

SURVEYS ON PATIENT SAFETY CULTURE®



Hospital Survey 2024 Database Report



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Surveys on Patient Safety Culture® (SOPS®) Hospital Survey 2.0: 2024 User Database Report Part I

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Highlights



Surveys on Patient Safety Culture®

Findings From the 2024 Hospital 2.0 Database



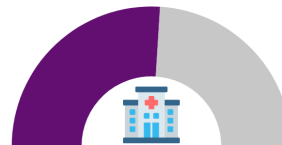
445

Participating Hospitals



284,036

Provider and Staff Respondents



52%

Average Response Rate Across Hospitals

Highest Scoring Composite Measures



Teamwork

81%

of respondents reported that staff work together as an effective team, help each other during busy times, and are respectful.



Supervisor, Manager, or Clinical Leader Support for Patient Safety

80%

of respondents reported that supervisors, managers, or clinical leaders consider staff suggestions for improving patient safety, do not encourage taking shortcuts, and take action to address patient safety concerns.

Lowest Scoring Composite Measures



Response to Error

64%

of respondents reported that staff are treated fairly when they make mistakes and there is a focus on learning from mistakes and supporting staff involved in errors.



Staffing and Work Pace

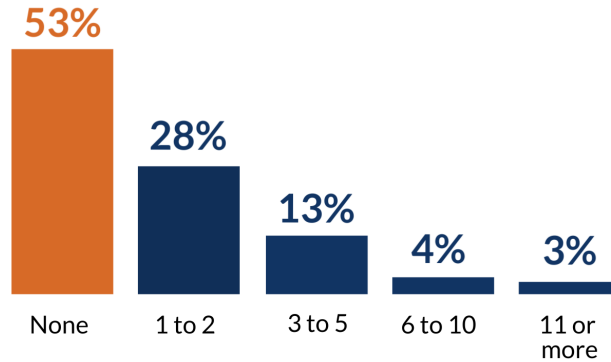
55%

of respondents reported there are enough staff to handle the workload, staff work appropriate hours and do not feel rushed, and there is an appropriate reliance on temporary, float, or PRN staff.

Note: Composite measures are composed of two to four survey items that assess the same area of patient safety culture.

Number of Events Reported

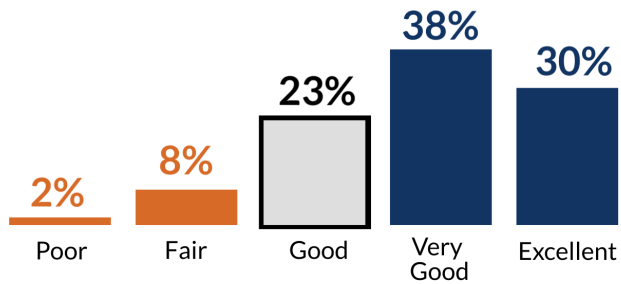
47% of respondents reported at least one patient safety event in the last 12 months.



Note: Chart totals may not add to 100% due to rounding.

Overall Rating on Patient Safety

68% of respondents rated their hospital as Excellent or Very Good.



Note: Chart totals may not add to 100% due to rounding.

Database Results from 2021 to 2024

Communication About Error

had the largest average percent positive increase of 4 percentage points from 2021 to 2024

71% ↑ **75%**

Staffing and Work Pace

had the largest average percent positive decrease of 3 percentage points from 2021 to 2024

58% ↓ **55%**

What's Next? Action planning for patient safety improvement

The *Action Planning Tool for the AHRQ Surveys on Patient Safety Culture* provides step-by-step guidance on how to develop an action plan to improve patient safety culture, available at www.ahrq.gov/sops/resources/planning-tool.



Overview of Database Report

In response to requests from hospitals interested in comparing results on the Surveys on Patient Safety Culture® (SOPS®) Hospital Survey 2.0, the Agency for Healthcare Research and Quality (AHRQ) established the SOPS Hospital Survey 2.0 Database. The SOPS Database aggregates the data to facilitate comparisons of SOPS survey results. This report presents statistics (averages, standard deviations, minimum and maximum scores, and percentiles) on the patient safety culture composite measures and items from the SOPS Hospital Survey 2.0.

Part II of this report (Appendixes A and B) presents data tables showing results by the following hospital and respondent characteristics:

Appendix A: Results by Hospital Characteristics

- Bed size
- Teaching status
- Ownership
- Geographic region

Appendix B: Results by Respondent Characteristics

- Staff position
- Unit/work area
- Tenure in current unit/work area
- Interaction with patients

The appendixes in Part II are available online at <https://www.ahrq.gov/sops/databases/hospital>.

Only a small number of hospitals submitted survey data for the SOPS Health IT Patient Safety or Hospital Value and Efficiency Supplemental Items. Due to the small number of hospitals, not enough data were available to report on the Health IT Patient Safety or Hospital Value and Efficiency Supplemental Items in the 2024 Hospital Database. Results for the Workplace Safety Supplemental Items for Hospitals will be available in a separate report at [ahrq.gov/sops/surveys/hospital/supplemental-items/workplace-safety](https://www.ahrq.gov/sops/surveys/hospital/supplemental-items/workplace-safety).

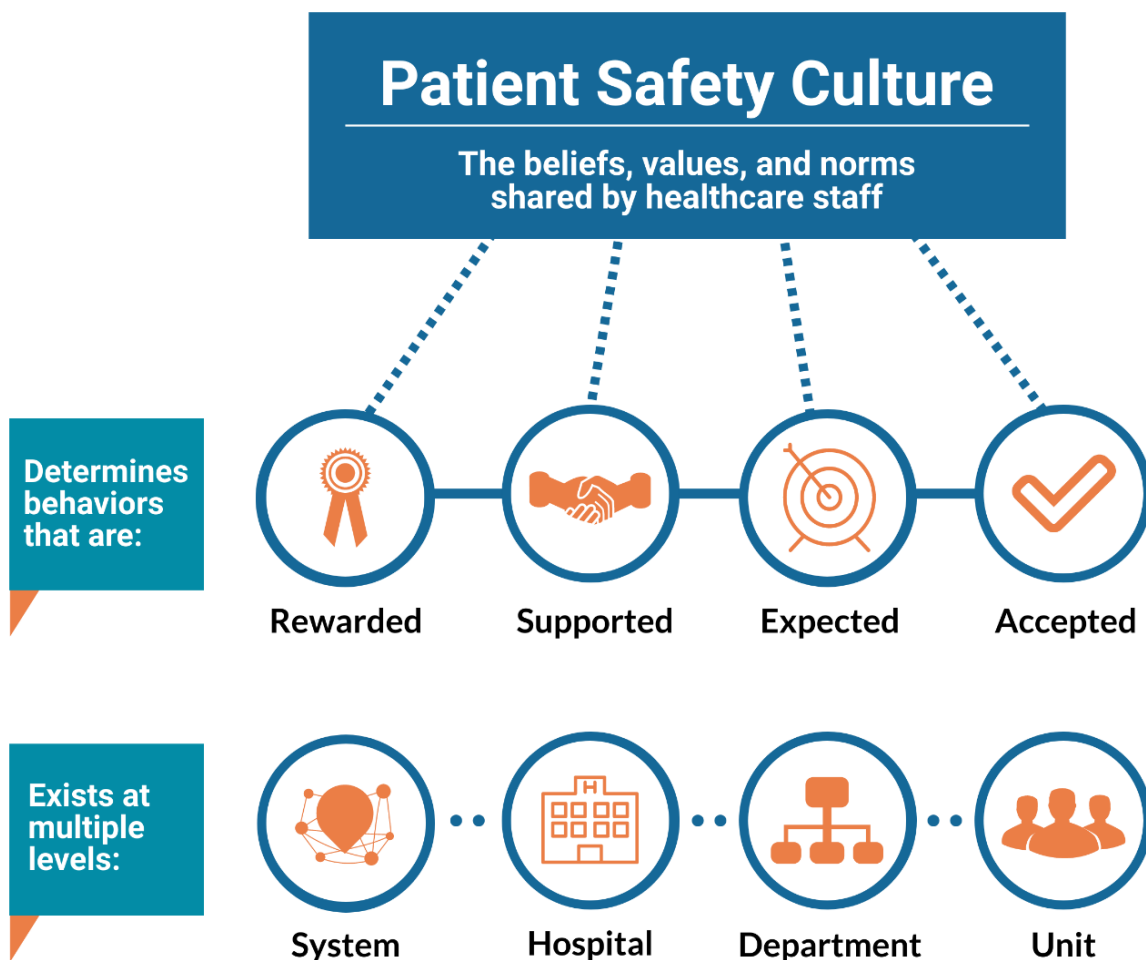
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1 Introduction

Organizational culture refers to the beliefs, values, and norms shared by staff throughout their organization that influence their actions and behaviors. Patient safety culture is the extent to which these beliefs, values, and norms support and promote patient safety. Patient safety culture can be measured by determining what is rewarded, supported, expected, and accepted in an organization as it relates to patient safety (see Figure 1).

