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SAFETY CENTER



Emergency Medical Services Surveys on Patient Safety Culture 2023 User Database Report – Cycle 1

July 2023

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DISCLAIMER

The data analyzed in this report is based on data submitted by the Saudi Red Crescent Authority branches (SRCA) between the 5th of February 2023 until the 5th of March 2023. The submitted data underwent a process of refinement and re-clustering without changing the original source of the submitted data following agency of healthcare research and quality (AHRQ) guidelines. This report attempts to explain the perceived safety culture among staff within participating branches to highlight areas of strength and areas for possible improvements. Comparing branches' results against the database (DB), for learning and improvement purposes, and for further benefits towards safer healthcare for all.



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Acknowledgement

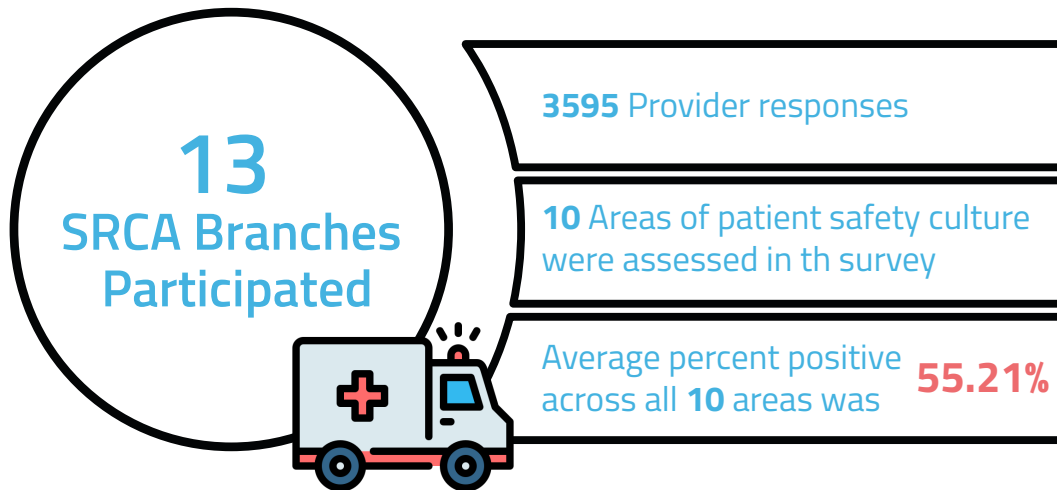
The Saudi Patient Safety Center (SPSC) would like to acknowledge and express gratitude to the Saudi Red Crescent Authority (SRCA) and its branches, for their prompt response and cooperation in activity engagement, follow up, and support for this national project.



Executive Summary

Emergency Medical Services Surveys on Patient Safety Culture

This overview of survey findings summarizes how SRCA Branches employees perceive 10 areas of patient safety culture based on 2023 EMS Surveys on Patient Safety Culture Database



Areas of strength for most branches



Teamwork

72.88 % of respondents reported that they work together as an effective team ,help each other during busy times ,and are respectful



Organizational Learning - Continuous Improvement

66.73% of respondent reported that work processes are regularly reviewed ,changes are made to keep mistakes from happening again ,and changes are evaluated



Communication about error

62.92% of respondents reported that they are informed when errors occur ,discuss ways to prevent errors ,and were informed when changes were made



Areas of potential for improvement for most branches



36.93%

Response to Error

36.93% of respondents reported that they are treated fairly when they made a mistake and there is a focus on learning from mistakes and supporting staff involved in errors



40.78%

Staffing and work pace

40.78% of respondents reported that there are enough staff to handle the workload, the staff work appropriate hours and they do not feel rushed

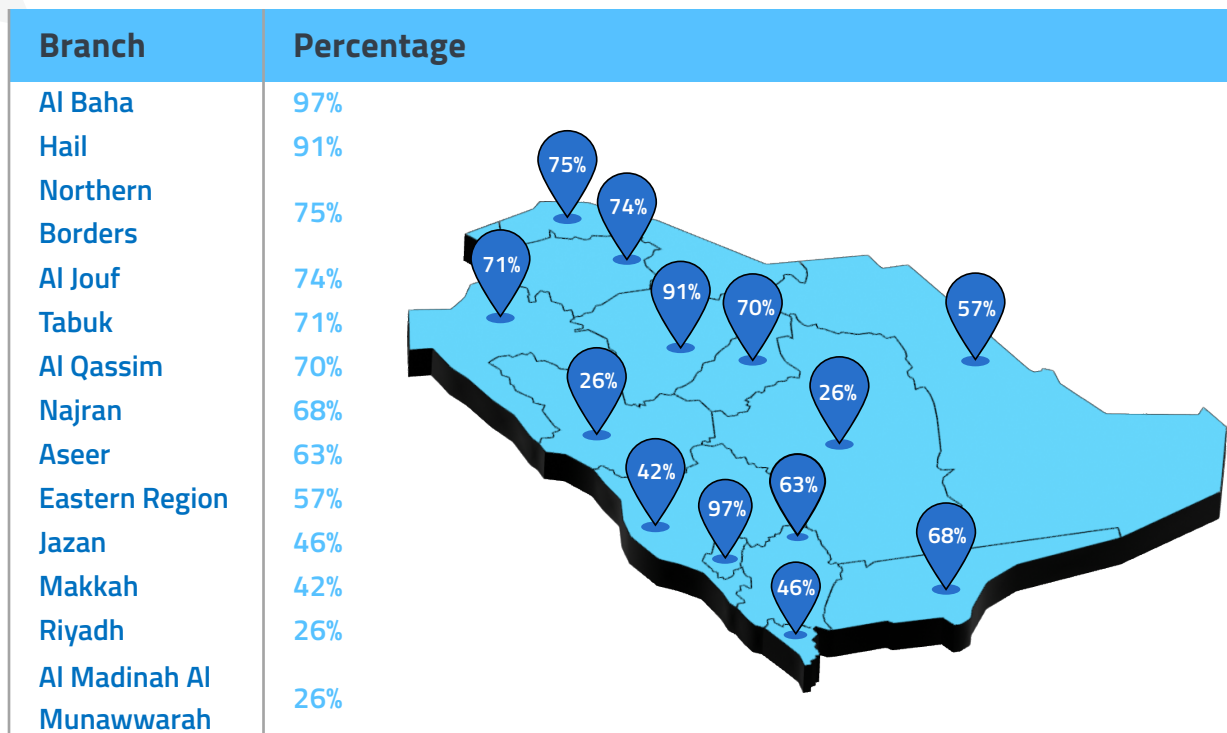


50.11%

Reporting patient safety events

50.11% of respondents reported that mistakes of the following types were reported: (1) Mistakes caught and corrected before reaching the patient and (2) Mistakes that could have harmed the patient but did not.

Branches Response Rate

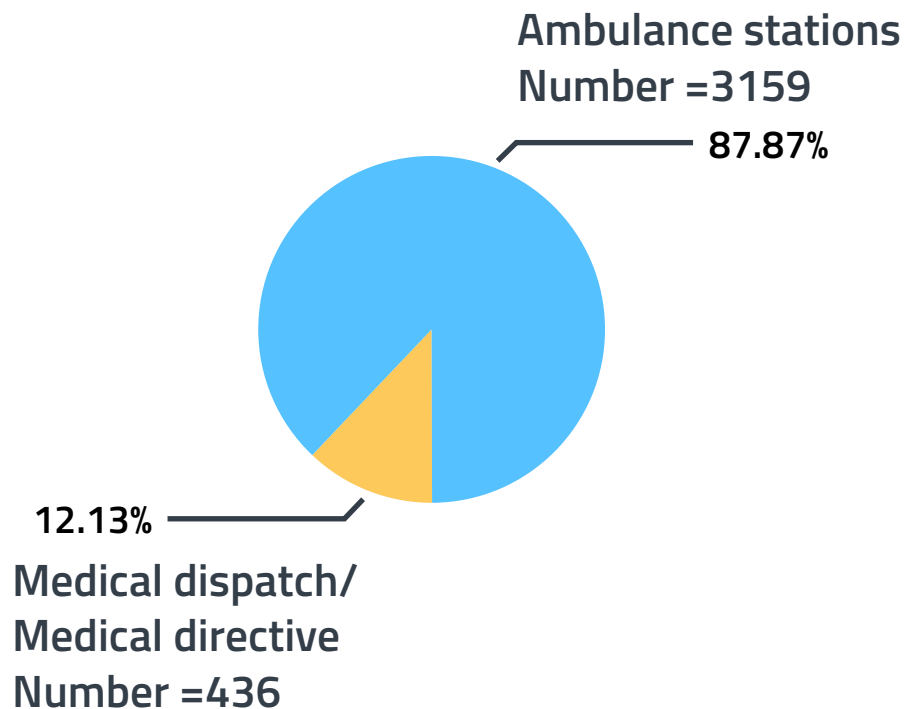




Most prevalent branch staff positions

63.37%	Emergency Medical Technician
9.79%	Emergency Medical Specialist
6.98%	Health Assistant

