

# 2012 Preliminary Comparative Results: Pharmacy Survey on Patient Safety Culture

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## **Purpose and Use of This Document**

Results from the 55 U.S. pharmacies that participated in a pilot study of the Agency for Healthcare Research and Quality (AHRQ) Pharmacy Survey on Patient Safety Culture in early 2012 are provided in this document. The results presented here are from limited numbers of staff and pharmacies and were not derived from a statistically selected sample of U.S. pharmacies.

At this time, there is no central repository to which pharmacies can submit data for comparative purposes. However, AHRQ plans to support a U.S. comparative database for the pharmacy survey that will provide more extensive comparative data from pharmacies willing to voluntarily submit data from the survey. More details will be forthcoming from AHRQ about when data submission will begin and when updated comparative results will be available.

## **Survey Development**

Patient safety culture can be defined as the set of values, beliefs, and norms about what is important, how to behave, and what attitudes are appropriate when it comes to patient safety in a workgroup or organization. The Pharmacy Survey on Patient Safety Culture is intended to help a pharmacy assess the extent to which its culture emphasizes the importance of patient safety. It is the fourth survey AHRQ has produced on patient safety culture. Previously developed surveys address patient safety culture in hospitals, nursing homes, and medical offices. The surveys are available online at [www.ahrq.gov/qual/patientsafetyculture/](http://www.ahrq.gov/qual/patientsafetyculture/).

The survey design team conducted a review of the literature on patient and medication safety in pharmacies, interviewed more than two dozen pharmacy experts and researchers, identified appropriate survey topics, and drafted survey items for review by a technical expert panel. The draft survey was cognitively tested with pharmacy staff to ensure that the questions were easy to understand and answer, and that the items were relevant.

In 2012, a pilot administration was conducted with 60 pharmacies and 496 staff throughout the United States. Of the 60 pharmacies, only 55 included responses from at least five staff and therefore were included in the results in this report. The pilot data were analyzed to examine the survey's psychometric properties (reliability and factor structure), with the end goal of shortening the pilot survey, including only the best items.

The final survey includes 36 survey items that measure the 11 areas of organizational culture pertaining to patient safety described in Table 1. The survey uses either 5-point agreement scales ("Strongly disagree" to "Strongly agree") or frequency scales ("Never" to "Always"). Items include a "Does not apply or Don't know" option.

The survey also includes three questions that ask respondents to rate the frequency with which mistakes are documented and one question that provides an overall rating on patient safety.

**Table 1. Patient Safety Culture Composites and Definitions**

<b>Patient Safety Culture Composite</b>	<b>Definition: The extent to which...</b>
Communication About Mistakes	Staff discuss mistakes that happen and talk about ways to prevent mistakes
Communication About Prescriptions Across Shifts	Information about prescriptions is communicated well across shifts, and there are clear expectations and procedures for doing so
Communication Openness	Staff freely speak up about patient safety concerns and feel comfortable asking questions, and staff suggestions are valued
Organizational Learning—Continuous Improvement	The pharmacy tries to figure out what problems in the work process lead to mistakes and makes changes to keep mistakes from happening again
Overall Perceptions of Patient Safety	There is a strong focus and emphasis on patient safety, and the pharmacy is good at preventing mistakes
Patient Counseling	Patients are encouraged to talk to the pharmacist; pharmacists spend enough time talking to patients and tell them important information about new prescriptions
Physical Space and Environment	The pharmacy is well organized and free of clutter, and the pharmacy layout supports good workflow
Response to Mistakes	The pharmacy examines why mistakes happen and helps staff learn from mistakes, and staff are treated fairly when they make mistakes
Staff Training and Skills	Staff get the training they need, new staff receive orientation, and staff have the skills they need to do their jobs well
Staffing, Work Pressure, & Pace	There are enough staff to handle the workload, staff do not feel rushed, staff can take breaks, and work can be completed accurately despite distractions
Teamwork	Staff treat each other with respect, work together as an effective team, and understand their roles and responsibilities

## Characteristics of Pilot Study Pharmacies

Overall response results for the participating pilot study pharmacies are summarized in Table 2.

**Table 2. Overall and Average Response Statistics for 55 Pharmacies**

Overall Response Rate Information		Statistic
Number of respondents		479
Number of surveys administered		635
Overall response rate		75%
Average Response Rate Information		Statistic
Average number of respondents per pharmacy (range: 5 to 20)		9
Average number of surveys administered per pharmacy (range: 5 to 36)		12
Average pharmacy response rate (range: 17% to 100%)		83%

Pharmacy characteristics were obtained from a designated point of contact in each pharmacy or by headquarters staff for a pharmacy chain. Table 3 shows the distribution of pharmacies by pharmacy type.

Approximately two-thirds of pharmacies (68 percent) were considered either a supermarket pharmacy or a mass merchant/discount retailer pharmacy that carries a wide variety of merchandise and has a pharmacy within the store.

Note: In tables in this document, column percent totals may not add to exactly 100 percent because of rounding.

**Table 3. Distribution of Pharmacies by Type of Store**

Pharmacy Type	Pilot Study Pharmacies	
	Number	Percent
Mass merchant/discount retailer pharmacy	19	35%
Supermarket pharmacy	18	33%
Independent pharmacy	8	15%
Integrated health system pharmacy	8	15%
Chain drugstore (local, regional, national)	2	4%
Total	55	100%

The 55 pilot study pharmacies came from 25 States in the United States. However, the pharmacies that voluntarily participated in these data collection efforts are not statistically representative of all pharmacies in the United States. To provide a basic comparison of the number of pilot pharmacies with estimates of the population of pharmacies in the United States, we provide comparative numbers based on data from the National Association of Chain Drug Stores (NACDS) 2011-2012 Chain Pharmacy Industry Profile.

The distribution of pharmacies by type is presented in Table 4. The pilot study pharmacies represent less than 0.001 percent of the total number of U.S. pharmacies. In addition, mass merchant and supermarket pharmacies are overrepresented in the pilot study.

**Table 4. Distribution of Pharmacies by Type of Store for U.S. Pharmacies and Pilot Study Pharmacies**

Pharmacy Type	U.S. Pharmacies <sup>a</sup>		Pilot Study Pharmacies	
	Number	Percent	Number	Percent
Mass merchant/discount retailer pharmacy	8,273	14%	19	35%
Supermarket pharmacy	9,333	15%	18	33%
Independent pharmacy	20,835	34%	8	15%
Integrated health system pharmacy/chain drugstore (local, regional, national)	22,595	37%	10	18%
Total	61,036	100%	55	100%

<sup>a</sup> Source of data for U.S. pharmacies: National Association of Chain Drug Stores. NACDS 2011-2012 Chain Pharmacy Industry Profile. 2011. Statistics for integrated health system pharmacies that are open to the public are combined with statistics for chain drugstores in the NACDS results.

