



NURSING
HOME
SURVEY ON
PATIENT SAFETY
CULTURE:
2014 User
Comparative
Database Report



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PATIENT
SAFETY

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Nursing Home Survey on Patient Safety Culture: 2014 User Comparative Database Report

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Executive Summary

The *Nursing Home Survey on Patient Safety Culture* is an expansion of AHRQ's *Hospital Survey on Patient Safety Culture* to the nursing home setting. The nursing home survey is designed to measure the culture of resident safety in nursing homes from the perspective of providers and staff. The *Nursing Home Survey on Patient Safety Culture 2014 User Comparative Database Report* consists of data from 263 nursing homes and 18,968 nursing home staff respondents who completed the survey between January 2009 and May 2014.

This comparative database report was developed as a tool for the following purposes:

- **Comparison**—To allow nursing homes to compare their patient safety culture survey results to other nursing homes.
- **Assessment and Learning**—To provide data to nursing homes to facilitate internal assessment and learning in the patient safety improvement process.
- **Supplemental Information**—To provide supplemental information to help nursing homes identify their strengths and areas with potential for improvement in patient safety culture.

Survey Content

The nursing home survey includes 42 items that measure 12 composites of organizational culture pertaining to patient safety culture:

1. Communication Openness
2. Compliance With Procedures
3. Feedback and Communication About Incidents
4. Handoffs
5. Management Support for Resident Safety
6. Nonpunitive Response to Mistakes
7. Organizational Learning
8. Overall Perceptions of Resident Safety
9. Staffing
10. Supervisor Expectations and Actions Promoting Resident Safety
11. Teamwork
12. Training and Skills

The survey also includes two questions that ask respondents whether they would tell friends that this is a safe nursing home for their family (also called “willingness to recommend”) and to provide an overall rating on resident safety for their nursing home.

2014 Database Nursing Homes

The 263 nursing homes in the 2014 database fall into two categories:

- 152 nursing homes from the previous report that are still included in the 2014 report.
- 111 nursing homes that submitted data for the 2014 report.

Survey Administration Statistics

- The average nursing home response rate was 65 percent, with an average of 72 completed surveys per nursing home.
- Most nursing homes (64 percent) administered paper surveys, which resulted in a higher average response rate (70 percent) compared with the average response rate from Web surveys (52 percent).

Characteristics of Participating Nursing Homes

- Just under half of the database nursing homes (46 percent) had 100-199 beds. The next largest bed size category was 50-99 beds at 32 percent.
- More than half of the database nursing homes (51 percent) were nonprofit.
- The database nursing homes were from a variety of geographic regions.
- Overall, the characteristics of the 263 database nursing homes are fairly consistent with the distribution of nursing homes in Nursing Home Compare.

Characteristics of Respondents

- The top three job titles of respondents were:
 - Nursing Assistant/Aide (35 percent);
 - Licensed Nurse (18 percent); and
 - Support Staff (17 percent).
- Most respondents (43 percent) indicated they worked in many different units/no specific unit. Skilled Nursing was the second largest work area (23 percent).
- Most respondents (71 percent) indicated they had direct interaction with residents.
- Most respondents (69 percent) indicated they worked between 25 and 40 hours per week.
- Most respondents (69 percent) indicated they worked the day shift most often.
- Nearly one-fourth of respondents (24 percent) indicated they had worked in their current nursing home for 11 years or more.
- Most respondents (93 percent) indicated they were not paid by a staffing agency.

Areas of Strength for Most Nursing Homes

The two areas of strength, or composites with the highest average percent positive responses,ⁱ were:

1. ***Overall Perceptions of Resident Safety (average 87 percent positive)***—This composite is defined as the extent to which residents are well cared for and safe. This composite had the highest average percent positive response.
2. ***Feedback and Communication About Incidents (average 84 percent positive)***—This composite is defined as the extent to which staff discuss ways to keep residents safe, tell someone if they see something that might harm a resident, and talk about ways to keep incidents from happening again. This composite had the second highest average percent positive response.

Areas With Potential for Improvement for Most Nursing Homes

1. ***Nonpunitive Response to Error (average 51 percent positive)***—This composite is defined as the extent to which staff are not blamed when a resident is harmed, are treated fairly when they make mistakes, and feel safe reporting their mistakes. This composite had the lowest average percent positive response.
2. ***Staffing (average 53 percent positive)***—This composite is defined as the extent to which there are enough staff to handle the workload, meet residents' needs during shift changes, and keep residents safe because there is not much staff turnover. This composite had the second lowest average percent positive response.

Results by Nursing Home Characteristics

Bed Size

- Small nursing homes (*49 or fewer beds*) had the highest average percent positive response across the patient safety culture composites.
- The *Staffing* composite had the highest average percent positive difference (10 percentage points) between small nursing homes (*49 or fewer beds*, 60 percent) and large nursing homes (*200 beds or more*, 50 percent).
- Small nursing homes (*49 or fewer beds*) had the highest percentage of respondents (85 percent) who indicated they would tell their friends that this is a safe nursing home for their family; large nursing homes (*200 beds or more*) had the lowest (74 percent).
- Small nursing homes (*49 or fewer beds*) had the highest percentage of respondents (73 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; large nursing homes (*200 beds or more*) had the lowest (58 percent).

ⁱPercent positive is the percentage of positive responses (e.g., Agree, Strongly agree) to positively worded items (e.g., “Staff support one another in this nursing home”) or negative responses (e.g., Disagree, Strongly disagree) to negatively worded items (e.g., “Staff use shortcuts to get their work done faster”).

Ownership

- *Nonprofit* nursing homes had a higher average percent positive response than *For Profit* nursing homes on all 12 patient safety culture composites.
- *Nonprofit* and *Government* nursing homes had a higher percentage of respondents (80 percent and 82 percent, respectively) who indicated they would be willing to recommend this nursing home to friends than *For Profit* nursing homes (71 percent)
- *Nonprofit* and *Government* nursing homes had a higher percentage of respondents (66 percent and 71 percent, respectively) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good” than *For Profit* nursing homes (54 percent).

Urban/Rural Status

- *Urban* nursing homes had a higher average percent positive response than *Rural* nursing homes on all 12 of the patient safety culture composites.
- *Urban* nursing homes had a higher percentage of respondents (77 percent) who were willing to recommend their nursing home than *Rural* nursing homes (73 percent).
- *Urban* nursing homes had a higher percentage of respondents (63 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good” than *Rural* nursing homes (56 percent).

Census Region

- Nursing homes in the *South* had the highest average percent positive response across the 12 patient safety culture composites (71 percent); nursing homes in the *West* had the lowest (60 percent).
- *Midwest* nursing homes had the highest percentage of respondents (81 percent) who indicated they would be willing to recommend this nursing home to friends; nursing homes in the *West* had the lowest (68 percent).
- *Midwest* nursing homes had the highest percentage of respondents (65 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; nursing homes in the *West* had the lowest (51 percent).

Results by Respondent Characteristics

Job Title

- *Administrators/Managers* had the highest average percent positive response across the patient safety culture composites (79 percent); *Nursing Assistants/Aides* and *Other Providers* had the lowest (64 percent).
- *Administrators/Managers* had the highest percentage of respondents (92 percent) who indicated they would be willing to recommend this nursing home to friends; *Other Providers* had the lowest (69 percent).
- *Administrators/Managers* had the highest percentage of respondents (80 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; *Other Providers* had the lowest (56 percent).

Work Area

- *Rehabilitation* units had the highest average percent positive response (82 percent) on *Supervisor Expectations and Actions Promoting Resident Safety*; *Skilled Nursing* units had the lowest (77 percent).
- Willingness to recommend this nursing home to friends did not have a large difference in results across work area/units (74 to 77 percent).
- *Many different areas in this nursing home/No specific area or unit* had the highest percentage of respondents (62 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; *Alzheimer’s/Dementia Unit* had the lowest (57 percent).

Interaction With Residents

- Respondents *without* direct interaction with residents had a higher percent positive average across the composites (73 percent) than those *with* direct interaction with residents (66 percent) .
- Respondents *without* direct interaction with residents had a higher percentage of respondents (80 percent) who indicated they would be willing to recommend this nursing home to friends than respondents *with* direct interaction with residents (75 percent).
- Respondents *without* direct interaction with residents had a higher percentage of respondents (68 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good” than respondents *with* direct interaction with residents (59 percent).

Shift Worked Most Often

- Respondents working the *day shift* had the highest average percent positive response across the composites (69 percent); respondents working the *night shift* had the lowest (64 percent).
- Respondents working the *day shift* had the highest percentage (78 percent) who indicated they would be willing to recommend this nursing home to friends; respondents working the *night shift* had the lowest (70 percent).
- Respondents working the *day shift* had the highest percentage (63 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; respondents working the *night shift* had the lowest (52 percent).

Tenure in Nursing Home

- Respondents who had worked in the nursing home *less than 1 year* had the highest average percent positive response across the 12 composites (72 percent); respondents who had worked in the nursing home for *6 to 10 years* had the lowest (66 percent).
- Respondents who had worked in the nursing home *11 years or more* had the highest percentage (81 percent) who indicated they would be willing to recommend this nursing home to friends; respondents working *3 to 5 years* had the lowest (74 percent)

- Respondents who had worked in their nursing home *11 years or more* had the highest percentage (66 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; respondents who worked in their nursing home *3 to 10 years* had the lowest (59 percent).

Action Planning for Improvement

The delivery of survey results is not the *end point* in the survey process, it is just the *beginning*. Often, the perceived failure of surveys to create lasting change is actually due to faulty or nonexistent action planning or survey followup.

Seven steps of action planning are provided to give nursing homes guidance on next steps to take to turn their survey results into actual patient safety culture improvement:

1. Understand your survey results.
2. Communicate and discuss the survey results.
3. Develop focused action plans.
4. Communicate action plans and deliverables.
5. Implement action plans.
6. Track progress and evaluate impact.
7. Share what works.

Purpose and Use of This Report

In response to requests from nursing homes interested in comparing their results with those of other nursing homes on the *Nursing Home Survey on Patient Safety Culture*, the Agency for Healthcare Research and Quality (AHRQ) established the Nursing Home Survey on Patient Safety Culture comparative database. The first comparative database report was released in 2011.

The *Nursing Home Survey on Patient Safety Culture 2014 User Comparative Database Report* consists of data from 263 nursing homes and 18,968 nursing home staff respondents who completed the survey. The 263 nursing homes in the 2014 report fall into two categories:

- 152 nursing homes from the previous report that are still included in the 2014 report.
- 111 nursing homes that submitted data for the 2014 report.

Nursing homes do not necessarily administer the nursing home patient safety culture survey every year. They may administer it on an 18-month, 24-month, or other cycle. Therefore, the comparative database is a “rolling” indicator. It retains data for up to 3.5 prior years when a nursing home does not have new data to submit, replaces older data with more recent data when available, and adds data from nursing homes submitting for the first time.

This comparative database report was developed as a tool for the following purposes:

- **Comparison**—To allow nursing homes to compare their patient safety culture survey results with other nursing homes.
- **Assessment and Learning**—To provide data to nursing homes to facilitate internal assessment and learning in the patient safety improvement process.
- **Supplemental Information**—To provide supplemental information to help nursing homes identify their strengths and areas for improvement in patient safety culture.

The report presents statistics (averages, standard deviations, minimum and maximum scores, and percentiles) on the patient safety culture composites and items from the survey.

Appendixes A and B present overall results by nursing home characteristics (bed size, ownership, and rural status) and respondent characteristics (job title, nursing home work area, interaction with residents, shift worked most often, hours worked, and tenure in nursing home).

Chapter 1. Introduction

Resident safety is a critical component of health care quality. As nursing homes continually strive to improve, there is growing recognition of the importance of establishing a culture of resident safety. Achieving a culture of resident safety requires an understanding of the values, beliefs, and norms about what is important in a nursing home and which attitudes and behaviors related to resident safety are supported, rewarded, and expected.

Survey Content

Recognizing the need for a measurement tool to assess the culture of patient safety in nursing homes, the Agency for Healthcare Research and Quality (AHRQ) funded the development of the *Nursing Home Survey on Patient Safety Culture*. This work is an extension of research used to develop the *Hospital Survey on Patient Safety Culture*.

Developers reviewed literature pertaining to resident safety in nursing homes, health care quality, medical errors, error reporting, safety climate and culture, and organizational climate and culture. In addition, they reviewed existing nursing home surveys. The researchers also consulted more than two dozen experts in long-term care and nursing home safety to identify key topics and issues. Based on these activities, the researchers identified a potential list of composites to include in the survey.

