

TRENDS IN KANSAS NURSING FACILITY TURNOVER AFTER THE IMPLEMENTATION OF A STATE INCENTIVE PROGRAM

For the Kansas Department on Aging

By the Kansas Nursing Facility Project

Nancy Dunton, PhD – Co-Principal Investigator

University of Kansas School of Nursing &
School of Medicine, Department of Health Policy and Management

Marge Bott, PhD, RN – Principal Investigator

University of Kansas School of Nursing

Byron Gajewski, PhD

University of Kansas School of Medicine & School of Nursing
Department of Biostatistics

Robert Lee, PhD

University of Kansas School of Medicine
Department of Health Policy and Management

Diane Boyle, PhD, RN

University of Kansas School of Nursing

Wanda Bonnel, PhD, RN

University of Kansas School of Nursing

Ellen Averett, PhD

University of Kansas School of Medicine
Department of Health Policy and Management

Annette Becker, MA – Project Director

University of Kansas School of Nursing

Valorie Coffland, MA – Project Manager

University of Kansas School of Nursing

Marcia Wrona, BSW

University of Kansas School of Nursing

Rosemary Chapin, PhD

University of Kansas, School of Social Welfare

Roxanne Rachlin

University of Kansas, School of Social Welfare

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Foreword

The Kansas Department on Aging would like to thank Dr. Marge Bott and the staff at the University of Kansas School of Nursing for compiling this study of nursing facility staff turnover following the implementation of the incentive factor. Each day Kansas nursing facilities provide crucial services to approximately 19,000 vulnerable Kansans. A critical component of that effort is the direct care workforce, and staff turnover is a significant threat to that workforce. This study provides useful information to help guide efforts to maintain a viable long-term care workforce.

Due to concerns about the impact of nursing home staff turnover, KDOA included staff turnover as a statistic for calculating the Nursing Facility Quality and Efficiency Incentive Factor. This component of the Medicaid reimbursement system was designed to recognize nursing homes that achieve exemplary outcomes. It was anticipated that the incentive factor would also improve the statewide outcomes including the turnover rate.

KDOA requested this study to review the incentive factor and identify ways to improve it. This study shows that the incentive program has rewarded a select group of providers but that there has not been a significant improvement in staff turnover statewide. The School of Nursing has provided the agency with excellent feedback and recommendations for making the incentive factor more effective. KDOA staff will utilize this information during their next review of the reimbursement system.

Again, I would like to thank Dr. Bott and her staff, and also note the valuable contribution they have made to our efforts to manage the reimbursement system.

Kathy Greenlee,
Secretary of Aging

OFFICE OF THE SECRETARY
New England Building, 503 S. Kansas Avenue, Topeka, KS 66603-3404
Voice: (785) 296-4986 • Toll-Free: (800) 432-3535 • Fax: (785) 296-0256
TTY (Hearing Impaired): (785) 291-3167 • E-Mail: wwwmail@aging.state.ks.us

Preface

This report was prepared under a contract with the Kansas Department on Aging. The investigators want to thank the Department on Aging and Secretary Kathy Greenlee for the substantial support provided to the study by many state staff. In particular, Dave Halferty, Bill McDaniel, and George Dugger provided information on various aspects of the state's incentive project as well as data.

Under subcontract, Myers and Stauffer provided the project with extracts from the Minimum Data Set, including quality indicators, and case mix adjustment files.

For any questions or comments concerning this report, please contact Dr. Nancy Dunton at 913-588-1456 (ndunton@kumc.edu) or Dr. Marge Bott, at (913) 588-1692 (mbott@kumc.edu).

EXECUTIVE SUMMARY

High turnover rates in nursing facilities are pervasive across the nation. Previous research has associated high nursing staff turnover rates with lower quality of care in nursing facilities. To promote high quality of care in Kansas nursing facilities, the Kansas Department on Aging (KDOA) implemented the Nursing Facility Quality and Efficiency Factor beginning on July 1, 2005.

KDOA established a contract with the University of Kansas School of Nursing, Kansas Nursing Facility Project, to examine relationship of the Nursing Facility Quality and Efficiency Incentive with nursing turnover rates. The study found that:

- In every year, a minority of available points were awarded. In FY 2009 (performance data year 2007), nursing facilities earned an average of just over 3 incentive points.
- Nursing facilities in various regions of the state had different patterns of incentive points. In every year, the West region had the highest average number of incentive points and the Lawrence and Southeast regions had the lowest.
- Total staff turnover in Kansas nursing facilities declined between 2001 through 2004, the period prior to the implementation of the incentive program. In the two years following program implementation, the turnover rate increased.
- Turnover trends differed by job title, but the incentive program did not appear to have a positive effect for any category of nursing staff. Turnover among RNs increased from 60% in 2001 to 69% in 2006. LPN turnover declined from 68% in 2001 to 63% in 2003, then in 2004, the year prior to program implementation LPN turnover rates began to rise, reaching 65% in 2006. Turnover rates among certified nursing assistants (CNAs) declined significantly from 102% in 2001 to 87% in 2004 then rose by 5 percentage points to 92% in 2006.
- The incentive program did not appear to promote organizational change for any type of facility, but it could have rewarded the ones that already had lower turnover rates.
- Nursing facility turnover rates are driven by turnover of certified nursing aides, the largest occupational group. Aide turnover may be strongly affected by economic trends. Trends in nursing facility staff turnover bore an inverse relationship to trends in the Kansas unemployment rate. Thus, any beneficial effect of the incentive program could have been overshadowed by economic circumstances.