Figure 1. Definition of Patient Safety Culture



Survey Content

The AHRQ SOPS Hospital Survey 2.0 includes 32 items that make up 10 composite measures. Table 1-1 defines each composite measure.

Table 1-1. SOPS Hospital Survey 2.0 Composite Measures and Definitions

SOPS Hospital Survey 2.0 Composite Measures	Definition: The extent to which...	Number of Items
Communication About Error	Staff are informed when errors occur, discuss ways to prevent errors, and are informed when changes are made.	3
Communication Openness	Staff speak up if they see something unsafe and feel comfortable asking questions.	3
Handoffs and Information Exchange	Important patient care information is transferred across hospital units and during shift changes.	3
Hospital Management Support for Patient Safety	Hospital management shows that patient safety is a top priority and provides adequate resources for patient safety.	3
Organizational Learning — Continuous Improvement	Work processes are regularly reviewed, changes are made to keep mistakes from happening again, and changes are evaluated.	3
Reporting Patient Safety Events	Mistakes of the following types are reported: (1) mistakes caught and corrected before reaching the patient and (2) mistakes that could have harmed the patient but did not.	2
Response to Error	Staff are treated fairly when they make mistakes and there is a focus on learning from mistakes and supporting staff involved in errors.	4
Staffing and Work Pace	There are enough staff to handle the workload, staff work appropriate hours and do not feel rushed, and there is appropriate reliance on temporary, float, or PRN staff.	4
Supervisor, Manager, or Clinical Leader Support for Patient Safety	Supervisors, managers, or clinical leaders consider staff suggestions for improving patient safety, do not encourage taking shortcuts, and take action to address patient safety concerns.	3
Teamwork	Staff work together as an effective team, help each other during busy times, and are respectful.	3

In addition to items that make up these composite measures, the survey includes two single-item measures asking respondents how many patient safety events they have reported and to provide an overall rating on patient safety for their unit/work area. Respondents are also asked six background questions about staff position, unit/work area, tenure in hospital, tenure in current unit/work area, hours worked per week, and interaction with patients.



2 Survey Administration Statistics

This chapter presents descriptive information on the number of hospitals and survey respondents, overall and average response rates (Table 2-1), and modes of survey administration (Table 2-2). Participating hospitals administered the SOPS Hospital Survey 2.0 from August 2022 through June 2024.

Highlights



445

Participating Hospitals



284,036

Respondents



52%

Average Hospital Response Rate



95%

of hospitals administered
the survey by web

Table 2-1. Response Statistics — 2024 SOPS Hospital 2.0 Database

Overall Response Information		Statistic
Number of hospitals		445
Number of respondents		284,036
Number of surveys distributed		594,875
Overall response rate		48%
Average Response Rate Information		Statistic
Average number of respondents per hospital (range: 8 to 6,891)		638
Average number of surveys distributed per hospital (range: 32 to 13,776)		1,337
Average hospital response rate (range: 4% to 100%)		52%

Table 2-2. Survey Administration Mode Statistics — 2024 SOPS Hospital 2.0 Database

Survey Administration Mode	Hospitals		Respondents		Average Response Rate
	Number	Percent	Number	Percent	Percent
Paper only	12	3%	1,636	1%	39%
Web only	421	95%	276,990	98%	52%
Mixed mode (paper and web)	12	3%	5,410	2%	63%
Total	445	100%	284,036	100%	--

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



3 Hospital Characteristics

This chapter presents information about the characteristics of hospitals included in the 2024 SOPS Hospital 2.0 Database, including bed size, teaching status, ownership, and geographic region (Table 3-1).

To provide an understanding of the database hospitals by bed size, teaching status, ownership, and geographic region, the distribution of 2023 AHA-registered hospitalsⁱ corresponding to each characteristic is shown.

Highlights

Hospital Bed Size



59%

of participating hospitals have **199 beds or fewer**.

Hospital Teaching Status



52%

of participating hospitals are **teaching**.

Hospital Ownership



75%

of participating hospitals are **nongovernment** (not for profit).

Hospital Region



45%

of participating hospitals are in the **South** region.

ⁱ Data for U.S. and U.S. territory AHA-registered hospitals were obtained from the 2023 AHA Annual Survey of Hospitals Database, © 2023 Health Forum, LLC, an affiliate of the American Hospital Association. Hospitals not registered with AHA were asked to provide information on their hospital's characteristics, such as bed size, teaching status, and ownership.

Table 3-1. Hospital Characteristics for the 2024 SOPS Hospital 2.0 Database Compared With 2023 AHA-Registered Hospitals

Hospital Characteristics	AHA-Registered Hospitals (N = 6,193)		Database Hospitals (N = 445)		Database Respondents (N = 284,036)	
	Number	Percent	Number	Percent	Number	Percent
Bed Size						
6-24 beds	900	15%	51	11%	4,183	1%
25-49 beds	1,429	23%	81	18%	11,863	4%
50-99 beds	1,197	19%	60	13%	18,371	6%
100-199 beds	1,189	19%	72	16%	35,637	13%
200-299 beds	591	10%	63	14%	48,422	17%
300-399 beds	355	6%	37	8%	44,628	16%
400-499 beds	197	3%	37	8%	31,295	11%
500 or more beds	335	5%	44	10%	89,637	32%
Teaching Status	Number	Percent	Number	Percent	Number	Percent
Teaching	2,720	44%	230	52%	219,429	77%
Nonteaching	3,473	56%	215	48%	64,607	23%
Ownership	Number	Percent	Number	Percent	Number	Percent
Government (federal and nonfederal)	1,392	22%	67	15%	30,833	11%
Nongovernment (not for profit)	3,175	51%	332	75%	226,805	80%
Investor owned (for profit)	1,626	26%	46	10%	26,398	9%
Geographic Region	Number	Percent	Number	Percent	Number	Percent
Northeast	781	13%	74	17%	73,124	26%
South	2,539	41%	200	45%	150,301	53%
Midwest	1,667	27%	132	30%	41,433	15%
West	1,206	19%	39	9%	19,178	7%

Note: Percentages may not add to 100 due to rounding. States are categorized into regions as follows:

- Northeast: CT, MA, ME, NH, NJ, NY, PA, RI, VT
- South: AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, PR, SC, TN, TX, VA, VI, WV
- Midwest: IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI
- West: AK, AS, AZ, CA, CO, GU, HI, ID, MH, MP, MT, NM, NV, OR, UT, WA, WY



4 Respondent Characteristics

This chapter describes the characteristics of the 284,036 respondents in the 2024 SOPS Hospital 2.0 Database.

Highlights

Largest Staff Position



42% Nursing

Largest Two Units/Work Areas



32% Patient care units

15% Medical/surgical units

Respondent Tenure



55%

of respondents have worked in their **hospital** 5 years and less.

64%

of respondents have worked in their **unit/work area** 5 years and less.

Respondent Hours Worked



61% of respondents work **30 to 40 hours** per week in their hospital.

Interaction With Patients



77% of respondents have **direct interaction** with patients.

Table 4-1. Respondent Staff Positions From the 2024 SOPS Hospital 2.0 Database

Respondent Characteristics	Respondents	
	Number	Percent
Hospital Staff Position		
Nursing		
Advanced Practice Nurse (NP, CRNA, CNS, CNM)	4,179	1%
Licensed Vocational Nurse (LVN), Licensed Practical Nurse (LPN)	3,335	1%
Patient Care Aide, Hospital Aide, Nursing Assistant	21,321	8%
Registered Nurse (RN)	90,429	32%
Nursing Subtotal	119,264	42%
Medical		
Physician Assistant	1,464	1%
Resident, Intern	3,858	1%
Physician, Attending, Hospitalist	8,054	3%
Medical Subtotal	13,376	5%
Other Clinical Position		
Dietitian	1,335	<1%
Pharmacist, Pharmacy Technician	9,148	3%
Physical, Occupational, or Speech Therapist	8,752	3%
Psychologist	266	<1%
Respiratory Therapist	5,889	2%
Social Worker	3,554	1%
Technologist, Technician (e.g., EKG, Lab, Radiology)	26,645	9%
Other Clinical Position Subtotal	55,589	20%
Supervisor, Manager, Clinical Leader, Senior Leader		
Supervisor, Manager, Department Manager, Clinical Leader, Administrator, Director	19,740	7%
Senior Leader, Executive, C-Suite	1,738	1%
Supervisor, Manager, Clinical Leader, Senior Leader Subtotal	21,478	8%
Support		
Facilities	3,118	1%
Food Services	5,461	2%
Housekeeping, Environmental Services	7,998	3%
Information Technology, Health Information Services, Clinical Informatics	4,086	1%
Security	3,748	1%
Transporter	2,465	1%
Unit Clerk, Secretary, Receptionist, Office Staff	16,565	6%
Support Subtotal	43,441	15%
Other Staff Position	28,406	10%
Total for All Staff Positions	281,554	100%
Missing	2,482	--
Overall Total	284,036	--

Note: Subtotals may not add to the percentage shown due to rounding. Percentages may not add to 100 due to rounding.

