



Results From the 2014 Pilot Study of the AHRQ SOPS™ Value and Efficiency Supplemental Items for the Medical Office SOPS Survey

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Agency for Healthcare Research and Quality
5600 Fishers Lane
Rockville, MD 20857
www.ahrq.gov

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Managed and Prepared by:

Westat, Rockville, MD

Joann Sorra,
Theresa Famolaro
Naomi Yount
Scott Smith
Jessica Behm

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1. Purpose and Use of This Document

In 2014, the Agency for Healthcare Research and Quality (AHRQ) Center for Delivery, Organization, and Markets (CDOM) sponsored the development and pilot testing of survey items assessing the culture of value and efficiency in U.S. hospitals and medical offices. Because the survey items assess aspects of organizational culture in health care organizations, AHRQ's Center for Quality Improvement and Patient Safety collaborated with CDOM to release the survey items as a supplement to AHRQ's Surveys on Patient Safety Culture™ (SOPS™) for hospitals and medical offices.

This report presents results from 96 medical offices that participated in the pilot study. Although the hospital and medical office value and efficiency survey items were developed in parallel, a separate report presents results from 47 hospitals that participated in the pilot study.

The hospitals and medical offices that participated in the pilot study were not selected to be a statistically representative sample of the population of U.S. hospitals and medical offices. Therefore, estimates of survey scores presented in this report that are based on these participating sites may reflect biased estimates.

The SOPS Value and Efficiency Supplemental Items for the Medical Office Survey are to be used in conjunction with the AHRQ Medical Office Survey on Patient Safety Culture.

2. Item Development

A culture of value and efficiency can be defined as the set of values, beliefs, and norms about what is important and what attitudes and actions are appropriate when it comes to reducing waste and improving the value and efficiency of health care. The *Value and Efficiency Supplemental Items for the Medical Office Survey* are intended to assess the extent to which medical offices place a priority on and adopt practices to promote efficiency, waste reduction, patient centeredness, and high-quality care at a reasonable cost.

The development team reviewed the literature on value, efficiency, waste reduction, leadership, and patient-centeredness in health care delivery organizations, interviewed experts and researchers on value and efficiency in medical offices, identified appropriate topics, and drafted items for review by a technical expert panel. The draft supplemental items were cognitively tested with medical office providers and staff to ensure that the questions were easy to understand and answer and that the items were relevant.

In 2014, a pilot administration was conducted with 96 medical offices throughout the United States. The pilot data were analyzed to examine the psychometric properties (reliability and factor structure) of the items, with the end goal of shortening the pilot supplemental items, including only the best items.

The final supplemental item set includes 21 survey items that measure four areas of organizational culture pertaining to value and efficiency (Table 1a). For these four areas, the supplemental items use either 5-point agreement scales (*Strongly disagree* to *Strongly agree*) or frequency scales (*Never* to *Always*). These response scales also include a *Does not apply* or

Don't know option. In addition, the supplemental items include eight *Yes/No* questions about respondents' personal experiences with activities to improve efficiency in their facilities (Table 1b).

Table 1a. Medical Office Value and Efficiency Composites and Definitions

Value and Efficiency Composite	Definition: The extent to which...
Owner, Managing Partner, Leadership Support for Improving Efficiency and Reducing Waste	The owners, managing partners, or leaders take action to address workflow problems, recognize those who offer ideas for improving efficiency, provide reports on unit performance, and set a high priority on working efficiently without compromising patient care.
Patient Centeredness and Efficiency	Staff and others working in the medical office take steps to reduce patient wait time, seek patient or family member input on how to make patient visits more efficient, and make appropriate workflow changes based on patient preferences.
Efficiency and Waste Reduction	Staff and others working in the medical office work on improving patient flow and try to find ways to reduce waste in their work, including eliminating unnecessary tests and procedures for patients.
Empowerment To Improve Efficiency	Staff and others working in the medical office are involved in proposed work changes, encouraged to offer ideas for working more efficiently, and given opportunities to try out solutions.