The survey was pilot tested and revised, and AHRQ released it in November 2008. It was designed to assess nursing home staff opinions about patient safety issues, medical errors, and event reporting. The survey includes 42 items that measure 12 composites of patient safety culture. Each of the 12 patient safety culture composites is listed and defined in Table 1-1.

Table 1-1. Patient Safety Culture Composites and Definitions

Patient Safety Culture Composite	Definition: <i>The extent to which...</i>
1. Communication Openness	Staff speak up about problems and their ideas and suggestions are valued
2. Compliance With Procedures	Staff follow standard procedures to care for residents and do not use shortcuts to get their work done faster
3. Feedback and Communication About Incidents	Staff discuss ways to keep residents safe, tell someone if they see something that might harm a resident, and talk about ways to keep incidents from happening again
4. Handoffs	Staff are told what they need to know before taking care of a resident or when a resident's care plan changes, and have all the information they need when residents are transferred from the hospital
5. Management Support for Resident Safety	Nursing home management provides a work climate that promotes resident safety and shows that resident safety is a top priority
6. Nonpunitive Response to Mistakes	Staff are not blamed when a resident is harmed, are treated fairly when they make mistakes, and feel safe reporting their mistakes
7. Organizational Learning	There is a learning culture that facilitates making changes to improve resident safety and evaluates changes for effectiveness

Patient Safety Culture Composite	Definition: <i>The extent to which...</i>
8. Overall Perceptions of Resident Safety	Residents are well cared for and safe
9. Staffing	There are enough staff to handle the workload, meet residents' needs during shift changes, and keep residents safe because there is not much staff turnover
10. Supervisor Expectations and Actions Promoting Resident Safety	Supervisors listen to staff ideas and suggestions about resident safety, praise staff who follow the right procedures, and pay attention to safety problems
11. Teamwork	Staff treat each other with respect, support one another, and feel like they are part of a team
12. Training and Skills	Staff get the training they need, have enough training on how to handle difficult residents, and understand the training they get in the nursing home

The survey also includes two questions that ask respondents whether they would tell friends that this is a safe nursing home for their family (also called “willingness to recommend”) and to provide an overall rating on resident safety for their nursing home. In addition, respondents are asked to provide limited background demographic information.

The survey’s toolkit materials are available at the AHRQ Web site (<http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/nursing-home/index.html>) and include the survey, survey items and dimensions, user’s guide, information about a Data Entry and Analysis Tool, and a resource list on improving patient safety in nursing homes. The toolkit provides nursing homes with the basic knowledge and tools needed to conduct a patient safety culture assessment and suggestions for using the data. The Flesh-Kincaid score for the nursing home instrument is below a 7th grade reading level.

The *Nursing Home Survey on Patient Safety Culture* is available in Spanish on the AHRQ Web site. The Spanish translation is designed for U.S. Spanish-speaking respondents from different countries. Information for translators and translation guidelines are available for download at the AHRQ Web site (<http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/nursing-home/resources/nhdim-sp.pdf>).

Data Limitations

The survey results presented in this report represent the largest compilation of nursing home resident safety culture survey data currently available and therefore provide a useful reference for comparison. However, there are several limitations to these data that should be kept in mind.

First, the nursing homes that submitted data to the database are not a statistically selected sample of all U.S. nursing homes, since only nursing homes that administered the survey on their own and were willing to submit their data for inclusion in the database are represented. However, the characteristics of the database nursing homes are fairly consistent with the distribution of nursing homes in the Centers for Medicare & Medicaid Services (CMS) Nursing Home Compare database and are described further in Chapter 3.

Second, nursing homes that administered the survey were not required to undergo any training and administered the survey in different ways. Some nursing homes used a paper-only survey,

others used Web-only surveys, and others used a combination of these two methods to collect the data. It is possible that these different modes could lead to differences in survey responses; further research is needed to determine whether and how different modes affect the results.

In addition, some nursing homes conducted a census, surveying all staff, while others administered the survey to a sample of staff. In cases in which a sample was drawn, no data were obtained to determine the methodology used to draw the sample. Survey administration statistics obtained about the database nursing homes, such as survey administration modes and response rates, are provided in Chapter 2.

Finally, the data nursing homes submitted have been cleaned for out-of-range values (e.g., invalid response values due to data entry errors) and blank records (where responses to all survey items were missing). In addition, some logic checks were made. Otherwise, data are presented as submitted. No additional attempts were made to verify or audit the accuracy of the data submitted.

Chapter 2. Survey Administration Statistics

This chapter presents descriptive information on how the 2014 database nursing homes administered the survey.

Highlights

- The 2014 database consists of data from 18,968 nursing home staff respondents across 263 participating nursing homes.
- The average nursing home response rate was 65 percent, with an average of 72 completed surveys per nursing home.
- Most nursing homes (64 percent) administered paper surveys, which resulted in a higher average response rate (70 percent) compared with the average response rate from Web surveys (52 percent).

The 2014 database consists of survey data from 263 nursing homes with a total of 18,968 nursing home staff respondents. Participating nursing homes administered the nursing home survey to their staff between January 2009 and May 2014 and voluntarily submitted their data for inclusion in the database.

Nursing homes do not necessarily administer the nursing home patient safety culture survey every year. They may administer it on an 18-month, 24-month, or other cycle. Therefore, the comparative database is a “rolling” indicator. Data from prior years are retained in the database when a nursing home does not have new data to submit; older data are replaced with more recent data when available; and data are added from nursing homes submitting for the first time.ⁱⁱ

Overall statistics for the nursing homes included in the 2014 database are shown in Table 2-1 according to when the data were submitted. The 2014 database includes 152 nursing homes retained from the 2011 database and new data submissions from 111 nursing homes.

Table 2-1. Overall Statistics for the 2014 Database Participating Nursing Homes

Overall Statistic	Retained from the 2011 Database	Submitted for the 2014 Database	Total 2014 Database
Number of nursing homes	152	111	263
Number of individual survey respondents	8,001	10,967	18,968

ⁱⁱ To keep the database current, data are no older than 3.5 years (January 2009).

Overall response rate statistics for nursing homes included in the 2014 database are shown in Table 2-2. An average of 72 completed surveys were submitted per nursing home (range: 10 to 1,102), with an average nursing home response rate of 65 percent (range: 8 to 100 percent).

Table 2-2. Overall Response Rate Statistics—2014 Database Nursing Homes

Response Rate Information	Statistic
Number of respondents	18,968
Number of surveys administered	30,931
Overall response rate	61%
Average number of respondents per nursing home (range: 10 to 1,102)	72
Average number of surveys administered per nursing home (range: 10 to 1,326)	118
Overall average nursing home response rate (range: 8% to 100%)	65%

Table 2-3 presents data on the mode of survey administration (paper, Web, or mixed mode). Most nursing homes administered the survey by paper only (64 percent).

Table 2-3. Survey Administration Mode Statistics—2014 Database Nursing Homes

Survey Administration Mode	Database Nursing Homes		Database Respondents	
	Number	Percent	Number	Percent
Paper only	168	64%	9,662	51%
Web only	81	31%	5,738	30%
Both paper and Web (mixed mode)	14	5%	3,568	19%
Total	263	100%	18,968	100%

Table 2-4 shows average response rate by survey mode. Paper and mixed mode survey administration had higher average response rates than Web. It is therefore still an overall recommendation that nursing homes conduct the nursing home survey as a paper survey. But each nursing home should consider its prior experience with survey modes and response rates when determining which mode is best.

Table 2-4. Average Response Rate by Mode—2014 Database Nursing Homes

Survey Administration Mode	Average Nursing Home Response Rate
Paper only	70%
Web only	52%
Both Web and paper	75%

Chapter 3. Nursing Home Characteristics

This chapter presents information about the distribution of database nursing homes by bed size, ownership, geographic region, and additional nursing home characteristics. Although the nursing homes that voluntarily submitted data to the database do not constitute a statistically selected sample, the characteristics of these nursing homes are fairly consistent with the distribution of nursing homes included in the Centers for Medicare & Medicaid Services (CMS) Nursing Home Compare database. The characteristics of database nursing homes by bed size, ownership, geographic region, and additional characteristics are presented in the following tables and are compared to the distribution of nursing homes included in the CMS Nursing Home Compare database.ⁱⁱⁱ

Highlights

- Just under half of the database nursing homes (46 percent) had 100-199 beds. The next largest bed size category was 50-99 beds at 32 percent.
- About half of the database nursing homes (51 percent) were nonprofit.
- The database nursing homes were from a variety of geographic regions.
- Overall, the characteristics of the 263 database nursing homes are fairly consistent with the distribution of nursing homes in Nursing Home Compare.

Bed Size

Table 3-1 shows the distribution of database nursing homes and respondents by nursing home bed size. Overall, the distribution of database nursing homes by bed size is similar to the distribution of nursing homes in Nursing Home Compare.

Table 3-1. Bed Size: Distribution of 2014 Database Nursing Home Respondents

Bed Size	CMS Nursing Home Compare Nursing Homes		Database Nursing Homes		Database Respondents	
	Number	Percent	Number	Percent	Number	Percent
1-49 beds	2,026	13%	29	11%	969	5%
50-99 beds	5,776	37%	84	32%	3,932	21%
100-199 beds	6,900	44%	121	46%	8,637	46%
200 or more beds	946	6%	29	11%	5,430	29%
Total	15,648	100%	263	100%	18,968	100%

Note: Percentages may not add to exactly 100 percent due to rounding.

ⁱⁱⁱ CMS Nursing Home Compare data were obtained from Nursing Home Compare, available at: <https://data.medicare.gov/data/nursing-home-compare> (accessed May 7, 2014).

Ownership

As shown in Table 3-2, more than half of the database nursing homes (51 percent) are nonprofit, which is a much larger percentage compared to the larger population of nursing homes included in the Nursing Home Compare database.

Table 3-2. Ownership: Distribution of 2014 Database Nursing Home Respondents

Type of Ownership	CMS Nursing Home Compare Nursing Homes		Database Nursing Homes		Database Respondents	
	Number	Percent	Number	Percent	Number	Percent
For profit	10,873	69%	113	43%	5,244	28%
Nonprofit	3,838	25%	134	51%	11,048	58%
Government	937	6%	16	6%	2,676	14%
Total	15,648	100%	263	100%	18,968	100%

Geographic Region

Table 3-3 shows the distribution of database nursing homes by U.S. Census Bureau-defined geographic regions.* The database contains more nursing homes in the Northeast and fewer in the Midwest compared to Nursing Home Compare. The distribution of database nursing homes in the South and West is similar to the distribution of nursing homes in Nursing Home Compare.

Table 3-3. Geographic Region: Distribution of 2014 Database Nursing Home Respondents

Census Bureau Region	CMS Nursing Home Compare Nursing Homes		Database Nursing Homes		Database Respondents	
	Number	Percent	Number	Percent	Number	Percent
Northeast	2,652	17%	80	30%	7,683	41%
Midwest	5,147	33%	45	17%	2,895	15%
South	5,425	35%	90	34%	6,274	33%
West	2,424	15%	48	18%	2,116	11%
Total	15,648	100%	263	100%	18,968	100%

Note: Percentages may not add to exactly 100 percent due to rounding.

***NOTE:** States are categorized into U.S. Census Bureau-defined regions as follows:

Northeast: CT, MA, ME, NH, NJ, NY, PA, RI, VT

Midwest: IA, IL, IN, KS, MI, MN, MO, NE, ND, OH, SD, WI

West: AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY

South: AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV

Urban/Rural Status

Table 3-4 shows the distribution of database nursing homes and respondents by urban/rural status. Overall, the distribution of database nursing homes by urban/rural status is similar to the distribution of nursing homes in Nursing Home Compare.

Table 3-4. Urban/Rural Status: Distribution of 2014 Database Nursing Home Respondents

Urban/Rural Status	CMS Nursing Home Compare Nursing Homes		Database Nursing Homes		Database Respondents	
	Number	Percent	Number	Percent	Number	Percent
Urban	11,101	71%	184	70%	15,048	79%
Rural	4,529	29%	79	30%	3,920	21%
Total	15,630	100%	263	100%	18,968	100%

Note: Urban and rural status is based on the 2013 Census-based National Center for Health Statistics Urban-Rural Classification Scheme for Counties codes for every county and county equivalent entity in the United States.