**Table 4-2. Respondent Unit/Work Area From the 2024 SOPS Hospital 2.0 Database
(Page 1 of 2)**

Respondent Characteristics	Respondents	
	Number	Percent
Unit/Work Area		
Multiple Units, No Specific Unit	22,461	8%
Medical/Surgical Units		
Combined Medical/Surgical Unit	22,076	8%
Medical Unit (Non-Surgical)	6,101	2%
Surgical Unit	11,014	4%
Medical/Surgical Units Subtotal	39,191	15%
Patient Care Units		
Cardiology	7,383	3%
Emergency Department, Observation, Short Stay	18,680	7%
Gastroenterology	1,021	<1%
ICU (All Adult Types)	13,416	5%
Labor and Delivery, Obstetrics and Gynecology	11,167	4%
Oncology, Hematology	4,544	2%
Pediatrics (including NICU, PICU)	7,378	3%
Psychiatry, Behavioral Health	6,474	2%
Pulmonology	714	<1%
Rehabilitation, Physical Medicine	10,351	4%
Telemetry	5,990	2%
Patient Care Units Subtotal	87,118	32%
Surgical Services		
Anesthesiology	1,416	1%
Endoscopy, Colonoscopy	1,523	1%
Pre Op, Operating Room/Suite, PACU/Post Op, Peri Op	13,341	5%
Surgical Services Subtotal	16,280	6%
Clinical Services		
Pathology, Lab	9,931	4%
Pharmacy	8,675	3%
Radiology, Imaging	12,210	5%
Respiratory Therapy	3,768	1%
Social Services, Case Management, Discharge Planning	3,649	1%
Clinical Services Subtotal	38,233	14%
Administration/Management		
Administration, Management	11,208	4%
Financial Services, Billing	2,170	1%
Human Resources, Training	1,440	1%
Information Technology, Health Information Management, Clinical Informatics	3,602	1%
Quality, Risk Management, Patient Safety	2,269	1%
Administration/Management Subtotal	20,689	8%

**Table 4-2. Respondent Unit/Work Area From the 2024 SOPS Hospital 2.0 Database
(Page 2 of 2)**

Respondent Characteristics Unit/Work Area (Continued)	Respondents	
	Number	Percent
Support Services		
Admitting/Registration	4,203	2%
Food Services, Dietary	5,099	2%
Housekeeping, Environmental Services, Facilities	7,392	3%
Security Services	2,289	1%
Transport	1,730	1%
Support Services Subtotal	20,713	8%
Other Unit/Work Area	23,477	9%
Total for All Units/Work Areas	268,162	100%
Missing	15,874	--
Overall Total	284,036	--

Note: Subtotals may not add to the percentage shown due to rounding. Percentages may not add to 100 due to rounding.

Table 4-3. Other Respondent Characteristics From the 2024 SOPS Hospital 2.0 Database

Respondent Characteristics	Respondents	
	Number	Percent
Tenure in Hospital		
Less than 1 year	43,828	17%
1 to 5 years	100,216	38%
6 to 10 years	45,329	17%
11 or more years	74,488	28%
Total	263,861	100%
Missing	20,175	--
Overall Total	284,036	--
Tenure in Unit/Work Area	Number	Percent
Less than 1 year	54,017	21%
1 to 5 years	114,646	44%
6 to 10 years	41,981	16%
11 or more years	52,324	20%
Total	262,968	100%
Missing	21,068	--
Overall Total	284,036	--
Hours Worked per Week in Hospital	Number	Percent
Less than 30 hours per week	33,818	13%
30 to 40 hours per week	162,453	61%
More than 40 hours	67,907	26%
Total	264,178	100%
Missing	19,858	--
Overall Total	284,036	--
Interaction With Patients	Number	Percent
Yes, I typically have direct interaction or contact with patients	201,883	77%
No, I typically do NOT have direct interaction or contact with patients	60,970	23%
Total	262,853	100%
Missing	21,183	--
Overall Total	284,036	--

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



5 Overall Results

This chapter presents overall findings from the 2024 SOPS Hospital 2.0 Database. We present the average percentage of positive responses for each of the survey's composite measures and items, summarized for all database hospitals. Reporting the average for all hospitals ensures each hospital's scores receive equal weight, regardless of the hospital's size. We do not report the percentage of positive responses summarized for all respondents, as this approach would give greater weight to those hospitals with more staff. Reporting the data at the hospital level, rather than the respondent level, is important because culture is considered to be a group characteristic, not an individual characteristic.

Highlights

Highest Scoring Composite Measure: Teamwork



81%

of respondents reported that staff work together as an effective team, help each other during busy times, and are respectful.

Lowest Scoring Composite Measure: Staffing and Work Pace



55%

of respondents reported that there are enough staff to handle the workload, staff work appropriate hours and do not feel rushed, and there is an appropriate reliance on temporary, float, or PRN staff.

Overall Rating on Patient Safety



68%

of respondents gave their unit/work area an overall patient safety rating of Excellent or Very Good.

Composite Measure and Item Charts

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

Composite Measure Results

Chart 5-1 shows the average percent positive response for each of the 10 SOPS composite measures, summarized for all hospitals in the database. The SOPS composite measures are shown in order from the highest average percent positive response to the lowest.

Item Results

Chart 5-2 shows the average percent positive response for each of the 32 survey items. Items are listed in their respective composite measure, grouped by positively and negatively worded items and then in the order in which they appear in the survey.

For more information on how the percent positive response is calculated for positively and negatively worded items, visit the Notes section in this report.

Number of Events Reported

Chart 5-3 shows results for number of events reported by the respondent in the past 12 months.

Overall Rating on Patient Safety

Chart 5-4 shows results for overall rating on patient safety in the respondent's unit/work area.

Chart 5-1. Composite Measure Results
Average Percent Positive Response — 2024 SOPS Hospital 2.0 Database



Chart 5-2. Item Results

Average Percent Positive Response — 2024 SOPS Hospital 2.0 Database (Page 1 of 4)

1. Teamwork

Average % Positive Response

In this unit, we work together as an effective team.
(Item A1)

86

During busy times, staff in this unit help each other.
(Item A8)

87

There is a problem with disrespectful behavior by those
working in this unit. (Item A9*)

69

2. Supervisor, Manager, or Clinical Leader

Support for Patient Safety

My supervisor, manager, or clinical leader seriously
considers staff suggestions for improving patient safety.
(Item B1)

79

My supervisor, manager, or clinical leader takes action to
address patient safety concerns that are brought to their
attention. (Item B3)

84

My supervisor, manager, or clinical leader wants us to work
faster during busy times, even if it means taking shortcuts.
(Item B2*)

78

3. Communication Openness

In this unit, staff speak up if they see something that may
negatively affect patient care. (Item C4)

84

When staff in this unit see someone with more authority
doing something unsafe for patients, they speak up.
(Item C5)

74

When staff in this unit speak up, those with more authority
are open to their patient safety concerns. (Item C6)

77

In this unit, staff are afraid to ask questions when
something does not seem right. (Item C7*)

72

Note: The item's survey location is shown in parentheses after the item text. An asterisk (*) denotes a negatively worded item. For negatively worded items, the percent positive response is the percentage of respondents who answered Strongly Disagree/Disagree or Never/Rarely.

Chart 5-2. Item Results

Average Percent Positive Response — 2024 SOPS Hospital 2.0 Database (Page 2 of 4)

4. Reporting Patient Safety Events

Average % Positive Response

When a mistake is *caught and corrected before reaching the patient*, how often is this reported? (Item D1)

68

When a mistake reaches the patient and *could have harmed the patient, but did not*, how often is this reported? (Item D2)

83

5. Communication About Error

We are informed about errors that happen in this unit. (Item C1)

74

When errors happen in this unit, we discuss ways to prevent them from happening again. (Item C2)

78

In this unit, we are informed about changes that are made based on event reports. (Item C3)

73

6. Organizational Learning— Continuous Improvement

This unit regularly reviews work processes to determine if changes are needed to improve patient safety. (Item A4)

74

In this unit, changes to improve patient safety are evaluated to see how well they worked. (Item A12)

69

This unit lets the same patient safety problems keep happening. (Item A14*)

72

Note: The item's survey location is shown in parentheses after the item text. An asterisk (*) denotes a negatively worded item. For negatively worded items, the percent positive response is the percentage of respondents who answered Strongly Disagree/Disagree or Never/Rarely.