Table 1b. Personal Experience With Value and Efficiency Improvement Activities

Value and Efficiency Experience	Definition: The extent to which...
Experience With Activities To Improve Efficiency	Individual survey respondents have been trained to identify waste and inefficiencies in their work and are involved in any of seven possible activities to improve efficiency in their medical offices. These questions provide a measure of the penetration of efficiency activities among staff and others working in the medical office.

3. Pilot Study Survey Administration Statistics

To ensure the pilot study included a diverse sample, medical offices were recruited from a range of ownership types, sizes, and regions in the United States.

More than 1,400 respondents from 96 medical offices completed the items in 2014. Overall response statistics are summarized in Table 2.

Table 2. Overall and Average Response Statistics for 96 Pilot Study Medical Offices

Overall Response Rate Information	Pilot Medical Office Statistic
Number of respondents	1,458
Number of surveys administered	2,321
Overall response rate	63% (range: 25% to 100%)
Average Response Rate Information	Pilot Medical Office Statistic
Average number of respondents per site	15 (range: 5 to 80)
Average number of surveys administered per site	24 (range: 7 to 120)
Average site response rate	67% (range: 25% to 100%)

4. Characteristics of Pilot Study Medical Offices

Table 3 displays the characteristics of the 96 pilot study medical offices by geographic region, practice type, practice size accountable care organization (ACO) status, and value and efficiency training (e.g., Lean Six Sigma).

Table 3. Distribution of Pilot Medical Offices by Medical Office Characteristics

Medical Office Characteristics	Pilot Medical Offices (n = 96)	
Geographic Region^{i,ii}	Number	Percentⁱⁱⁱ
New England	14	15%
Mid-Atlantic	5	5%
South Atlantic	22	23%
East Central	21	22%
West Central	4	4%
Mountain	5	5%
Pacific	25	26%
Practice Type	Number	Percent
Primary Care	31	32%
Non-Primary Care Single Specialty	42	44%
Multi-Specialty	23	24%
Practice Size	Number	Percent
Small (3-5 clinical staff)	12	13%
Medium (6-10 clinical staff)	25	26%
Large (11+ clinical staff)	59	61%
Part of an ACO	Number	Percent
Yes	21	22%
Considering	2	2%
No	73	76%
Value and Efficiency Training (e.g., Lean Six Sigma)	Number	Percent
Yes	19	20%
No	77	80%

ⁱ East North Central and East South Central regions were combined into East Central. West North Central and West South Central were combined into West Central. West North Central was not represented in the pilot study.

ⁱⁱ States and territories are categorized into AHA-defined 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, CA, HI, OR, WA, AS, GU, MH, MP

ⁱⁱⁱ For tables in this document, column percent totals may not add to exactly 100 percent because of rounding.

5. Characteristics of Pilot Study Respondents

Table 4 displays the characteristics of the pilot study medical office respondents by medical office tenure, hours worked per week, and staff position.

Table 4. Distribution of Pilot Respondents by Respondent Characteristics

Respondent Characteristics	Pilot Respondents	
Tenure	Number	Percent
Less than 2 months	26	2%
2 months to less than 1 year	202	14%
1 year to less than 3 years	338	24%
3 years to less than 6 years	304	22%
6 years to less than 11 years	265	19%
11 years or more	278	20%
Total	1,413	100%
Missing	45	
Overall	1,458	
Hours Worked per Week	Number	Percent
1 to 4 hours per week	2	<1%
5 to 16 hours per week	30	2%
17 to 24 hours per week	57	4%
25 to 32 hours per week	87	6%
33 to 40 hours per week	836	59%
41 or more hours per week	406	29%
Total	1,418	100%
Missing	40	
Overall	1,458	
Staff Position	Number	Percent
Admin, health IT, or clerical staff	448	32%
Other clinical staff	429	31%
Physician (M.D. or D.O.)	149	11%
Management	152	11%
Nurse, LVN, LPN	137	10%
PA, NP, CNS, midwife, APN, etc.	73	5%
Other position	17	1%
Total	1,405	100%
Missing	53	
Overall	1,458	

6. Composite-Level and Item-Level Results

The charts on the following pages display the composite-level and item-level results from the 96 pilot study medical offices. The methods for calculating the percent positive scores at the item and composite levels are described in Appendix A.

