

KANSAS NURSING HOME PROJECT EVALUATION YEAR 2

For the Kansas Department on Aging

Sarah Forbes-Thompson, PhD, RN
University of Kansas School of Nursing
Principal Investigator

Nancy Dunton, PhD
University of Kansas School of Nursing
And Department of Health Policy & Management
Co-Principal Investigator

Byron Gajewski, PhD
University of Kansas School of Nursing
& School of Allied Health

Robert Lee, PhD
University of Kansas School of Medicine
Department of Health Policy & Management

Marcia Wrona, BSW
University of Kansas School of Allied Health
Department of Biometry

Annette Becker, MA
University of Kansas School of Nursing
Project Director

Valorie Wells, MA
University of Kansas School of Nursing
Project Manager

Rosemary Chapin, PhD
University of Kansas School of Social Welfare

Roxanne Rachlin, MHSA
University of Kansas School of Social Welfare

Mary Zimmerman, PhD
University of Kansas School of Medicine
Department of Health Policy & Management
& University of Kansas, Department of Sociology

January 2005

DEPARTMENT ON AGING
PAMELA JOHNSON-BETTS, SECRETARY
KATHLEEN SEBELIUS, GOVERNOR

April 14, 2005

Dear Reader,

With the regulation of adult care homes being one of the Kansas Department on Aging's most important functions, the state contracted two years ago with the University of Kansas School of Nursing to conduct a three-year research project into the survey process.

The ultimate goal is to provide KDOA with information that could be used in refining the survey process. In addition, the study provides the nursing industry with information useful in improving resident's health and care.

The survey process in Kansas has been acknowledged by the Legislative Division of Post Audit in a 2001 study, the Centers for Medicare and Medicaid Services (CMS) and the agency's own internal Quality Improvement systems as performing well. I am pleased the KU study also has identified many positive aspects related to the survey process while addressing the many variables that can result under the federal survey process. In addition the survey identifies facility characteristics that can have an impact on survey outcomes.

I wish to thank Dr. Sarah Forbes-Thompson and her team of researchers for their work over the past two years of the study, which should give readers an appreciation for the very difficult issues facing both the survey agency and the nursing home industry. I also wish to thank the Kansas Department of Health and Environment for their cooperation regarding hospital long term care units which are also included in this study.

While looking forward to Year 3 of the study, the Department will review the recommendations and suggestions from Year 2 of the study and will incorporate those ideas to the extent possible. As we learn more about the critical work we do and find ways to improve upon that work, the conclusive winners will be the residents, their families and their caregivers.

Sincerely,
Pamela Johnson-Betts
Secretary

NEW ENGLAND BUILDING, 503 S. KANSAS AVENUE, TOPEKA, KS 66603-3404

Voice 785-296-4986 Fax 785-296-0256

<http://www.agingkansas.org>

Preface

This report was prepared under contract for the Kansas Department on Aging . The investigators want to thank the Department on Aging for the substantial assistance provided to the study by many state staff. In particular, Mr. Bob Parker, our contract manager, gave us access to several data sets maintained by the state and coordinated comments and advice from state program managers and policy staff. We would also like to thank Bill McDaniel and George Dugger for their assistance in providing data, documentation, and background information on state data sets.

We also wish to thank our project consultants, Marilyn Rantz, RN, PhD and Greg Petroski, MS from the University of Missouri, School of Nursing, who provided guidance and advice.

We also thank the nursing homes that participated in our on-site data collection and completed our mailed surveys.

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

For any questions or comments concerning this report, please contact the Principal Investigator, Sarah Thompson, at (913) 588-1624 or at **sthompson2@kumc.edu**.

Table of Contents

	Page
Executive Summary.....	5
Background and Significance.....	10
Results.....	
Longitudinal Analysis.....	15
Multivariate Analysis of Deficiencies and Quality Indicators.....	25
Mailed Survey.....	42
Communication, Teamwork and Leadership.....	54
Case Studies.....	63
Appendix A: Glossary	72
Appendix B: Data Elements by Source	73
Appendix C: Interview Questions for Case Studies	80
Appendix D: Mailed Survey – Nursing Home.....	81
Appendix E: Mailed Survey – Long Term Care Unit	85
Appendix F: Communication, Teamwork, Leadership Survey.....	88
Appendix G: Indiana Scoring Methodology	92

Executive Summary

This report presents findings from the second year of a study conducted by the University of Kansas, School of Nursing for the Kansas Department on Aging (KDOA) regarding the relationship of nursing facility characteristics to resident care and health. The purpose of this project is to provide evaluative information that can be used both by the nursing home industry and the state to improve resident care and health. Four research activities were conducted during the second year:

1. Longitudinal analysis regarding the relationship of nursing facility characteristics to resident care and health.
2. Survey of nursing home administrators and directors of nursing on the education and experience of the nursing home leadership, with some detail on organizational characteristics.
3. Survey of nursing home staff regarding organizational culture, communication, teamwork, and leadership.
4. Case studies of the working environment in two historically well-performing and two poorer-performing homes.

Between 2001 and 2002, there were differences in the number of deficiencies per nursing home and the average number of deficiencies across regions. Further, there were changes in the regional mean percents in 5 selected quality indicators.

- Statewide, the average number of deficiencies per free-standing nursing home increased minimally between 2001 (7.19) and 2002 (7.55). One region (West) had a statistically significant increase in the average number of deficiencies.
- In 2002, the North Central region had the lowest average number of deficiencies per nursing home and the North East had the highest. Interesting to note is that the North Central region had the lowest administrator, RN, and LPN turnover and the second lowest CNA turnover.
- Statistically, there was modest stability across the two years in the number of deficiencies received by each nursing home. In other words, the average number of deficiencies per home moved up or down from 2001 to 2002.
- Except for incontinence, mean percent scores for quality indicators (falls, weight loss, late loss ADLs, and pressure ulcers) have a fair amount of variability per home from year-to-year. This may reflect: a) the driving factor for nursing home admission (incontinence) is a stable QI and b) the dynamic nature of the nursing home resident population (increasing acuity, inevitable decline, admissions/discharges, and interventions by homes to changes in their individual QIs).

There was little change in the regional distribution of nursing home characteristics except for turnover.

- Statewide there were very few changes in nursing home financial and organizational characteristics.
 - Nursing homes in the Lawrence region increased the average number of licensed beds from 93 per nursing home to 101. During this period, homes in the Lawrence region declined from having 67% of resident days paid by Medicaid to 58%.
 - Percent occupied increased in all regions except for Lawrence.
- The percentages of homes that were for profit or were part of multi-nursing home chains were fairly stable statewide between 2001 and 2002.
 - The percentage of homes that were for profit decreased in all regions with the exception of the Southeast, which saw an increase from 77% to 84%.
 - The percentage of homes that were part of chains decreased in the Lawrence region.
- Nursing hours, skill mix, and turnover generally stayed the same between 2001 and 2002. However, there was a significant drop in the turnover rate among nursing home administrators, from 43% in 2001 to 26% in 2002. We have no explanation for this change.
 - Every region experienced a sharp decrease in administrator turnover.
 - The Lawrence region experienced a sharp increase in RN, LPN, and aide turnover between 2001 and 2002.
 - The North Central region had a noticeable decline in turnover in all categories except for aide. However aide turnover is low compared to other regions.
 - Aide turnover declined from 125% to 100% in the Northeast region, the most notable change.
 - The Lawrence region experienced an increase in nursing hours per resident day from 3.00 in 2001 to 3.55 in 2002. It had the highest nurse to resident ratio among all the regions.

Between 2001 and 2002, there was a change in the specific nursing home characteristics that were important predictors of deficiencies and QIs.

- In the multivariate models for 2002, deficiencies were predicted by region, total turnover, and being part of a chain.
 - In 2001, deficiencies were predicted by region, nursing home size, and for-profit ownership.
- In 2002, average QIs were predicted by case mix and combined aide and LPN hours.
 - In 2001, average QIs were predicted by metropolitan location and total turnover rate.

Findings from enhanced multivariate models for 2002 data reinforced the importance of turnover as predictive of higher deficiencies and poorer QI outcomes.

- For-profit ownership and chain membership were related to higher case mix, which in turn, was an important predictor of poorer QIs.
- In addition to turnover, deficiencies were also predicted by chain membership, for-profit ownership, and wage rates for LPNs and aides.

Nursing care hours per resident day were higher:

- When wage rates were lower.
- In not-for-profit homes

According to the mailed survey, nursing home administrators and directors of nursing (DONs) had long careers in long term care, but short tenures in their current homes. Thus, they make frequent moves from one nursing home to another.

- Over half had been in administrator or director of nursing positions for more than 10 years.
- Approximately 25% of homes had a new administrator and/or a new director of nursing in the last 12 months.
- 49% of DONs and 41% of administrators had been in their current position 2 years or less.

Educational preparation of nursing home administrators and DONs requires thoughtful reflection and discussion.

- 55% of administrators had a bachelor's degree and 21% had graduate level preparation. One-third have formal business preparation.
- Two-thirds of DONs had a nursing diploma or an associate's degree.
- Given the increasing complexity of the nursing home industry as a work environment and the increasing acuity of residents, educational preparation of DONs and administrators deserves thoughtful discussion.

Over half of the nursing homes and one-third of the hospital-based long term care units (LTCUs) had experienced budget cuts in the past year, with staffing being the most frequently affected budget category.

Working conditions, such as **communication, teamwork, and leadership have been hypothesized to influence resident care and turnover**. Although the relationship of these working conditions to resident care and turnover will be evaluated next year, the staff survey regarding communication, leadership, and teamwork found that:

- Fewer than half (44%) of staff believed they got information quickly when a resident's condition changed.
- Only 30% of staff believed there was good communication between staff across shifts.
- 38% of staff found it difficult to ask for advice from other staff members.
- Half of the staff believed that poor teamwork with other departments made it difficult to do their jobs.
- Nearly three-quarters of staff (71%) reported that they identified with the goals of the nursing home.
- Only 54% believed that staff had productive work relationships.
- Only 55% felt that staff had a good understanding of the goals of care for each resident.
- Only 56% of staff felt that nursing leadership provided strong clinical guidance to nursing staff.
- Less than half (47%) believed that nursing leadership gave staff chances to grow.
- Staff in larger homes felt less connected to a team than staff in smaller homes.

The 4th research activity, case studies of the work environment, is ongoing. However, preliminary analyses between one well-performing and one poorer-performing home illustrate powerful differences in working conditions.

In the well-performing home, the following attributes were noted: strong and respectful formal and informal leadership, trust between staff levels, resident-focused values embraced by staff and demonstrated in day-to-day activities, multiple mechanisms for staff communication, and teamwork enhanced by conflict resolution and multiple mechanisms for staff recognition and support.

In the poorer-performing home, the following attributes were noted: tremendous staff turnover, discordant values between the formal organizational mission and the support placed on meeting the organizational mission (e.g., negative reinforcement for overtime when there was a lack of staff to meet resident needs), lack of teamwork fostered by a lack of trust and staff cliques, few mechanisms for communication, and weak leadership, both informally and formally.

Implications

Nursing home staff **turnover**, particularly aide turnover, has a strong negative effect on quality of care, as measured both by deficiencies and quality indicators. Policies and procedures that promote staff retention will improve the quality of care.

- Aide turnover is lower among homes that have higher wage rates. Increasing the wages of aides, therefore, would be one method for reducing turnover and improving care.
- Turnover is also higher among for-profit homes and homes that are part of a chain, net of wage rates. Further investigation might reveal the reasons for these associations. For example, in several of the focus groups convened in Year 1, participants discussed corporate policies for firing staff when there had been an unsatisfactory survey. Other responses might be beneficial such as programs to enhance basic communication skills, conflict resolution, teambuilding, developing leaders, and continuing education in clinical areas.
- Reducing total staff turnover to below 87% has been shown to cut the average number of deficiencies in half. In light of this finding, this should be a strategic goal.
- Besides turnover, having more nursing hours supplied by RNs reduced deficiencies and improved quality indicators.

Given the increasing acuity of nursing home residents, large percentages of the professional staff (administrators, directors of nursing, and social services staff) in nursing homes may need more educational preparation. In the 2005 analyses, we will examine whether this was related to resident care and health. If we find that to be the case, there would be direct policy and programmatic implications from such a finding:

- Three methods used by business to attract and retain more qualified (educated) staff are: improve working conditions, provide career ladders, or raise salaries.
- Provide continuing education opportunities for existing professional staff on skill sets that are fundamentally related to good performance.
- Provide opportunities for educational advancement. For example, there are several programs in the state of Kansas that provide a track for Associate Degree to Baccalaureate degree for RNs.

Our measure of the ICC (Intraclass correlation coefficient reflects stability of a measure. An ICC of 1 indicates perfect stability across time whereas a 0 shows very poor stability. See page 38.) evaluated the stability of survey results and quality indicator scores from 2001 to 2002. Our findings suggest that there is only modest stability for each individual home on their survey results and QI scores from one year to another. For example, some homes that had good survey results one year did poorly the next and visa versa. The change from one year to the next may reflect a variety of factors including: turnover, changing resident acuity, or the dynamic nature of the nursing home environment at the time of a survey. As these measures are published as guidance to the public in selecting nursing homes, they have questionable utility. Further work is warranted to understand what factors are associated with variability. This understanding would be important in designing processes to improve public guidance.

Background and Significance

The number of older persons is growing rapidly and this trend is expected to continue for the next 30 years. The number of persons over the age of 65 is 31 million with a projected increase of 55 million by the year 2020. The number of people over the age of 85 is estimated to grow from 3 million to more than 13 million, and at any given time, approximately 5% of persons aged 65 years and over reside in a nursing home. It is anticipated that the number of consumers needing nursing home care will more than triple during the next ten years. Nursing homes provide care to the most vulnerable members of society.

To participate in Medicare and Medicaid programs, nursing homes must meet federal regulations or conditions of participation as established by the Health Care Financing Administration, now known as the Centers for Medicare and Medicaid Services (CMS). Although the regulations and investigation process are federally mandated, the actual investigation (survey) process is administered through individual state agencies. In Kansas, the regulation of adult care homes is the purview of the Kansas Department on Aging (KDOA), except for hospital-based long term care units which are regulated by the Kansas Department of Health and Environment (KDHE).

Nursing homes are required to be surveyed once every 9 to 15 months to assess for compliance with federal regulations, however complaints can initiate additional surveys. The survey process is designed to regulate care in nursing facilities and facilities must be in compliance with 190 federal regulations in order to operate. The 190 regulations fall into several categories: Resident Rights; Quality of Life; Quality of Care; Resident Assessment; Services: dietary, pharmacy, rehabilitation, dental and physician; Physical Environment; and Administration. State or federal surveyors cite deficiencies when a facility fails to be in substantial compliance with the regulations. Deficiencies are assigned a level of severity (the effect on resident outcomes) and scope (the number of residents actually or potentially affected). Table 1 describes the categories of scope and severity. When a facility is deemed noncompliant, CMS issues enforcement remedies based on the scope and severity of the deficiencies and the state agency recommendations. Enforcement remedies vary, based on scope and severity, and examples include a directed plan of correction, denial of payment of new admissions, and Civil Money Penalties.

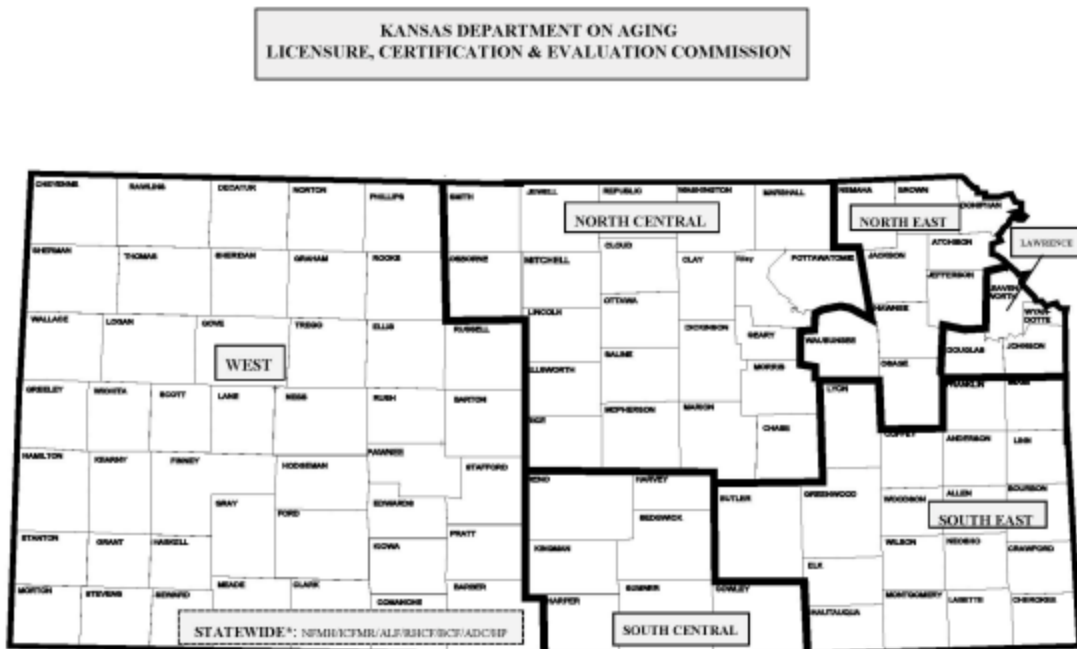
Figure 1

Scope and Severity Table			
	<u>Isolated</u>	<u>Pattern</u>	<u>Widespread</u>
Immediate jeopardy to resident health or safety	J	K	L
Actual harm that is not immediate jeopardy	G	H	I
No actual harm with potential for more than minimal harm that is not immediate jeopardy	D	E	F
No actual harm with potential for minimal harm	A	B	C

The nursing home industry and KDOA believe that generating information regarding the relationship between facility characteristics and survey outcomes will be valuable to improving resident care and health. In 2002, KDOA contracted with an independent interdisciplinary research team from the University of Kansas for a multi-year project to study factors related to resident care and health.

The **purpose** of this project is to provide evaluative information that can be used by both the nursing home industry and the survey agency to improve resident care and health. The project includes approximately 346 Medicaid-and Medicare-certified free-standing nursing homes and hospital-based long term care units. State nursing homes that provide nursing care to residents with mental health or developmental disabilities were excluded from the study.

The KDOA survey process is regionally based. The map below shows the geographic boundaries of the six KDOA regions. Regulation of the hospital-based long term care units by KDHE is centrally based and statewide.



3000
*SURVEY FACILITIES FOR NURSING FACILITIES OF MEDICAL REASON, SUPERINTENDENT CARE FACILITIES FOR THE MENTALLY RETARDED & FREESTANDING ASSISTED LIVING RESIDENTIAL HEALTH CARE SERVICES-CARE ADULT DAY CARE-NON-RESIDENTIAL FACILITIES ARE MARKED ON THIS MAP

Findings from Year 1 Report

The first report from this project was *The Kansas Nursing Facility Project Evaluation* (2003). Findings from the first year's report included:

There were significant regional differences in the average number of deficiencies per nursing home.

- Nursing homes in the Northeast region had nearly three times the average number of deficiencies (11.64) as nursing homes in the West (3.69).
- On average, nursing homes in the Northeast region had more deficiencies with D+ and G+ scope and severity than in the West or Lawrence regions.
- Nursing home administrators and directors of nursing thought regional differences in deficiencies were due to differences in surveyor practices.
- Surveyors thought regions with higher deficiencies had nursing homes with poorer characteristics.

There were significant regional differences in nursing home characteristics that have been related to the quality of nursing home care. The pattern of regional differences in nursing home characteristics was very similar to the regional deficiency pattern.

- On average, nursing homes in the Lawrence region were the largest (93 beds) and nursing homes in the West region were the smallest (44 beds).
- A higher percentage of nursing homes in the Lawrence region were for profit (80%), compared with 22% in the West.
- While there were only small regional differences in nursing hours per resident day, the average in every region was below 3.5 hours. Studies indicate a level below 4.1 hours could have adverse consequences.
- Turnover rates in nursing homes were very high. Across the state, there was a change of administrators in 43% of nursing homes in 2001 and a change in 65% of the RNs and 73% of the LPNs. There was complete turnover (109%) in aides. The Northeast region had the highest Administrator and LPN turnover and the second highest RN turnover.

Nursing home characteristics accounted for one-third of the regional difference in deficiencies. Two-thirds remained unexplained.

