



Dario Longhi, Ph.D.

In collaboration with Nayak Pollissar, Ph.D., Blazej Neradilek, Ph.D. and Barbara E.M. Felver, MES, MPA

**W**ASHINGTON STATE reimbursed \$9.4 million to school districts participating in the Medicaid Administrative Match program<sup>1</sup> for time spent on school-based Medicaid activities in the 2005-06 school year. These federal dollars were disbursed directly to participating school districts by the Health and Recovery Services Administration (HRSA) in DSHS. Participation in this program is voluntary and requires schools to undergo a time study to determine the percentage of time spent by school personnel, administrators, and educators, on approved Medicaid-related administrative activities. In this way local levels of reimbursement can be set.

In the 2005-06 school year, 37 percent of Washington's school districts participated and submitted the results of the time study on the HRSA web-based reporting system. While reimbursement only partially covers the total amount of time dedicated to these Medicaid activities, the dollars recovered were equivalent of about 188 staff positions statewide in the 2005-06 school year, or 1.7 positions on average for each school that submitted a time study.

Washington State was an initial proponent of the Medicaid Administration Program and recently proposed a different, innovative way of conducting a time study.<sup>2</sup> The proposal was designed to be simple and efficient while fulfilling new federal provisions for accountability and accuracy. It included a provision that the department follow-up a year later with a statistical evaluation of the accuracy of the time estimates generated by the new time study procedures. Statistical analyses were to determine whether the new methods were precise enough to measure the actual amount of time spent by school staff on Medicaid activities.

The state Department of Social and Health Services Research and Data Analysis Division was enlisted to conduct the follow-up analysis in collaboration with statistical consultants. This exercise allowed us to identify the degree of precision achieved statewide and also to distinguish the difference in time spent by smaller versus larger school districts. For larger districts, we were additionally able to determine the difference in time spent by designated staff versus "non-designated staff" (mostly teachers). These findings are reported along with the statistical accuracy of the study design on the following pages.

## Key Findings

- 1. The time study design as it was implemented provided an accurate measure of time spent on Medicaid activities, exceeding the required statistical precision.** *See page 2.*
- 2. The overall percent of time spent by school staff on Medicaid activities is nearly 3 percent.** Smaller school districts spend slightly more time, probably due to higher percentages of children that may be eligible for Medicaid services. *See page 3.*
- 3. Larger school districts have dedicated staff members who work more closely with Medicaid-eligible children.** These nurses, social workers, school counselors, and administrative employees spend far more time than teachers on Medicaid activities (7.3 percent of time compared to 1.8 percent for teachers). *See page 3.*
- 4. The dollar amounts recovered by designated versus non-designated staff are about equal.** Although non-designated staff members (mostly teachers) spend less time per person on Medicaid activities, there are far more non-designated staff on the payroll. The actual dollar amounts recovered end up being about equal for the two groups. *See pages 3 and 4.*

<sup>1</sup> The Medicaid Administrative Match program provides reimbursement to governmental entities for providing administrative activities related to outreach and coordinating access to healthcare for people who are potentially eligible for Medicaid or current recipients.

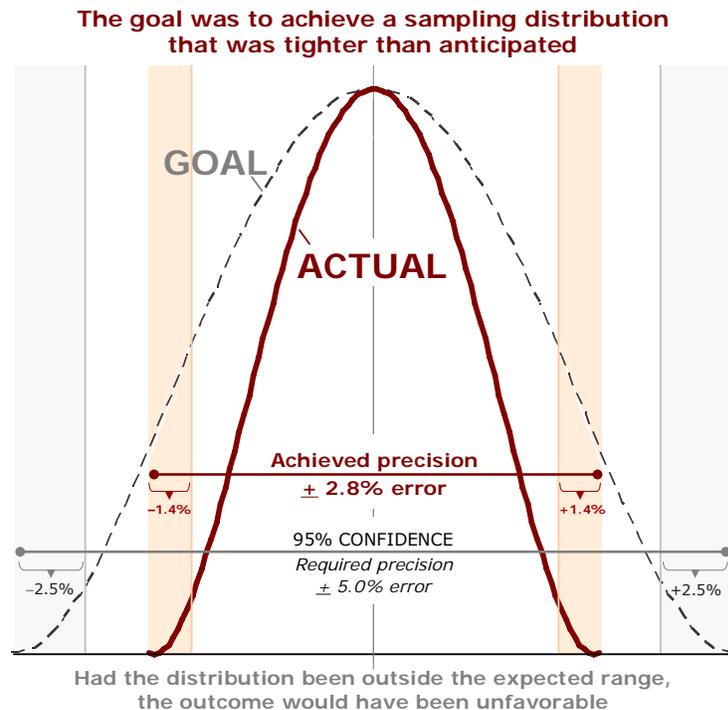
<sup>2</sup> Longhi, Dario. *Time Study Proposal: School Based Medicaid Administrative Match Program Washington State.* Washington State Department of Social and Health Services, Research and Data Analysis Division. October 2003.