Chart 1 shows the average percent positive response for each of the value and efficiency composites, in order from most positive to least positive.

Chart 2 provides the average percent positive response for the items in each composite.

Chart 1. Composite-Level Results From Pilot Medical Offices

Value and Efficiency Composites	% Positive Response
Efficiency and Waste Reduction	72%
Owner, Managing Partner, Leadership Support for Improving Efficiency and Reducing Waste	62%
Empowerment To Improve Efficiency	59%
Patient Centeredness and Efficiency	54%

Chart 2. Item-Level Results From Pilot Study Medical Offices

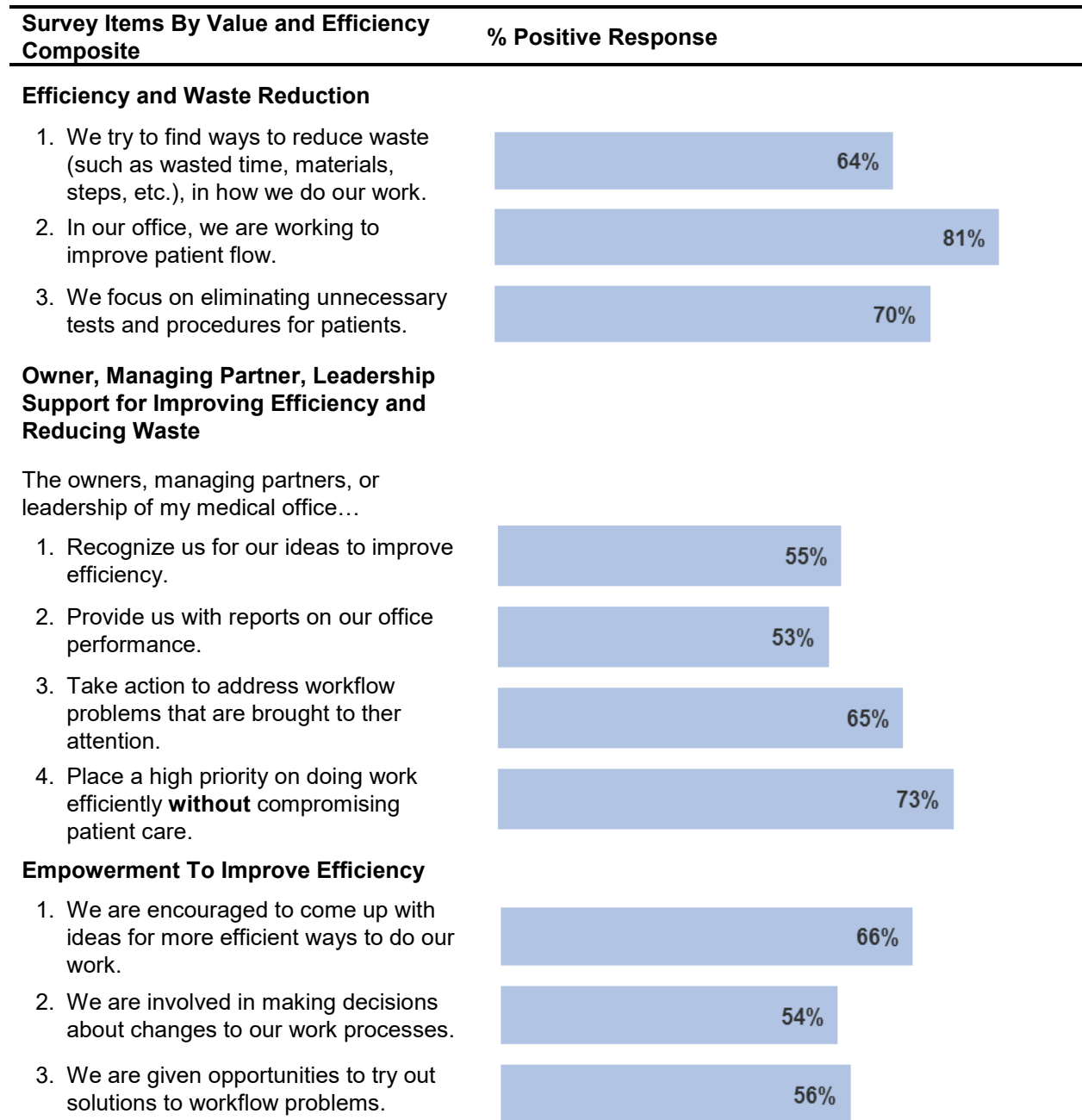
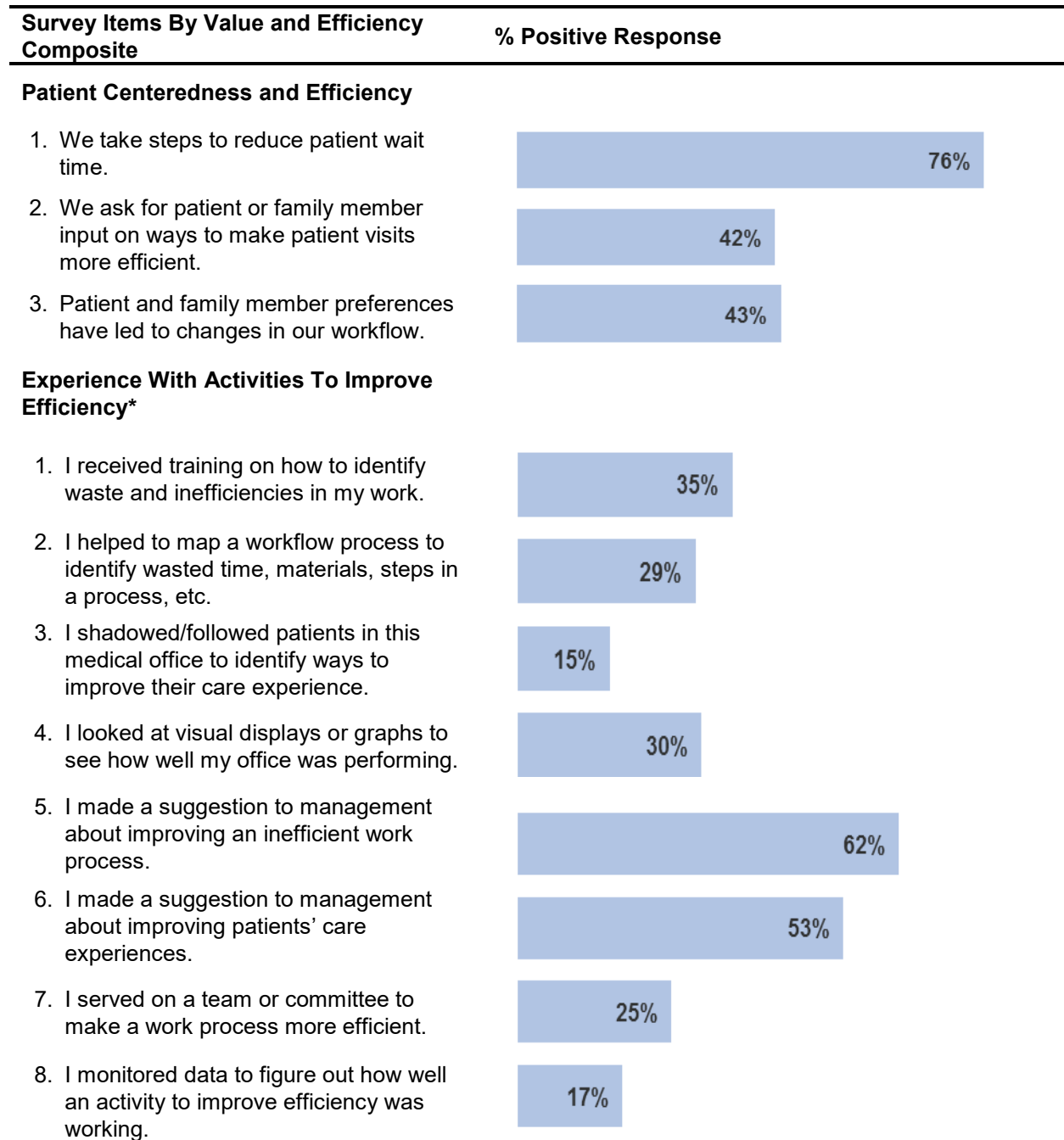


