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## **Evaluation of the Medicare Home Health Pay-for-Performance Demonstration Final Report**

### **Volume 1: Agency Characteristics, Costs, and Quality Measure Performance among Treatment, Control, and Non-Participant Groups**

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# 1. Introduction

The Medicare Home Health Agency Pay for Performance Demonstration was designed to test whether providing monetary performance incentives for home health agencies would improve patient outcomes and result in cost savings to Medicare. The demonstration evaluation has employed multiple research methods to ascertain the effects of the demonstration on home health agency practices and patient outcomes, as well as conducting analyses to examine agency characteristics of demonstration participants compared to other home health agencies, and comparing performance of both treatment and control agencies with other, non-participating agencies in terms of Medicare costs. These analyses may be useful in estimating the extent to which demonstration results are likely to be replicated under a national pay for performance system. Analyses completed using data from two years of the demonstration include:

1. Comparison of agency characteristics among treatment, control, and non-participating home health agencies in demonstration states.
2. Comparison of total cost of health care provided to Medicare beneficiaries served by non-participating home health agencies in demonstration states, to complement analysis conducted by the implementation contractor of cost comparisons between treatment and control participants in the demonstration.
3. Comparison of outcome quality measure performance among treatment, control, and non-participating home health agencies in demonstration states, including both cross-sectional and trend analysis.
4. Qualitative analysis of clinical and quality improvement activities of agencies participating in the demonstration, focused particularly on high performing agencies, utilizing information collected during site visits and conversations with participating providers.
5. Analysis of responses to a survey of agencies participating in the demonstration regarding changes in organizational structure, staffing, and practices in response to the demonstration.

This document, which covers the first three analyses listed above, comprises Volume 1 of the Final Report. The site visit and survey analyses are summarized in separate deliverables, which constitute Volumes 2 and 3 of the Final Report.

## 2. Home Health Agency Characteristics: A Comparison of Demonstration Groups

The demonstration design called for randomization of home health agency providers into treatment and control groups within regions, among all home health agencies that volunteered for the demonstration. Treatment agencies were eligible to earn incentive payments, while agencies in the control group were not eligible. The randomization process made it unlikely that any substantial differences in agency characteristics would exist between treatment and control

groups. However, the voluntary nature of the demonstration left open the possibility that demonstration participants would differ from non-participating providers in the same states. Tables 1 through 4 present comparisons of the three groups of home health agencies, treatment, control, and non-participant, in the demonstration states. The analysis is intended to confirm that the treatment and control providers are similar on key agency characteristics, but more importantly, to identify differences between the demonstration participant groups and the non-participant group.

Table 1 shows number and percentage of HHAs within each of the demonstration groups by state. The states are grouped by the regions used for the Medicare pay for performance demonstration. The numbers of treatment and control HHAs are approximately equal within each state and region (chi square probability  $> .95$  testing differences of treatment/control proportions by state), although participation rates differ significantly by state/region ( $p < .001$ ). Specifically, participation rates are highest in Connecticut and Tennessee and lowest in Illinois and California. Illinois and California each have 300 to 500 more providers than the state with the next largest number of providers, which may account for the lower proportional participation in those states, although there were no regional or state caps placed on the number of providers who could participate.

Table 2 shows a comparison of treatment, control, and non-participant home health agencies with respect to third-party accreditation and deemed status. Accreditation requires that the home health agency submit to a rigorous review by an independent accrediting agency. The home health agency may elect to have the accreditation review serve in place of the certification survey ordinarily conducted by the state, in which case it is considered “deemed” to have met the standards for certification. Approximately 20% of home health agencies are accredited by one of the three accrediting organizations, most commonly the Joint Commission. The distribution of accreditation and deemed status does not differ between treatment and control agencies. Non-participant home health agencies are not significantly different from treatment and control providers in accreditation status ( $p = .282$ ), but they are twice as likely to be “deemed” as the demonstration participant agencies ( $p < .001$ ).

Table 3 shows the distribution of treatment, control, and non-participant home health agencies by ownership-control type. As expected, treatment and control agencies are very similar, but non-participant HHAs are much more likely (77% vs. 56%-57%) to be proprietary organizations than demonstration participants, and half as likely to be under Government or Voluntary Non-Profit control as demonstration participants ( $p < .001$ ). While proprietary agencies make up the majority of providers in treatment, control, and non-participating agency groups, it is clear from the “% of Owner Type” row in Table 3 that voluntary non-profit agencies had a propensity to volunteer for the demonstration approximately twice that of either government or proprietary agencies.

Table 4 shows a comparison of treatment, control, and non-participant home health agencies with respect to home health agency type. Demonstration participant agencies differ significantly from non-participants ( $p < .001$ ), in that they are considerably more likely than non-participants to be among Visiting Nurses Associations or hospital-based agencies. Conversely, the percentage of HHAs identified as “Other Freestanding” is much higher among non-participants than among demonstration treatment and control agencies (70% vs. 54%). VNAs and facility-based agencies were roughly twice as likely to volunteer for the demonstration as government and freestanding

agencies. These results tend to parallel the ownership results, since VNAs and hospital-based agencies are more likely to be non-profit than are freestanding providers.

In summary, treatment and control demonstration participants are closely matched on a variety of HHA characteristics, as would be expected given random assignment. Non-participant home health agencies in the same states tend to differ in systematic ways from demonstration participants, particularly in terms of ownership and type of home health agency. Because agency characteristics may affect the response of providers to pay for performance incentives, these systematic differences could affect the degree to which the response to a national pay for performance system may differ from the response of demonstration participants.

### **3. Medicare Cost Savings and Incentive Payments**

For both years of the demonstration, Medicare cost savings, which determined the size of the incentive pool, were calculated for each demonstration region by the demonstration contractor. The results of these calculations were reported to CMS in technical memorandum for each year. (White & Goldberg, 2009; White & Goldberg, 2011) Costs attributed to Medicare patients of treatment agencies were compared with costs attributed to patients of control agencies in 2007, 2008, and 2009. Total Medicare cost was calculated for each patient during the home care episode (which could include multiple PPS payment episodes) and 30 days following the home health episode, for home health, inpatient, skilled nursing facility, outpatient, physician and other Part B, durable medical equipment, and hospice services. Medicare cost savings attributable to the demonstration was calculated as the difference between actual Medicare cost per day for the treatment group in 2008 and a target or expected cost per day for the treatment group. The target cost was calculated by applying the 2007 to 2008 (or, in the second year, 2007 to 2009) Medicare cost per day growth rate (whether positive or negative) for control agency patients to the 2007 Medicare cost per day for treatment agency patients. If the actual cost per day was less than the target cost, the savings to Medicare was calculated as the amount of the difference between actual and target cost per day, multiplied by the number of patient days. This amount became the incentive pool for high-performing agencies in the treatment group.

Medicare cost per day declined from 2007 to 2008 in all groups and all regions except one. In three regions, the decrease in cost was greater for the treatment group than the control group, resulting in calculated Medicare cost savings and incentive payments for providers. The amount of cost savings per day was approximately \$.60 in the Northeast region, In the South region the cost savings per day was approximately \$1.00. In California, cost savings per day was about \$1.75, while, in Illinois Medicare cost per day was higher among treatment group agencies, which resulted in an estimated negative cost savings per day (or increased cost) of more than two dollars. Based on these cost savings, the total incentive pool for 2008 was \$15,232,758. Because there was no cost savings in Illinois, treatment agencies in that state were not eligible for incentive

payments. In each of the other regions, the incentive pool was equal to the estimated cost savings with that region. (CMS Office of Public Affairs, 2010) In 2009, the estimated Medicare cost per patient was higher than the target cost in two regions, the Midwest and Northeast. Therefore, treatment group providers in Illinois did not receive any incentive payments during the demonstration, and providers in Connecticut and Massachusetts received incentive payments only for the first year of the demonstration. In the South, Medicare savings were estimated to be \$1.23 per patient day, for a total incentive pool of \$11,248,312. In the West, Medicare savings were estimated to be \$1.39, for a total of \$3,699,430.