- Taking 18 nursing home characteristics (such as ownership, staff turnover, rural/urban location, bed size) into account, there were still significant regional differences in deficiencies.
- Nursing home characteristics explained less about deficiencies in the Northeast than in the other regions. That is, other factors played a larger role in the rate of deficiencies in the Northeast than elsewhere in the state.

- In all regions, larger nursing homes and for-profit nursing homes had higher rates of deficiencies than their counterparts.

There were inconsistencies in the survey process from one nursing home to another. There was no information on whether these inconsistencies were associated with regions.

- In a series of simultaneous surveys in 12 nursing homes, there were differences in the number of deficiencies cited, in the F tags that were cited, and the scope and severity of the deficiencies.
- Inconsistencies were greatest when the number of deficiencies was highest. As surveyors have a limited amount of time in nursing homes, they must select which deficiencies to pursue when faced with a large number of options. These choices may be guided by surveyors' opinions of which deficiencies are the most egregious, which have the best documentation, or other considerations.
- Surveyors stated that different Regional Managers may give different guidance regarding specific circumstances when reviewing deficient practices and determining scope and severity.
- Both nursing home administrators/DONs and surveyors thought that attitudes of both surveyors and nursing home personnel played an important role in the survey process.

Although there were inconsistencies in the application of specific regulations, the surveyors appeared to be more consistent in their implied assessment of the quality of care in nursing homes.

- There was a great deal of agreement between the simultaneous survey teams on the general number of deficiencies and in a measure of the number of deficiencies combined with their scope and severity. Further, surveyors who cited different F tags frequently cited tags in the same general care system.

Rates of deficiencies were highest in the Northeast, a region that had, on average, the worst nursing home characteristics and the most highly educated and experienced surveyors.

There also was significant regional variation in the average quality indicators (QIs).

- A nursing home with an urban location and higher turnover had higher (worse) QIs than their counterparts.
- Some nursing home administrators thought the QIs might bias the surveyors against a nursing home before they arrived.
- The QIs come from the Minimum Data Set (MDS), used for planning and monitoring resident care. Focus group participants had different opinions on how helpful the MDS was, with some administrators stating that it was a waste of time. To the extent that the MDS is not used effectively, the QIs will not be representative of care issues in a nursing home.

The **objectives** for **Year 2** included:

1. Provide evaluation information that can be used by both the nursing home industry and KDOA to improve resident care and health.
 - a. Year 1 data analysis will be enhanced by examining trends in facility characteristics, deficiencies, quality indicators (QIs), and quality measures (QMs).
2. Describe the education and experience of nursing facility administrators and directors of nursing, as well as the background of social work and activities staff—information that was collected through a mailed survey, since it was not available from secondary sources.
 - a. The education and experience of facility leaders may have an effect on facility deficiencies and QIs. This will be determined in Year 3 of the project, when the information from the survey can be matched to the OSCAR and MDS files.
3. Survey of nursing home staff regarding organizational culture, communication, teamwork, and leadership.
4. Develop a qualitative description of the working environment in historically well-performing and poor-performing facilities through four case studies

Results

Longitudinal Analysis

Combining data from the OSCAR files, the MDS, the Medicaid Cost Reports, the Census, and ElderCount, we developed an analytic file to examine trends in nursing home characteristics, deficiencies, and Qs across the six state regions.¹ The deficiency data utilized in this analysis includes re-surveys only, data from re-visit (follow-up) surveys and surveys initiated by complaints were not included. Regional results are presented for free-standing nursing homes. However, due to the small number of hospital-based long term care units (LTCUs) in some areas, regional statistics are not reliable and only statewide results are presented. This aligns with the fact that KDHE oversight is statewide as well. Please note the hospital-based LTCUs differ from freestanding nursing homes both in having smaller average bed size and an administrative structure in which the hospital administrator oversees the LTCU rather than having a separate LTCU administrator.

Deficiencies

Several measures of deficiencies were employed to examine regional differences: the average of total deficiencies per home or LTCU, average number of deficiencies with scope and severity of D or higher (D+), average number of deficiencies with scope and severity of G+ or higher, the CMS categories of sets of F-tags called Quality of Life and Quality of Care,² the average number of Substandard Care deficiencies (F-tags 221-225, 240-258, and 309-333), and a weighted score similar to one developed and used by the state of Indiana (Appendix G). Only deficiencies cited on resurveys were analyzed.

¹ Quality Measure data will be available for the 2003 analysis, to be conducted in 2005, but were not available for 2002.

² CMS (OBRA) Regulations specify each of the deficiencies, also called F-tags. The 190 F-tags have been organized into the following 15 categories. This analysis uses two of these categories (bolded) that are thought to relate highly to quality of care.

483.10	Resident Rights
483.12	Admission, Transfer, and Discharge Rights
483.13	Resident Behavior and Nursing Home Practices
483.15	Quality of Life
483.20	Resident Assessment
483.25	Quality of Care
483.30	Nursing Services
483.35	Dietary Services
483.40	Physician Services
483.45	Specialized Rehabilitative Services
483.55	Dental Services
483.60	Pharmacy Services
483.65	Infection Control
483.70	Physical Environment
483.75	Administration

- Statewide the average number of total deficiencies, D+, Quality of Life, and Quality of Care deficiencies increased slightly between 2001 and 2002 (Table 1). This change took place for both free standing nursing homes and hospital-based LTCUs. For hospital-based LTCUs, the average number of G+ deficiencies increased as well.
- Northeast nursing homes showed an improvement in the average number of total, D+, G+, Quality of Life, Quality of Care, and Indiana scored deficiencies between 2001 and 2002. (For an explanation of Indiana scoring methodology see Appendix G).
- The Southeast region had the second highest average number of total deficiencies in both 2001 and 2002.
- The North Central and Lawrence regions had the lowest average number of deficiencies in 2002.
- In a notable change from 2001, nursing homes in the West region showed a marked increase in the average number of deficiencies in 2002.

Table 1
Regional Differences in Average Deficiencies from Resurveys
2001-2002

Region	Total	D+	G+	Quality of Life	Quality of Care	Substandard Care	Indiana Score
Nursing Homes							
LW							
2001	5.58	4.89	0.53	1.84	1.27	0.02	25
2002	6.43	6.40	0.43	2.69	1.98	0.07	29
NC							
2001	5.35	5.04	0.37	2.49	2.16	0.07	30
2002	5.05	4.68	0.39	1.88	1.98	0.05	23
NE							
2001	11.64	11.27	1.15	3.33	6.09	0.12	58
2002	10.79	10.00	0.79	2.47	5.05	0.79	43
SC							
2001	9.25	9.04	1.25	4.06	3.73	0.10	59
2002	7.28	6.94	0.33	3.15	2.69	0.03	32
SE							
2001	8.66	8.52	0.45	3.55	3.48	0.07	42
2002	9.56	9.42	0.56	6.25	3.73	0.00	43
W							
2001	3.69	3.56	0.27	1.67	1.64	0.07	18
2002	6.80	6.73	0.69	3.78	2.76	0.20	32
State Total							
2001	7.19	6.89	0.64	2.84	2.93	0.07	38
2002	7.55	7.27	0.52	3.46	2.97	0.07	35
Hospital-Based Long Term Care Units							
Region	Total	D+	G+	Quality of Life	Quality of Care	Substandard Care	Indiana Score
2001	4.20	3.95	0.31	1.82	1.49	0.09	31
2002	4.89	4.72	0.44	1.92	1.86	0.07	24

Bold indicates significant differences from 2001 to 2002

Financial Characteristics

- Statewide, there was little change in the number of licensed beds and the percent of days paid for by Medicaid between 2001 and 2002 (Table 2); Lawrence had an increase in the average number of licensed beds from 93 to 101.
- The percent occupied increased in all regions except Lawrence.
- The percent of nursing homes that were for-profit declined from 57% to 54% in Kansas's nursing homes between 2001 and 2002. Declines were largest in the Northeast and Lawrence regions. There was an increase in the percentage of for-profit homes in the Southeast region (Table 3).

**Table 2
Regional Differences in Mean Financial Characteristics
2001-2002**

Region	Licensed Beds	% Occupied	% Days Paid by Medicaid
	Nursing Homes		
LW			
2001	93	89	67
2002	101	86	58
NC			
2001	66	80	49
2002	63	86	49
NE			
2001	73	80	56
2002	70	88	54
SC			
2001	79	80	58
2002	75	93	55
SE			
2001	68	85	61
2002	69	86	60
W			
2001	55	84	54
2002	59	87	54
State Total			
2001	72	83	57
2002	72	88	55
	Hospital-Based Long Term Care Units		
State Total			
2001	42	78	45
2002	45	77	46

Organizational Characteristics

- The percent of nursing homes that were faith-based increased from 7% to 8% between 2001 and 2002, but declined from 5% to 2% among hospital-based LTCUs (Table 3).
- The percent of nursing homes that were part of a multi-home chain declined slightly from 58% to 57% between 2001 and 2002, and from 5% to 2% among hospital-based LTCUs. The most notable changes were for nursing homes in the Lawrence region.
- Overall, about 7% of Kansas nursing homes and 2% of hospital-based LTCUs changed ownership in 2002. The percentage increased from 2001 among nursing homes.

**Table 3
Regional Differences in Mean Organizational Characteristics
2001- 2002**

Region	% For Profit	% Faith Based	% Part of Multi-Home Chain	% Change in Ownership Last Year
Nursing Homes				
LW				
2001	80	4	71	2
2002	73	7	64	14
NC				
2001	49	12	51	0
2002	46	14	52	8
NE				
2001	70	9	58	6
2002	61	8	59	3
SC				
2001	49	10	45	0
2002	40	9	43	7
SE				
2001	77	2	70	0
2002	84	2	70	7
W				
2001	22	7	53	0
2002	19	7	52	2
State Total				
2001	57	7	58	1
2002	54	8	57	7
Hospital-Based Long Term Care Units				
State Total				
2001	9	5	38	2
2002	9	2	31	2

Nursing Hours and Turnover

- Statewide, the average number of nursing hours per resident day remained relatively constant between 2001 and 2002, at about 3.3 hours among nursing homes and 4.3 hours in hospital-based LTCUs (Table 4).³ Nursing hours were highest in the Lawrence region.
- There was little change in the percentage of hours supplied by RNs in nursing homes or hospital-based LTCUs. Among nursing homes, 15% of the nursing hours were supplied by RNs and among hospital-based LTCUs, 18% of the hours were supplied by RNs. There was little regional variation among nursing homes.
- Aide turnover remained high in 2002. Statewide, the turnover rate was 105% for nursing homes and 46% for hospital-based LTCUs. Aide turnover in nursing homes was lowest in the West and North Central regions.
- Across all for categories of staffing, turnover was much lower in hospital-based LTCUs than in free-standing nursing homes.
- Nursing home administrator turnover declined significantly between 2001 and 2002. The decline was seen in all regions. Among nursing homes, administrator turnover was highest in the Northeast region.

³ Total nursing hours includes hours of care provided by RNs, LPNs, and nursing aides.

**Table 4
Regional Differences in Mean Nurse Staffing
2001-2002**

Region	Nursing Hours per Resident Day	% Hours Supplied by RNs	% Turnover			
			Administrator	RN	LPN	Aide
Nursing Homes						
LW						
2001	3.00	15	46	66	68	101
2002	3.55	15	30	96	84	131
NC						
2001	3.16	16	39	54	50	79
2002	3.17	16	14	39	40	83
NE						
2001	3.20	15	63	72	91	125
2002	3.22	13	55	74	72	100
SC						
2001	3.34	14	46	75	88	131
2002	3.49	14	22	72	93	118
SE						
2001	3.10	15	39	71	81	137
2002	3.29	14	28	88	89	123
W						
2001	3.06	19	32	52	67	81
2002	3.24	17	17	49	66	79
State Total						
2001	3.14	16	43	65	73	109
2002	3.32	15	26	68	73	105
Hospital-Based Long Term Care Units						
State Total						
2001	4.20	17	12	34	29	60
2002	4.36	18	3	33	32	46

Quality Indicators

- Statewide, there were only small changes among nursing homes in the levels of the five QIs examined in this study (Table 5). Late loss Activities of Daily Living (ADLs) improved by one percentage point and bladder/bowel incontinence improved by three percentage points. On the other hand, the pressure ulcer rate and the fall rate worsened by two percentage points. There was no change in the weight loss indicator.
- All five QIs worsened for nursing homes in the Lawrence region.
- Fall rates declined by 50% among nursing homes in the West region and the pressure ulcer rate nearly doubled, although still below the state average.
- Among Kansas hospital-based LTCUs, the mean percentage of late loss ADLs declined from 14% to 8% and the mean percentage of patients with bladder or bowel incontinence declined from 49% to 40%. On the other hand, pressure ulcer rates increased from 6% to 9% and weight loss increased from 8% to 11%.

Table 5
Regional Differences in Selected Quality Indicators (Mean Percents)
Quarter of Survey
2001 - 2002

Region	Late Loss ADL	Pressure Ulcer Rate	Fall Rate	Bladder / Bowel Incontinence	Weight Loss
Nursing Homes					
LW					
2001	10	7	16	45	8
2002	10	10	20	51	9
NC					
2001	11	6	16	50	8
2002	10	7	18	45	8
NE					
2001	10	8	19	54	10
2002	11	8	19	48	8
SC					
2001	11	7	16	56	8
2002	10	9	17	51	8
SE					
2001	13	9	15	53	8
2002	10	11	17	47	9
W					
2001	11	4	16	49	8
2002	10	7	8	44	10
State Total					
2001	11	7	16	51	8
2002	10	9	18	48	8
Hospital-Based Long Term Care Units					
State Total					
2001	14	6	17	49	8
2002	8	9	19	40	11

County Characteristics

- Mean county characteristics among the regions varied little between 2001 and 2002 (Table 7). Indeed, there was no change in population density, percent of county who were high school graduates or the poverty rate, as these indicators came from the 2000 decennial census.

**Table 6
Regional Differences in Mean County Characteristics
Kansas, 2001 - 2002**

Region	% Employed	% Nursing Home Beds Occupied	2000 Population Density	% High School Graduates (2000)	% Poor (1999)
LW					
2001	95	87	428	87	11
2002	94	84	428	87	11
NC					
2001	97	85	22	86	10
2002	97	87	22	86	10
NE					
2001	95	85	52	86	10
2002	94	84	52	86	10
SC					
2001	96	86	83	85	10
2002	95	87	83	85	10
SE					
2001	94	87	27	83	12
2002	94	85	27	83	12
W					
2001	97	85	8	82	11
2002	98	86	8	82	11
State Total					
2001	96	85	43	84	11
2002	96	86	43	84	11

Multivariate Analysis of Deficiencies and QIs

Replicating the analysis conducted for last year's report on 2001 data, the following section describes regressions of region, county characteristics, and nursing home characteristics (added into the regression sequentially) on deficiencies and QIs for 2002. County characteristics offered little information to the overall analysis; thus the analyses were recalculated without county characteristics for simplification. The dependent variables in the regressions have been normalized (e.g., through square root transformations) as needed. The mnemonics for the independent variables in the rows are described in Appendix B.

Deficiencies: Table 7

Controlling for other characteristics, these regression analyses of total deficiencies find a number of statistically significant regional effects in both 2001 and 2002. (The regional effects measure comparisons to the Lawrence Region.) Regional effects tend to be somewhat smaller in 2002, but remain statistically significant for two regions. In both years higher turnover is linked to more deficiencies. The effects of ownership are far less clear cut. The 2001 estimates imply that not-for-profit homes have fewer deficiencies, but that chain ownership has little or no effect. The 2002 estimates imply that chain homes have more deficiencies, but that not-for-profit ownership has little or no effect.

Indiana Scores: Table 9

Using the Indiana Scoring methodology (see Appendix G), as an alternative to total deficiencies, offers two additional insights to the findings in Table 7. Bedsize and RN hours were statistically significant. Indiana scoring is an attempt to create a system that adds a weight to deficiencies that are believed to have a stronger relationship to resident care. Thus, facilities that are larger, part of a chain, have higher turnover, and lower RN hours are likely to have worse Indiana scores.

Quality indicators: Table 11

These estimates indicate that Quality Indicator Scores are highly correlated with case mix. There are no clear regional effects. There is a consistent, but statistically insignificant tendency for chain facilities to have higher Quality Indicator Scores. The 2001 estimates link Not-for-profit ownership to higher Quality Indicator Scores, but the 2002 estimates do not. The estimates for Other Nursing Hours imply that Quality Indicator Scores tend to rise as Other Nursing Hours increase from very low levels, but this effect largely disappears as Other Nursing Hours approach average levels. The 2001 and 2002 Other Nursing Hours are quite similar, although the 2002 fall somewhat short of conventional levels of statistical significance.

Table 7

**Regressions for Square Root Total Deficiencies
(2002)**

Regression Analysis of the Square Root of Total Deficiencies

	2001	Data	2002	Data
	Coef.	 t 	Coef.	 t
Herfindahl Index	0.0481	1.44	0.0167	0.39
Per capita Income	0.0000	0.13	0.0093	0.55
Beds	0.0029	1.35	0.0036	1.60
Chain Facility	0.1332	0.88	0.4815	2.91
Case mix	0.3301	0.38	0.2356	0.20
Total Turnover	0.3063	1.98	0.4984	2.81
North Central Region	0.1735	0.70	-0.0327	0.11
North East Region	1.2543	4.70	0.8769	2.84
South Central Region	0.6956	2.80	0.3093	1.05
South East Region	0.6229	2.36	0.7572	2.48
West Region	-0.0947	0.32	0.4992	1.41
RN Hours	-1.9393	1.06	-3.2065	1.57
RN Hours over 25th Percentile	0.2390	0.07	2.1349	0.56
RN Hours over 50th Percentile	3.6872	1.13	1.6404	0.47
RN Hours over 75th Percentile	-3.7427	1.77	-1.8197	0.76
Other Nursing Hours	0.0012	0.03	0.0436	0.85
Other Nursing Hours over 25th Percentile	0.1083	1.17	-0.0785	0.74
Other Nursing Hours over 50th Percentile	-0.1425	1.32	0.0427	0.34
Other Nursing Hours over 75th Percentile	0.0347	0.53	-0.0312	0.39
Not-for-profit ownership	-0.6847	4.07	-0.1515	0.79
Constant	1.6522	1.52	0.7033	0.39
	N =	267	N =	244
	F(20, 246) =	6.08	F(20, 223) =	3.94
	R ² =	0.28	R ² =	0.26

Table 8
Pairwise Comparisons of Regional Parameter Estimates for
Square Root Total Deficiencies
2002

Parameter	Estimate	p
LW-NC	0.1615	0.6762
LW-NE	-0.7697	0.0245
LW-SC	-0.1441	0.6535
LW-SE	-0.5965	0.1034
LW-W	-0.2496	0.5751
NC-NE	-0.9312	0.0029
NC-SC	-0.3056	0.3162
NC-SE	-0.7581	0.0040
NC-W	-0.4111	0.1659
NE-SC	0.6256	0.0467
NE-SE	0.1731	0.5646
NE-W	0.5201	0.1602
SC-SE	-0.4524	0.1239
SC-W	-0.1055	0.7452
SE-W	0.3470	0.2514

Figure 2
Estimates of B-hat for Deficiencies
Adjusted for All Other Independent Variables
2002