Recommendations

KDOA should consider taking the following steps, which might promote incentive program effectiveness.

- Offering incentive points to facilities that improve their outcomes, in addition to offering points for achieving certain outcome levels.

- Educating nursing facilities across the state about the various elements of the program and providing examples of the potential levels of benefit.
- Decrease the lag from performance to reward to one year.
- Consider focusing the program on fewer outcome measures to communicate KDOA's priorities.

INTRODUCTION

Background

High turnover rates in nursing facilities are pervasive across the nation. In Kansas, nursing staff turnover rates were 69% for RNs in 2006, 65% for LPNs, and 92% for CNAs.

Previous research has associated high nursing staff turnover rates with lower quality of care in nursing facilities, as measured both by the number of survey deficiencies and quality indicators(QIs) (Castle & Engberg, 2005; Dunton, et al., 2006; Gajewski, et al., 2006).

Kansas Nursing Facility Incentive Program

To promote high quality of care in Kansas nursing facilities, the Kansas Department on Aging (KDOA) implemented the Nursing Facility Quality and Efficiency Factor beginning on July 1, 2005. The program rewards facilities that perform well on one or more outcome measure with increased per diem rates. Facility performance is assessed on five measures: low nurse turnover rates, high (all) employee retention, case mix adjusted nurse staff ratio, low operating expenses, and high occupancy rates.

The program has changed slightly over time. For FY 2006, the maximum of one point each was awarded for turnover and retention and two points were awarded for performance on the survey. However, beginning with FY 2007, the two survey points were reassigned one each to turnover and retention.

The data for the outcome measures come from the most recent Cost Reports. There is a two year lag between performance (data year) and award year. Thus, incentive awards given in 2006 were based on data from 2004. It is the state's intention to decrease the lag between performance and reward to one year. Points are awarded for each measure on the basis of a facility's score compared with a statewide percentile score or, in the case of the occupancy rates, a target percentage (Table 1). Total points for each provider determine the per diem incentive factor included in the provider's rate calculation.

The award system for mental health nursing facilities has varied over time, but now is just slightly different than for non-mental health facilities. The same five outcome measures are used, although no points are awarded for Medicaid occupancy, so a maximum of 8 points are available.

Table 1
Point Determination for Quality Incentive Reward
Non-Mental Health Nursing Facilities

Outcome	Performance Levels	Points
CMI Adjusted Nurse Staffing Ratio	≥ 120% of state median	2
	≥ 110% state median, but < 120% of state median	1
	<110% of median	0
Operating Expense	<90% of state median	1
	≥90% of state median	0
Employee (Nurse)Turnover Rate*	≤ 75 th percentile	2
	≤ 50 th percentile, but < 75 th percentile	1
	< 50 th percentile	0
Staff Retention Rate	≥75 th percentile	2
	≥ 50 th percentile but < 75 th percentile	1
	< 50 th percentile	0
Total Occupancy Rate	≥90%	1
	<90%	0
Medicaid Occupancy (Utilization) Rate (non-mental health facilities only)	≥60%	1
	<60%	0

*Points are awarded as long as contracted labor costs do not exceed 10% of the provider's total direct care labor costs.

Based on a the incentive points earned by performance on the outcome measures, providers' per diem rates are increased as shown in Table 2.

Table 2
Incentive Factor Per Diem

Total Incentive Points	Per Diem Adjustment
6-9 Points*	\$3.00
5 Points	\$2.00
4 Points	\$1.00
0-3 Points	\$0.00

*Mental health nursing facilities have a maximum of 8 points for the \$3.00 adjustment

In FY 2009 (performance data year 2007), nursing facilities earned an average of just over 3 incentive points (Table 3). Mental health nursing facilities earned an average of 2.55 points in FY 2009.

For nursing facilities, 21% of the earned points were due to performance on turnover. For mental health nursing facilities, performance on turnover accounted for 32% of earned points.

