useable surveys. The taxi companies were less likely to return a questionnaire—58% versus 69% of the other providers. The variables from the provider survey and their wording are in table 1.

FINDINGS

Accountability for Costs

Did the new HSTDP capitated broker program cut costs? The answer is an unequivocal yes. The before and after comparisons summarized in table 2 show that even though the average number of monthly

trips (i.e., the number of passengers conveyed) rose to 94,615 from 59,904, an increase of almost 58% in just 2 years, the average monthly mileage went from 1,464,516 to 1,180,189, a decrease of 19.4%. The average trip per passenger carried dropped from 24.5 miles to 12.5 miles.

Table 2 also shows a marked decline in the amount paid per trip, from \$29.03 to \$23.86, a decrease in average cost of 17.8%. This, of course, is proportionately less than the decline in mileage per trip. One reason for this is the costs associated with running the broker service. We estimate that the statewide administrative cost of a typical broker operation is \$4.34 per trip, or approximately 18% of the total cost per trip. A rise in the number of trips was expected for several reasons: 1) prior to the broker program, 12 of the 120 counties in Kentucky had no transportation service, 2) the new program was heavily advertised by the state, 3) demand for Medicaid service was rising throughout the 1990s, and 4) the implementation of the program coincided with the imposition of work requirements under welfare reform.

How were costs reduced? There are several possibilities. One is trip grouping. This can be inferred when data show changes in miles-per-trip, which was the case as mentioned at the beginning of this section. Trip grouping can also be inferred from the type of vehicle in which the survey respondent usually travels while receiving Medicaid transportation service (car, taxi, 7 to 15 passenger van, or bus). Table 3 shows a reduction in the use of automobiles for Medicaid transportation service and an increase in the use of vans and buses—a finding in line with greater trip grouping. We put taxis and autos in one category and buses and vans in the other to create a 2 by 2 contingency table. The shift from taxis and autos to vans and buses after the onset of the broker program is statistically significant (Chi-square = 6.55, *d.f.* 1, *p* < .05).

TABLE 2 Comparison of Monthly Financial Mileage Data Before and After the Start of the New HSTDP (Broker) Program

	FY97 (before)	FY99 (after)	% change
\$ paid per trip	\$29.03	\$23.86	-17.8
Number of trips	59,904	94,615	57.9
Total monthly mileage	1,464,516	1,180,189	-19.4
Average mileage per trip	24.5	12.5	-49.0

TABLE 3 Type of Vehicle Used for Medicaid Transportation

Vehicle type	Before HSTDP	After HSTDP
Car	18.3%	10.6%
Taxi	35.1%	37.3%
Van	35.7%	40.7%
Bus	10.2%	10.9%
Did not recall	0.7%	0.4%

n = 1,036

Note: Columns do not necessarily sum to 100% due to rounding.

Accountability for Quality

This section addresses the possibility that the observed reduction in cost per trip was gained at the expense of user satisfaction. A series of questions in the telephone survey of Medicaid-eligible individuals covered the degree of user satisfaction with the HSTDP. For comparison with the previous program, respondents were also asked to estimate their level of satisfaction prior to the HSTDP.

Table 4 presents the wording of the questions that concern quality and the percentage of respondents answering “always” or “usually” to them before and after the start of the broker program. Survey respondents expressed the highest satisfaction levels with drivers, vehicles, broker representatives, and service punctuality in that order. Table 4 indicates that before and after declines in punctuality of service and broker courtesy, although small, are statistically significant.

The greatest decline was in punctuality of pickup. Prior to the HSTDP, 91.5% of the survey respon-

dents reported that they always (or usually) were picked up on time; now 83.6% say that. This decline in punctuality could be a consequence of increased trip grouping.

The key question then is this: are riders less satisfied with the new system? Although the before and after differences are not great, they are statistically significant, which suggests a decline in quality of service. However, when asked if they had had a particularly bad experience with the old and new systems, 17 percent of respondents reported a bad experience when discussing the new system and 18 percent when discussing the old.

Accountability for Efficient Allocation

The decrease in cost per ride suggests that the brokers are allocating rides to the most efficient providers. Indicators of efficient allocation would be: more trip grouping, an increase in revenue reported by providers grouping rides, and a shift toward those providers with vans and buses in their fleets.