We obtained claims data for a sample of non-participating home health agencies in the demonstration states, and applied the same logic as used by the demonstration contractor to calculate Medicare cost per day for 2007, 2008 and 2009. The sample of non-participating agencies was randomly selected from non-demonstration agencies in demonstration states subject to the following constraints:

- Not a hospice: Agencies were screened by agency name and an analysis was carried out identifying those providers that were outliers on percent of episodes ending with patient death. Every agency identified by name was in the outlier group on mortality, so they were excluded, reasoning that they are primarily hospice providers who (appropriately) provide end-of-life care under the home health benefit, but have very few, if any, patients who would be considered typical Medicare home health patients.
- Not a pediatric agency (screened by agency name). This exclusion turned out to be irrelevant, as there were no claims for beneficiaries served by any of the sampled agencies identified as serving only children.
- Medicare participation date before July 1, 2007. The latest participation date for any treatment or control provider was May of 2007. The July 1 date was set to insure that non-participant sample providers would contribute at least 6 months of 2007 data to the analysis.

A total of 265 non-participating agencies contributed to the analysis, 57 in the Midwest, 44 in the Northeast, 108 in the South, and 61 in the West. Data were obtained for all beneficiaries served by any of the sample agencies during 2007, 2008, and 2009, determined by the existence of at least one Medicare claim for home health services during the target time period. The inclusion criteria were intended to be any claim for any provider with a from or through date during 2007, 2008, or 2009. However, the data provided did not include any claims with a through date after 2009. Because of the censoring of claims with from dates in 2009, we are presenting only the 2007 to 2008 comparisons.

Table 5 shows the estimates of total Medicare cost for patients treated by treatment, control, and non-participating agencies during 2007 and 2008. Cost for treatment and control groups were estimated by the implementation contractor. We estimated

comparable costs for non-participating agencies. Total cost increased in all but one of the subgroups classified by region and demonstration group. However, as shown in Table 6, total patient days, which is a function of number of patient episodes and average length of episode, increased in every subcategory. As a result, cost per patient day declined in all but one subcategory, as shown in Table 7.

Examining the cost attributed to non-participating agencies, their patients in 2007 had costs per patient day that were close to the costs estimated for demonstration participants in three regions, although the cost per patient day in the Midwest region was approximately ten dollars lower than for control agency patients, and about eighteen dollars lower than for treatment agency patients. In the Northeast, patients of non-participant agencies had costs that were essentially the same as control agency patients, and only three dollars less than treatment agency patients. In both the South and the West, patients of non-participating agencies had costs that were between the two demonstration groups. From 2007 to 2008, Medicare cost of treatment agency patients declined in the Midwest, Northeast, and West, but increased in the South. In the regions where cost went down, the decline in Medicare cost per patient day was less than the corresponding declines in both treatment and control agency patient cost. These findings seem to indicate that both treatment and control agencies managed to reduce total Medicare cost in 2008, at least compared to other agencies in the same states. We cannot tell whether this cost reduction was related to participation in the demonstration or is simply a result of the differences previously noted in agency characteristics such as ownership and agency type.

#### **4. CY2008 Quality Measure Performance among Home Health Agency Demonstration Groups**

In order to compare the performance of demonstration treatment, control, and non-participant agencies on outcome quality measures, agency-level data were downloaded from the national OASIS repository for all agencies in demonstration states. The data consisted of agency observed and predicted values and number of episodes of care for each of 41 outcome measures, for the twelve months ending 12/31/2007, 12/31/2008, and 12/31/2009. Agencies were divided into treatment, control, and non-participant groups and risk-adjusted outcomes were calculated for each quality measure. Analyses were conducted to compare treatment, control, and non-participating agencies during the pre-demonstration year and during each of the two demonstration years. We also examined trends in outcome measure performance from 2007 to 2009, among treatment and control agencies.



## **Methodology**

The method used to calculate outcome measures for each region is the same as that used for Home Health Compare. The agency-level data we used includes a predicted outcome value and an observed outcome value for each measure. The risk-adjusted value is calculated using the following formula:

$$O(ra,agency) = O(obs,agency) + O(pred,national) - O(pred,agency)$$

Where:

$O(ra,agency)$  = Agency risk-adjusted value

$O(obs,agency)$  = Agency observed value

$O(pred,national)$  = National predicted value (average of all HHA patients in the nation)

$O(pred,agency)$  = Agency predicted value

For cross-sectional comparisons among groups of providers, the national predicted value used is the average predicted value for all HHA patients for the same time period. However, when examining trends over time, the national predicted value used is the average predicted value for the first year in the series. The reason for doing this is that there can be change over time in the admitting characteristics of the home health patient population in general, which will cause the national predicted value to change. Using a constant national predicted value rather than one that changes from year to year ensures that these changes in case mix do not dilute (or exaggerate) performance changes over time. For example,

The agency-level data used to calculate outcome measures are based on all of the patients for which data were submitted to the national repository and for whom outcomes can be computed during each calendar year. For incentive payment calculations, the demonstration implementation contractor used outcome measures calculated on Medicare patients only. We did a similar analysis for our earlier report on calendar year 2008 findings. However, for this analysis, we are using data comparable to the values presented on Home Health Compare, which represent each agency's performance including all patients.

Analyses were conducted within each demonstration region and for all regions pooled. For the within-region analysis, an aggregated outcome measure is calculated by taking the weighted mean of agency risk-adjusted outcome measures for each group, using the number of episodes of care contributing to the calculation of the measure for the agency as that agency's weight. This is equivalent to pooling all patients in a group and calculating the outcome measure as if the group were one very large agency. For the analyses pooling all regions, we weighted each regions values within each demonstration group so that the proportion of patients contributed by each region was the same within each demonstration group. This was done because the non-participant group was much larger relative to the treatment and control groups in some regions

than in others. The weighting was necessary to ensure that those regions did not dominate the non-participating agencies values, resulting in a biased comparison.

## ***Findings***

### **Cross-sectional Comparisons by Year for All Regions**

Table 8 shows risk-adjusted quality measure performance by demonstration group for all regions pooled, for the baseline (pre-demonstration) year of 2007. The seven target outcomes on which agencies were ranked for the purpose of determining incentive payments are presented, along with an additional seven measures that are included in agencies' outcome-based quality improvement (OBQI) reports. As expected, pre-demonstration outcome differences between treatment and control agencies are generally small, and exceed one percent for only two of the fourteen measures. Of the seven measures where there is a statistically significant difference, five show more favorable outcomes among control agency patients. Comparing demonstration participants to non-participants reveals more significant performance differences. Demonstration agencies show superior quality measure performance compared to non-participants for all measures but two. The hospitalization rate for demonstration agencies is two percent lower than that of non-participants, and functional status improvement measures average approximately two percent. At the end of the first demonstration year, 2008, outcome measure differences between treatment agency patients and control agency patients were somewhat more pronounced than prior to the demonstration, as shown in Table 9. Surprisingly, the differences are in the opposite direction to what would be expected if the demonstration had improved quality of care. Although there were only two measures for which control agency performance exceeded treatment agency performance by more than one percent in 2007, in 2008 seven of the fourteen measure showed a difference of more than one percent in the direction of more favorable outcomes for control agency patients. While these differences are not substantial, there is certainly no evidence from these results of any performance improvement among treatment agencies compared to control agencies. The comparison of demonstration agencies to non-participating agencies shows a similar pattern in 2008 as that observed for 2007. Patients for demonstration agencies show consistently more favorable outcomes compared to patients for non-demonstration agencies. Thirteen of the fourteen measures show superior performance among demonstration agencies, and the differences are slightly greater than in 2007. At the end of 2009, patient outcomes among treatment and control agency patients showed a somewhat different pattern than at the end of the first demonstration year. Eight of the fourteen outcomes show significant differences between treatment and control agencies, seven of which are more favorable among treatment agency patients. However, only two of these differences are more than one percent. This pattern

indicates that, by the end of the demonstration, treatment agencies had brought their performance up slightly compared to control agencies, from slightly worse prior to the demonstration and during the first year, to slightly better in the second year. Combined with the results shown for 2008, these patterns tend to reinforce the conclusion that there was, overall, no substantial demonstration effect on patient outcomes. The comparison of demonstration agencies to non-participating agencies for 2009 shows a similar pattern as observed in 2007 and 2008. Demonstration agency patients experienced more favorable outcomes on eleven of the fourteen measures and less favorable outcomes on only one measure.