Chart 5-2. Item Results

Average Percent Positive Response — 2024 SOPS Hospital 2.0 Database (Page 3 of 4)

7. Hospital Management Support for Patient Safety

Average % Positive Response

The actions of hospital management show that patient safety is a top priority. (Item F1)

76

Hospital management provides adequate resources to improve patient safety. (Item F2)

71

Hospital management seems interested in patient safety only after an adverse event happens. (Item F3*)

48

8. Handoffs and Information Exchange

During shift changes, there is adequate time to exchange all key patient care information. (Item F6)

73

When transferring patients from one unit to another, important information is often left out. (Item F4*)

58

During shift changes, important patient care information is often left out. (Item F5*)

64

9. Response to Error

When staff make errors, this unit focuses on learning rather than blaming individuals. (Item A10)

71

In this unit, staff feel like their mistakes are held against them. (Item A6*)

61

When an event is reported in this unit, it feels like the person is being written up, not the problem. (Item A7*)

59

In this unit, there is a lack of support for staff involved in patient safety errors. (Item A13*)

65

Note: The item's survey location is shown in parentheses after the item text. An asterisk (*) denotes a negatively worded item. For negatively worded items, the percent positive response is the percentage of respondents who answered Strongly Disagree/Disagree or Never/Rarely.

Chart 5-2. Item Results
Average Percent Positive Response — 2024 SOPS Hospital 2.0 Database
 (Page 4 of 4)

10. Staffing and Work Pace

Average % Positive Response

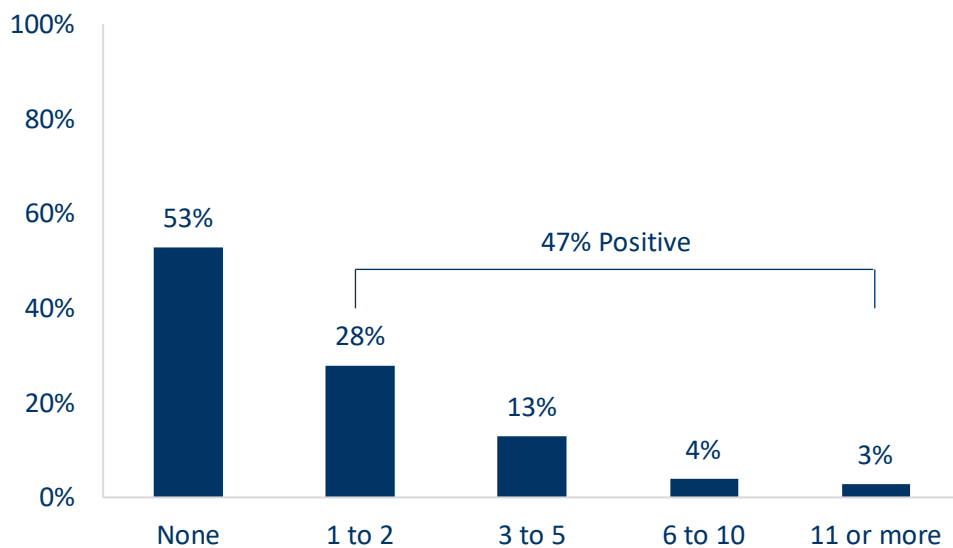
In this unit, we have enough staff to handle the workload. (Item A2)	51
Staff in this unit work longer hours than is best for patient care. (Item A3*)	50
This unit relies too much on temporary, float, or PRN staff. (Item A5*)	57
The work pace in this unit is so rushed that it negatively affects patient safety. (Item A11*)	62

Note: The item’s survey location is shown in parentheses after the item text. An asterisk (*) denotes a negatively worded item. For negatively worded items, the percent positive response is the percentage of respondents who answered Strongly Disagree/Disagree or Never/Rarely.

Chart 5-3. Item Results
Average Percentage Response on the Number of Patient Safety Events Reported in the Past 12 Months — 2024 SOPS Hospital 2.0 Database

Number of Events Reported

In the past 12 months, how many patient safety events have you reported? (Item D3)



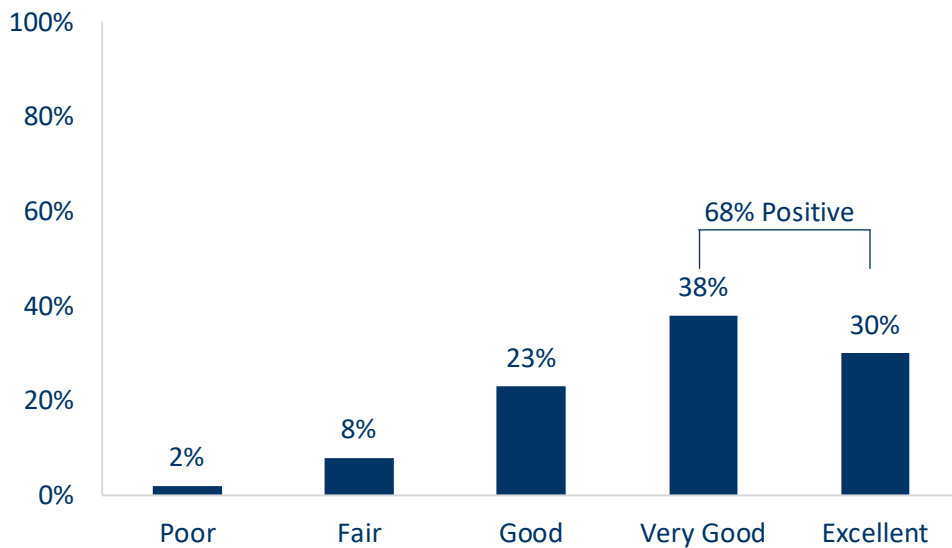
Note: Percentages indicate the database average percent response for each response option. The percent positive displayed might not equal the sum of the separate response option percentages due to rounding. Percentages might not add to 100 due to rounding.

Chart 5-4. Item Results

Average Percentage Response on Unit/Work Area Overall Rating on Patient Safety — 2024 SOPS Hospital 2.0 Database

Overall Rating on Patient Safety

How would you rate your unit/work area on patient safety? (Item E1)



Note: Percentages indicate the database average percent response for each response option. The percent positive displayed might not equal the sum of the separate response option percentages due to rounding. Percentages might not add to 100 due to rounding.



6 Comparing Hospital Results

The data in this report can be used to supplement a hospital's efforts to identify areas of strength and areas to focus on to improve patient safety culture.

To compare a hospital's survey results with the findings from the database, calculate the hospital's percent positive response on the survey's 10 composite measures and survey items. These include items about the number of events reported and overall rating on patient safety. The Notes section at the end of this report describes how to calculate percent positive scores. Individual hospital results can then be compared with the database averages and the percentile scores for all hospitals in the database.

When comparing your hospital's results with the Database results, note that the database only provides *relative* comparisons. Although your hospital's survey results might have higher percent positive results than the database statistics, there may still be room for improvement in a particular area in your hospital in an *absolute* sense.

Composite Measure and Item Tables

Table 6-1 presents statistics (average percent positive, standard deviation [s.d.], minimum and maximum scores, and percentiles) for each of the 10 composite measures.

Table 6-2 presents statistics for each of the 32 survey items in the composite measures. Items are listed in their respective composite measure, with positively worded items listed before negatively worded items.

Table 6-3 presents statistics for the number of patient safety events reported. Results in the table represent average percent positive scores for respondents who answered "1 to 2," "3 to 5," "6 to 10," and "11 or more."

Table 6-4 presents statistics for respondents' overall rating on patient safety of their unit/work area. Results in the table represent average percent positive scores for respondents who answered "Excellent" or "Very Good."

Table 6-1. Composite Measure Results — 2024 SOPS Hospital 2.0 Database

SOPS Composite Measures			Composite Measure % Positive Response						
	Average % Positive	s.d.	Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
1. Teamwork	81%	7.28%	25%	74%	78%	81%	85%	88%	94%
2. Supervisor, Manager, or Clinical Leader Support for Patient Safety	80%	6.94%	43%	73%	77%	81%	85%	88%	97%
3. Communication Openness	77%	7.35%	37%	68%	73%	77%	81%	85%	98%
4. Reporting Patient Safety Events	76%	9.16%	0%	66%	72%	77%	81%	85%	96%
5. Communication About Error	75%	8.28%	35%	65%	70%	76%	81%	85%	95%
6. Organizational Learning-Continuous Improvement	72%	8.67%	27%	61%	67%	72%	78%	81%	93%
7. Hospital Management Support for Patient Safety	65%	10.93%	16%	52%	59%	66%	72%	79%	90%
8. Handoffs and Information Exchange	65%	10.01%	32%	53%	59%	64%	72%	78%	93%
9. Response to Error	64%	8.43%	30%	54%	59%	64%	70%	74%	88%
10. Staffing and Work Pace	55%	10.46%	20%	42%	48%	54%	62%	68%	83%
Composite Measure Average	71%	7.25%	33%	63%	67%	71%	76%	80%	91%

Note: (1) Each composite measure is the average of the unrounded composite measure scores for all hospitals in the database; (2) the Composite Measure Average is the average of the 10 unrounded composite measure scores of each hospital in the database.

