Supplemental Table 1. Item Percent Positive Scores and Percentages of Missing Data and *Does Not Apply/Don't Know (DNA/DK)* Responses

Measures	Hospital		Medical Office	
	% Positive Score	*%* Missing/DNA/DK	*%* Positive Score	*%* Missing/DNA/DK
Empowerment to Improve Efficiency (5 items)				
We are asked for our opinions about proposed changes to the way we do our work.	62	2	55	2
We are involved in making decisions about changes to our work processes.	59	2	52	2
We are encouraged to come up with ideas for more efficient ways to do our work.	73	1	65	1
We are provided with the time to find ways to make our work more efficient.	50	2	40	2
We are given opportunities to try out solutions to workflow problems.	62	2	55	3
Efficiency and Waste Reduction (6 items)				
We examine how we do our work to get rid of unnecessary steps.	51	3	43	3
Supplies are kept where we can find them quickly.	78	2	85	1
We try to find ways to reduce waste (such as wasted time, materials, steps, etc.) in how we do our work.	67	2	63	2
In our [unit/office], we are working to improve patient flow.	79	16	79	6
We look for more efficient ways to do our work.	76	2	72	3
We focus on eliminating unnecessary tests and procedures for patients.	62	30	68	23
Patient Centeredness and Efficiency (5 items)				
[In our unit], we take steps to reduce patient wait time.	85	20	73	9
We ask for patient or family member input on ways to make patient visits more efficient.	68	29	41	20
We are responsive to patient or family member concerns about the patient's care.	95	19	92	10
Patient and family member preferences have led to changes	67	27	44	23

Measures	Hospital		Medical Office	
	% Positive Score	*%* Missing/DNA/DK	*%* Positive Score	*%* Missing/DNA/DK
in our workflow.				
We invite patients to serve on advisory panels or committees to help us improve the patient care experience.	37	52	19	43
[Hospital: Management] [Medical Office: Owner, Managing Partner, Leadership] Support for Improving Efficiency and Reducing Waste (6 items)				
Communicates that it is everyone's job to look for ways to improve work processes.	81	4	63	5
Takes action to address workflow problems that are brought to his or her attention.	77	4	64	6
Recognizes us for our ideas to improve efficiency.	72	4	52	7
Provides us with reports on our [unit/office] performance.	81	6	51	10
Emphasizes the importance of using regularly collected data to improve our work processes.	75	7	47	13
Places a high priority on doing work efficiently **without** compromising patient care.	82	9	74	7
Overall Ratings of Healthcare Quality (4 items)				
Patient Centered—Is responsive to individual patient preferences, needs, and values	68	4	62	3
Effective—Provides services based on scientific knowledge to all who could benefit	65	5	62	4
Timely—Minimizes waits and potentially harmful delays	58	4	45	4
Efficient—Ensures cost-effective care (avoids waste, overuse, and misuse of services)	53	5	44	4

Experience With Activities to Improve Efficiency (10 items)

Measures	Hospital		Medical Office	
	% Positive Score	*%* Missing/DNA/DK	*%* Positive Score	*%* Missing/DNA/DK
I received training on how to identify waste and inefficiencies in my work.	48	3	33	3
I helped to map a workflow process to identify wasted time, materials, steps in a process, etc.	36	3	27	4
I shadowed/followed patients in this [hospital/office] to identify ways to improve their care experience.	17	3	14	4
I looked at visual displays or graphs to see how well my [unit/office] was performing.	63	3	27	3
I made a suggestion to management about improving an inefficient work process.	64	4	62	4
I made a suggestion to management about improving patients' care experiences.	55	7	51	7
I helped to implement an activity to improve efficiency.	51	7	43	7
I served on a team or committee to make a work process more efficient.	36	7	24	6
I reviewed the costs associated with an activity designed to improve efficiency.	24	7	13	6
I monitored data to figure out how well an activity to improve efficiency was working.	28	8	16	7

Supplemental Table 2. Hospital and Medical Multilevel Confirmatory Factor Analysis Results

