THE INFLUENCE OF TOP MANAGEMENT IN LONG-TERM CARE:

2009 Indiana Long Term Care Leadership Conference on Staffing Strategies, September 17, 2009 in Indianapolis, Indiana

Nicholas G. Castle, Ph.D.
CastleN@Pitt.edu

Graduate School of Public Health
University of Pittsburgh
OBJECTIVES:

- Introduction
  - From PA
  - Research
  - Format
- Motivation
  - Thank you!
- Competencies
  - Language
- Feedback
OVERVIEW:

- BACKGROUND
  - OPERATING ENVIRONMENT
    - Competition
    - Patient Safety
    - Report Cards

- STAFFING
  - Turnover
  - Staffing levels
  - Agency staff

- TOP MANAGEMENT
  - Characteristics
  - Importance
  - Leadership

- CONSEQUENCES OF INADEQUATE LEADERSHIP

- HOW TO ACHIEVE IMPROVEMENTS?
OVERVIEW:

- Long Term Care Leadership Conference on Staffing Strategies
  - Long-term care
  - Leadership
  - Staffing
OVERVIEW:

- “Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted”

-- Albert Einstein
OPERATING ENVIRONMENT:

- Why we need leaders and leadership?
- Competition
  - Assisted Living
    - Approximately 20,000 facilities in US
    - Home to more than 1,000,000 Americans
    - Provide residents with some degree of:
      - Health care
      - Psychological care
      - Social care
  - Focus on private-pay market
    - Medicaid waivers
OPERATING ENVIRONMENT:

- **Competition**
  - “Aging-in-place”

- **Consumer services at home**
  - i.e., avoid institutional care
  - And at all costs avoid nursing home care

- **Lots of policy traction**
  - Save costs
  - Consumers like it
    - Americans with Disabilities Act (ADA) / Olmstead
    - New Freedom Initiative
    - Home and Community Based Services (HCBS)

- **Not well evaluated**
  - Likely to work “best” for Residential Care

- **Home Care**
  - Sensor technology
  - Elevators (etc)
OPERATING ENVIRONMENT:

- Reimbursement
  - Medicaid
    - Little increase over past 5 years
    - Average $100 per day
    - Variation across states
  - Medicaid $ are strongly associated with Quality (NHs)
  - Medicaid census strongly associated with Quality (NHs)
  - Medicaid census strongly associated with staffing “issues” (NHs)
OPERATING ENVIRONMENT:

Percent Portion of Medicare Outlays, by Provider, 1997 & 2002

- Physicians: 16% (1997), 17% (2002)
- Home Health: 9% (1997), 4% (2002)
- Hospital Inpatient: 43% (1997), 40% (2002)
- Skilled Nursing Facilities: 6% (1997), 5% (2002)
OPERATING ENVIRONMENT:

- Regulation
  - Certification (licensure)
  - A nursing home deficiency citation is “a finding that a nursing home failed to meet one or more federal or state requirements” (Department of Health and Human Services [DHHS], 2004: 34).
State Average Total Number of Deficiencies Per Nursing Home, 2004

Percentage of NHs Cited for Causing Actual Harm or Immediate Jeopardy to Residents in Each State, 2004

OPERATING ENVIRONMENT:

- Resident Safety Movement
  - The latest ‘regulatory’ fad?
  - The new buzz word?
  - The new consulting opportunity?

- Justifiable advancement in the art of caregiving and science of caregiving?
How Hazardous Is Health Care?

DANGEROUS
(>1/1000) Health Care

REGULATED

ULTRA-SAFE
(<1/100K)

Number of encounters for each fatality

Total lives lost per year

Mountain Climbing

Bungee Jumping

Driving

Chemical Manufacturing

Chartered Flights

Scheduled Airlines

European Railroads

Nuclear Power

Health Care

Driving

Chemical Manufacturing

Chartered Flights

Scheduled Airlines

European Railroads

Nuclear Power
Causes of death in US – all ages
year 2000

1. Heart disease: 710,760
2. Chronic, low respiratory disease: 122,000
6. Diabetes: 69,301
8. Alzheimer’s: 49,558
9. Motor vehicle accidents: 41,994

* IOM (2000): Annual patient deaths attributed to medical error in US hospitals: 44,000-98,000 Estimated cost: $17 - $50 billion
** HealthGrades Report (2004): 191,000 deaths/yr Estimated cost: $6.3 billion/yr

*** NOTE, Nursing Homes (long-term care, still not included in these figures)
IT COULD HAPPEN TO YOUR NURSING HOME

Percentage of adults reporting a medical or drug error

- Medication or medical error: 22%
- Mistake at physician’s office or hospital: 10%
- Wrong medication or dose: 16%

Source: The Commonwealth Fund 2001 Health Care Quality Survey
LEGISLATIVE RESPONSE
Reporting Medical Errors: Current & Pending Legislation

15 States Currently Requiring Mandatory Reporting of Medical Errors

23 States Introduced Pending Legislation
Current Thinking

- **It is a System Problem**
- “...The real problem is not how to stop bad doctors from harming, even killing their patients, it is how to prevent good doctors from doing so.”

- **Atul Gawande, MD**
  *Annals of Internal Medicine, 1998*
● How many adverse events at your facility?
● How many close calls at your facility?
● How many errors at your facility?
Report Cards

“instead of imposing new rules...”
“...to publish data on the number of workers at each nursing home in the hope that staffing levels may simply increase due to the market demand created by an informed public.”

OPERATING ENVIRONMENT:

- **Report Cards**
  - 25% of nursing homes have *serious* quality problems
  - 40% of nursing homes provide *consistently* poor care
  - Nursing homes *under-perform*
  - *Errors* still to be determined (assumed very high)
  - Residents *suffer* in many ways
    - "-ve" approach to report cards
OPERATING ENVIRONMENT:

- Report Cards
  - Nursing Home Compare
  - 19 state report cards
  - 10 proprietary report cards
  - 100s of online “help” firms/agencies
# Surgery Scorecard

Rating New York City area hospitals on abdominal aortic aneurism surgery. To look for your hospital’s performance in a variety of areas, see page D2.