Distribution of respondents based on work area



Purpose and use of this report

The Saudi Patient Safety Center (SPSC) established a designated database for the Emergency Medical Services Survey on Patient Safety Culture (EMS-SOPS) as a central repository for the aggregated survey data from participating SRCA branches in the Kingdom of Saudi Arabia. SPSC produces this database report that aggregates data from 13 SRCA branches in Saudi Arabia that have voluntarily submitted their data and allows us to compare their results with those of other branches.

The 2023 EMS-SOPS User Database Report is the first published national database report based on submitted data from **13 branches**. It includes **3595** provider respondents. Using AHRQ Survey on Patient Safety Culture Version 2.0, SPSC was granted permission to make minor changes to the survey to fit emergency medical services. The changes were in the staff position, work area, and substituting the term "hospital" to "Pre-Hospital services". SPSC also had an approved Arabic version of the hospital survey, and these changes were applied to the Arabic version to fit EMS. Then, the survey was validated using content validation strategy.

In addition, this database report was developed as a tool and media for the following purposes:

Comparisons: To allow branches to compare their patient safety culture survey results with those of other branches.

Assessment and Learning: To provide data to branches to facilitate internal assessment and learning in the patient safety improvement process.

Supplemental Information: To provide supplementary information to help branches identify their areas of strength and areas with potential for improvement in the patient safety culture.

This report contains statistics on patient safety culture composites/domains measures and items. We followed the AHRQ sequences and calculation methodology.

1. Introduction

It is important for the Saudi Patient Safety Center (SPSC) to quantify the patient safety culture of health care organizations within Saudi Arabia to measure and improve patient safety. This will be accomplished by assessing and measuring different healthcare organizations existing patient safety culture and identifying the priority composites/ domains to improve patient safety.

Initiating in July 2017 (pilot phase), SPSC launched a national project to measure and enhance patient safety culture in hospitals through a designated electronic platform (developed by SPSC) using the AHRQ Hospital Survey on Patient Safety Culture survey tool version 1.0. The 2nd cycle launched in April 2019, 3rd cycle in January 2021, and the fourth cycle launched in January 2022 (using V2.0). This year, SPSC expanded the survey to study the patient safety culture in Saudi Red Crescent Authority (SRCA), one of the largest emergency medical services (EMS) around the globe, as part of its mandate to improve patient safety.

World Health Assembly - WHA72.6 global action on patient safety has been approved in 2019 and the Member States to promote a patient safety culture. Organizational culture determines the success of its patient safety initiatives, and the periodic analysis and review of the survey outcomes will be utilized to build robust action plans that will lead to enhanced patient safety [1].

Organizational culture refers to the beliefs, values, and norms shared by staff and throughout the organization which 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 1-1) [2].



Patient Safety Culture

The beliefs, values, and norms shared by healthcare staff

Determines behaviors that are:



Rewarded



Supported



Expected

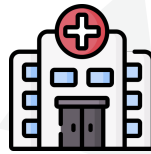


Accepted

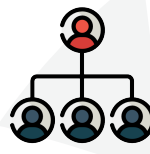
Exists at multiple levels:



System



Hospital



Department



Unit

Figure 1-1 Definition of Patient Safety Culture

Survey Content

This survey was modified from the U.S. Agency for Healthcare Research and Quality (AHRQ) Surveys on Patient Safety Culture™ (SOPS®) Hospital Survey 2.0

The survey includes 32 items that make up 10 composite measures of patient safety culture. Table 1-1 defines each of the 10 SOPS composite / domain measures.



Table 1-1. EMS-SOPS 2.0 Composite/domain Measures and Definitions.

EMS-SOPS 2.0 Composite Measures	Definition: The extent to which:
Teamwork	Staff work together as an effective team, help each other during busy times, and are respectful.
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.
Organizational Learning—Continuous Improvement	Work processes are regularly reviewed, changes are made to keep mistakes from happening again, and changes are evaluated.
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.
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.
Communication About Error	Staff are informed when errors occur, discuss ways to prevent errors, and are informed when changes are made.
Communication Openness	Staff speak up if they see something unsafe and feel comfortable asking questions.
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.
Pre-hospital Management Support for Patient Safety	Pre-hospital management shows that patient safety is a top priority and provides adequate resources for patient safety.
Handoffs and Information Exchange	Important patient care information is transferred across units and during shift changes.

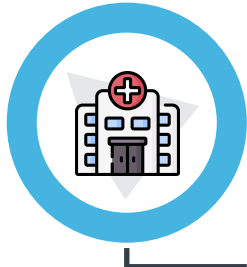
(AHRQ database report 2021-<https://www.ahrq.gov/sops/databases/hospital/index.html> (accessed 25/4/2022) 2

In addition to the items that make up these composite / domain measures, the survey contains two single-item measures that ask respondents on 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 to provide answers to six background demographic questions.

2. Survey Administration Statistics

This section presents descriptive information on the number of branches, survey respondents, survey languages, information about response rates, and how branches administered the survey.

Highlights:



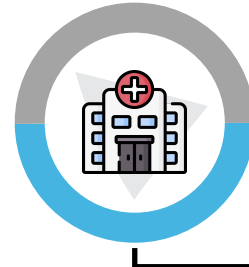
13

Participating
Branches



3,595

Respondents



49.8%

Overall
Response Rate

Table 2-1. Survey Administration Statistics

Response Information	Minimum	Maximum	Average
Number of respondents per branch	146	635	280
Branch response rate	25%	96%	61.50%

Table 2-2. Survey Languages Mode Statistics.

Total Surveys taken based on language	Statistic
Arabic (Total= 10)	0.30%
English (Total= 3585)	99.70%

Table 2-3. Survey Administration Mode Statistics

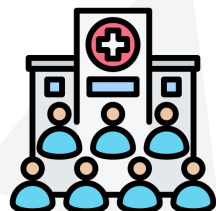
Survey Administration Mode	Statistic
Web-based only	100%



3. Respondent Characteristics

This chapter presents information about the characteristics of the branches included in the, Emergency Medical Services Surveys on Patient Safety Culture 2023 User Database, including staff positions, work area, interactions with patients, Hours worked per week.

Highlights:



Most prevalent branch staff positions

63.37%	Emergency Medical Technician
9.79%	Emergency Medical Specialist
6.98%	Health Assistant

Most prevalent branch work area/units



87.87%
Ambulance
Stations



12.13%
Medical dispatch /
Medical directive



Table 3-1. Distribution of EMS-SOPS Database by Respondent Characteristics (Staff position).

Respondents' characteristics	Respondents (n=3595)	
	Number	Percent
Emergency Medical Technician	2278	63.37%
Emergency Medical Specialist	352	9.79%
Health Assistant	251	6.98%
Emergency Medical Dispatcher	181	5.03%
Driver	151	4.20%
Others	131	3.64%
Field Leader	94	2.61%
Online Medical Direction Doctor	65	1.81%
Shift Supervisor	52	1.45%
Team Follow-up	20	0.56%
Quality Supervisor	13	0.36%
Online Medical Direction Consultant	7	0.19%

*Others: related to staff positions not included within the survey standard list.