Seventy-five percent of the pharmacies belonged to an organization with 50 or more stores (Table 5). The largest proportions of pharmacies were from the East North Central (42 percent) and the South Atlantic regions (20 percent), as shown in Table 6. Fifty-six percent of pharmacies dispensed 1,500 or fewer prescriptions per week (Table 7).

**Table 5. Distribution of Pharmacies by Number of Locations/Stores**

Number of Locations/Stores	Pilot Study Pharmacies	
	Number	Percent
1 (This pharmacy is the only location)	5	9%
2 to 3	4	7%
4 to 9	3	5%
10 to 24	0	0%
25 to 49	2	4%
50 to 99	8	15%
100 or more	33	60%
Total	55	100%

**Table 6. Distribution of Pharmacies by Region**

Region	Pilot Study Pharmacies	
	Number	Percent
Mid-Atlantic/New England	5	9%
South Atlantic	11	20%
E. North Central	23	42%
E. South Central	9	16%
W. Central	3	5%
Mountain/Pacific	4	7%
Total	55	100%

States and territories are categorized into regions as follows: Mid-Atlantic: NJ, NY, PA; New England: CT, MA, ME, NH, RI, VT; South Atlantic: DC, DE, FL, GA, MD, NC, SC, VA, WV, Puerto Rico, Virgin Islands; East North Central: IL, IN, MI, OH, WI; East South Central: AL, KY, MS, TN; West Central: AR, IA, KS, LA, MN, MO, ND, NE, OK, SD, TX; Mountain: AZ, CO, ID, MT, NM, NV, UT, WY; Pacific: AK, CA, HI, OR, WA, American Samoa, Guam, Marshall Islands, Northern Mariana Islands.



**Table 7. Distribution of Pharmacies by Average Number of Prescriptions Dispensed per Week**

Average Number of Prescriptions	Pilot Study Pharmacies	
	Number	Percent
700 or fewer per week	3	5%
701 to 1,500 per week	28	51%
1,501 to 3,000 per week	15	27%
3,001 to 6,000 per week	7	13%
6,001 to 12,000 per week	2	4%
More than 12,000 per week	0	0%
Total	55	100%

Almost all pharmacies (91 percent) were open on average 9-12 hours per weekday, with 78 percent of pharmacies open 7 days a week (Tables 8 and 9). One-third of pharmacies (33 percent) had a drive-through window, and few pharmacies (18 percent) had a centrally located fulfillment center (central fill) for dispensing medications (Tables 10 and 11). Most staff did not belong to a union (98 percent), as shown in Table 12.

**Table 8. Distribution of Pharmacies by Hours per Weekday Pharmacy Is Open**

Hours per Weekday Pharmacy Open	Pilot Study Pharmacies	
	Number	Percent
8 or fewer hours per weekday	0	0%
9 to 12 hours per weekday	50	91%
13 to 15 hours per weekday	4	7%
16 to 23 hours per weekday	0	0%
24 hours per weekday	1	2%
Total	55	100%

**Table 9. Distribution of Pharmacies by Days per Week Pharmacy Is Open**

Days per Week Pharmacy Is Open	Pilot Study Pharmacies	
	Number	Percent
5 or fewer days a week	1	2%
6 days a week	11	20%
7 days a week	43	78%
Total	55	100%

**Table 10. Distribution of Pharmacies by Whether There Is a Drive-Through Window**

Has Drive-Through Window	Pilot Study Pharmacies	
	Number	Percent
Yes	18	33%
No	37	67%
Total	55	100%

**Table 11. Distribution of Pharmacies by Whether There Is a Central Fill for Dispensing Medications**

Has Central Fill	Pilot Study Pharmacies	
	Number	Percent
Yes	10	18%
No	45	82%
Total	55	100%

**Table 12. Distribution of Pharmacies by Staff Who Belong to a Union**

Staff Who Belong to a Union	Pilot Study Pharmacies	
	Number	Percent
Pharmacists	0	0%
Pharmacy technicians	1	2%
Other pharmacy staff	0	0%
No staff in this pharmacy belong to a union	54	98%

Table 13 presents data on the use of automated electronic technologies in the pharmacies. All of the pilot study pharmacies (100 percent) had computer alerts for drug interactions, while only 11 percent had a robotic filling system.

**Table 13. Distribution of Pharmacies by Use of Selected Automated (Electronic) Technologies**

Automated (Electronic) Technologies	Implementation Status		
	Yes, we currently use this tool	No, but we plan to in the next 6 months	No, and we do not plan to
Scanner to import paper prescriptions into a pharmacy computer	49%	4%	47%
Ability to receive electronic prescriptions	98%	0%	2%
Automated system for patients to request prescription refills (fax, voicemail, interactive voice response [IVR], touch-tone telephone prompts, email, or Internet)	95%	0%	5%
Computer alerts for drug interactions	100%	0%	0%
Barcode verification of medications	65%	4%	31%
Robotic filling system	11%	2%	87%
Automated pill-counting device (nonrobotic)	22%	2%	76%
Picture of drug on computer to compare with prescription	60%	2%	38%
Image of original prescription on computer display during final check	49%	5%	45%
Automation at pickup to prevent wrong-patient error (e.g., cash register programmed to ask for and enter date of birth through scanning or manual input prior to dispensing)	33%	25%	42%
Other automated tools	18%	0%	82%

Many of the pharmacies offered medication management services. Table 14 shows that vaccination or other immunization administration was the medication management service most fully implemented across pharmacies (80 percent); anticoagulation management (e.g., in-pharmacy finger sticks and International Normalized Ratio testing, patient education, dose adjustments) was the least (2 percent).

**Table 14. Distribution of Pharmacies by Use of Selected Clinical/Medication Therapy Management Services**

Clinical/Medication Therapy Management Services	Implementation Status		
	Yes	No, but we plan to in the next 6 months	No, and we do not plan to
Vaccination or other immunization administration	80%	2%	18%
Medication therapy management to identify and resolve medication-related problems	78%	5%	16%
Consultation services for complex medical conditions	38%	16%	45%
Screening and wellness services (e.g., asthma, diabetes, heart disease, smoking cessation, weight loss)	44%	16%	40%
Coaching and support for disease management (e.g., diabetes, asthma, chronic obstructive pulmonary disease, heart failure, Parkinson's disease)	35%	24%	42%
Anticoagulation management (e.g., in-pharmacy finger sticks and International Normalized Ratio testing, patient education, dose adjustments)	2%	0%	98%
Other clinical services	17%	0%	83%

Most pharmacies (76 percent) compounded medications on site (Table 15). Of those compounding pharmacies, 93 percent performed only simple compounding (Table 16).