## Accuracy of the New Time Study Design

### *Did the implementation of the new design procedures generate an accurate estimate of the actual time spent by school staff on Medicaid administration?*

Time study procedures require that districts calculate the amount of time spent on Medicaid administration with a certain degree of statistical precision. A 5 percent error margin is allowed, with a confidence level of 95 percent. Data was available for the first quarter of implementation, for the fall of 2005. These data became available in late 2006 and are used for this report.

**We found the new design provided an accurate measure of time spent on Medicaid activities, exceeding statistical requirements.**



## TIME STUDY PROCESS

### Time Study Procedures

1. At the beginning of each new school year, schools send the Health and Recovery Services Administration (DSHS/HRSA):
  - A list of staff eligible to participate in the Medicaid Administrative Match program, and
  - The school calendar, quarter-by-quarter, unique to the district.
2. DSHS/HRSA verifies eligibility and selects:
  - Staff sampling (100 percent of all staff for small districts; 100 percent of designated staff – nurses, school counselors, social workers, and administrators – among larger districts; and 40 percent of staff among non-designated staff – mainly teachers).
  - A random sample of 5 days out of each quarter (approximately 60 school days long).
3. School coordinators distribute time logs to the selected samples of staff a few days before the date of the DSHS/HRSA sampled day.
4. School staff members fill in and return to school coordinators the time logs, with written descriptions of their Medicaid related activities.
5. School coordinators check the time logs along with the written descriptions, and enter the data on the web-based DSHS/HRSA reporting tool at the end of each quarter.
6. DSHS/HRSA runs quality checks on the data reported and calculates the overall level of reimbursement for each school district at the end of each quarter.
7. School coordinators check and approve the calculations, based on specific salaries and school overhead expenses.
8. DSHS/HRSA issues reimbursement checks to each school district.

## Time Spent by School Staff on Medicaid Activities

**Overall – in both small and larger school districts – about 3 percent of all school staff time is spent on Medicaid approved administrative tasks.**