Resident and/or Family Councils

Table 3-5 shows the distribution of database nursing homes with resident and/or family councils. The percentages of database nursing homes with resident and family councils are similar to those in Nursing Home Compare.

Table 3-5. Resident and/or Family Councils: Distribution of 2014 Database Nursing Home Respondents

Resident and/or Family Councils	CMS Nursing Home Compare Nursing Homes		Database Nursing Homes		Database Respondents	
	Number	Percent	Number	Percent	Number	Percent
Both Resident and Family Councils	4,244	27%	72	37%	6,475	49%
Resident Council only	10,795	69%	117	60%	6,375	48%
Family Council only	42	<1%	2	1%	82	1%
None	567	4%	5	3%	316	2%
Total	15,648	100%	196	100%	13,248	100%

Note: Data missing for 67 database nursing homes with 5,720 respondents. Percentages may not add to exactly 100 percent due to rounding.

Chapter 4. Respondent Characteristics

This chapter describes respondents within the participating nursing homes. Respondents from nursing homes that omitted one of these questions, or individuals who did not respond, are shown as missing in the tables and are excluded from total percentages in this chapter.

Highlights

- The top three job titles of respondents were:
 - Nursing Assistant/Aide (35 percent);
 - Licensed Nurse (18 percent); and
 - Support Staff (17 percent).
- Most respondents (43 percent) indicated they worked in many different units/no specific unit. Skilled Nursing was the second largest work area (23 percent).
- Most respondents (71 percent) indicated they had direct interaction with residents.
- Most respondents (69 percent) indicated they worked between 25 and 40 hours per week.
- Most respondents (69 percent) indicated they worked the day shift most often.
- Nearly one-fourth of respondents (24 percent) indicated they had worked in their current nursing home for 11 years or more.
- Most respondents (93 percent) indicated they were not paid by a staffing agency.

Job Title

More than one-third of respondents (35 percent) selected “Nursing Assistant/Aide” as their job title, followed by “Licensed Nurse” (18 percent) and “Support Staff” (17 percent) (see Table 4-1).

Table 4-1. Job Title: Distribution of 2014 Database Nursing Home Respondents

Job Title	Database Respondents	
	Number	Percent
Nursing Assistant/Aide	6,067	35%
Licensed Nurse	3,071	18%
Support Staff	2,913	17%
Direct Care Staff	1,704	10%
Administrator/Manager	1,636	9%
Other	980	6%
Administrative Support Staff	871	5%
Physician (MD, DO)	114	1%
Other Provider	99	1%
Total	17,455	100%
Missing	1,513	
Overall	18,968	

Note: Percentages may not add to exactly 100 percent due to rounding.

Work Area

Most respondents (43 percent) indicated they worked in many different areas or no specific area of the nursing home, followed by “Skilled nursing” (23 percent) (see Table 4-2). The *Nursing Home Survey on Patient Safety Culture* uses generic categories for nursing home work areas and units. Therefore, a large percentage of respondents chose the “Other” response option that allowed them to note their specific work area or unit. Participating nursing homes were not asked to submit written or Other-specify responses for any questions, so no data are available to further describe the respondents in the “Other” work area category.

Table 4-2. Work Area: Distribution of 2014 Database Nursing Home Respondents

Work Area	Database Respondents	
	Number	Percent
Many different areas in this nursing home/no specific area or unit	7,233	43%
Skilled nursing unit	3,937	23%
Other area or unit	3,080	18%
Alzheimer’s/dementia unit	1,197	7%
Rehab unit	1,391	8%
Total	16,838	100%
Missing	2,130	
Overall	18,968	

Note: Percentages may not add to exactly 100 percent due to rounding.

Interaction With Residents

As shown in Table 4-3, most respondents (71 percent) indicated they had direct interaction with residents.

Table 4-3. Interaction With Residents: Distribution of 2014 Database Nursing Home Respondents

Respondent Interaction With Residents	Database Respondents	
	Number	Percent
YES, I work directly with residents most of the time	12,671	71%
NO, I do NOT work directly with residents most of the time	5,057	29%
Total	17,728	100%
Missing	1,240	
Overall	18,968	

Hours Worked Per Week

As shown in Table 4-4, more than two-thirds of respondents (69 percent) indicated they worked between 25 and 40 hours per week.

Table 4-4. Hours Worked Per Week: Distribution of 2014 Database Nursing Home Respondents

Hours Worked Per Week	Database Respondents	
	Number	Percent
15 or fewer hours per week	611	3%
16 to 24 hours per week	1,436	8%
25 to 40 hours per week	12,501	69%
More than 40 hours per week	3,533	20%
Total	18,081	100%
Missing	887	
Overall	18,968	

Shift Worked Most Often

As shown in Table 4-5, more than two-thirds of respondents (69 percent) indicated they worked the day shift most often.

Table 4-5. Shift Worked Most Often: Distribution of 2014 Database Nursing Home Respondents

Shift Worked Most Often	Database Respondents	
	Number	Percent
Days	12,131	69%
Evenings	3,664	21%
Nights	1,890	11%
Total	17,685	100%
Missing	1,283	
Overall	18,968	

Note: Percentages may not add to exactly 100 percent due to rounding.

Tenure in Nursing Home

As shown in Table 4-6, nearly one-fourth of respondents (24 percent) indicated they had worked in their current nursing home for 11 years or more.

Table 4-6. Tenure in Nursing Home: Distribution of 2014 Database Nursing Home Respondents

Tenure in Nursing Home	Database Respondents	
	Number	Percent
Less than 1 year	3,119	18%
1 to 2 years	3,073	18%
3 to 5 years	3,700	21%
6 to 10 years	3,320	19%
11 years or more	4,062	24%
Total	17,274	100%
Missing	1,694	
Overall	18,968	

Staffing Agency Status

As shown in Table 4-7, most respondents (93 percent) indicated they were not paid by a staffing agency.

Table 4-7. Staffing Agency Status: Distribution of 2014 Database Nursing Home Respondents

Staffing Agency Status	Database Respondents	
	Number	Percent
Paid by a staffing agency	1,244	7%
Not paid by a staffing agency	15,570	93%
Total	16,814	100%
Missing	2,154	
Overall	18,968	

Chapter 5. Overall Results

This chapter presents the overall survey results for the database, showing the average percentage of positive responses across the database nursing homes on each of the survey's items and composites. Reporting the average across nursing homes ensures that each nursing home receives an equal weight that contributes to the overall average. Reporting the data at the nursing home level in this way is important because culture is considered to be a group characteristic and is not considered to be a solely individual characteristic. An alternative method would be to report a straight percentage of positive responses across all respondents, but this method would give greater weight to respondents from larger nursing homes (there are more than twice as many respondents from larger nursing homes as those from smaller nursing homes).

Highlights

- The areas of strength or the composites with the highest average percent positive responses were:
 - *Overall Perceptions of Resident Safety*—(average 87 percent positive)
 - *Feedback and Communication About Incidents*—(average 84 percent positive)
- The areas with potential for improvement or the composites with the lowest average percent positive responses were:
 - *Nonpunitive Response to Error*—(average 51 percent positive)
 - *Staffing*—(average 53 percent positive)
- On average, most respondents within nursing homes (76 percent) indicated they would tell their friends that this is a safe nursing home for their family.
- On average, most respondents within nursing homes (61 percent) gave their nursing home a rating of “Excellent” (25 percent) or “Very Good” (36 percent) on resident safety.

Composite- and Item-Level Charts

This section provides the overall composite- and item-level results. The methods for calculating the percent positive scores at the item and composite level are described in the Notes section of this document.

Composite-Level Results^{iv}

Chart 5-1 shows the average percent positive response for each of the 12 patient safety culture composites across nursing homes in the database. The patient safety culture composites are shown in order from the highest average percent positive response to the lowest.

Areas of Strength

- ***Overall Perceptions of Resident Safety***—the extent to which residents are well cared for and safe. This patient safety culture composite had the highest average percent positive response (87 percent), indicating it is an area of strength across the database nursing homes.
- ***Feedback and Communication About Incidents***—the extent to which staff discuss ways to keep residents safe, tell someone if they see something that might harm a resident, and talk about ways to keep incidents from happening again. This patient safety culture composite had the second highest average percent positive response (84 percent).

Areas With Potential for Improvement

- ***Nonpunitive Response to Error***—the extent to which staff are not blamed when a resident is harmed, are treated fairly when they make mistakes, and feel safe reporting their mistakes. This patient safety culture composite had the lowest average percent positive response (51 percent), indicating it is an area with potential for improvement across the database nursing homes.
- ***Staffing***—the extent to which there are enough staff to handle the workload, meet residents’ needs during shift changes, and keep residents safe because there is not much staff turnover. This patient safety culture composite had the second lowest average percent positive response (53 percent).

Item-Level Results

Chart 5-2 shows the average percent positive response for each of the 42 survey items. The survey items are grouped by the patient safety culture composite they are intended to measure. Within each composite, the items are presented in the order in which they appear in the survey.

Areas of Strength

- The three survey items with the highest average percent positive response (87 percent) were from the patient safety culture composite *Overall Perceptions of Resident Safety*: “Residents are well cared for in this nursing home” and “This nursing home is a safe place for residents”; and the composite *Feedback and Communication About Incidents*: “Staff tell someone if they see something that might harm a resident.”

Area With Potential for Improvement

- The survey item with the lowest average percent positive response (35 percent) was from the patient safety culture composite *Staffing*: “Staff have to hurry because they have too

^{iv} Some nursing homes excluded one or more survey items and are therefore excluded from composite-level calculations when the omitted items pertain to a particular composite. For the 2014 report, 10 nursing homes were excluded from one or more composite-level calculations for this reason.

much work to do,” (that is, an average of only 35 percent of respondents in each nursing home *Strongly disagreed* or *Disagreed* with this negatively worded item).

Nursing Home Recommendation

Chart 5-3 shows the results from the item that asked respondents whether they would tell their friends that this is a safe nursing home for their family. On average across nursing homes, most respondents were positive, with 76 percent saying yes.

Overall Rating on Resident Safety

Chart 5-4 shows the results from the item that asked respondents to give their nursing home an overall rating on resident safety. On average across nursing homes, most respondents were positive, with 61 percent giving their nursing home a rating of “Excellent” (25 percent) or “Very Good” (36 percent).

Chart 5-1. Composite-Level Average Percent Positive Response—2014 Database Nursing Homes