**Table 15. Distribution of Pharmacies by Whether They Compound Medications on Site**

Compound Medications on Site	Pilot Study Pharmacies	
	Number	Percent
Yes	42	76%
No	13	24%
Total	55	100%

**Table 16. Distribution of Pharmacies That Compound Medications on Site by Type of Compounding**

Type of Compounding	Pilot Study Pharmacies That Compound on Site	
	Number	Percent
Simple only	39	93%
Complex only	0	0%
Both simple and complex	3	7%
Total	42	100%

As shown in Table 17, nearly all pharmacies (98 percent) had a system for documenting errors, and 38 percent had both a paper and electronic system.

**Table 17. Distribution of Pharmacies by Whether There Is a System for Documenting Errors Within the Pharmacy**

System for Documenting Errors	Pilot Study Pharmacies	
	Number	Percent
Yes, a paper and electronic system	21	38%
Yes, a paper system only	17	31%
Yes, an electronic system only	16	29%
Don't know	1	2%
No	0	0%
Total	55	100%

More than half of the pharmacies (53 percent) do not report errors to an external reporting program, as shown in Table 18.

**Table 18. Pharmacies by Reporting of Errors to Selected External Reporting Programs**

Reporting Errors That Occur Within the Pharmacy	Pilot Study Pharmacies	
	Number	Percent
The Institute for Safe Medication Practices (ISMP) Medication Errors Reporting Program (MERP)	2	4%
MedWatch: The FDA Safety Information and Adverse Event Reporting System	7	13%
Federally certified Patient Safety Organization (PSO) other than ISMP	2	4%
Private company providing error monitoring services to pharmacies	4	7%
Other	15	27%
Does not report to an external reporting program	29	53%

## Characteristics of Pilot Study Respondents

Tables 19 to 21 display distributions of the 479 pharmacy respondents by:

- Tenure in the pharmacy.
- Hours worked per week in the pharmacy.
- Staff position.

According to the data on respondent characteristics shown in these tables:

- Sixty-one percent of respondents had worked in their pharmacy at least 3 years.
- Sixty-nine percent of respondents worked in their pharmacy at least 32 hours per week.
- Fifty-two percent of respondents were pharmacy technicians, 31 percent were pharmacists, and 17 percent either were pharmacy clerks or pharmacy students or held another pharmacy position.

**Table 19. Distribution of Respondents by Tenure in the Pharmacy**

Tenure	Pilot Study Respondents	
	Number	Percent
Less than 6 months	31	7%
6 months to less than 1 year	36	8%
1 year to less than 3 years	112	25%
3 years to less than 6 years	121	27%
6 years to less than 12 years	85	19%
12 years or more	67	15%
Total	452	100%
Missing	27	
Overall total	479	

**Table 20. Distribution of Respondents by Hours Worked per Week in the Pharmacy**

Hours Worked per Week	Pilot Study Respondents	
	Number	Percent
1 to 16 hours per week	56	12%
17 to 31 hours per week	85	19%
32 to 40 hours per week	255	56%
More than 40 hours per week	58	13%
Total	454	100%
Missing	25	
Overall total	479	

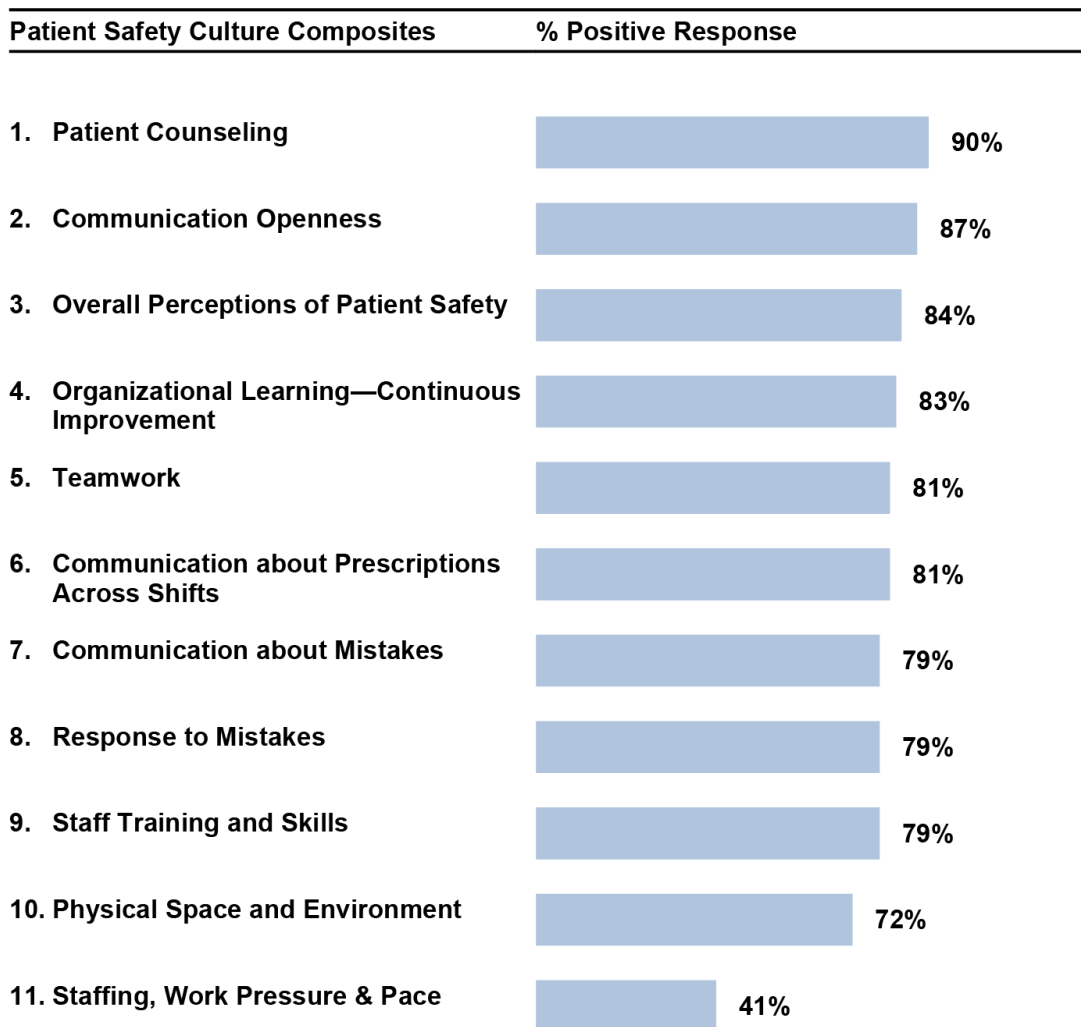
**Table 21. Distribution of Respondents by Staff Position**

Staff Position	Pilot Study Respondents	
	Number	Percent
Pharmacist (including pharmacy manager, lead pharmacist, pharmacist-in-charge, staff pharmacist)	141	31%
Pharmacy technician (including lead technician and staff technician)	234	52%
Pharmacy clerk	37	8%
Pharmacy student intern/extern	25	6%
Other position	13	3%
Total	450	100%
Missing	29	
Overall total	479	










## Composite-Level and Item-Level Results

The charts on the following pages display the composite-level and item-level results from the 55 pilot study pharmacies. Chart 1 shows the average percent positive response on each of the survey’s patient safety culture composites, in order from most positive to least positive. Chart 2 provides the average percent positive response on the survey items. Chart 3 shows the distribution of responses for documenting mistakes, and Chart 4 shows the average distribution of responses for the overall rating on patient safety.