Chart 2. Item-Level Results From Pilot Study Medical Offices (continued)



*These items do not represent a composite. The percent positive is the percentage of respondents responding "Yes."

Overall Results by Medical Office Site Characteristics

7. Composite-Level and Item-Level Results by Medical Office Practice Size

Tables 5 and 6 show the average percent positive scores for the composites and items across the 96 pilot study medical offices by practice size. Only responses with at least 5 respondents are included.

Small medical offices with three to five clinical staff had higher average scores across the four composites (69 percent positive). Large medical offices with 11 or more clinical staff had the lowest scores (60 percent positive).

NOTE: The numbers of medical offices and respondents in each practice size category are shown in each table. However, the precise numbers of medical offices and respondents corresponding to each data cell in a table vary, because of individual nonresponse/missing data.

Table 5. Composite-Level Average Percent Positive Response by Medical Office Practice Size

Value and Efficiency Composites	Medical Office Practice Size		
	Small (3-5 clinical staff)	Medium (6-10 clinical staff)	Large (11+ clinical staff)
# Medical Offices	12	25	59
# Respondents	133	322	1,003
Efficiency and Waste Reduction	78%	71%	70%
Owner, Managing Partner, Leadership Support for Improving Efficiency and Reducing Waste	77%	61%	59%
Empowerment to Improve Efficiency	68%	60%	57%
Patient Centeredness and Efficiency	53%	55%	53%
Average Across Composites	69%	62%	60%

Table 6. Item-Level Average Percent Positive Response by Medical Office Practice Size

Survey Items by Composite	Medical Office Practice Size		
	Small (3-5 clinical staff)	Medium (6-10 clinical staff)	Large (11+ clinical staff)
# Medical Offices	12	25	59
# Respondents	133	322	1,003
Efficiency and Waste Reduction			
1. We try to find ways to reduce waste (such as wasted time, materials, steps, etc.) in how we do our work.	70%	63%	63%
2. In our office, we are working to improve patient flow.	88%	79%	80%
3. We focus on eliminating unnecessary tests and procedures for patients.	74%	73%	68%
Owner, Managing Partner, Leadership Support for Improving Efficiency and Reducing Waste			
1. Recognize us for our ideas to improve efficiency.	72%	56%	52%
2. Provide us with reports on our office performance	78%	49%	50%
3. Take action to address workflow problems that are brought to their attention.	82%	63%	62%
4. Place a high priority on doing work efficiently without compromising patient care.	79%	75%	70%
Empowerment to Improve Efficiency			
1. We are involved in making decisions about changes to our work processes.	77%	65%	65%
2. We are encouraged to come up with ideas for more efficient ways to do our work.	64%	57%	51%
3. We are given opportunities to try out solutions to workflow problems.	63%	57%	54%

Table 6. Item-Level Average Percent Positive Response by Medical Office Practice Size (continued)

Survey Items by Composite	Medical Office Practice Size		
	Small (3-5 clinical staff)	Medium (6-10 clinical staff)	Large (11+ clinical staff)
# Medical Offices	12	25	59
# Respondents	133	322	1,003
Patient Centeredness and Efficiency			
1. We take steps to reduce patient wait time.	72%	78%	76%
2. We ask for patient or family member input on ways to make patient visits more efficient.	41%	44%	42%
3. Patient and family member preferences have led to changes in our workflow.	47%	44%	42%
Experience With Activities To Improve Efficiency			
1. I received training on how to identify waste and inefficiencies in my work.	49%	37%	32%
2. I helped to map a workflow process to identify wasted time, materials, steps in a process, etc.	40%	27%	28%
3. I shadowed/followed patients in this medical office to identify ways to improve their care experience.	21%	14%	15%
4. I looked at visual displays or graphs to see how well my office was performing.	55%	23%	28%
5. I made a suggestion to management about improving an inefficient work process.	77%	62%	59%
6. I made a suggestion to management about improving patients' care experiences.	70%	49%	51%
7. I served on a team or committee to make a work process more efficient.	34%	21%	25%
8. I monitored data to figure out how well an activity to improve efficiency was working.	23%	15%	17%