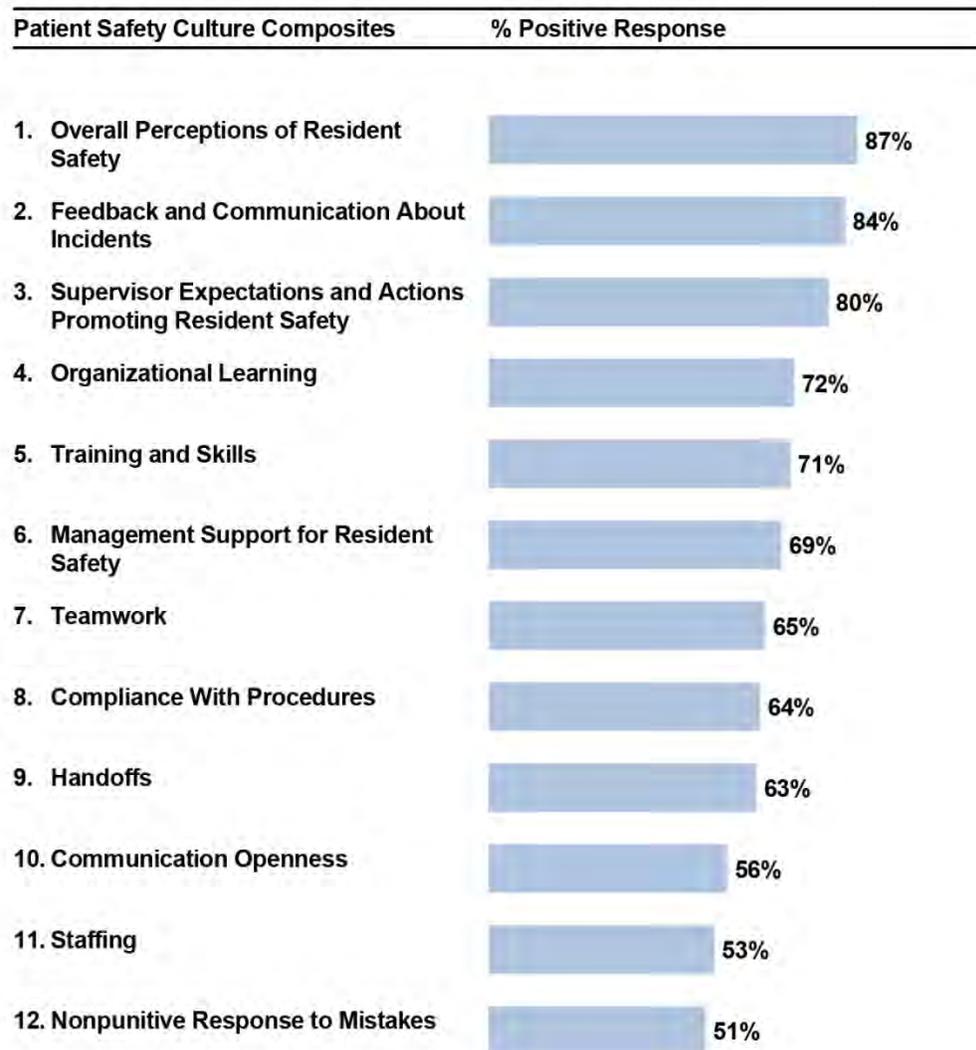
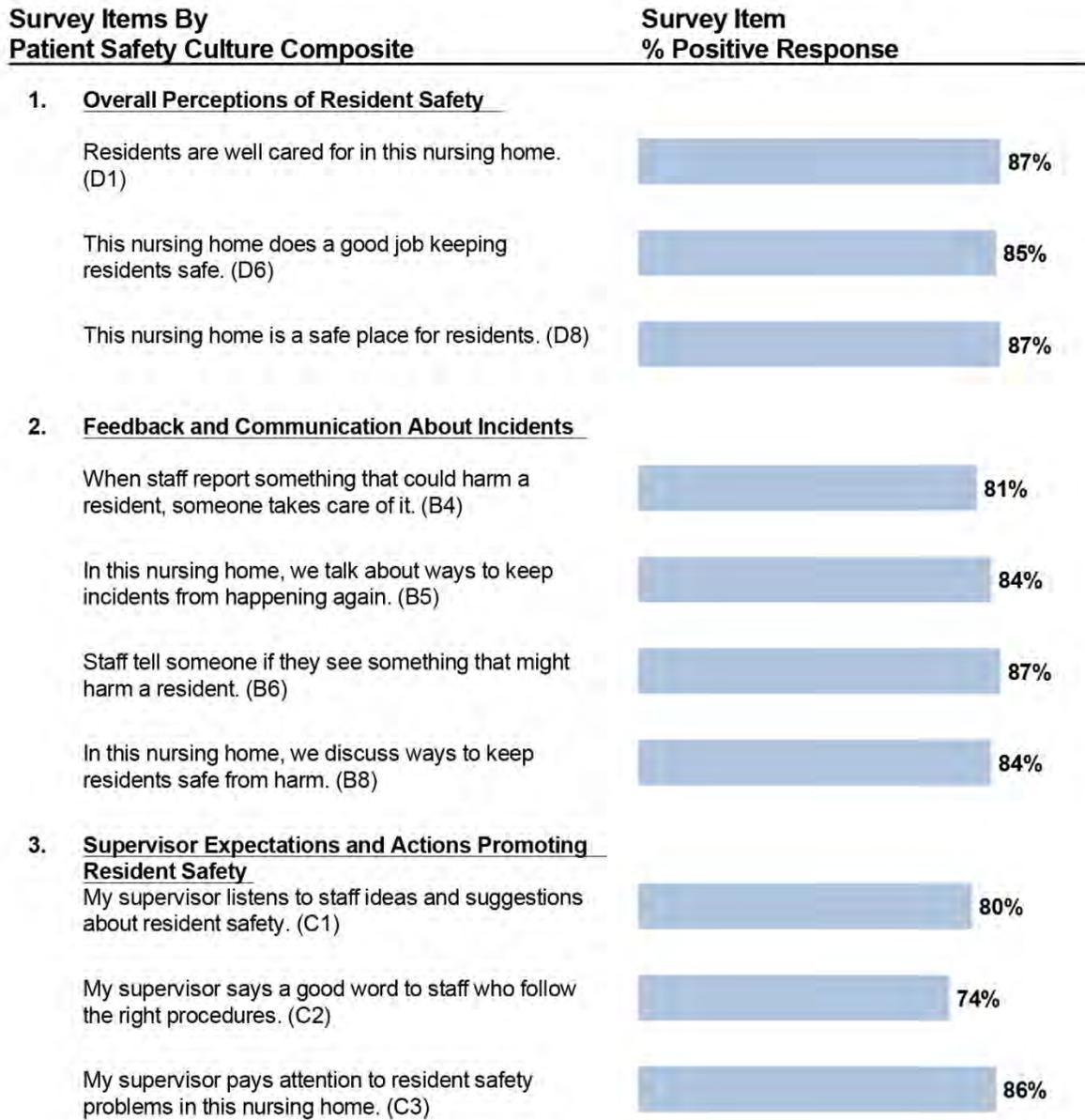
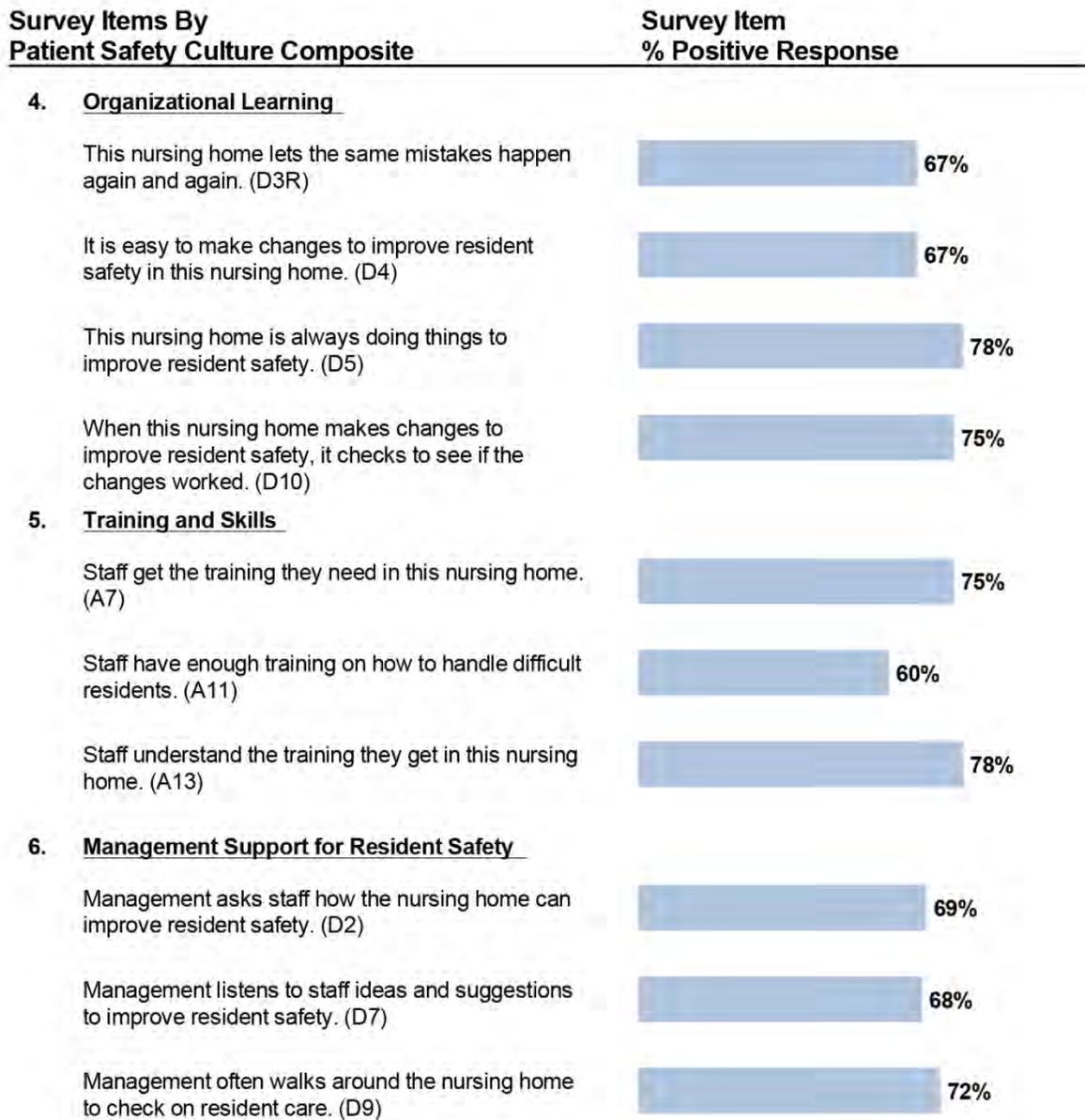


Chart 5-2. Item-Level Average Percent Positive Response—2014 Database Nursing Homes (Page 1 of 4)



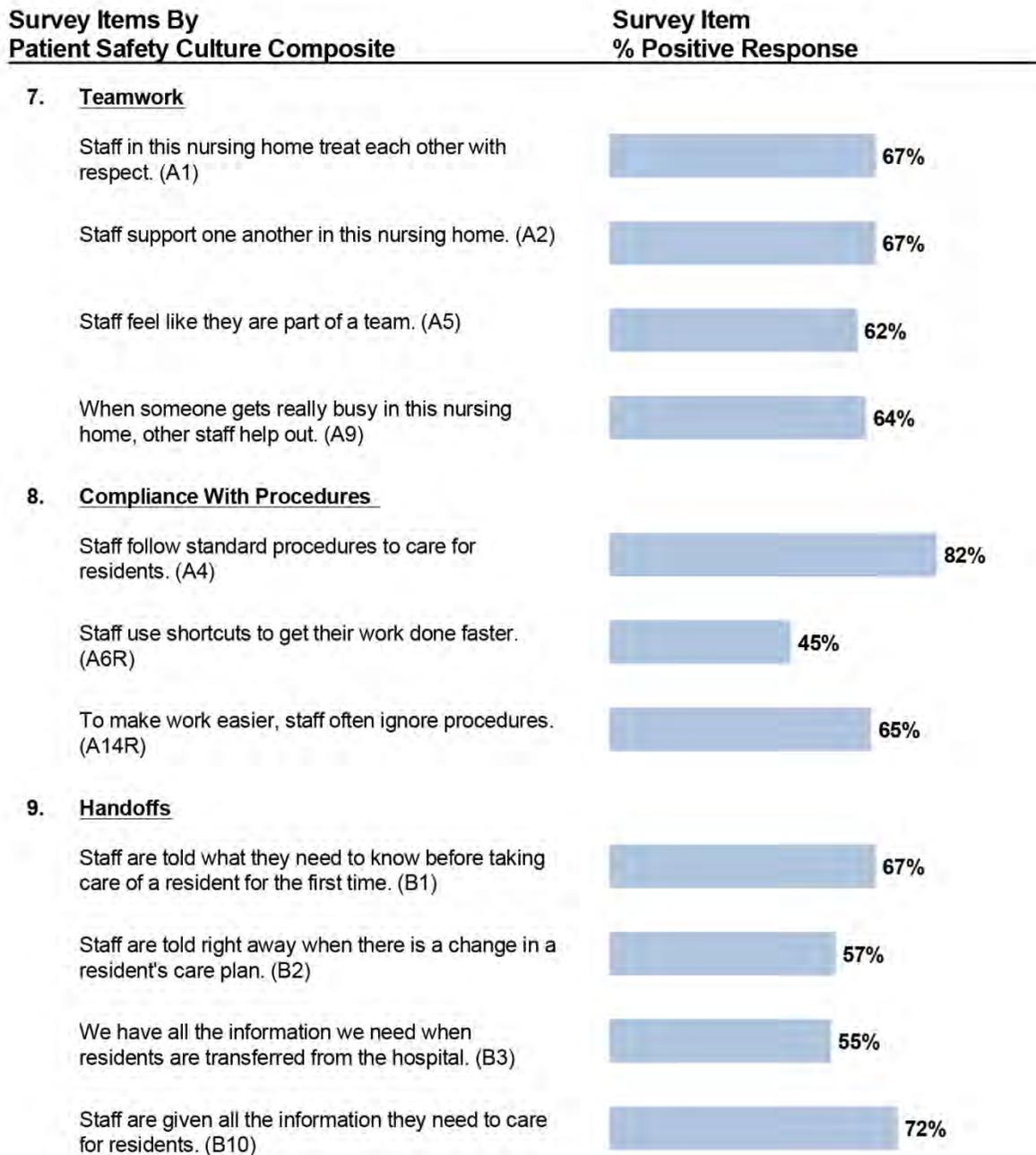
Note: The item’s survey location is shown after the item text. An “R” indicates a negatively worded item, where the percent positive response is based on those who responded “Strongly disagree” or “Disagree,” or “Never” or “Rarely” (depending on the response category used for the item).