**Chart 1. Composite-Level Results From 55 Pilot Study Pharmacies**



**Chart 2. Item-Level Results From 55 Pilot Study Pharmacies**

<b>Survey Items By Patient Safety Culture Composite</b>	<b>Survey Item % Positive Response</b>
<b>1. <u>Patient Counseling</u></b>	
1. We encourage patients to talk to pharmacists about their medications. (B2)	 <b>92%</b>
2. Our pharmacists spend enough time talking to patients about how to use their medications. (B7)	 <b>86%</b>
3. Our pharmacists tell patients important information about their new prescriptions. (B11)	 <b>93%</b>
<b>2. <u>Communication Openness</u></b>	
1. Staff ideas and suggestions are valued in this pharmacy. (B1)	 <b>81%</b>
2. Staff feel comfortable asking questions when they are unsure about something. (B5)	 <b>91%</b>
3. It is easy for staff to speak up to their supervisor/ manager about patient safety concerns in this pharmacy. (B10)	 <b>88%</b>
<b>3. <u>Overall Perceptions of Patient Safety</u></b>	
1. This pharmacy places more emphasis on sales than on patient safety. (C3R)	 <b>80%</b>
2. This pharmacy is good at preventing mistakes. (C6)	 <b>85%</b>
3. The way we do things in this pharmacy reflects a strong focus on patient safety. (C9)	 <b>86%</b>

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

**Chart 2. Item-level Results from 55 Pilot Study Pharmacies, continued**

<b>Survey Items By Patient Safety Culture Composite</b>	<b>Survey Item % Positive Response</b>
<b>4. <u>Organizational Learning—Continuous Improvement</u></b>	
1. When a mistake happens, we try to figure out what problems in the work process led to the mistake. (C2)	90%
2. When the same mistake keeps happening, we change the way we do things. (C5)	82%
3. Mistakes have led to positive changes in this pharmacy. (C10)	79%
<b>5. <u>Teamwork</u></b>	
1. Staff treat each other with respect. (A2)	79%
2. Staff in this pharmacy clearly understand their roles and responsibilities. (A4)	81%
3. Staff work together as an effective team. (A9)	82%
<b>6. <u>Communication about Prescriptions Across Shifts</u></b>	
1. We have clear expectations about exchanging important prescription information across shifts. (B4)	84%
2. We have standard procedures for communicating prescription information across shifts. (B6)	78%
3. The status of problematic prescriptions is well communicated across shifts. (B14)	81%