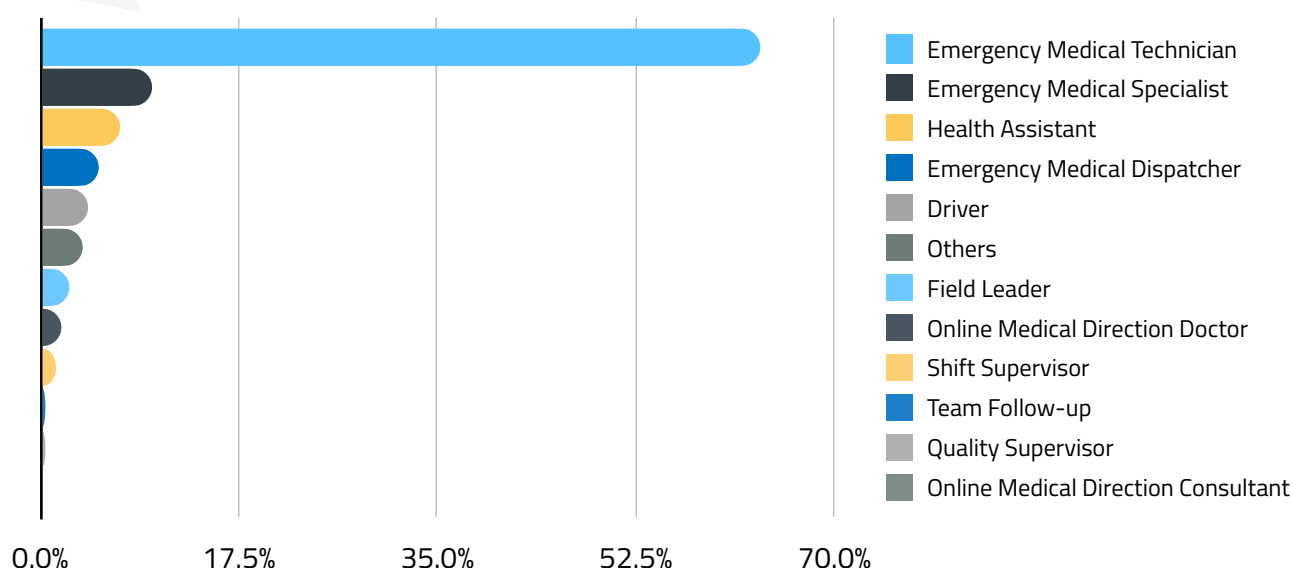
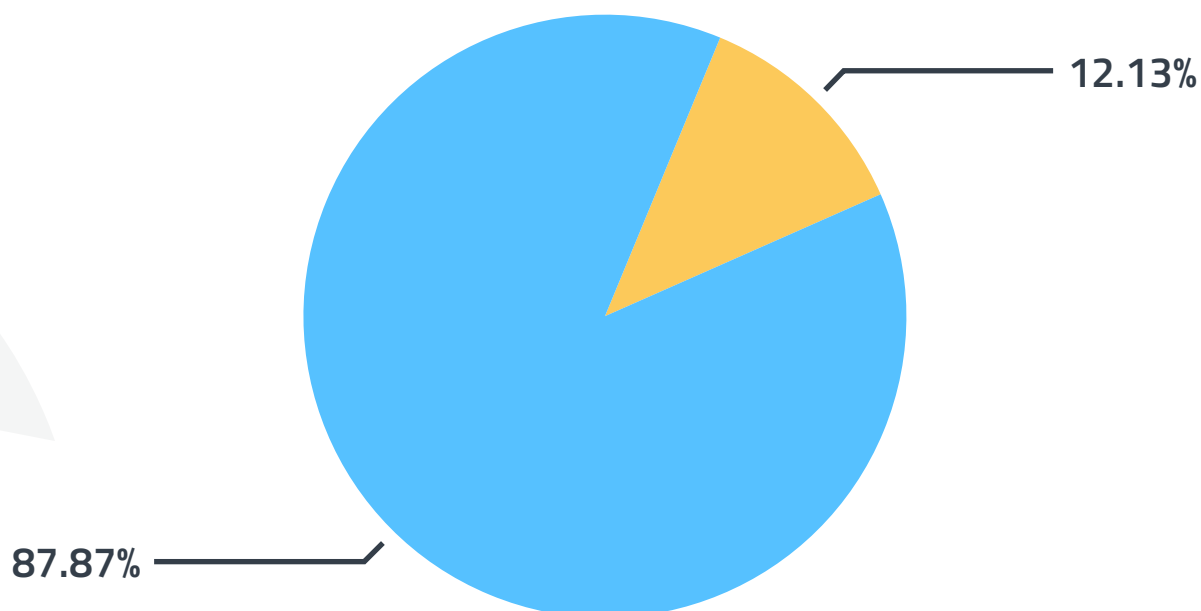


Figure 3-1. Distribution of EMS-SOPS Database by Respondent Characteristics (Staff position)

Table 3-2. Distribution of EMS-SOPS Database by Respondent Characteristics (Work area).

Respondents' characteristics	Respondents (n=3595)	
	Number	Percent
Ambulance stations	3159	87.87%
Medical dispatch / Medical directive	436	12.13%

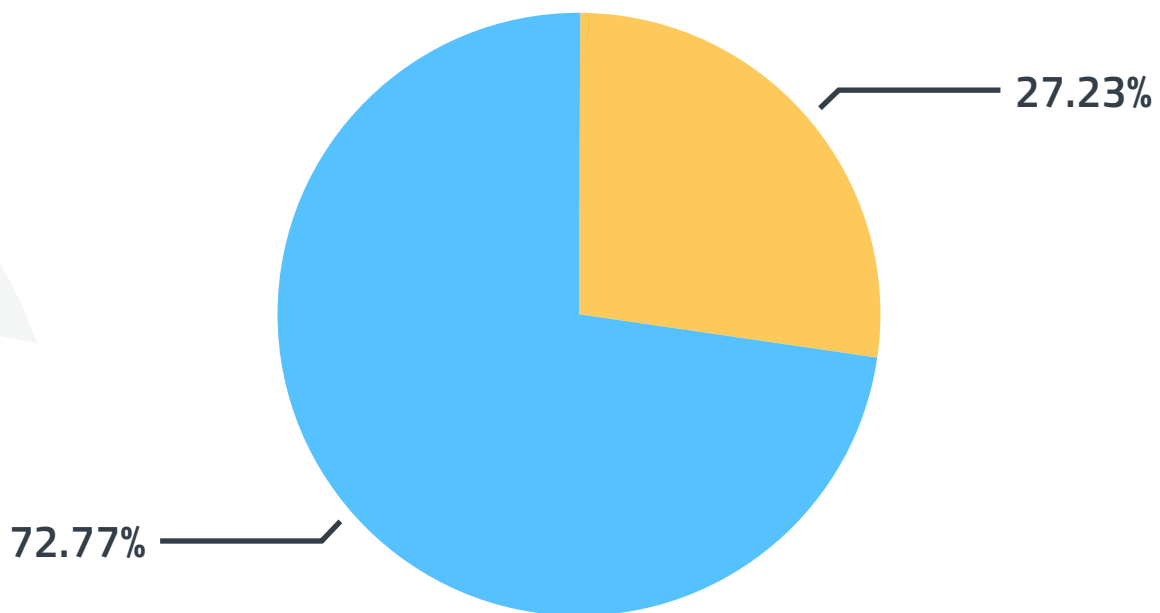


- Ambulance stations
- Medical dispatch / Medical directive

Figure 3-2. Distribution of EMS-SOPS Database by Respondent Characteristics (Work area)

Table 3-3. Distribution of EMS-SOPS Database by Respondent Characteristics (Interaction with patient)

Respondents' characteristics	Respondents (n=3595)	
	Number	Percent
Yes, I typically have direct interaction or contact with patients	2616	72.77%
No, I typically do NOT have direct interaction or contact with patients	979	27.23%

