

# SURVEYS ON PATIENT SAFETY CULTURE® (SOPS)®



## Ambulatory Surgery Center Survey: 2023 User Database Report



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# Surveys on Patient Safety Culture® (SOPS®) Ambulatory Surgery Center Survey: 2023 User Database Report

## Part I

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# Overview

## Surveys on Patient Safety Culture®

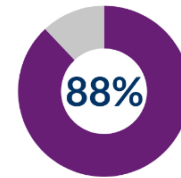
### Findings from the 2023 Ambulatory Surgery Center (ASC) Database



**243**  
Participating  
ambulatory surgery centers

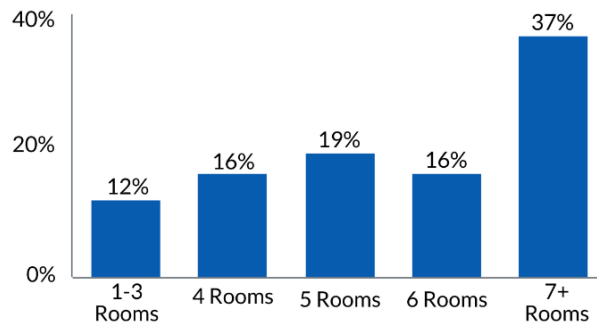


**7,458**  
Respondents



88%  
of participating ASCs were  
multispecialty

#### » Distribution of Operating/Procedure Rooms for Database ASCs



#### Highest Scoring Composite Measure



Organizational Learning -  
Continuous Improvement

**91%**

of respondents reported that the facility actively looks for ways to improve patient safety and makes changes to ensure that problems do not recur.

#### Lowest Scoring Composite Measure



Staffing, Work Pressure,  
and Pace

**72%**

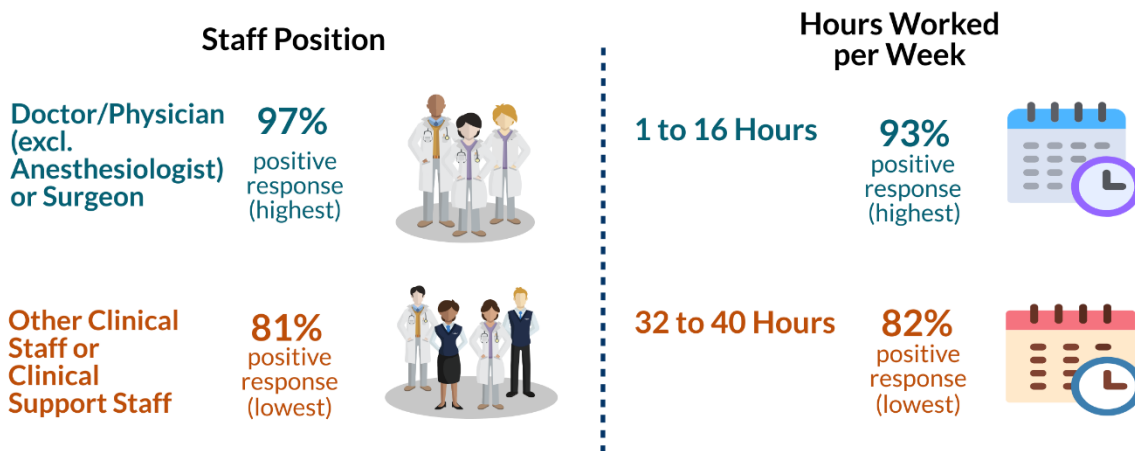
of respondents indicated they have enough time to prepare for procedures, have enough staff to handle the workload, and do not feel rushed.

## Composite Measure Average

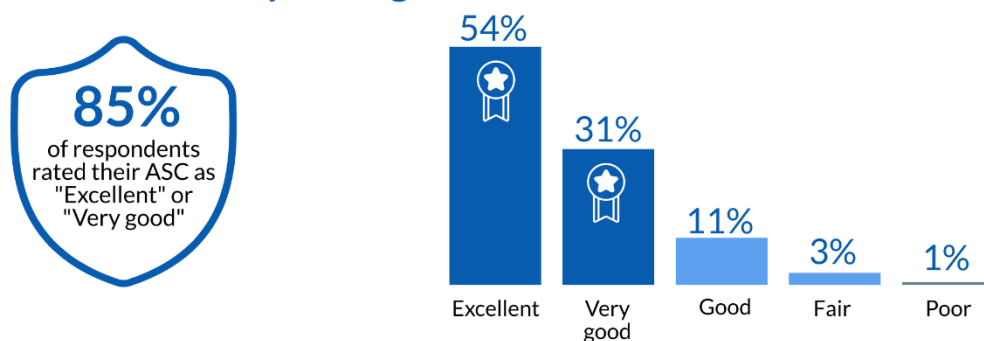


Average of the eight composite measure percent positive scores.

## Highest and Lowest Composite Measure Average Scores by Respondent Characteristics



## Overall Patient Safety Rating



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

### 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/index.html](http://www.ahrq.gov/sops/resources/planning-tool/index.html)

# Purpose and Use of This Report

In response to requests from ambulatory surgery centers (ASCs) interested in comparing results with those of other ASCs on the Surveys on Patient Safety Culture® (SOPS®) Ambulatory Surgery Center Survey, the Agency for Healthcare Research and Quality (AHRQ) established the SOPS Ambulatory Surgery Center Survey Database.

The 2023 SOPS ASC User Database Report contains data from 243 ASCs and includes 7,458 provider and staff respondents. Participating ASCs administered the SOPS ASC Survey between January 2022 and June 2023.