Table 6-2. Item Results — 2024 SOPS Hospital 2.0 Database (Page 1 of 5)

Survey Items by SOPS Composite Measure	Average % Positive	s.d.	Survey Item % Positive Response						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
1. Teamwork	% Strongly Agree/Agree								
In this unit, we work together as an effective team. (Item A1)	86%	9.15%	0%	79%	84%	87%	90%	93%	100%
During busy times, staff in this unit help each other. (Item A8)	87%	6.10%	40%	81%	84%	87%	89%	92%	100%
% Strongly Disagree/Disagree									
There is a problem with disrespectful behavior by those working in this unit. (Item A9*)	69%	9.80%	15%	59%	65%	70%	75%	80%	93%
2. Supervisor, Manager, or Clinical Leader Support for Patient Safety	% Strongly Agree/Agree								
My supervisor, manager, or clinical leader seriously considers staff suggestions for improving patient safety. (Item B1)	79%	7.28%	40%	72%	76%	80%	84%	87%	100%
My supervisor, manager, or clinical leader takes action to address patient safety concerns that are brought to their attention. (Item B3)	84%	7.64%	21%	77%	81%	85%	88%	91%	100%
% Strongly Disagree/Disagree									
My supervisor, manager, or clinical leader wants us to work faster during busy times, even if it means taking shortcuts. (Item B2*)	78%	8.87%	12%	68%	73%	78%	83%	88%	100%

Note: The item’s survey location is shown in parentheses after the item text. An asterisk (*) denotes a negatively worded item. For negatively worded items, the percent positive response is the percentage of respondents who answered Strongly Disagree/Disagree or Never/Rarely.

Table 6-2. Item Results — 2024 SOPS Hospital 2.0 Database (Page 2 of 5)

Survey Items by SOPS Composite Measure	Average % Positive	s.d.	Survey Item % Positive Response						
			Min	10 th %ile	25 th %ile	Median/ 50 th %ile	75 th %ile	90 th %ile	Max
3. Communication Openness	% Always/Most of the time								
In this unit, staff speak up if they see something that may negatively affect patient care. (Item C4)	84%	6.87%	40%	76%	81%	85%	88%	91%	100%
When staff in this unit see someone with more authority doing something unsafe for patients, they speak up. (Item C5)	74%	8.98%	38%	64%	70%	75%	80%	84%	100%
When staff in this unit speak up, those with more authority are open to their patient safety concerns. (Item C6)	77%	8.35%	34%	67%	73%	77%	82%	86%	100%
	% Never/Rarely								
In this unit, staff are afraid to ask questions when something does not seem right. (Item C7*)	72%	8.60%	11%	62%	68%	72%	77%	82%	92%
4. Reporting Patient Safety Events	% Always/Most of the time								
When a mistake is caught and corrected before reaching the patient, how often is this reported? (Item D1)	68%	11.15%	0%	54%	64%	70%	75%	80%	95%
When a mistake reaches the patient and could have harmed the patient, but did not, how often is this reported? (Item D2)	83%	8.87%	0%	75%	79%	84%	88%	92%	100%

Note: The item’s survey location is shown in parentheses after the item text. An asterisk (*) denotes a negatively worded item. For negatively worded items, the percent positive response is the percentage of respondents who answered Strongly Disagree/Disagree or Never/Rarely.

Table 6-2. Item Results – 2024 SOPS Hospital 2.0 Database (Page 3 of 5)

Survey Items by SOPS Composite Measure	Average % Positive	s.d.	Survey Item % Positive Response						
			Min	10 th %ile	25 th %ile	Median/ 50 th %ile	75 th %ile	90 th %ile	Max
5. Communication About Error	% Always/Most of the time								
We are informed about errors that happen in this unit. (Item C1)	74%	8.78%	37%	64%	70%	75%	80%	84%	94%
When errors happen in this unit, we discuss ways to prevent them from happening again. (Item C2)	78%	8.26%	33%	69%	74%	79%	84%	87%	97%
In this unit, we are informed about changes that are made based on event reports. (Item C3)	73%	8.94%	28%	62%	68%	73%	79%	83%	93%
6. Organizational Learning – Continuous Improvement	% Strongly Agree/Agree								
This unit regularly reviews work processes to determine if changes are needed to improve patient safety. (Item A4)	74%	8.88%	27%	65%	70%	75%	80%	84%	96%
In this unit, changes to improve patient safety are evaluated to see how well they worked. (Item A12)	69%	9.84%	27%	56%	63%	69%	76%	79%	100%
	% Strongly Disagree/Disagree								
This unit lets the same patient safety problems keep happening. (Item A14*)	72%	10.21%	17%	61%	67%	73%	79%	83%	100%

Note: The item’s survey location is shown in parentheses after the item text. An asterisk (*) denotes a negatively worded item. For negatively worded items, the percent positive response is the percentage of respondents who answered Strongly Disagree/Disagree or Never/Rarely.

Table 6-2. Item Results – 2024 SOPS Hospital 2.0 Database (Page 4 of 5)

Survey Items by SOPS Composite Measure	Average % Positive	s.d.	Survey Item % Positive Response						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
7. Hospital Management Support for Patient Safety	% Strongly Agree/Agree								
The actions of hospital management show that patient safety is a top priority. (Item F1)	76%	11.28%	19%	63%	70%	78%	84%	89%	100%
Hospital management provides adequate resources to improve patient safety. (Item F2)	71%	12.44%	13%	55%	64%	73%	80%	86%	100%
% Strongly Disagree/Disagree									
Hospital management seems interested in patient safety only after an adverse event happens. (Item F3*)	48%	10.99%	12%	35%	41%	48%	56%	63%	80%
8. Handoffs and Information Exchange	% Strongly Agree/Agree								
During shift changes, there is adequate time to exchange all key patient care information. (Item F6)	73%	9.79%	15%	62%	68%	73%	79%	85%	100%
% Strongly Disagree/Disagree									
When transferring patients from one unit to another, important information is often left out. (Item F4*)	58%	12.08%	24%	42%	50%	57%	65%	74%	100%
During shift changes, important patient care information is often left out. (Item F5*)	64%	11.82%	6%	52%	58%	64%	71%	78%	100%

Note: The item’s survey location is shown in parentheses after the item text. An asterisk (*) denotes a negatively worded item. For negatively worded items, the percent positive response is the percentage of respondents who answered Strongly Disagree/Disagree or Never/Rarely.

Table 6-2. Item Results – 2024 SOPS Hospital 2.0 Database (Page 5 of 5)

Survey Items by SOPS Composite Measure	Average % Positive	s.d.	Survey Item % Positive Response						
			Min	10 th %ile	25 th %ile	Median/ 50 th %ile	75 th %ile	90 th %ile	Max
9. Response to Error			% Strongly Agree/Agree						
When staff make errors, this unit focuses on learning rather than blaming individuals. (Item A10)	71%	8.03%	29%	62%	67%	72%	76%	81%	95%
			% Strongly Disagree/Disagree						
In this unit, staff feel like their mistakes are held against them. (Item A6*)	61%	9.78%	18%	49%	56%	63%	68%	72%	100%
When an event is reported in this unit, it feels like the person is being written up, not the problem. (Item A7*)	59%	9.35%	19%	47%	53%	59%	64%	70%	90%
In this unit, there is a lack of support for staff involved in patient safety errors. (Item A13*)	65%	10.31%	16%	53%	59%	66%	72%	77%	89%
10. Staffing and Work Pace			% Strongly Agree/Agree						
In this unit, we have enough staff to handle the workload. (Item A2)	51%	12.48%	2%	35%	43%	50%	59%	67%	90%
			% Strongly Disagree/Disagree						
Staff in this unit work longer hours than is best for patient care. (Item A3*)	50%	11.16%	19%	35%	42%	49%	56%	65%	89%
This unit relies too much on temporary, float, or PRN staff. (Item A5*)	57%	12.99%	21%	43%	49%	56%	65%	76%	100%
The work pace in this unit is so rushed that it negatively affects patient safety. (Item A11*)	62%	11.87%	26%	48%	54%	61%	70%	77%	92%

Note: The item’s survey location is shown in parentheses after the item text. An asterisk (*) denotes a negatively worded item. For negatively worded items, the percent positive response is the percentage of respondents who answered Strongly Disagree/Disagree or Never/Rarely.