### **Cross-sectional Comparisons by Year within Regions**

In the Midwest (Illinois), a pattern similar to that of the pooled comparison was observed in 2007, as shown in Table 11, although the pattern was less consistent. The hospitalization rate is slightly higher among treatment agency patients than among control agency patients. Treatment agencies showed less favorable outcomes compared to control agency patients on improvement in ambulation, improvement in dyspnea, and both dressing measures. Only one measure showed significantly more favorable outcomes among control treatment agency patients. Patients of non-participating agencies experienced less favorable outcomes than demonstration agency patients on ten of the fourteen measures, although their outcomes were more favorable on three measures. Outcome comparisons for the Midwest region in 2008 are shown in Table 12. Similar to the pooled results, they show better performance by control agencies relative to treatment agencies, with ten of the fourteen measures showing a significant difference in that direction. However, the differences between demonstration agencies and non-participating agencies are less consistent than those in 2007. Eight of the fourteen measures show significant differences, but only three of these indicate more favorable outcomes for demonstration agency patients. By the end of the second demonstration year, treatment agency patient outcomes in the Illinois were essentially the same on average as control agency outcomes, as indicated in Table 13. Eight measures showed significant differences, but they were equally split between those favoring the treatment group and those showing superior performance among control agencies. Compared to non-participating agencies, demonstration agency patients had significantly more favorable outcomes on five measures, and less favorable outcomes on five measures.

Table 14 shows outcome comparisons for 2007 in the Northeast region (Connecticut and Massachusetts). In this region, there was a consistent pattern of less favorable outcomes among treatment agency patients compared to control agency patients in the pre-demonstration period. Among the eleven measures that show a significant difference, only one indicates more favorable performance for treatment agencies. Compared to non-participating agencies, demonstration agencies tend to have superior performance,

although the magnitude of the differences observed are not substantial. In 2008, a similar pattern was observed of more favorable outcomes among control agency patients compared to treatment agency patients, and superior performance among demonstration agencies pooled compared to non-participants, displayed in Table 15. The differences between treatment and control agencies are slightly more pronounced than those observed in 2007. The 2009 results, shown in Table 16, show a substantial improvement among treatment agencies compared to treatment agencies. Only two outcome measures are significantly more favorable for control agencies, compared to six measures that show more favorable outcomes for treatment agencies. Demonstration agencies tend to have more favorable outcomes than non-participating agencies, although differences are not substantial.

In the South (Alabama, Georgia, and Tennessee), treatment agency patients experienced more favorable outcomes than control agency patients during the pre-demonstration year of 2007, and shown in Table 17. Control agencies had a slightly lower hospitalization rate, but among the remaining nine measures that showed significant differences, all were more favorable for treatment agency patients. The comparison of demonstration to non-participating agencies shows considerably more favorable outcomes for demonstration agency patients in 2007. While hospitalization was higher among demonstration agency patients, eleven outcome measures showed significantly more favorable outcomes among demonstration agency patients, some of them by as much as four to six percent. At the end of the first demonstration year, as shown in Table 18, the pattern of outcome differences between treatment and control agency patients was very similar to that observed in the pre-demonstration year. Eight of nine significant differences indicated more favorable outcomes for treatment agency patients. Two measures that had shown a significant difference in 2007 were no longer significantly different in 2008, while one measure that did not show a significant difference in 2007 was significantly different in 2008. Overall, treatment agencies maintained but did not increase the performance differential they held prior to the demonstration. Differences between demonstration agencies and non-participating agencies showed a pattern in 2008 that was also similar to the pattern in 2007. All of the measures showed significant differences, and thirteen out of the fourteen indicated more favorable outcomes for demonstration agency patients than non-participating agency patients. For 2009, outcome comparisons are shown in Table 19. Treatment agency performance was generally superior to control agency performance in 2009, but there were fewer significant differences and the magnitude of the differences were smaller for most outcome measures. A similar pattern was observed comparing demonstration agencies to non-participating agencies. Twelve of the fourteen measures still show superior outcomes for demonstration agency patients, but the magnitude of the difference between demonstration and non-participating agencies declined on all twelve measures.

In the West region (California), patient outcomes (displayed in Table 20) showed a mixed pattern of differences between treatment and control agencies in 2007. Four measures showed a significant difference in favor of treatment agencies, while there were five measures on which control agencies achieved superior patient outcomes. On only one measure (Improvement in Dyspnea) was there a difference of more than two percent. There was a more clear-cut difference between demonstration and non-participating agencies, with eleven measures showing more favorable outcomes for demonstration agency patients and only two measures (Any Emergent Care and Improvement in Pain Interfering with Activity) indicating superior performance for non-participating agencies. Five measures showed a greater than two percent difference in favor of demonstration agencies. In 2008, treatment agency performance in California was somewhat inferior to control agency performance, according to the results presented in Table 21. Only two measures showed significantly more favorable outcomes for treatment agency patients, while eight measures indicated that control agency patient outcomes were more favorable. Demonstration agencies continued to achieve superior performance compared to non-participating agencies, with eleven measures showing more favorable outcomes and only 3 showing less favorable outcomes. In 2009, the pattern of outcome differences was more similar to 2007, with treatment agencies achieving superior performance on four outcome measures, and treatment agencies showing better outcomes on seven. Demonstration participants retained their performance advantage over non-participants, with eleven measures that showed more favorable outcomes and only three that were less favorable.

### **Year-to-Year Comparisons within Demonstration Groups**

The cross-sectional comparisons presented in Tables 8 through 22 accurately represent the risk-adjusted differences between treatment and control agencies, and between demonstration and non-participating agencies, within each year. They can also be used to examine whether treatment agency performance changes relative to control agency performance from year to year, as well as whether there are changes in demonstration agency performance relative to non-participating agency performance. However, if we want to look at trends in patient outcomes over time within a group or for all agencies, a somewhat different risk adjustment method is required, as described in the methodology section above. This method factors out changes in national patient case mix upon admission from year to year, so that we can detect whether outcomes are changing independent of the case mix changes.

Table 23 presents outcome trends for treatment agencies pooled across regions. Outcome measure means are weighted by region within each demonstration group to ensure that the contribution of each region is constant from year to year within each demonstration group. Comparing 2007 (pre-demonstration) to 2008 (demonstration year one), treatment agencies achieved significant improvements in nine patient

outcomes, averaging 1.0%, while only three outcomes declined, averaging 1.3%. Notable improvements include hospitalization (-1.3%) and improvement in transferring (+1.6%). From 2008 to 2009, treatment agencies achieved performance improvement on thirteen of the outcome measures, and had no significant change on the fourteenth. While the hospitalization rate declined by only 0.5%, several measures experienced improvements of more than one percent, including Improvement in Ambulation (+1.4%), Improvement in Bathing (+1.4%), Improvement in Management of Oral Medications (+1.2%) and Improvement in Transferring (+1.5%).

Year-to-year comparisons of control agency performance are shown in Table 24. Control agencies achieved performance gains similar to or exceeding those of treatment agencies during the first year of the demonstration. Ten outcome measures showed significantly more favorable patient outcomes in 2008 compared to 2007. The hospitalization rate dropped by 1.7%, and all of the functional improvement measures (ambulation, bathing, management of oral medications, transferring, meal preparation, and dressing) increased by at least one percent. However control agency performance during the second demonstration year essentially leveled off, with only two measures showing significant improvement and three measures showing some decline. The failures of control agencies to continue to improve in outcome performance in 2009 helps to explain the fact, noted above in the discussion of the cross-sectional findings, that treatment agencies were able to close the pre-demonstration performance gap with control agencies only during the second year of the demonstration.