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 ASC Survey.

In addition to the overall ASC database results presented in this report, Part II of the report (Appendixes A and B) presents data tables showing results by the following ASC and respondent characteristics:

## **Appendix A: Results by Facility Characteristics**

- Number of Operating/Procedure Rooms
- Geographic Region

## **Appendix B: Results by Respondent Characteristics**

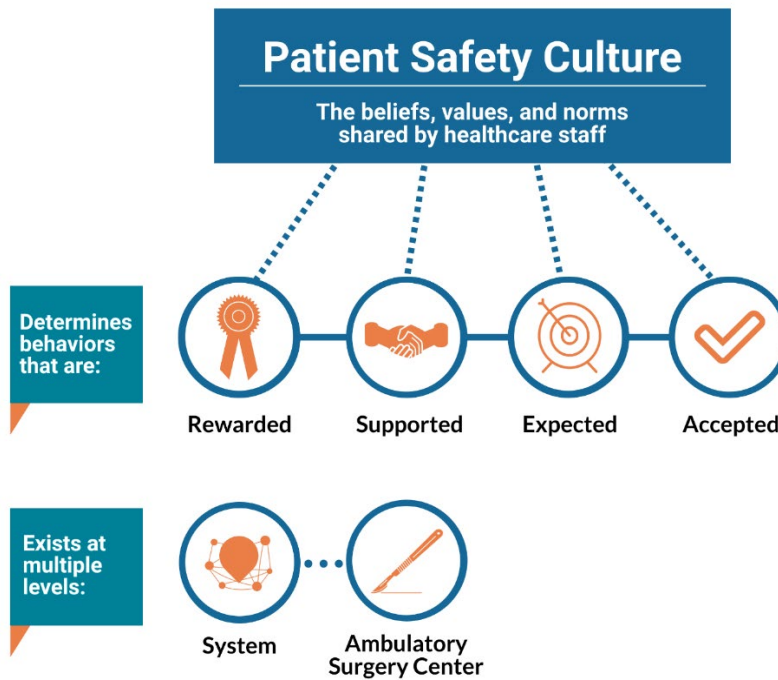
- Staff Position
- Hours Worked Per Week

The appendixes in Part II are available online at [ahrq.gov/sops/databases/asc](https://ahrq.gov/sops/databases/asc).

# 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 Ambulatory Surgery Center Survey includes 27 items that make up eight composite measures of patient safety culture. Table 1-1 defines each of the eight SOPS ASC Survey composite measures.

**Table 1-1. SOPS ASC Survey Composite Measures and Definitions**

SOPS ASC Survey Composite Measures	Definition: The extent to which...	Number of Items
<b>Communication About Patient Information</b>	Key information about patients is available and well communicated within the ASC.	4
<b>Communication Openness</b>	Staff speak up when they see something unsafe, they feel comfortable asking questions, and their suggestions are valued.	3
<b>Management Support for Patient Safety</b>	Managers examine near-miss events, provide adequate resources, and encourage everyone to suggest ways to improve patient safety.	3
<b>Organizational Learning—Continuous Improvement</b>	The facility actively looks for ways to improve patient safety and makes changes to ensure that problems do not recur.	3
<b>Response to Mistakes</b>	Staff are told about patient safety problems, learning rather than blame is emphasized, and staff are treated fairly when they make mistakes.	3
<b>Staff Training</b>	Staff receive adequate orientation, get the refresher and on-the-job training they need, and do not feel pressured to do tasks they are not trained to do.	4
<b>Staffing, Work Pressure, and Pace</b>	Staff <b>do not</b> feel rushed, they have enough time to properly prepare for procedures, and there are enough staff to handle the workload.	3
<b>Teamwork</b>	Staff are respectful and help each other, work together as an effective team, and understand each other's roles and responsibilities.	4

In addition to the items that make up these composite measures, the survey includes an item about near-miss documentation, an item that asks respondents to provide an overall rating on patient safety, and three items about communication in the surgery/procedure room. Respondents are also asked to provide answers to two background questions about staff position and hours worked per week in the ASC.

## 2 Survey Administration Statistics

This chapter presents descriptive information on the number of ASCs and survey respondents, overall and average response rates (Table 2-1), and ways ASCs administered the survey (Table 2-2).

### Highlights



**Table 2-1. Response Rate Statistics – 2023 SOPS ASC Database**

Overall Response Information		Statistic
Number of respondents		7,458
Number of surveys distributed		13,742
Overall response rate		54%
Average Response Information		Statistic
Average number of respondents per ASC (range: 3 to 93)		31
Average number of surveys administered per ASC (range: 5 to 248)		57
Average ASC response rate (range: 10% to 100%)		59%

**Table 2-2. Survey Administration Mode Statistics – 2023 SOPS ASC Database**

Survey Administration Mode	ASCs		Respondents		Average Response Rate
	Number	Percent	Number	Percent	Percent
Paper only	16	7%	349	5%	87%
Web only	227	93%	7,109	95%	57%
<b>Total</b>	<b>243</b>	<b>100%</b>	<b>7,458</b>	<b>100%</b>	<b>--</b>

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

# 3 Facility Characteristics

This chapter presents information about the characteristics of the ASCs included in the 2023 SOPS ASC Database, including number of operating/procedure rooms, number of specialties (single vs. multispecialty), and geographic region (Table 3-1).

To provide some context, number of operating/procedure room, number of specialties (single vs. multispecialty), and geographic region can be compared with the distribution of ASCs included in the 2023 Centers for Medicare & Medicaid Services (CMS) – Provider of Services File – Hospital & Non-Hospital Facilities in Table N6 in the Notes section.