NOTE: For items in the *Experience With Activities To Improve Efficiency* section, the percent positive is the percentage of respondents responding "Yes."

**Overall Results by Medical Office Respondent
Characteristics**

8. Composite-Level and Item-Level Results by Medical Office Job Position

Tables 7 and 8 show the average percent positive scores for composites and items across the 96 pilot study medical offices by job position. Only job positions with at least 5 respondents in that job position are included: physician (M.D. or D.O.); physician assistant, nurse practitioner, clinical nurse specialist, nurse midwife, advanced practice nurse, etc.; management; administrative, health information technology, or clerical staff; nurse (RN), licensed vocational nurse (LVN), licensed practical nurse (LPN); other clinical staff or clinical support staff.

With the exception of Administrative, Health IT, or Clerical Staff and Physicians, there was little variation on average across composite scores. Administration, Health IT, or Clerical Staff had the highest average percent positive across composites (75 percent). Physicians had the second highest (66 percent).

NOTE: The numbers of medical offices and respondents in each job position are shown in each table. However, the precise numbers of medical offices and respondents corresponding to each data cell in a table vary, because of individual nonresponse/missing data.

Table 7. Composite-Level Average Percent Positive Response by Medical Office Job Position

Value and Efficiency Composites	Medical Office Job Position					
	Physician (M.D. or D.O.)	PA, NP, CNS, Nurse Midwife, APN, etc.	Mgmt.	Admin., Health IT, or Clerical Staff	RN, LVN, or LPN	Other Clinical or Clinical Support Staff
# Medical Offices	62	46	46	77	90	93
# Respondents	149	73	137	152	448	429
Efficiency and Waste Reduction	68%	67%	70%	84%	71%	70%
Owner, Managing Partner, Leadership Support for Improving Efficiency and Reducing Waste	66%	64%	61%	69%	63%	63%
Empowerment To Improve Efficiency	73%	61%	59%	86%	54%	54%
Patient Centeredness and Efficiency	57%	54%	57%	59%	52%	52%
Average Across Composites	66%	62%	62%	75%	60%	60%

NOTE: Respondents who selected "Other" and missing are not shown.

Table 8. Item-Level Average Percent Positive Response by Medical Office Job Position

Survey Items by Composite	Medical Office Job Position					
	Physician (M.D. or D.O.)	PA, NP, CNS, Nurse Midwife, APN, etc.	RN, LVN, or LPN	Mgmt.	Admin., Health IT, or Clerical Staff	Other Clinical or Clinical Support Staff
# Medical Offices	62	46	46	77	90	93
# Respondents	149	73	137	152	448	429
Efficiency and Waste Reduction						
1. We try to find ways to reduce waste (such as wasted time, materials, steps, etc.) in how we do our work.	59%	56%	60%	80%	64%	67%
2. In our office, we are working to improve patient flow.	78%	77%	80%	95%	81%	80%
3. We focus on eliminating unnecessary tests and procedures for patients.	68%	71%	73%	77%	70%	66%
Owner, Managing Partner, Leadership Support for Improving Efficiency and Reducing Waste						
1. Recognize us for our ideas to improve efficiency.	66%	56%	53%	60%	55%	55%
2. Provide us with reports on our office performance.	63%	60%	48%	53%	50%	56%
3. Take action to address workflow problems that are brought to their attention.	72%	62%	67%	81%	66%	64%
4. Place a high priority on doing work efficiently without compromising patient care.	64%	75%	75%	84%	78%	75%
Empowerment To Improve Efficiency						
1. We are involved in making decisions about changes to our work processes.	73%	64%	67%	91%	63%	64%
2. We are encouraged to come up with ideas for more efficient ways to do our work.	81%	66%	52%	85%	46%	44%
3. We are given opportunities to try out solutions to workflow problems.	64%	52%	56%	83%	53%	53%

NOTE: Respondents who selected "Other" and missing are not shown.