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

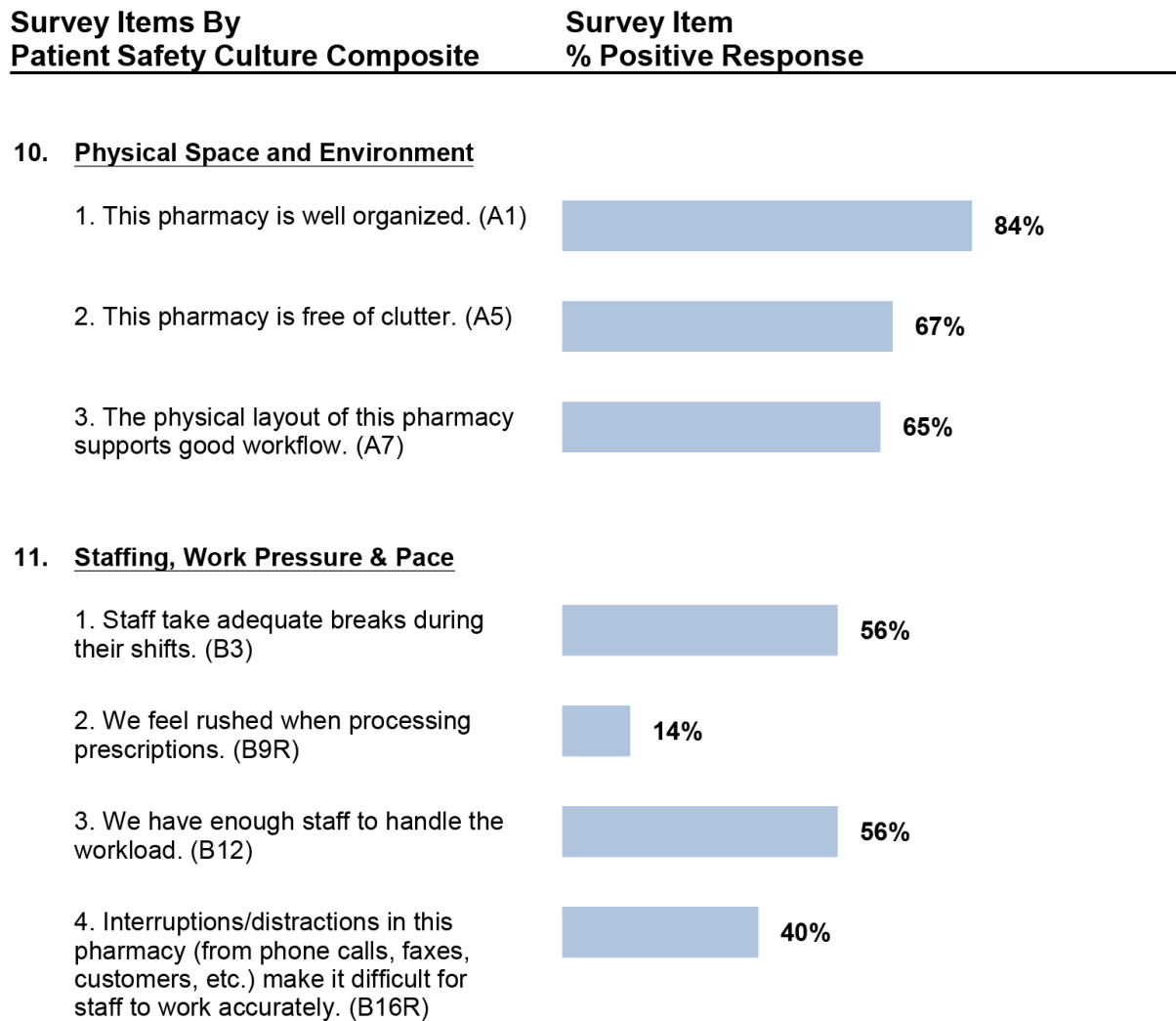


**Chart 2. Item-level Results from 55 Pilot Study Pharmacies, continued**

<b>Survey Items By Patient Safety Culture Composite</b>	<b>Survey Item % Positive Response</b>
<b>7. <u>Communication about Mistakes</u></b>	
1. Staff in this pharmacy discuss mistakes. (B8)	74%
2. When patient safety issues occur in this pharmacy, staff discuss them. (B13)	84%
3. In this pharmacy, we talk about ways to prevent mistakes from happening again. (B15)	81%
<b>8. <u>Response to Mistakes</u></b>	
1. Staff are treated fairly when they make mistakes. (C1)	80%
2. This pharmacy helps staff learn from their mistakes rather than punishing them. (C4)	84%
3. We look at staff actions and the way we do things to understand why mistakes happen in this pharmacy. (C7)	84%
4. Staff feel like their mistakes are held against them. (C8R)	69%
<b>9. <u>Staff Training and Skills</u></b>	
1. Technicians in this pharmacy receive the training they need to do their jobs. (A3)	81%
2. Staff in this pharmacy have the skills they need to do their jobs well. (A6)	86%
3. Staff who are new to this pharmacy receive adequate orientation. (A8)	72%
4. Staff get enough training from this pharmacy. (A10)	77%

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

**Chart 2. Item-level Results from 55 Pilot Study Pharmacies, continued**



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

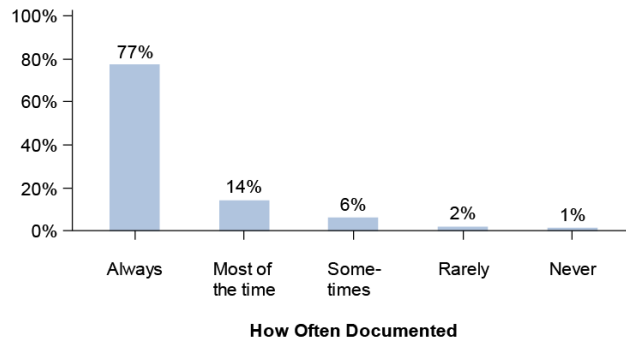
### Chart 3. Results for Documenting Mistakes From 55 Pilot Study Pharmacies

#### Documenting Mistakes

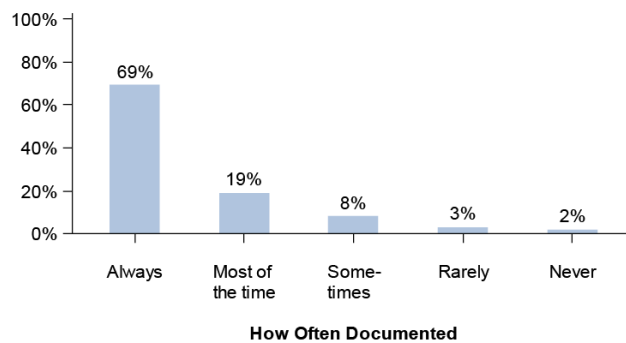
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In this pharmacy, how often are the following types of mistakes documented (in writing OR tracked electronically) ?

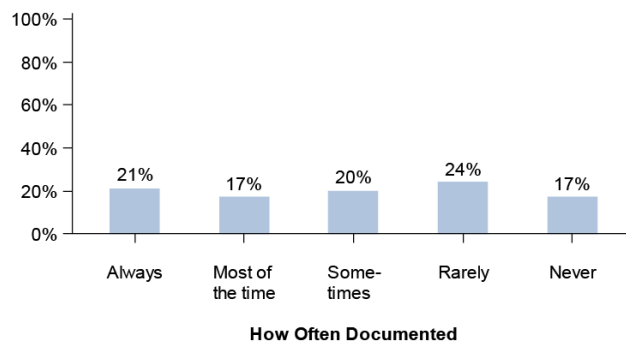
D1. When a mistake reaches the patient and could cause harm but does not, how often is it documented?



D2. When a mistake reaches the patient but has no potential to harm the patient, how often is it documented?

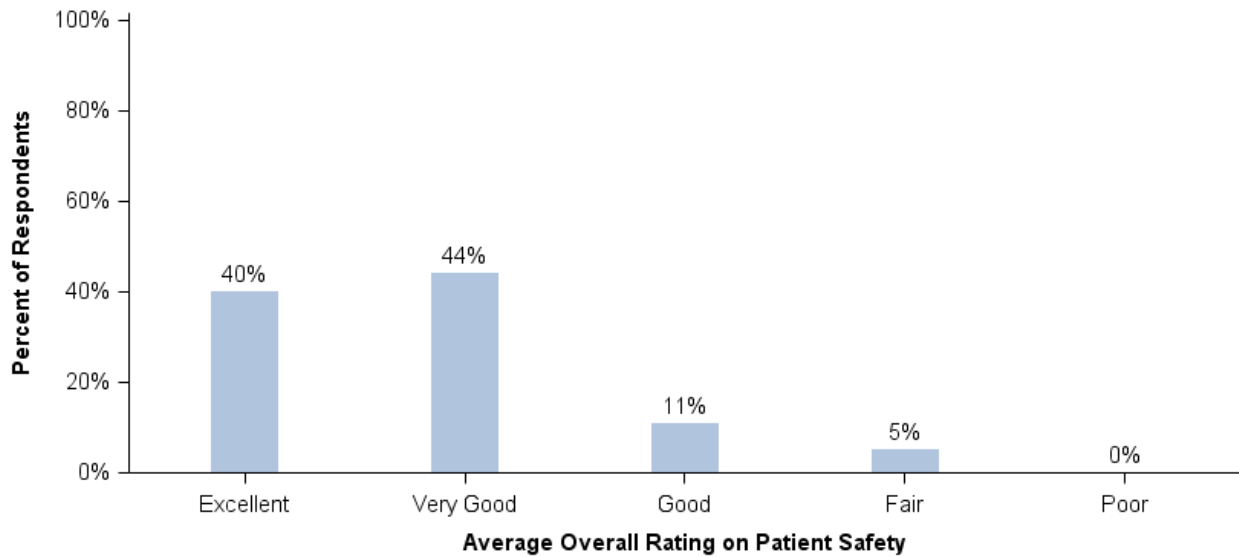


D3. When a mistake that could have harmed the patient is corrected BEFORE the medication leaves the pharmacy, how often is it documented?