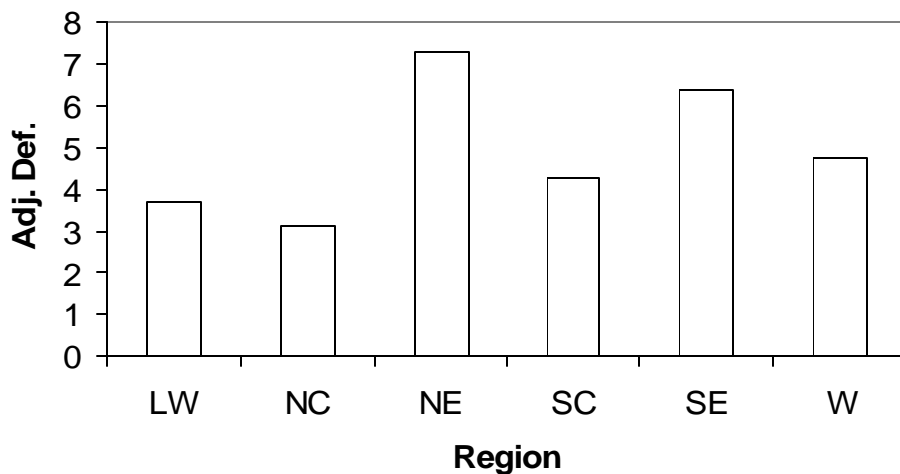


Table 9
Regressions for Square Root Indiana-Scored Deficiencies
2002

Regression Analysis of the Square Root of Indiana Scores

	2001	Data	2002	Data
	Coef.	 t 	Coef.	 t
Herfindahl Index	0.1636	1.71	0.0664	0.61
Per capita Income	0.0000	0.16	0.0392	0.92
Beds	0.0038	0.62	0.0114	2.01
Chain Facility	0.5262	1.22	1.1231	2.67
Case mix	5.0525	2.07	0.9719	0.32
Total Turnover	0.5175	1.17	0.9326	2.07
North Central Region	0.1058	0.15	0.0378	0.05
North East Region	2.9820	3.92	1.7568	2.24
South Central Region	2.5532	3.60	0.8061	1.08
South East Region	1.4263	1.90	2.0988	2.71
West Region	0.0470	0.06	1.5368	1.71
RN Hours	-10.8491	2.08	-11.7651	2.26
RN Hours over 25th Percentile	5.0539	0.52	11.2041	1.16
RN Hours over 50th Percentile	13.6721	1.47	1.9763	0.22
RN Hours over 75th Percentile	-13.4757	2.23	-4.9661	0.81
Other Nursing Hours	0.0204	0.18	0.1262	0.97
Other Nursing Hours over 25th Percentile	0.1815	0.69	-0.2707	1.01
Other Nursing Hours over 50th Percentile	-0.2503	0.81	0.2583	0.82
Other Nursing Hours over 75th Percentile	0.0527	0.28	-0.1964	0.98
Not-for-profit ownership	-1.4624	3.05	-0.0569	0.12
Constant	0.9430	0.30	0.3507	0.08
	N =	267	N =	244
	F(20, 246) =	4.96	F(20, 223) =	3.24
	R ² =	0.29	R ² =	0.23

Table 10
Pairwise Comparisons of Regional Parameter Estimates
for Square Root Indiana Deficiencies
2002

Parameter	Estimate	p
LW-NC	0.1199	0.9030
LW-NE	-1.4005	0.1067
LW-SC	-0.3973	0.6267
LW-SE	-1.6123	0.0838
LW-W	-1.1337	0.3173
NC-NE	-1.5204	0.0542
NC-SC	-0.5172	0.5048
NC-SE	-1.7322	0.0097
NC-W	-1.2536	0.0972
NE-SC	1.0031	0.2089
NE-SE	-0.2119	0.7817
NE-W	0.2667	0.7767
SC-SE	-1.2150	0.1045
SC-W	-0.7364	0.3729
SE-W	0.4786	0.5336

Figure 3
Estimates of B-hat for Indiana-Scored Deficiencies
Adjusted for All Other Independent Variables
2002

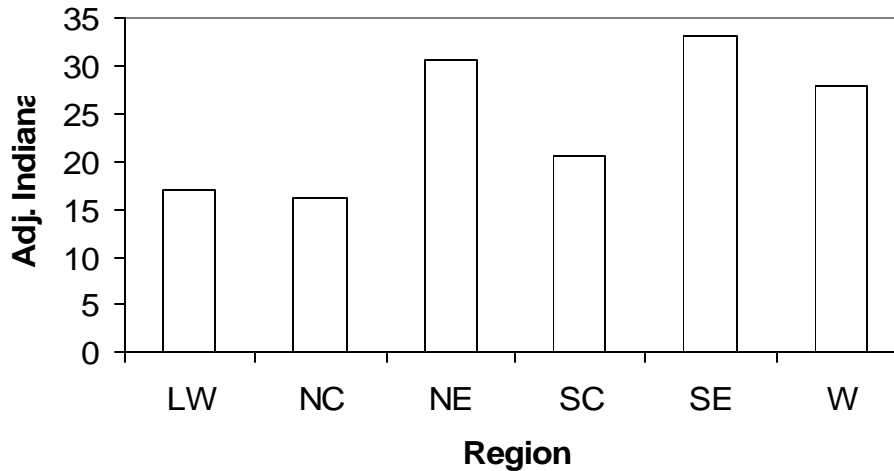


Table 11
Regressions for Square Root Average QIs
2002

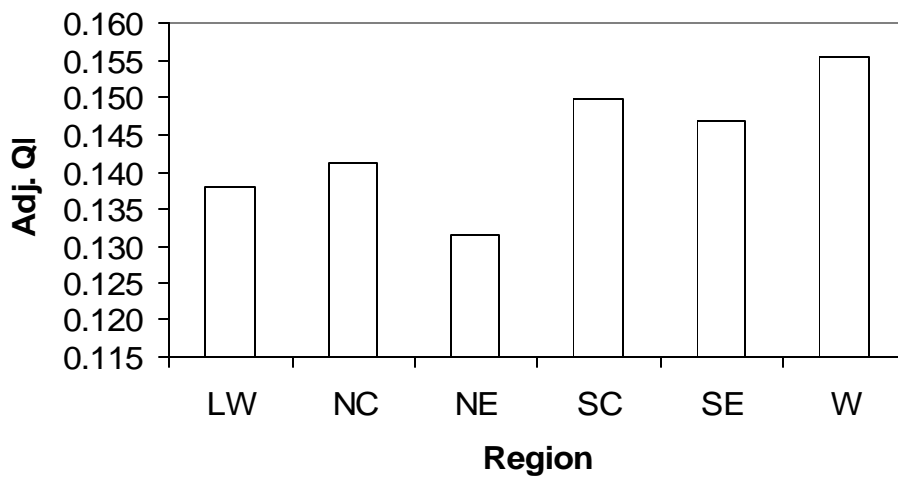
Regression Analysis of the Square Root of Average Quality Indicators

	2001	Data	2002	Data
	Coef.	 t 	Coef.	 t
Herfindahl Index	-0.0008	-0.51	0.0005	0.28
Per capita Income	0.0000	0.94	0.0003	0.45
Beds	0.0001	0.63	0.0001	0.70
Chain Facility	0.0120	1.60	0.0085	1.25
Case mix	0.4070	9.60	0.3774	7.81
Total Turnover	0.0101	1.32	-0.0087	-1.20
North Central Region	0.0029	0.24	-0.0184	-1.48
North East Region	0.0225	1.70	-0.0059	-0.46
South Central Region	0.0105	0.86	0.0039	0.32
South East Region	0.0158	1.21	-0.0094	-0.75
West Region	-0.0076	-0.52	-0.0115	-0.79
RN Hours	0.0524	0.58	-0.1612	-1.92
RN Hours over 25th Percentile	-0.1364	-0.81	0.1388	0.89
RN Hours over 50th Percentile	0.2030	1.26	-0.0081	-0.06
RN Hours over 75th Percentile	-0.1758	-1.68	0.0176	0.18
Other Nursing Hours	0.0089	4.44	0.0060	2.85
Other Nursing Hours over 25th Percentile	-0.0104	-2.27	-0.0063	-1.46
Other Nursing Hours over 50th Percentile	0.0014	0.27	-0.0003	-0.05
Other Nursing Hours over 75th Percentile	-0.0013	-0.41	0.0003	0.09
Not-for-profit ownership	0.0242	2.91	0.0021	0.27
Constant	-0.2578	-4.80	-0.0686	-0.93
	N =	267	N =	244
	F(20, 246) =	13.43	F(20, 223) =	6.16
	R ² =	0.52	R ² =	0.36

Table 12
Pairwise Comparisons of Regional Parameter Estimates
for Square Root Average QIs
2002

Parameter	Estimate	p
LW-NC	0.0004	0.9810
LW-NE	0.0098	0.5284
LW-SC	-0.0142	0.3417
LW-SE	-0.0098	0.5658
LW-W	-0.0241	0.2912
NC-NE	0.0094	0.5271
NC-SC	-0.0146	0.3074
NC-SE	-0.0102	0.4390
NC-W	-0.0245	0.1361
NE-SC	-0.0240	0.0988
NE-SE	-0.0196	0.1482
NE-W	-0.0339	0.0738
SC-SE	0.0044	0.7496
SC-W	-0.0099	0.5576
SE-W	-0.0143	0.3568

Figure 4
Estimates of B-hat for Average Quality Indicators (QIs)
Adjusted for All Other Independent Variables
2002

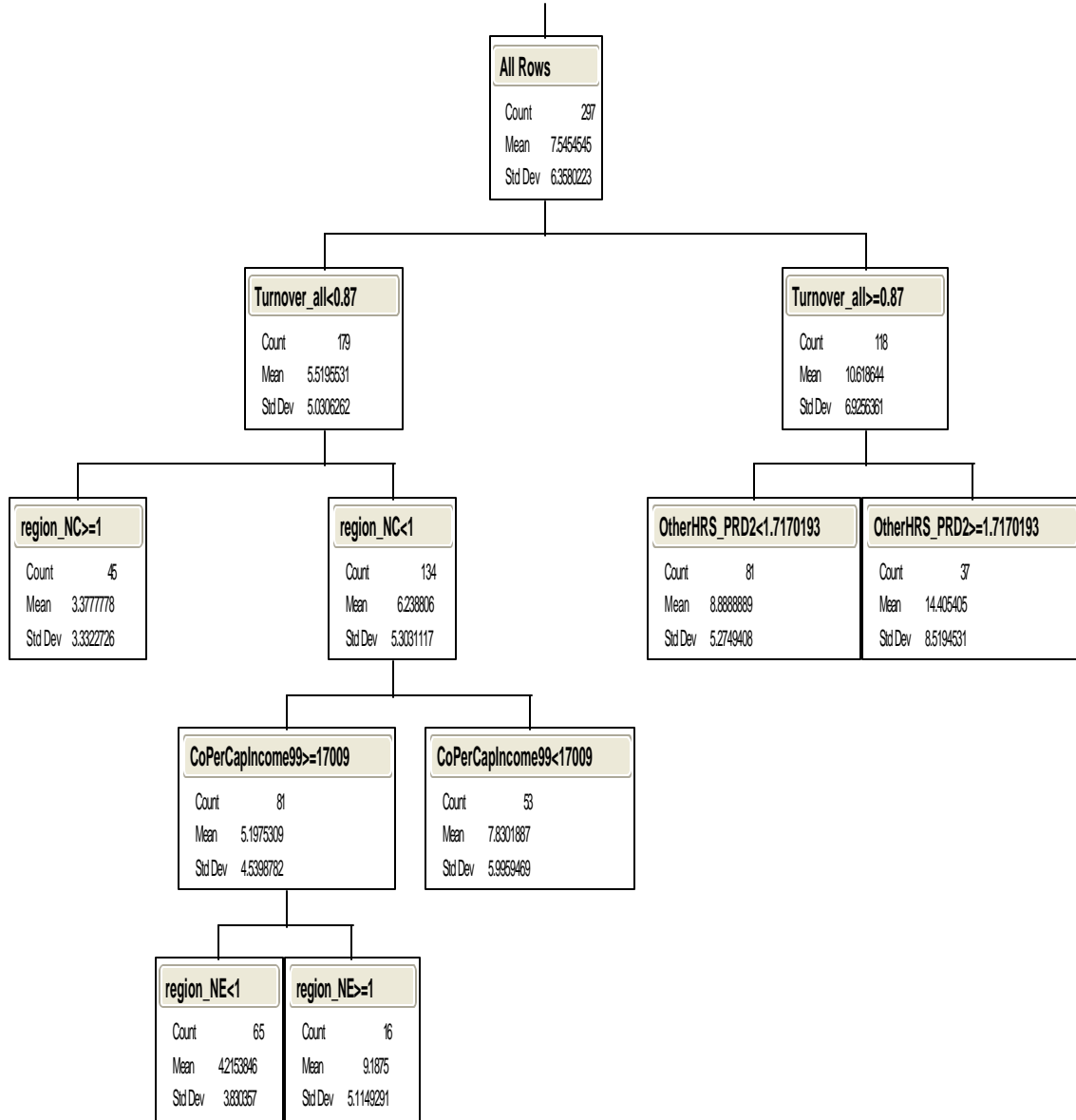


Regression Tree Analysis of Total Deficiencies

Figure 5 presents a regression tree (data mining) analysis of total deficiencies. The technique identifies the most significant variable predicting deficiencies and the value of the predictive variable that separates more deficiencies from fewer deficiencies. The technique then proceeds to identify the second and third (etc.) most significant predictors and their cut points.

- As shown in the top box, in 2002, the average number of deficiencies in nursing homes was 7.55.
- The total turnover rate was the most significant predictor of deficiencies (average total turnover equaled 83%). Nursing homes in which total turnover was equal to or greater than 87% had an average of 10.6 deficiencies. Nursing homes in which turnover was less than 87% had an average of 5.5 deficiencies.
- Moving down one tier on the diagram in Figure 5, among high turnover nursing homes ($\geq 87\%$), the next most important predictor of deficiencies was non-RN nursing hours per resident day. Generally, among high turnover nursing homes, those with more non-RN hours per resident day had higher deficiencies than those with fewer hours. The cut point for this predictor was 1.72. High turnover nursing homes with more than 1.72 non-RN nursing hours per resident day had an average of 14.5 deficiencies, while those with fewer than 1.72 hours had an average of 8.9 deficiencies. This result may be related to the overall staffing pattern in nursing homes, including the share of hours provided by RNs.
- Among nursing homes with low turnover, the second most predictive variable was region, with low turnover nursing homes in the North Central region having fewer average deficiencies (3.4) than low turnover nursing homes in other regions (6.2).

Figure 5
Regression Tree Analysis (Data Mining)
Total Deficiencies, 2002
R2=.287



Path Analysis

While a primary analysis goal for this project in 2002 was to examine the relationship between county and nursing home characteristics and nursing home deficiencies and QIs, a secondary goal was to examine the factors that influenced the primary predictors of deficiencies and QIs. Path analysis is a statistical technique that illustrates the pattern of relationships between all of the variables, with the path coefficient (effect size) on the arrows between variables (or cluster of variables).

Figure 6 shows the path model for total nursing home deficiencies and QIs. Variables and arrows that were not significant are omitted from the figure. Several variables created for the 2002 analysis are incorporated into the model, including numerous measures of the financial status of the nursing homes.

The model is set up in a Donabedian (1992) framework.

- The **structure** of care is represented by region, wage rates for RNs, LPNs, and aides, the county per capita income level, nursing home ownership (for-profit/not-for-profit), and whether the nursing home is part of a chain.
- The **process** variables are divided into organizational characteristics (days cash on hand, case mix index, and staffed bed size) and staffing measures (RN hours per patient day, other nursing hours per patient day, and total turnover).
- Both total deficiencies and the QIs are represented as **outcomes**. The QI outcome is treated as an unobserved variable with observed QI measures as reflections of the underlying quality concept.

The results of the path analysis follow:

- The R-squared for the Quality Indicators was 0.33.
- There are two significant predictors of the QI measure: case mix and total deficiencies. The higher the case mix and the higher the total number of deficiencies, the higher (worse) the QIs. Presumably, when we have access to the adjusted quality measures for the 2003 analysis, the effect of case mix will be reduced.
- In turn, case mix is predicted by ownership, chain membership, and county per capita income. Being part of a chain is related to lower case mix. Being a for-profit nursing home is related to higher case mix. Being located in a county with higher per capita income is related to higher case mix.
- Total deficiencies are predicted by three measures: total turnover, RN hours per patient day, and being part of a chain. Higher total turnover is related to higher deficiencies. Higher RN hours is related to fewer deficiencies. Being part of a chain is related to higher deficiencies.
- In turn, total turnover was predicted by wage rates for LPNs and aides, by chain membership, and by ownership. Being part of a chain and being a for-profit nursing home was related to higher turnover. Lower wage rates for LPNs was related to lower turnover. On the other hand, the lower wage rates for aides were related to higher turnover. As LPN and aide wage rates were highly

correlated (0.60), there may be suppression in the equation. This possibility will be investigated in year 3.

- Finally, higher RN hours per patient day was predicted by wage rates for RNs, being part of a chain and ownership. Lower wage rates for RNs were associated with higher RN hours. Being part of a chain was related to higher RN hours. Being a for-profit nursing home was related to lower RN hours.

Figure 6
Path Diagram of the Relationship Between County Context, Nursing Home Characteristics and Total Deficiencies and QIs
2002

Structure -> Process -> Outcomes

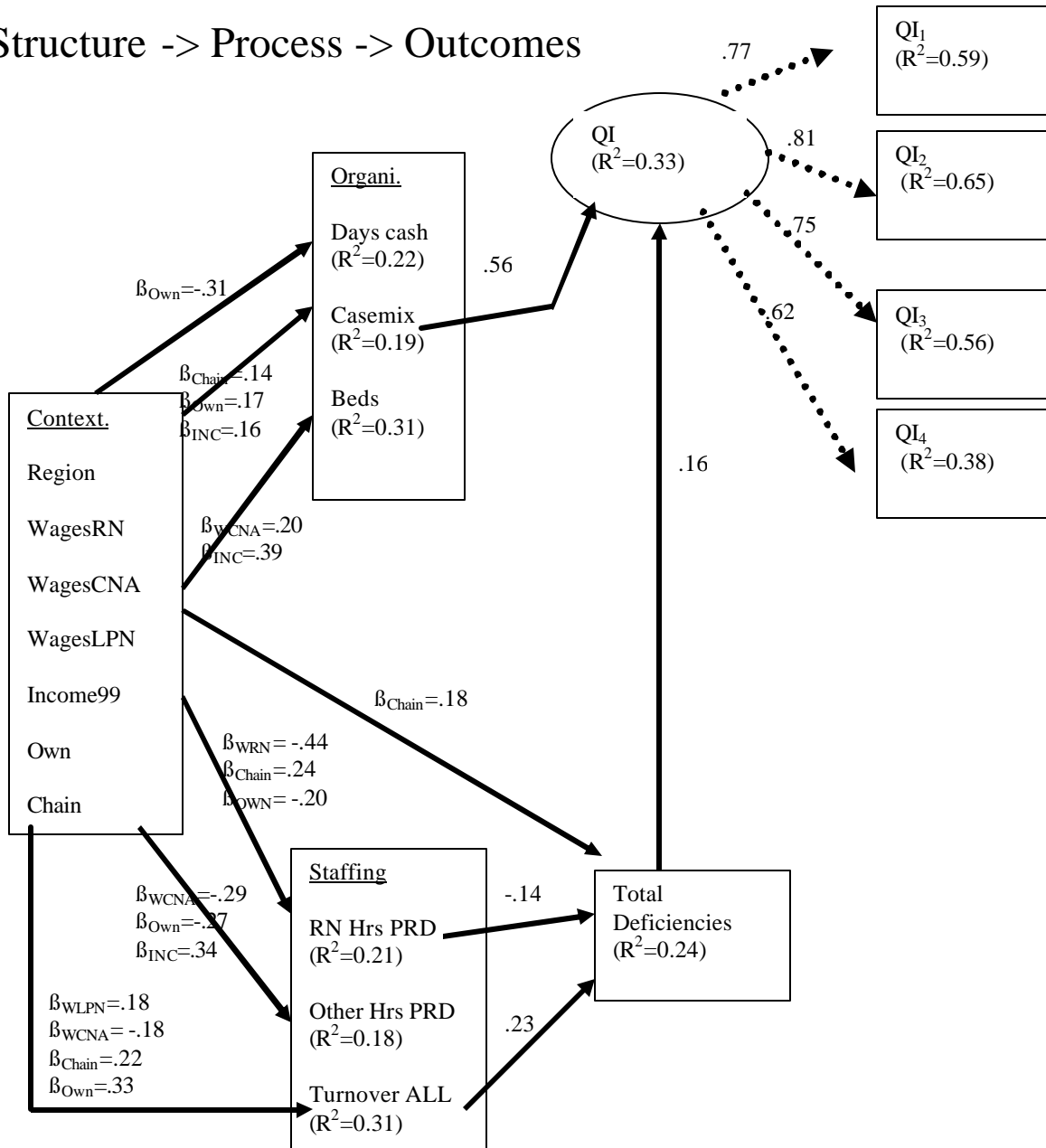


Figure 6. Estimates shown are standardized path coefficients that are significant at the 0.05 level (one-sided). The model is based on the structure, process and outcomes model from Unruh and Wan (2004). Eventually we would like to place communication and leadership (process) into the model (CFI=.92). Ownership is 0 for non-profit and 1 for profit. Chain is 0 for non-chain and 1 for chain. The right hand side is Quality Indicators for 14 QIs scored as a 1 if above the upper threshold (Rantz, et al.) and a 0 otherwise (4 quarters).