Chart 5-2. Item-Level Average Percent Positive Response—2014 Database Nursing Homes (Page 2 of 4)



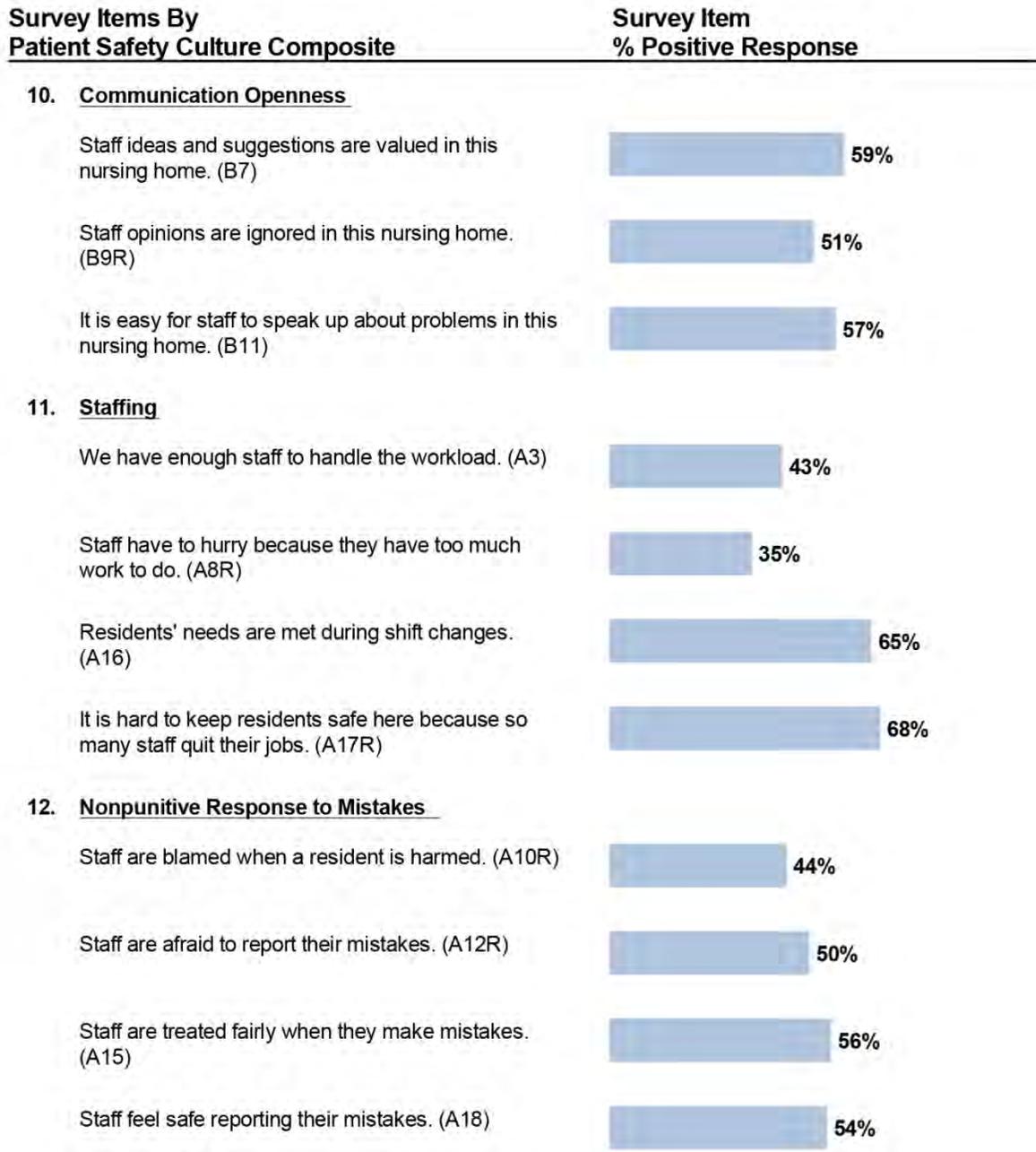
Note: The item’s survey location is shown after the item text. An “R” indicates a negatively worded item, where the percent positive response is based on those who responded “Strongly disagree” or “Disagree,” or “Never” or “Rarely” (depending on the response category used for the item).

Chart 5-2. Item-Level Average Percent Positive Response—2014 Database Nursing Homes (Page 3 of 4)



Note: The item's survey location is shown after the item text. An "R" indicates a negatively worded item, where the percent positive response is based on those who responded "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).

Chart 5-2. Item-Level Average Percent Positive Response—2014 Database Nursing Homes (Page 4 of 4)



Note: The item’s survey location is shown after the item text. An “R” indicates a negatively worded item, where the percent positive response is based on those who responded “Strongly disagree” or “Disagree,” or “Never” or “Rarely” (depending on the response category used for the item).

Chart 5-3. Average Percentage of 2014 Database Respondents That Were Willing to Recommend Their Nursing Home

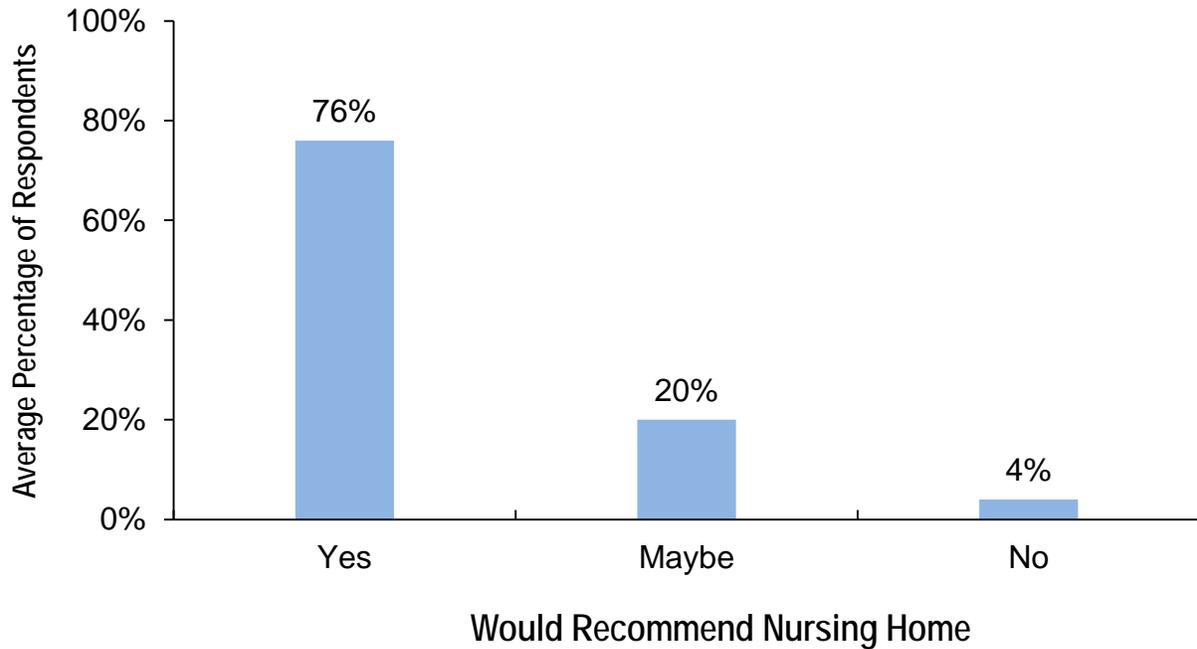
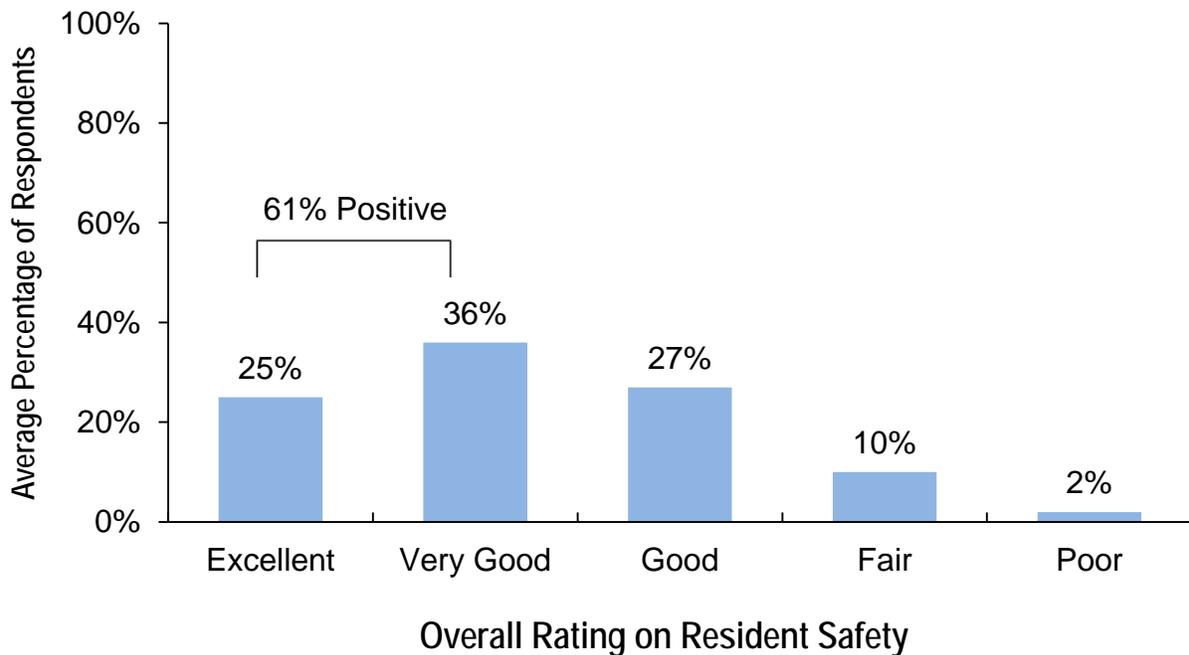


Chart 5-4. Average Percentage of 2014 Database Respondents for Overall Rating on Resident Safety



Chapter 6. Comparing Your Results

To compare your nursing home's survey results to the results from the database, you need to calculate your nursing home's percent positive response on the survey's 12 composites and other survey items, including the two questions on willingness to recommend the nursing home and resident safety grade. The Notes section at the end of this report describes how to calculate these percent positive scores. You can then compare your nursing home's results with the database averages and examine the percentile scores to place your nursing home's results relative to the distribution of database nursing homes.

When comparing your nursing home's results with results from the database, keep in mind that the database only provides *relative* comparisons. Even though your nursing home's survey results may be better than the database statistics, you may still believe there is room for improvement in a particular area within your nursing home in an *absolute* sense.

As you will notice from the database results, there are some patient safety composites that even the highest scoring nursing homes could improve on. Therefore, the comparative data provided in this report should be used to supplement your nursing home's own efforts toward identifying areas of strength and areas on which to focus patient safety culture improvement efforts.

Highlights

- There was considerable variability in the range of nursing home scores (lowest to highest) across the 12 patient safety culture composites.
- Willingness to recommend one's nursing home also had a wide range of response. In one nursing home, 26 percent of respondents indicated they were willing to recommend their nursing home, while at another nursing home, 100 percent did.
- Overall rating on resident safety showed a wide range of response as well. In at least one nursing home, few respondents (6 percent) gave their unit a rating of "Excellent" or "Very Good," while at another nursing home, 100 percent did.

Description of Comparative Statistics

In addition to the average percent positive scores presented in Chapter 5, a number of other statistics are provided to facilitate comparisons with the database nursing homes. A description of each statistic shown in this chapter is provided next.