**Table 3
Kansas Incentive Program**

Outcome	Maximum Points	Average Points Awarded Fiscal Year			
		2008		2009	
		Nursing Facilities	Mental Health Nursing Facilities	Nursing Facilities	Mental Health Nursing Facilities
Case Mix Adjusted (CMI) Nurse Staff Ratio	2	0.53	0.36	0.57	0.55
Low Operating Expense	1	0.34	0.45	0.36	0.27
Low Employee (Nurse) Turnover Rate	2	0.67	0.82	0.66	0.82
High Employee (All Staff) Retention Rate	2	0.79	0.82	0.77	0.82
High Occupancy Rates	2 (1)	0.35	0.27	0.33	0.09
Maximum Points Possible	9 (8)	9	8	9	8
Average Total Points Awarded	--	3.03	2.73	3.06	2.55
<i>Number of Facilities</i>		326	11	323	11

Study Objectives

KDOA established a contract with the University of Kansas School of Nursing, Kansas Nursing Facility Project, to examine the relationship of the Nursing Facility Quality and Efficiency Incentive with nursing turnover rates. The specific objectives of this study were to:

1. Describe the distribution of turnover incentives across Kansas regions.
2. Determine whether staff turnover declined after the implementation of the incentive program in 2005.
3. Identify a turnover rate that could serve as the basis of the incentive.

METHODOLOGY

The analysis addressing the three study objectives is descriptive. While an experimental design would have been ideal to address Objective 2, because the program was implemented statewide, a control group was not available. Therefore, the study employs a pre-/post-implementation comparison to assess change in turnover rates. A limitation of this approach is that other factors that may have affected turnover rates cannot be controlled and so changes in turnover rates cannot be causally attributed to the incentive program.

A second common evaluation challenge with statewide programs is that facilities may adjust their operations in anticipation of the new program. This did not appear to be an issue with the incentive program. Discussion of the incentive program was limited to the planning committee beginning in July 2004, and was shared with the greater provider community in early 2005. Facilities would not have had time to make changes that would have resulted in improved outcomes during that six month period. Thus, turnover rates from 2005 forward would show the post-incentive program changes.

The data used in this analysis came from five sources, with the analysis focusing on information from 2001 through 2006.

1. KDOA provided the project with facility-level data on incentive points and per diem adjustments for the years 2004 through 2007 (award years FY 2006-FY 2009).
2. Case mix index data from the Minimum Data Set (MDS) were provided by Myers and Stauffer.
3. Deficiency data were derived from the Online Survey Certification and Reporting (OSCAR) dataset.
4. Turnover data were obtained from the Medicaid Schedule J Cost Reports
5. Data on 2006 unemployment rates for Kansas counties were obtained from the U.S. Department of Labor website.

RESULTS

Objective 1: Incentive Points by Region and Facility Characteristics

Nursing facilities in various regions of the state had different patterns of incentive points (Table 4). The average number of points for each factor for a specific region was calculated by adding up all the points received by facilities in a region and then dividing by the number of facilities. For example, there were 183 points awarded for nurse staff ratios among the 337 facilities statewide in 2006. When you divide 183 by 337, it results in an average of 0.55 points/per facility for nurse staff ratios.

In every year, the West region had the highest average number of incentive points and the Lawrence and Southeast regions had the lowest. Mental health nursing facilities had between one-quarter and one-half lower average incentive points than (non-mental health) nursing facilities, but they also were eligible for fewer points.

- *CMI-Adjusted Nurse Staff Ratio.* Facilities in the West region had the highest average number of incentive points for the ratio in every year. In every year except 2004, the facilities in the Southeast region had the lowest number of incentive points for staffing ratios. On average, facilities in the West region received between a quarter and a third of a point more than facilities in the Southeast.
- *Operating Expense.* The regional pattern of incentives for operating expenses varied from year to year. In general, facilities in the North Central and Southeast regions had the highest number of points for low operating expenses, while the Lawrence region received the lowest number. Typically, facilities in the Lawrence region received about a quarter of a point less than facilities in the highest ranking region.
- *Staff (Nurse) Turnover.* Facilities in the North Central region received the highest average number of points for having low turnover rates, followed by the West and Southeast regions. Facilities in the Lawrence region had the lowest points for turnover. Between FY 2006 and FY 2008, facilities in the North Central region received double the number of incentive points for turnover than did those in the Lawrence region, or about half a point. The margin was narrower in FY 2009.
- *Staff Retention.* The regional pattern of incentives for staff retention was quite stable over time. Facilities in the West region received the highest number of points, followed by facilities in the North Central and Northeast regions. Facilities in the Lawrence region had the lowest number of incentive points in three out of four years. Facilities in the West region received two to three times the number of incentive points for retention than did those in the Lawrence region, or between 0.40 and 0.74 points.
- *Occupancy.* In every year, facilities in the Lawrence region had the highest average points for high occupancy rates and those in the South Central region had the second highest average points. Facilities in the Southeast and Northeast regions received the fewest average points for occupancy rates. The difference between the highest and lowest ranking regions averaged about a quarter of a point.

For non-mental health nursing facilities in FY 2008, regional differences in nurse staff ratio, retention, and occupancy were statistically significant. Regional differences in operating expenses and nurse turnover were not significantly different. Facilities' turnover points were significantly correlated with points for staff ratios and retention, but not with points for operating expenses and occupancy.