TABLE 13
Turnover vs. For-Profit Status and NHPPD vs. For-Profit Status
2001

2001		Own_Oscar	Turnover				HRS PRS
Region			Admin	RN	LPN	CNA	TotNrsg
LW	Mean	non-profit	1.00	0.67	0.82	0.93	4.17
		profit	0.32	0.65	0.65	1.03	2.71
	N	non-profit	9	9	9	9	9
		profit	36	36	36	36	36
NC	Mean	non-profit	0.18	0.39	0.31	0.72	3.35
		profit	0.62	0.70	0.69	0.87	2.95
	N	non-profit	28	28	28	28	28
		profit	26	26	26	26	26
NE	Mean	non-profit	0.27	0.76	0.46	0.78	3.20
		profit	0.77	0.77	1.15	1.48	3.16
	N	non-profit	11	11	11	11	11
		profit	22	22	22	22	21
SC	Mean	non-profit	0.22	0.47	0.70	0.98	3.41
		profit	0.74	1.06	1.08	1.69	3.27
	N	non-profit	26	26	25	25	25
		profit	23	23	23	22	23
SE	Mean	non-profit	0.31	0.47	0.91	1.20	3.40
		profit	0.41	0.79	0.78	1.43	3.01
	N	non-profit	13	13	13	13	12
		profit	43	43	43	43	42
W	Mean	non-profit	0.27	0.44	0.65	0.78	2.94
		profit	0.40	0.80	0.76	0.96	3.25
	N	non-profit	33	34	34	34	34
		profit	10	10	10	10	9

Bold figures are statistically significant at 0.05 level.

Table 14
Turnover vs. For-Profit Status and NHPPD vs. For-Profit Status
2002

2002 Region	Stat.	OwnOscar	Turnover				HRS PRS
			Admin	RN	LPN	CNA	TotNrsg
LW	Mean	non-profit	0.33	0.73	0.66	0.93	4.57
		profit	0.29	1.05	0.91	1.46	3.17
	N	non-profit	9	10	10	10	10
		profit	27	27	27	27	26
NC	Mean	non-profit	0.10	0.37	0.32	0.65	3.34
		profit	0.19	0.42	0.51	1.06	2.99
	N	non-profit	30	30	30	30	28
		profit	26	26	26	26	25
NE	Mean	non-profit	0.31	0.44	0.49	0.71	3.30
		profit	0.68	0.86	0.82	1.09	3.17
	N	non-profit	13	13	13	13	12
		profit	19	19	19	19	18
SC	Mean	non-profit	0.24	0.51	0.69	0.94	3.59
		profit	0.20	1.03	1.29	1.57	3.26
	N	non-profit	29	29	29	29	29
		profit	20	20	20	20	15
SE	Mean	non-profit	0.50	0.83	1.39	1.18	3.39
		profit	0.23	0.92	0.76	1.23	3.27
	N	non-profit	10	10	10	10	9
		profit	42	43	43	43	40
W	Mean	non-profit	0.16	0.42	0.68	0.78	3.26
		profit	0.25	0.78	0.63	0.73	3.25
	N	non-profit	33	34	34	34	31
		profit	8	8	8	8	7

Bold is statistically significant at 0.05 level.

Table 15
Stability of Total Deficiencies and for Five Quality Indicators
2001-2002

Measure	ICC
Total Deficiencies	0.43
QI: Falls	0.33
QI: Incontinence	0.77
QI: Weight Loss	0.33
QI: Late Loss ADLs	0.21
QI: Ulcer	0.51

This table shows the stability for deficiencies and QIs between 2001 and 2002 in nursing homes and hospital-based LTCUs in the state of Kansas. The measure of stability was the intraclass correlation coefficient (ICC), which ranges from 0 to 1. An ICC of 1 indicates perfect stability across time whereas a 0 shows very poor stability. The ICC was based on the comparison of the number of deficiencies or the QI scores that an individual nursing home had in 2001 and in 2002.

Generally, stability of measures at the individual home level was quite modest. The incontinence QI was the most stable measure and the ADL QI was the least stable. The stability of total deficiencies was moderate.

Table 16
Model of Care Hours Per Resident Day

N	271	274	276
F(13, 260)	6.51	12.33	16.83
Prob > F	0.00	0.00	0.00
R ²	0.26	0.40	0.47

	LPNs		CNAs		RNs	
	B	t	B	t	B	t
Ln(Wage) [§]	-0.5474	4.64	-1.6594	5.47	-0.9609	10.23
Beds per person	-0.0003	0.49	0.0007	0.65	-0.0003	0.33
Herfindahl Index (1,000)	-0.0008	0.94	0.0909	5.01	-0.0071	0.56
For-profit ownership	-0.1284	3.23	-0.3123	3.79	-0.1223	2.15
Chain member	0.0075	0.22	-0.0222	0.31	0.0068	0.14
Ln(County wage)	0.1425	1.19	1.1000	4.34	-0.0452	0.27
North Central Region	-0.1565	2.04	-0.0624	0.39	-0.1816	1.66
North East Region	0.0011	0.02	-0.1263	0.85	-0.0758	0.75
South Central Region	-0.1443	2.31	0.0842	0.63	-0.0603	0.67
South East Region	-0.1335	1.90	0.0468	0.31	-0.2153	2.13
West Region	-0.2605	3.21	-0.0405	0.24	-0.0930	0.81
Days cash on hand	0.0000	0.23	0.0006	3.01	0.0003	2.26
Beds	-0.0003	0.64	0.0035	3.79	-0.0002	0.68
Case mix	1.1276	6.39	2.2281	6.05	2.2181	8.74

§ Wage for RNs, LPNs, and CNAs respectively.

Economic Analysis of Care Hours per Resident Day

The economic model presented in Table 19 analyzes the factors related to care hours provided by RNs, LPNs, and aides. Several factors were found to be significant.

- As wages increased, care hours provided by all three categories of nursing staff decreased. Nursing homes have a relatively fixed amount of money to spend on staffing and if they raise wages, they must necessarily provide fewer hours of care. The largest impact was for aides and RNs.
- For-profit nursing homes have fewer nursing hours, of all types, per resident day than not-for-profit nursing homes.
- As case mix increases, nursing hours increase.
- The Herfindahl Index describes the market structure in each county.⁴ With only one nursing home the Index equals 10,000, and with 10 nursing homes with equal market shares the Index would equal 1,000. Thus, this standard measure of market structure is inversely related to the competitiveness of the market. The higher the Herfindahl Index, the less competitive the market is in a county. This model shows that nursing homes in more competitive markets (those with more

⁴ The Index sums the squared market shares of all nursing homes in the county.

nursing homes having smaller shares of the market) have fewer aide care hours per resident day.

- The prevailing county wage rate also influences care hours provided by aides. The higher the county wage rate, the more care hours provided by aides.
- Finally, larger nursing homes have more aide hours per resident day.

Mailed Survey

In the spring of 2004, a questionnaire was mailed to 355 nursing homes in Kansas, both free-standing nursing homes and hospital-based long term care units (LTCUs). Copies of the questionnaires are included in Appendices D and E. The questionnaires were slightly different, particularly in that there were no questions on the education and experience of “directors” in hospital-based LTCUs, who typically are the hospital administrators and are not the counterparts to directors of free-standing nursing homes. We received responses from 222 nursing homes, for a response rate of 71% and from 28 hospital-based LTCUs, for a response rate of 64%. The overall response rate was 70%. Response rates of this magnitude generally are sufficient to negate the concern over response bias.

The questionnaire focused on the education and experience of the nursing home administrator and director of nursing (DON), with additional questions on the education of social work and activities staff, hiring wage rates for nursing aides, and the organizational environment. Questionnaires for the free-standing nursing homes and hospital-based LTCUs were parallel, except that the nursing home administrator questions were eliminated from the LTCU questionnaire. Findings from the survey follow.

- On average, nursing home administrators had been in their current positions for 3-5 years. Most had careers in nursing home administration with over half (56%) having been in an administrator position for 11 or more years.
- Turnover among administrators was significant, with 21% of the nursing homes having a new administrator within the past year and with 42% having had at least one new administrator in the past three years.
- Over three quarters (76%) of nursing home administrators had a bachelor's degree or an advanced degree.
- Nursing home administrators with college degrees had a variety of majors. The most common major was business (29%).
- One-in-seven nursing home administrators was a nurse.
- On average, directors of nursing (DONs) had been in their current positions 4.3 years in nursing homes and in 5.6 years in LTCUs in hospitals.
- They had more career experience as DONs in multiple nursing home settings. On average, DONs in nursing homes had 6.5 years of experience in that type of position. In hospital-based LTCUs, DONs had 8.3 years of experience. One-in-six nursing home DONs had 11 or more years of experience in this type of position, as had one-in-four DONs in hospital-based LTCUs.
- Over half of all DONs had been in long term care more than 10 years. One-in-five had been in long term care for over 20 years. This difference was statistically significant.
- The frequent turnover among DONs in nursing homes was further signified by the fact that 25% of the nursing homes had more than one DON in the past year and 51% had more than one DON in the past three years.

- A variety of reasons were given for why the most recent DON had left a nursing home. A wide range of individualized responses were grouped into “other”. Among the stated categories, “Better job opportunity” and “poor survey results” were each cited by 15% of the respondents. “Staff absenteeism and turnover” was cited for 21% of the hospital-based LTCUs. The fact that 0% of DONs had left hospital-based LTCUs because of poor survey results was a statistically significant, although perhaps not meaningful, difference from the situation in nursing homes (5%).
- Many DONs had limited education relative to their level of responsibility. Approximately two-thirds of the DONs had a nursing diploma or an associate’s degree as their highest level of education.
- Having relevant certification was also rare. Just 6% of the nursing home DONs had a certification in gerontological care.
- More DONs had specific training in geriatric topics. Approximately 40% of the DONs had taken college courses in geriatric care. Over two-thirds of nursing home DONs had continuing education credits (CEUs) in pressure ulcer care and prevention, fall prevention, fall risk assessment, and pain management. Lower percentages of DONs in hospital-based LTCUs had CEUs in geriatric topics. Most of these differences were statistically significant.
- Over half of responding nursing homes had an RN as the night charge nurse: 55% in nursing homes and 59% in hospital-based LTCUs.
- A minority of the social services staff in nursing homes had a social work degree or were licensed social workers. In nursing homes, 42% of the individuals in social service positions had a social work degree. Just 29% of the social services staff in hospital-based LTCUs had a social work degree. Only 44% of persons in social services positions were licensed social workers in nursing homes or hospital-based LTCUs.
- In both nursing homes (16%) and hospital-based LTCUs, (32%) the nursing assessment (MDS) coordinator was usually not the nursing director.
- Fewer than half of the nursing homes had assistant nursing directors. While 48% of nursing homes had at least one assistant DON, just 26% of hospital-based LTCUs had assistant DONs.
- Over 80% of nursing homes characterized their leadership structure as decentralized or partially decentralized.
- A minority of nursing homes reported that they received external financial support, although those who did said that external support was beneficial to the nursing home. While approximately 30% said they received financial donations, nearly half said they received volunteer support.
- Over half (58%) of nursing homes and 32% of hospital-based LTCUs reported they had experienced budget cuts in the past year. Cuts to staffing were the most frequently affected budget category, with 40% of nursing homes and 18% of hospital-based LTCUs having had cuts to staffing in the past year.
- There were significant differences between nursing homes and hospital-based LTCUs in the hiring wage rates for certified nursing assistants (CNAs) working the day shift, with hospital-based LTCUs paying less than nursing homes.

- Nursing homes and hospital-based LTCUs were asked to report on the frequency of visits by family and friends to residents. Nursing homes said that 20% of their residents had daily visits from family and friends and that 37% had weekly visits. Hospital-based LTCUs said that 28% of their residents had daily visits and 39% had weekly visits.

Table 17
Nursing Home Administrator Years of Experience
(Percent)

	Current Position	In Nursing Home Administration	In Long Term Care	Health Care, Any Setting
<1	13	5	1	2
1-2	28	9	2	2
3 -5	22	14	9	5
6-10	15	17	18	13
11+	22	55	69	78
Mean	6.7	13.5	17.3	20.7
N=	218	211	212	208

Table 18
Turnover in Nursing Home Administrators

	More than One Administrator	
	Past 12 Months	Past 3 Years
Percent	21	42
N	216	213

Table 19
Education of Nursing Home Administrators

	Percent	N
Degrees		221
High School Diploma	7	
Associates Degree	15	
Bachelors	55	
Masters or PhD	21	
Other	2	
Major for College Degree		185
Business	29	
Administration, Health Care or Public	9	
Nursing	8	
Social Work	8	
Human Resources	5	
Other	41	

Table 20
Total Years as a Nursing Director in Current Position
(Percent)

	Nursing Home	LTCU	Significance*
<1	13	4	
1-2	36	39	
3 -5	26	29	
6-10	15	11	
11+	9	18	
Mean	4.3	5.6	.3270
N=	217	28	

*Bold numbers indicate significant differences at or greater than 95%.

Table 21
Total Years as a Nursing Director in Any Nursing Home
(Percent)

	Nursing Home	LTCU	Significance*
<1	10	8	
1-2	16	23	
3 -5	22	19	
6-10	33	23	
11+	18	27	
Mean	6.5	8.3	.3124
N=	199	26	

*Bold numbers indicate significant differences at or greater than 95%.

Table 22
Total Years in Long Term Care
(Percent)

	Nursing Home	LTCU	Significance*
<1	0	0	
1-2	5	12	
3 -5	10	12	
6-10	27	19	
11-20	36	35	
21+	20	23	
Mean	13.8	13.9	.9760
N=	203	26	

*Bold numbers indicate significant differences at or greater than 95%.

Table 23
DON Total Years in Health Care in Any Setting
(Percent)

	Nursing Home	LTCU	Significance*
<1	0	0	
1-2	1	0	
3 -5	6	0	
6-10	15	4	
11-20	33	44	
21+	43	52	
Mean	19.1	23.0	.0394
N=	199	27	

*Bold numbers indicate significant differences at or greater than 95%.

Table 24
More than One Nursing Director
(Percent)

	Nursing Home	LTCU	Significance*
Past 12 Months	25	15	.2372
Past 3 Years	51	54	.7807
N=	215	27	

*Bold numbers indicate significant differences at or greater than 95%.

Table 25
Primary Reason Most Recent Nursing Director Left
(Percent)

	Nursing Home	LTCU	Significance*
Staff absenteeism/Turnover	9	21	
Better Job Opportunity	15	14	
Poor Survey Results	15	0	
Retired	1	14	
Other	46	29	
Don't Know	14	21	
N=	105	14	.0148

*Bold numbers indicate significant differences at or greater than 95%.

Table 26
Highest Educational Degree and Certifications Attained by Nursing Director
(Percent)

	Nursing Home	LTCU	Significance*
Educational Degree			
Nursing Diploma	15	14	
Associates Degree	49	54	
Bachelors Degree	30	21	
Masters or PhD	5	11	.5865
Certification			
Certification in Gerontological Care	6	0	.1684
N=	220	28	

*Bold numbers indicate significant differences at or greater than 95%.

Table 27
Nursing Directors with Specific Training Geriatric Topics
(Percent)

	Nursing Home	LTCU	Significance*
College Credits			
College Credit in Geriatric Care	38	44	.5027
CEUs			
CEUs in Continence Care	59	36	.0217
CEUs in Pressure Ulcer Care and Prevention	87	61	.0002
CEUs in Fall Prevention	79	46	.0001
CEUs in Fall Risk Assessment	67	43	.0134
CEUs In Palliative Care	44	21	.0216
CEUs in Pain Management	90	82	.2017
CEUs in Care Planning	60	46	.1726
CEUs in Dementia Behavior Management	62	50	.2142
CEUs in Depression	47	25	.0254
CEUs in Adverse Drug Interactions	49	32	.0991
CEUs in Promoting Staff Teamwork	54	54	.9974
CEUs in Continuous Quality Improvement	66	64	.8390
N=	222	28	

*Bold numbers indicate significant differences at or greater than 95%.

Table 28
Licensure Status of Night Charge Nurse
(Percent)

	Nursing Home	LTCU	Significance*
LPN	45	41	
RN	55	59	.6565
N=	221	27	

*Bold numbers indicate significant differences at or greater than 95%.

Table 29
Mean Number of Full Time Equivalents by Job Title

	Nursing Home	LTCU	Significance*,**
RNs	5.3	3.2	<.0001
Activity Staff	2.4	1.3	.0082
Social Workers	1.1	0.8.	.0264
N=	211	28	

*Bold numbers indicate significant differences at or greater than 95%.

** On average, nursing homes have about twice the number of beds as LTCUs.

Table 30
Social Worker Characteristics

	Nursing Home	LTCU	Significance*
Any in Title Have Social Work Degree	42	29	.1869
Any Social Workers Licensed	44	44	.9880
N	219	28	

*Bold numbers indicate significant differences at or greater than 95%.

Table 31
Main Causes of Turnover
Mean Rank

	Nursing Home	LTCU	Significance*
Workload	.37	.43	.7297
Low Pay	.52	.89	.1598
No Opportunity for Advancement	.14	.04	.0335
Being Around Elderly or Dying	.12	.18	.5700
Residents/Families Difficult	.31	.18	.2062
Personal Reasons	1.86	1.86	.9762
Fired for Excessive Absences	1.52	1.00	.0413
Other	.80	.89	.6977
N	222	28	

*Bold numbers indicate significant differences at or greater than 95%.

Table 32
Nursing Assessment Coordinator (MDS) Also Nursing Director
(Percent)

	Nursing Home	LTCU	Significance*
Yes	16	32	
N	221	28	.0400

*Bold numbers indicate significant differences at or greater than 95%.

Table 33
Number of Assistant Nursing Directors
(Percent)

	Nursing Home	LTCU	Significance****
None	52	74	
0.5+	48	26	.0287
Median	0	0	
N	218	27	

*Bold numbers indicate significant differences at or greater than 95%.

**Chi Square

*** On average nursing homes have about twice the number of beds as LTCUs.

Table 34
Type of Work Climate
Mean Ranking

Emphasize:	Nursing Home	LTCU	Significance*
Trust & Openness	4.5	4.8	.3992
Try New Things	2.3	2.4	.5442
Follow the Rules	2.6	2.5	.7289
Staff Motivation & Job Satisfaction	4.2	4.0	.5304
Achievement of Targets & Objectives	3.0	2.5	.0868
Staff Initiative & Responsibility	4.4	4.8	.0580
N	211	25	

*Bold numbers indicate significant differences at or greater than 95%.

Table 35
Leadership Structure
(Percent)

	Nursing Home	LTCU	Significance*
Highly Centralized	10	7	
Centralized	3	7	
Partially Decentralized	41	32	
Decentralized	46	54	
N	216	28	.5652

*Bold numbers indicate significant differences at or greater than 95%.

Table 36
External Financial and In Kind Support

	Nursing Home	LTCU	Significance*
% Receiving Tax Support	8%	14%	.2854
<i>N</i>	222	28	
Mean Amount of Support Among Those Receiving	\$167,423	\$1,000	.5007
<i>N</i>	16	1	
% Receiving Financial Donations	28%	29%	.9830
<i>N</i>	222	28	
Mean Annual Amount Of Donations of Those Receiving	\$59,192	\$1,950	.0015
<i>N</i>	59	5	
% Receiving Volunteer Support	49%	46%	.0125
<i>N</i>	222	28	
Mean Volunteer Hours Per Year Among Those Receiving	2.19	698	
<i>N</i>	90	10	
% Receiving In-Kind or Material Donations	16%	11%	.4829
<i>N</i>	222	28	
% Believing External Support Makes A Difference	51%	61%	.3274
<i>N</i>	222	28	

*Bold numbers indicate significant differences at or greater than 95%.

Table 37
Nursing homes with Budget Cuts in Past Year
(Percent)

Budget Area	Nursing Home	LTCU	Significance*
Any Area	58	32	.0106
Staffing	40	18	.0221
Staff Benefits	22	7	.0711
Supplies	19	11	.2654
Dietary	14	0	.0314
Maintenance	13	0	.0525
Staff Education	13	4	.2176
Extra Programs	19	4	.0363
Other	6	4	1.00
N	222	28	

*Bold numbers indicate significant differences at or greater than 95%.