## Highlights



**53%**

of participating ASCs have  
**6 or more operating/procedure rooms**



**88%**

of participating ASCs are  
**multispecialty**



**23%**

of participating ASCs are located in  
the **South Atlantic region**

**Table 3-1. Distribution of 2023 SOPS ASC Database by Facility Characteristics**

Facility Characteristic	ASCs (n=243)		Respondents (n=7,458)	
	Number	Percent	Number	Percent
<b>Number of Operating/Procedure Rooms</b>				
1 to 3 rooms	29	12%	519	7%
4 rooms	40	16%	870	12%
5 rooms	46	19%	1,164	16%
6 rooms	38	16%	1,215	16%
7 rooms or more	90	37%	3,690	49%
<b>Single Specialty vs. Multispecialty</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
Single specialty	28	12%	693	9%
Multispecialty	215	88%	6,765	91%
<b>Geographic Region</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
New England	12	5%	456	6%
Mid-Atlantic	19	8%	485	7%
South Atlantic/Associated Territories	56	23%	1,805	24%
East North Central	27	11%	686	9%
East South Central	10	4%	449	6%
West North Central	21	9%	687	9%
West South Central	36	15%	1,001	13%
Mountain	22	9%	440	6%
Pacific/Associated Territories	40	16%	1,449	19%

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

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



# 4 Respondent Characteristics

This chapter describes the characteristics of the 7,458 respondents in the 2023 SOPS ASC Database (Table 4-1).

## Highlights

---



**36%**

of respondents are **nurses**,  
the most prevalent ASC staff position



**51%**

of respondents work  
**32–40 hours per week** in their ASC

---

**Table 4-1. Distribution of 2023 SOPS ASC Database by Respondent Characteristics**

Respondent Characteristics	Respondents	
	Number	Percent
Staff Position		
Anesthesiologist	376	5%
Doctor/Physician (excluding Anesthesiologists) or Surgeon	1,156	16%
Certified Registered Nurse Anesthetist (CRNA)	182	2%
Physician Assistant or Nurse Practitioner	73	1%
Management	731	10%
Nurse	2,627	36%
Technician	952	13%
Other Clinical Staff or Clinical Support Staff	238	3%
Administrative, Clerical, or Business Staff	841	11%
Other	185	3%
<b>Total</b>	<b>7,361</b>	<b>100%</b>
Missing	97	--
Overall total	7,458	--
Hours Worked per Week in ASC		
1 to 16 hours	1,652	22%
17 to 31 hours	1,018	14%
32 to 40 hours	3,743	51%
More than 40 hours	979	13%
<b>Total</b>	<b>7,392</b>	<b>100%</b>
Missing	66	--
Overall total	7,458	--

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

# 5 Overall Results

This chapter presents overall findings from the 2023 SOPS ASC Database. We present the average percentage of positive responses for each of the survey’s composite measures and items, summarized for all database ASCs. Reporting the average for all ASCs ensures each ASC’s scores receive equal weight, regardless of the ASC’s size. An alternative method would be to report the percentage of positive responses summarized for all respondents, but this method would give greater weight to those ASCs with a larger number of staff. Reporting the data at the ASC level, rather than the respondent level, is important because culture is considered a group characteristic, not an individual characteristic.

## Highlights

### Highest Scoring Composite Measure Organizational Learning–Continuous Improvement



91%

of respondents reported that their facility actively looks for ways to improve patient safety and makes changes to ensure that patient safety problems do not recur.

### Lowest Scoring Composite Measure Staffing, Work Pressure, and Pace



72%

of respondents indicated they have enough time to prepare for procedures, have enough staff to handle the workload, and do not feel rushed.

### Near-Miss Documentation



90%

of respondents reported that near-miss events are “Always” or “Most of the time” reported.

### Overall Rating on Patient Safety



85%

of respondents gave their ASC 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 eight SOPS ASC Survey composite measures, summarized for all ASCs in the database. The SOPS ASC Survey 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 27 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.

### Near-Miss Documentation

**Chart 5-3** shows results from the item that asks respondents about near-miss documentation.

### Overall Patient Safety Rating

**Chart 5-4** shows results from the item that asks respondents to give their ASC an overall rating on patient safety.

### Communication in the Surgery/Procedure Room

**Chart 5-5** shows the results from the three items related to communication in the surgery/procedure room for those respondents who answered that they were typically in the surgery/procedure room during surgeries, procedures, or treatments.

**Chart 5-1. Composite Measure Results**  
**Average Percent Positive Response – 2023 SOPS ASC Database**



## Chart 5-2. Item Results

### Average Percent Positive Response – 2023 SOPS ASC Database (Page 1 of 3)

#### 1. Organizational Learning -- Continuous Improvement

This facility actively looks for ways to improve patient safety. (Item C1)

#### Average % Positive Response

92%

We make improvements when someone points out patient safety problems. (Item C3)

92%

We are good at changing processes to make sure the same patient safety problems don't happen again. (Item C6)

90%

#### 2. Communication About Patient Information

Important patient care information is clearly communicated across areas in this facility. (Item A1)

94%

We share key information about patients as soon as it becomes available. (Item A7)

95%

Within this facility, we do a good job communicating information that affects patient care. (Item A9)

93%

Key information about patients is missing when it is needed. (Item A5\*)

75%

#### 3. Management Support for Patient Safety

Managers encourage everyone to suggest ways to improve patient safety. (Item E1)

89%

Management examines near-miss events that could have harmed patients but did not. (Item E2)

90%

Management provides adequate resources to improve patient safety. (Item E3)

89%

**Note:** The item's survey location is shown in parentheses after the item text. An \* denotes a negatively worded item, where the % Strongly Disagree/Disagree or % Never/Rarely indicates a positive response.