**Note:** Percentages indicate average percent response for each item response category across the pilot pharmacies.

**Chart 4. Results for Overall Rating on Patient Safety From 55 Pilot Study Pharmacies**



**Note:** Percentages indicate average percent response for each item response category across the pilot pharmacies.

## **Composite-Level and Item-Level Results by Staff Position**

Tables 22 through 25 indicate the average percent positive scores on the survey composites and items across pharmacies, broken out by staff position. Only the staff positions for which at least 20 pharmacies had at least one respondent in the position are included: pharmacists and pharmacy technicians.

Pharmacists were more positive than pharmacy technicians on all composites except for Staffing, Work Pressure, and Pace. Pharmacists were also more positive than pharmacy technicians on most of the survey's items.

Note: The number of pharmacies and respondents in each staff position is shown in each table. However, the precise number of pharmacies and respondents corresponding to each data cell in a table varies because of individual nonresponse/missing data.

**Table 22. Composite-Level Average Percent Positive Response by Staff Position**

Patient Safety Culture Composites	Staff Position	
	Pharmacist	Pharmacy Technician
<i># Pharmacies</i>	53	55
<i># Respondents</i>	141	234
<b>1. Patient Counseling</b>	92%	90%
<b>2. Communication Openness</b>	92%	84%
<b>3. Overall Perceptions of Patient Safety</b>	87%	81%
<b>4. Organizational Learning—Continuous Improvement</b>	93%	81%
<b>5. Teamwork</b>	86%	78%
<b>6. Communication About Prescriptions Across Shifts</b>	87%	78%
<b>7. Communication About Mistakes</b>	85%	80%
<b>8. Response to Mistakes</b>	87%	76%
<b>9. Staff Training and Skills</b>	80%	79%
<b>10. Physical Space and Environment</b>	77%	71%
<b>11. Staffing, Work Pressure, &amp; Pace</b>	41%	42%
<b>Average Across Composites</b>	82%	76%

**Note:** Data are not shown for respondents who selected "Pharmacy clerk," "Pharmacy student intern/extern," or "None of the above/Other" and those with missing information.

**Table 23. Item-Level Average Percent Positive Response by Staff Position**

Survey Items by Composite	Staff Position		
	Pharmacist	Pharmacy Technician	
	# Pharmacies	53	55
	# Respondents	141	234
<b>1. Patient Counseling</b>			
1. We encourage patients to talk to pharmacists about their medications. (B2)	95%	91%	
2. Our pharmacists spend enough time talking to patients about how to use their medications. (B7)	85%	88%	
3. Our pharmacists tell patients important information about their new prescriptions. (B11)	95%	92%	
<b>2. Communication Openness</b>			
1. Staff ideas and suggestions are valued in this pharmacy. (B1)	89%	76%	
2. Staff feel comfortable asking questions when they are unsure about something. (B5)	93%	89%	
3. It is easy for staff to speak up to their supervisor/manager about patient safety concerns in this pharmacy. (B10)	93%	86%	
<b>3. Overall Perceptions of Patient Safety</b>			
1. This pharmacy places more emphasis on sales than on patient safety. (C3R)	80%	80%	
2. This pharmacy is good at preventing mistakes. (C6)	92%	78%	
3. The way we do things in this pharmacy reflects a strong focus on patient safety. (C9)	89%	86%	
<b>4. Organizational Learning—Continuous Improvement</b>			
1. When a mistake happens, we try to figure out what problems in the work process led to the mistake. (C2)	96%	88%	
2. When the same mistake keeps happening, we change the way we do things. (C5)	93%	77%	
3. Mistakes have led to positive changes in this pharmacy. (C10)	89%	77%	
<b>5. Teamwork</b>			
1. Staff treat each other with respect. (A2)	83%	78%	
2. Staff in this pharmacy clearly understand their roles and responsibilities. (A4)	89%	76%	
3. Staff work together as an effective team. (A9)	87%	80%	

**Note:** Data are not shown for respondents who selected "Pharmacy clerk," "Pharmacy student intern/extern," or "None of the above/Other" and those with missing information. The item's survey location is shown after the item text. An "R" indicates a negatively worded item, where the percent positive response is based on those who responded "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).

**Table 23. Item-level Results by Staff Position, continued**

Survey Items by Composite	Staff Position	
	Pharmacist	Pharmacy Technician
# Pharmacies	53	55
# Respondents	141	234
<b>6. Communication About Prescriptions Across Shifts</b>		
1. We have clear expectations about exchanging important prescription information across shifts. (B4)	91%	81%
2. We have standard procedures for communicating prescription information across shifts. (B6)	83%	76%
3. The status of problematic prescriptions is well communicated across shifts. (B14)	88%	77%
<b>7. Communication About Mistakes</b>		
1. Staff in this pharmacy discuss mistakes. (B8)	82%	72%
2. When patient safety issues occur in this pharmacy, staff discuss them. (B13)	91%	83%
3. In this pharmacy, we talk about ways to prevent mistakes from happening again. (B15)	82%	84%
<b>8. Response to Mistakes</b>		
1. Staff are treated fairly when they make mistakes. (C1)	90%	76%
2. This pharmacy helps staff learn from their mistakes rather than punishing them. (C4)	90%	80%
3. We look at staff actions <u>and</u> the way we do things to understand why mistakes happen in this pharmacy. (C7)	89%	82%
4. Staff feel like their mistakes are held against them. (C8R)	79%	67%
<b>9. Staff Training and Skills</b>		
1. Technicians in this pharmacy receive the training they need to do their jobs. (A3)	80%	84%
2. Staff in this pharmacy have the skills they need to do their jobs well. (A6)	88%	84%
3. Staff who are new to this pharmacy receive adequate orientation. (A8)	72%	71%
4. Staff get enough training from this pharmacy. (A10)	80%	75%

**Note:** Data are not shown for respondents who selected "Pharmacy clerk," "Pharmacy student intern/extern," or "None of the above/Other" and those with missing information. The item's survey location is shown after the item text. An "R" indicates a negatively worded item, where the percent positive response is based on those who responded "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).