Table 4
Regional Differences in Mean Incentive Points
FY 2006 –FY 2009

	FY 2006					
	Total Points	Nurse Staff Ratio Points	Operating Expense Points	Nurse Turnover Points	Staff Retention Points	Occupancy Points
Nursing Facilities State <i>n=337</i>	2.75	0.55	0.50	0.43	0.54	0.36
Region						
Lawrence <i>n=41</i>	2.41	0.44	0.39	0.29	0.29	0.54
North Central <i>n=70</i>	2.81	0.51	0.53	0.60	0.69	0.36
Northeast <i>n=36</i>	2.50	0.42	0.50	0.39	0.56	0.22
South Central <i>n=55</i>	2.87	0.58	0.42	0.36	0.53	0.49
Southeast <i>n=64</i>	2.47	0.41	0.63	0.31	0.36	0.23
West <i>n=71</i>	3.17	0.83	0.46	0.54	0.70	0.34
Mental Health Nursing Facilities <i>n=12</i>	2.58	0.50	0.50	0.50	0.58	0.50
	FY 2007					
	Total Points	Nurse Staff Ratio Points	Operating Expense Points	Nurse Turnover Points	Staff Retention Points	Occupancy Points
Nursing Facilities State <i>n=331</i>	2.78	0.50	0.34	0.68	0.60	0.34
Region						
Lawrence <i>n=41</i>	2.29	0.46	0.24	0.41	0.24	0.46

North Central <i>n</i> =67	3.00	0.45	0.36	0.90	0.76	0.40
Northeast <i>n</i> =34	2.53	0.35	0.32	0.53	0.59	0.38
South Central <i>n</i> =55	2.82	0.64	0.31	0.49	0.51	0.42
Southeast <i>n</i> =63	2.22	0.22	0.35	0.54	0.49	0.19
West <i>n</i> =71	3.45	0.77	0.39	0.96	0.80	0.28
Mental Health Nursing Facilities <i>n</i> =11	2.36	0.64	0.36	0.45	0.45	0.45
FY 2008						
	Total Points	Nurse Staff Ratio Points	Operating Expense Points	Nurse Turnover Points	Staff Retention Points	Occupancy Points
Nursing Facilities State <i>n</i> =326	3.03	0.53	0.34	0.67	0.79	0.35
Region						
Lawrence <i>n</i> =39	2.51	0.51	0.18	0.41	0.46	0.49
North Central <i>n</i> =66	3.17	0.50	0.44	0.83	0.89	0.35
Northeast <i>n</i> =34	2.94	0.44	0.32	0.68	0.85	0.29
South Central <i>n</i> =54	2.83	0.46	0.28	0.61	0.55	0.48
Southeast <i>n</i> =62	2.61	0.35	.035	0.65	0.58	0.23
West <i>n</i> =71	3.76	0.83	0.39	0.75	1.20	0.31
Mental Health Nursing Facilities <i>n</i> =11	2.73	0.36	0.45	0.82	0.82	0.27

	FY 2009					
	Total Points	Nurse Staff Ratio Points	Operating Expense Points	Nurse Turnover Points	Staff Retention Points	Occupancy Points
Nursing Facilities State <i>n</i> =323	3.06	0.57	0.36	0.66	0.77	0.33
Region						
Lawrence <i>n</i> =39	2.79	0.51	0.23	0.51	0.59	0.49
North Central <i>n</i> =66	3.15	0.59	0.42	0.77	0.88	0.33
Northeast <i>n</i> =32	2.97	0.44	0.22	0.81	0.81	0.28
South Central <i>n</i> =54	3.02	0.57	0.33	0.65	0.57	0.43
Southeast <i>n</i> =62	2.66	0.26	0.42	0.60	0.69	0.23
West <i>n</i> =70	3.54	0.91	0.39	0.64	0.99	0.30
Mental Health Nursing Facilities <i>n</i> =11	2.55	0.55	0.27	0.82	0.82	0.09

With the incentive program, facilities have the opportunity to target organizational change towards one or more of the five outcomes targeted by the program. Table 5 shows trends in the average number of points awarded by outcome as well as the percentage of available points awarded for non-mental health nursing facilities.