Table 6-3. Item Results for Reporting One or More Events in the Past 12 Months — 2024 SOPS Hospital 2.0 Database

Number of Events Reported in the Past 12 Months	Average % Positive s.d.		Survey Item % Response						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
<i>In the past 12 months</i> , how many patient safety events have <i>you</i> reported? (Item D3, 1 or more events)	47%	11.11%	13%	34%	40%	46%	53%	60%	100%

Note: The item’s survey location is shown in parentheses after the item text. For the results of all response options, see Chart 5-3.

Table 6-4. Item Results on Overall Rating on Patient Safety — 2024 SOPS Hospital 2.0 Database

Unit/Work Area Patient Safety Rating	Average % Positive s.d.		Survey Item % Response						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
How would you rate your unit/work area on patient safety? (Item E1, Excellent or Very Good)	68%	11.77%	4%	54%	61%	69%	76%	82%	95%

Note: The item’s survey location is shown in parentheses after the item text. For the results of all response options, see Chart 5-4.



7 Database Results Over Time: 2021 to 2024

The chapter presents trends in average percent positive scores for the composite measures in the SOPS Hospital 2.0 Database from 2021, 2022 and 2024. Scores are based on data from hospitals that submitted to the database for any of these given years. The number of hospitals in the Database varied by year, ranging from 172 in 2021 to 445 hospitals in 2024.

Overall, there were small changes in composite measure scores over time. *Communication About Error* increased by 4 percentage points from 2021 to 2024. Notably, *Staffing and Work Pace* decreased by 7 percentage points from 2021 to 2022, most likely due to the effects of the COVID-19 pandemic, but gained back 4 percentage points between 2022 to 2024.

Highlights



Communication About Error had the largest average percent positive **increase** of 4 percentage points from 2021 to 2024.



Staffing and Work Pace had the largest average percent positive **decrease** of 3 percentage points from 2021 to 2024.

Table 7-1. Participating Hospitals and Respondents – 2021 to 2024 SOPS Hospital 2.0 Database

Database Year	2021	2022	2024
Survey Administration Dates	Nov. 2018 – Oct. 2020	Nov. 2020 – July 2022	Aug. 2022 – June 2024
Number of Hospitals	172	400	445
Number of Respondents	87,856	206,410	284,036

Chart 7-1. Highest SOPS Hospital Composite Measure Results Over Time – 2021 to 2024
SOPS Hospital 2.0 Database

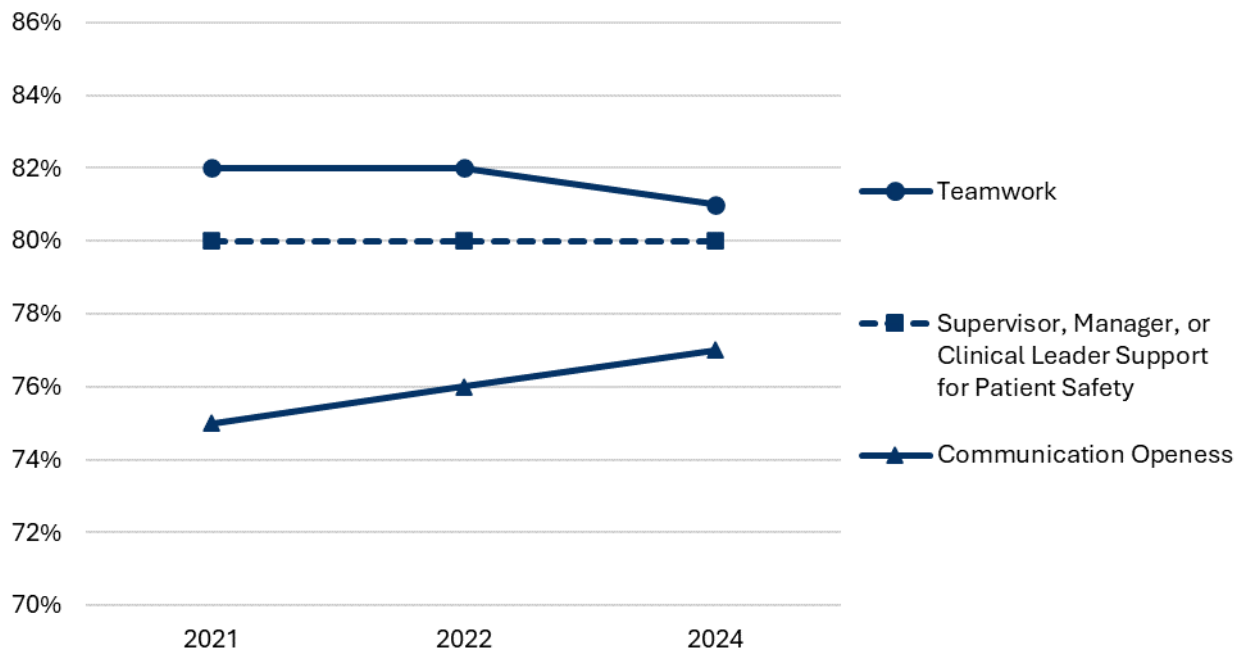


Chart 7-2. Middle SOPS Hospital Composite Measure Results Over Time – 2021 to 2024
SOPS Hospital 2.0 Database

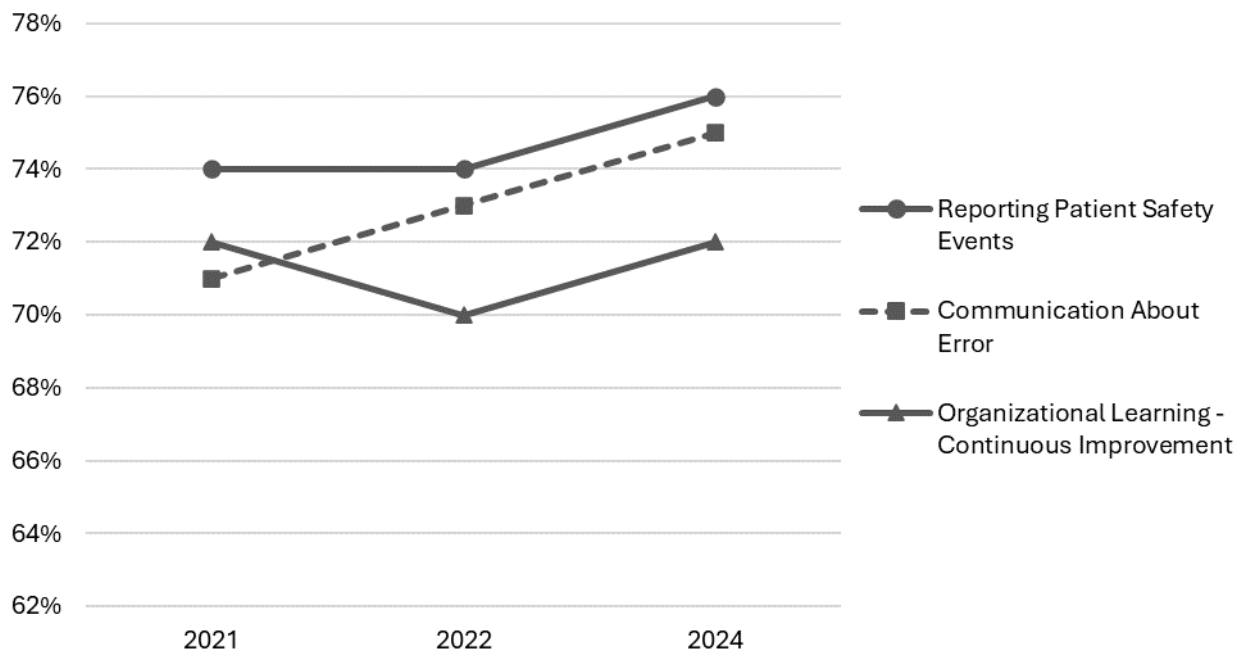
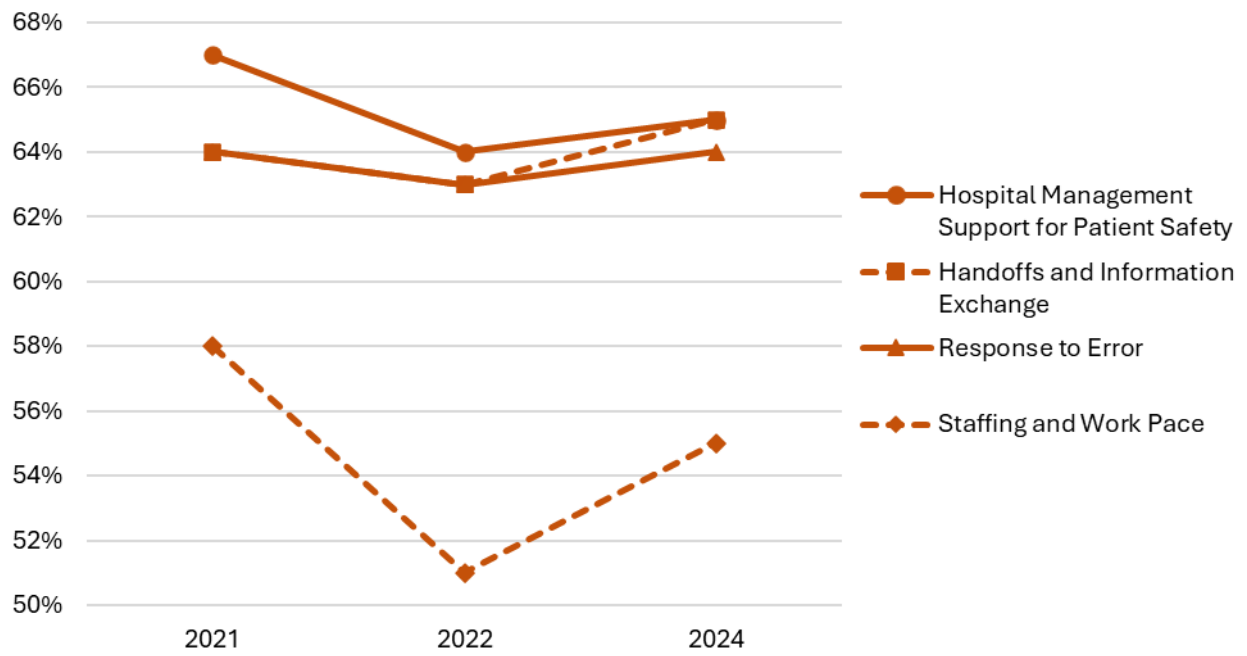