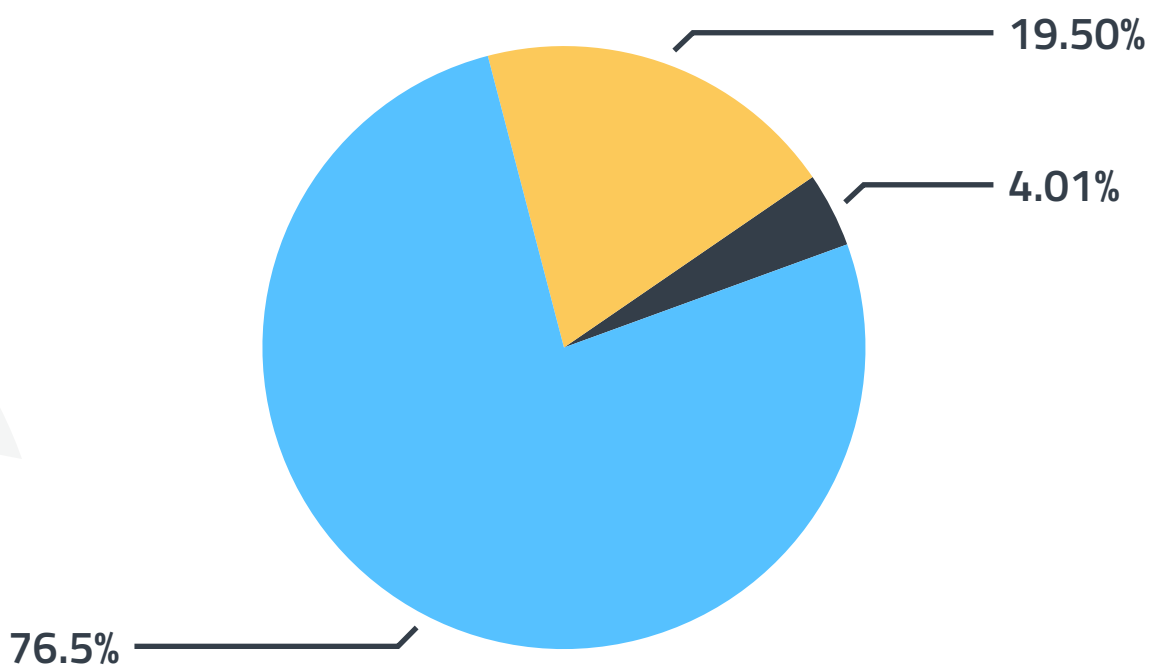


- Yes, I typically have direct interaction or contact with patients
- No, I typically do NOT have direct interaction or contact with patients

Figure 3-3. Distribution of EMS-SOPS Database by Respondent Characteristics (Interaction with patient)

Table 3-4. Distribution of EMS-SOPS Database by Respondent Characteristics. (Hours worked per week).

Respondents' characteristics	Respondents (n=3595)	
	Number	Percent
More than 40 hours per week	2750	76.50%
30 to 40 hours per week	701	19.50%
Less than 30 hours per week	144	4.01%



- More than 40 hours per week
- 30 to 40 hours per week
- Less than 30 hours per week

Figure 3-4. Database distribution of hours worked per week.

Table 3-5. Distribution of EMS-SOPS Database of tenure in the current branch.

Respondents' characteristics in the current branch	Respondents (n=3595)	
	Number	Percent
11 or more years	1873	52.10%
6 to 10 years	1057	29.40%
1 to 5 years	499	13.88%
Less than 1 year	166	4.62%

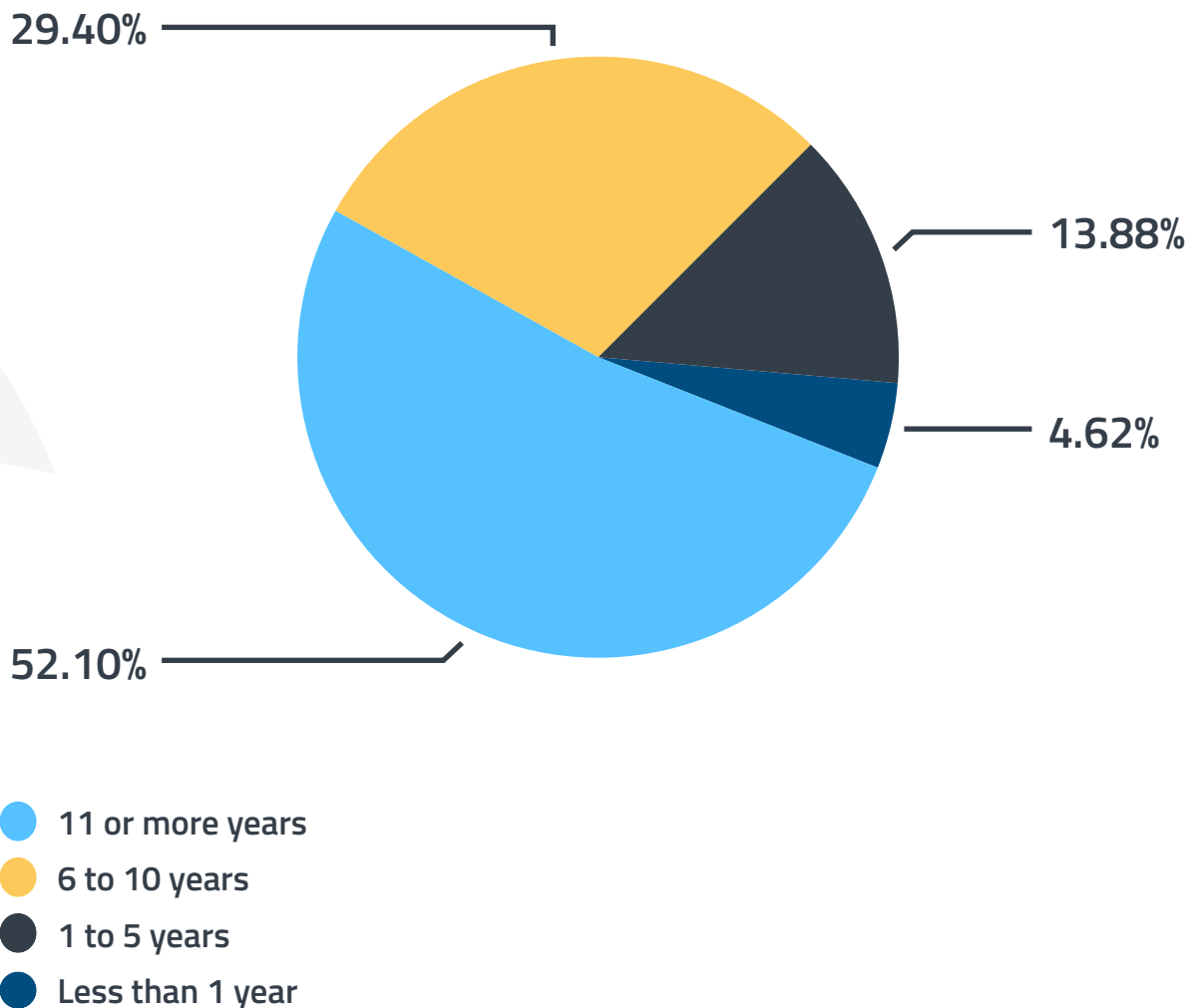
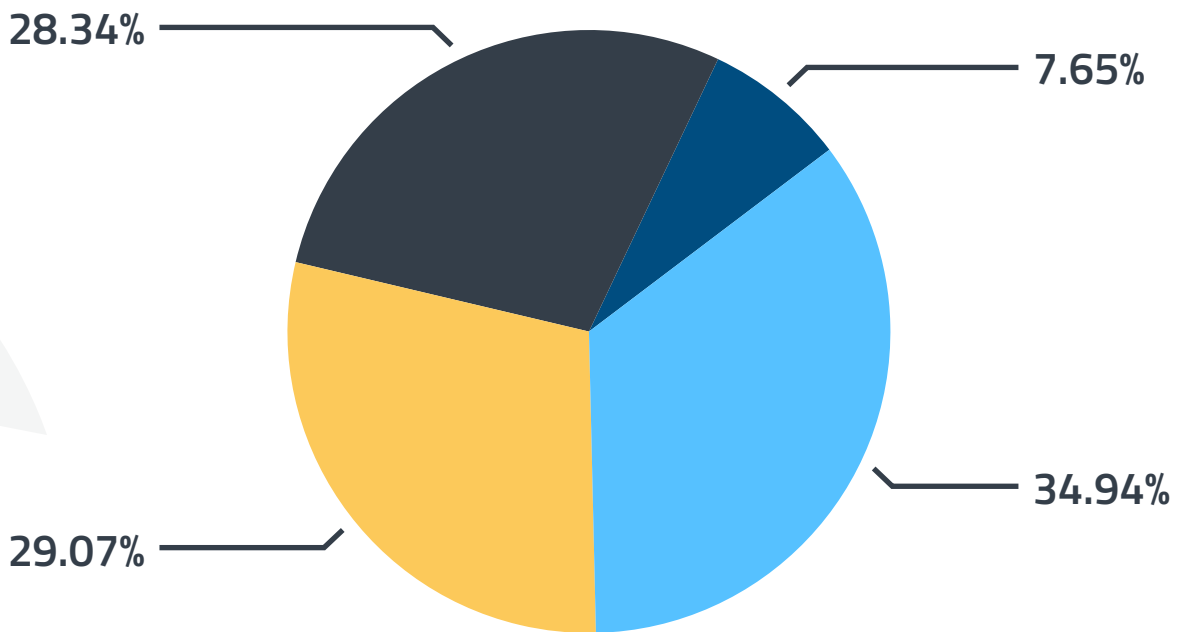