<table>
<thead>
<tr>
<th>HOSPITAL</th>
<th>PROCEDURES IN 2000</th>
<th>MORTALITY RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Francis Hospital</td>
<td>105</td>
<td>7.86%</td>
</tr>
<tr>
<td>Mount Sinai Medical Center</td>
<td>95</td>
<td>8.98%</td>
</tr>
<tr>
<td>North Shore Univ. Hospital</td>
<td>76</td>
<td>7.52%</td>
</tr>
<tr>
<td>Winthrop University Hospital</td>
<td>66</td>
<td>11.56%</td>
</tr>
<tr>
<td>Montefiore Medical Center</td>
<td>54</td>
<td>7.26%</td>
</tr>
<tr>
<td>LIJ Medical Center</td>
<td>53</td>
<td>9.35%</td>
</tr>
<tr>
<td>Westchester Medical Center</td>
<td>49</td>
<td>5.26%</td>
</tr>
<tr>
<td>Maimonides Medical Center</td>
<td>34</td>
<td>9.16%</td>
</tr>
</tbody>
</table>

Source: Empire Blue Cross and Blue Shield
Study: Choosing right hospital can be lifesaver

Researchers found that more than 25 percent of the 2,273 deaths after certain surgeries in California hospitals in 1997 might have been avoided if patients went to hospitals that had a “high volume” practice in the kind of treatment they underwent.

<table>
<thead>
<tr>
<th>Medical condition</th>
<th>Patients admitted</th>
<th>Total deaths</th>
<th>Avoidable deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart bypass</td>
<td>21,452</td>
<td>952</td>
<td>258</td>
</tr>
<tr>
<td>Lower extremity bypass</td>
<td>4,054</td>
<td>194</td>
<td>37</td>
</tr>
<tr>
<td>Heart transplant</td>
<td>21</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pediatric heart surgery</td>
<td>468</td>
<td>26</td>
<td>7</td>
</tr>
<tr>
<td>Coronary angioplasty</td>
<td>16,070</td>
<td>327</td>
<td>80</td>
</tr>
<tr>
<td>Abdominal aneurysm</td>
<td>1,337</td>
<td>107</td>
<td>40</td>
</tr>
<tr>
<td>Carotid artery</td>
<td>7,476</td>
<td>73</td>
<td>16</td>
</tr>
<tr>
<td>Cerebral aneurysm</td>
<td>818</td>
<td>83</td>
<td>36</td>
</tr>
<tr>
<td>Esophageal cancer</td>
<td>130</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Pancreatic cancer</td>
<td>271</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>5,709</td>
<td>475</td>
<td>101</td>
</tr>
<tr>
<td>Total</td>
<td>58,306</td>
<td>2,273</td>
<td>602</td>
</tr>
</tbody>
</table>

Source: Journal of the American Medical Association

There are real life and death differences between hospitals, and that shouldn’t be ignored.

—Dr. R. Adams Dudley, study author
<table>
<thead>
<tr>
<th>Quality Measures</th>
<th>Percentage for ARME_NURSING &amp; REHABILITATION CENTER</th>
<th>Average in Massachusetts</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Residents Whose Need for Help With Daily Activities Has Increased</td>
<td>14%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Percent of Residents Who Have Moderate to Severe Pain</td>
<td>1%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Percent of High-Risk Residents Who Have Pressure Sores</td>
<td>15%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Percent of Low-Risk Residents Who Have Pressure Sores</td>
<td>NOT AVAILABLE</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Percent of Residents Who Were Physically Restrained</td>
<td>0%</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Percent of Residents Who are More Depressed or Anxious</td>
<td>6%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Percent of Low-Risk Residents Who Lose Control of Their Bowels or Bladder</td>
<td>86%</td>
<td>57%</td>
<td>47%</td>
</tr>
<tr>
<td>Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder</td>
<td>1%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Percent of Residents Who Spend Most of Their Time in Bed or in a Chair</td>
<td>3%</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>Percent of Residents Whose Ability to Move About in and Around Their Room Got Worse</td>
<td>16%</td>
<td>15%</td>
<td>12%</td>
</tr>
<tr>
<td>Percent of Residents With a Urinary Tract Infection</td>
<td>1%</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Percent of Residents Who Lose Too Much Weight</td>
<td>8%</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>Percent of Short-Stay Residents With Delirium</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Percent of Short-Stay Residents Who Had Moderate to Severe Pain</td>
<td>5%</td>
<td>21%</td>
<td>23%</td>
</tr>
<tr>
<td>Percent of Short-Stay Residents With Pressure Sores</td>
<td>15%</td>
<td>19%</td>
<td>19%</td>
</tr>
</tbody>
</table>
### OPERATING ENVIRONMENT:

<table>
<thead>
<tr>
<th></th>
<th>ARMENIAN NURSING &amp; REHABILITATION CENTER</th>
<th>State Average in Massachusetts</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Residents</td>
<td>81</td>
<td>97.7</td>
<td>89.6</td>
</tr>
<tr>
<td>RN Hours per Resident per Day*</td>
<td>0.66</td>
<td>0.9</td>
<td>0.7</td>
</tr>
<tr>
<td>LPN/LVN Hours per Resident per Day*</td>
<td>0.49</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>CNA Hours per Resident per Day*</td>
<td>2.54</td>
<td>2.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Total Number of Nursing Staff Hours per Resident per Day*</td>
<td>3.69</td>
<td>3.9</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Staffing is a central component
Staffing is a central component

- Currently, staffing levels
  - Minimum recommended levels
- Agency staff (?)
- Turnover (?)
  - Payroll records
STAFFING:

- Staffing Issues
  - Turnover
  - Staffing levels
  - Agency staff
High levels of staff turnover in nursing homes. Subject of many studies.

Assumed association of staff turnover with quality of care.

Possible use as a quality indicator.
STAFFING (Turnover):

- Why Should Turnover Cause Poor Quality?:
  - Interfere with continuity of care.
  - Increase the number of inexperienced workers.
  - Weaken standards of care.
  - Cause psychological distress for some residents.
  - Expensive for the facility.
  - Increase the work load for remaining staff.
STAFFING (Turnover):

- High levels of staff turnover in nursing homes?