## Chart 5-2. Item Results

### Average Percent Positive Response – 2023 SOPS ASC Database (Page 2 of 3)

#### 4. Communication Openness

We feel comfortable asking questions when something doesn't seem right. (Item A2)

94%

When we see someone with more authority doing something unsafe for patients, we speak up. (Item A4)

91%

Our ideas and suggestions are valued in this facility. (Item A6)

82%

#### 5. Teamwork

When someone in this facility gets really busy, others help out. (Item B1)

91%

Doctors and staff clearly understand each other's roles and responsibilities. (Item B4)

87%

We work together as an effective team. (Item B8)

92%

Our facility allows disrespectful behavior by those working here. (Item B6\*)

77%

#### 6. Response to Mistakes

Staff are treated fairly when they make mistakes. (Item C2)

84%

Learning, rather than blame, is emphasized when mistakes are made. (Item C4)

84%

Staff are told about patient safety problems that happen in this facility. (Item C5)

88%

**Note:** The item's survey location is shown in parentheses after the item text. An \* denotes a negatively worded item, where the % Strongly Disagree/Disagree or % Never/Rarely indicates a positive response.

## Chart 5-2. Item Results

### Average Percent Positive Response – 2023 SOPS ASC Database (Page 3 of 3)

#### 7. Staff Training

#### Average % Positive Response

Staff who are new to this facility receive adequate orientation.  
(Item B2)

81%

We get the on-the-job training we need in this facility. (Item B5)

86%

Staff get the refresher training they need. (Item B7)

83%

Staff feel pressured to do tasks they haven't been trained to do.  
(Item B3\*)

71%

#### 8. Staffing, Work Pressure, and Pace

We have enough staff to handle the workload. (Item A3)

78%

There is enough time between procedures to properly prepare for  
the next one. (Item A8)

83%

We feel rushed when taking care of patients. (Item A10\*)

55%

**Note:** The item's survey location is shown in parentheses after the item text. An \* denotes a negatively worded item, where the % Strongly Disagree/Disagree or % Never/Rarely indicates a positive response.

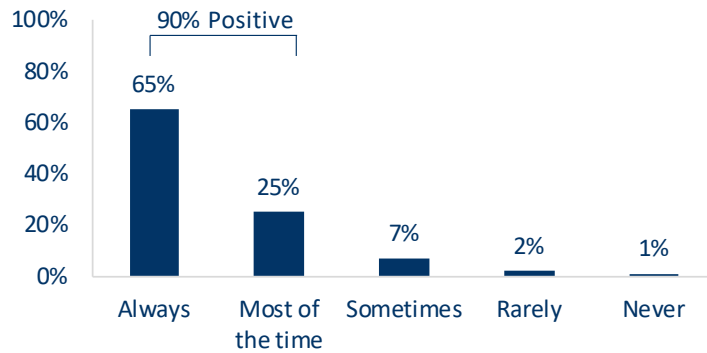


### Chart 5-3. Item Results

#### Average Percentage Response on Near-Miss Documentation – 2023 SOPS ASC Database

##### Near-Miss Documentation

When something happens that could harm the patient, but does not, how often is it documented in an incident or occurrence report? (Item D1)

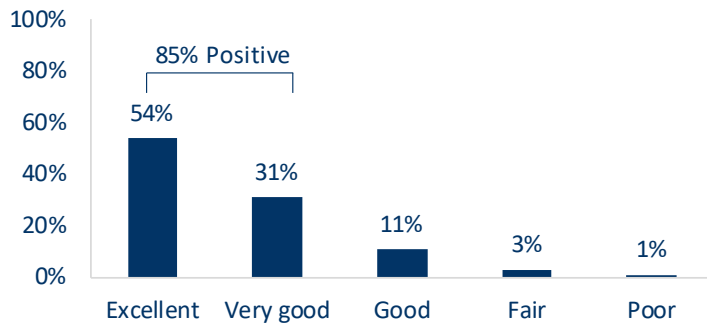


### Chart 5-4. Item Results

#### Average Overall Patient Safety Rating – 2023 SOPS ASC Database

##### Overall Patient Safety Rating

Please give your facility an overall rating on patient safety. (Item F1)



**Note:** Percentages indicate the database average percent response for each item response option.

### Chart 5-5. Item Results

#### Average Percent Positive Response on Communication in the Surgery/Procedure Room - 2023 SOPS ASC Database

##### Communication in the Surgery/Procedure Room

##### Average % Positive Response

**In the past 6 months, how often were the following actions done in your facility?**

Just before the start of procedures, all team members stopped to discuss the overall plan of what was to be done. (Item G1)

94%

Just before the start of procedures, the doctor encouraged all team members to speak up at any time if they had any concerns. (Item G2)

74%

Immediately after procedures, team members discussed any concerns for patient recovery. (Item G3)

77%

**Note:** The item's survey location is shown in parentheses after the item text. Results only include those respondents who answered "Yes" to typically being in the surgery/procedure room during surgeries, procedures, or treatments.

# 6 Comparing Facility Results

The data in this report should be used to supplement your ASC’s efforts to identify areas of strength and areas on which to focus efforts to improve patient safety culture.

To compare an ASC’s survey results with the findings from the database, calculate the facility’s percent positive response on the survey’s eight composite measures and survey items. These include the item about near-miss documentation, the overall patient safety rating, and the three items on communication in the surgery/procedure room.