Composite Measures	Hospital				Medical Office			
	ICC(1)	Design Effect	Within-Site Factor Loading	Between-Site Factor Loading	ICC(1)	Design Effect	Within-Site Factor Loading	Between-Site Factor Loading
Empowerment to Improve Efficiency (3 items)								
We are involved in making decisions about changes to our work processes.	0.05	4.96	0.85	0.98	0.13	2.84	0.82	0.99
We are encouraged to come up with ideas for more efficient ways to do our work.	0.04	4.19	0.85	0.94	0.16	3.20	0.83	0.88
We are given opportunities to try out solutions to workflow problems.	0.05	4.90	0.86	1.00	0.14	2.91	0.80	0.97
Efficiency and Waste Reduction (3 items)								
We try to find ways to reduce waste (such as wasted time, materials, steps, etc.) in how we do our work.	0.04	4.16	0.77	0.95	0.14	3.00	0.74	0.79
In our [unit/office], we are working to improve patient flow.	0.05	4.46	0.81	0.92	0.13	2.71	0.81	0.92
We focus on eliminating unnecessary tests and procedures for patients.	0.05	4.10	0.69	1.00	0.14	2.54	0.66	0.70
Patient Centeredness and Efficiency (3 items)								
In our [unit/office], we take steps to reduce patient wait time.	0.05	4.35	0.75	0.90	0.15	2.97	0.71	0.66
We ask for patient or family member input on ways to make patient visits more efficient.	0.06	4.47	0.65	0.82	0.22	3.42	0.68	0.91
Patient and family member preferences have led to changes in our workflow.	0.05	4.18	0.64	1.00	0.21	3.25	0.72	1.00
Management Support for Improving Efficiency and Reducing Waste (4 items)								
[Hospital: My supervisor, manager, or clinical leader] [Medical office: Owners, managing partners, leadership] Takes action to address workflow problems that are brought to his or her attention.	0.03	3.44	0.87	0.94	0.18	2.39	0.79	0.99
Recognizes us for our ideas to improve efficiency.	0.03	3.37	0.89	1.00	0.19	2.47	0.83	1.00
Provides us with reports on our unit performance.	0.04	4.08	0.69	0.69	0.25	2.89	0.70	0.74
Places a high priority on doing work efficiently **without** compromising patient care.	0.04	3.75	0.78	0.95	0.16	2.25	0.65	0.99

Note: Separate multilevel confirmatory factor analyses were conducted for the hospital items and the medical office items.

4

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

BMJ Qual Saf

Supplemental Table 3. Average Percent Positive Scores at the Hospital Level and Medical Office Level on the Final Measures

Measures	Hospital		Medical Office	
	Mean	**SD**	**Mean**	**SD**
Composite Measures				
Empowerment to Improve Efficiency (3 items)	64%	9%	59%	16%
Efficiency and Waste Reduction (3 items)	69%	9%	72%	13%
Patient Centeredness and Efficiency (3 items)	73%	8%	54%	16%
[Hospital: Management][Medical Office: Owner, Managing Partner, Leadership] Support for Improving Efficiency and Reducing Waste (4 items)	78%	6%	62%	19%
Overall Ratings of Healthcare Quality				
Patient Centered—Is responsive to individual patient preferences, needs, and values	67%	9%	64%	19%
Effective—Provides services based on scientific knowledge to all who could benefit	64%	10%	63%	22%
Timely—Minimizes waits and potentially harmful delays	58%	10%	46%	24%
Efficient—Ensures cost-effective care (avoids waste, overuse, and misuse of services)	52%	10%	46%	22%
Experience With Activities to Improve Efficiency				
I received training on how to identify waste and inefficiencies in my work.	48%	12%	35%	19%
I helped to map a workflow process to identify wasted time, materials, steps in a process, etc.	37%	10%	29%	18%
I shadowed/followed patients in this [hospital/office] to identify ways to improve their care experience.	18%	9%	15%	14%
I looked at visual displays or graphs to see how well my [unit/office] was performing.	63%	12%	30%	25%
I made a suggestion to management about improving an inefficient work process.	64%	7%	62%	20%
I made a suggestion to management about improving patients' care experiences.	56%	7%	53%	20%
I served on a team or committee to make a work process more efficient.	37%	8%	25%	16%
I monitored data to figure out how well an activity to improve efficiency was working.	29%	8%	17%	16%
Average Score for Experience with Activities	44%	6%	33%	13%

Note: SD = standard deviation

5