**Table 23. Item-level Results by Staff Position, continued**

Survey Items by Composite	Staff Position		
	Pharmacist	Pharmacy Technician	
	# Pharmacies	53	55
	# Respondents	141	234
<b>10. Physical Space and Environment</b>			
1. This pharmacy is well organized. (A1)		91%	81%
2. This pharmacy is free of clutter. (A5)		75%	64%
3. The physical layout of this pharmacy supports good workflow. (A7)		64%	67%
<b>11. Staffing, Work Pressure, &amp; Pace</b>			
1. Staff take adequate breaks during their shifts. (B3)		56%	53%
2. We feel rushed when processing prescriptions. (B9R)		5%	18%
3. We have enough staff to handle the workload. (B12)		65%	53%
4. Interruptions/distractions in this pharmacy (from phone calls, faxes, customers, etc.) make it difficult for staff to work accurately. (B16R)		37%	42%

**Note:** Data are not shown for respondents who selected "Pharmacy clerk," "Pharmacy student intern/extern," or "None of the above/Other" and those with missing information. The item's survey location is shown after the item text. An "R" indicates a negatively worded item, where the percent positive response is based on those who responded "Strongly disagree" or "Disagree," or "Never" or "Rarely" (depending on the response category used for the item).



**Table 24. Documenting Mistakes by Staff Position**

Survey Items	Staff Position	
	Pharmacist	Pharmacy Technician
<i># Pharmacies</i>	53	55
<i># Respondents</i>	141	234
<b><u>When a mistake reaches the patient and could cause harm but does not, how often is it documented? (D1)</u></b>		
Always documented	1%	1%
Most of the time documented	1%	2%
Sometimes documented	4%	8%
Rarely documented	20%	12%
Never documented	74%	76%
<b><u>When a mistake reaches the patient but has no potential to harm the patient, how often is it documented? (D2)</u></b>		
Always documented	1%	2%
Most of the time documented	1%	5%
Sometimes documented	9%	7%
Rarely documented	27%	16%
Never documented	62%	71%
<b><u>When a mistake that could have harmed the patient is corrected BEFORE the medication leaves the pharmacy, how often is it documented? (D3)</u></b>		
Always documented	23%	17%
Most of the time documented	26%	18%
Sometimes documented	26%	14%
Rarely documented	15%	23%
Never documented	9%	28%

**Note:** Data are not shown for respondents who selected "Pharmacy clerk," "Pharmacy student intern/extern," or "None of the above/Other" and those with missing information.

**Table 25. Results for Overall Rating on Patient Safety by Staff Position**

Overall Rating on Patient Safety	Staff Position	
	Pharmacist	Pharmacy Technician
<i># Pharmacies</i>	53	55
<i># Respondents</i>	141	234
<b>Excellent</b>	35%	42%
<b>Very Good</b>	53%	40%
<b>Good</b>	10%	11%
<b>Fair</b>	3%	6%
<b>Poor</b>	0%	1%

**Note:** Data are not shown for respondents who selected "Pharmacy clerk," "Pharmacy student intern/extern," or "None of the above/Other" and those with missing information.

## Composite-Level and Item-Level Results by Number of Prescriptions Filled per Week

Tables 26 through 29 show the average percent positive scores on the survey composites and items across pilot study pharmacies by number of prescriptions filled per week (1,500 or fewer vs. 1,501 or more), which can be considered a proxy for pharmacy size/productivity.

There was no consistent finding by number of prescriptions filled per week. For 6 of 11 composites, pharmacies with 1,500 or fewer prescriptions scored higher. Item-level results also showed that smaller pharmacies scored higher for some items and larger pharmacies scored higher for others.

Note: The number of pharmacies and respondents by number of prescriptions filled per week are collapsed into two categories in each table. However, the precise number of pharmacies and respondents corresponding to each data cell in a table varies because of individual nonresponse/missing data.

**Table 26. Composite-Level Average Percent Positive Response by Number of Prescriptions Filled per Week**

Patient Safety Culture Composites	Number of Prescriptions Filled	
	1,500 or Fewer per Week	1,501 or More per Week
<i># Pharmacies</i>	31	24
<i># Respondents</i>	217	262
1. Patient Counseling	89%	91%
2. Communication Openness	87%	86%
3. Overall Perceptions of Patient Safety	81%	86%
4. Organizational Learning—Continuous Improvement	83%	84%
5. Teamwork	82%	79%
6. Communication About Prescriptions Across Shifts	79%	83%
7. Communication About Mistakes	78%	81%
8. Response to Mistakes	83%	74%
9. Staff Training and Skills	80%	79%
10. Physical Space and Environment	77%	66%
11. Staffing, Work Pressure, & Pace	43%	40%
Average Across Composites	78%	77%

**Table 27. Item-Level Average Percent Positive Response by Number of Prescriptions Filled per Week**

Survey Items by Composite	Number of Prescriptions Filled	
	1,500 or Fewer per Week	1,501 or More per Week
<i># Pharmacies</i>	31	24
<i># Respondents</i>	217	262
<b>1. Patient Counseling</b>		
1. We encourage patients to talk to pharmacists about their medications. (B2)	89%	95%
2. Our pharmacists spend enough time talking to patients about how to use their medications. (B7)	86%	86%
3. Our pharmacists tell patients important information about their new prescriptions. (B11)	93%	93%
<b>2. Communication Openness</b>		
1. Staff ideas and suggestions are valued in this pharmacy. (B1)	83%	78%
2. Staff feel comfortable asking questions when they are unsure about something. (B5)	91%	91%
3. It is easy for staff to speak up to their supervisor/manager about patient safety concerns in this pharmacy. (B10)	87%	89%
<b>3. Overall Perceptions of Patient Safety</b>		
1. This pharmacy places more emphasis on sales than on patient safety. (C3R)	77%	84%
2. This pharmacy is good at preventing mistakes. (C6)	84%	85%
3. The way we do things in this pharmacy reflects a strong focus on patient safety. (C9)	83%	89%
<b>4. Organizational Learning—Continuous Improvement</b>		
1. When a mistake happens, we try to figure out what problems in the work process led to the mistake. (C2)	89%	91%
2. When the same mistake keeps happening, we change the way we do things. (C5)	81%	83%
3. Mistakes have led to positive changes in this pharmacy. (C10)	80%	77%
<b>5. Teamwork</b>		
1. Staff treat each other with respect. (A2)	83%	73%
2. Staff in this pharmacy clearly understand their roles and responsibilities. (A4)	80%	83%
3. Staff work together as an effective team. (A9)	83%	81%