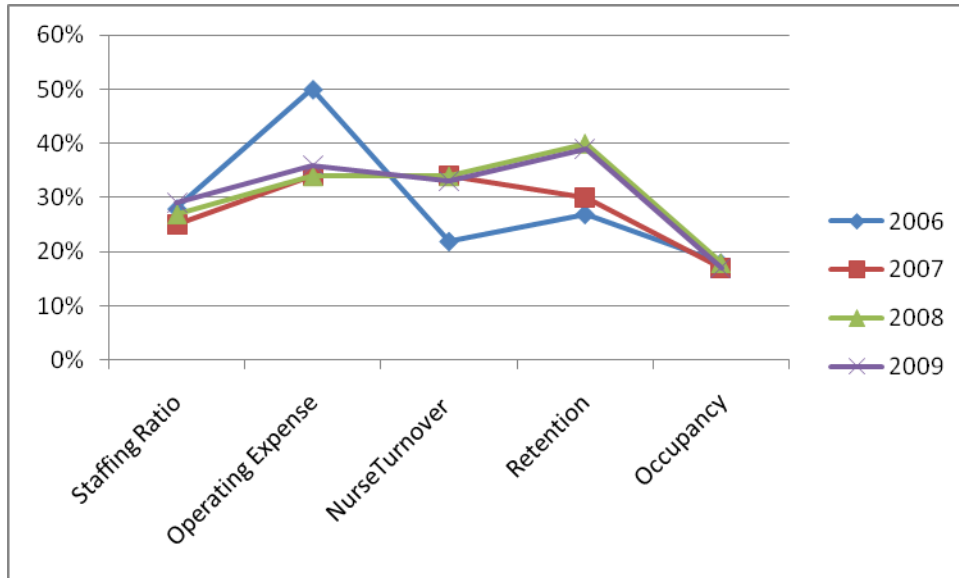
**Table 5
Trends in Incentive Program Points by Outcome Measure
Non-Mental Health Nursing Facilities**

Outcome	FY 2006		FY 2007		FY 2008		FY 2009	
	Points	% Total	Points	% Total	Points	% Total	Points	% Total
Case Mix Adjusted Nurse Staffing Ratio	0.55	28%	0.50	25%	0.53	27%	0.57	29%
Low Operating Expenses	0.50	50%	0.34	34%	0.34	34%	0.36	36%
Low Employee (Nurse) Turnover Rate	0.43	22%	0.68	34%	0.67	34%	0.66	33%
High Employee Retention Rate	0.54	27%	0.60	30%	0.79	40%	0.77	39%
High Occupancy Rate	0.36	18%	0.34	17%	0.35	18%	0.33	17%
Total	2.75		2.78		3.03		3.06	

A minority of total available points was awarded for each outcome in every year, with the exception of low operating expenses in FY 2006 when, on average, exactly half of total available points were awarded. With the exception of staffing ratios and occupancy rates, which were stable, there were trends over the four year period in the share of available points awarded (Figure 1).

- Points awarded for low operating expenses were highest in FY 2006 (50%), declining to 34% in FY 2007 and remaining at that level through FY 2009.
- In FY 2006, 22% of potential points for low employee (nurse) turnover were awarded, climbing to 34% the next year and remaining at that level throughout the period.
- The share of potential points for high staff retention rates rose throughout the period, from 27% in FY 2006 to 39% in FY 2009.

Figure 1
Trends in Percentage of Possible Points Awarded
Nursing Facility Quality and Efficiency Program
FY 2006-Fy 2009



Objective 2: Staff Turnover in Nursing Facilities and the Incentive Program

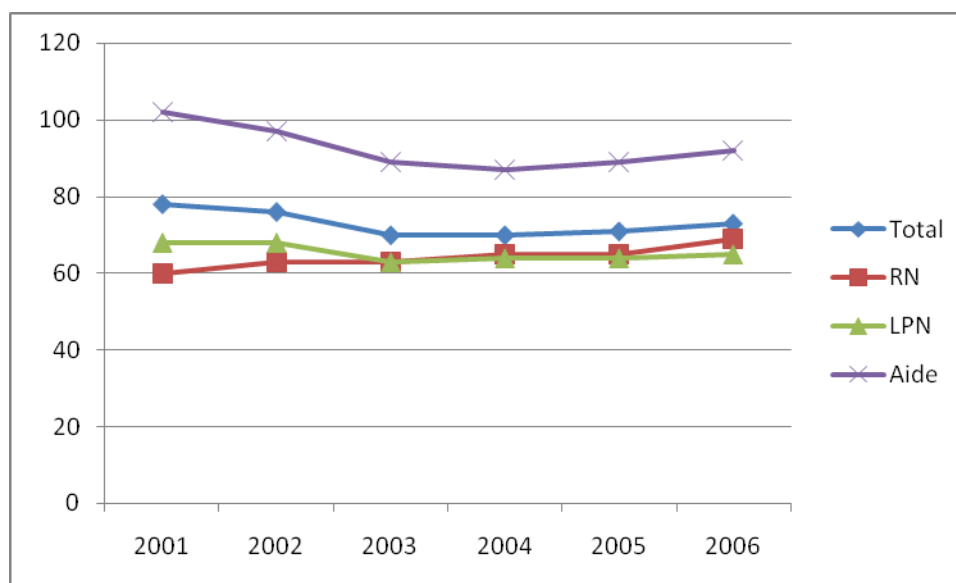
Staff (nurse) turnover was one of five outcomes in Kansas' Nursing Facility Quality and Efficiency incentive program. Turnover accounted for one-quarter of the potential points on which the incentive payment was based. The second objective of this study was to identify trends in nurse staff turnover before and after the incentive program was implemented at the beginning of 2005.