  Nurse Aides = 71%
  Licensed Practical Nurses = 49%
  Registered Nurses = 50%

Source: Decker et al. (2003)
STAFFING (Turnover):

- GAO (2001): turnover among nurse aides working in nursing homes is:
  - 13-18% percent higher than the overall labor force
  - 20% higher than other service workers.
- 100,000 FTE vacancies at nursing homes
STAFFING (Turnover):

Supplement to 2004 National Nursing Home Survey (NNHS)
3,017 Nursing Assistants surveyed at 582 nursing homes

Figure 1: Turnover Measures

- How much turnover of NAs is there at facility
  - a lot: 50.73%
  - some: 29.68%
  - a little: 16.81%
  - none: 2.77%

- Is NA Looking for a Different Job
  - no: 72.02%
  - thinking about it: 3.758%
  - yes: 24.22%

- How likely will NA leave current job in next year
  - not likely: 54.81%
  - somewhat likely: 27.44%
  - very likely: 17.75%
STAFFING (Turnover):

Supplement to 2004 National Nursing Home Survey (NNHS)
3,017 Nursing Assistants surveyed at 582 nursing homes

Figure 2: Job Tenure for Workers Employed at Least 1 Yr
STAFFING (Turnover):

Supplement to 2004 National Nursing Home Survey (NNHS)
3,017 Nursing Assistants surveyed at 582 nursing homes

Figure 3: How Much Does Turnover Interfere With NAs Job

- a lot: 33.93%
- some: 29.53%
- a little: 15.31%
- none: 21.23%

How much does turnover interfere with NAs ability to do job?
STAFFING (Turnover):

Supplement to 2004 National Nursing Home Survey (NNHS)

3,017 Nursing Assistants surveyed at 582 nursing homes

Figure 5: Percent of Workers Leaving in Past 3 Months

- RN: Median is 0 percent
- LPN: Median is 6 percent
- CNA: Median is 11 percent

Note: left percent=(number FT workers who left + .5*number PT workers who left)/number of FTEs
STAFFING (Turnover):

Supplement to 2004 National Nursing Home Survey (NNHS)
3,017 Nursing Assistants surveyed at 582 nursing homes

Figure 6: Percent of FTE Positions Vacant
STAFFING (Turnover):

Turnover Information:

- Regularly examine turnover (yes): 78%
- Concerned by own turnover levels (yes): 91%
- Implemented initiatives to improve turnover (yes): 32%
- Data systems used to examine turnover (yes): 51%
- Have estimated cost of turnover (yes): 29%

2,840 surveys returned from Nursing Home Administrators
STAFFING (Turnover):