Figure 3-5. Database distribution of tenure in the current branch.

Table 3-6. Distribution of EMS-SOPS Database of tenure in the current work area.

Respondents' characteristics	Respondents (n=3595)	
	Number	Percent
Tenure in current work area		
11 or more years	1256	34.94%
1 to 5 years	1045	29.07%
6 to 10 years	1019	28.34%
Less than 1 year	275	7.65%



- 11 or more years
- 1 to 5 years
- 6 to 10 years
- Less than 1 year

Figure 3-6. Database distribution of tenure in the current work area.

4. Overall Results

This section presents the overall findings of the EMS-SOPS Database. We present the average percentage of positive responses for each of the survey's composite measures / domains and items, summarized for all branches.

By reporting the average of all branches, each branch's scores are given equal weight, regardless of size. An alternative method would be to report the percentage of positive responses for all respondents, but this method would give greater weight to larger branches with more respondents. Reporting the data at the branch level with this method is important because culture is considered to be a group characteristic, not an individual characteristic. [2]

Highlights:

Areas of strength for most branches



72.88%

Teamwork

72.88 % of respondents reported that they work together as an effective team ,help each other during busy times ,and are respectful



66.73%

Organizational Learning - Continuous Improvement

66.73% of respondent reported that work processes are regularly reviewed ,changes are made to keep mistakes from happening again ,and changes are evaluated



62.92%

Communication about error

62.92% of respondents reported that they are informed when errors occur ,discuss ways to prevent errors ,and were informed when changes were made



Areas of potential for improvement for most branches



36.93%

Response to Error

36.93% of respondents reported that they are treated fairly when they made a mistake and there is a focus on learning from mistakes and supporting staff involved in errors



40.78%

Staffing and work pace

40.78% of respondents reported that there are enough staff to handle the workload, the staff work appropriate hours and they do not feel rushed



50.11%

Reporting patient safety events

50.11% of respondents reported that mistakes of the following types were reported: (1) Mistakes caught and corrected before reaching the patient and (2) Mistakes that could have harmed the patient but did not.

Composite Measure and Item Charts

This section provides the overall composite / domain measure and item results. The methods for calculating the percent positive scores at the composite measure and item levels were done following the AHRQ guidelines and methodology in this regard.



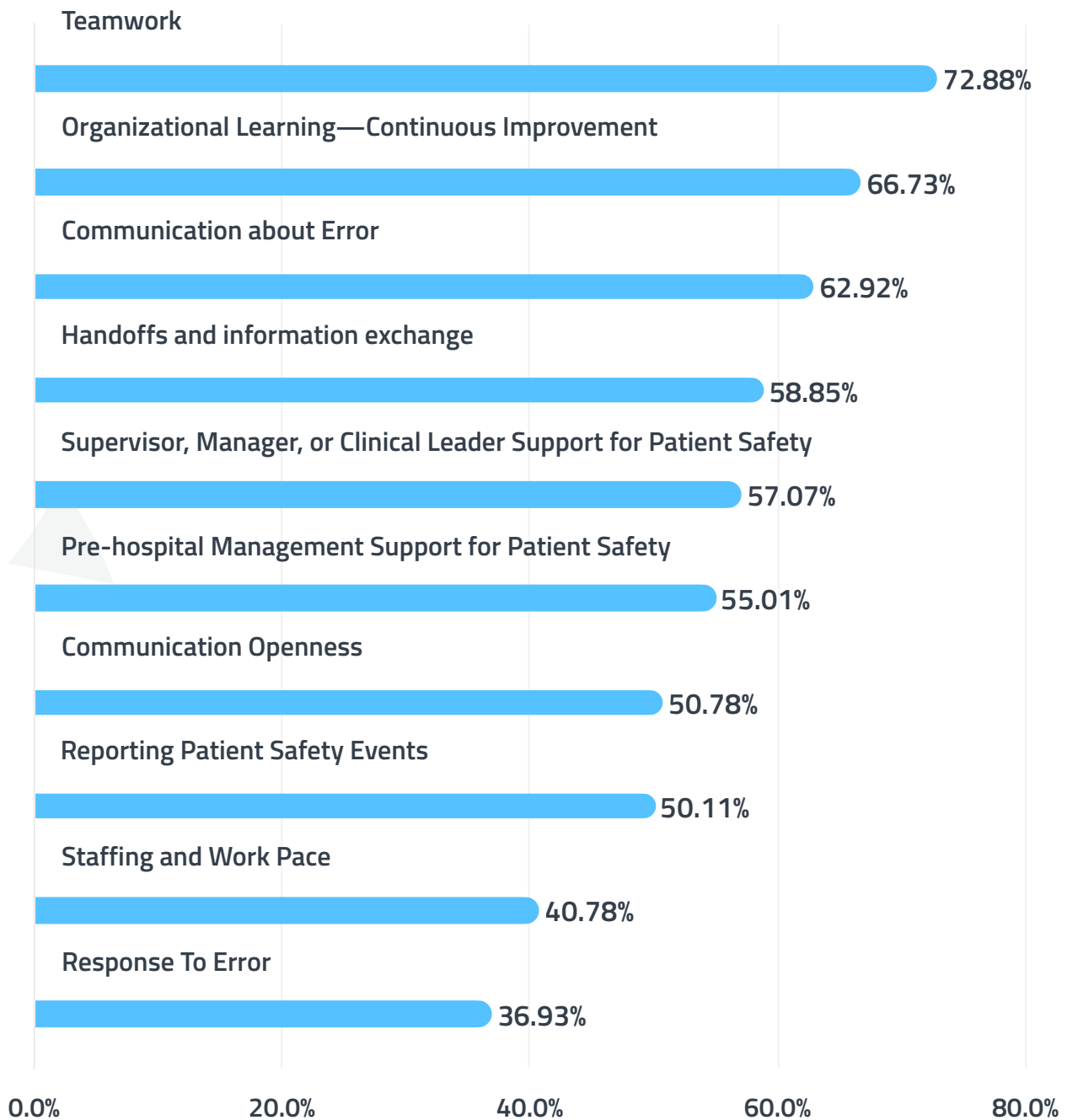
Composite / Domain Measure Results

Chart 4-1 shows the average percent positive response for each of the 10 EMS-SOPS composite /domain measures, summarized for all branches within the database. The EMS-SOPS composite/domain measures are shown in order from the highest average percent positive response to the lowest.

Chart 4-1. Composite Measure Results Average Percent Positive Response EMS-SOPS Database.