Table 6
Trends in Turnover Rates by Job Title and Facility Characteristics
(Percent)

	2001	2002	2003	2004	2005	2006
Total	78	76	70	70	71	73
RN	60	63	63	65	65	69
LPN	68	68	63	64	64	65
Aide	102	97	89	87	89	92

Total staff turnover in Kansas nursing facilities declined between 2001 through 2004, the period prior to the implementation of the incentive program (Table 6). In the two years following program implementation, the turnover rate increased. Turnover trends differed by job title (Table 6 and Figure 2). Turnover among RNs increased from 60% in 2001 to 69% in 2006. LPN turnover declined from 68% in 2001 to 63% in 2003, then in 2004, the year prior to program implementation LPN turnover rates began to rise. In 2006, LPN turnover was 65%, 3 percentage points lower than in 2001. None of these changes were statistically significant. Turnover rates among CNAs declined significantly from 102% in 2001 to 87% in 2004 then rose by 5 percentage points to 92% in 2006.

Figure 2
Trends in Turnover Rates Among Kansas Nursing Facilities
2001-2006



The comparison of turnover rates before and after implementation of the incentive program suggests that the program had no effect on turnover. But it is possible that the program may have had a beneficial effect on some types of facilities. Turnover rates, and trends in turnover, varied by facility characteristics (Table 7).

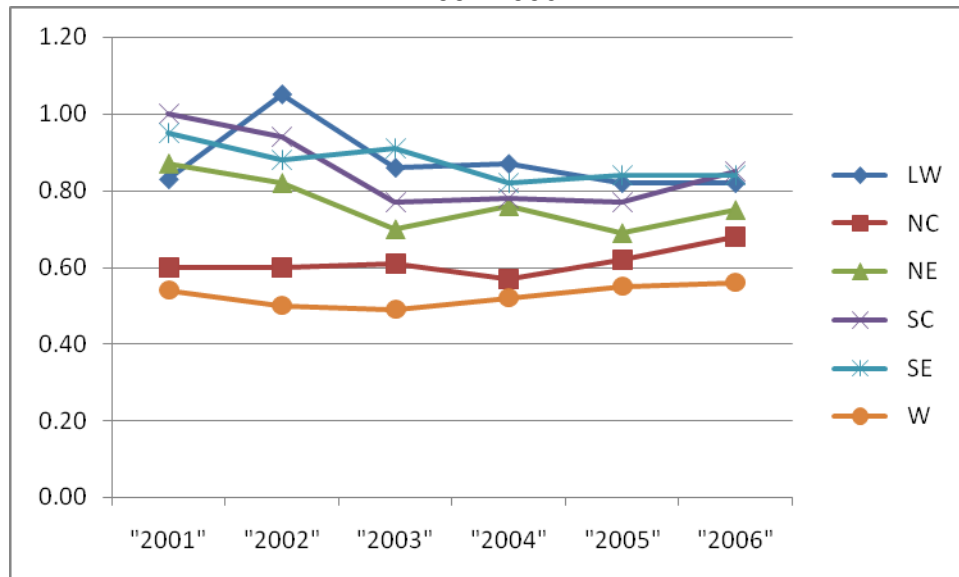
Table 7
Total Turnover Rates by Facility Characteristics
(Percent)

	2001	2002	2003	2004	2005	2006
State Total	79	77	67	70	72	70
System						
Chain	89	90	80	79	77	80
Not a Chain	66	62	61	60	63	66
Ownership						
For-Profit	96	100	89	87	83	89
Other Ownership	59	54	53	53	57	58
Region						
Lawrence	83	105	86	87	82	82
North Central	60	60	61	57	62	68
Northeast	87	82	70	76	69	75
South Central	100	94	77	78	77	85
Southeast	95	88	91	82	84	84
West	54	50	49	52	55	56
Location						
Metro	101	103	81	84	82	85
Non-Metro	68	66	66	64	66	69
Size						
80+ Beds	89	90	76	76	81	79
<80 Beds	72	70	68	67	65	71

- On average, facilities that were part of a multiple-facility chain had higher turnover rates than facilities that were independent. Turnover rates for facilities that were part of a chain declined from a high of 90% in 2002 to a low of 77% in 2005, rising to 80% in 2006. Rates for independent facilities had a U-shaped pattern, declining from 66% in 2001 to 60% in 2004, rising again to 66% in 2006.
- For-profit facilities had turnover rates that were much higher than not-for-profit or government-owned facilities. Turnover trends for for-profit facilities paralleled those for chains, declining from a high of 100% in 2002 to a low of 83% in 2005, climbing abruptly to 89% in 2006. Trends for other facilities of other ownership types displayed a shallow U-shape, declining from 59% in 2001 to 53% in 2003 and 2004, rising to 58% in 2006.
- Turnover rates varied across regions of Kansas, being the highest in the South Central Region and the lowest in the West. Regional trends in turnover also varied (Figure 3). Rates rose in the North Central (NC) region, were U-shaped in the West (W), and generally declined between 2001 and 2005 in the other four regions—rising again in the South Central (SC) and Northeast (NE) regions.
- Turnover rates were higher in metropolitan areas, where there are more job opportunities, than in non-metropolitan areas. Rates declined over the period for metropolitan facilities, while they were fairly stable for non-metropolitan facilities.