Average Percent Positive

The comparative results tables in this chapter present the average percent positive scores for each of the 12 patient safety culture composites and for the 42 survey items (plus the two questions on recommending this nursing home and overall rating on resident safety). These average percent positive scores were calculated by averaging composite-level percent positive scores across all

nursing homes in the database, as well as averaging item-level percent positive scores across nursing homes. Since the percent positive is displayed as an overall average, scores from each nursing home are weighted equally in their contribution to the calculation of the average.^v

Standard Deviation

The standard deviation (s.d.), a measure of the spread or variability of nursing home scores around the average, is also displayed. The standard deviation tells you the extent to which nursing homes' scores differ from the average:

- If scores from all nursing homes were exactly the same, then the average would represent all their scores perfectly and the standard deviation would be zero.
- If scores from all nursing homes were very close to the average, then the standard deviation would be small and close to zero.
- If scores from many nursing homes were very different from the average, then the standard deviation would be a large number.

When the distribution of nursing home scores follows a normal, bell-shaped curve (where most of the scores fall in the middle of the distribution, with fewer scores at the lower and higher ends of the distribution), the average, plus or minus the standard deviation, will include about 68 percent of all nursing home scores. For example, if an average percent positive score across the database nursing homes was 70 percent with a standard deviation of 10 percent (and scores were normally distributed), then about 68 percent of all the database nursing homes would have scores between 60 and 80 percent.

Statistically “Significant” Differences Between Scores

You may be interested in determining the statistical significance of differences between your scores and the averages in the database, or between scores in various breakout categories (nursing home bed size, ownership, etc.). Statistical significance is greatly influenced by sample size; as the number of observations in comparison groups increases, small differences in scores become statistically significant. While a 1 percentage point difference between percent positive scores might be “statistically” significant (that is, not due to chance), the difference is not likely to be meaningful or “practically” significant.

Keep in mind that statistically significant differences are not always important, and nonsignificant differences are not always trivial. We provide the average, standard deviation, range, and percentile information so that you can compare your data with the database in different ways.

^v An alternative method would be to report a straight percentage of positive response across all respondents, but this method would give greater weight to respondents from larger nursing homes since they account for more than twice as many responses as those from smaller nursing homes.

Minimum and Maximum Scores

The minimum (lowest) and maximum (highest) percent positive scores are presented for each composite and item. These scores provide information about the range of percent positive scores obtained by nursing homes in the database and are actual scores from the lowest and highest scoring nursing homes. When comparing with the minimum and maximum scores, keep in mind that these scores may represent nursing homes that are extreme outliers (indicated by large differences between the minimum score and the 10th percentile score, or between the 90th percentile score and the maximum score).

Percentiles

The 10th, 25th, 50th (or median), 75th, and 90th percentile scores are displayed for the survey composites and items. Percentiles provide information about the distribution of nursing home scores. To calculate percentile scores, we ranked all nursing home percent positive scores in order from low to high. *A specific percentile score shows the percentage of nursing homes that scored at or below a particular score.* For example, the 50th percentile, or median, is the percent positive score where 50 percent of the nursing homes scored the same or lower and 50 percent of the nursing homes scored higher.

When the distribution of nursing home scores follows a normal bell-shaped curve (where most of the scores fall in the middle of the distribution with fewer scores at the lower and higher ends of the distribution), the 50th percentile, or median, will be very similar to the average score. Interpret the percentile scores as shown in Table 6-1.

Table 6-1. Interpretation of Percentile Scores

Percentile Score	Interpretation
10th percentile This score represents the lowest scoring nursing homes.	10% of the nursing homes scored the same or lower. 90% of the nursing homes scored higher.
25th percentile This score represents lower scoring nursing homes.	25% of the nursing homes scored the same or lower. 75% of the nursing homes scored higher.
50th percentile (or median) This score represents the middle of the distribution of nursing homes.	50% of the nursing homes scored the same or lower. 50% of the nursing homes scored higher.
75th percentile This score represents higher scoring nursing homes.	75% of the nursing homes scored the same or lower. 25% of the nursing homes scored higher.
90th percentile This score represents the highest scoring nursing homes.	90% of the nursing homes scored the same or lower. 10% of the nursing homes scored higher.

To compare with the database percentiles, compare your nursing home's percent positive scores with the percentile scores for each composite and item. Look for the highest percentile where your nursing home's score is *higher* than that percentile.

For example: On survey item 1 in Table 6-2, the 75th percentile score is 49 percent positive, and the 90th percentile score is 62 percent positive.

Table 6-2. Sample Percentile Statistics

Survey Item	Survey Item % Positive Response						
	Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
Item 1	8%	10%	25%	35%	49%	62%	96%

If your nursing home's score is 55%, your score falls here:
 If your nursing home's score is 65%, your score falls here:

- If your nursing home's score is 55 percent positive, it falls above the 75th percentile (but below the 90th), meaning that your nursing home scored higher than at least 75 percent of the nursing homes in the database.
- If your nursing home's score is 65 percent positive, it falls above the 90th percentile, meaning your nursing home scored higher than at least 90 percent of the nursing homes in the database.

Composite and Item-Level Comparative Tables

Table 6-3 presents comparative statistics (average percent positive and standard deviation, minimum and maximum scores, and percentiles) for each of the 12 patient safety culture composites. The patient safety culture composites are shown in order from the highest average percent positive response to the lowest.

Table 6-4 presents comparative statistics for each of the 42 survey items. The survey items are grouped by the patient safety culture composite they are intended to measure. Within each composite, the items are presented in the order in which they appear in the survey.

The comparative results in Tables 6-3 and 6-4 show considerable variability in the range of nursing home scores (lowest to highest).

Willingness to recommend one's nursing home shown in Table 6-5 had a wide range of response. In one nursing home, 26 percent of respondents indicated they were willing to recommend their nursing home, while at another nursing home, 100 percent did.

Overall rating on resident safety also had a wide range of response as shown in Table 6-6, from at least one nursing home where few respondents (6 percent) gave their unit a rating of "Excellent" or "Very Good" to a nursing home where 100 percent did.

Table 6-3. Composite-Level Comparative Results for the 2014 Database

Patient Safety Culture Composites	Average % Positive		Composite % Positive Response						
	s.d.	Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90 th %ile	Max	
1. Overall Perceptions of Resident Safety	87%	10.75%	39%	73%	82%	89%	95%	98%	100%
2. Feedback and Communication About Incidents	84%	9.58%	52%	70%	79%	85%	91%	94%	99%
3. Supervisor Expectations & Actions Promoting Resident Safety	80%	10.60%	47%	66%	73%	81%	88%	93%	100%
4. Organizational Learning	72%	13.79%	33%	50%	63%	73%	82%	88%	97%
5. Training & Skills	71%	13.20%	34%	52%	63%	72%	81%	87%	95%
6. Management Support for Resident Safety	69%	13.93%	30%	49%	60%	71%	79%	85%	100%
7. Teamwork	65%	15.24%	20%	45%	55%	66%	76%	85%	94%
8. Compliance With Procedures	64%	12.59%	26%	46%	56%	65%	73%	80%	93%
9. Handoffs	63%	15.20%	17%	42%	53%	64%	73%	82%	94%
10. Communication Openness	56%	15.36%	14%	34%	45%	56%	67%	76%	93%
11. Staffing	53%	14.32%	20%	35%	43%	53%	63%	71%	92%
12. Nonpunitive Response to Mistakes	51%	12.92%	21%	35%	42%	50%	59%	68%	85%

Table 6-4. Item-Level Comparative Results for the 2014 Database (Page 1 of 4)

Survey Items By Patient Safety Culture Composite	Average % Positive		Survey Item % Positive Response						
	s.d.		Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
1. Overall Perceptions of Resident Safety									
1. Residents are well cared for in this nursing home. (D1)	87%	11.23%	39%	71%	82%	90%	95%	99%	100%
2. This nursing home does a good job keeping residents safe. (D6)	85%	11.85%	39%	68%	79%	88%	94%	98%	100%
3. This nursing home is a safe place for residents. (D8)	87%	10.55%	40%	74%	81%	90%	96%	99%	100%
2. Feedback and Communication About Incidents									
1. When staff report something that could harm a resident, someone takes care of it. (B4)	81%	12.25%	41%	62%	74%	82%	90%	94%	100%
2. In this nursing home, we talk about ways to keep incidents from happening again. (B5)	84%	11.45%	36%	68%	79%	86%	92%	97%	100%
3. Staff tell someone if they see something that might harm a resident. (B6)	87%	8.07%	62%	76%	83%	89%	93%	97%	100%
4. In this nursing home, we discuss ways to keep residents safe from harm. (B8)	84%	10.48%	47%	70%	79%	87%	91%	96%	100%
3. Supervisor Expectations & Actions Promoting Resident Safety									
1. My supervisor listens to staff ideas and suggestions about resident safety. (C1)	80%	11.28%	45%	65%	73%	80%	89%	94%	100%
2. My supervisor says a good word to staff who follow the right procedures. (C2)	74%	12.63%	36%	56%	66%	75%	83%	91%	100%
3. My supervisor pays attention to safety problems in this nursing home. (C3)	86%	10.37%	41%	71%	80%	88%	93%	97%	100%

Note: The item's survey location is shown after the item text.

Table 6-4. Item-Level Comparative Results for the 2014 Database (Page 2 of 4)

Survey Items By Patient Safety Culture Composite	Average % Positive		Survey Item % Positive Response						
	s.d.	Min	10th %ile	25th %ile	Median/50th %ile	75th %ile	90th %ile	Max	
4. Organizational Learning									
1. This nursing home lets the same mistakes happen again and again. (D3R)	67%	16.77%	20%	43%	56%	69%	80%	88%	100%
2. It is easy to make changes to improve resident safety in this nursing home. (D4)	67%	14.12%	29%	47%	58%	68%	78%	85%	96%
3. This nursing home is always doing things to improve resident safety. (D5)	78%	14.03%	33%	56%	71%	80%	88%	94%	100%
4. When this nursing home makes changes to improve resident safety, it checks to see if the changes worked. (D10)	75%	15.05%	29%	52%	66%	77%	86%	93%	100%
5. Training & Skills									
1. Staff get the training they need in this nursing home. (A7)	75%	13.90%	34%	56%	68%	77%	86%	92%	100%
2. Staff have enough training on how to handle difficult residents. (A11)	60%	16.49%	10%	37%	50%	62%	71%	81%	96%
3. Staff understand the training they get in this nursing home. (A13)	78%	12.68%	36%	59%	70%	79%	87%	93%	100%
6. Management Support for Resident Safety									
1. Management asks staff how the nursing home can improve resident safety. (D2)	69%	14.87%	22%	48%	60%	70%	80%	88%	100%
2. Management listens to staff ideas and suggestions to improve resident safety. (D7)	68%	15.54%	23%	45%	58%	69%	80%	86%	100%
3. Management often walks around the nursing home to check on resident care. (D9)	72%	15.92%	25%	50%	63%	73%	84%	90%	100%

Note: The item’s survey location is shown after the item text. An “R” indicates a negatively worded item, where the percent positive response is based on those who responded “Strongly disagree” or “Disagree,” or “Never” or “Rarely” (depending on the response category used for the item).

Table 6-4. Item-Level Comparative Results for the 2014 Database (Page 3 of 4)

Survey Items By Patient Safety Culture Composite	Average % Positive		Survey Item % Positive Response						
	s.d.	Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max	
7. Teamwork									
1. Staff in this nursing home treat each other with respect. (A1)	67%	17.10%	10%	44%	56%	68%	81%	88%	100%
2. Staff support one another in this nursing home. (A2)	67%	16.72%	21%	45%	56%	68%	79%	87%	100%
3. Staff feel like they are part of a team. (A5)	62%	16.28%	19%	41%	52%	63%	76%	83%	94%
4. When someone gets really busy in this nursing home, other staff help out. (A9)	64%	15.12%	10%	45%	54%	65%	75%	83%	100%
8. Compliance With Procedures									
1. Staff follow standard procedures to care for residents. (A4)	82%	11.20%	36%	68%	76%	84%	91%	95%	100%
2. Staff use shortcuts to get their work done faster. (A6R)	45%	15.15%	11%	27%	33%	44%	55%	67%	84%
3. To make work easier, staff often ignore procedures. (A14R)	65%	14.95%	27%	45%	55%	66%	76%	83%	100%
9. Handoffs									
1. Staff are told what they need to know before taking care of a resident for the first time. (B1)	67%	16.64%	16%	44%	57%	69%	79%	88%	100%
2. Staff are told right away when there is a change in a resident's care plan. (B2)	57%	17.97%	9%	34%	45%	57%	70%	81%	100%
3. We have all the information we need when residents are transferred from the hospital. (B3)	55%	16.93%	5%	34%	43%	56%	67%	76%	100%
4. Staff are given all the information they need to care for residents. (B10)	72%	14.24%	26%	52%	64%	73%	83%	90%	100%

Note: The item's survey location is shown after the item text. An "R" indicates a negatively worded item, where the percent positive response is based on those who responded "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).