The Notes section at the end of this report describes how to calculate percent positive scores. Individual facility results can then be compared with the database averages and the percentile scores for all ASCs in the database.

When comparing your ASC’s results with the database results, note that the database only provides *relative* comparisons. Although your ASC’s survey results may have higher percent positive scores than the database statistics, there may still be room for improvement in a particular area within your ASC 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 eight SOPS ASC Survey composite measures.

**Table 6-2** presents statistics for each of the 27 survey items that make up 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 near-miss documentation. Results presented in the table represent average percent positive scores for ASC respondents who answered “Always” or “Most of the time.”

**Table 6-4** presents statistics for respondents’ overall patient safety rating in their ASC. Results presented in the table represent average percent positive scores for ASC respondents who answered “Excellent” or “Very good.”

**Table 6-5** presents statistics for the three items related to communication in the surgery/procedure room. Results presented in the table represent average percent positive scores for ASC respondents who answered “Always” or “Most of the time.”

**Table 6-1. Composite Measure Results – 2023 SOPS ASC Database**

SOPS Composite Measures	Average % Positive	s.d.	Composite Measure % Positive Response						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
<b>1. Organizational Learning—Continuous Improvement</b>	91%	8.76%	52%	81%	89%	94%	97%	100%	100%
<b>2. Communication About Patient Information</b>	89%	7.30%	57%	80%	86%	91%	95%	98%	100%
<b>3. Management Support for Patient Safety</b>	89%	9.92%	42%	78%	85%	92%	96%	100%	100%
<b>4. Communication Openness</b>	89%	8.69%	58%	75%	84%	91%	95%	98%	100%
<b>5. Teamwork</b>	87%	8.13%	59%	77%	82%	88%	92%	95%	100%
<b>6. Response to Mistakes</b>	85%	9.57%	55%	74%	81%	87%	93%	96%	100%
<b>7. Staff Training</b>	80%	12.27%	35%	63%	74%	82%	89%	93%	100%
<b>8. Staffing, Work Pressure, and Pace</b>	72%	13.71%	26%	54%	63%	73%	82%	88%	100%
<b>Composite Measure Average</b>	85%	8.34%	51%	74%	81%	87%	91%	94%	100%

**Note:** (1) Each composite measure score is the average of the unrounded composite measure scores for all ASCs in the database; (2) the Composite Measure Average is the average of the eight unrounded composite measure scores of each ASC in the database.

**Table 6-2. Item Results – 2023 SOPS ASC Database (Page 1 of 4)**

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
<b>1. Organizational Learning—Continuous Improvement</b>			% Strongly Agree/Agree						
This facility actively looks for ways to improve patient safety. (Item C1)	92%	9.28%	36%	82%	89%	95%	100%	100%	100%
We make improvements when someone points out patient safety problems. (Item C3)	92%	8.80%	57%	81%	89%	94%	100%	100%	100%
We are good at changing processes to make sure the same patient safety problems don't happen again. (Item C6)	90%	10.21%	39%	76%	85%	92%	97%	100%	100%
<b>2. Communication About Patient Information</b>			% Always/Most of the time						
Important patient care information is clearly communicated across areas in this facility. (Item A1)	94%	6.83%	67%	86%	92%	97%	100%	100%	100%
We share key information about patients as soon as it becomes available. (Item A7)	95%	6.38%	64%	86%	92%	96%	100%	100%	100%
Within this facility, we do a good job communicating information that affects patient care. (Item A9)	93%	7.34%	64%	83%	90%	95%	100%	100%	100%
			% Never/Rarely						
Key information about patients is missing when it is needed. (Item A5*)	75%	14.07%	25%	58%	67%	76%	85%	93%	100%

**Note:** The item's survey location is shown in parentheses after the item text. An \* denotes a negatively worded item, where the % Strongly Disagree/Disagree or % Never/Rarely indicates a positive response.

**Table 6-2. Item Results – 2023 SOPS ASC Database (Page 2 of 4)**

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
<b>3. Management Support for Patient Safety</b>			% Strongly Agree/Agree						
Managers encourage everyone to suggest ways to improve patient safety. (Item E1)	89%	10.52%	30%	75%	84%	91%	96%	100%	100%
Management examines near-miss events that could have harmed patients but did not. (Item E2)	90%	10.42%	43%	79%	87%	92%	98%	100%	100%
Management provides adequate resources to improve patient safety. (Item E3)	89%	11.21%	40%	74%	83%	92%	97%	100%	100%
<b>4. Communication Openness</b>			% Always/Most of the time						
We feel comfortable asking questions when something doesn't seem right. (Item A2)	94%	7.52%	60%	85%	91%	96%	100%	100%	100%
When we see someone with more authority doing something unsafe for patients, we speak up. (Item A4)	91%	8.48%	55%	80%	88%	93%	100%	100%	100%
Our ideas and suggestions are valued in this facility. (Item A6)	82%	13.86%	31%	63%	75%	85%	91%	97%	100%

**Note:** The item's survey location is shown in parentheses after the item text. An \* denotes a negatively worded item, where the % Strongly Disagree/Disagree or % Never/Rarely indicates a positive response.