Table 8. Item-Level Average Percent Positive Responses by Medical Office Job Position (continued)

Survey Items by Composite	Medical Office Job Position					
	Physician (M.D. or D.O.)	PA, NP, CNS, Nurse Midwife, APN, etc.	Mgmt.	Admin., Health IT, or Clerical Staff	RN, LVN, or LPN	Other Clinical or Clinical Support Staff
# Medical Offices	62	46	46	77	90	93
# Respondents	149	73	137	152	448	429
Patient Centeredness and Efficiency						
1. We take steps to reduce patient wait time.	79%	67%	76%	83%	74%	77%
2. We ask for patient or family member input on ways to make patient visits more efficient.	42%	43%	47%	40%	40%	41%
3. Patient and family member preferences have led to changes in our workflow.	50%	47%	49%	55%	41%	40%
Experience With Activities To Improve Efficiency						
1. I received training on how to identify waste and inefficiencies in my work.	24%	20%	36%	43%	35%	44%
2. I helped to map a workflow process to identify wasted time, materials, steps in a process, etc.	32%	24%	21%	59%	19%	29%
3. I shadowed/followed patients in this medical office to identify ways to improve their care experience.	12%	13%	18%	21%	5%	25%
4. I looked at visual displays or graphs to see how well my office was performing.	44%	38%	31%	54%	22%	23%
5. I made a suggestion to management about improving an inefficient work process.	82%	68%	59%	81%	53%	56%
6. I made a suggestion to management about improving patients' care experiences.	82%	70%	54%	74%	39%	46%
7. I served on a team or committee to make a work process more efficient.	38%	23%	27%	60%	15%	16%
8. I monitored data to figure out how well an activity to improve efficiency was working.	28%	9%	10%	52%	11%	10%

NOTE: (1) Respondents who selected "Other" and missing are not shown. (2) For items in the *Experience With Activities To Improve Efficiency* section, the percent positive is the percentage of respondents responding "Yes."

Appendix: Explanation of Calculations

Calculating Item Percent Positive Scores

Percent positive is the total percentage of respondents who answered positively--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 single items that are not part of a composite in the *Experience With Activities To Improve Efficiency* section, percent positive is the total percentage of respondents who answered “Yes.”

Calculating Composite Percent Positive Scores

A composite score summarizes how respondents answered *groups of items* that all measure different aspects of the same thing. Composite scores on the four value and efficiency survey composites tell you the average percentage of respondents who answered positively when looking at the survey items that measure each value and efficiency composite.

To calculate a composite score on a particular value and efficiency area, determine the average of the percent positive responses for the items included in the composite. An example of computing a composite score for the Efficiency and Waste Reduction composite is provided in Table 9.

Table 9. Example of How To Calculate Item and Composite Percent Positive Scores

Three items measuring Efficiency and Waste Reduction	Number of positive responses (e.g., “Strongly agree” or “Agree”)	Total number of responses to the item (excluding “Not applicable/ Do not know” and missing responses)	Percent positive response on item
We try to find ways to reduce waste (such as wasted time, materials, steps, etc.) in how we do our work.	10	14	10/14=71%
In our office, we are working to improve patient flow.	9	12	9/12=75%
We look at staff actions and the way we do things to understand why mistakes happen.	7	10	7/10=70%
Average percent positive response across the 3 items = 72%			

This example has three items, with percent positive response scores of 71 percent, 75 percent, and 70 percent. Averaging these item-level percent positive scores $([71\% + 75\% + 70\%]/3)$ results in a composite score of 72 percent on Efficiency and Waste Reduction. That is, an average of 72 percent of respondents responded positively on the survey items in this composite.