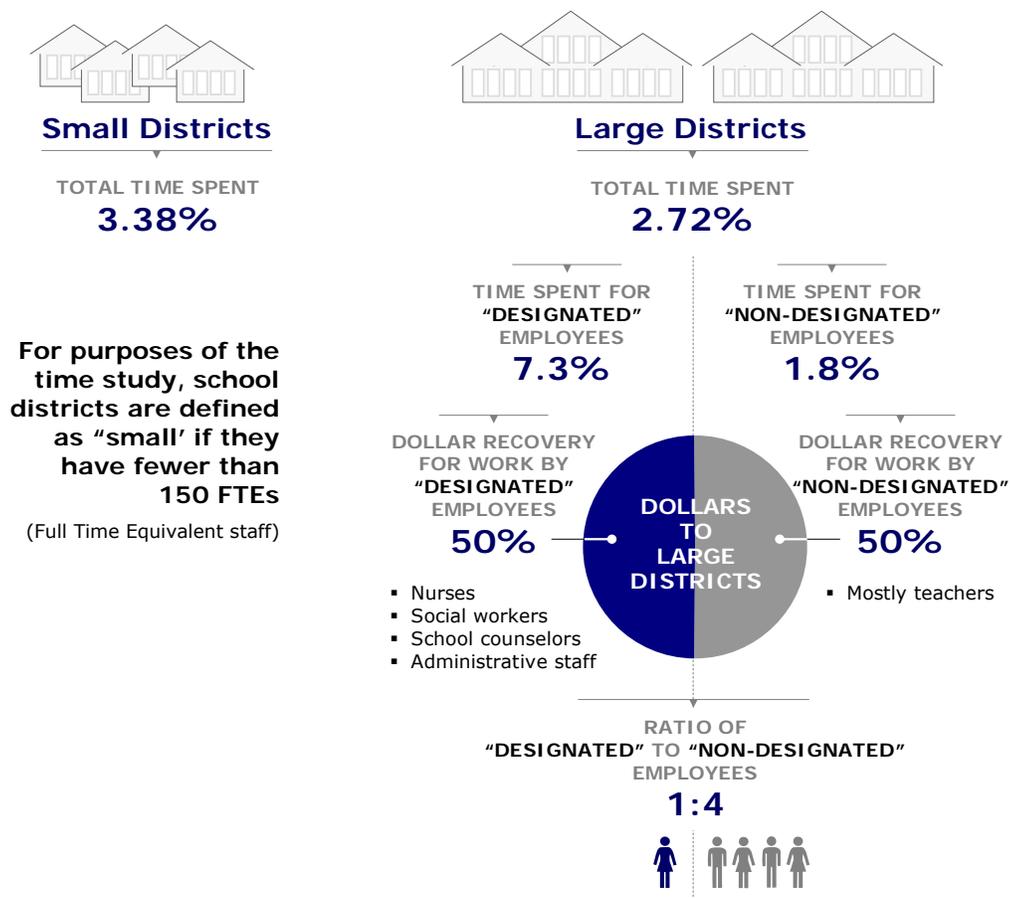
- School staff in districts with smaller schools spend more time on Medicaid administration than districts with larger schools (3.38 percent of their time, compared to 2.72 percent).<sup>3</sup>

**In larger school districts, employees who spend the most time on Medicaid activities are “designated staff.” This is where nurses, social workers, school counselors, and administrative employees spend 7.3 percent of their time.**

- School districts with larger numbers of eligible staff (greater than 150) were determined to be “larger school districts.”
- This analysis was possible due to the more specialized spread of functions across educators and administrators in larger school districts. Staff members in smaller districts have more combined functions on a day-to-day basis, often fulfilling multiple responsibilities.

**In larger districts, “non-designated staff” (mainly teachers) spend much less time – 1.8 percent – on Medicaid activities, but there are many more teachers on the payroll. Because of the greater number their amount of Medicaid reimbursement is about equal to that of the “designated staff” group.**

- The total dollar amount recovered for each group is about equal, representing 50 percent of the total funds reimbursed to larger school districts. *See illustration below.*



<sup>3</sup> Results confirmed the study expectations, which were two: 1) that school staff members in smaller districts were spending more time on Medicaid activities than larger school districts; and 2) that designated staff members were spending more time on Medicaid activities than non-designated staff. Time study procedures took into account these differences and sampled 100 percent of all staff in smaller districts and all designated staff in larger districts. Non-designated staff members in larger districts were randomly sampled, reaching 40 percent of employees.

## Discussion

*Some school districts objected to surveying the time spent by their teachers and sought exemption from having to do so. They posed the question:*

*Is it worthwhile to go the extra mile to randomly survey non-designated (teacher) time, since the average time spent on Medicaid activities is so small?*

- Results of this study suggest the time spent surveying teachers is worth the payback.
- While the time spent per teacher is much smaller – 1.8 percent compared to 7.3 percent per designated employees, teachers out-number designated employees four to one. For that reason, the cumulative time teachers spend on Medicaid activities ends up being equal to the time spent by designated staff. Thus, schools that survey both designated and non-designated employees can potentially recover twice the dollar amount achieved by surveying designated staff alone.