Table 38
Certified Nursing Assistants' Median Wage Rates

	Nursing Homes	N	LTCU	N	Significance*
Hiring, No Experience					
Day Shift	\$8.00	204	\$7.72	23	.0022
Evening Shift	\$8.25	183	\$8.12	19	.2172
Night Shift	\$8.25	188	\$8.48	22	.5905
Weekends	\$8.35	129	\$8.00	7	.5842
Hiring, Less Than 1 Year Experience					
Day Shift	\$8.00	169	\$7.62	18	<.0001
Evening Shift	\$8.25	153	\$8.06	14	.2523
Night Shift	\$8.40	157	\$8.41	15	.6343
Weekends	\$8.50	108	\$8.48	4	.9277
Hiring, Greater Than 1 Year Experience					
Day Shift	\$8.30	166	\$8.23	19	.0621
Evening Shift	\$8.50	153	\$8.50	15	.5627
Night Shift	\$8.66	156	\$8.61	16	.7527
Weekends	\$8.75	102	\$8.60	4	.6148
N					

*Bold numbers indicate significant differences at or greater than 95%.

Table 39
Residents with Visits from Family and Friends
(Mean Percent)

	Nursing Home	LTCU	Significance*
Daily	20	28	.0954
Weekly	37	39	.5321
Monthly	24	22	.5114
Few Times/Year	13	10	.1311
Never	7	1	<.0001
Total**	101	100	
Joined for Meals	6	7	.7151
N	206	26	

*Bold numbers indicate significant differences at or greater than 95%.

**Percents may not sum to 100% due to rounding.

Table 40
One Best Way the Survey Process Could Be Improved
(Percent)

	Nursing Home	LTCU	Significance***
Surveyors Have Specific Directions	17	26	
Impartial IDR Process	16	4	
Surveyors Receive Consistent Training	21	44	
Nursing homes Have an Opportunity to Explain	23	13	
Other	23	13	
<i>N</i>	185	23	.0707

*Bold numbers indicate significant differences at or greater than 95%.

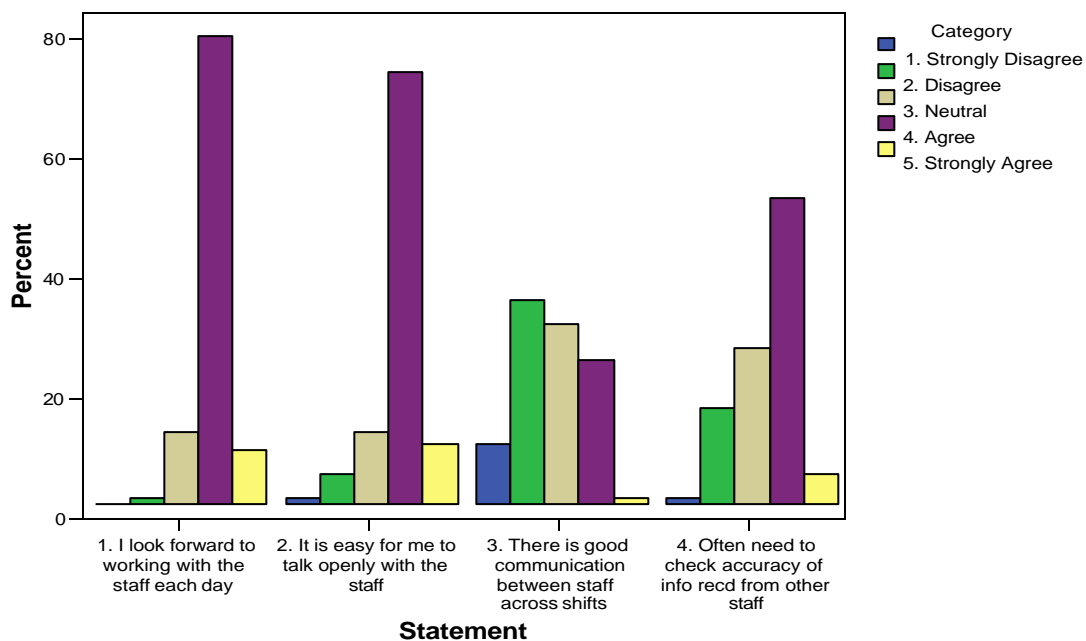
**Fisher's t

Communication, Teamwork, and Leadership

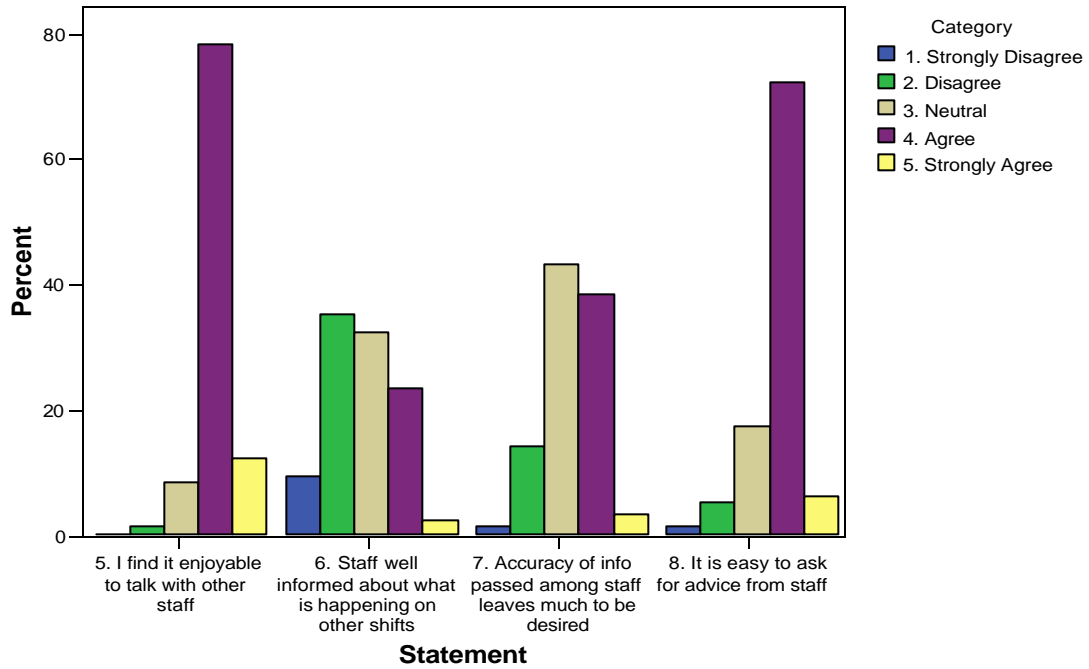
Individuals from KDOA as well as researchers, academicians, and providers have “hypothesized” that working conditions such as communication, teamwork, and leadership influence resident care and other organizational characteristics such as turnover. To evaluate this hypothesis, we selected a survey tool that has been used to measure working conditions in hospitals and has been adapted for use with nursing home staff. This tool has been used by nursing home staff in several states through studies funded by the Agency for Healthcare Research and Quality (AHRQ) and CMS. The survey has 35 items that evaluate staff’s perceptions of communication, leadership, and teamwork (see Appendix F). The 35 items are clustered into 4 conceptual domains: connectedness, organizational harmony, leadership, and timeliness and understanding of communication.

For this evaluation, we collected data from 100 randomly selected nursing homes in KS. We developed a sampling strategy that was proportional to the number of nursing homes in each region. We had an excellent participation rate. We contacted 124 nursing homes and 101 agreed to participate and 23 refused. We collected data from 13 nursing homes in the Lawrence region; 20 in the north central region; 10 in the north east region; 17 in the south central region; 19 in the south east region; and 21 in the west region. Of the nursing homes that refused to participate, the most common reasons were being near their survey window or they were experiencing management turnover. The total staff sample size across all nursing homes was 3,894 staff. On average, 55% of staff participated from each nursing home. Descriptive data for each item from all 100 nursing homes follows.