Patient Safety Culture Composite Measures

Average % positive response



COMPOSITES/ DOMAINS MEASURES AVERAGE= 55.21%



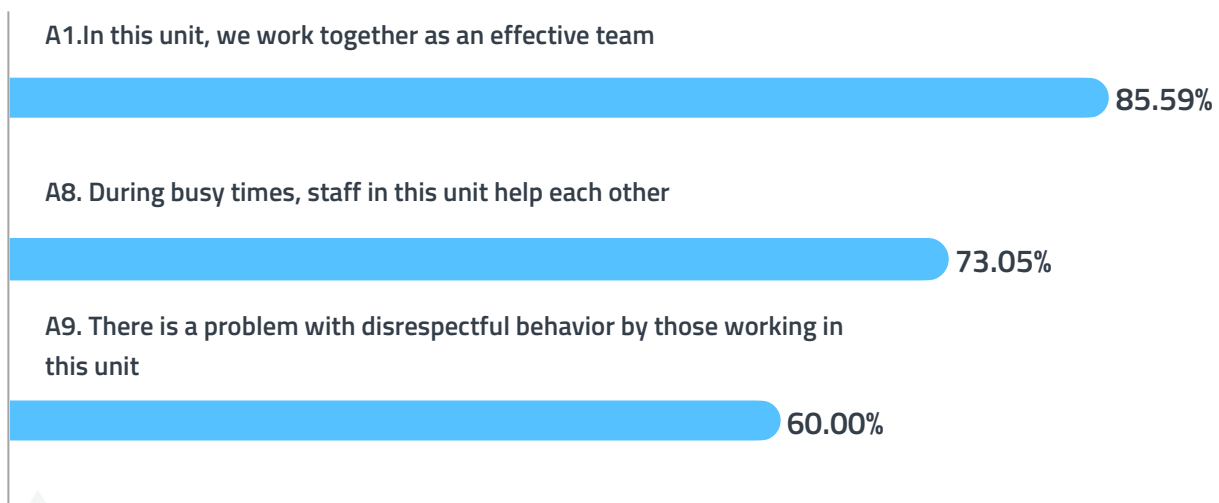
Item Results

Chart 4-2 shows the average percent of positive responses for each of the 32 survey items. Items are listed in their respective composite/domain measures.

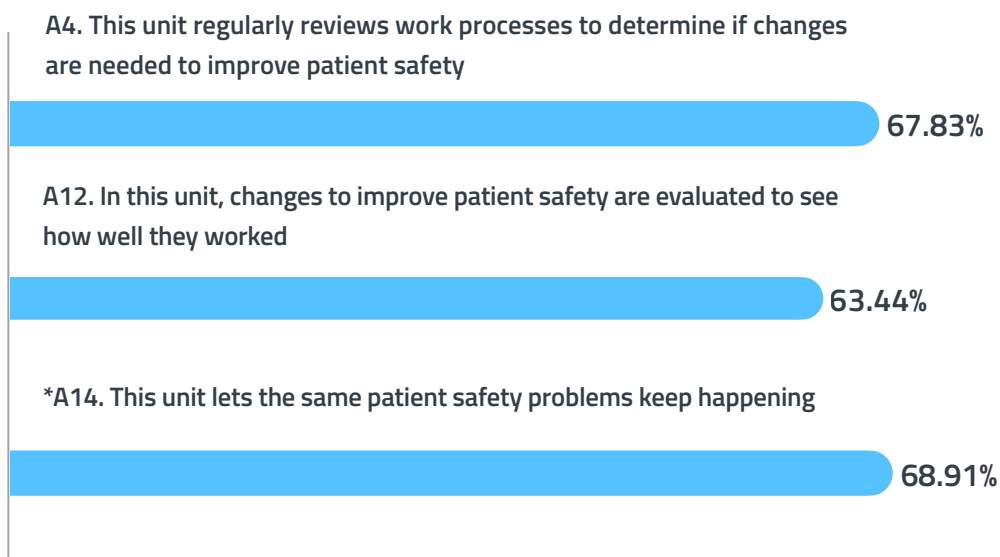
Chart 4-2. Item Results Average Percent Positive Response EMS-SOPS Database.

1. Teamwork

Average % positive response



2. Organizational Learning-Continuous Improvement



An * Refers to a negatively worded item, where the percent of positive response is based on those who responded to, "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).



3. Communication About Error

C1. We are informed about errors that happen in this unit:

54.84%

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

66.64%

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

67.27%

4. Supervisor, Manager, or Clinical Leader Support for Patient Safety

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

65.45%

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

39.06%

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

66.70%

*An * Refers to a negatively worded item, where the percent of positive response is based on those who responded to, "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).*



5. Handoffs and Information Exchange

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

53.38%

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

58.80%

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

64.36%

*An * Refers to a negatively worded item, where the percent of positive response is based on those who responded to, "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).*

6. Reporting Patient Safety Events

D1. When a mistake is caught and corrected before reaching the patient, how often is this reported?

50.30%

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

49.91%



7. Communication Openness

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

66.76%

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

47.99%

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

49.37%

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

38.99%

*An * Refers to a negatively worded item, where the percent of positive response is based on those who responded to, "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).*

8. Pre-hospital Management Support for Patient Safety

F1. The actions of pre-hospital management show that patient safety is a top priority

74.46%

F2. Pre-hospital management provides adequate resources to improve patient safety

62.43%

*F3. Pre-hospital management seems interested in patient safety only after an adverse event happens

28.12%

*An * Refers to a negatively worded item, where the percent of positive response is based on those who responded to, "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).*



9. Response to Error

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

25.54%

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

30.96%

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

58.55%

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

32.68%

*An * Refers to a negatively worded item, where the percent of positive response is based on those who responded to, "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).*

10. Staffing and Work Pace

A2. In this unit, we have enough staff to handle the workload

33.06%

*A3. Staff in this unit work longer hours than is best for patient care

40.23%

*A5. This unit relies too much on temporary, float, or PRN staff

42.34%

*A11. The work pace in this unit is so rushed that it negatively affects patient safety

47.51%

*An * Refers to a negatively worded item, where the percent of positive response is based on those who responded to, "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).*

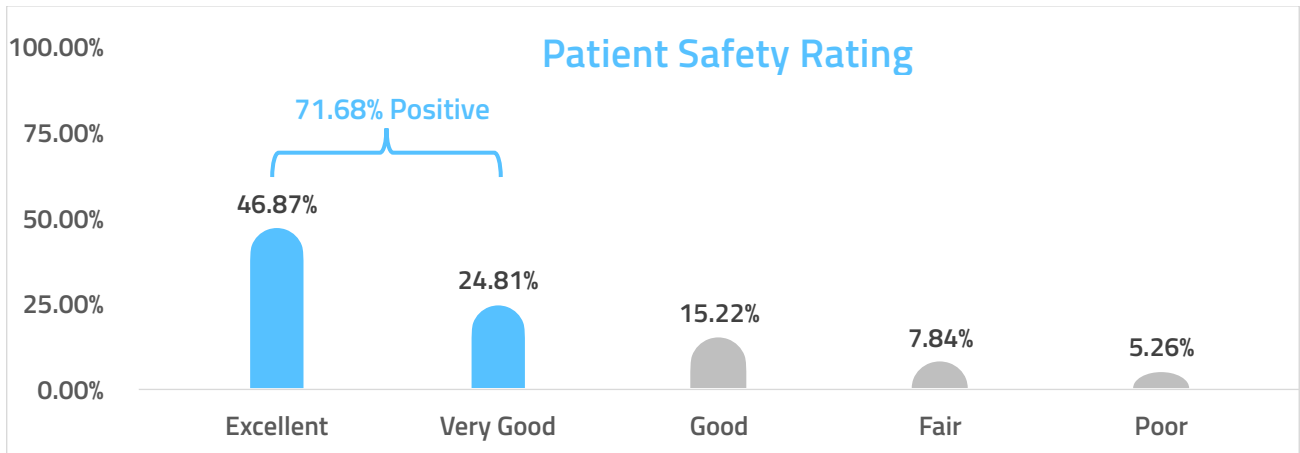


Overall Patient Safety Grade

Chart 4-3 shows the results of the item that asks respondents to give their branch work area/unit an overall rating for patient safety.

Chart 4-3. Item Results: Average Unit/Work Area Patient Safety Rating EMS-SOPS Database.