*A random survey capturing 40 percent of teachers may still be cumbersome for some very large districts. The question:*

*Statistically, would it be possible to survey fewer teachers and still get an overall accurate estimate of the time spent on Medicaid related activities?*

- **Yes.** The new data and our calculations show that the required level of statistical accuracy for the statewide estimate (5 percent error at a 95 percent confidence level) would still be reached if we surveyed a lower percent of teachers: as low as 30 percent or more depending on the number of large districts participating.
- A reduction of this percent may provide incentives to larger schools that consider the 40 percent level too much of a burden and may encourage additional larger districts to participate.

## TECHNICAL NOTES

The following table shows detailed statistical results including standard errors of estimates for the state as a whole and for subgroups by size of district and by type of staff –designated or non-designated.

Desired precision (<5 percent error) was achieved for the statewide time estimate and for all but one subgroup estimate: the non-designated one. However, even the precision achieved for the non-designated group was close to 5 percent: 5.8 percent, almost adequate.

TABLE 1  
Precision of Time Estimates

	Estimate of Average Time Spent on Medicaid Activities	Standard Error or Estimate Achieved	Mandated Precision at 95% Confidence and 5% Error	Precision Achieved at 95% Confidence	Precision Achieved at 95% Confidence as % Error	Precision Achieved Compared to Mandated
<b>ALL STAFF SAMPLED, STATEWIDE</b>	2.827%	0.041%	0.141%	0.080%	2.8%	Better (<5%)
<b>Differences by Size of School District</b>						
<b>Small School Districts</b> 100% of all Staff Sampled	3.375%	0.075%	0.169%	0.147%	4.4%	Adequate
<b>Large School Districts</b> 100% of designated staff sampled plus 40% of non-designated staff sampled	2.721%	0.048%	0.136%	0.094%	3.458%	Better (<5%)
<b>Differences Between Designated and Non-Designated Staff in Large School Districts</b>						
<b>Designated Staff</b> 100% sampled	7.296%	0.102%	0.365%	0.200%	2.7%	Better (<5%)
<b>Non-designated Staff</b> 40% sampled	1.820%	0.054%	0.091%	0.106%	5.8%	Almost Adequate

The next table shows the population sizes and the sample sizes overall and for the same subgroups. Sample sizes reflect not only sampling fractions but also completeness of necessary information such as whether the staff was a full time or part time employee.

Noteworthy is the much fewer number of staff among subgroups that were 100 percent sampled: 4,525 staff in smaller districts and 3,129 designated staff in larger districts.

The sampling design is shown to be efficient in that it required only a 40 percent sample of the largest subgroup: 40 percent of the 12,320 non-designated staff. Given the excess in overall precision achieved this sampling fraction could be reduced from 40 to 30 percent, depending on the number of staff participating.

TABLE 2  
Number of School Staff Participating/Sampled and Time Sampled

	Number of School Staff Participating*	Number of School Staff Sampled and/or Having Complete Data **	Percent of Staff Sampled and/or Having Complete Data	Number of 15 minute intervals in quarter	Number of 15 minute intervals sampled	Percent of time sampled
<b>ALL STAFF SAMPLED, STATEWIDE</b>	20,664	11,718	57%	1,680	140	8%
<b>Differences by Size of School District</b>						
<b>Small School Districts</b> 100% of all Staff Sampled	4,525	3,310	100 % sampled but 73% complete			
<b>Large School Districts</b> 100% of designated staff sampled plus 40% of non-designated staff sampled	15,449	7,768	50%			
<b>Differences Between Designated and Non-Designated Staff in Large School Districts</b>						
<b>Designated Staff</b> 100% sampled	3,129	2,794	100% sampled but 89% complete			
<b>Non-designated Staff</b> 40% sampled	12,320	4,974	40%			

NOTES: \*Total staff defined to be 'eligible' according to federal guidelines, included in lists sent to DSHS/HRSA for checking.  
\*\*Most staff members were excluded from analyses due to incomplete data on the number of daily work hours (part/full-time status).

Additional copies of this paper may be obtained from <http://www1.dshs.wa.gov/RDA/>.