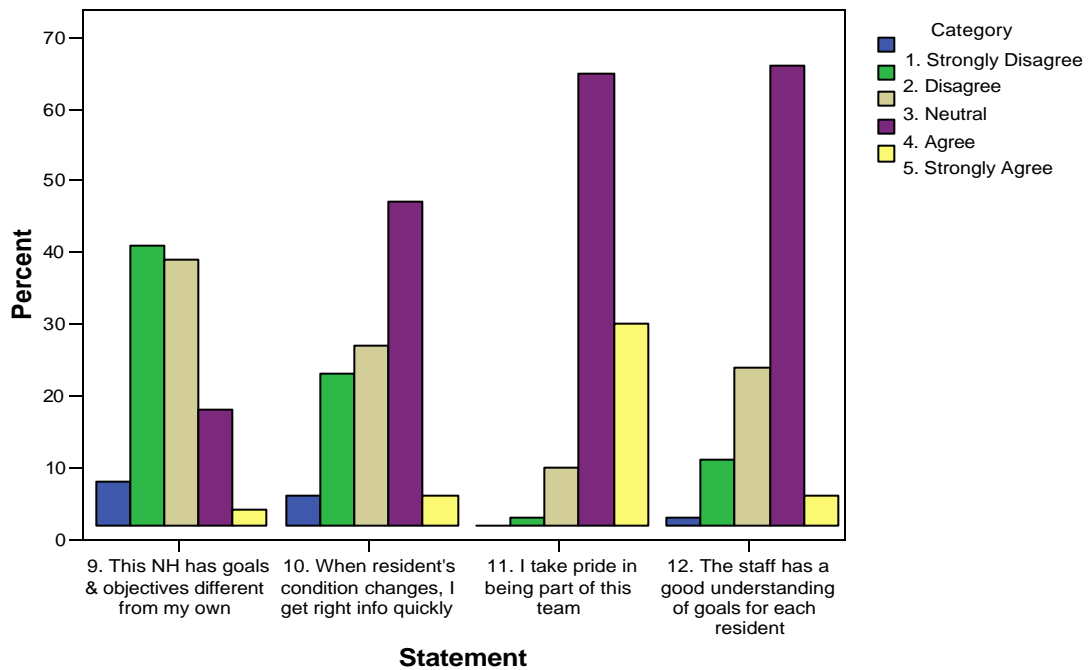
Bar Chart



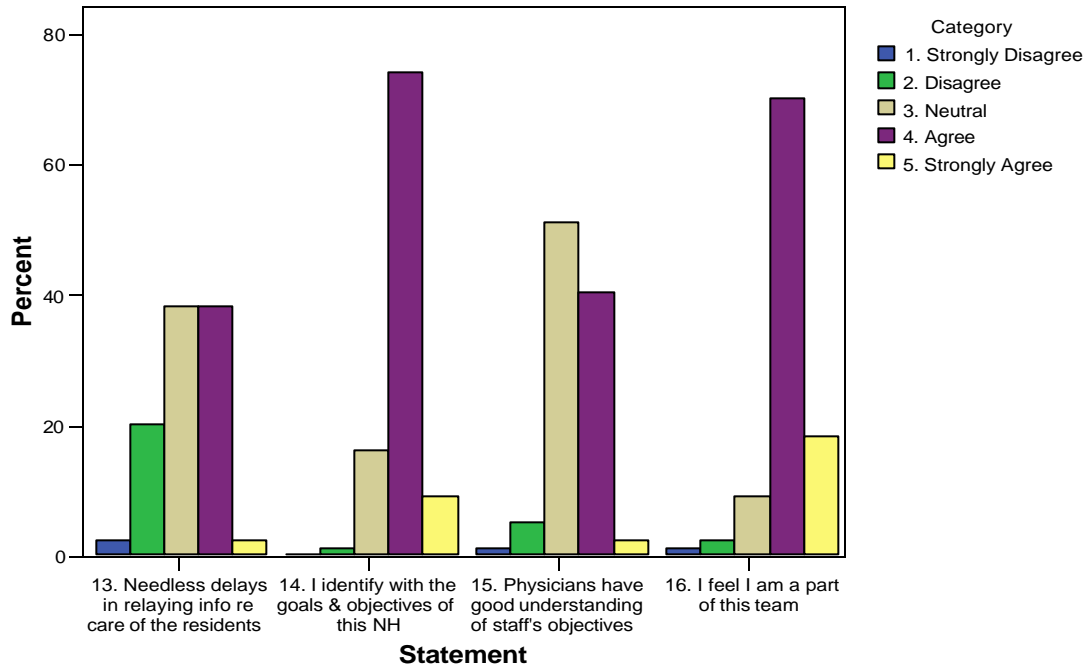
Bar Chart



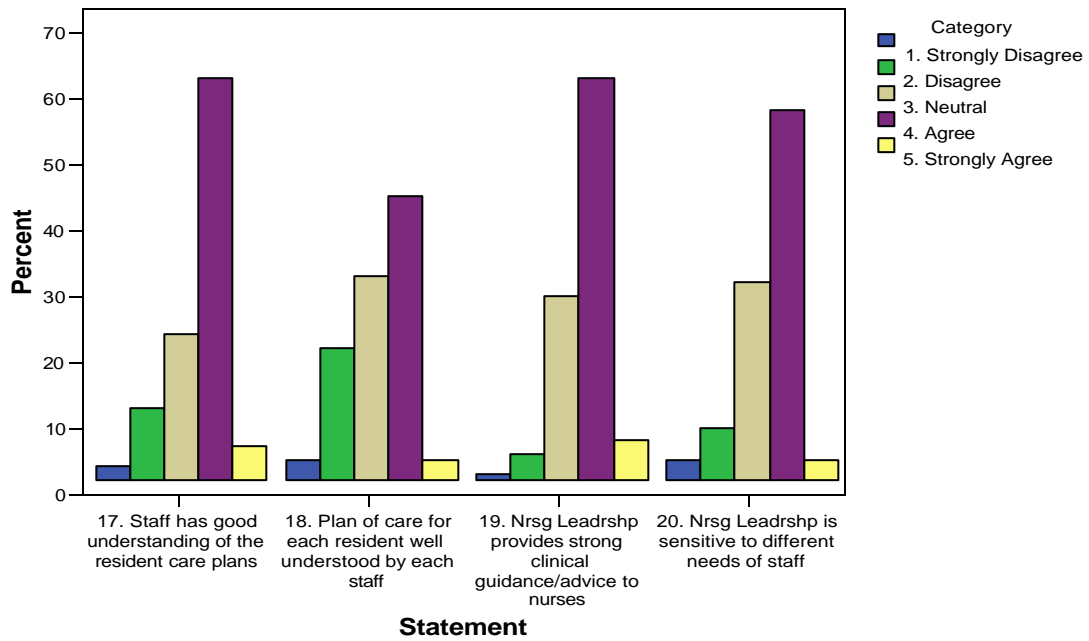
Bar Chart



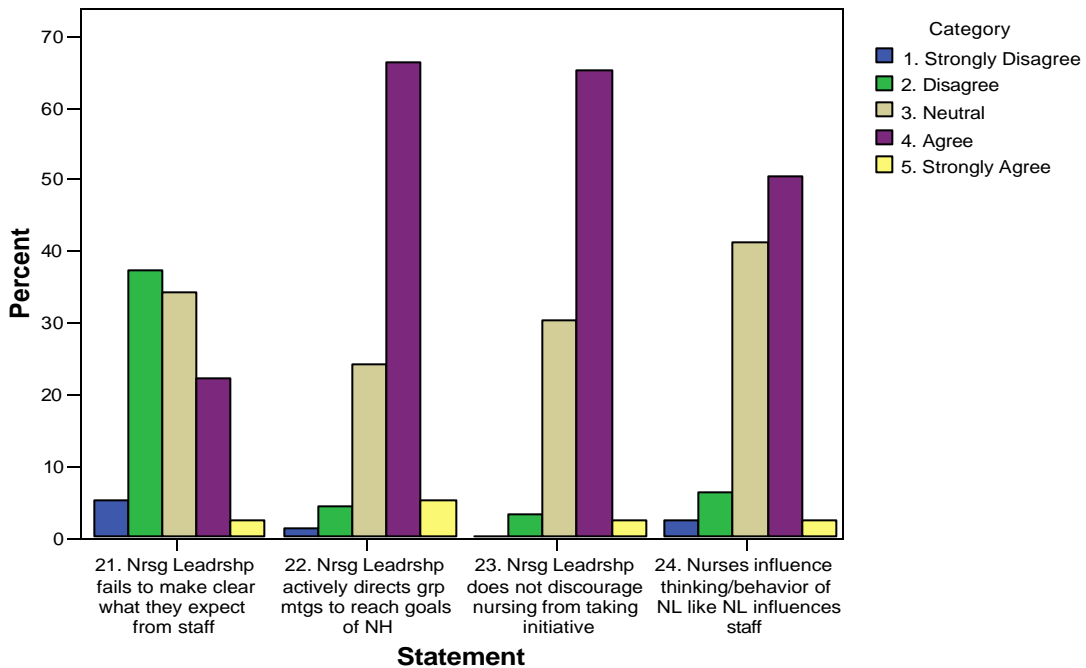
Bar Chart



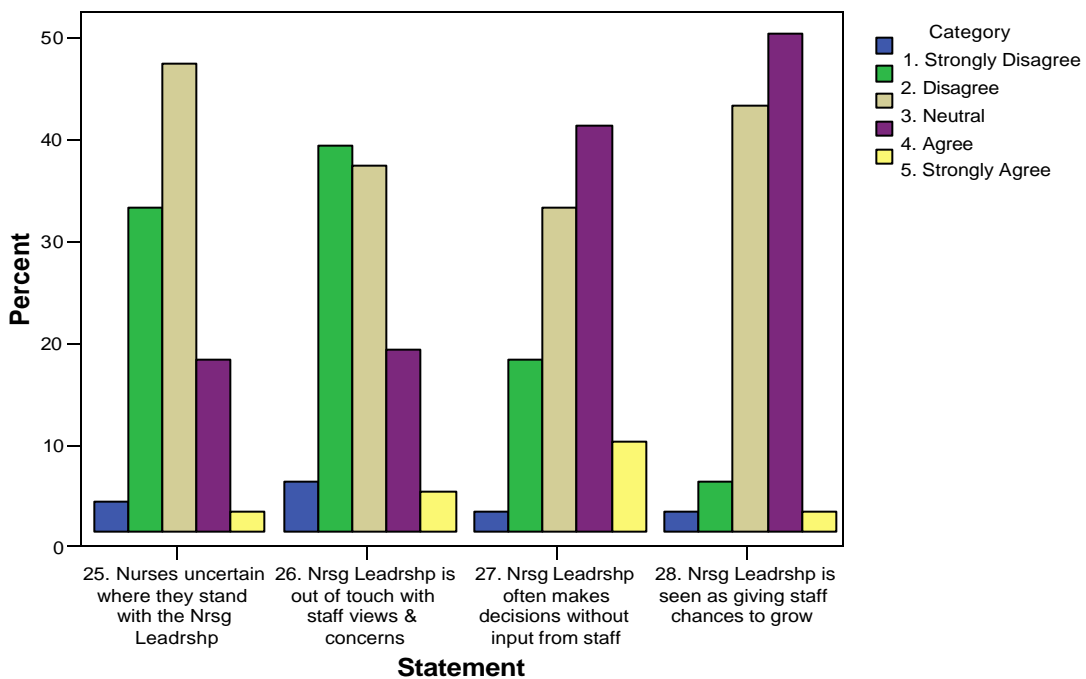
Bar Chart



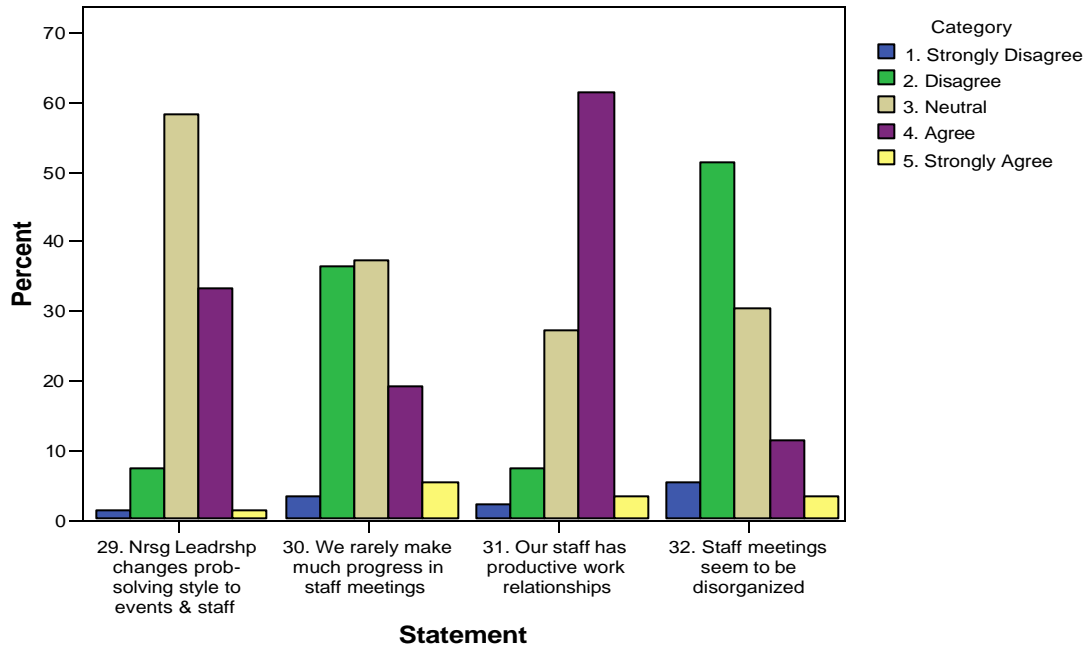
Bar Chart



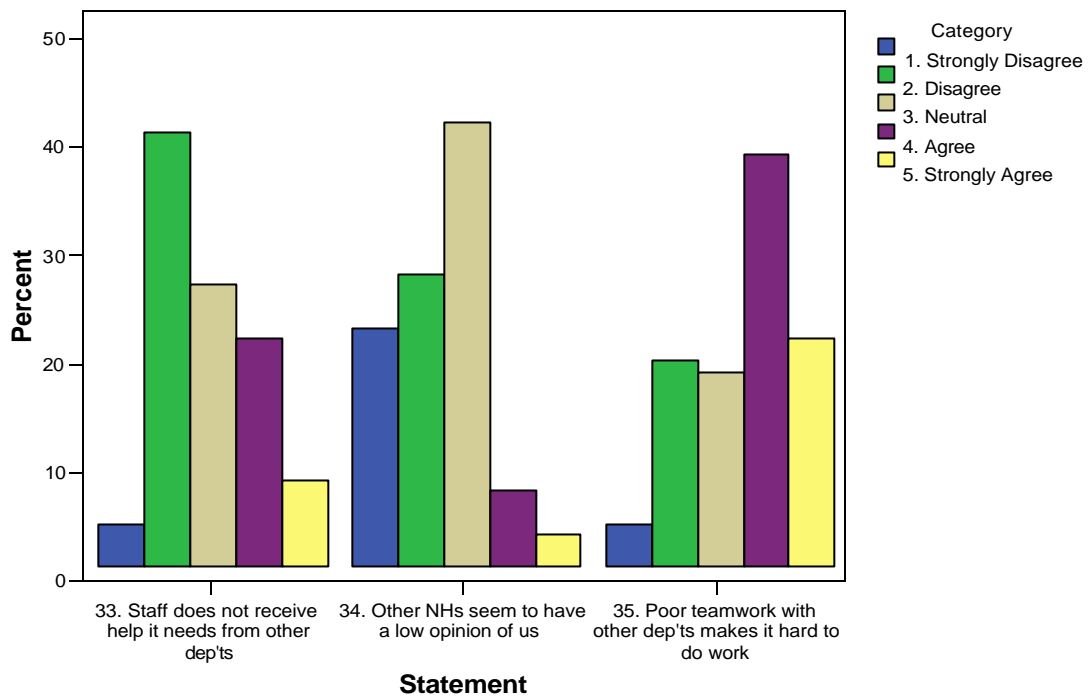
Bar Chart



Bar Chart



Bar Chart



**Leadership, teamwork, and communication by conceptual subscales
Percent Agreement by Item**

ITEM	DISAGREE	NEUTRAL	AGREE
Connectedness Subscale			
I take pride in being part of this team.	5.0	15.0	80.0
I identify with the goals and objectives of this nursing home.	7.3	21.9	70.7
I feel I am a part of this team.	11.8	15.8	72.5
Our staff has productive work relationships.	18.8	27.4	53.8
I look forward to working with the staff each day.	7.7	19.1	73.1
It is easy for me to talk openly with the staff.	13.8	18.9	67.3
I find it enjoyable to talk with other staff.	5.9	16.1	78.1
It is easy to ask for advice from the staff.	15.1	22.9	62.1
Organizational Harmony Subscale			
Nurses are uncertain where they stand with the nursing leadership.	38.1	33.8	28.0
The nursing leadership is out of touch with staff views and concerns.	42.2	28.8	29.0
Nursing leadership often makes decisions without input from the staff.	27.4	28.0	44.6
Nursing leadership fails to make clear what they expect from staff.	42.5	29.2	28.4
Nursing leadership does not discourage nurses from taking initiative.	13.2	31.0	55.7
We rarely make much progress in staff meetings.	38.8	30.6	30.6
Staff meetings seem to be disorganized.	49.6	27.8	22.6
Our staff does not receive the help it needs from other departments.	42.2	24.0	33.8
Poor teamwork with other departments makes it hard to do our work.	30.2	20.1	49.7
Other nursing homes seem to have a low opinion of us.	49.9	31.7	18.5
This nursing home has goals and objectives different from my own.	44.6	30.1	25.3
There are needless delays in relaying information regarding care of the residents.	29.9	31.4	38.6
The accuracy of information passed among the staff leaves much to be desired.	25.8	33.5	40.6
It is often necessary for me to go back and check the accuracy of information I have received from other staff.	25.9	26.5	47.6
Clinical Leadership Subscale			
Nursing leadership provides strong clinical guidance and advice to the nurses.	15.1	28.5	56.4
Nursing leadership is sensitive to the different needs of staff.	22.5	26.7	50.8

ITEM	DISAGREE	NEUTRAL	AGREE
Nurses are able to influence the thinking and behavior of nursing leadership as much as nursing leadership influences the thinking and behavior of the staff.	18.7	35.5	45.9
Nursing leadership is seen as giving staff chances to grow.	18.9	33.8	47.3
Nursing leadership changes its problem-solving style to changing events and staff.	19.1	41.4	39.3
Nursing leadership actively directs group meetings to reach the goals of the nursing home.	15.6	27.1	57.3
Timeliness and Understanding Subscale			
When a resident's condition changes, I get the right information quickly.	30.7	24.9	44.4
The staff has a good understanding of goals for each resident.	19.4	25.5	55.2
Physicians have a good understanding of the staff's objectives.	16.9	39.7	43.5
The staff has a good understanding of the resident care plans.	21.7	25.2	53.1
The plan of care for each resident is well understood by each staff member.	28.5	29.7	41.7
There is good communication between the staff across shifts.	42.7	28.2	29.1
Staff is well informed about what is happening on other shifts.	41.5	28.4	30.1

* Participants rated each item on a 5-point scale ranging from strongly disagree to strongly agree. For ease of interpretation, we collapsed into a 3-point scale. Also note that some items are negatively worded where disagree would be the more desirable response.

Looking across 100 nursing homes, one can make some general interpretations. For example:

- Only 44% of staff believe they get information quickly when a resident's condition changes.
- 72% of staff feel they are part of a team.
- Approximately 38% of staff find it difficult or are uncertain about asking advice from other staff members.
- Only 30% of staff believe there is good communication between staff across shifts.

This information indicates general areas for improvement. More important, each nursing home was provided feedback on their own individual performance. Their individual performance provides greater insight into specific areas that have the potential for improvement.

We evaluated the relationship between communication, leadership, and teamwork with 3 organizational factors: region the nursing home is located in (Table 41), profit/not-for-profit status (Table 42, and bed-size (Table 43).

Table 41
Relationship Between Communication, Teamwork, Leadership and Region

REGION		Connect	OrgHarm	ClinLead	TimeUnd
LW	Mean	3.708	3.026	3.152	3.111
	N	13	13	13	13
NC	Mean	3.732	3.035	3.346	3.048
	N	20	20	20	20
NE	Mean	3.723	3.126	3.403	3.139
	N	10	10	10	10
SC	Mean	3.716	3.101	3.328	3.159
	N	17	17	17	17
SE	Mean	3.762	3.074	3.336	3.044
	N	19	19	19	19
W	Mean	3.779	3.198	3.382	3.131
	N	21	21	21	21
Total	Mean	3.744	3.097	3.328	3.104
	N	100	100	100	100

Table 42
Relationship Between Communication, Teamwork, Leadership and Ownership

OWN		Connect	OrgHarm	ClinLead	TimeUnd
Non-Profit	Mean	3.751	3.138	3.307	3.124
	N	46	46	46	46
Profit	Mean	3.734	3.060	3.345	3.084
	N	54	54	54	54
Total	Mean	3.742	3.096	3.328	3.102
	N	100	100	100	100

There are no differences in communication, leadership, and teamwork based on region or ownership.

Case Studies

In order to further analyze working conditions, we proposed to conduct case studies in 4 nursing homes: 2 historically, well-performing and 2 historically, poor-performing. This approach provides a more in-depth evaluation of the interaction of complex factors for example, the care planning process in dynamic interaction with leadership skills and staff teamwork. This information can be used to help KDOA identify additional factors that influence resident care and provide the industry with insights regarding organizational improvements.

- High performing is defined as: 0 to 3 deficiencies on most recent survey, no deficiencies above a scope and severity level of “D”, **and** no deficiencies in the category “quality of care”.
- Poorer performing is defined as: 10 or more total deficiencies on most recent survey, one or more “G” level or higher deficiencies, **and** deficiencies in the category “quality of care”.

Data collection activities for case studies:

Two to three project staff were on-site over a 4-week period (sometimes longer). These visits were intermittent and spontaneous in nature and occurred over different shifts and days of the week. Qualitative data collection methods such as participant observation, formal and informal interviews, and document review were used. Participant observation occurred in common areas of the nursing home – not private areas such as resident rooms. Examples of common areas included hallways, dining rooms, parlor, sitting areas, staff break rooms, activities rooms, and courtyards. Examples of observations included:

- Environmental: smells, sounds such as loud noises, residents yelling or absence of, presence of plants or live animals
- Staffing levels
- Length of time to answer call lights
- Staff to resident interactions such as hugging, touching, smiling, eye contact
- Number of residents up and out of rooms and actively engaged
- Cleanliness of nursing home and appearance of residents
- Interactions during meal times
- Number of community contacts such as programs, volunteers, family visitors
- Meetings: we attended numerous meetings such as care planning, Medicare, nutrition, falls, and the like to observe staff interaction.
- Direct resident care **was not** observed

Examples of document review included:

- Policies and procedures for care processes such as pain management, weight management, skin care, fall prevention. We will assess evidence for assessment of risk and systems to check, evaluate, and prevent adverse outcomes.

- Resident medical records **were not** viewed.

Examples of interviews: ⁵

- Formal one-on-one interviews with staff were conducted to elicit perceptions of communication, teamwork, leadership, care planning, and the like. Staff had the choice to participate or not. Interviews included administrative staff (e.g., administrator, director of nursing (DON), MDS nurse, department heads), direct care staff such as LPNs, CNAs, CMAs, therapists, and ancillary staff such as dietary and maintenance personnel.
- Informal interviews, spontaneous and naturally occurring conversations while data collectors were on-sight, occurred also. These types of conversations provide insights into activities that are naturally occurring.
- Residents **were not** interviewed or included in this study.

A brief overview of two of the homes follows. Little information about the characteristics (bed-size, location, etc.) is provided in order to preserve anonymity of these nursing homes.

Nursing Home #1

Not-for-profit
> 80 beds

Purpose: To describe the nursing home as an organization with a specific focus on three major areas: leadership, communication, and teamwork.

Data collection:

- Observations of daily activities on 5 occasions.
- Observations of following meetings (8 total): Culture change, behavior, restorative, team leaders, fall review, palliative care, supervisor mentor, and Medicare.
- Formal interviews with staff (11 total): administrative, RNs, CNAs, and ancillary.

Leadership

Leadership promoted the following values:

- “Teach people to see themselves and others in their most positive light; this is where people give their best.”
- “To improve the lives of older adults by providing exceptional services, housing, and health care within a faith-based community.”

⁵ Data collection has been completed in 3 nursing homes. Preliminary data analysis for two nursing homes has been completed, one is in process. We will be enrolling the 4th and final case study in January, 2005. A more complete analysis will follow in next year’s report. The most important aspect of this analysis will be the cross-case comparisons that will be conducted following data analysis of the 4th and last nursing home.

- Focus on the good in others.
- The reason for existence is the resident. Leaders were perceived to value staff and to provide staff with the resources necessary to put the resident first.

Words and phrases used to describe leaders or their leadership style: delegate, listen, open door, mentor, train, educate, coach, flexible, creative, “management provides the tools we need,” open to new ideas, future thinking, supportive, growing, reward positive behavior, embrace new ideas.

The leadership team focuses on empowerment. Staff are given an opportunity to and encouraged to participate in decision making. Opinions are valued. There is a strong emphasis on growing and rewarding positive behavior. New ideas are embraced. Trust is a key element in the empowerment of staff. Learning and growing are valued at all staff levels.

Staff share and embrace the same vision for the organization “To create a real home for the residents.”

Teamwork

Teamwork was evident on a daily basis. Working together as a team was emphasized and encouraged. During observations, members of the management team were seen helping out on the floor, answering call lights, assisting in the dining room; staff from housekeeping was observed answering call lights; and RNs assisted with hands-on direct care. One participant stated, “Good teamwork is fostered by mutual respect for one another.” The management team worked hard at being a role model and staff described a commitment to their role, “everyone seems to take pride in the job that they do.”

Respect and concern for one another was often displayed. For example, a staff member described how the night staff started to empty trash cans for the housekeeping staff on a particular neighborhood without being asked. This was described as an effort to help out the day shift. Staff demonstrated appreciation for each other through spontaneous verbal praise, thank-you notes, an appreciation board, and use of tokens. Furthermore, staff described providing emotional support for team members, “When someone passes away, we grieve together. We are all a family, it feels like home. We provide each other with a support system for personal problems as well.”

In summary, there was a high level of teamwork and trust between staff and between management and staff.

Communication

Staff described communication as “Communication is very open, people talk to one another.” Numerous formal and informal methods of communication were noted. Examples include:

- Bulletin boards
- Newsletters attached to paychecks
- 20-minute flat meetings

- Neighborhood newsletter
- Numerous meetings

Meetings were an important avenue for communication. The following dynamics were observed:

- Inclusion of multi-disciplinary team members
- Started on time
- Circle seating
- Expectations, purpose, agenda clearly articulated
- Meetings brief and to the point
- Validation and acceptance of everyone's opinion
- Comfort with differing opinions
- Brainstorming encouraged
- Solutions followed-up on in timely manner
- Respect demonstrated
- Meeting goals were met

A formal/informal rule is used to guide problem solving and conflict resolution. This is described by staff as:

- Problems are resolved within teams first through brainstorming. Solutions are shared with management.
- Conflicts are discussed within 24 hours of the incident; this is in accordance with the 24-hour rule.
- Respect and praise are commonly displayed.

Residents are the priority.

Good staffing, positive attitudes, and respect for others are displayed throughout the organization. Staff know residents by name, their likes and dislikes, and answer call lights quickly. The staff show genuine interest in residents. Resident input into care decisions is valued. Laughter, touching, eye contact, and verbal interaction are openly displayed.

Summary

Formal and informal leadership was demonstrated at all staff levels. CNAs were empowered. The organizational values and mission were embraced by all staff. The organization itself was dynamic, growing, and thriving. The dynamic nature of this organization was fostered by investing in staff who in turn invested in the residents. Communication and teamwork were nurtured and well developed.

Most important to note: No one ever covertly or overtly expressed that economic efficiency or state/federal regulations were the guiding values for this organization.

Nursing Home #2

For-profit
> 80 beds

Purpose: To describe the nursing home as an organization with a specific focus on three major areas: leadership, communication, and teamwork.

Data collection:

- Observations of daily activities on 14 occasions. These included general observations of activities as well as shadowing personnel such as CNAs or charge nurses.
- Observations of following meetings (3 observations): AM administrative meeting on two occasions and one care planning meeting.
- Formal interviews with staff (9 total): administrator, DON, Social work, dietary, rehab, Charge nurses, and CNAs.

Chaos

Chaos is the best term to characterize this nursing home.

During the course of the study there were major changes.

- Administrator at the beginning of the 6 week study was the 3rd in the previous 8 months. Administrator was fired during the 6 week study and a new one hired.
- MDS nurses (2) had been there 3 months and 2 months each. One fired/left during study.
- Social worker had been there 4 months, left/fired during study.
- Rehab manager had worked at nursing home for 2 years, but only as a manager for 6 months. Three of the current therapists had been there for only 3 months.
- DON was the 3rd since 2000; she quit during 6 week study.
- Business administrator fired/quit 2 weeks prior to beginning study.
- Maintenance manager quit.
- Staff development person was ill when we began study; quit during course of study.
- Several CNAs were hired during course of study and quit. As DON commented, "Two weeks ago I hired 4 people, they have all quit."

The general appearance of the hallways contributed to feelings of chaos. Hallways were very cluttered including items such as med carts, supply carts, laundry carts, resident wheelchairs, trash carts, floor buffing machine, scales, and BP monitor. At times it was difficult for staff and residents to navigate the hallways.

Meetings such as behavior or care planning were rarely held. We were provided a schedule, but only one care planning meeting occurred according to schedule. Meetings were cancelled without notice or "just didn't happen" without anyone having an

explanation. For example, when one of the staff attempted to hold a meeting regarding resident nutrition, other staff responded by saying they did not have time to attend. Other than the AM mandatory administrative meetings, we were able to observe only one meeting.

Leadership

With the tremendous staff turnover, the nursing home has been in a continued state of transition. Staff described each new “leader” (DON and administrator) as having different leadership styles. Varying leadership styles has led to confusion about organizational expectations and goals and has also contributed to a breakdown in communication and trust.

The administrator (that was in-place at the beginning of the study) was described as “he doesn’t have a clue;” and too laid back. Numerous staff described the need for stronger administrative leadership. Staff wanted an administrator that would get his/her “hands dirty,” meaning he/she would get out on the floor and work if necessary. The administrator described himself as a “hands off” person. The DON was described as a great person to talk to and very supportive, but not a strong leader when dealing with problems. Department heads described needing more leadership from the administrator; being in need of a role model.

Staff lacked a clear vision and mission for their organization and their work. The explicit-written corporate mission of resident care was frequently in conflict with verbal messages received from administration and resources provided. This led to confusion and a conflict between values. For example, front line staff, including CNAs, rehab aides, and dietary personnel described their mission as “the residents.” Certainly, the strongest asset of this nursing home was the love and attention given to residents by front line staff. When observing day-to-day activities, numerous exchanges of care, concern, and love were observed. Staff attended to resident personal needs, such as grooming, and answered call lights as quickly as possible.

However, there were conflicting values evident. For example, one department manager was told his staff could no longer work overtime. This mandate was handed down with out apparent explanation or evaluation of causes for overtime. The same department manager who was instructed to not have any overtime was reported by staff as one who would “pitch in and help.” Although, his department was dietary, he had been out on the floor making beds when there was not enough nursing staff. Front line staff talked frequently of the need for more staff, yet in the AM department managers meetings, there was a primary focus on the balance between Medicaid and Medicare residents, new admissions, and keeping the beds full as well as “getting through” the next survey. Department heads were instructed to conduct checks twice a day for problems that surveyors would notice, to correct the problem immediately, and to confront the staff person responsible. Yet, there was no discussion regarding why these problems were occurring or any long term solutions.

Problems with leadership and mission were evident when meetings were abruptly cancelled due to lack of attendance and other unknown causes. We asked for a list of meetings when beginning the 6 week project. Of the list of meetings provided, the daily department head meeting was the only meeting which occurred on a regular basis. We were told this meeting was mandatory by the corporate office. A formal outline was

used for this meeting; a task sheet was completed, and faxed to the corporate office. There was a lack of communication, leadership, and teamwork that was noted when observing these meetings, for example: 1) when a department manager was absent no one knew where the person was; 2) when problems were discussed there was a conspicuous absence of collaborative communication, generalized brain storming, and problem solving. The administrator or a department head would provide one solution and then the meeting quickly proceeded to another problem or issue. The “solution” was not formally adopted, there was an absence of “who” would be accountable for a solution or follow-through; there was an absence of communication to see if there was agreement or “buy in”; and there were no indicators discussed or established to evaluate if the problem had been solved; and 3) Staff tended to blame others for problems and offered responses such as, “I didn’t know we were suppose to be doing that.”