How would you rate your unit/work area on patient safety?



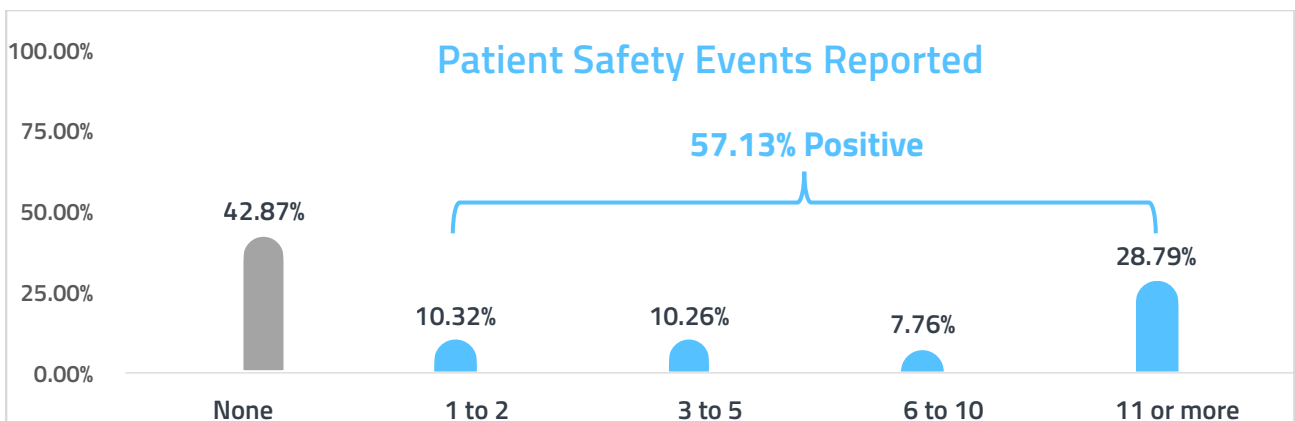
NOTE: Refer to Data Analysis section for more details

Number of Events Reported

Chart 4-4 shows the results of the item that asks respondents about how many patient safety events they reported in the past 12 months.

Chart 4-4. Item Results: Average Percentage of EMS-SOPS Database - Respondents Reporting Patient Safety Events in the Past 12 Months.

In the past 12 months, how many patient safety events have you reported?



NOTE: Refer to Data Analysis section for more details



5. Comparing Branches Results

The data in this report is meant to supplement branch's efforts to identify areas of strength and areas on which to focus to improve the patient safety culture and implement targeted action plans at multiple levels (Overall branch/work areas / staff).

To compare your branch survey results with the aggregated findings from the database, you need to look at your branch's percent of positive response to the survey's 10 composite measures, the overall rating of patient safety, and the number of events reported items and compare them in contrast to the database's aggregated results.

When comparing your branch results with the results from the database, remember that the database only provides relative comparisons. Although your branch may have a higher percentage of positive results than the database statistics, there may still be room for improvement in a particular area within your branch in an absolute sense.



Composite / Domain Measure and Item Tables

Table 5-1 presents statistics (average percent positive, minimum, and maximum scores, and median) for each of the 10 EMS-SOPS composite/domain measures (Overall database level).

Table 5-1. Composite / Domain Measure Results EMS-SOPS Database.

Domains	Average % Positive	SD	Composite Measure % Positive Response Percentiles						
			Min	10th	25th	50th	75th	90th	Max
1. Teamwork	72.88%	3.16%	65.77%	70.57%	71.45%	72.62%	74.06%	77.32%	78.87%
2. Organizational Learning —Continuous Improvement	66.73%	6.48%	55.60%	59.48%	62.44%	65.68%	71.77%	74.44%	78.43%
3. Communication about Error	62.92%	8.70%	48.72%	50.80%	59.13%	62.37%	68.26%	73.76%	78.64%
4. Handoffs and information exchange	58.85%	6.38%	48.36%	51.66%	54.03%	58.52%	61.91%	68.58%	70.72%
5. Supervisor, Manager, or Clinical Leader Support for Patient Safety	57.07%	5.84%	47.68%	50.45%	52.96%	56.95%	60.80%	63.17%	70.42%
6. Pre-hospital Management Support for Patient Safety	55.01%	4.89%	43.98%	49.67%	53.38%	55.00%	59.10%	60.63%	62.79%
7. Communication Openness	50.78%	3.65%	44.17%	46.14%	48.16%	51.20%	52.77%	54.52%	57.88%
8. Reporting Patient Safety Events	50.11%	5.26%	38.90%	45.82%	47.98%	48.80%	52.36%	56.51%	60.23%
9. Staffing and Work Pace	40.78%	4.94%	30.41%	32.72%	34.61%	37.45%	39.99%	41.56%	42.65%
10. Response To Error	36.93%	3.54%	32.14%	35.60%	37.58%	40.42%	45.19%	46.28%	50.65%

* Results shown in the above table from the highest average percent positive response to the lowest per domain.



Table 5-2 presents statistics (average percent positive response) for each of the 10 EMS-SOPS composite measures linked with staff positions.

Table 5-2. Composite / Domain Measure Results by staff positions EMS-SOPS Database.

HSPSC Composite/ Domain Measures	Composite / Domain % positive response by staff position											
	Quality supervisor	Online medical Direction Doctor	Team Follow-up	Field Leader	Shift Supervisor	Health assistant	Online medical direction consultant	Other, please specify	Emergency Medical Technician	Emergency Medical Dispatcher	Driver	Emergency Medical Specialist
1. Teamwork	97.37	81.54	75.00	73.74	74.34	78.04	66.67	75.79	35.90	66.29	75.11	63.14
2. Staffing and Work Pace	36.96	51.00	45.45	38.75	32.66	45.88	25.00	39.92	40.88	27.98	38.49	26.24
3. Organizational Learning-Continuous Improvement	75.68	73.33	71.67	69.20	67.57	69.37	60.00	66.39	48.23	59.01	64.25	46.85
4. Response to Error	66.00	53.88	47.44	43.25	34.72	45.87	40.74	39.88	50.75	36.57	37.91	21.90
5. Supervisor, Manager, or Clinical Leader Support for Patient Safety	78.95	67.18	68.97	63.57	64.47	65.11	61.90	44.62	55.20	56.54	57.35	50.05
6. Communication About Error	76.32	73.26	66.67	72.86	77.48	60.37	76.19	70.37	56.83	62.40	53.38	47.16
7. Communication Openness	62.50	61.38	57.14	60.56	59.44	56.26	55.56	48.41	58.33	49.84	48.26	40.48
8. Reporting Patient Safety Events	60.00	70.34	66.67	63.28	67.06	53.86	71.43	58.37	60.51	61.29	36.32	46.25
9. Pre-hospital Management Support for Patient Safety	71.43	64.58	60.34	56.36	57.93	55.66	57.14	53.37	66.72	49.24	53.01	39.19
10. Handoffs and Information Exchange	82.35	64.17	77.78	63.42	58.33	61.43	60.00	63.00	72.48	55.28	48.70	43.63
Average % positive across 10 domains	67.71	62.97	61.09	57.71	56.37	55.41	54.27	53.19	52.59	50.11	50.08	40.68

* Results shown in the above table displayed according to original AHRQ domains sequence.

Table 5-3 presents statistics (average percent positive response) for each of the 10 EMS-SOPS composite measures linked with work areas.

Table 5-3. Composite / Domain Measure Results by work areas EMS-SOPS Database.

Domain Measures	Composite / Domain % positive response by work areas	
	Ambulance stations	Medical dispatch / Medical directive
1. Teamwork	72.32	71.08
2. Staffing and Work Pace	39.67	33.85
3. Organizational Learning-Continuous Improvement	64.69	64.72
4. Response to Error	35.23	40.80
5. Supervisor, Manager, or Clinical Leader Support for Patient Safety	55.64	59.67
6. Communication About Error	59.48	69.10
7. Communication Openness	49.54	54.75
8. Reporting Patient Safety Events	47.90	64.62
9. Pre-hospital Management Support for Patient Safety	53.49	56.51
10. Handoffs and Information Exchange	56.90	59.45
Average % positive across 10 domains	51.51	54.64

* Results shown in the above table displayed according to original AHRQ domains sequence

Table 5-4 presents statistics for each of the 32 survey items. Items are listed by their respective composite measures (average percent positive, minimum, and maximum scores, and median). The items are presented in the order in which they appear in the survey.