- **Turnover Peculiarities:**
  - Economic Downturn
    - May Increase Turnover
  - Better Qualified Caregivers
    - May Increase Turnover
  - Union membership
    - May Increase Turnover (?)
<table>
<thead>
<tr>
<th>State</th>
<th>Number of Facilities in Sample</th>
<th>NA Turnover¹</th>
<th>LPN Turnover¹</th>
<th>RN Turnover¹</th>
<th>DON Turnover²</th>
<th>NHA Turnover²</th>
<th>NA Vacancy Rate²</th>
<th>LPN Vacancy Rate²</th>
<th>RN Vacancy Rate²</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL</td>
<td>119</td>
<td>82%</td>
<td>44%</td>
<td>50%</td>
<td>55%</td>
<td>47%</td>
<td>10%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>AR</td>
<td>124</td>
<td>121%</td>
<td>66%</td>
<td>51%</td>
<td>63%</td>
<td>55%</td>
<td>8%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>AZ</td>
<td>62</td>
<td>93%</td>
<td>72%</td>
<td>69%</td>
<td>67%</td>
<td>63%</td>
<td>7%</td>
<td>11%</td>
<td>13%</td>
</tr>
<tr>
<td>CA</td>
<td>548</td>
<td>61%</td>
<td>42%</td>
<td>45%</td>
<td>51%</td>
<td>58%</td>
<td>10%</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>CO</td>
<td>107</td>
<td>57%</td>
<td>40%</td>
<td>40%</td>
<td>44%</td>
<td>40%</td>
<td>8%</td>
<td>12%</td>
<td>11%</td>
</tr>
<tr>
<td>CT</td>
<td>170</td>
<td>43%</td>
<td>33%</td>
<td>39%</td>
<td>35%</td>
<td>37%</td>
<td>9%</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>DE</td>
<td>26</td>
<td>60%</td>
<td>27%</td>
<td>37%</td>
<td>21%</td>
<td>27%</td>
<td>12%</td>
<td>14%</td>
<td>15%</td>
</tr>
<tr>
<td>FL</td>
<td>455</td>
<td>66%</td>
<td>57%</td>
<td>51%</td>
<td>53%</td>
<td>50%</td>
<td>12%</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>GA</td>
<td>192</td>
<td>78%</td>
<td>55%</td>
<td>45%</td>
<td>56%</td>
<td>57%</td>
<td>10%</td>
<td>12%</td>
<td>14%</td>
</tr>
<tr>
<td>IA</td>
<td>242</td>
<td>55%</td>
<td>32%</td>
<td>35%</td>
<td>32%</td>
<td>39%</td>
<td>7%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>ID</td>
<td>29</td>
<td>62%</td>
<td>47%</td>
<td>54%</td>
<td>37%</td>
<td>39%</td>
<td>8%</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>IL</td>
<td>446</td>
<td>58%</td>
<td>40%</td>
<td>43%</td>
<td>42%</td>
<td>40%</td>
<td>8%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>IN</td>
<td>213</td>
<td>74%</td>
<td>57%</td>
<td>57%</td>
<td>50%</td>
<td>53%</td>
<td>11%</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>KS</td>
<td>176</td>
<td>87%</td>
<td>59%</td>
<td>55%</td>
<td>46%</td>
<td>43%</td>
<td>10%</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>KY</td>
<td>168</td>
<td>92%</td>
<td>53%</td>
<td>59%</td>
<td>53%</td>
<td>46%</td>
<td>8%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>LA</td>
<td>121</td>
<td>95%</td>
<td>43%</td>
<td>50%</td>
<td>28%</td>
<td>36%</td>
<td>10%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>MA</td>
<td>228</td>
<td>47%</td>
<td>45%</td>
<td>43%</td>
<td>36%</td>
<td>33%</td>
<td>9%</td>
<td>14%</td>
<td>15%</td>
</tr>
<tr>
<td>MD</td>
<td>122</td>
<td>49%</td>
<td>38%</td>
<td>40%</td>
<td>29%</td>
<td>40%</td>
<td>12%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>ME</td>
<td>60</td>
<td>41%</td>
<td>30%</td>
<td>32%</td>
<td>23%</td>
<td>30%</td>
<td>9%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>MI</td>
<td>217</td>
<td>53%</td>
<td>32%</td>
<td>36%</td>
<td>26%</td>
<td>28%</td>
<td>11%</td>
<td>11%</td>
<td>10%</td>
</tr>
<tr>
<td>MN</td>
<td>189</td>
<td>81%</td>
<td>26%</td>
<td>28%</td>
<td>21%</td>
<td>33%</td>
<td>10%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>MO</td>
<td>264</td>
<td>91%</td>
<td>53%</td>
<td>53%</td>
<td>52%</td>
<td>48%</td>
<td>9%</td>
<td>14%</td>
<td>13%</td>
</tr>
<tr>
<td>MS</td>
<td>73</td>
<td>60%</td>
<td>56%</td>
<td>71%</td>
<td>55%</td>
<td>44%</td>
<td>12%</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>MT</td>
<td>30</td>
<td>58%</td>
<td>44%</td>
<td>42%</td>
<td>37%</td>
<td>47%</td>
<td>13%</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td>NC</td>
<td>214</td>
<td>68%</td>
<td>50%</td>
<td>45%</td>
<td>33%</td>
<td>38%</td>
<td>9%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>ND</td>
<td>36</td>
<td>38%</td>
<td>22%</td>
<td>25%</td>
<td>24%</td>
<td>32%</td>
<td>10%</td>
<td>9%</td>
<td>6%</td>
</tr>
<tr>
<td>NE</td>
<td>111</td>
<td>36%</td>
<td>24%</td>
<td>21%</td>
<td>25%</td>
<td>29%</td>
<td>11%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>NH</td>
<td>45</td>
<td>49%</td>
<td>34%</td>
<td>34%</td>
<td>28%</td>
<td>31%</td>
<td>12%</td>
<td>13%</td>
<td>14%</td>
</tr>
<tr>
<td>NJ</td>
<td>200</td>
<td>49%</td>
<td>36%</td>
<td>42%</td>
<td>31%</td>
<td>35%</td>
<td>14%</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td>NM</td>
<td>34</td>
<td>72%</td>
<td>57%</td>
<td>62%</td>
<td>46%</td>
<td>45%</td>
<td>10%</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>NV</td>
<td>12</td>
<td>66%</td>
<td>67%</td>
<td>66%</td>
<td>29%</td>
<td>32%</td>
<td>12%</td>
<td>13%</td>
<td>15%</td>
</tr>
<tr>
<td>NY</td>
<td>351</td>
<td>43%</td>
<td>35%</td>
<td>41%</td>
<td>37%</td>
<td>46%</td>
<td>12%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>OH</td>
<td>520</td>
<td>71%</td>
<td>41%</td>
<td>50%</td>
<td>40%</td>
<td>41%</td>
<td>12%</td>
<td>10%</td>
<td>13%</td>
</tr>
<tr>
<td>OK</td>
<td>164</td>
<td>75%</td>
<td>59%</td>
<td>52%</td>
<td>57%</td>
<td>54%</td>
<td>13%</td>
<td>13%</td>
<td>10%</td>
</tr>
<tr>
<td>OR</td>
<td>82</td>
<td>61%</td>
<td>39%</td>
<td>46%</td>
<td>34%</td>
<td>39%</td>
<td>11%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>PA</td>
<td>366</td>
<td>42%</td>
<td>35%</td>
<td>37%</td>
<td>30%</td>
<td>36%</td>
<td>13%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>RI</td>
<td>51</td>
<td>63%</td>
<td>36%</td>
<td>53%</td>
<td>23%</td>
<td>32%</td>
<td>10%</td>
<td>11%</td>
<td>13%</td>
</tr>
<tr>
<td>SC</td>
<td>90</td>
<td>66%</td>
<td>46%</td>
<td>43%</td>
<td>31%</td>
<td>40%</td>
<td>10%</td>
<td>5%</td>
<td>9%</td>
</tr>
<tr>
<td>SD</td>
<td>51</td>
<td>47%</td>
<td>24%</td>
<td>21%</td>
<td>36%</td>
<td>42%</td>
<td>9%</td>
<td>6%</td>
<td>7%</td>
</tr>
</tbody>
</table>
STAFFING (Turnover):

Summary Results
Turnover and Quality:

RNs
Increasing RNs decreases 7 Quality Measures of 19 (i.e., better quality)

LPNs
Increasing LPNs decreases 1 Quality Measure and increases 1 Quality Measure of 19

Nurse Aides
Increasing NAs decreases 6 Quality Measures of 19 (i.e., better quality)

(Analysis from 2,840 surveys returned from Nursing Home Administrators)
STAFFING (Turnover):

- Turnover IS associated with quality
- Associated (Volvo)
- BUT:
  - May also CAUSE poor quality (Storks)
    - Strongest affects for RNs and NAs
  - Has a “lagged” influence
  - But, not consistent for all quality indicators
STAFFING (Levels):

- Review of Staffing levels literature
  - Studies that have specifically examined staffing – quality relationships 41 of the 55 quality indicators were significant.
  - Studies that have used staffing levels as controls in examining quality 35 of the 72 quality indicators were significant.
Review of Staffing levels literature:

- RN staffing – quality relationship 21 of the 66 quality indicators were significant
- LPN staffing – quality relationship 12 of the 41 quality indicators were significant
- NA staffing – quality relationship 35 of the 52 quality indicators were significant

(Publication Bias!)
STAFFING (Levels):

The mix of staffing has also been considered, particularly the ratio of RNs to practical nurses and to nursing assistants.