Non-participating home health agencies also achieved performance improvements during the demonstration, as shown in Table 25. From 2007 to 2008, eleven measures showed improvement, averaging 1.3%, including hospitalization and all of the functional improvement measures. The non-participant group also continued to improve performance in 2009, with thirteen measures showing improvement and none showing decline.

## **Summary**

Both the cross-sectional and year-to-year comparisons yield similar conclusions. Comparing changes in outcome performance before and during the demonstration between treatment agencies and control agencies, there did not appear to be any demonstration effect on patient outcomes in the first year of the demonstration. Where treatment agencies had superior outcomes in 2007 they generally also had superior outcomes in 2008. Where control agencies had superior outcomes before the demonstration, treatment agencies failed to close the gap in 2008. In the second year of the demonstration, treatment agencies did achieve somewhat better improvement in patient outcomes than did control agencies. The pattern of improvement by treatment agencies during the second year of the demonstration prevailed in all regions but the South, and was strongest in the Northeast.

## 5. Discussion

The analysis of agency characteristics, cost, and home health quality presented herein indicates the following concerning the Medicare Home Health Pay for Performance Demonstration:

- Agencies that volunteered for the demonstration differ systematically from agencies in the same states that did not participate. Specifically, proprietary home health agencies were substantially under-represented in the demonstration, while facility-based agencies and visiting nurse associations were over-represented.
- Cost savings calculated by the implementation contractor which compared the relative change in cost from the year before the demonstration to the end of the first year of the demonstration, indicated that there were cost savings in three regions in the first year of the demonstration, but not in the Midwest. Analysis of non-participating agencies in the same states indicates that Medicare cost for both treatment and control agencies declined more in 2008 than it did for non-participating agencies. The reason for this is not clear, although it may relate to the particular mix of agencies that participated in the demonstration.
- Analysis of outcome quality measures for treatment and control agencies in 2007, 2008, and 2009 indicates that treatment agencies did not achieve improved outcomes relative to control agencies during the first demonstration year, although there was a modest incremental improvement in patient outcomes in the second year of the demonstration.

The implications of these findings for national implementation are unclear. One significant feature of the demonstration was that, due to the budget-neutrality constraint, there was substantial uncertainty during each year of the demonstration as to whether there would be any funds to distribute as incentive payments, and it was not known until well after the end of each demonstration year what the size of the incentive pool was in each region. Because of the very long lead time between the time period during which performance was measured and incentive payments were made, coupled with uncertainty about the magnitude of payments which could be earned, it is not surprising that the impact of the demonstration on home health agency performance was very small.

## Tables

**Table 1: Home Health Agencies by Demonstration Group and State-Region**

State/Region	Treatment Group	Control Group	Non-Participant Group	Total
<b>Northeast</b>				
Count	48	51	86	185
% of Region	25.9%	27.6%	46.5%	100.0%
% of Group	17.6%	18.0%	7.9%	11.2%
<b>MA</b>				
Count	24	26	62	112
% of State	21.4%	23.2%	55.4%	100.0%
% of Group	8.8%	9.2%	5.7%	6.8%
<b>CT</b>				
Count	24	25	24	73
% of State	32.9%	34.2%	32.9%	100.0%
% of Group	8.8%	8.8%	2.2%	4.4%
<b>South</b>				
Count	97	99	163	359
% of Region	27.0%	27.6%	45.4%	100.0%
% of Group	35.5%	35.0%	14.9%	21.8%
<b>TN</b>				
Count	47	41	41	129
% of State	36.4%	31.8%	31.8%	100.0%
% of Group	17.2%	14.5%	3.8%	7.8%
<b>AL</b>				
Count	26	28	87	141
% of State	18.4%	19.9%	61.7%	100.0%
% of Group	9.5%	9.9%	8.0%	8.6%
<b>GA</b>				
Count	24	30	35	89
% of State	27.0%	33.7%	39.3%	100.0%
% of Group	8.8%	10.6%	3.2%	5.4%
<b>Midwest - IL</b>				
Count	65	62	336	463
% of State	14.0%	13.4%	72.6%	100.0%
% of Group	23.8%	21.9%	30.7%	28.1%
<b>West - CA</b>				
Count	63	71	508	642
% of State	9.8%	11.1%	79.1%	100.0%
% of Group	23.1%	25.1%	46.5%	38.9%
<b>Total</b>				
Count	273	283	1093	1649
% of Total	16.6%	17.2%	66.3%	100.0%
% of Group	100.0%	100.0%	100.0%	100.0%



**Table 2: Home Health Agencies by Demonstration Group, Accreditation, and Deemed Status**

Accrediting Organization		Treatment Group	Control Group	Non-Participant Group	Total
<b>ACHC</b>					
Count		4	0	8	12
% of Accreditation Group		33.3%	0.0%	66.7%	100.0%
% of Demonstration Group		1.5%	0.0%	0.7%	0.7%
<b>CHAP</b>					
Count		17	21	50	88
% of Accreditation Group		19.3%	23.9%	56.8%	100.0%
% of Demonstration Group		6.2%	7.4%	4.6%	5.3%
<b>JCAHO</b>					
Count		38	35	153	226
% of Accreditation Group		16.8%	15.5%	67.7%	100.0%
% of Demonstration Group		13.9%	12.4%	14.0%	13.7%
<b>None</b>					
Count		214	227	882	1323
% of Accreditation Group		16.2%	17.2%	66.7%	100.0%
% of Demonstration Group		78.4%	80.2%	80.7%	80.2%
<b>Total</b>					
Count		273	283	1093	1649
% of Total		16.6%	17.2%	66.3%	100.0%
% of Demonstration Group		100.0%	100.0%	100.0%	100.0%
Deemed Status		Treatment Group	Control Group	Non-Participant Group	Total
<b>Yes</b>					
Count		17	21	152	190
% of Deemed		8.9%	11.1%	80.0%	100.0%
% of Demonstration Group		6.2%	7.4%	13.9%	11.5%
<b>No</b>					
Count		256	262	941	1459
% of Non-Deemed		17.5%	18.0%	64.5%	100.0%
% of Demonstration Group		93.8%	92.6%	86.1%	88.5%
<b>Total</b>					
Count		273	283	1093	1649
% of Total		16.6%	17.2%	66.3%	100.0%
% of Demonstration Group		100.0%	100.0%	100.0%	100.0%

**Table 3: Home Health Agencies by Demonstration Group and Ownership-Control Type**

<b>Ownership/Control Type</b>	<b>Treatment Group</b>	<b>Control Group</b>	<b>Non-Participant Group</b>	<b>Total</b>
<b>Voluntary Non-Profit</b>				
Count	102	105	166	373
% of Owner Type	27.3%	28.2%	44.5%	100.0%
% of Demonstration Group	37.4%	37.1%	15.2%	22.6%
<b>Proprietary</b>				
Count	154	162	843	1159
% of Owner Type	13.3%	14.0%	72.7%	100.0%
% of Demonstration Group	56.4%	57.2%	77.1%	70.3%
<b>Government</b>				
Count	17	16	84	117
% of Owner Type	14.5%	13.7%	71.8%	100.0%
% of Demonstration Group	6.2%	5.7%	7.7%	7.1%
<b>TOTAL</b>				
Count	273	283	1093	1649
% of Total	16.6%	17.2%	66.3%	100.0%
% of Demonstration Group	100.0%	100.0%	100.0%	100.0%

**Table 4: Home Health Agencies by Demonstration Group and Agency Type**

<b>Home Health Agency Type</b>	<b>Treatment Group</b>	<b>Control Group</b>	<b>Non-Participant Group</b>	<b>Total</b>
<b>Visiting Nurse Association</b>				
Count	36	42	65	143
% of HHA Type	25.2%	29.4%	45.5%	100.0%
% of Demonstration Group	13.2%	14.8%	5.9%	8.7%
<b>Government or Combination</b>				
Count	23	22	142	187
% of HHA Type	12.3%	11.8%	75.9%	100.0%
% of Demonstration Group	8.4%	7.8%	13.0%	11.3%
<b>Other Freestanding</b>				
Count	148	155	763	1066
% of HHA Type	13.9%	14.5%	71.6%	100.0%
% of Demonstration Group	54.2%	54.8%	69.8%	64.6%
<b>Facility-Based</b>				
Count	66	64	123	253
% of HHA Type	26.1%	25.3%	48.6%	100.0%
% of Demonstration Group	24.2%	22.6%	11.3%	15.3%
<b>Total</b>				
Count	273	283	1093	1649
% of Total	16.6%	17.2%	66.3%	100.0%
% of Demonstration Group	100.0%	100.0%	100.0%	100.0%