**Table 6-2. Item Results – 2023 SOPS ASC Database (Page 3 of 4)**

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
<b>5. Teamwork</b>			% Strongly Agree/Agree						
When someone in this facility gets really busy, others help out. (Item B1)	91%	8.62%	53%	78%	86%	92%	97%	100%	100%
Doctors and staff clearly understand each other’s roles and responsibilities. (Item B4)	87%	9.94%	50%	74%	82%	88%	94%	100%	100%
We work together as an effective team. (Item B8)	92%	7.99%	56%	82%	88%	94%	100%	100%	100%
			% Strongly Disagree/Disagree						
Our facility allows disrespectful behavior by those working here. (Item B6*)	77%	13.84%	33%	60%	68%	78%	86%	93%	100%
<b>6. Response to Mistakes</b>			% Strongly Agree/Agree						
Staff are treated fairly when they make mistakes. (Item C2)	84%	10.40%	50%	70%	78%	86%	92%	97%	100%
Learning, rather than blame, is emphasized when mistakes are made. (Item C4)	84%	11.54%	50%	68%	78%	85%	92%	100%	100%
Staff are told about patient safety problems that happen in this facility. (Item C5)	88%	10.67%	44%	72%	83%	91%	96%	100%	100%

**Note:** The item’s survey location is shown in parentheses after the item text. An \* denotes a negatively worded item, where the % Strongly Disagree/Disagree or % Never/Rarely indicates a positive response.

**Table 6-2. Item Results – 2023 SOPS ASC Database (Page 4 of 4)**

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
<b>7. Staff Training</b>			% Strongly Agree/Agree						
Staff who are new to this facility receive adequate orientation. (Item B2)	81%	14.40%	20%	63%	74%	85%	92%	96%	100%
We get the on-the-job training we need in this facility. (Item B5)	86%	12.38%	22%	67%	79%	89%	95%	100%	100%
Staff get the refresher training they need. (Item B7)	83%	13.56%	21%	67%	77%	86%	92%	100%	100%
			% Strongly Disagree/Disagree						
Staff feel pressured to do tasks they haven't been trained to do. (Item B3*)	71%	16.04%	0%	50%	62%	72%	82%	89%	100%
<b>8. Staffing, Work Pressure, and Pace</b>			% Always/Most of the time						
We have enough staff to handle the workload. (Item A3)	78%	16.09%	18%	56%	70%	81%	91%	97%	100%
There is enough time between procedures to properly prepare for the next one. (Item A8)	83%	13.14%	33%	64%	75%	85%	92%	98%	100%
			% Never/Rarely						
We feel rushed when taking care of patients. (Item A10*)	55%	18.29%	0%	34%	43%	55%	67%	80%	100%

**Note:** The item's survey location is shown in parentheses after the item text. An \* denotes a negatively worded item, where the % Strongly Disagree/Disagree or % Never/Rarely indicates a positive response.



**Table 6-3. Item Results on Near-Miss Documentation – 2023 SOPS ASC Database**

When something happens that could harm the patient, but does not, how often is it documented in an incident or occurrence report? (Item D1)	Average % Positive	s.d.	Survey Item % Positive Response						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
Always or Most of the time	90%	10.20%	42%	78%	86%	92%	100%	100%	100%

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

**Table 6-4. Item Results on Overall Patient Safety Rating – 2023 SOPS ASC Database**

Overall Patient Safety Rating (Item F1)	Average % Positive	s.d.	Survey Item % Positive Response						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
Excellent or Very good	85%	12.53%	36%	68%	78%	88%	94%	100%	100%

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

**Table 6-5. Item Results on Communication in the Surgery/Procedure Room – 2023 SOPS ASC Database**

Communication in the Surgery/Procedure Room	Average % Positive	s.d.	Survey Item % Positive Response						
			Min	10th %ile	25th %ile	Median/ 50th %ile	75th %ile	90th %ile	Max
			% Always/Most of the time						
Just before the start of procedures, all team members stopped to discuss the overall plan of what was to be done. (Item G1)	94%	7.31%	60%	86%	91%	96%	100%	100%	100%
Just before the start of procedures, the doctor encouraged all team members to speak up at any time if they had any concerns. (Item G2)	74%	15.85%	13%	55%	65%	73%	86%	100%	100%
Immediately after procedures, team members discussed any concerns for patient recovery. (Item G3)	77%	14.32%	27%	57%	67%	78%	88%	95%	100%

**Note:** The item's survey location is shown in parentheses after the item text. Results only include those respondents who answered “Yes” to typically being in the surgery/procedure room during surgeries, procedures, or treatments.

# 7 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.

## AHRQ 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 Ambulatory Surgery Center Survey

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

### References

2023 Centers for Medicare & Medicaid Services (CMS) – Provider of Services File – Hospital & Non-Hospital Facilities. <https://data.cms.gov/provider-characteristics/hospitals-and-other-facilities/provider-of-services-file-hospital-non-hospital-facilities>. Accessed November 3, 2023.

Action Planning Tool for the AHRQ Surveys on Patient Safety Culture® (SOPS®). 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 September 25, 2023.

Improving Patient Safety in Ambulatory Surgery Centers: A Resource List for Users of the AHRQ Ambulatory Surgery Center Survey on Patient Safety Culture. Rockville, MD: Agency for Healthcare Research and Quality; April 2023. <https://www.ahrq.gov/sites/default/files/wysiwyg/sops/surveys/asc/asc-resource-list.pdf>. Accessed September 25, 2023.

# 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 ASC submitted respondent-level survey data. Once the data were submitted, response frequencies were tabulated for each ASC to find out-of-range values, missing values, and other data anomalies. When data outliers or other inconsistencies were found, ASCs were contacted and asked to correct and resubmit their data. In addition, upon uploading their survey data, each participating ASC received a copy of their data frequencies to verify 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 B8. *We work together as an effective team*, and an example of a negatively worded item is B6. *Our facility allows disrespectful behavior by those working here*.