The availability of Medical Directors and Nurse Practitioners is a more recent focus.
Percent Nursing Homes Exceeding CMS Preferred Total Direct Care Staffing Level (3.0+ HPRD)

Percent Nursing Homes Exceeding Hartford Recommended Total Direct Care Staffing Level (4.44+ HPRD)

STAFFING (Levels):

- Hartford Panel (4.44+ HPRD)
- CMS Optimum (3.90+ HPRD)
- CMS Preferred (3.00+ HPRD)
- CMS Minimum (2.75+ HPRD)
- Below Minimum (< 2.75 HPRD)
Agency Staff

“have their working life organized by a private contractor, known generally as an agency, to carry out work within any number of facilities” (Manias et al. 2003, 457).

Predominantly (for nursing homes) Nurse Aides, but also some LPNs and RNs.
STAFFING (Agency):

Proportion of facilities using 5% or more contract RNs or LPNs, 1992-2001
STAFFING (Agency):

- “increases the risk of patient neglect and medication error”
- “the agency nurse cannot do 100% of the work that a normal permanent staff member might do”
### Agency Staffing Characteristics of Nursing Homes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Mean (or Percent)</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Any Use of Agency Staff:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RN agency</td>
<td>Used any agency RNs in 2006</td>
<td>28%</td>
<td>-</td>
</tr>
<tr>
<td>LPN agency</td>
<td>Used any agency LPNs in 2006</td>
<td>19%</td>
<td>-</td>
</tr>
<tr>
<td>NA agency</td>
<td>Used any agency NAs in 2006</td>
<td>42%</td>
<td>-</td>
</tr>
<tr>
<td>Any agency use</td>
<td>Used any (RN, LPN, or NA) agency staff in 2006</td>
<td>59%</td>
<td>-</td>
</tr>
<tr>
<td><strong>Average Agency Staffing (all facilities):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RN agency</td>
<td>FTE agency RNs per 100 beds</td>
<td>1.2</td>
<td>(1.2)</td>
</tr>
<tr>
<td>LPN agency</td>
<td>FTE agency LPNs per 100 beds</td>
<td>1.4</td>
<td>(1.6)</td>
</tr>
<tr>
<td>NA agency</td>
<td>FTE agency NAs per 100 beds</td>
<td>2.6</td>
<td>(4.2)</td>
</tr>
<tr>
<td><strong>Average Agency Staffing (only including facilities that use agency staff):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RN agency</td>
<td>FTE agency RNs per 100 beds</td>
<td>2.3</td>
<td>(1.1)</td>
</tr>
<tr>
<td>LPN agency</td>
<td>FTE agency LPNs per 100 beds</td>
<td>3.1</td>
<td>(1.5)</td>
</tr>
<tr>
<td>NA agency</td>
<td>FTE agency NAs per 100 beds</td>
<td>4.9</td>
<td>(3.8)</td>
</tr>
</tbody>
</table>

* Reported from 3,946 surveys returned by administrators
STAFFING (Agency):

Comments Provided by Administrators Listing Advantages and Disadvantages of Using Agency Staff

Advantages
Dependable.
DON does not have to work to fill in.
Available when needed.
Replacement for sick staff.
There when you need someone in a pinch.
Keeps us in compliance.
Simple charge structure.
Can become a future employee.

Sometimes necessary to keep the doors open.
If you have the same agency, they learn the routine.
Meets licensure requirements.
Decreased workers comp liability.
Meeting state staffing levels.
No benefit calculations needed.
Can be used on short notice.
Reduces overtime.

* Reported from 3,946 surveys returned by administrators
STAFFING (Agency):

Comments Provided by Administrators Listing Advantages and Disadvantages of Using Agency Staff

**Disadvantages**
- Inconsistent care.
- Lack of team cohesion.
- Poor attitude towards coworkers.
- Held hostage by agency workers.
- Lack of caring.
- Cost.
- Reliability.
- Knowledge.
- Customer friendliness.
- Do not know the residents.
- Poor efficiency.
- Not knowledgeable about the facility.
- Don’t know staff.
- Do not know the job.
- Higher staff turnover.
- Lack of personal investment.
- Decrease morale of regular staff.

- Expensive.
- Behave as though they are unaccountable.
- Lack of continuity of care.
- Do not know the “little” things about residents.
- Jump in without much training or orientation.
- Do not have the buy in to our “mission.”
- Don’t care.
- Poor dedication.
- Inconsistent staff.
- Not well trained.
- Safety concerns.
- Don’t know families.
- Poor documentation.
- Training for one-time use.
- Don’t know what to do.
- Unreliable, often do not show up.
- No teamwork.

* Reported from 3,946 surveys returned by administrators
### STAFFING (Agency):

#### Advantages and Disadvantages of Using Agency Staff

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Percent^</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintains compliance</td>
<td>26%</td>
<td>1026</td>
</tr>
<tr>
<td>Maintains staffing levels</td>
<td>12%</td>
<td>474</td>
</tr>
<tr>
<td>Available when needed</td>
<td>5%</td>
<td>197</td>
</tr>
</tbody>
</table>

#### Disadvantages

**Other Staff**

<table>
<thead>
<tr>
<th>Disadvantage</th>
<th>Percent^</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased supervision</td>
<td>38%</td>
<td>1500</td>
</tr>
<tr>
<td>Indifference</td>
<td>37%</td>
<td>1461</td>
</tr>
<tr>
<td>Decreased teamwork</td>
<td>26%</td>
<td>1078</td>
</tr>
<tr>
<td>Inconsistent work groups</td>
<td>25%</td>
<td>987</td>
</tr>
<tr>
<td>Increased workload</td>
<td>21%</td>
<td>830</td>
</tr>
<tr>
<td>Decreased morale</td>
<td>17%</td>
<td>671</td>
</tr>
</tbody>
</table>