The survey responses of the providers suggest that all three have been occurring. Thirty-eight percent of the providers say they have increased the number of second passengers on vehicles. The correlation matrix in table 5 shows that the transit providers indicating more second passengers per vehicle are more likely to report they are receiving increased revenues from Medicaid ($r = .37, p < .01$). Medicaid revenues are also shown to have increased for those

TABLE 4 User Satisfaction Before and After the Start of the New HSTDP Program (Percentage responding “Always” or “Usually”)

Question	Before	After	% change	Significance level
Are the broker representatives helpful when you call?	90.8	87.8	-3.0	$p < .05$
Are the broker representatives courteous when you call?	92.3	88.9	-3.4	$p < .01$
Are you picked up on time?	91.5	83.6	-7.9	$p < .01$
Do you get to where you need to go on time?	93.4	90.0	-3.4	$p < .01$
Are the drivers helpful?	93.1	93.0	-0.1	NS
Are the drivers courteous?	93.9	93.7	-0.2	NS
Do they drive safely?	94.8	94.5	-0.3	NS
Is the vehicle clean?	93.4	92.8	-0.6	NS
Is the vehicle comfortable?	92.8	94.2	1.4	NS
Does the vehicle seem to be well maintained?	92.7	93.8	1.1	NS

n = 1,036

TABLE 5 Pearson Correlation Coefficients

	1	2	3	4	5	6	7
1. Revenue change							
2. More second riders	.37**						
3. Group trips	.45**	.37**					
4. Share of trips are Medicaid	-.10	-.21*	-.28*				
5. Quality	.43**	.22*	.58**	-.35**			
6. Small taxi companies and no vans and buses	.15	-.34**	-.28**	.20*	-.04		
7. Companies with vans and buses	.18	.39**	.28	-.25	.17	-.38**	
8. Brokers are fair	.36**	.40**	.65**	-.32**	.55**	-.27**	.36**

* $p < .05$

** $p < .01$

n = 102

who report they have been able to group trips effectively ($r = .45, p < .01$). As expected, the companies with vans and buses in their fleets are more likely to report an increase in second riders ($r = .37, p < .01$). However, the relationship between having large vehicles and revenue change is not significant. Similarly, small taxi companies (those with 10 or fewer vehicles and no vans and buses) are not more likely than the other providers to report a decrease in Medicaid revenues. However, the correlation between small taxi companies and adding a second passenger is negative ($r = -.34, p < .01$) and small taxi companies are less likely to report success at grouping passengers ($r = -.28, p < .05$).

The correlation between small companies and reliance on Medicaid for passengers ($r = .20, p < .05$) implies that small taxi companies without vans and buses will lose Medicaid revenue. Yet, the correlation between change in Medicaid revenue and small taxi companies is insignificant.

We also asked about perceptions of the fairness of allocation of riders by brokers. Providers with the greatest dependence on Medicaid were less likely to see the brokers' assignments of riders as fair. Those who said the procedures were fair were likely to say they could group trips ($r = .65, p < .01$), had added second riders ($r = .40, p < .01$), had increasing Medicaid revenue ($r = .36, p < .01$), and thought the quality of service had gone up ($r = .55, p < .01$). Smaller providers were less likely to say the brokers were fair ($r = -.27, p < .01$) but not more likely to see service quality as having declined.

DISCUSSION AND CONCLUSION

The reform appears to be successful. Despite the rise in the number of riders, there has been a decrease in

total mileage, which seems to be due in part to a significant increase in trip grouping. Overall, the unit cost per trip dropped 18% and the length of the average trip went down. Kentucky's reform has produced a true rarity in government—an increase in the quantity of service at lower cost per unit.

Under the new system of accountability, the broker is in a better position geographically to estimate the appropriate mileage and to arrange trip grouping. As was the case before the broker system, transportation providers are paid by the mile and the number of passengers. However, now they are watched more closely to ensure they do not drive more miles than necessary. The finding that there has been a 20% drop in the total miles reported despite the large upsurge in riders is perhaps most suggestive of less fraud and waste.

The interviews we conducted with the brokers also support the above speculations. Brokers told us they were tracking trip length, and they were convinced that providers could no longer claim more mileage or get paid for trips to unauthorized destinations. A slight increase in the use of vans to transport passengers (with a commensurate decrease in the number of riders being transported in automobiles) is also consistent with the placing of more than one passenger on many of the transit vehicles.

Because each of the four parties can be sanctioned by one or more of the other parties, the structure of accountability is seamless. With the ability to file complaints, Medicaid riders have the power to sanction. Taken together, the findings imply that region-based, capitated broker systems can reduce costs. The implications for improving accountability in transit seem clear: 1) give brokers a financial incentive to economize by, for instance, the use of lump sum capitated payments; 2) facilitate the mon-

itoring of providers by keeping the region over which each broker is responsible of manageable size; 3) provide all customers with a means to report poor quality of service to an outside party. The likely result is more efficiency and less waste with only a modest decline in rider satisfaction.

NOTE AND ACKNOWLEDGMENTS

This is a substantially revised version of a paper presented at the Transportation Research Board Annual Meetings, January 8, 2001, in Washington, DC. We thank the editor and reviewers for their helpful comments.

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