**Table 5: Total Medicare Cost (Reimbursement), Treatment, Control, and Non-Participant Groups – 2007 & 2008**

Agency Group	Midwest (IL)	Northeast (CT & MA)	South (AL, GA, & TN)	West (CA)
Treatment Agencies				
2007	\$449,769,893	\$635,423,631	\$798,707,301	\$366,141,786
2008	\$466,283,147	\$668,634,977	\$882,549,812	\$379,865,142
% Change	3.67%	5.23%	10.50%	3.75%
Control Agencies				
2007	\$348,944,869	\$716,002,053	\$911,443,306	\$481,578,256
2008	\$358,576,574	\$707,919,105	\$998,620,251	\$504,811,695
% Change	2.76%	-1.13%	9.56%	4.82%
Non-Participating Agencies				
2007	\$178,950,943	\$204,880,328	\$570,628,214	\$219,039,362
2008	\$232,279,456	\$223,006,801	\$656,691,930	\$243,022,506
% Change	29.80%	8.85%	15.08%	10.95%

**Table 6: Total Patient Days for Treatment, Control, and Non-Participant Groups – 2007 & 2008**

Agency Group	Midwest (IL)	Northeast (CT & MA)	South (AL, GA, & TN)	West (CA)
<b>Treatment Agencies</b>				
2007	3,350,668	4,391,744	6,949,929	2,328,352
2008	3,607,685	4,712,339	8,077,626	2,527,262
% Change	7.67%	7.30%	16.23%	8.54%
<b>Control Agencies</b>				
2007	2,765,191	5,039,769	8,180,199	3,113,498
2008	3,007,237	5,059,719	9,342,146	3,374,647
% Change	8.75%	0.40%	14.20%	8.39%
<b>Non-Participating Agencies</b>				
2007	1,537,476	1,443,075	5,026,122	1,395,712
2008	2,046,683	1,584,546	5,717,976	1,561,977
% Change	33.12%	9.80%	13.77%	11.91%

**Table 7: Medicare Cost per Patient Day for Treatment, Control, and Non-Participant Groups – 2007 & 2008**

Agency Group	Midwest (IL)	Northeast (CT & MA)	South (AL, GA, & TN)	West (CA)
Treatment Agencies				
2007	\$134.23	\$144.69	\$114.92	\$157.25
2008	\$129.25	\$141.89	\$109.26	\$150.31
% Change	-3.71%	-1.93%	-4.93%	-4.42%
Control Agencies				
2007	\$126.19	\$142.07	\$111.42	\$154.67
2008	\$119.24	\$139.91	\$106.89	\$149.59
% Change	-5.51%	-1.52%	-4.06%	-3.29%
Non-Participating Agencies				
2007	\$116.39	\$141.97	\$113.53	\$156.94
2008	\$113.49	\$140.74	\$114.85	\$155.59
% Change	-2.49%	-0.87%	1.16%	-0.86%

**Table 8: 2007 Risk-Adjusted Outcome Performance – Weighted Means for all Regions Pooled**

<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	27.6%	27.4%	29.5%	0.2%		-2.0%	**
Any Emergent Care	20.9%	21.3%	21.6%	-0.4%	**	-0.4%	**
Improvement In Ambulation/Locomotion	44.4%	44.8%	43.0%	-0.4%	*	1.6%	**
Improvement In Bathing	66.2%	66.5%	63.9%	-0.2%		2.5%	**
Improvement In Management Of Oral Medications	45.3%	45.2%	43.0%	0.1%		2.2%	**
Improvement In Status Of Surgical Wounds	79.9%	79.4%	80.9%	0.5%		-1.3%	**
Improvement In Transferring	53.9%	53.9%	51.9%	0.0%		2.0%	**
Improvement In Bowel Incontinence	68.2%	68.5%	64.2%	-0.3%		4.2%	**
Improvement In Dyspnea	63.4%	64.8%	60.6%	-1.4%	**	3.5%	**
Improvement In Light Meal Preparation	61.1%	61.9%	61.4%	-0.8%	**	0.1%	
Improvement In Lower Body Dressing	70.8%	71.7%	69.0%	-0.9%	**	2.3%	**
Improvement In Pain Interfering With Activity	66.0%	65.6%	64.5%	0.5%	*	1.3%	**
Improvement In Upper Body Dressing	71.1%	72.1%	69.6%	-1.0%	**	2.1%	**
Improvement In Urinary Incontinence	53.0%	52.8%	49.5%	0.2%		3.4%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

**Table 9: 2008 Risk-Adjusted Outcome Performance – Weighted Means for all Regions Pooled**

<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	28.1%	27.4%	29.9%	0.7%	**	-2.3%	**
Any Emergent Care	21.5%	21.6%	22.1%	-0.1%		-0.5%	**
Improvement In Ambulation/Locomotion	46.3%	47.3%	45.2%	-1.0%	**	1.7%	**
Improvement In Bathing	66.1%	67.2%	64.5%	-1.1%	**	2.2%	**
Improvement In Management Of Oral Medications	45.4%	46.1%	44.0%	-0.7%	**	1.8%	**
Improvement In Status Of Surgical Wounds	81.3%	80.9%	81.8%	0.5%	*	-0.7%	**
Improvement In Transferring	55.1%	55.8%	52.9%	-0.7%	**	2.6%	**
Improvement In Bowel Incontinence	66.4%	68.0%	65.1%	-1.6%	**	2.2%	**
Improvement In Dyspnea	63.1%	65.2%	60.9%	-2.1%	**	3.3%	**
Improvement In Light Meal Preparation	61.5%	63.0%	61.6%	-1.5%	**	0.7%	**
Improvement In Lower Body Dressing	71.5%	72.9%	70.0%	-1.4%	**	2.2%	**
Improvement In Pain Interfering With Activity	65.8%	66.0%	65.0%	-0.2%		0.9%	**
Improvement In Upper Body Dressing	71.7%	73.6%	70.6%	-1.9%	**	2.2%	**
Improvement In Urinary Incontinence	50.6%	50.4%	48.4%	0.2%		2.1%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01



**Table 10: 2009 Risk-Adjusted Outcome Performance – Weighted Means for all Regions Pooled**

<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	28.0%	27.9%	29.8%	0.1%		-1.8%	**
Any Emergent Care	21.5%	21.8%	22.6%	-0.3%	**	-0.9%	**
Improvement In Ambulation/Locomotion	48.8%	48.7%	47.7%	0.1%		1.1%	**
Improvement In Bathing	67.0%	66.8%	66.1%	0.2%		0.8%	**
Improvement In Management Of Oral Medications	47.0%	46.3%	45.3%	0.7%	**	1.3%	**
Improvement In Status Of Surgical Wounds	81.8%	81.0%	82.9%	0.7%	**	-1.6%	**
Improvement In Transferring	56.6%	55.9%	54.5%	0.7%	**	1.6%	**
Improvement In Bowel Incontinence	67.0%	65.8%	66.2%	1.2%	**	0.2%	
Improvement In Dyspnea	63.7%	64.0%	61.1%	-0.3%		2.7%	**
Improvement In Light Meal Preparation	62.6%	62.6%	63.1%	0.1%		-0.4%	*
Improvement In Lower Body Dressing	72.8%	73.0%	71.1%	-0.2%		1.8%	**
Improvement In Pain Interfering With Activity	66.5%	66.0%	65.8%	0.4%	*	0.5%	**
Improvement In Upper Body Dressing	73.1%	73.5%	71.9%	-0.4%	*	1.4%	**
Improvement In Urinary Incontinence	51.1%	49.4%	49.1%	1.8%	**	1.0%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