**Facility Operations**

<table>
<thead>
<tr>
<th>Disadvantage</th>
<th>Percent^</th>
<th>(N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expense</td>
<td>42%</td>
<td>1660</td>
</tr>
<tr>
<td>Decreased commitment</td>
<td>26%</td>
<td>1024</td>
</tr>
<tr>
<td>Disrupted routines</td>
<td>23%</td>
<td>909</td>
</tr>
<tr>
<td>Lower productivity</td>
<td>12%</td>
<td>475</td>
</tr>
<tr>
<td>Administrative burden</td>
<td>10%</td>
<td>396</td>
</tr>
<tr>
<td>Professionalism</td>
<td>10%</td>
<td>395</td>
</tr>
<tr>
<td>Absenteeism</td>
<td>8%</td>
<td>316</td>
</tr>
<tr>
<td>Turnover</td>
<td>5%</td>
<td>199</td>
</tr>
</tbody>
</table>
STAFFING (Agency):

- Fifty-nine percent of facilities used some agency staff (i.e., RNs, LPNs, or NAs) in 2006.
  - Examining the results overall, it would appear that the “use” of agency staff is seen as problematic.
- May be problems/issues with “use” of agency staff, and not necessarily with staff themselves.
FIGURE 2: Function Form for Nurse Aide Agency Staffing Levels and Quality
STAFFING (Issues):

• “staffing is more complex than common measures might suggest...assessment of staffing levels requires more than counting the number of bodies reporting to work each shift”

• “staffing is more complex than simply a body count”

• But what is it????
STAFFING (Issues):

-0.6 -0.4 -0.2 0 0.2 0.4 0.6
0 5 10 15 20 25 30
Percentage RN Agency Use

Quality Factor

-0.6 -0.4 -0.2 0 0.2 0.4 0.6
0 5 10 15 20 25 30
Percentage RN Agency Use

Low RN turnover  Mean RN turnover  High RN turnover
STAFFING (Issues):

Interacting Variable

- NAs
- LPNs
- RNs

AGENCY STAFF

REGULAR STAFF
STAFFING (Issues):

- Hierarchy of influence
  - Turnover
  - Staffing levels
  - Stability
  - Agency use

- Highest quality can only be achieved when nursing homes have both a high percent of staff with high stability and agency use is low
Examining care processes more adequately is important, and may lead to broader policy debate over staffing *issues* rather than staffing *levels* in nursing homes.

- For example, staffing level mandates may increase agency staff use
TOP MANAGEMENT:

- Top Management
  - Nursing Home Administrator (NHA)
  - Director of Nursing (DON)
  - Medical Director?
- Performance
  - Staff turnover
  - Quality of care
  - Deficiency citations
  - Staying in business
- Attributes
  - Turnover (tenure)
  - Leadership
  - Education
  - Culture (e.g., Patient Safety Culture)
  - Dyad (NHA + DON)
## TOP MANAGEMENT:

<table>
<thead>
<tr>
<th></th>
<th>Nursing Home Administrators</th>
<th></th>
<th>Directors of Nursing</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SE)</td>
<td>Mean (SE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure (in months)(^a)</td>
<td>62.74 (2.34)</td>
<td>40.94 (1.65)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrator education(^a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school or associate degree</td>
<td>17.29 (1.10)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Baccalaureate degree</td>
<td>50.49 (1.52)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Master’s or higher degree</td>
<td>32.22 (1.43)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Director of nursing education(^a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma or associate degree</td>
<td>-</td>
<td>57.08 (1.50)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baccalaureate or higher degree</td>
<td>-</td>
<td>42.92 (1.50)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (in years)(^b)</td>
<td>54 (8)</td>
<td>51 (9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race (% Caucasian)(^b)</td>
<td>67</td>
<td>73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender (% Male)(^b)</td>
<td>69</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Member of professional society(^b)</td>
<td>83</td>
<td>96</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Source = National Nursing Home Survey [NNHS] (N=1,093)

\(^b\)Source = Primary data (N = 3,211)
<table>
<thead>
<tr>
<th>Activity</th>
<th>Nursing Home Administrators</th>
<th>Directors of Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>External regulation and accreditation</td>
<td>17%</td>
<td>12%</td>
</tr>
<tr>
<td>Organizational mission and culture</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Human resources development</td>
<td>2%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>New product development</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>New market development</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Acquisitions (new)</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Acquisitions (current vendors)</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>Organizational design</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Wage and salary administration</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Capital investment strategy</td>
<td>1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Financial goals</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>Marketing plans</td>
<td>1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Resident care policies and practices</td>
<td>8%</td>
<td>16%</td>
</tr>
<tr>
<td>Problem identification</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Problem management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With residents</td>
<td>6%</td>
<td>11%</td>
</tr>
<tr>
<td>With family</td>
<td>9%</td>
<td>12%</td>
</tr>
<tr>
<td>With staff</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>Conflict management practices</td>
<td>1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Quality assurance practices and policies</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Hiring decisions</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Staffing decisions</td>
<td>2%</td>
<td>12%</td>
</tr>
<tr>
<td>Legal developments</td>
<td>1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source = Primary data (N= 3,211)
Note, percent of activities does not sum to 100% due to rounding error
TOP MANAGEMENT:

- How Important Are You? (Study 1): ADMINISTRATIVE DEFICIENCY CITATIONS AND QUALITY OF CARE IN NURSING HOMES

  - Association between deficiency citations for administration (indicating poor administration practices) and quality of care.
  - Data used came from the 1996 through 2004 Online Survey, Certification And Recording (OSCAR) data, representing approximately 17,000 facilities per year.
TOP MANAGEMENT:

Examples of Reasons Cited by Surveyors for Using Deficiencies for Administration

Administrator not licensed
Inadequate qualifications of administrator
Improper administrator staffing
Insufficient provision of adequate staff

\(^ = \text{Listed as F-tag number 0490}\)
TOP MANAGEMENT:

- Facility quality is associated with administration deficiency citations.
- Significance, “quality” of administration can influence performance.
TOP MANAGEMENT:

- How Important Are You? (Study 2): EFFECT OF ADMINISTRATIVE RESOURCES ON CARE IN NURSING HOMES
- Facility quality is associated with intensity of administration.
- Significance, “hours of available time” of administration can influence performance.
TOP MANAGEMENT:

- How Important Are You? (Study 3): THE EFFECTS OF TOP MANAGEMENT PROFESSIONAL DEVELOPMENT ON ADMINISTRATOR TURNOVER

- Castle & Shugarman (2005)
- Examines characteristics associated with professional development of the top management team and administrator turnover.
- Primary data from 406 nursing homes.
- Professional development lowers turnover rate (assumes lower top management turnover is important).
TOP MANAGEMENT:

- How Important Are You? (Study 4): ADMINISTRATOR TURNOVER AND QUALITY OF CARE IN NURSING HOMES Study
- Administrators, turnover rate of 43% per year.
- Directors of Nursing, turnover rate of 39% per year.
- In most facilities one member of top management leaves every year.
- Some facilities had 6 NHAs in one year.
TOP MANAGEMENT:

- administrator turnover is associated with a higher than average proportion of residents who were catheterized, had pressure ulcers, and were given psychoactive drugs and with a higher than average number of quality-of-care deficiencies.
TOP MANAGEMENT:

- How Important Are You? (Study 5): TURNOVER BEGETS TURNOVER
- Castle (2005).
- Association between turnover of nursing home administrators and staff turnover.
- 419 nursing facilities and the 1999 On-line Survey, Certification, and Reporting System (OSCAR)
- 10% increase in top management turnover
  - 21% increased turnover of Nurse Aides
  - 30% increased LPN and RN turnover
TOP MANAGEMENT:

- Why Should Top Management Turnover be Associated with Quality?:
  - Staffing decisions.
  - Budget decisions.
  - Learning the organization.
  - Quality improvement initiatives.
  - Spillover to other staff.
TOP MANAGEMENT LEADERSHIP:

LEADERSHIP STYLES OF NURSING HOME ADMINISTRATORS AND THEIR ASSOCIATION WITH STAFF TURNOVER

- Donoghue & Castle (2009).
- Association between leadership style of nursing home administrators and staff turnover.
- Primary data from a survey of 2,900 Nursing Home Administrators conducted in 2005 and OSCAR.
TOP MANAGEMENT:

- “Consensus Manager.” A consensus manager allows an entire work group to offer input before making a decision.
- “Consultative Autocrat,” seeks input but ultimately makes all decisions on his or her own.
- “Shareholder Manager.” These leaders allow their work groups to operate so independently that they fail to communicate with them at all.
- “Autocrat” makes decisions on his or her own and does not seek any input or encourage any participation from the group.
TOP MANAGEMENT:

- Consultative
- Autocrat
- Shareholder
- Consensus
- Manager

Low NA Turnover
High NA Turnover
TOP MANAGEMENT:

- **LEADERSHIP STYLES OF NURSING HOME ADMINISTRATORS AND THEIR ASSOCIATION WITH STAFF TURNOVER**

- The Consensus Manager style is associated with the lowest level of turnover compared to Shareholder Managers (the reference group) for registered nurses, licensed practical nurses and nurse aides.

- For registered nurses and licensed practical nurses, the Consultative Autocrat style shows the second lowest turnover rates, and the Autocrat style ranks third.

- The Shareholder Manager style is associated with the highest level of turnover for all three nurse types.
TOP MANAGEMENT:

- JOB SATISFACTION OF NURSING HOME ADMINISTRATORS AND TURNOVER
- Survey of nursing home administrators.
- Examine:
  - Levels of job satisfaction (defined as "the favorableness or unfavorableness with which employees view their work")
  - Whether job satisfaction is associated with intent-to-leave
  - Whether job satisfaction is associated with turnover after one year
TOP MANAGEMENT:

- Important:
  - May help reduce turnover (improve quality of care)
  - Improve quality of life for NHAs
  - Significant for attracting new NHAs (applicant attraction theories)
TOP MANAGEMENT:

- Generally high intent-to-turnover scores
  - Perpetual orientation towards looking for the next position
- Work skills
  - Rated highly
  - Maybe professional training (ACHCA/ACHE) important influence
TOP MANAGEMENT:

- Most satisfied with rewards, work skills, and work load
- Least satisfied with work demands and coworkers
- Turnover rate high (39% per year)
CONSEQUENCES

○ Closure
  ■ Subject of very few studies.
    - Downsizing
  ■ Possible access issues.
  ■ Possible resident health issues.
  ■ Potential policy significance.
CONSEQUENCES:

- Subject of very few studies.
  - Downsizing
- Potential sources of systematic risk.
- Possible access issues.
- Possible resident health issues.
- Potential policy significance.
CONSEQUENCES

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>0.67%</td>
</tr>
<tr>
<td>1993</td>
<td>0.56%</td>
</tr>
<tr>
<td>1994</td>
<td>0.74%</td>
</tr>
<tr>
<td>1996</td>
<td>0.69%</td>
</tr>
<tr>
<td>1997</td>
<td>0.88%</td>
</tr>
<tr>
<td>1998</td>
<td>0.79%</td>
</tr>
<tr>
<td>1999</td>
<td>1.46%</td>
</tr>
<tr>
<td>2000</td>
<td>1.53%</td>
</tr>
<tr>
<td>2001</td>
<td>1.88%</td>
</tr>
<tr>
<td>2002</td>
<td>1.23%</td>
</tr>
<tr>
<td>2003</td>
<td>1.69%</td>
</tr>
<tr>
<td>2004</td>
<td>0.93%</td>
</tr>
<tr>
<td>2005</td>
<td>0.77%</td>
</tr>
</tbody>
</table>
Quality Predicting Nursing Home Closure w/in 2 years

Percent Closed

- Worst Quality
- Mixed Quality
- Best Quality

- Staffing
- Deficiencies
- ADL Decline
- Restraints
CONSEQUENCES:

- Sources of systematic risk
  - Census
  - Quality
  - Staffing levels
  - Leadership
HOW TO ACHIEVE IMPROVEMENTS?:

- NATIONAL EVALUATION OF THE DEMONSTRATION TO IMPROVE THE DIRECT SERVICE COMMUNITY WORKFORCE
  - Demonstrations were intended to improve recruitment and retention of direct service workers
  - Five were given in 2003, Five in 2004
  - Grantees implemented various methods for accomplishing goals (details on next slide)
## HOW TO ACHIEVE IMPROVEMENTS?