There was one department head that demonstrated good leadership and team building skills. He described himself as a “coach” and that his job was to develop a team. He gained respect from his subordinates by working with them when there were shortages. He won the respect of coworkers in other departments by helping make beds when nursing was short-staffed. He believed all of his staff were deserving of respect, but also demanded respect in return. This belief was supported by staff comments. He clearly articulated the mission for his department as being “for the resident.” He believed that if his subordinates understood the “reason” behind policies and decisions combined with proper training and resources, the staff were more likely to “get it right.” He displayed a personal interest in his staff; he “touched base” with each person everyday.

Leadership from the corporate office was viewed as both a strength and a weakness. Each department manager had a corresponding regional representative that could provide guidance and support for their department’s needs. This was seen as a strength. However, staff also viewed the corporate office as having “tight control,” allowing little flexibility and individualized decision making that would be beneficial to the more specific needs of this nursing home. Decision making was described as hierarchical, “from the top - down.”

Teamwork

The continual change of leadership combined with staff turnover has had an impact on how the employees work together and the manner in which resident care matters are communicated and solved. Trust was lacking within most departments and across departments. Staff also expressed mistrust of the corporate office. The individuals interviewed felt that the change within numerous roles had a direct impact on how the teams worked together. For example several times when asked whether or not the care plan meeting was going to be held, the response received was “I don’t know”; when asked “who might know,” the response was the same, “I don’t know”. No one seemed to know who was directly responsible for scheduling meetings. The lack of leadership and teamwork influenced resident care planning.

Staff described “cliques” as thwarting development of teamwork. Older staff described newer CNAs as “less likely to work as a team.” Training for new CNAs was only one week and as described by staff “if they were not accepted by a more senior person, they will quit.” There were a couple of examples of new hires being teased by other staff, probably contributing to their rapid turnover. Cliques among CNAs made consistent communication regarding resident care difficult. This lack of teamwork

coupled with heavy workloads was believed to be a primary cause of staff turnover, especially with newly hired staff. Some staff described work as “every man for himself.” Examples of poor teamwork include: the night staff didn’t help the day shift housekeeping crew by completing small cleaning chores, resident needs were ignored by staff not assigned to particular resident, lack of attendance at resident care meetings, lack of input from CNAs at care plan meetings (they were not included when meetings occurred), and by a lack of validation of CNAs opinions regarding resident problems when reported to charge nurses.

During the course of our study, there was a lot of concern expressed about the upcoming survey. The staff we interviewed believed there was a direct relationship between the continual turnover and teamwork. The lack of teamwork contributed to communication problems regarding resident care which fueled concerns about the pending survey. For example, one resident had not been bathed in three weeks and the MDS nurse did not know a resident was receiving hospice care. We also documented little teamwork during our observations.

Many nursing homes have implemented numerous methods for positive reinforcement and signs of appreciation for staff. Other than a corporate reward program, a monthly reward for staff who demonstrate positive concern for client relations, there were no other formal or informal tokens of staff appreciation observed.

Formal or informal mechanisms for problem solving, conflict resolution, and team building were not evident. Except for the dietary manager, this did not seem to be occurring on a systematic basis. The dietary manager described staff meetings where problems were addressed. He reported that he required his staff to identify problems and to suggest a solution.

Communication

Problems with leadership and teamwork affected communication. Examples of breakdowns in communication were numerous. Decisions decided in the AM management meetings were suppose to filter down from department heads to staff. There was little evidence that this occurred except for informal channels that were not detected during our observations and interviews. There were numerous examples of areas where problems could result from unstructured formal or informal communication. For example, the lack of attendance at care plan meetings made the translation of resident information difficult. MDS nurses placed care plans on chart, but there was no evidence that CNAs read the information. Information was communicated in a “communication book” for CNAs; however, CNAs admitted to rarely using this communication mechanism.

Staff described the DON as a person they approached with problems and concerns. However, when observing staff interactions it was problem resolutions and accountability remained unclear.

Comparison of case study homes based on communication, leadership, and teamwork using the 4 subscales: connectedness, organizational harmony, clinical leadership, and timeliness and understanding of information.

The following are **mean scores** for each subscale from each of the participating homes.

Case Study	Connect*	OrgHarm*	ClinLead	TimeUnd*
NH #1	3.996	3.533	3.532	3.746
NH #2	3.605	3.077	3.435	3.058

* Significant at the .05 level

The comparison of these two case study homes adds further evidence to the differences we discovered regarding communication, leadership, and teamwork. As noted, NH #2 has significantly lower scores on connectedness, organizational harmony, and timeliness and understanding of information.

NOTE: Further analyses will be conducted as we complete our analysis of NH#3 and complete data collection and analysis of NH #4.

APPENDIX A GLOSSARY

CMS: Centers for Medicare and Medicaid Services. Unit of the federal government that is responsible for overseeing the provision of nursing home services.

DON: Director of Nursing in a nursing home.

F tag: One of 185 regulations that must be met for nursing homes to be in compliance with federal standards of care. Failure to comply with these regulations can result in a variety of penalties for nursing homes.

LTCU (Hospital Based Long-Term Care Unit): Nursing home located in or affiliated with a hospital.

MDS: Minimum Data Set. Information tool used for care planning in nursing homes. Use mandated by the Centers for Medicare and Medicaid Services (CMS).

Nursing Home: Free-standing nursing care nursing home.

QI: Quality Indicators. Indicator of nursing home residents' health status or care process. Established by CMS.

QM: Quality Measure. Indicator of nursing home residents' health status. Risk adjusted for resident acuity. Established by CMS.

RAI: Resident Assessment Instrument. Tool used for assessing the health status and care needs of a nursing home resident. Information entered into the MDS.

RST: Regular Survey Team. In the simultaneous survey process, the RST was the team regularly scheduled to survey the nursing home.

SST: Simultaneous Survey Team. In the simultaneous survey process, the SST was a survey team from another region that performed a simultaneous survey. The SST did not document its findings.

APPENDIX B DATA ELEMENTS BY SOURCE

Data Sources

A significant effort was devoted to developing the analysis file. A dataset was constructed by merging information from seven sources:

1. OSCAR (2002), including a data file with specific F tags from KDOA
2. Medicaid Cost Reports (2002)
3. Minimum Data Set (2002), for QIs, QMs and the case mix index
4. 2000 Census data, with reference to 1999 for the poverty rate
5. Labor Department data (2002)
6. Elder Count data (2002)
7. Mailed Nursing home Survey (2004)
8. Culture and Leadership Survey (2004)
9. Case Studies (2—4)

The OSCAR, the state F tag file, Cost Reports, and the Minimum Data Set (MDS) were matched on the basis of the federal Medicare/Medicaid nursing home identifier. Discrepancies in identifiers were resolved according to the following three rules.

- Near-matches (identifiers that differed by a value of 1 in the final digit) were deemed to be a match if the nursing home names were identical. A 1-digit difference occurred in some datasets when a nursing home had been sold.
- Records missing an identifier were matched on the basis of nursing home name and address.
- Nursing homes that could not be matched using these two approaches were excluded from the analysis.

Because nursing home characteristics in hospital-based long term care units were not similar to those in free-standing nursing homes, the analysis was conducted on two subset of nursing homes: first, on the 287 free-standing nursing homes and, second, on 55 long term care units. It was not possible to determine the status of 4 additional nursing homes and these were eliminated from the analysis.

The merged file contained one record for each nursing home. Contextual data for the county in which the nursing home was located were added to each record from the decennial census, the Labor Department, and Elder Count. Aggregate data on surveyor characteristics was added to each nursing home record based on the region in which the nursing home was located.

Variables

Variables included in the analysis were identified from three sources: the KDOA/KDHE request for proposals,⁶ a review of the literature, and ideas generated from the focus groups. In addition to the data elements on the source files, additional variables were constructed for the analysis. For example, the number of F tags with scope/severity of G or higher was summed into a new variable.

Variables used in the analysis were grouped in to three categories:

- Outcomes: Deficiencies and QIs
- Nursing home characteristics, including nurse staffing
- Contextual (community) characteristics

As reflected in the literature on the quality of care in nursing homes, there are many alternative ways to categorize deficiencies. Each operationalization may capture a different aspect of the quality of care in a nursing home. This analysis used seven measures of deficiencies:

- Total deficiencies
- Number of deficiencies with a scope/severity of D or higher (D+)
- Number of deficiencies with a scope/severity of G or higher (G+)
- Presence (yes/no) of Substandard Care deficiencies
- Presence (yes/no) of deficiencies with Quality of Care F tags
- Presence (yes/no) of deficiencies with Quality of Life F tags
- Indiana scale, which is a sum of the number of deficiencies in 45 F tags weighted by a factor for scope and severity (Appendix E)⁷

To the extent that the results for each deficiency measure were the same, the results may be considered more robust.

Measures of county characteristics included:

- County employment rate. Nursing homes in counties with low employment rates may find it easier to recruit staff and may experience lower turnover.
- County nursing home occupancy rate. Counties with low occupancy rates may have higher alternative care settings, such as home care or assisted living.
- Metropolitan/Non-metropolitan status and population density. Together, these two measures embody the concept of urban/rural. Nursing homes located in rural counties may have lower turnover than in urban counties where there are more job opportunities. Moreover, the focus groups thought nursing homes in rural areas were more “homey and caring.”

⁶ In July 2003, the Certification and Licensure function for free-standing nursing homes was transferred from the Kansas Department of Health and Environment to the Kansas Department of Aging. The certification and licensure function for hospital-based LTCUs remained with KDHE.

⁷ The Indiana methodology is based on a weighted average of three years of data. For this study, only one year was used.

- Percent of county population aged 25+ in 2000 with a high school education. Nursing homes might find it easier to recruit and retain employees in counties with more high school graduates.
- County poverty rate. As poverty is related to lower availability of health care and lower health status in the population, nursing homes located in counties with higher poverty might have more acute caseloads.

Measures of nursing home characteristics included:

- Case mix index, an indicator of resident acuity, from the MDS.
- Total nursing care hours per resident day. Nursing homes with higher nurse staffing levels should be able to provide better quality of care and have fewer deficiencies.
- Skill mix (% of hours supplied by RNs, or other licensure categories). A higher skill mix has been shown to be related to lower deficiency rates.
- Turnover rates by job title (Administrator, RNs, LPNs, and Aides). Higher turnover has been related to higher deficiencies.
- Number of licensed beds. The focus groups thought that larger nursing homes were likely to have more deficiencies than smaller nursing homes.
- % of Resident days paid for by Medicaid. As Medicare reimburses at a higher rate than Medicaid, nursing homes with a higher percent Medicaid days would be expected to have fewer resources, resulting in more deficiencies and lower quality of care.
- Direct care costs per resident day, or proportion of the nursing homes costs that are targeted to health care for residents and room and board. Higher direct care costs would be hypothesized to result in better quality of care and fewer deficiencies.
- Ownership, or whether or not a nursing home was for profit. Part of a for-profit nursing home's revenue is devoted to profit. It has been hypothesized that for-profit nursing homes will have higher deficiencies and lower quality of care.
- Faith affiliation. Nursing homes that are affiliated with a faith community would benefit from volunteers and, potentially, additional cash resources.
- Membership in a multiple-nursing home chain. May be for profit or not for profit.
- Change in ownership. Number of times during the past year.
- % Occupancy in the nursing home. Nursing homes with higher occupancy rates might have the resources to provide higher quality of care.

Average QI. Nursing homes with higher levels of QIs might be expected to have more deficiencies.

Variables	Source	Specification / Variable Name
<u>Deficiencies</u>	Oscar	
Total Deficiencies	Oscar	TotalDef
D+ Deficiencies	Oscar	DplusTot
G+ Deficiencies	Oscar	GplusTot
Quality of Life Deficiencies	Oscar	QOLtot
Quality of Care Deficiencies	Oscar	QOCtot
Substandard Care	Oscar	SQCtot
Indiana Score	Derived	
<u>QIs in Analysis - Matched on quarter of survey</u>		
Late loss ADL	QI file	QI17_lateLossADLs
Pressure Ulcers	QI file	QI24_Ulcers
Fall Prevalence	QI file	QI2_Falls
Bladder/Bowel Incontinence	QI file	QI8_Incont
Weight Loss	QI file	QI13_WtLoss
<u>QIs - Not used in this analysis, but in file</u>		
New Fractures	QI file	QI1_NewFracts
Behavioral Symptoms	QI file	QI3_behavior
Behavioral Symptoms - High Risk	QI file	QI3_HR_behavior
Depression	QI file	QI4_depressn
Depression w/o Antidepressant Therapy	QI file	QI5_depress_noTherapy
Nine or More Medications	QI file	QI6_9plusMeds
Cognitive Impairment	QI file	QI7_cogImpair
Bladder/Bowel Incontinence - High Risk	QI file	QI_8_HR_Incont
Incontinence w/no Toilet Pan	QI file	QI9_Incont_nopan
Indwelling Catheters	QI file	QI10_Cath
Fecal Impaction	QI file	QI11_FecalImpac
Urinary Tract Infections	QI file	QI12_UTIs
Tube Feeding	QI file	QI14_TubeFeed
Dehydration	QI file	QI15_Dehydratn
Bedfast Residents	QI file	QI16_bedfast
ROM Decline	QI file	QI18_declineROM
Antipsychotic Use w/No Condition	QI file	QI19_antipsych_nocond

Variables	Source	Specification / Variable Name
Antipsychotic Use w/No Condition - High Risk	QI file	QI19_HR_antipsych_nocond
Antianxiety/Hypnotic Use	QI file	QI20_AntiAnxi_hypnoUse
Antianxiety/Hypnotic Use Above 2X in Past Wk	QI file	QI21_hypno2xlastwk
Physical Restraints	QI file	QI22_restrain
Little or No Activity	QI file	QI23_noActivity
Pressure Ulcers - High Risk	QI file	QI24_HR_Ulcers
Ranks of all QIs, by group(hosp base)	Derived	Actual ranks, ex: RQI_WtLoss
Quartile Ranks of all QIs, by group(hosp base)	Derived	0: 0-25%, 1:25-50%, 2:50-75%, 3:75-100%, ex: R4QI_WTLoss
County Context		
County Employment Rate	Labor Dep't	CoEmploymentRate01
County Nursing Home Occupancy Rate	Elder Count	NrsgOccupancy_pc
Metro/Non-metro	Census data	Metro (0-3) vs. Nonzero
Population Density	Census data	PopDen90
County: % Bachelor's Degree+	Census data	CoBAplusAge25_00
County: % HS Grads	Census data	CoHSgradsAge25_00
County Poverty Rate	Census data	CoPoverty99
Nursing home Characteristics		
Nursing home Case Mix Adjustor (<i>matched on quarter of survey</i>)		Casemix (also in ranked version) i.e. Rcasemix & R4casemix
Wage Rate-Administrator	Cost Reports	WageRate_Admin

Variables	Source	Specification / Variable Name
Wage Rate-RNs	Cost Reports	WageRate_RN
Wage Rate-LPNs	Cost Reports	WageRate_LPN
Wage Rate-CNAs	Cost Reports	WageRate_CNA
Total Care Hrs per resident	OSCAR	CareHrs_PerRes_TotNrsg_Oscar, Numerator = sum 3 nursing titles, denom=ResTot
Care Hrs per res for each nrsg category	OSCAR	CareHrs_PerRes_RN_Oscar, LPN, & CNA
Total Care Hrs per Resident Day	Cost Reports	CareHrs_PRD_TotNrsg, Numerator = sum 3 nursing titles, denom=Tot_Inpt_days
Care Hrs per Res Day for ea. Nrsg category		CareHrs_PRD_RN, LPN, & CAN
Total Nursing Hours per Resident Day	Cost Reports, OSCAR	Numerator = sum of 3 nursing titles, denom=Tot_Inpt_days (no denom available in Oscar)
Skill Mix: RNs, LPNs, & CNAs	Cost Reports	SkillMix_RN, Skillmix_LPN, Skillmix_CNA
Turnover-Administrator ,RNs, LPNs, & CNAs	Cost Reports Schedule J	Turnover_Admin, Turnover_RN, Turnover_LPN, Turnover_Aides
Total Costs	Cost Reports, Schedule A	Direct_Care_TotCost (used per books)
Direct Care Costs Per Resident Day	Cost Reports, Schedule A	Direct_Cost_PRD = Direct_Care_TotCost/Tot_Inpt_days
Number of Licensed Beds	Cost Reports, OSCAR	Tot_Lic_Beds
Total Environmental Deficiencies	Cost Reports, OSCAR	Envir_tot_ftags(#), envir_ftags(0,1,2+)
Ownership: non-profit vs. profit	Cost Reports & OSCAR	Own_type_CostReport, Ownership_Oscar (non-profit / gov't vs. profit)
Faith Affiliation	Oscar	Church_Related (n/y)
% Medicare Days	Cost Reports	Medicare_Days_Pct

Dependent Variables	Source	Specification / Variable Name
% Medicaid Days	Cost Reports	Medicaid_Days_Pct
% Medicare of Total Residents	OSCAR	Medicare_Pct_Oscar: CensMcre / ResTot
% Medicaid of Total Residents	OSCAR	Medicaid_Pct_Oscar: CensMcd / ResTot
% Occupied beds	OSCAR	PctBeds_Occupied_Oscar: ResTot / BedTot
Change in Ownership	OSCAR	Change Owner Counter

APPENDIX C

INTERVIEW QUESTIONS FOR CASE STUDIES

Please describe what a typical day is like for you?
Sometimes people like to walk me through the day starting with arriving at work.

How do people here at [name of home] work together?
Ask for examples.

How are decisions made here?
Who is part of decision making?
Can you give me an example of a decision that was made recently that affected you or the work that you do?
Are you part of the decision making - do you have input into decisions around here?

How do decisions [changes in rules, work routines] get communicated around here?
How do you find out when you need to be doing something differently?
[Possibly ask, how do you feel about that?]

How would a new person learn how things get done around here?

How do problems get solved? Do you have input?

Do you have input into resident care planning?

What is valued most around here? Do the staff here feel valued? Do you think there is group of people or workers [shift?] that don't feel valued?

What is the best thing about working here?
What is the worst thing about working here?

How long have you worked here?

**APPENDIX D
MAILED SURVEY – NURSING HOME**

Nursing Home Administrator

1. How many total years of experience do you, the nursing home administrator, have:
 - _____ Total years in your current position in this nursing home?
 - _____ Total years in nursing home administration, in your current position *and* in other nursing homes?
 - _____ Total years in long term care, including all positions in all types of settings?
 - _____ Total years in health care in any setting?

2. How many administrators, including you, has this nursing home had:
 - In the past 12 months _____
 - In the past 3 years _____

3. In the past 3 years, have any administrators left the nursing home due to poor survey results?
 - Yes
 - No
 - Don't know

4. What is your highest level of education?
 - High School
 - Associate's Degree
 - Bachelor's Degree
 - Master's Degree or higher
 - Other (specify) _____

5. If you have a college degree, what was your major? _____

6. Are you a nurse?
 - Yes
 - Nursing Diploma
 - Associate's Degree
 - Bachelor's Degree
 - Master's Degree
 - No

Director of Nursing

7. How many total years of experience does the director of nursing have:
 - _____ Total years as director of nursing in this nursing home?
 - _____ Total years as a director of nursing in this and other nursing homes?
 - _____ Total years in long term care, including all positions in all types of settings?
 - _____ Total years in health care in any setting?

8. How many directors of nursing has this nursing home had:
 - In the past 12 months _____
 - In the past 3 years _____
 - Don't know

9. In the past 3 years, how many directors of nursing have left the nursing home? _____
 - If any left, what was the primary reason the most recent DON left?
Check only one.
 - Staff absenteeism or turnover
 - Better job opportunity
 - Poor state survey results
 - Retired
 - Other (please specify) _____
 - Don't know

10. What is the highest level of education attained by the director of nursing?
 - Nursing diploma
 - Associates Degree
 - Bachelor's Degree
 - Master's Degree or higher

11. Since becoming an RN, has the director of nursing had specific college credit coursework in geriatric care?
- Yes
 No
12. Within the past three years, has the director of nursing obtained CEUs in any of the following areas? Please check all that apply.
- Continence care
 Pressure ulcer care and prevention
 Fall prevention
 Fall risk assessment
 Palliative care
 Pain management
 Care planning
 Promoting staff teamwork
 Dementia behavior management
 Depression
 Adverse drug interactions
 Continuous quality improvement

13. Does the director of nursing have a certification in gerontological care?
- Yes
- _____
- {please specify: Gerontological Nurse Practitioner, Clinical Specialist in Gerontological Nursing, Gerontological Nurse Generalist}
- No

14. Has the director of nursing had specific college coursework in business administration or management?
- Yes
 No

Other Nursing home Staff

15. What is the licensure status of the night charge nurse?
- LPN
 RN

16. How many full time equivalent (FTE) RNs are employed by your nursing home including the administrator (if applicable) and director of nursing?