Table 6-4. Item-Level Comparative Results for the 2014 Database (Page 4 of 4)

Survey Items By Patient Safety Culture Composite	Average % Positive		Survey Item % Positive Response						
	s.d.		Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
10. Communication Openness									
1. Staff ideas and suggestions are valued in this nursing home. (B7)	59%	16.30%	10%	37%	48%	60%	71%	79%	100%
2. Staff opinions are ignored in this nursing home. (B9R)	51%	16.76%	6%	29%	39%	52%	63%	73%	93%
3. It is easy for staff to speak up about problems in this nursing home. (B11)	57%	15.51%	17%	37%	47%	58%	67%	78%	100%
11. Staffing									
1. We have enough staff to handle the workload. (A3)	43%	18.50%	2%	19%	28%	42%	56%	67%	94%
2. Staff have to hurry because they have too much work to do. (A8R)	35%	16.33%	5%	15%	22%	33%	45%	57%	86%
3. Residents' needs are met during shift changes. (A16)	65%	15.62%	21%	42%	55%	66%	76%	84%	100%
4. It is hard to keep residents safe here because so many staff quit their jobs. (A17R)	68%	16.71%	21%	45%	56%	70%	80%	88%	100%
12. Nonpunitive Response to Mistakes									
1. Staff are blamed when a resident is harmed. (A10R)	44%	14.94%	6%	25%	32%	44%	55%	62%	89%
2. Staff are afraid to report their mistakes. (A12R)	50%	15.08%	18%	31%	38%	49%	61%	71%	89%
3. Staff are treated fairly when they make mistakes. (A15)	56%	14.81%	16%	36%	48%	56%	65%	76%	100%
4. Staff feel safe reporting their mistakes. (A18)	54%	14.80%	20%	34%	43%	53%	64%	73%	90%

Note: The item's survey location is shown after the item text. An "R" indicates a negatively worded item, where the percent positive response is based on those who responded "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).

Table 6-5. Percentage of Respondents Willing To Recommend Nursing Home—2014 Database Comparative Results

Willingness To Recommend Nursing Home	Average %	s.d.	Percentage of Responses						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
Yes	76%	15.78%	26%	53%	68%	78%	88%	94%	100%

Note: For the full distribution of results, see Chart 5-3.

Table 6-6. Percentage of Respondents Giving Their Nursing Home an Overall Rating on Resident Safety of Excellent or Very Good — 2014 Database Comparative Results

Work Area/Unit Resident Safety Grade	Average %	s.d.	Percentage of Responses						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
Excellent/Very Good	61%	19.09%	6%	35%	49%	61%	76%	86%	100%

Note: For the full distribution of results, see Chart 5-4.

Appendixes A and B: Overall Results by Nursing Home and Respondent Characteristics

In addition to the overall results on the database nursing homes presented, Part II of the report presents data tables showing average percent positive scores on the survey composites and items across database nursing homes, broken down by the following nursing home and respondent characteristics:

Appendix A: Results by Nursing Home Characteristics

- Bed size
- Ownership
- Urban/rural status
- Census region

Appendix B: Results by Respondent Characteristics

- Job title
- Work area
- Interaction with residents
- Hours worked per week
- Shift worked most often
- Tenure in nursing home

The breakout tables are included as appendixes because there are a large number of them. Highlights of the findings from the breakout tables in these appendixes are provided on the following pages. The appendixes are available on the Web at: <http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/nursing-home/2014/index.html>.

Highlights From Appendix A: Overall Results by Nursing Home Characteristics

Bed Size (Tables A-1, A-3, A-4)

- Small nursing homes (*49 or fewer beds*) had the highest average percent positive response across the patient safety culture composites.
- The *Staffing* composite had the highest average percent positive difference (9 percentage points) between small nursing homes (*49 or fewer beds*, 60 percent) and large nursing homes (*200 beds or more*, 51 percent).
- Small nursing homes (*49 or fewer beds*) had the highest percentage of respondents who indicated they would tell their friends that this is a safe nursing home for their family (85 percent); large nursing homes (*200 beds or more*) had the lowest (74 percent).
- Small nursing homes (*49 or fewer beds*) had the highest percentage of respondents who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good” (73 percent); large nursing homes (*200 beds or more*) had the lowest (58 percent).

Ownership (Tables A-5, A-7, A-8)

- *Nonprofit* nursing homes had a higher average percent positive response than *For Profit* nursing homes on all 12 patient safety culture composites.
- *Nonprofit* and *Government* nursing homes had a higher percentage of respondents (80 percent and 82 percent, respectively) who indicated they would be willing to recommend this nursing home to friends than *For Profit* nursing homes (71 percent).
- *Nonprofit* and *Government* nursing homes had a higher percentage of respondents (66 percent and 71 percent, respectively) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good” than *For Profit* nursing homes (54 percent).

Urban/Rural Status (A-9, A-11, A-12)

- *Urban* nursing homes had a higher average percent positive response than *Rural* nursing homes on all 12 of the patient safety culture composites.
- *Urban* nursing homes had a higher percentage of respondents (77 percent) who were willing to recommend their nursing home than *Rural* nursing homes (73 percent).
- *Urban* nursing homes had a higher percentage of respondents (63 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good” than *Rural* nursing homes (56 percent).

Census Region (A-13, A-15, A16)

- Nursing homes in the *South* had the highest average percent positive response across the 12 patient safety culture composites (71 percent); nursing homes in the *West* had the lowest (60 percent).
- *Midwest* nursing homes had the highest percentage of respondents (81 percent) who indicated they would be willing to recommend this nursing home to friends; nursing homes in the *West* had the lowest (68 percent).

- *Midwest* nursing homes had the highest percentage of respondents (65 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; nursing homes in the *West* had the lowest (51 percent).

Highlights From Appendix B: Overall Results by Respondent Characteristics

Job Title (Tables B-1, B-3, B-4)

- *Administrators/Managers* had the highest average percent positive response across the patient safety culture composites (79 percent); *Nursing Assistants/Aides* and *Other Providers* had the lowest (64 percent).
- *Administrators/Managers* had the highest percentage of respondents (92 percent) who indicated they would be willing to recommend this nursing home to friends; *Other Providers* had the lowest (69 percent).
- *Administrators/Managers* had the highest percentage of respondents (80 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; *Other Providers* had the lowest (56 percent).

Work Area (Tables B-5, B-7, B-8)

- *Rehabilitation* units had the highest average percent positive response (82 percent) on *Supervisor Expectations and Actions Promoting Resident Safety*; *Skilled Nursing* units had the lowest (77 percent).
- Willingness to recommend this nursing home to friends did not have a large difference in results across work area/units (74 to 77 percent).
- *Many different areas in this nursing home/No specific area or unit* had the highest percentage of respondents (62 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; *Alzheimer’s/Dementia Unit* had the lowest (57 percent).

Interaction With Residents (Tables B-9, B-11, B-12)

- Respondents *without* direct interaction with residents had a higher average percent positive response across the composites (73 percent) than those *with* direct interaction with residents (66 percent)
- Respondents *without* direct interaction with residents had a higher percentage of respondents (80 percent) who indicated they would be willing to recommend this nursing home to friends than respondents *with* direct interaction with residents (75 percent).
- Respondents *without* direct interaction with residents had a higher percentage of respondents (68 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good” than respondents *with* direct interaction with residents (59 percent).

Shift Worked Most Often (Tables B-13, B-15, B-16)

- Respondents working the *day shift* had the highest average percent positive response across the composites (69 percent); respondents working the *night shift* had the lowest (64 percent).

- Respondents working the *day shift* had the highest percentage (78 percent) who indicated they would be willing to recommend this nursing home to friends; respondents working the *night shift* had the lowest (70 percent).
- Respondents working the *day shift* had the highest percentage (63 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; respondents working the *night shift* had the lowest (52 percent).

Tenure in Nursing Home (Tables B-17, B-19, B-20)

- Respondents who had worked in the nursing home *less than 1 year* had the highest average percent positive response across the 12 composites (72 percent); respondents who had worked in the nursing home for *6 to 10 years* had the lowest (66 percent).
- Respondents who had worked in the nursing home *11 years or more* had the highest percentage (81 percent) who indicated they would be willing to recommend this nursing home to friends; respondents working *3 to 5 years* had the lowest (74 percent)
- Respondents who had worked in their nursing home *11 years or more* had the highest percentage (66 percent) who gave their nursing home an overall rating on resident safety of “Excellent” or “Very Good”; respondents who had worked in their nursing home *3 to 10 years* had the lowest (59 percent).

Chapter 7. What's Next? Action Planning for Improvement

The seven steps of action planning outlined in this chapter are primarily based on the book *Designing and Using Organizational Surveys: A Seven-Step Process* (Church & Waclawski, 1998).

Seven Steps of Action Planning

Administering the nursing home survey can be considered an “intervention,” a means of educating staff and building awareness about issues of concern related to resident safety. But it should not be the only goal of conducting the survey. Administering the survey is not enough. The delivery of survey results is not the *end point* in the survey process; it is actually just the *beginning*. Often, the perceived failure of surveys as a means for creating lasting change is actually due to faulty or nonexistent action planning or survey followup.

Seven steps of action planning are provided to help your nursing home go beyond simply conducting a survey to realizing patient safety culture change. The seven steps of action planning are:

1. Understand your survey results.
2. Communicate and discuss survey results.
3. Develop focused action plans.
4. Communicate action plans and deliverables.
5. Implement action plans.
6. Track progress and evaluate impact.
7. Share what works.

Step # 1: Understand Your Survey Results

It is important to review the survey results and interpret them before you develop action plans. Develop an understanding of your nursing home's key strengths and areas for improvement. Examine your nursing home's overall percent positive scores on the patient safety culture composites and items.

- Which areas were most and least positive?
- How do your nursing home's results compare with the results from the database nursing homes?

Next, consider examining your survey data broken down by work area/unit or job title.

- Are there different areas for improvement for different nursing home units?
- Are there different areas for improvement for different nursing home staff?
- Do any patterns emerge?
- How do your nursing home's results for these breakouts compare with the results from the database nursing homes?

After reviewing the survey results carefully, identify two or three areas for improvement to avoid focusing on too many issues at one time. Once you have identified areas for improvement, you may find the Nursing Home Resource List beneficial (<http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/nursing-home/resources/nhimpptsaf.pdf>).

Step # 2: Communicate and Discuss the Survey Results

Common complaints among survey respondents are that they never get any feedback about survey results and have no idea whether anything ever happens as a result of a survey. It is therefore important to thank your staff for taking the time to complete the survey and let them know that you value their input. Sharing results from the survey throughout the nursing home shows your commitment to the survey and improvement process.

Use survey feedback as an impetus for change. Feedback can be provided at the nursing home level and/or at the work area or unit level. However, to ensure respondent anonymity/confidentiality, it is important to report data only if there are enough respondents in a particular category or group. As a rule of thumb, reporting data is not recommended if there are fewer than three respondents in a category. For example, if there are only two respondents in a work area, that work area's data should not be reported separately because there are too few respondents to provide complete assurance of anonymity/confidentiality.

Summaries of the survey results should be distributed throughout the nursing home in a top-down manner, beginning with senior management, administrators, medical and senior leaders, and committees, followed by department or unit managers and then staff. Managers at all levels should be expected to carefully review the findings. Summarize key findings, but also encourage discussion about the results throughout the nursing home. What do others see in the data and how do they interpret the results?

In some cases, it may not be completely clear why an area of patient safety culture was particularly low. Keep in mind that surveys are only one way of examining culture, so strive for a deeper understanding when needed. Conduct followup activities, such as focus groups or interviews with staff to find out more about an issue, why it is problematic, and how it can be improved.

Step # 3: Develop Focused Action Plans

Once areas for patient safety culture improvement have been identified, formal written action plans need to be developed to ensure progress toward change. Encourage and empower staff to develop action plans that are "SMART":

- Specific
- Measurable
- Achievable
- Relevant
- Time bound

When deciding whether a particular action plan or initiative would be a good fit in your facility, you may find *Will It Work Here? A Decisionmaker's Guide to Adopting Innovations* (Brach, et al., 2008) to be a useful resource (<http://www.innovations.ahrq.gov/sites/default/files/guides/InnovationAdoptionGuide.pdf>). The guide helps users answer the four overarching questions:

- Does this innovation fit?
- Should we do it here?