Sections A and B include both positively and negatively worded items. When respondents supplied the same answer for every item in section A and B, 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, respondents who marked the same answer for all items within sections that had more than one negatively worded item (Sections A and B) had those items considered missing in that particular section.

Section G includes a filter question, where any respondents who answered “No” or had a missing response for item GA (typically being in the surgery/procedure room during surgeries, procedures, or treatments) had data for Section G removed from the database.

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

## Response Rates

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

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

## 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 eight SOPS composite measures use the frequency response options (*Communication About Patient Information; Communication Openness; and Staffing, Work Pressure, and Pace*), while the other five composite measures use the agreement response options. The composite measure items also have a “Does Not Apply or Don’t Know” response option that is not included in the calculation of percent positive scores.

The non-composite measure items, Near-Miss Documentation and Communication in the Surgery/Procedure Room, also use the frequency response option.

The Overall Patient Safety Rating item 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., “Staff who are new to this facility receive adequate orientation”) and negatively worded items (e.g., “Staff feel pressured to do tasks they haven’t been trained to do”). 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 an ASC who answered “Strongly Agree” or “Agree,” or “Always” or “Most of the time,” depending on the response options for the item.

For example, for the item “When someone in this facility gets really busy, others help out,” if 50 percent of respondents within an ASC responded “Strongly Agree” and 25 percent responded “Agree,” the item percent positive response for that ASC would be  $50\% + 25\% = 75\%$  positive.

- **For negatively worded items**, the percent positive response is the combined percentage of respondents within an ASC who answered “Strongly Disagree” or “Disagree,” or “Never” or “Rarely,” depending on the response options for the item. Keep in mind that a *negative* answer to a negatively worded item indicates a *positive* response.

For example, for the item “We feel rushed when taking care of patients,” if 40 percent of respondents within an ASC responded “Never” and 20 percent responded “Rarely,” the item percent positive response would be  $40\% + 20\% = 60\%$  positive (i.e., 60 percent of respondents *do not* feel rushed when taking care of patients.)

## Single Item Percent Positive Response

The Near-Miss Documentation (item D1) percent positive response is calculated by adding together the percentage of respondents who answered “Always” or “Most of the time” and then dividing that sum by the total number of responses to that item.

The Overall Patient Safety Rating (item F1) 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 that item.

Table N1 shows examples of computing the percent positive response for Near-Miss Documentation (item D1) and Overall Patient Safety Rating (item F1) for a single ASC.

**Table N1. Example of Computing Percent Positive for Near-Miss Documentation and Overall Patient Safety Rating**

Survey Items	Number of “Always” or “Most of the time” Responses	Number of “Excellent” or “Very good” Responses	Total Number of Responses to the Item	Item Percent Positive Response
<b>Near-Miss Documentation</b>				
<b>Item D1:</b>				
“When something happens that could harm the patient, but does not, how often is it documented in an incident or occurrence report?”	193	NA*	250	193/250 = 77%
<b>Overall Patient Safety Rating</b>				
<b>Item F1:</b>				
“Please give your facility an overall rating on patient safety.”	NA*	106	240	106/240 = 44%

\* NA = Not applicable.

## Composite Measure Percent Positive Response

The eight ASC SOPS composite measures are each composed of three or four survey items. Composite measure scores were calculated for each ASC 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 50.7 percent, 50.4 percent, and 65.4 percent, the ASC’s composite measure percent positive response is the average of these three percentages, or 55.5 percent positive, and displayed as a rounded percentage of 56%.

If an ASC had item data for at least 50 percent of the items within a composite measure, the site would receive a composite measure score. For example, for a three-item composite measure score, the number of item scores needed to calculate the composite measure score is two items. Similarly, 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, at least three respondents had to respond to the item.

Table N2 shows an example of computing a composite measure score for *Teamwork* for a single ASC. This composite measure consists of four items. Three are positively worded (items B1, B4, and B8) and one is negatively worded (item B6). Keep in mind that DISAGREEING with a negatively worded item indicates a POSITIVE response.

**Table N2. Example of Computing Item and Composite Measure Percent Positive Scores**

Four Items Measuring "Teamwork"	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
<b>Item B1 – positively worded</b> "When someone in this facility gets really busy, others help out."	110	NA*	240	110/240 = 45.8%
<b>Item B4 – positively worded</b> "Doctors and staff clearly understand each other's roles and responsibilities."	142	NA*	250	142/250 = 56.8%
<b>Item B8 – positively worded</b> "We work together as an effective team."	125	NA*	260	125/260 = 48.1%
<b>Item B6 – Negatively worded</b> "Our facility allows disrespectful behavior by those working here."	NA*	132	255	132/255 = 51.8%
<b>Composite Measure % Positive Score = (45.8% + 56.8% + 48.1% + 51.8%) / 4 = 50.6%</b>				

\*NA = Not applicable.

This example includes four items, with percent positive response scores of 45.8 percent, 56.8 percent, 48.1 percent, and 51.8 percent. Averaging these four items' percent positive scores results in a composite measure percent positive score of 50.6 percent for the *Teamwork* composite measure.



## **Database Item and Composite Measure Percent Positive Scores**

The database average percent positive scores for each of the eight patient safety culture composite measures and survey items were calculated by averaging the unrounded ASC-level percent positive item scores and composite measure scores of all ASCs in the database. The percent positive is displayed as an overall average, and scores from each ASC 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 ASC scores around the average. The standard deviations presented in Chapter 6 show the extent to which ASCs' scores differ from the average:

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

When the distribution of ASC 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 ASC scores.