Table 5-4. Composite / Domain Measure Results by work areas EMS-SOPS Database.

EMS-SOPS Item Measures	Item % positive response			
	Average	Minimum	Maximum	Median
1. Teamwork				
A1. In this unit, we work together as an effective team	85.59	80.79	92.36	85.59
A8. During busy times, staff in this unit help each other	73.05	64.29	94.90	72.26
*A9. There is a problem with disrespectful behavior by those working in this unit	60.00	49.32	67.50	59.93
2. Staffing and Work Pace				
A2. In this unit, we have enough staff to handle the workload	33.06	14.65	50.64	34.13
*A3. Staff in this unit work longer hours than is best for patient care	40.23	22.37	51.80	43.83
*A5. This unit relies too much on temporary, float, or PRN staff	42.34	26.25	73.86	40.51
*A11. The work pace in this unit is so rushed that it negatively affects patient safety	47.51	35.05	73.72	45.69
3. Organizational Learning- Continuous Improvement				
A4. This unit regularly reviews work processes to determine if changes are needed to improve patient safety	67.83	55.65	83.44	67.09
A12. In this unit, changes to improve patient safety are evaluated to see how well they worked	63.44	46.15	78.42	62.82
*A14. This unit lets the same patient safety problems keep happening	68.91	51.90	85.71	67.84
4. Response to Error				
*A6. In this unit, staff feel like their mistakes are held against them	25.54	19.84	32.91	25.00
*A7. When an event is reported in this unit, it feels like the person is being written up, not the problem	30.96	26.04	38.37	30.75
A10. When staff make errors, this unit focuses on learning rather than blaming individuals	58.55	50.40	78.34	56.41
*A13. In this unit, there is a lack of support for staff involved in patient safety errors	32.68	25.35	41.18	31.26

* Referred to negatively worded item, where the percent positive response is based on those who responded, "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).



5. Supervisor, Manager, or Clinical Leader Support for Patient Safety				
B1. My supervisor, manager, or clinical leader seriously considers staff suggestions for improving patient safety:	65.45	52.56	79.02	66.88
*B2. My supervisor, manager, or clinical leader wants us to work faster during busy times, even if it means taking shortcuts	39.06	32.91	51.82	39.24
B3. My supervisor, manager, or clinical leader takes action to address patient safety concerns that are brought to their attention	66.70	52.26	80.42	67.32
6. Communication About Error				
C1. We are informed about errors that happen in this unit	54.84	41.57	76.06	52.76
C2. When errors happen in this unit, we discuss ways to prevent them from happening again	66.64	52.76	89.03	66.67
C3. In this unit, we are informed about changes that are made based on event reports	67.27	51.23	87.18	68.80
7. Communication Openness				
C4. In this unit, staff speak up if they see something that may negatively affect patient care	66.76	56.44	87.10	64.97
C5. When staff in this unit see someone with more authority doing something unsafe for patients, they speak up	49.37	38.19	58.39	50.75
C6. When staff in this unit speak up, those with more authority are open to their patient safety concerns	47.99	40.44	53.91	47.26
*C7. In this unit, staff are afraid to ask questions when something does not seem right	38.99	33.43	48.48	37.54
8. Reporting Patient Safety Events				
D1. When a mistake is caught and corrected before reaching the patient, how often is this reported?	50.30	39.44	78.38	49.00
D2. When a mistake reaches the patient and could have harmed the patient, but did not, how often is this reported?	49.91	38.35	58.16	49.43
9. Pre-hospital Management Support for Patient Safety				
F1. The actions of Pre-hospital management show that patient safety is a top priority	74.46	60.13	87.82	75.00
F2. Pre-hospital management provides adequate resources to improve patient safety	62.43	40.65	75.80	63.01
*F3. Pre-hospital management seems interested in patient safety only after an adverse event happens	28.12	19.58	32.11	28.21
10. Handoffs and Information Exchange				
*F4. When transferring patients from one unit to another, important information is often left out	53.38	41.72	73.29	53.06
*F5. During shift changes, important patient care information is often left out	58.80	47.30	71.21	59.60
F6. During shift changes, there is adequate time to exchange all key patient care information	64.36	44.31	89.26	61.50

* Referred to negatively worded item, where the percent positive response is based on those who responded, "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).



Table 5-5 (1,2) presents statistics for respondents' patient safety rating of their unit/work area within their pre-hospital. The results presented in the table represent the average percent of positive scores for pre-hospital respondents who answered either "Excellent" or "Very Good".

Table 5-5 Item Results on Overall Rating on Patient Safety for Excellent or Very Good - EMS-SOPS Database.

EMS-SOPS Item Measures	Item % positive response			
	Average	Minimum	Median	Maximum
Unit/ Work Area Patient Safety Rating (Item E1)				
Excellent or Very Good	74.89	57.74	78.34	86.11

**Refer to Chart 5-3 for the results of all response options.*

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

Table 5-6 Item Results for Reporting One or More Events in the Past 12 Months-2022 EMS-SOPS Database.

EMS-SOPS Item Measures	Item % positive response			
	Average	Minimum	Median	Maximum
Events Reported in the Past 12 Months (Item D3)				
1 or more events	58.45	49.31	57.22	73.89

**Refer to Chart 5-4 for the results of all response options.*



6. Data Analysis

The results showed in this report were collected from the respondents working at SRCA branches in Saudi Arabia using a web-based survey. All the calculations and the analysis were conducted based on the AHRQ guidelines [3, 4]. Here we summarized some highlights from the data analysis used. For more details about the data cleaning and analysis, please see the AHRQ guidelines [3, 4].

Data Analysis - Calculation of percent positive scores:

The main survey items of the 10-patient safety culture composite / domains measures are mostly using the 5-point response categories as the following:

- Frequency response option (Communication About Error, Communication Openness, and Reporting Patient Safety Events): "Always", "Most of the time", "Sometimes", "Rarely", "Never".
- Agreement response option (the other 7 composite measures): "Strongly agree", "Agree", "Neither Agree nor Disagree", "Disagree", "Strongly disagree".

All composite measure items also contain a "Does not apply or Don't know" response option, which was not included in calculating of valid responses according to the AHRQ guidelines [3, 4].

There are also two single survey items, not part of the 10-patient safety culture composite measures, that use the 5-point scale ranging as the following:

- The single item, "Overall Rating on Patient Safety", uses a 5-point scale: "Poor", "Fair", "Good", "Very Good", "Excellent".
- The single item, "Number of Events Reported", uses a 5-point scale: "None", "1 to 2", "3 to 5", "6 to 10", "11 or more".

For calculating the item percent positive response, we considered the presence of both positively worded items and negatively worded items among the 10 patient safety culture composite measures. Calculating the percent positive response from positively worded items is differs from calculating the percent positive response from negatively worded items. For positively worded items, the percent positive response is the combined percentage of respondents within a branch who answered any of the following options: "Strongly agree", "Agree", "Always", or "Most of the time". For negatively worded items, the percent positive response is the combined percentage of respondents within a branch who answered any of the following options: "Strongly disagree", "Disagree", "Never", or "Rarely". because a negative answer on a negatively worded item indicates a positive response. The survey contains 13 negatively worded survey items which are A3, A5, A6, A7, A9, A11, A13, A14, B2, C7, F3, F4, and F5 in 8 out of 10 patient safety culture composite measures.

For single survey items "Overall Rating on Patient Safety" and "Number of Events Reported", the percent positive responses were the combined percentage of respondents within a branch who answered any of the following options: "Excellent", "Very Good", "1 to 2", "3 to 5", "6 to 10", or "11 or more".

For the composite measure percent positive response, the 10 patient safety culture composite measures consist of two, three, or four survey items. We calculated composite measure scores for each branch by averaging the percent positive response on the items within a composite measure.



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Version 1.0 written and published in July 2023.





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