- Turnover rates were higher for facilities with 80 or more beds (large facilities) than they were for smaller facilities. Rates for both groups showed a U-shaped pattern, although it was quite shallow for smaller facilities.

Figure 3
Regional Trends in Kansas Nursing Facility Turnover Rates
2001-2006



These five nursing facility characteristics have been shown to be significantly related to the number of deficiencies and to quality indicators in previous project reports to KDOA. Trends in turnover by facility characteristic showed no improvement with the implementation of the incentive program. Thus, the incentive program did not have an apparent effect on particular types of facilities.

Objective 3: Optimal Turnover Percentile for Incentive

There are a variety of reasons that the incentive program did not seem to have an effect on turnover, some of which are inter-related.

1. Facilities with a high level of turnover could have been discouraged from attempting to reduce turnover rates because the incentive was based on level of performance rather than change in performance.
2. The program could have had an effect that was masked by stronger countervailing influences.
3. Turnover was just one of five nursing facility outcomes that were rewarded, and facilities could have focused organizational change on the other four outcomes.
4. The target performance levels could have been too high.
5. Providers may not have known about the incentive program.
6. The incentive amount could have been too small to motivate change.

- The two-year lag between performance and reward could be too long to be motivating.

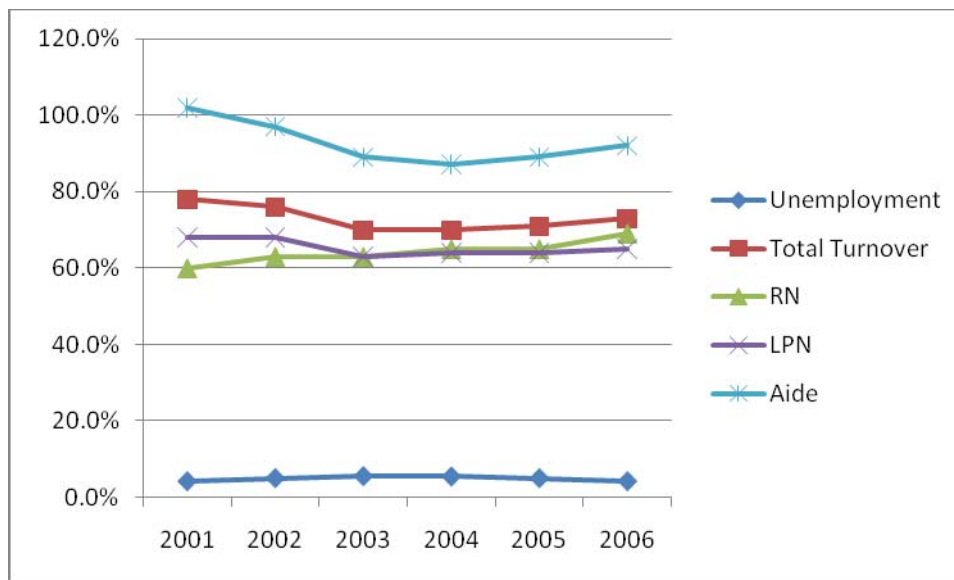
Possible Selection Effect. Between FY 2006 and FY 2009, there were 108 nursing facilities that received 0 incentive points for turnover and 224 that received at least 1 point. The facilities that received no points had a total turnover rate of 96% in 2001 and their rates did not change significantly through 2006 (FY 2008). The facilities that received at least 1 point had lower turnover rates (70%) in 2001 and their rates had dropped by an average of 7 percentage points by 2003. From 2004 through 2006 the 1+ point group's rates remained unchanged.

There was a strong year-over-year correlation in total points and points for turnover. Between FY 2008 and FY 2009, the correlation between total awarded points was 0.79. The correlation across years for turnover points was 0.71. Total points in 2008 explained 62% of the variation in total points in 2009. Thus, during 2006 and 2007, the data years for FY 2008 and 2009, there was a strong tendency for facilities to remain stable on the five outcome measures that are the basis of the incentive program.