**Table 11: 2007 Risk-Adjusted Outcome Performance – Midwest Region**

<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	27.4%	26.1%	28.9%	1.3%	**	-2.1%	**
Any Emergent Care	20.1%	20.0%	18.1%	0.1%		2.0%	**
Improvement In Ambulation/Locomotion	43.6%	44.7%	41.8%	-1.1%	**	2.3%	**
Improvement In Bathing	64.5%	65.0%	66.1%	-0.5%		-1.3%	**
Improvement In Management Of Oral Medications	46.2%	45.6%	44.7%	0.6%		1.2%	**
Improvement In Status Of Surgical Wounds	77.2%	77.0%	76.8%	0.2%		0.3%	
Improvement In Transferring	53.7%	53.2%	50.7%	0.5%		2.7%	**
Improvement In Bowel Incontinence	70.1%	71.1%	60.0%	-0.9%		10.6%	**
Improvement In Dyspnea	65.2%	66.8%	61.5%	-1.6%	**	4.4%	**
Improvement In Light Meal Preparation	60.4%	61.0%	57.9%	-0.5%		2.8%	**
Improvement In Lower Body Dressing	68.5%	70.4%	66.7%	-1.8%	**	2.6%	**
Improvement In Pain Interfering With Activity	68.0%	65.5%	68.6%	2.5%	**	-1.7%	**
Improvement In Upper Body Dressing	70.0%	71.3%	68.7%	-1.3%	**	1.9%	**
Improvement In Urinary Incontinence	54.7%	53.8%	52.8%	0.8%		1.5%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

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**Table 12: 2008 Risk-Adjusted Outcome Performance – Midwest Region**

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<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	27.8%	26.1%	29.9%	1.7%	**	-2.9%	**
Any Emergent Care	20.9%	20.6%	18.8%	0.3%		1.9%	**
Improvement In Ambulation/Locomotion	45.6%	47.4%	45.3%	-1.9%	**	1.2%	**
Improvement In Bathing	64.1%	66.7%	68.4%	-2.6%	**	-3.2%	**
Improvement In Management Of Oral Medications	45.9%	47.6%	48.2%	-1.6%	**	-1.5%	**
Improvement In Status Of Surgical Wounds	79.7%	78.7%	78.7%	1.0%		0.6%	
Improvement In Transferring	55.2%	57.1%	53.3%	-1.9%	**	2.8%	**
Improvement In Bowel Incontinence	63.9%	67.6%	66.0%	-3.7%	**	-0.5%	
Improvement In Dyspnea	63.9%	67.4%	61.8%	-3.4%	**	3.6%	**
Improvement In Light Meal Preparation	60.5%	62.2%	60.8%	-1.8%	**	0.5%	
Improvement In Lower Body Dressing	68.4%	72.7%	70.0%	-4.4%	**	0.3%	
Improvement In Pain Interfering With Activity	67.2%	67.3%	68.7%	-0.1%		-1.5%	**
Improvement In Upper Body Dressing	69.6%	74.3%	71.8%	-4.7%	**	-0.1%	
Improvement In Urinary Incontinence	50.4%	50.1%	52.5%	0.3%		-2.2%	**

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<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

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**Table 13: 2009 Risk-Adjusted Outcome Performance – Midwest Region**

<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	27.9%	27.4%	30.6%	0.6%		-2.9%	**
Any Emergent Care	20.9%	20.3%	19.2%	0.6%	*	1.5%	**
Improvement In Ambulation/Locomotion	49.0%	49.8%	47.1%	-0.8%		2.2%	**
Improvement In Bathing	66.2%	66.4%	69.5%	-0.2%		-3.2%	**
Improvement In Management Of Oral Medications	48.6%	47.2%	49.4%	1.4%	**	-1.4%	**
Improvement In Status Of Surgical Wounds	79.3%	79.3%	78.7%	0.0%		0.5%	
Improvement In Transferring	58.1%	57.8%	54.0%	0.3%		4.0%	**
Improvement In Bowel Incontinence	70.9%	62.0%	67.5%	8.9%	**	-0.2%	
Improvement In Dyspnea	65.8%	64.9%	62.1%	0.9%	*	3.3%	**
Improvement In Light Meal Preparation	62.8%	62.3%	62.4%	0.5%		0.2%	
Improvement In Lower Body Dressing	71.5%	73.4%	71.5%	-2.0%	**	0.8%	**
Improvement In Pain Interfering With Activity	69.6%	68.1%	69.5%	1.5%	**	-0.6%	*
Improvement In Upper Body Dressing	73.4%	74.8%	73.3%	-1.4%	**	0.7%	*
Improvement In Urinary Incontinence	55.8%	48.0%	53.4%	7.8%	**	-1.1%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

**Table 14: 2007 Risk-Adjusted Outcome Performance – Northeast Region**

<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	29.6%	29.2%	30.6%	0.3%		-1.2%	**
Any Emergent Care	23.7%	23.7%	23.1%	0.1%		0.5%	**
Improvement In Ambulation/Locomotion	43.1%	44.9%	43.3%	-1.9%	**	0.8%	*
Improvement In Bathing	62.1%	64.1%	63.2%	-2.1%	**	0.0%	
Improvement In Management Of Oral Medications	43.6%	44.4%	42.6%	-0.8%	*	1.5%	**
Improvement In Status Of Surgical Wounds	80.3%	82.1%	81.7%	-1.9%	**	-0.4%	
Improvement In Transferring	51.3%	52.3%	51.4%	-1.0%	**	0.5%	
Improvement In Bowel Incontinence	66.8%	65.9%	65.5%	0.9%		0.9%	
Improvement In Dyspnea	62.5%	63.5%	61.3%	-1.0%	**	1.7%	**
Improvement In Light Meal Preparation	62.7%	65.2%	64.4%	-2.5%	**	-0.4%	
Improvement In Lower Body Dressing	69.2%	72.1%	68.6%	-2.9%	**	2.2%	**
Improvement In Pain Interfering With Activity	63.5%	66.2%	64.0%	-2.6%	**	0.9%	**
Improvement In Upper Body Dressing	69.8%	72.4%	69.2%	-2.6%	**	2.1%	**
Improvement In Urinary Incontinence	51.2%	49.2%	48.1%	1.9%	**	2.0%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

**Table 15: 2008 Risk-Adjusted Outcome Performance – Northeast Region**

<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	29.5%	28.6%	30.5%	0.9%	**	-1.4%	**
Any Emergent Care	24.1%	23.3%	22.8%	0.8%	**	0.9%	**
Improvement In Ambulation/Locomotion	45.7%	47.7%	45.5%	-2.0%	**	1.3%	**
Improvement In Bathing	63.5%	66.2%	63.9%	-2.6%	**	1.0%	**
Improvement In Management Of Oral Medications	44.6%	45.9%	44.2%	-1.3%	**	1.1%	**
Improvement In Status Of Surgical Wounds	80.4%	82.7%	82.3%	-2.3%	**	-0.8%	
Improvement In Transferring	53.4%	54.3%	53.1%	-1.0%	**	0.7%	*
Improvement In Bowel Incontinence	68.1%	66.9%	65.8%	1.2%		1.6%	
Improvement In Dyspnea	63.2%	64.0%	62.2%	-0.8%	*	1.4%	**
Improvement In Light Meal Preparation	63.9%	67.2%	64.1%	-3.3%	**	1.6%	**
Improvement In Lower Body Dressing	70.7%	73.2%	69.6%	-2.5%	**	2.4%	**
Improvement In Pain Interfering With Activity	63.8%	66.2%	64.9%	-2.3%	**	0.2%	
Improvement In Upper Body Dressing	71.4%	74.0%	70.3%	-2.6%	**	2.6%	**
Improvement In Urinary Incontinence	47.7%	46.4%	48.4%	1.2%	**	-1.4%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

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**Table 16: 2009 Risk-Adjusted Outcome Performance – Northeast Region**