For example, if an average percent positive score across the database ASCs was 70 percent with a standard deviation of 10 percent (and scores were normally distributed), then about 68 percent of all the database ASCs 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 ASCs and are actual scores from the lowest and highest scoring ASCs.

When comparing your data with the minimum and maximum scores, keep in mind that these scores may represent ASCs that are extreme outliers (indicated by large differences between the minimum score and the 10<sup>th</sup> percentile score, or between the 90<sup>th</sup> percentile score and the maximum score).

## Percentiles

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

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

The following examples show how the 10<sup>th</sup> and 50<sup>th</sup> percentiles would be computed using a sample of percent positive scores from 12 ASCs (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**

Ambulatory Surgery Center	Composite Measure “A” % Positive Score	
1	33%	
2	48%	← 10 <sup>th</sup> percentile score = 48%
3	52%	
4	60%	
5	63%	
6	64%	
7	66%	← 50 <sup>th</sup> percentile score = 65%
8	70%	
9	72%	
10	75%	
11	75%	
12	78%	

### 10<sup>th</sup> percentile

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

## 50<sup>th</sup> percentile

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

When the distribution of ASC 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 50<sup>th</sup> percentile, or median score, 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
<b>10<sup>th</sup> percentile</b> Represents the lowest scoring ASCs	10% of ASCs scored the same or lower 90% of ASCs scored higher
<b>25<sup>th</sup> percentile</b> Represents lower scoring ASCs	25% of ASCs scored the same or lower 75% of ASCs scored higher
<b>50<sup>th</sup> percentile (or median)</b> Represents the middle of the distribution of ASCs	50% of ASCs scored the same or lower 50% of ASCs scored higher
<b>75<sup>th</sup> percentile</b> Represents higher scoring ASCs	75% of ASCs scored the same or lower 25% of ASCs scored higher
<b>90<sup>th</sup> percentile</b> Represents the highest scoring ASCs	90% of ASCs scored the same or lower 10% of ASCs scored higher

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

**Table N5. Sample Percentile Statistics**

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

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

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

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

If your ASC's score is 65 percent positive, it falls above the 90<sup>th</sup> percentile, meaning your ASC scored higher than at least 90 percent of the ASCs 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 scores in various categories (e.g., number of operating/procedure rooms or geographic region). 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 results with the database in different ways.

## Data Limitations

The survey results presented in this report include the largest known compilation of publicly available patient safety culture data for ASCs (SOPS Ambulatory Surgery Center Survey data) and therefore provide a useful reference. However, these data have several limitations.

First, ASCs voluntarily submitted their data to the database; therefore, the database only includes those ASCs that have administered the SOPS Ambulatory Surgery Center 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. Because of this, it is not possible to compute estimates of precision that apply to the population.

Only a small percentage of all ASCs in the United States (less than 5 percent) are represented in the database (see Table N6). Compared to the distribution of the 6,087 CMS ASCs<sup>i</sup>, the ASC Database had a greater percentage of facilities with 7 or more operating/procedure rooms (37 percent compared to 6 percent in the CMS dataset). In addition, most Database ASCs were multispecialty (88 percent), whereas about half of the CMS ASCs were multispecialty (49 percent). Finally, the Database ASCs had a similar distribution across geographic regions as the CMS dataset.

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<sup>i</sup> 2023 Centers for Medicare & Medicaid Services (CMS) – Provider of Services File – Hospital & Non-Hospital Facilities. <https://data.cms.gov/provider-characteristics/hospitals-and-other-facilities/provider-of-services-file-hospital-non-hospital-facilities>. Accessed November 3, 2023.

**Table N6. Distribution of AHRQ 2023 SOPS ASC Database Compared With 2023 Centers for Medicare & Medicaid Services ASCs by Facility Characteristics**

ASC Characteristics	Database ASCs (N=243)		CMS ASCs <sup>ii</sup> (N=6,087)	
	Number	Percent	Number	Percent
<b>Number of Operating/Procedure Rooms</b>				
1 to 3 rooms	29	12%	4,383	72%
4 rooms	40	16%	787	13%
5 rooms	46	19%	323	5%
6 rooms	38	16%	252	4%
7 rooms or more	90	37%	342	6%
<b>Single Specialty vs. Multispecialty*</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
Single Specialty	28	12%	3,082	51%
Multispecialty	215	88%	3,002	49%
<b>Geographic Region</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
New England	12	5%	170	3%
Mid-Atlantic	19	8%	664	11%
South Atlantic/Associated Territories	56	23%	1,535	25%
East North Central	27	11%	653	11%
East South Central	10	4%	292	5%
West North Central	21	9%	358	6%
West South Central	36	15%	658	11%
Mountain	22	9%	593	10%
Pacific/Associated Territories	40	16%	1,164	19%

\* CMS facilities are considered multispecialty if more than one type of surgery provided was selected. Three ASCs had missing data for specialty.

**Note:** (1) Percentages may not add to 100 due to rounding. (2) States are categorized into regions as follows:

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

<sup>ii</sup> 2023 Centers for Medicare & Medicaid Services (CMS) – Provider of Services File – Hospital & Non-Hospital Facilities. <https://data.cms.gov/provider-characteristics/hospitals-and-other-facilities/provider-of-services-file-hospital-non-hospital-facilities>. Accessed November 3, 2023.

Second, ASCs that administered the survey were not required to undergo any training and administered the survey in different ways. Some ASCs administered only paper surveys, while others used only web-based surveys. 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. Survey administration statistics for database ASCs, such as survey administration modes and response rates, are provided in Chapter 2.

Finally, the data ASCs 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 and B were the same), and blank records (where responses to all survey items were missing or “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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