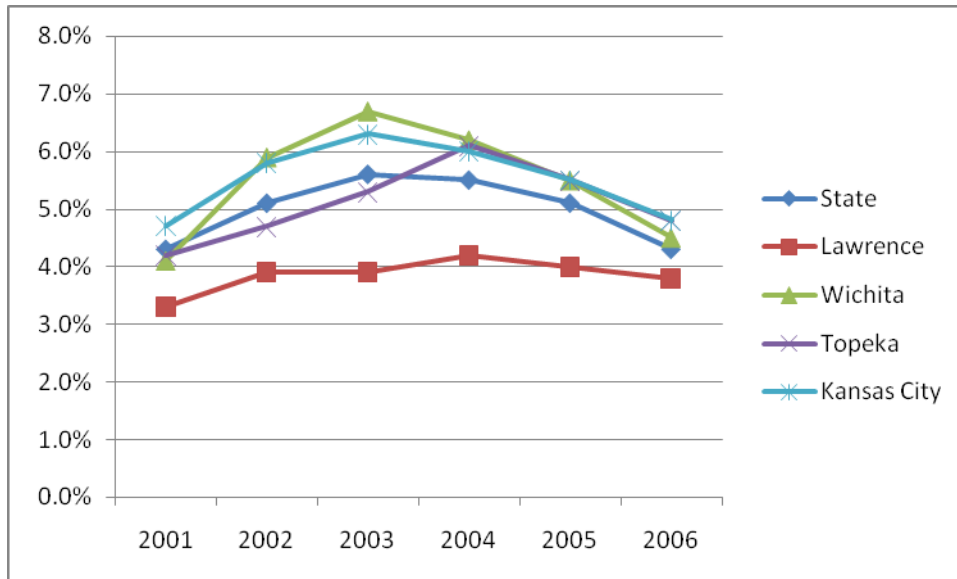
These statistics could imply that the incentive program did not promote organizational change for any type of facility, but rather it rewarded the ones that were already doing well.

Effects of External Influences. Nursing facility turnover rates are driven by turnover of aides, the largest occupational group. Aide positions are entry-level service occupations that compete for employees with other service industries, such as food service, retail sales, and aide positions in other healthcare settings. As such, aide turnover may be strongly affected by economic trends. Trends in nursing facility staff turnover bore an inverse relationship to trends in the Kansas unemployment rate (Figure 4), which rose from 4.3% in 2001 to 5.6% in 2003, then declined to 4.3% in 2006.

**Figure 4
Unemployment and Turnover Rates**



**Figure 5
State and Metropolitan Area Unemployment Rates
2001-2006**



Unemployment declined just before KDOA implemented the incentive program. As more jobs became available, the decline in turnover among the facilities that received at least one incentive point stopped. In fact, aide turnover increased beginning in 2005. Total staff turnover in nursing facilities increased in five of the seven regions, remaining stable in the Lawrence and Southeast regions which had the highest turnover rates. Unemployment rates were highest in the Kansas City metropolitan area—and lowest in the Lawrence region (Figure 5).

It is a reasonable hypothesis that the incentive program was not strong enough to overcome the effects of labor market trends.

Optimum Target Level. For convenience, the state has used the 50th (71% turnover rate) and the 75th (45% rate) percentiles as cut points for awarding incentive program points and per diem adjustments. Using data from 2006, we found that facilities with turnover rates of 72% or greater had nearly twice the number of deficiencies on average (13.2) than facilities with turnover rates lower than 72% (7.3 deficiencies). The 72% turnover rate represented the 47th percentile. Among facilities with turnover rates lower than 72%, there was a second cut point. Facilities with turnover rates equal to or greater than 41% but less than 72% had, on average, 8.7 deficiencies, compared to an average of 5.0 deficiencies for facilities with turnover rates below 41%. The 41% turnover rate represented the 83rd percentile. Thus, the current cut points used by KDOA are very close to optimum.

SUMMARY and DISCUSSION

In summary, nursing facilities in the different KDOA regions differed in their performance with the Nursing Facility Quality and Efficiency Factor incentive program. Facilities in the West region received more points, while facilities in the Lawrence received the fewest. Regional differences in incentive points were likely related to regional differences in facility characteristics related to turnover, including metropolitan location, for-profit ownership, part of a multiple-facility chain, or had over 80 beds had higher turnover rates than their opposites.

Contrary to expectation, turnover rates, particularly turnover rates for aides, rose after program implementation. Because the study design was limited to pre-implementation/post-implementation comparisons, it was not possible to determine the cause of this outcome. Available data suggest two potential contributing factors. First, any beneficial effect of the program may have been overwhelmed by countervailing trends in the state's unemployment rate. Second, the structure of the incentive program may have resulted to reward only to facilities that were already performing at a high level.

Recommendations

KDOA should consider taking the following steps, which might promote the effectiveness of the incentive program.

1. Offering incentive points to facilities that improve their outcomes, in addition to offering points for achieving certain outcome levels. **Rewarding change** could encourage facilities with high turnover rates to try to improve.
2. **Educating nursing facilities** across the state about the various elements of the program and providing examples of the potential levels of benefit.
3. **Decrease the lag** from performance to reward to one year.
4. Consider focusing the program on **fewer outcome measures** to communicate KDOA's priorities.

Staff turnover remains high in too many nursing facilities. High turnover has negative consequences for the quality of care. KDOA's efforts to incentivize quality should continue to be supported.