- Can we do it here?
- How can we do it here?

Identify funding, staffing, or other resources needed to implement action plans and take steps to obtain these resources, which are often fundamental obstacles hindering implementation of action plans. It is also important to identify other obstacles you may encounter when trying to implement change and to anticipate and understand the rationale behind any potential resistance toward proposed action plans.

In the planning stage it is also important to identify quantitative and qualitative measures that can be used to evaluate progress and the impact of changes implemented. Evaluative measures will need to be used before, during, and after implementation of your action plan initiatives to assess the effectiveness of the initiatives.

Step # 4: Communicate Action Plans and Deliverables

Once action plans have been developed, the plans, deliverables, and expected outcomes of the plans need to be communicated. Those directly involved or affected will need to know their roles and responsibilities, as well as the timeframe for implementation. Action plans and goals should also be shared widely so that their transparency encourages further accountability and demonstrates the nursing home-wide commitments being made in response to the survey results.

At this step it is important for senior nursing home managers and leaders to understand that they are the primary owners of the change process and that success depends on their full commitment and support. Senior-level commitment to taking action must be strong; without buy-in from the top, including medical leadership, improvement efforts are likely to fail.

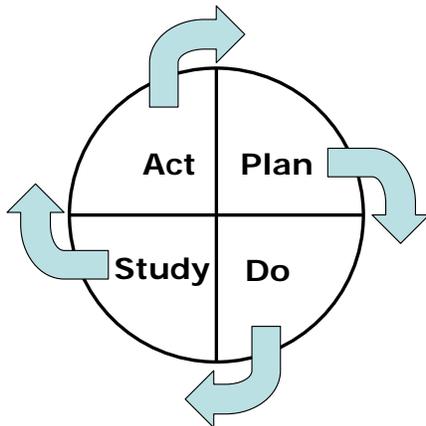
Step # 5: Implement Action Plans

Implementing action plans is one of the hardest steps. Taking action requires the provision of necessary resources and support. It requires tracking quantitative and qualitative measures of progress and success that have already been identified. It requires publicly recognizing individuals and units who take action to drive improvement. And it requires adjustments along the way.

This step is critical to improving patient safety culture. While communicating the survey results is important, taking action makes the real difference. However, as the Institute for Healthcare Improvement (IHI, 2006) suggests, actions do not have to be major, permanent changes. In fact, it is worthwhile to strive to implement easier, smaller changes that are likely to have a positive impact rather than big changes with unknown probability of success.

The “Plan-Do-Study-Act” cycle (Langley, et al., 1996) (Figure 7-1) is a pilot-study approach to change that involves first developing a small-scale plan to test a proposed change (Plan), carrying out the plan (Do), observing and learning from the consequences (Study), and determining what modifications should be made to the plan (Act). Implementation of action plans can occur on a small scale, within a single unit, to examine impact and refine plans before rolling out the changes on a larger scale to other units or nursing homes.

Figure 7-1. Plan-Do-Study-Act Cycle



Step # 6: Track Progress and Evaluate Impact

Use quantitative and qualitative measures to review progress and evaluate whether a specific change actually leads to improvement. Ensure that there is timely communication of progress toward action plans on a regular basis. If you determine that a change has worked, communicate that success to staff by telling them what was changed and that it was done in response to the safety culture survey results. Be sure to make the connection to the survey so that the next time the survey is administered, staff will know that it will be worthwhile to participate again because actions were taken based on the prior survey's results.

Alternatively, your evaluation may reveal that a change is not working as expected or has failed to reach its goals and will need to be modified or replaced by another approach. Before dropping the effort completely, try to determine why it failed and whether it makes sense to attempt adjustments.

It is important not to reassess culture too frequently because lasting culture change will be slow and may take years. Frequent assessments of culture are likely to find temporary shifts or improvements that may come back down to baseline levels in the longer term if changes are not sustained. When planning to reassess culture, it is also very important to obtain high survey response rates. Otherwise, it will not be clear whether changes in survey results over time reflect true changes in attitudes or result from surveying different staff each time.

Step # 7: Share What Works

In Step #6, you tracked measures to identify which changes result in improvement. Once your nursing home has found effective ways to address a particular area, the changes can be implemented on a broader scale to other nursing homes. Be sure to share your successes with outside nursing homes and health care systems as well.

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Notes: Description of Data Cleaning and Calculations

This notes section provides additional detail regarding how various statistics presented in this report were calculated.

Data Cleaning

Each participating nursing home submitted individual-level survey data. Once the data were submitted, response frequencies were run on each nursing home's data to look for out-of-range values, missing variables, or other data anomalies. When data problems were found, nursing homes were contacted and asked to make corrections and resubmit their data. In addition, each participating nursing home received a copy of its data frequencies to verify that the dataset received was correct. Nursing homes were not required to submit data for all of the background characteristic questions.

The data were also cleaned for straight-lined answers, which is when respondents give the same answer for both a positively worded item (such as, "This nursing home does a good job keeping residents safe") and a negatively worded item (such as, "This nursing home lets the same mistakes happen again and again") in the same section of the survey. Positively worded and negatively worded items are in sections A, B, and D. When respondents supplied the same answers for all items in sections A, B, and D, the items in those sections were set to missing because the sections had negatively worded items.

After this initial cleaning, respondents with missing values across sections A, B, and D were deleted before analyses. Respondents who supplied "Don't know" answers or had missing answers to all items across sections A, B, C, D, and E were also deleted before analyses. Nursing homes were included in the database only if they had at least 10 survey respondents after all data cleaning steps.

Response Rates

As part of the data submission process, nursing homes were asked to provide their response rate numerator and denominator. Response rates were calculated using the formula below.

$$\text{Response Rate} = \text{Number of complete, returned surveys} / (\text{Number of surveys distributed} - \text{Ineligibles})$$

Numerator = Number of complete, returned surveys. The numerator equals the number of individual survey records submitted to the database. It *excludes* surveys that were returned blank on all nondemographic survey items but *includes* surveys where at least one nondemographic survey item was answered.

Denominator = The total number of surveys distributed minus ineligibles. Ineligibles include deceased individuals or those no longer employed at the nursing home during data collection.

Calculation of Percent Positive Scores

Most of the survey's items ask respondents to answer using 5-point response categories in terms of agreement (Strongly agree, Agree, Neither, Disagree, Strongly disagree) or frequency (Always, Most of the time, Sometimes, Rarely, Never). Three of the 12 patient safety culture

composites use the frequency response option (*Handoffs, Feedback and Communication About Incidents, and Communication Openness*) while the other nine composites use the agreement response option.

Item-Level Percent Positive Response

Both positively worded items (such as “Staff support one another in this nursing home”) and negatively worded items (such as “Staff use shortcuts to get their work done faster”) are included in the survey. Calculating the percent positive response on an item is different for positively and negatively worded items:

- **For positively worded items**, percent positive response is the combined percentage of respondents within a nursing home who answered “Strongly agree” or “Agree,” or “Always” or “Most of the time,” depending on the response categories used for the item.

For example, for the item “Staff support one another in this nursing home,” if 50 percent of respondents within a nursing home *Strongly agree* and 25 percent *Agree*, the item-level percent positive response for that nursing home would be $50\% + 25\% = 75\%$ positive.

- **For negatively worded items**, percent positive response is the combined percentage of respondents within a nursing home who answered “Strongly disagree” or “Disagree,” or “Never” or “Rarely,” because a *negative* answer on a negatively worded item indicates a *positive* response.

For example, for the item “Staff use shortcuts to get their work done faster,” if 60 percent of respondents within a nursing home *Strongly disagree* and 20 percent *Disagree*, the item-level percent positive response would be 80 percent (i.e., 80 percent of respondents *do not* believe staff use shortcuts to get their work done faster).

Composite-Level Percent Positive Response

The survey’s 42 items measure 12 areas or composites of patient safety culture. The 12 patient safety culture composites are composed of three or four survey items. Composite scores were calculated for each nursing home by averaging the percent positive response on the items within a composite. For example, for a 3-item composite, if the item-level percent positive responses were 50 percent, 55 percent, and 60 percent, the nursing home’s composite-level percent positive response would be the average of these three percentages, or 55 percent positive.

Item and Composite Percent Positive Scores

To calculate your nursing home’s composite score, average the percentage of positive response to each item in the composite. Table N1 shows an example of computing a composite score for *Nonpunitive Response to Mistakes*.

1. This composite has four items. Two are positively worded (items A15 and A18) and two are negatively worded (items A10 and A12). Keep in mind that DISAGREEING with a negatively worded item indicates a POSITIVE response.
2. Calculate the percentage of positive responses at the item level (see Table N1).

Table N1. Example of Computing Item and Composite Percent Positive Scores

Four items measuring "Nonpunitive Response to Mistakes"	For positively worded items, count the # of "Strongly agree" or "Agree" responses	For negatively worded items, count the # of "Strongly disagree" or "Disagree" responses	Total # of responses to the item	Percent positive response on item
Item A10 - negatively worded "Staff are blamed when a resident is harmed"	NA*	120	260	120/260=46%
Item A12 - negatively worded "Staff are afraid to report their mistakes"	NA*	130	250	130/250=52%
Item A15 - positively worded "Staff are treated fairly when they make mistakes"	110	NA*	240	110/240=46%
Item A18 - positively worded "Staff feel safe reporting their mistakes"	140	NA*	250	140/250= 56%
*NA = Not applicable	Composite Score % Positive = (46% + 52% + 46% + 56%) / 4 = 50%			

This example includes four items, with percent positive response scores of 46 percent, 52 percent, 46 percent, and 56 percent. Averaging these item-level percent positive scores results in a composite score of .50 or 50 percent on Nonpunitive Response to Mistakes. In this example, an average of about 50 percent of the respondents responded positively to the survey items in this composite.

Once you calculate your nursing home's percent positive response for each of the 12 patient safety culture composites, you can compare your results with the composite-level results from the database nursing homes.

Percentiles

Percentiles were computed using the SAS[®] Software default method. The first step in this procedure is to rank order the percent positive scores from all the participating nursing homes, from lowest to highest. The next step is to multiply the number of nursing homes (n) by the percentile of interest (p), which in our case would be the 10th, 25th, 50th, 75th, or 90th percentile.

For example, to calculate the 10th percentile, one would multiply 263 (the total number of nursing homes) by .10 (10th percentile). The product of $n \times p$ is equal to “j+g” where “j” is the integer and “g” is the number after the decimal. If “g” equals 0, the percentile is equal to the percent positive value of the nursing home in the jth position plus the percent positive value of the nursing home in the jth +1 position, divided by 2 $[(X_{(j)} + X_{(j+1)})/2]$. If “g” is not equal to 0, the percentile is equal to the percent positive value of the nursing home in the jth +1 position.

The following examples show how the 10th and 50th percentiles would be computed using a sample of percent positive scores from 12 nursing homes (using fake data shown in Table N2). First, the percent positive scores are sorted from low to high on Composite “A.”

Table N2. Data Table for Example of How To Compute Percentiles

Nursing Home	Composite “A” % Positive Score
1	33%
2	48%
3	52%
4	60%
5	63%
6	64%
7	66%
8	70%
9	72%
10	75%
11	75%
12	78%

←10th percentile score = 48%

←50th percentile score = 65%

10th percentile

- For the 10th percentile, we would first multiply the number of nursing homes by .10: ($n \times p = 12 \times .10 = 1.2$).
- The product of $n \times p = 1.2$, where “j” = 1 and “g” = 2. Since “g” is **not** equal to 0, the 10th percentile score is equal to the percent positive value of the nursing home in the jth +1 position:
 - “j” equals 1.
 - The 10th percentile equals the value for the nursing home in the 2nd position = 48%.

50th percentile

- For the 50th percentile, we would first multiply the number of nursing homes by .50: ($n \times p = 12 \times .50 = 6.0$).
- The product of $n \times p = 6.0$, where “j” = 6 and “g” = 0. Since “g” = 0, the 50th percentile score is equal to the percent positive value of the nursing home in the jth position plus the percent positive value of the nursing home in the jth +1 position, divided by 2:
 - “j” equals 6.
 - The 50th percentile equals the average of the nursing homes in the 6th and 7th positions $(64\% + 66\%) / 2 = 65\%$.

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