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<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	28.9%	28.4%	30.1%	0.5%	*	-1.5%	**
Any Emergent Care	23.7%	23.5%	24.2%	0.3%		-0.6%	**
Improvement In Ambulation/Locomotion	49.5%	47.8%	48.1%	1.7%	**	0.4%	
Improvement In Bathing	65.4%	64.6%	65.6%	0.8%	**	-0.6%	*
Improvement In Management Of Oral Medications	47.5%	45.9%	46.2%	1.7%	**	0.4%	
Improvement In Status Of Surgical Wounds	81.5%	83.2%	84.3%	-1.7%	**	-1.9%	**
Improvement In Transferring	56.0%	54.3%	55.2%	1.7%	**	-0.1%	
Improvement In Bowel Incontinence	69.2%	65.0%	67.2%	4.2%	**	-0.1%	
Improvement In Dyspnea	65.6%	62.5%	61.9%	3.1%	**	2.1%	**
Improvement In Light Meal Preparation	65.8%	65.6%	65.9%	0.3%		-0.2%	
Improvement In Lower Body Dressing	72.6%	72.3%	70.8%	0.3%		1.6%	**
Improvement In Pain Interfering With Activity	66.7%	66.1%	66.2%	0.6%		0.2%	
Improvement In Upper Body Dressing	72.8%	72.7%	71.9%	0.1%		0.9%	**
Improvement In Urinary Incontinence	47.5%	46.9%	48.8%	0.6%		-1.6%	**

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<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

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**Table 17: 2007 Risk-Adjusted Outcome Performance – South Region**

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<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	30.5%	29.9%	28.9%	0.6%	**	1.3%	**
Any Emergent Care	21.4%	21.8%	21.7%	-0.4%	*	-0.1%	
Improvement In Ambulation/Locomotion	46.9%	45.8%	43.3%	1.2%	**	3.0%	**
Improvement In Bathing	70.6%	69.3%	63.4%	1.3%	**	6.5%	**
Improvement In Management Of Oral Medications	47.9%	46.1%	43.5%	1.8%	**	3.4%	**
Improvement In Status Of Surgical Wounds	83.1%	81.9%	82.6%	1.2%	**	-0.1%	
Improvement In Transferring	55.7%	55.2%	53.0%	0.5%		2.4%	**
Improvement In Bowel Incontinence	68.9%	68.9%	64.0%	0.0%		4.8%	**
Improvement In Dyspnea	62.5%	61.5%	58.7%	1.0%	**	3.2%	**
Improvement In Light Meal Preparation	64.5%	62.9%	59.4%	1.6%	**	4.3%	**
Improvement In Lower Body Dressing	74.6%	73.7%	70.9%	0.9%	**	3.3%	**
Improvement In Pain Interfering With Activity	69.3%	67.5%	63.0%	1.7%	**	5.3%	**
Improvement In Upper Body Dressing	73.3%	72.8%	70.6%	0.5%		2.4%	**
Improvement In Urinary Incontinence	54.9%	54.9%	50.3%	0.1%		4.6%	**

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<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

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**Table 18: 2008 Risk-Adjusted Outcome Performance – South Region**

<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	31.2%	30.6%	30.3%	0.5%	*		
Any Emergent Care	22.9%	22.8%	23.7%	0.1%		0.6%	**
Improvement In Ambulation/Locomotion	48.2%	47.6%	45.0%	0.6%		-0.8%	**
Improvement In Bathing	69.0%	67.3%	63.1%	1.7%	**	2.8%	**
Improvement In Management Of Oral Medications	47.5%	46.3%	42.5%	1.3%	**	4.9%	**
Improvement In Status Of Surgical Wounds	84.9%	83.9%	83.0%	1.0%	*	4.3%	**
Improvement In Transferring	55.9%	55.6%	52.3%	0.2%		1.4%	**
Improvement In Bowel Incontinence	69.3%	68.7%	64.0%	0.5%		3.5%	**
Improvement In Dyspnea	62.6%	61.3%	58.0%	1.3%	**	5.0%	**
Improvement In Light Meal Preparation	64.8%	63.6%	59.4%	1.2%	**	3.8%	**
Improvement In Lower Body Dressing	75.2%	74.2%	70.9%	1.0%	**	4.7%	**
Improvement In Pain Interfering With Activity	68.3%	66.4%	63.0%	1.9%	**	3.7%	**
Improvement In Upper Body Dressing	73.4%	72.9%	70.5%	0.5%		4.2%	**
Improvement In Urinary Incontinence	56.0%	52.8%	46.6%	3.2%	**	2.6%	**
						7.6%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

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**Table 19: 2009 Risk-Adjusted Outcome Performance – South Region**

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<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	32.2%	31.8%	30.0%	0.3%		1.9%	**
Any Emergent Care	23.6%	24.0%	22.8%	-0.4%		1.0%	**
Improvement In Ambulation/Locomotion	49.6%	49.3%	47.9%	0.2%		1.5%	**
Improvement In Bathing	68.3%	67.8%	65.2%	0.5%		2.8%	**
Improvement In Management Of Oral Medications	47.8%	46.4%	43.0%	1.5%	**	4.0%	**
Improvement In Status Of Surgical Wounds	84.8%	83.6%	83.4%	1.2%	**	0.7%	*
Improvement In Transferring	55.3%	55.4%	53.9%	-0.1%		1.5%	**
Improvement In Bowel Incontinence	67.7%	68.0%	65.0%	-0.3%		2.9%	**
Improvement In Dyspnea	61.6%	60.6%	59.3%	0.9%	**	1.8%	**
Improvement In Light Meal Preparation	65.7%	63.8%	60.6%	1.9%	**	4.0%	**
Improvement In Lower Body Dressing	75.2%	74.5%	72.0%	0.8%	**	2.8%	**
Improvement In Pain Interfering With Activity	66.1%	65.5%	63.5%	0.5%		2.3%	**
Improvement In Upper Body Dressing	73.6%	73.1%	71.5%	0.5%		1.9%	**
Improvement In Urinary Incontinence	56.0%	51.9%	48.4%	4.1%	**	5.3%	**

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<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

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**Table 20: 2007 Risk-Adjusted Outcome Performance – West Region**

<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	23.3%	24.3%	25.3%	-1.0%	**	-1.5%	**
Any Emergent Care	18.3%	19.8%	17.1%	-1.5%	**	2.0%	**
Improvement In Ambulation/Locomotion	43.7%	43.7%	42.3%	-0.1%		1.5%	**
Improvement In Bathing	67.1%	67.5%	66.4%	-0.4%		0.9%	**
Improvement In Management Of Oral Medications	43.8%	44.8%	41.5%	-1.0%	*	2.8%	**
Improvement In Status Of Surgical Wounds	78.3%	76.7%	77.5%	1.6%	**	-0.2%	
Improvement In Transferring	54.9%	54.9%	52.8%	0.0%		2.1%	**
Improvement In Bowel Incontinence	67.6%	68.1%	63.4%	-0.5%		4.4%	**
Improvement In Dyspnea	63.9%	67.3%	61.5%	-3.4%	**	4.2%	**
Improvement In Light Meal Preparation	56.8%	58.3%	56.1%	-1.6%	**	1.5%	**
Improvement In Lower Body Dressing	70.2%	70.6%	69.1%	-0.5%		1.3%	**
Improvement In Pain Interfering With Activity	64.1%	63.1%	66.0%	1.0%	**	-2.6%	**
Improvement In Upper Body Dressing	70.8%	72.0%	70.2%	-1.1%	**	1.3%	**
Improvement In Urinary Incontinence	51.9%	53.4%	50.1%	-1.4%	**	2.7%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

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**Table 21: 2008 Risk-Adjusted Outcome Performance – West Region**

