

## APPENDICES

Supplemental Table 1. Adapted rating scale for QI progress.

<b>Progress Rating</b>	<b>Assessment</b>	<b>IHI Definition</b>	<b>Adapted Definition</b>
<b>0.5</b>	<b>Intending to participate</b>	Team has signed up to participate in the collaborative	<b>Hospital agrees to participate in the QI initiative</b>
<b>1.0</b>	<b>Team forming</b>	Team has been formed Target population identified Aim determined Baseline measurement begun	<b>Team formed Leader identified</b>
<b>1.5</b>	<b>Planning for the project has begun</b>	Team is meeting Discussion is occurring Plans for the project have been made	<b>Aim finalized If supplemental measurement required, baseline measurement begun<sup>1</sup> Target barrier(s) identified</b>
<b>2.0</b>	<b>Activity, but no changes tested</b>	Team actively engaged in development, research, discussion No changes have been tested	<b>Change selected for testing Key measures selected and are aligned with the aim Small scale test for feasibility planned</b>
<b>2.5</b>	<b>Changes tested on a small scale</b>	Components of the model being tested but no improvement in measures Data on key measures are reported	<b>Small scale test of change implemented Data on key measures collected and analyzed Change adapted, adopted or abandoned</b>
<b>3.0</b>	<b>Changes tested on a large scale</b>	Initial test cycles have been completed and implementation begun for several components Evidence of moderate improvement in process measures	<b>Large scale test of change planned and implemented Data on key measures collected and analyzed Change adapted, adopted or abandoned<sup>2</sup></b>
<b>3.5</b>	<b>Modest improvement</b>	Some improvement in outcome measures Process measures continuing to improve PDSA test cycles on all components of the Change Package Changes implemented for many components of the Change Package	<b>Improvement in process or outcome measures <i>after adopting one large scale test of change</i><sup>3</sup></b>
<b>4.0</b>	<b>Significant improvement</b>	Most components of the Change Package are implemented for the population of focus Evidence of sustained improvement in outcome measures Halfway toward accomplishing all of the goals Plans for spread of the improvement are in place	<b>Improvement in process or outcome measures <i>after adopting at least two large scale tests</i><sup>3</sup></b>
<b>4.5</b>	<b>Sustainable improvement</b>	Sustained improvement in most outcomes measures 75% of goals achieved Spread to a larger population has begun	<b>Plans to make changes part of hospital routine are developed</b>

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<b>5.0</b>	<b>Outstanding sustainable results</b>	All components of the Change Package implemented All goals of the aim have been accomplished Outcome measures at national benchmark levels Spread to another facility is underway	<b>All successful changes have been institutionalized</b>
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<sup>1</sup>Supplemental measurement for understanding of the baseline may be required if a process or outcome chosen for improvement is not included in the key indicators being measured for the EQII, or the team suspects the medical chart data is erroneous. If the aim depends on the collection of additional, baseline data outside of the EQII, then this measurement has begun.

<sup>2</sup>If the test of change is abandoned, the team may return to an earlier step to plan another test. The team will not progress to progress rating 3.5 until a large scale change results in improvement.

<sup>3</sup>Improvement as defined by the run chart rules described in Step 5 of the QI Guide i.e. a shift or trend in the data.

Supplemental Table 2. QI initiative case studies.

Hospital	QI Team Members (n)	Meeting Frequency	QI Project	Changes	Improvement (Yes/No)	QI Progress Rating
<b>Virtual Mentorship</b>						
H	7	Q2 weeks	Cord Clamping After One Minute	1) Educate staff 2) Reorganize the process (integrate into management of third stage of labor)	No	3.0
G	12	Q2 weeks	Temperature Measurement	1) Acquire supplies (thermometers)	No	3.0
D	8	Q1 week	Hypothermia	1) Acquire supplies (thermometers) 2) Motivate staff	No	3.0
E	5	Q1 week	Skin to Skin	1) Motivate staff	No	3.0
A	6	Q2 weeks	Skin to Skin	1) Educate staff (newly hired) 2) Educate mothers (at antenatal visit)	No	3.0
B	5	Q1 week	Skin to Skin	1) Reorganize the process	Yes	3.5
I	5	Q2 weeks	Skin to Skin	1) Evaluate performance (of individual staff)	Yes	3.5
F	6	Q2 weeks	Skin to Skin	1) Educate staff 2) Educate mothers (at antenatal visit)	Yes	4.0
C	5	Unknown	Skin to Skin	1) Educate staff 2) Reorganize the process (prepare towels during second stage of labor) 3) Reorganize the process (perform essential newborn care on mother's abdomen) 4) Other (keep room warm)	Yes	4.0
<b>In Person Mentorship</b>						
J	8	Q2 weeks	Skin to Skin	1) Educate staff 2) Other (institute close monitoring of newborn during skin to skin)	No	3.0
R	5	Q3 weeks	Skin to Skin	1) Educate staff	Yes	3.5
K	6	Q1 week	Temperature Measurement	1) Acquire supplies (thermometers) 2) Reorganize the process (place essential newborn care supplies at bedside)	Yes	4.0
M	7	Q1 week	Temperature Measurement	1) Educate staff 2) Acquire supplies (thermometers)	Yes	4.0
N	5	Q2 weeks	Temperature Measurement	1) Acquire supplies (thermometers) 2) Motivate staff	Yes	4.0
P	6	Q1 week	Skin to Skin	1) Educate staff 2) Motivate staff	Yes	4.0