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

**Table 27. Item-level Average Percent Positive Response by Number of Prescriptions Filled per Week, continued**

Survey Items by Composite	Number of Prescriptions Filled	
	1,500 or Fewer per Week	1,501 or More per Week
# Pharmacies	31	24
# Respondents	217	262
<b>6. Communication About Prescriptions Across Shifts</b>		
1. We have clear expectations about exchanging important prescription information across shifts. (B4)	84%	84%
2. We have standard procedures for communicating prescription information across shifts. (B6)	74%	83%
3. The status of problematic prescriptions is well communicated across shifts. (B14)	80%	82%
<b>7. Communication About Mistakes</b>		
1. Staff in this pharmacy discuss mistakes. (B8)	73%	75%
2. When patient safety issues occur in this pharmacy, staff discuss them. (B13)	84%	84%
3. In this pharmacy, we talk about ways to prevent mistakes from happening again. (B15)	78%	84%
<b>8. Response to Mistakes</b>		
1. Staff are treated fairly when they make mistakes. (C1)	87%	72%
2. This pharmacy helps staff learn from their mistakes rather than punishing them. (C4)	88%	80%
3. We look at staff actions <u>and</u> the way we do things to understand why mistakes happen in this pharmacy. (C7)	85%	83%
4. Staff feel like their mistakes are held against them. (C8R)	75%	62%
<b>9. Staff Training and Skills</b>		
1. Technicians in this pharmacy receive the training they need to do their jobs. (A3)	80%	84%
2. Staff in this pharmacy have the skills they need to do their jobs well. (A6)	86%	87%
3. Staff who are new to this pharmacy receive adequate orientation. (A8)	75%	68%
4. Staff get enough training from this pharmacy. (A10)	78%	76%

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

**Table 27. Item-level Average Percent Positive Response by Number of Prescriptions Filled per Week, continued**

Survey Items by Composite	Number of Prescriptions Filled	
	1,500 or Fewer per Week	1,501 or More per Week
<i># Pharmacies</i>	31	24
<i># Respondents</i>	217	262
<b>10. Physical Space and Environment</b>		
1. This pharmacy is well organized. (A1)	86%	82%
2. This pharmacy is free of clutter. (A5)	73%	60%
3. The physical layout of this pharmacy supports good workflow. (A7)	72%	57%
<b>11. Staffing, Work Pressure, &amp; Pace</b>		
1. Staff take adequate breaks during their shifts. (B3)	52%	61%
2. We feel rushed when processing prescriptions. (B9R)	14%	14%
3. We have enough staff to handle the workload. (B12)	60%	52%
4. Interruptions/distractions in this pharmacy (from phone calls, faxes, customers, etc.) make it difficult for staff to work accurately. (B16R)	44%	34%

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

**Table 28. Results for Documenting Mistakes by Number of Prescriptions Filled per Week**

Survey Items	Number of Prescriptions Filled	
	1,500 or Fewer per Week	1,501 or More per Week
<i># Pharmacies</i>	31	24
<i># Respondents</i>	217	262
<b>When a mistake reaches the patient and <u>could cause harm but does not</u>, how often is it documented? (D1)</b>		
Always documented	1%	2%
Most of the time documented	2%	2%
Sometimes documented	7%	5%
Rarely documented	15%	12%
Never documented	75%	79%
<b>When a mistake reaches the patient <u>but has no potential to harm</u> the patient, how often is it documented? (D2)</b>		
Always documented	1%	3%
Most of the time documented	4%	2%
Sometimes documented	8%	7%
Rarely documented	21%	16%
Never documented	66%	73%
<b>When a mistake <u>that could have harmed the patient is corrected BEFORE the medication leaves the pharmacy</u>, how often is it documented? (D3)</b>		
Always documented	18%	16%
Most of the time documented	24%	24%
Sometimes documented	24%	15%
Rarely documented	17%	18%
Never documented	17%	27%

**Table 29. Results for Overall Rating on Patient Safety by Number of Prescriptions Filled per Week**

Overall Rating on Patient Safety	Number of Prescriptions Filled	
	1,500 or Fewer per Week	1,501 or More per Week
<i># Pharmacies</i>	31	24
<i># Respondents</i>	217	262
<b>Excellent</b>	39%	42%
<b>Very Good</b>	42%	47%
<b>Good</b>	12%	9%
<b>Fair</b>	6%	2%
<b>Poor</b>	1%	0%



## Appendix: Explanation of Calculations

### **Calculating Item Percent Positive Scores**

Pharmacy *percent positive scores* are calculated as follows:

- **For *positively* worded items**, percent positive is the total percentage of respondents who answered positively. This total is the combined percentage of “Strongly agree” and “Agree” responses, or “Always” and “Most of the time” responses, depending on the response categories used for the item.
- **For *negatively* worded items**, percent positive is the total percentage of respondents who answered negatively. This total is the combined percentage of “Strongly disagree” and “Disagree” responses, or “Never” and “Rarely” responses, since a *negative* answer on these items indicates a *positive* response.

### **Calculating Composite Percent Positive Scores**

A composite score summarizes how respondents answered *groups of items* that all measure the same thing. Composite scores on the 11 patient safety culture survey dimensions tell you the average percentage of respondents who answered positively when looking at the survey items that measure each safety culture dimension.

To calculate each pharmacy’s composite score on a particular safety culture dimension, calculate the average percent positive response of the items included in the composite. An example of computing a composite score for the Response to Mistakes composite follows.

1. There are four items in this composite. Three are positively worded (items C1, C4, and C7) and one is negatively worded (item C8). Keep in mind that *disagreeing* with a negatively worded item indicates a *positive* response.
2. Calculate the percent positive response at the item level. (See the example in Table 30.)

**Table 30. Example of How To Calculate Item and Composite Percent Positive Scores**

<b>Four Items Measuring Response to Mistakes</b>	<b>For <i>positively</i> worded items, # of “Strongly agree” or “Agree” responses</b>	<b>For <i>negatively</i> worded items, # of “Strongly disagree” or “Disagree” responses</b>	<b>Total # of responses to the item<sup>a</sup></b>	<b>Percent positive response on item</b>
<b>Item C1, positively worded:</b> Staff are treated fairly when they make mistakes	10	NA	14	10/14 = 71%
<b>Item C4, positively worded:</b> This pharmacy helps staff learn from their mistakes rather than punishing them	9	NA	12	9/12 = 75%
<b>Item C7, positively worded:</b> We look at staff actions <u>and</u> the way we do things to understand why mistakes happen in this pharmacy	7	NA	10	7/10 = 70%
<b>Item C8, negatively worded:</b> Staff feel like their mistakes are held against them	NA	9	14	9/14 = 64%
<b>Average percent positive response across the 4 items = 70%</b>				

<sup>a</sup>Excludes Not applicable/Don't know and missing responses.

**Note:** NA = not applicable.

In this example, there were four items, with percent positive response scores of 71 percent, 75 percent, 70 percent, and 64 percent. Averaging these item-level percent positive scores ( $71\% + 75\% + 70\% + 64\% / 4 = 70\%$ ) results in a composite score of .70, or 70 percent, on Response to Mistakes. That is, an average of about 70 percent of the respondents responded positively on the survey items in this composite.