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<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	24.0%	24.2%	25.9%	-0.2%		-1.8%	**
Any Emergent Care	18.2%	19.8%	17.7%	-1.6%	**	1.4%	**
Improvement In Ambulation/Locomotion	45.5%	46.5%	43.8%	-1.0%	**	2.3%	**
Improvement In Bathing	66.9%	68.5%	66.6%	-1.6%	**	1.1%	**
Improvement In Management Of Oral Medications	43.9%	44.8%	41.5%	-0.9%	*	2.8%	**
Improvement In Status Of Surgical Wounds	79.9%	78.2%	79.5%	1.8%	**	-0.7%	*
Improvement In Transferring	56.0%	56.1%	52.8%	-0.1%		3.3%	**
Improvement In Bowel Incontinence	63.7%	68.7%	63.6%	-4.9%	**	2.8%	**
Improvement In Dyspnea	63.0%	68.2%	61.7%	-5.2%	**	4.0%	**
Improvement In Light Meal Preparation	56.8%	59.0%	56.4%	-2.2%	**	1.6%	**
Improvement In Lower Body Dressing	70.6%	71.3%	69.6%	-0.6%		1.4%	**
Improvement In Pain Interfering With Activity	64.4%	64.1%	66.2%	0.3%		-2.0%	**
Improvement In Upper Body Dressing	71.7%	73.1%	70.7%	-1.4%	**	1.7%	**
Improvement In Urinary Incontinence	48.4%	52.3%	48.1%	-3.9%	**	2.4%	**

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<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

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**Table 22: 2009 Risk-Adjusted Outcome Performance – West Region**

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<u>Outcome Measures</u>	<u>Treatment</u>	<u>Control</u>	<u>Non-Participant</u>	<u>Treatment vs. Control</u>	<u>sig<sup>1</sup></u>	<u>Demo vs. Non-Participant</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	23.4%	24.1%	25.8%	-0.8%	**	-2.0%	**
Any Emergent Care	17.7%	19.4%	18.1%	-1.7%	**	0.6%	**
Improvement In Ambulation/Locomotion	47.5%	48.0%	45.3%	-0.6%		2.5%	**
Improvement In Bathing	67.7%	68.5%	66.6%	-0.8%	**	1.5%	**
Improvement In Management Of Oral Medications	44.7%	45.8%	42.1%	-1.1%	**	3.2%	**
Improvement In Status Of Surgical Wounds	80.8%	78.1%	79.8%	2.7%	**	-0.6%	*
Improvement In Transferring	57.3%	56.0%	53.7%	1.3%	**	2.9%	**
Improvement In Bowel Incontinence	62.0%	68.3%	62.7%	-6.3%	**	2.6%	**
Improvement In Dyspnea	62.5%	68.0%	61.6%	-5.5%	**	3.7%	**
Improvement In Light Meal Preparation	56.8%	58.8%	56.1%	-1.9%	**	1.8%	**
Improvement In Lower Body Dressing	71.7%	71.9%	69.5%	-0.2%		2.3%	**
Improvement In Pain Interfering With Activity	64.8%	64.4%	65.5%	0.3%		-0.9%	**
Improvement In Upper Body Dressing	72.6%	73.3%	70.8%	-0.7%	*	2.2%	**
Improvement In Urinary Incontinence	47.1%	50.6%	47.2%	-3.5%	**	1.7%	**

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<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

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**Table 23: Treatment Agency Risk-Adjusted Outcome Trends – Weighted Means for all Regions Pooled**

<u>Outcome Measures</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>Change '07 to '08</u>	<u>sig<sup>1</sup></u>	<u>Change '08 to '09</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	27.7%	26.4%	25.9%	-1.3%	**	-0.5%	**
Any Emergent Care	20.9%	20.5%	20.0%	-0.4%	**	-0.4%	**
Improvement In Ambulation/Locomotion	44.4%	45.0%	46.4%	0.7%	**	1.4%	**
Improvement In Bathing	66.1%	66.5%	68.0%	0.4%	*	1.4%	**
Improvement In Management Of Oral Medications	45.4%	45.7%	47.0%	0.4%		1.2%	**
Improvement In Status Of Surgical Wounds	79.8%	79.9%	80.1%	0.1%		0.2%	
Improvement In Transferring	53.9%	55.5%	57.0%	1.6%	**	1.5%	**
Improvement In Bowel Incontinence	68.3%	66.5%	68.0%	-1.9%	**	1.6%	**
Improvement In Dyspnea	63.5%	64.4%	65.6%	0.9%	**	1.3%	**
Improvement In Light Meal Preparation	61.1%	62.2%	64.1%	1.0%	**	1.9%	**
Improvement In Lower Body Dressing	70.7%	72.1%	74.1%	1.4%	**	2.0%	**
Improvement In Pain Interfering With Activity	66.2%	65.8%	66.7%	-0.4%	*	0.9%	**
Improvement In Upper Body Dressing	71.0%	72.2%	74.1%	1.1%	**	1.9%	**
Improvement In Urinary Incontinence	53.1%	51.5%	52.9%	-1.6%	**	1.4%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

**Table 24: Control Agency Risk-Adjusted Outcome Trends – Weighted Means for all Regions Pooled**

<u>Outcome Measures</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>Change '07 to '08</u>	<u>sig<sup>1</sup></u>	<u>Change '08 to '09</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	27.4%	25.7%	25.8%	-1.7%	**	0.0%	
Any Emergent Care	21.3%	20.5%	20.3%	-0.8%	**	-0.2%	*
Improvement In Ambulation/Locomotion	44.8%	46.1%	46.2%	1.3%	**	0.2%	
Improvement In Bathing	66.5%	67.8%	67.9%	1.3%	**	0.1%	
Improvement In Management Of Oral Medications	45.2%	46.4%	46.1%	1.2%	**	-0.2%	
Improvement In Status Of Surgical Wounds	79.5%	79.6%	79.6%	0.1%		0.0%	
Improvement In Transferring	53.9%	56.2%	56.2%	2.2%	**	0.0%	
Improvement In Bowel Incontinence	68.4%	68.1%	66.3%	-0.3%		-1.8%	**
Improvement In Dyspnea	64.7%	66.3%	65.7%	1.6%	**	-0.6%	**
Improvement In Light Meal Preparation	61.9%	63.7%	63.9%	1.8%	**	0.2%	
Improvement In Lower Body Dressing	71.7%	73.7%	74.4%	1.9%	**	0.7%	**
Improvement In Pain Interfering With Activity	65.6%	65.8%	66.0%	0.3%		0.1%	
Improvement In Upper Body Dressing	72.2%	74.2%	74.5%	2.0%	**	0.3%	
Improvement In Urinary Incontinence	52.8%	51.3%	50.7%	-1.5%	**	-0.6%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01

**Table 25: Non-Participating Agency Risk-Adjusted Outcome Trends – Weighted Means for all Regions Pooled**

<u>Outcome Measures</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>Change '07 to '08</u>	<u>sig<sup>1</sup></u>	<u>Change '08 to '09</u>	<u>sig<sup>1</sup></u>
Acute Care Hospitalization	28.4%	27.4%	27.0%	-1.0%	**	-0.4%	**
Any Emergent Care	20.1%	19.7%	19.6%	-0.3%	**	-0.1%	
Improvement In Ambulation/Locomotion	42.7%	43.6%	44.6%	1.0%	**	1.0%	**
Improvement In Bathing	64.7%	66.1%	67.8%	1.3%	**	1.8%	**
Improvement In Management Of Oral Medications	43.0%	44.3%	45.0%	1.3%	**	0.8%	**
Improvement In Status Of Surgical Wounds	79.7%	79.6%	80.1%	-0.1%		0.5%	**
Improvement In Transferring	52.0%	53.3%	54.5%	1.3%	**	1.3%	**
Improvement In Bowel Incontinence	63.3%	65.0%	66.2%	1.6%	**	1.2%	**
Improvement In Dyspnea	60.7%	62.1%	62.9%	1.4%	**	0.8%	**
Improvement In Light Meal Preparation	59.5%	60.8%	62.6%	1.3%	**	1.8%	**
Improvement In Lower Body Dressing	68.9%	70.9%	72.4%	2.0%	**	1.5%	**
Improvement In Pain Interfering With Activity	65.3%	65.5%	66.1%	0.2%		0.6%	**
Improvement In Upper Body Dressing	69.7%	71.4%	72.9%	1.7%	**	1.4%	**
Improvement In Urinary Incontinence	50.3%	49.7%	50.9%	-0.5%	**	1.2%	**

<sup>1</sup> Statistical significance of difference: \* probability is < .05, \*\* probability is < .01



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