[For example, two half time RNs = 1 full time equivalent]

17. How many full time equivalent (FTE) activity staff do you have? _____
18. How many full time equivalent (FTE) social workers are employed by your nursing home? _____
19. Do any of the staff in the social work title have a social work degree (B.S.W. or M.S.W.)?
- _____ Yes
_____ No, use designees
20. Are your social work staff licensed?
- Yes, all are
 Yes, some are
 No

16. What are the three main causes of staff turnover in your nursing home? [**Please mark them 1, 2, & 3**]
- _____ Work load—not enough staff
_____ Low pay
_____ No opportunity for advancement
_____ Being around elderly or dying people
_____ Residents or families difficult to care for
_____ Personal or family reasons, including transportation
_____ Fired for excessive absences
_____ Other. Please describe:

Nursing Home Structure and Culture

22. Is the Nursing Assessment Coordinator (MDS) Coordinator also the director of nursing?
- Yes
 No
23. How many, if any, assistant administrators do you have? _____

24. How many, if any, assistant directors of nursing do you have? _____

25. How would you describe the type of work climate you try to maintain in your nursing home? Please **rank** the following six statements, giving a score of **1** to the most important feature and a score of **6** to the least important.

- _____ Promote trust and openness
- _____ Emphasize trying new things
- _____ Emphasize following the rules
- _____ Promote staff motivation and job satisfaction
- _____ Promote achievement of targets and objectives
- _____ Promote staff initiative and responsibility

25. While the administrator and director of nursing have legal responsibility, nursing homes vary in how much they delegate resident care decisions to charge nurses (nurse managers). How would you describe the leadership structure of your nursing home? **Check only the one box** that best represents the situation in your nursing home.

- Leadership is highly centralized—the administrator and director of nursing make decisions for the whole nursing home
- Leadership is centralized—the assistant administrator and assistant DON have a role in decision making
- Leadership is partially decentralized—some nurse managers or charge nurses that I trust can make decisions on a limited number of issues.
- Leadership is decentralized—a nurse manager or charge nurse for each unit can make decisions for organizing the care of residents on his or her unit.

26. Does your nursing home receive any of the following kinds of support from a church or other non-profit organization, school, local government, or other service organization in your community? Check all the boxes that apply.

- Funds from local taxes
\$ _____/annually
- Financial donations
\$ _____/annually
- Volunteers
_____/estimated hours per year
- In-kind or material donations, including space
- Don't receive any additional support
- Don't know

If you checked any of the boxes, do you believe that these external resources make a difference in the quality of care in your nursing home?

- Yes
- No

27. In the past 12 months, has your nursing home experienced cuts in any of the following operating budget categories? Please check all that apply.

- ___ Staffing
- ___ Staff benefits
- ___ Supplies
- ___ Dietary
- ___ Maintenance
- ___ Staff education
- ___ Extra programs
- ___ Other (Please specify)

28. How frequently do your residents have visits from family and friends? The percentages you write down should **add up to 100%.**

_____ Daily
 _____ At least once a week
 _____ At least once a month
 _____ A few times a year
 _____ Never
100 %

29. Please estimate the percentage of your residents whose family members join them for at least one meal a day.
 _____ Percent

30. Please write down the **hiring** wage rate for new Certified Nursing Aides (CNAs) at your nursing home. If your hiring wage rate varies with experience or some other factor, please indicate the *most common* hiring rate. For nursing homes with 12-hour shifts, please use the Day and Night columns.

Please tell us how you think the state survey process could be improved. **Check the one box** that is your **top priority**.

- Surveyors have more specific directions on when to assign a deficiency
- IDR process moved to an impartial authority
- More consistent training process for surveyors
- Provide opportunity for administrators to explain the situation if there is a question
- Other

Experience	Base Rate + Any Differentials & Incentives			
	Day	Evening	Night	Weekend
None				
<1 Year				
> 1 Year				

APPENDIX E MAILED SURVEY – LONG TERM CARE UNIT (LTCU)

Nurse in Charge of LTCU (“Nursing Director”)

1. How many total years of experience does the nursing director have:
_____ Total years as director of nursing in this LTCU?
_____ Total years as a director of nursing in this LTCU and others?
_____ Total years in long term care, including all positions in all types of settings?
_____ Total years in health care in any setting?
2. How many nursing directors has this LTCU had:
In the past 12 months _____
In the past 3 years _____
 Don't know
3. In the past 3 years, how many nursing directors have left the unit? _____

If any left, what was the primary reason the most recent nursing director left?
Check only one.
 Staff absenteeism or turnover
 Better job opportunity
 Poor state survey results
 Retired
 Other (please specify) _____
 Don't know
4. What is the highest level of education attained by the nursing director?
 Nursing diploma
 Associates Degree
 Bachelor's Degree
 Master's Degree or higher
5. Since becoming an RN, has the nursing director had specific college credit coursework in geriatric care?
 Yes
 No
6. Within the past three years, has the nursing director obtained CEUs in any of the following areas? Please check all that apply.
 Continence care
 Pressure ulcer care and prevention
 Fall prevention
 Fall risk assessment
 Palliative care
 Pain management
 Care planning
 Promoting staff teamwork
 Dementia behavior management
 Depression
 Adverse drug interactions
 Continuous quality improvement
7. Does the director of nursing have a certification in gerontological care?
 Yes

{please specify, e.g.,
Gerontological Nurse
Practitioner, Clinical Specialist
in Gerontological Nursing,
Gerontological Nurse
Generalist}
 No

Other Nursing Staff

- 8. What is the licensure status of the night charge nurse?
 - LPN
 - RN

- 9. How many full time equivalent (FTE) RNs are employed on your unit, including the nursing director?

[For example, two half time RNs = 1 full time equivalent]

- 10. How many full time equivalent (FTE) activity staff do you have? _____

- 11. How many full time equivalent (FTE) social workers are assigned to your unit? _____

- 12. Do any of the staff in the social work title have a social work degree (B.S.W. or M.S.W.)?
_____ Yes
_____ No, use designees

- 13. Are your social work staff licensed?
 Yes, all are
 Yes, some are
 No

- 14. What are the three main causes of staff turnover in your unit? [Please **mark** them **1, 2, & 3**]
_____ Work load—not enough staff
_____ Low pay
_____ No opportunity for advancement
_____ Being around elderly or dying people
_____ Residents or families difficult to care for
_____ Personal or family reasons, including transportation
_____ Fired for excessive absences
_____ Other. Please describe:

Long Term Care Unit Structure and Culture

- 15. How Is the Nursing Assessment Coordinator (MDS) Coordinator also the nursing director?
 Yes
 No

- 16. How many, if any, assistant nursing directors do you have? _____ (number)

- 17. How would you describe the type of work climate you try to maintain on your unit? Please **rank** the following six statements, giving a score of **1** to the most important feature and a score of **6** to the least important.
_____ Promote trust and openness
_____ Emphasize trying new things
_____ Emphasize following the rules
_____ Promote staff motivation and job satisfaction
_____ Promote achievement of targets and objectives
_____ Promote staff initiative and responsibility

- 18. While the nursing director has legal responsibility, LTCUs vary in how much they delegate resident care decisions to charge nurses (nurse managers).

How would you describe the leadership structure of your nursing home? **Check only the one box** that best represents the situation on your unit.

- Leadership is highly centralized — the nursing director makes decisions for the whole unit
- Leadership is centralized—the assistant director of nursing has a role in decision making
- Leadership is partially decentralized—some nurse managers or charge nurses that I trust can make decisions on a limited number of issues.
- Leadership is decentralized—a nurse manager or charge nurse for each unit can make decisions for organizing the care of residents on his or her unit.

19. Does your unit receive any of the following kinds of support from a church or other non-profit organization, school, local government, or other service organization in your community? Check all the boxes that apply.

- Funds from local taxes
\$ _____/annually
- Financial donations
\$ _____/annually
- Volunteers
_____/estimated hours per year
- In-kind or material donations, including space
- Don't receive any additional support
- Don't know

If you checked any of the boxes, do you believe that these external resources make a difference in the quality of care on your unit?

- Yes
- No

20. In the past 12 months, has your unit experienced cuts in any of the following operating budget categories? Please check all that apply

- ___ Staffing
 - ___ Staff benefits
 - ___ Supplies
 - ___ Dietary
 - ___ Maintenance
 - ___ Staff education
 - ___ Extra programs
 - ___ Other [Please specify]
- _____
- _____

21. How frequently do your residents have visits from family and friends? The numbers you write down **should add up to 100%**.

- _____ Daily
- _____ At least once a week
- _____ At least once a month
- _____ A few times a year
- _____ Never

100 %

22. Please estimate the percentage of your residents whose family members join them for at least one meal a day.
_____ Percent

23. Please write down the **hiring** wage rate for new Certified Nursing Aides (CNAs) on your unit. If your hiring wage rate varies with experience or some other factor, please indicate the *most common* hiring rate. For nursing homes with 12-hour shifts, please use the Day and Night columns. Please consult with your Human Resources Department, as needed.

Experience	Base Rate + Any Differentials & Incentives			
	Day	Evening	Night	Weekend
None				
<1 Year				
> 1 Year				

24. Please tell us how you think the state survey process could be improved. **Check the one box** that is your **top priority**.

- Surveyors have more specific directions on when to assign a deficiency
- IDR process moved to an impartial authority
- More consistent training process for surveyors
- Provide opportunity for administrators to explain the situation if there is a question
- Other

APPENDIX F COMMUNICATION, TEAMWORK AND LEADERSHIP SURVEY

“Tell us About your Nursing Home”

Tell us about your Nursing Home. Please answer each question as you believe it really is, not as you think it should be. Think about everyone you work with at the nursing home as you answer each question. You should be able to finish this survey in about 20 minutes. Your answers are CONFIDENTIAL! Your honest answers will be very helpful.

For the questions in Sections 1,2,3 please fill in the circle that best reflects your feelings about what is going on at this nursing home, (for example if you wish to answer 1 **strongly** agree (SA) then fill in...).

I strongly disagree (SD)	I disagree (D)	I do not agree and I do not disagree (N)	I agree (A)	I strongly agree (SA)
------------------------------------	----------------	---	-------------	-----------------------

Section 1: Relationships and Communications with the Nursing Home	SD	D	N	A	SA
1. I look forward to working with the staff each day.					
2. It is easy for me to talk openly with the staff.					
3. There is good communication between the staff across shifts.					
4. It is often necessary for me to go back and check the accuracy of information I have received from other staff.					
5. I find it enjoyable to talk with other staff.					
6. Staff is well informed about what is happening on other shifts.					
7. The accuracy of information passed among the staff leaves much to be desired.					
8. It is easy to ask for advice from the staff.					
9. This nursing home has goals and objectives different from my own.					
10. When a resident's condition changes, I get the right information quickly.					
11. I take pride in being part of this team.					
12. The staff has a good understanding of goals for each resident.					
13. There are needless delays in relaying information regarding care of the residents.					
14. I identify with the goals and objectives of this nursing home.					
15. Physicians have a good understanding of the staff's objectives.					
16. I feel I am a part of this team.					
17. The staff has a good understanding of the resident care plans.					
18. The plan of care for each resident is well understood by each staff member.					
Section 2: Teamwork and Leadership	SD	D	N	A	SA
Nursing Leadership: Think of the nursing leadership as people like your Director, Assistant Director, Charge Nurse.					
1. Nursing leadership provides strong clinical guidance and advice to the nurses.					
2. Nursing leadership is sensitive to the different needs of staff.					
3. Nursing leadership fails to make clear what they expect from staff.					
4. Nursing leadership actively directs group meetings to reach the goals of the nursing home.					
5. Nursing leadership does not discourage nurses from taking initiative.					
6. Nurses are able to influence the thinking and behavior of nursing leadership as much as nursing leadership influences the thinking and behavior of the staff.					
7. Nurses are uncertain where they stand with the nursing leadership.					
8. The nursing leadership is out of touch with staff views and concerns.					
9. Nursing leadership often makes decisions without input from the staff.					
10. Nursing leadership is seen as giving staff chances to grow.					
11. Nursing leadership changes its problem-solving style to changing events and staff.					

12. We rarely make much progress in staff meetings.											
13. Our staff has productive work relationships.											
14. Staff meetings seem to be disorganized.											
15. Our staff does not receive the help it needs from other departments.											
16. Other nursing homes seem to have a low opinion of us.											
17. Poor teamwork with other departments makes it hard to do our work.											

Section 3: Nursing Home Culture

Six sets of statements about your nursing home are listed in this section. Each set has 4 statements that may describe where you work. **Rate each set of statements separately.** For each set, first read all 4 statements. Then decide how to split up 10 points across the 4 to show how much each of these, compared with the other 3 statements, describes your nursing home.

The responses for this scale are different. As an example if you were asked what you see your nursing home valuing more, A) Getting to work on time? or B) Spending time with residents? You might say that getting to work on time is valued more than the time you spend with resident. If you had to give these two statements points to show how valued you think these are to your nursing home, and you have 5 points to split between them you could give getting to work on time 3 points and spending time with residents 2 points. This 3 to 2 split of points means that while getting to work on time is more valued, the time spent with residents is almost valued the same. But if you think that getting to work on time is much more highly valued than spending time with residents, then you could give 'on time' 4 points and 'time with residents' 1 point. Or if you feel that almost no value is given to spending time with residents you could give it 0 (zero) points, and give all five points to getting to work on time.

**In these sets of 4 statements you have 10 points to split up for each set.
Each set must add up to 10 points.**

Using a sample set of statements, here is how you might split up 10 points across 4 statements.

Example: My nursing home judges my work by:	0	1	2	3	4	5	6	7	8	9	10
A. My not missing any shifts and being on time for work (This is very important at my home so I think it gets 5 points.)											
B. My spending time and talking with residents families. (This is important, but not quite as important as A, so I choose to give it 4 points.)											
C. My learning new skills to do my job better (This has no importance at my home so I give it 0 points.)											
D. My filling out resident reports and charts. (This has some importance, but much less than A, and B so I think it only gets 1 point.)											
<i>Add together A+B+C+D to make sure they equal 10:</i>											
5+4+0+1=10											

For these sets of statements, split up 10 points in each set. Decide how many points to give each statement based on how well you think it describes your nursing home compared with the other statements in the set. The better the statement describes your nursing home, the more the points it should get compared with the other statements in its set that do not do as good a job of describing your nursing home.

Set 1: My nursing home is	0	1	2	3	4	5	6	7	8	9	10
A. A very personal place like belonging to a family											
B. A very business-like place with lots of risk-taking											
C. A very formal and structured place with lots of rules and policies											
D. A very competitive place with high productivity											

Add together A+B+C+D to make sure they equal 10: ___+___+___+___=___

Set 2: The nursing home administrator is	0	1	2	3	4	5	6	7	8	9	10
A. Like a coach, a mentor, or a parent figure											
B. A risk-taker, always trying new ways of doing things											
C. A good organizer, an efficiency expert											
D. A hard driver, very competitive and productive											

Add together A+B+C+D to make sure they equal 10: ___+___+___+___=___

Set 3: The management style at my nursing home is:	0	1	2	3	4	5	6	7	8	9	10
A. Team work and group decision making											
B. Individual freedom to do work in new ways											
C. Job security, seniority system and predictability											
D. Intense competition and getting the job done											

Add together A+B+C+D to make sure they equal 10: ___+___+___+___=___

Set 4: My nursing home is held together by:	0	1	2	3	4	5	6	7	8	9	10
A. Loyalty, trust and commitment											
B. A focus on customer service											
C. Formal procedures, rules and policies											
D. Emphasizing productivity, achieving goals, and getting the job done											

Add together A+B+C+D to make sure they equal 10: ___+___+___+___=___

Set 5: The work climate in my nursing home:	0	1	2	3	4	5	6	7	8	9	10
A. Promotes trust, openness and people development											
B. Emphasizes trying new things and meeting new challenges											
C. Emphasizes tradition, stability and efficiency											
D. Promotes competition, achievement of targets and objectives											

Add together A+B+C+D to make sure they equal 10: ___+___+___+___=___

Set 6: My nursing home defines success as:	0	1	2	3	4	5	6	7	8	9	10
A. Team work and concern for people											
B. Being a leader in providing the best care											
C. Being efficient and dependable in providing services											
D. Being number one when compared to other nursing homes											

Add together A+B+C+D to make sure they equal 10: ___+___+___+___=___

Section 4: Finally, please tell us about you. If you think that any of the information that we are asking for could identify you, you can choose not to answer. We will be careful to keep your answers confidential by the way responses will be reported. Providing this information will increase the usefulness of your other responses. Please only select one answer for each question below.

What is your job title at your nursing home?

Administration (Mark if you are a: Unit Manager, Administrator, DON, Shift Supervisor, Department Manager, MDS Coordinator, or Education Coordinator)	Environmental Services (Includes Maintenance and Housekeeping)	Staff Registered Nurse
Administrative Support (Mark if you are a: Unit Clerk, Medical Records Clerk, Secretary, Administrative Assistant, or Supply Clerk)	Dietary Laundry Activities Social Services Other _____	Staff Licensed Practical Nurse Therapists (Speech Therapist, Occupational Therapist, Physical Therapist) Clinical Assistants (CNA, Restorative Aide, Physical Therapy Aide, Occupational Therapy Aide)

Number of years in current job title:	Less than 1 yr	1-5 yrs	5-10 yrs	10-15 yrs	15-20 yrs	More than 20 yrs
Number of years working at this nursing home:	Less than 1 yr	1-5 yrs	5-10 yrs	10-15 yrs	15-20 yrs	More than 20 yrs
Number of years working with the elderly:	Less than 1 yr	1-5 yrs	5-10 yrs	10-15 yrs	15-20 yrs	More than 20 yrs
Shift you work most often:		Days	12-hr day	Evenings	Nights	12-hr shift
Are you currently or have you ever been a member of a care resource team at your nursing home?					Yes	No

APPENDIX G INDIANA SCORING METHODOLOGY

The Indiana State Department of Health, Long Term Care Division, has developed a report card system using data collected through nursing home surveys. The report uses data in five categories: Administration, Care & Services, Resident Rights, Dietary, and Environment. Scores are developed for certified nursing homes that have received a minimum of four standard surveys. The scoring system evaluates 45 requirements of compliance, which were determined by a Delphi process to be most indicative of quality of care of residents in nursing homes. The scoring system reflects the number of requirements in each category that were not in compliance as weighted by scope and severity of the problem. The best possible score that a nursing home can achieve is 0 points. This means that no deficiencies were found in the 45 requirements used for scoring for the past three standard surveys, and there have been no findings of Substandard Quality of Care or Immediate Jeopardy for any survey during the time period covered by those three standard surveys. (A nursing home with a score of 0 may still have been found deficient in one or more requirements outside the set of 45 used for scoring.)

1. For each deficiency found in the 45 requirements assign a point value according to the Scope and Severity found as indicated in the table below.
2. If Substandard Quality of Care was found on any survey in that set (regardless of the number of times), assign a point value of 6.
3. If Immediate Jeopardy was found on any survey in that set (regardless of the number of times), assign a point value of 30.
4. Add all of the above point values together. This is the score for that nursing home for that survey period.

Scope and Severity Table			
	<u>I</u>solated	<u>P</u>attern	<u>W</u>idespread
Immediate jeopardy to resident health or safety	<u>J</u> 60 points	<u>K</u> 77 points	<u>L</u> 96 points
Actual harm that is not immediate jeopardy	<u>G</u> 21 points	<u>H</u> 32 points	<u>I</u> 45 points
No actual harm with potential for more than minimal harm that is not immediate jeopardy	<u>D</u> 4 points	<u>E</u> 5 points	<u>F</u> 12 points
No actual harm with potential for minimal harm	<u>A</u> 1 point	<u>B</u> 2 points	<u>C</u> 3 points

Calculate the overall score. This is the total of the scores for each of the three survey periods, weighted so that recent surveys count more than older surveys.

1. Multiply the score for the most recent survey period by 1.
Multiply the score for the second most recent survey period by 2/3.
Multiply the score for the third most recent survey period by 1/3.
2. Add the three weighted scores and multiply times 3. This is the overall score for that nursing home.