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<b>O</b>	4	Q1 week	Skin to Skin	1) Educate staff 2) Educate mothers (in the delivery ward) 3) Other (prepare clean/safe environment)	Yes	4.0
<b>Q</b>	7	Q2-4 weeks	Temperature Measurement	1) Educate staff 2) Acquire supplies (thermometer) 3) Other (add column to newborn register for documentation)	Yes	4.5
<b>L</b>	6	Q2 weeks	Hand Washing	1) Educate staff 2) Acquire supplies (sink in delivery ward) 3) Acquire supplies (soap, towels)	Yes <sup>1</sup>	4.5

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<sup>1</sup>Data collected independently by the team, outside of key indicators for the initiative

Supplemental Table 3. Contextual Factors as Identified by MUSIQ

Hospital	Respondents (N)	MUSIQ Domain Score				
		Median (IQR)				
		QI Team	Delivery Room	Support	Hospital	Environment
A	5	5 (4-6)	5.5 (5-6.5)	4 (2-6)	5 (2-6)	6 (3-6)
B	5	6 (6-6)	6 (5-6)	6 (5.5-7)	6 (6-6)	6 (6-6)
C	3	6 (5-6)	6 (5-6)	5.5 (3.5-6)	2 (2-5)	6 (1-6)
D	5	5 (4-5)	4.5 (4-5)	3.5 (2-4)	3 (2-5)	4 (2-5)
E	5	5 (5-6)	5 (4-5.5)	4 (1.5-5.5)	5 (3-5)	4 (3-6)
F	5	4 (3-5)	5 (4.5-5)	4 (3-5)	5 (3-5)	5 (3-5)
G	4	6 (6-6)	6.25 (5-7)	3.25 (3-4)	4 (2-5)	4 (1-6)
H	5	6 (4-7)	5 (4-6)	5 (4-5.5)	5 (4-7)	5 (2-6)
I	6	6 (5.5-6)	5.75 (4.5-6)	3.5 (3-5.5)	5 (2-5.5)	6 (5-6)
J	3	5 (5-6)	6 (5.5-7)	5 (3.5-5.5)	7 (4.5-7)	5 (5-7)
K	5	6 (6-6)	5 (5-6.5)	5 (3.5-5.5)	6 (5-6)	5 (5-6)
L	3	5 (2-7)	4 (1-5.5)	4 (2.5-6)	3.5 (2-6)	5 (4-6)
M	5	6 (5-6)	6 (6-7)	5 (3-7)	5 (3-6)	5 (1-5)
N	3	6 (5-6)	6 (5.5-6)	6 (5.5-6)	6 (5-6)	6 (6-6)
O	6	6 (5-7)	6 (6-7)	5.75 (4-6)	6.5 (6-7)	6.5 (4-7)
P	3	6 (5.5-7)	6 (5-7)	6.5 (4-7)	5 (5-7)	7 (4-7)
Q	3	5.5 (5-6)	5.5 (5.5-6.5)	4 (3.5-6.5)	5 (5-5)	5 (4-7)
R	2	5.25 (5-5.5)	4.75 (4.5-5)	5 (4-6)	2.25 (2-2.5)	3 (1-5)
<b>Entire Cohort</b>	<b>76</b>	<b>6</b>	<b>5.5</b>	<b>5</b>	<b>5</b>	<b>5</b>

Note: Domain scores represent the median score (range) for all survey questions in that domain. Numeric scores correspond to the following Likert Scale responses: 7=totally agree; 6=agree; 5=somewhat agree; 4=neither agree nor disagree; 3=somewhat disagree; 2=disagree; 1=totally disagree.