Chart 7-3. Lowest SOPS Hospital Composite Measure Results Over Time – 2021 to 2024
SOPS Hospital 2.0 Database





8 What's Next? Action Planning for Improvement

The AHRQ Surveys on Patient Safety Culture are important sources of information for healthcare organizations striving to improve patient safety. However, administering a SOPS survey is not the end of the improvement process. It is important to develop and implement action plans that use survey data for improvement.

SOPS Action Planning Tool

The [*Action Planning Tool for the AHRQ Surveys on Patient Safety Culture*](#) is intended for use after your organization administers the survey and analyzes the results. The *Action Planning Tool* offers guidance to help you develop an action plan for your unit, department, or facility. You can use the Action Plan Template at the end of the tool to document your answers to the key questions below.

1. Identifying Areas To Improve:

- a. What areas do you want to focus on for improvement?
- b. What are your “SMART” goals?
 - Specific
 - Measurable
 - Achievable
 - Relevant
 - Time bound

2. Planning Your Improvement Initiative:

- a. What initiative will you implement?
- b. What resources will you need?
- c. What are possible barriers and how can you overcome them?
- d. How will you measure progress and success?
- e. Will you pilot test the initiative?
- f. What is the timeline?

3. Communicating Your Action Plan:

- a. How will you share your action plan?
- b. How will you provide progress updates on your action plan?

Improvement Resources for Users of the AHRQ Hospital Survey

[*Improving Patient Safety in Hospitals: A Resource List for Users of the AHRQ Hospital Survey on Patient Safety Culture Version 2.0*](#) contains references to websites and other practical resources hospitals can use to improve patient safety culture and patient safety. The resource list is not exhaustive but provides initial guidance to hospitals seeking information about patient safety initiatives.

References

Agency for Healthcare Research and Quality. Hospital Survey on Patient Safety Culture. <https://www.ahrq.gov/sops/surveys/hospital/index.html>. Accessed October 30, 2024.

American Hospital Association. 2023 AHA Annual Survey Database. <https://www.ahadata.com/aha-annual-survey-database>. Accessed October 30, 2024.

Yount N, Edelman S, Sorra J, Gray L. Action Planning Tool for the AHRQ Surveys on Patient Safety Culture® (SOPS®). (Prepared by Westat, Rockville, MD, under Contract No. HHSP233201500026I/ HHSP23337004T). Rockville, MD: Agency for Healthcare Research and Quality; November 2022. AHRQ Publication No. 23-0011. <https://www.ahrq.gov/sops/resources/planning-tool/index.html>. Accessed October 30, 2024.



Notes: Description of Data Cleaning, Calculations, and Data Limitations

This section provides additional detail regarding how various statistics presented in this report were calculated, as well as data limitations.

Data Cleaning

Each participating hospital submitted respondent-level survey data. Once the data were submitted, response frequencies were tabulated for each hospital to find out-of-range values, missing values, and other data anomalies. When data outliers or other inconsistencies were found, hospitals were contacted and asked to correct and resubmit their data. In addition, after uploading their survey data, each participating hospital received a copy of its data frequencies to verify that the dataset the online submission system received was correct.

Data were also reviewed for response biases (e.g., responding with the same answer for all positively and negatively worded items in the same section of the survey). An example of a positively worded item is A8. During busy times, staff in this unit help each other, and an example of a negatively worded item is A9. There is a problem with disrespectful behavior by those working in this unit.

Sections A, B, C, and F include both positively and negatively worded items. When respondents supplied the same answer for every item in sections A, B, C, and F, responses for those particular respondents were removed from the final dataset because respondents should not have answered the same way across these differently worded items. In addition, if respondents marked the same answer for all items within either section A or F, which have at least two negatively worded items, those responses were set to missing in that particular section.

As a final step, respondents who had missing answers or supplied a “Does Not Apply or Don’t Know” response to all items across sections A, B, C, D, E, and F were removed from the final dataset. Hospitals were included in the database only if they had at least 10 respondents after all data cleaning steps.

Response Rates

As part of the data submission process, we asked hospitals to provide the number of completed, returned surveys and the total number of surveys distributed. Incomplete surveys are those surveys that were removed as a result of data cleaning as outlined above. We then calculated response rates using the formula below:

$$\text{Response Rate} = \frac{\text{Number of returned surveys} - \text{Incompletes}}{\text{Number of eligible providers and staff who received a survey}}$$

Calculation of Percent Positive Scores

Most of the survey items ask respondents to answer using 5-point response options in terms of agreement (Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree) or frequency (Always, Most of the time, Sometimes, Rarely, Never). Three of the 10 SOPS composite measures consisting of 9 items use the frequency response option (*Communication About Error*, *Communication Openness*, and *Reporting Patient Safety Events*). The other seven composite measures use the agreement response options. The composite measure items contain a “Does Not Apply or Don’t Know” response option that is not included in the calculation of percent positive scores.

The single item, Number of Events Reported, uses a 5-point scale ranging from “None” to “11 or more” (None, 1 to 2, 3 to 5, 6 to 10, 11 or more).

The Overall Rating on Patient Safety uses a 5-point scale ranging from “Poor” to “Excellent” (Poor, Fair, Good, Very Good, Excellent).

Composite Measure Item Percent Positive Response

The survey includes both positively worded items (e.g., “During busy times, staff in this unit help each other”) and negatively worded items (e.g., “There is a problem with disrespectful behavior by those working in this unit”). Calculating the percent positive response for positively worded items is different from calculating the percent positive response for negatively worded items:

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

For example, for the item “During busy times, staff in this unit help each other,” if 50 percent of respondents within a hospital responded “Strongly Agree” and 25 percent responded “Agree,” the item percent positive response for that hospital would be 50% + 25% = 75% positive.

- **For negatively worded items**, the percent positive response is the combined percentage of respondents within a hospital who answered “Strongly Disagree” or

“Disagree,” or “Never” or “Rarely,” depending on the response options used for the item. Keep in mind that a *negative* answer to a negatively worded item indicates a *positive* response.

For example, for the item “There is a problem with disrespectful behavior by those working in this unit,” if 40 percent of respondents within a hospital responded “Strongly Disagree” and 20 percent responded “Disagree,” the item percent positive response would be 60 percent positive (i.e., 60 percent of respondents *do not* believe there is a problem with disrespectful behavior).

Composite Measure Percent Positive Response

The 10 SOPS Hospital Survey 2.0 composite measures are each composed of two, three, or four survey items. We calculated composite measure scores for each hospital by averaging the unrounded percent positive response on the items within a composite measure. For example, for a three-item composite measure, if the item percent positive responses were 45.8 percent, 56.8 percent, and 48.1 percent, the hospital’s composite measure percent positive response would be the average of these three percentages, or 50.2 percent positive, and displayed as a rounded percentage of 50 percent.