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>AR</th>
<th>DE</th>
<th>IN</th>
<th>KY</th>
<th>ME</th>
<th>NC</th>
<th>NM</th>
<th>VA</th>
<th>VOA</th>
<th>WA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care Coverage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSW Training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor and Consumer Training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Realistic Job Preview</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Mentorship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merit-based or Longevity Recognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worker Registry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing Campaign</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Targeted Recruitment Strategy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>Total</td>
<td>Exit Interview</td>
<td>Admin Separation</td>
<td>Overtime</td>
<td>Total</td>
<td>Exit Interview</td>
<td>Admin Separation</td>
<td>Overtime</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>----------------</td>
<td>------------------</td>
<td>----------</td>
<td>-------</td>
<td>----------------</td>
<td>------------------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alabama</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arkansas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,133</td>
<td>$35</td>
<td>$25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delaware</td>
<td>$30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$113</td>
<td>$50</td>
<td>$58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indiana</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$463</td>
<td>$31</td>
<td>$88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kentucky</td>
<td>$1,825</td>
<td>$130</td>
<td>$322</td>
<td>$1,060</td>
<td>$2,256</td>
<td>$47</td>
<td>$338</td>
<td>$1,803</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maine</td>
<td></td>
<td>$12</td>
<td>$20</td>
<td></td>
<td>$300</td>
<td>$35</td>
<td>$59</td>
<td>$450</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N Carolina</td>
<td>$1,800</td>
<td>$150</td>
<td>$330</td>
<td>$1</td>
<td>$56</td>
<td>$417</td>
<td>$1,275</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Mexico</td>
<td>$612</td>
<td>$50</td>
<td>$86</td>
<td>$350</td>
<td>$800</td>
<td>$274</td>
<td>$354</td>
<td>$133</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oklahoma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virginia</td>
<td>$799</td>
<td>$200</td>
<td>$143</td>
<td>$300</td>
<td>$709</td>
<td>$56</td>
<td>$78</td>
<td>$2,334</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Averages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responses</td>
<td>$1,097</td>
<td>$86</td>
<td>$172</td>
<td>$644</td>
<td>$1,122</td>
<td>$91</td>
<td>$222</td>
<td>$995</td>
<td></td>
<td></td>
</tr>
<tr>
<td>States</td>
<td>$1,108</td>
<td>$53</td>
<td>$149</td>
<td>$620</td>
<td>$819</td>
<td>$83</td>
<td>$164</td>
<td>$846</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
HOW TO ACHIEVE IMPROVEMENTS?:

- Full-time status is a barrier to getting coverage
- Health care coverage is complicated
- Resistance among Supervisory Staff
  - Unlikely to Improve Retention
  - Initiatives take time
  - Don’t overwhelm workforce with options
  - Consider the heterogeneity among worker sample
## Per Worker Cost Estimate by Initiative

<table>
<thead>
<tr>
<th>State</th>
<th>Health</th>
<th>Training</th>
<th>DSW</th>
<th>Supv/Cons</th>
<th>Job Preview</th>
<th>Mentor</th>
<th>Recognition</th>
<th>Registry</th>
<th>Marketing</th>
<th>Targeted Recruiting</th>
<th>Treatment</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>$902</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arkansas</td>
<td>$1,275</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td>$231</td>
<td>$134</td>
<td>$1,275</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delaware</td>
<td></td>
<td>$17</td>
<td>$131</td>
<td>$72</td>
<td>$37</td>
<td>$134</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indiana</td>
<td>$2,682</td>
<td>$1,702</td>
<td></td>
<td></td>
<td></td>
<td>$872</td>
<td>$243</td>
<td>*</td>
<td></td>
<td></td>
<td>$4,601</td>
<td></td>
</tr>
<tr>
<td>Kentucky</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$526</td>
<td>$394</td>
<td>$537</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Maine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>N Carolina</td>
<td>$2,585</td>
<td>$16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$145</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>New Mexico</td>
<td>$2,997</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oklahoma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virginia</td>
<td>**</td>
<td>$2,404</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>$3,235</td>
</tr>
<tr>
<td>Washington</td>
<td>$133</td>
<td>$781</td>
<td>$19</td>
<td>$84</td>
<td>$27</td>
<td>$272</td>
<td>$84</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
HOW TO ACHIEVE IMPROVEMENTS?:

- Perfecting Patient Care
- Integrating principles of process redesign in nursing homes
  - NOT how to “perfect care.”
- HOW
  - Toyota Production System
  - AKA. Perfecting Patient Care
- Process redesign methodology
HOW TO ACHIEVE IMPROVEMENTS?:

- Perfecting Patient Care
- **Rule 1: Activities**
  - All work shall be highly specified as to content, sequence, timing, and outcome.
- **Rule 2: Connections**
  - Every customer-supplier connection must be direct, and there must be an unambiguous yes-or-no way to send requests and receive responses.
- **Rule 3: Pathway**
  - The pathway for every product and service must be simple and direct.
- **Rule 4: Improvement**
  - Any improvement must be made in accordance with the scientific method, under the guidance of a teacher, as close to the work as possible in the organization.
HOW TO ACHIEVE IMPROVEMENTS?:

- Perfecting Patient Care
- Cannot yet point to this nursing home as the “Toyota of healthcare,” problems still remain at this test site.
- Gone from 7 deficiency citations to 1.
- Nevertheless, PPC shows great promise as a tool to improve care.
- Need to further develop a “business case” for utilization.
HOW TO ACHIEVE IMPROVEMENTS?:

- Perfecting Patient Care
- Bigger Picture
  - Eliminate Waste
- PPC helped with process redesign
  - eliminated linen shortages
  - decreased by half the resident fall rate
- Staff turnover decreased by 1/2
- Satisfaction surveys
  - Substantial improvements
  - Many related to areas of PPC activities
  - [similar results now with 4 years of data]
HOW TO ACHIEVE IMPROVEMENTS?:

- Culture Change (?)
- Disney Model (?)