If a hospital had data for at least 50 percent of the items within a composite measure, the site would still receive a composite measure score. For example, for a three-item composite measure, the number of item scores needed to calculate the composite measure score is two items. For a four-item composite measure, the number of item scores needed to calculate the composite measure score is two items. For an item score to be calculated, there must be at least three respondents for the item.

Table N1 shows an example of computing a composite measure score for *Teamwork* for a single hospital. This composite measure has three items. Two are positively worded (Items A1 and A8) and one is negatively worded (Item A9). Keep in mind that DISAGREEING with a negatively worded item indicates a POSITIVE response.

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

Three Items Measuring "Teamwork"	Calculation of Percent Positive			
	For Positively Worded Items, Number of "Strongly Agree" or "Agree" Responses	For Negatively Worded Items, Number of "Strongly Disagree" or "Disagree" Responses	Total Number of Responses to the Item (Excluding "Does Not Apply or Don't Know" and Missing Responses)	Item Percent Positive Response
Item A1 - positively worded "In this unit, we work together as an effective team."	110	NA*	240	110/240= 45.8%
Item A8 - positively worded "During busy times, staff in this unit help each other."	142	NA*	250	142/250= 56.8%
Item A9 - negatively worded "There is a problem with disrespectful behavior by those working in this unit."	NA*	125	260	125/260= 48.1%
Composite Measure % Positive Score = (45.8% + 56.8% + 48.1%) / 3 = 50.2%				

*NA = Not applicable.

This example includes three items, with percent positive response scores of 45.8 percent, 56.8 percent, and 48.1 percent. Averaging these three items' percent positive scores results in a composite measure percent positive score of 50.2 percent for the *Teamwork* composite measure.

Single-Item Percent Positive Response

The percent positive score for Number of Events Reported (Item D3) is calculated by adding together the percentage of respondents who answered that they reported one or more events in the past 12 months and then dividing that sum by the total number of responses to item D3.

The Overall Rating on Patient Safety (Item E1) percent positive response is calculated by adding together the percentage of respondents who answered "Excellent" or "Very Good" and then dividing that sum by the total number of responses to item E1.

Table N2 shows examples of computing the percent positive response for the Number of Events Reported (Item D3) and the Overall Rating on Patient Safety (Item E1).

Table N2. Example of Computing Number of Events Reported and Overall Rating on Patient Safety

Survey Items	Number of Responses Reporting 1 or More Events	Number of “Excellent” or “Very Good” Responses	Total Number of Responses to the Item	Item Percent Positive Response
Item D3: “ <i>In the past 12 months</i> , how many patient safety events have you reported?”	193	NA*	250	193/250 = 77.2%
Item E1: “How would you rate your unit/work area on patient safety?”	NA*	106	240	106/240 = 44.2%

* NA = Not applicable.

Database Item and Composite Measure Percent Positive Scores

We calculated the database average percent positive scores for each of the 10 SOPS composite measures and survey items by averaging the unrounded hospital-level percent positive item scores and composite measure scores of all hospitals in the database. Because the percent positive is displayed as an overall average, scores from each hospital are weighted equally in their contribution to the calculation of the average.

Standard Deviation

The standard deviation (s.d.) is a measure of the spread or variability of hospital scores around the average. The standard deviations presented in Chapter 6 show the extent to which hospital scores differ from the average:

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

When the distribution of hospital 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 hospital scores. For example, if an average percent positive score across the database hospitals was 70 percent with a standard deviation of 10 percent (and scores were normally distributed), then

about 68 percent of all the database hospitals would have scores between 60 percent and 80 percent positive.

Minimum and Maximum Scores

The minimum (lowest) and maximum (highest) percent positive scores are presented for each composite measure and item. These scores provide information about the range of percent positive scores obtained by database hospitals and are actual scores from the lowest and highest scoring hospitals.

When comparing your data with the minimum and maximum scores, keep in mind that these scores may represent hospitals 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

Percentiles provide information about the distribution of hospital scores. A specific percentile score shows the percentage of hospitals that scored at or below a particular score.

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

The following examples show how the 10th and 50th percentiles would be computed using a sample of percent positive scores from 12 hospitals (using fake data shown in Table N3). First, the percent positive scores for composite measure “A” are sorted from low to high.

Table N3. Data Table for Example of How To Compute Percentiles

Hospital	Composite Measure “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

1. For the 10th percentile, we would first multiply the number of hospitals (n) by 0.10 (p):
(n x p = 12 x 0.10 = 1.2).
2. The product of n x p = 1.2, where “j” = 1 (the integer) and “g” = 2 (the decimal). Because “g” is *not* equal to 0, the 10th percentile score is equal to the percent positive value of the hospital in the jth +1 position:
 1. “j” equals 1.
 2. The 10th percentile equals the value for the hospital in the 2nd position = 48%.

50th percentile

1. For the 50th percentile, we would first multiply the number of hospitals by 0.50:
(n x p = 12 x 0.50 = 6.0).
2. The product of n x p = 6.0, where “j” = 6 and “g” = 0. Because “g” = 0, the 50th percentile score is equal to the percent positive value of the hospital in the jth position plus the percent positive value of the hospital in the jth +1 position, divided by 2:
 1. “j” equals 6.
 2. The 50th percentile equals the average of the hospitals in the 6th and 7th positions
(64%+66%)/2 = 65%.

When the distribution of hospital 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 N4.

Table N4. Interpretation of Percentile Scores

Percentile Score	Interpretation
10th percentile Represents the lowest scoring hospitals.	10% of the hospitals scored the same or lower. 90% of the hospitals scored higher.
25th percentile Represents lower scoring hospitals.	25% of the hospitals scored the same or lower. 75% of the hospitals scored higher.
50th percentile (or median) Represents the middle of the distribution of hospitals.	50% of the hospitals scored the same or lower. 50% of the hospitals scored higher.
75th percentile Represents higher scoring hospitals.	75% of the hospitals scored the same or lower. 25% of the hospitals scored higher.
90th percentile Represents the highest scoring hospitals.	90% of the hospitals scored the same or lower. 10% of the hospitals scored higher.

To compare with the database percentiles, compare your hospital’s percent positive scores with the percentile scores for each composite measure and item. See examples below in Table N5.

Table N5. Sample Percentile Statistics

Survey Item	Average % Positive	s.d.	Survey Item % Positive Response						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
Item 1	36%	12.26	8%	10%	25%	35%	49%	62%	96%

If your hospital’s score is 55%, your score falls here:

If your hospital’s score is 65%, your score falls here:

If your hospital’s score is 55 percent positive, it falls above the 75th percentile (but below the 90th), meaning that your hospital scored higher than at least 75 percent of the hospitals in the database.

If your hospital’s score is 65 percent positive, it falls above the 90th percentile, meaning your hospital scored higher than at least 90 percent of the hospitals in the database.

Statistically “Significant” Differences Between Scores

You might be interested in determining the statistical significance of differences between your scores and the database scores, or between database scores in various categories (e.g., hospital bed size, teaching status). 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), such a small difference of 1 percentage point 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.

Data Limitations

The survey results presented in this report represent the largest known compilation of publicly available patient safety culture data for hospitals and therefore provide a useful reference. However, these data have several limitations.

First, hospitals voluntarily submitted their data to the database; therefore, the database only includes those hospitals that have administered the SOPS Hospital 2.0 Survey and were willing to submit their data to the database. Estimates based on this self-selected sample may produce biased estimates of the population. Therefore, it is not possible to compute estimates of precision that apply to the population.

Second, only a small percentage of all hospitals in the United States (7 percent) are represented in the database (see Table 3-1). However, the characteristics of the database hospitals are fairly consistent with the distribution of hospitals registered with the American Hospital Association (AHA) and are described further in Chapter 3.

Third, hospitals that administered the survey were not required to undergo any training and administered the survey in different ways. Some hospitals administered only paper surveys, others used only web-based surveys, and others used a combination of these two methods. These different survey administration modes could have led to differences in survey responses; further research is needed to determine whether, and how, different survey administration modes affect the results.

In addition, some hospitals conducted a census, surveying all their staff and providers, while others administered the survey to a sample of only some staff and providers. Survey administration statistics for database hospitals, such as survey administration modes and response rates, are provided in Chapter 2.

Finally, the data hospitals submitted have been cleaned for out-of-range values (e.g., invalid response values due to data entry errors), straight-lining (where responses to all survey items in sections A, B, C, and F were the same), and blank records (where responses to all survey items were missing, or had “Does Not Apply or Don’t Know” except for background items). Otherwise, data are presented as submitted. No additional attempts were made to verify or audit the accuracy of the data submitted.



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