Maryview % of Single Unit & Blood Spend

Abstract IHI ID 21 Figure 3

Abstract IHI ID 21 Figure 4 Maryview monthly RBC utilization

Methods Hospital Champions partnered with a team of PBM experts to implement a comprehensive and multidisciplinary program. Infrastructure was established and the evidence was reviewed. Validated PBM analytics were used to demonstrate organization, specialty, and physician level performance. The performance metrics guided the team toward patient service lines that had high opportunity to improve transfusion practices. A sense of urgency was created through a hospital wide awareness campaign. Physician champions used the Focus, Feedback and Fix model to begin accountable conversations. Nursing used clinical inquiry to advocate for patient centered ordering practices and the clinical team partnered with the blood bank staff to collaborate on driving out unnecessary transfusions.

Results SUT practice improved from 36% to 74% over 12 months, with Emergency Medicine and Hospitalist having the greatest improvement. Additionally, monthly red cell utilization was reduced by 53% resulting in a significant decrease in hospital blood product spend.

Conclusions Creating urgency, delivering performance feedback, and collaborating across services improves patient safety while decreasing costs.

IHI ID 22 VALIDATION OF THE QUALITY IMPROVEMENT ASSESSMENT (QIA) TOOL

¹Marjorie Godfrey, ²Lynn Foster, ³Mats Nilsson. ¹The Dartmouth Institute Microsystem Academy, US; ²The Dartmouth Institute, US; ³Futurum, Academy of Health and Care, Region Jönköping County, Jönköping, Sweden

10.1136/ihisciabs.22

Background QI training occurs regularly in health care systems often without impact assessment. QIKAT is scenario-based, is focused on confidence not skill attainment or organizational and team contexts. A validated assessment tool grounded in QI theory, capturing organizational context, skills and growth, for frontline healthcare members is needed. The 67 item scale QIA survey used at Dartmouth measures QI skills, communication, team dynamics, and context. Response options are ordered categories measured on a 5-point scale. QIA data from 463 individuals in nine programs from 2016–2017 were used in this study.

Objectives Establish validity and reliability of Quality Improvement Assessment Survey.

Methods Content validity: Literature review/interviews Construct validity: Exploratory/confirmatory factor analysis Redundant/poor performing items: Item analysis/Rasch modeling.

Results Literature review and consultation confirmed inclusion of measures of QI skills, organizational culture, and team dynamics. EFA of QI skills items loaded on four factors measuring System, Variation, Psychology and Knowledge. EFA on organizational culture and team dynamics yielded four factors measuring Microsystem and Organizational leader(s) and Awareness of Self and Others in Team Dynamics (table 1). CFA confirmed data fit the hypothesized theoretical model for QI skills (CFI=0.954, RMSEA=0.075) Organizational culture/team dynamics (CFI=0.969, RMSEA=0.049) (table 2). Scales were reliable and moderately correlated (see table 3). Item analysis/Rasch modeling identified several items that were redundant or poor performing.

Abstract IHI ID 22 Table 1

Factor Method: Principal Components; Rotated Factor Pattern (Standardized Regression Coefficients) (n=463) Ordinal					
		System	Knowledge	Variation	Psychology of Change
q4_01	Use effective meeting skills (timed agendas/assign meeting roles)	0	57 *	-1	46 *
q4_02	Use brainstorming and multi-voting in meetings	23	38	-6	54 *
q4_03	Assess the 5Ps	39	53 *	-7	-8
q4_04	Use data to determine improvement	4	75 *	9	17
q4_05	Develop global aim statements	-1	81 *	16	-5
q4_06	Create process maps (flow charts)	8	62 *	22	7
q4_07	Develop specific aim statements	-2	82 *	15	0
q4_08	Create Fishbones (Cause & effect	21	63 *	14	-9
q4_09	Identify evidence-based practice for change ideas	-1	63 *	18	11
q4_10	Adapt SmartChange Ideas to make improvements	54 *	42 *	-11	0
q4_11	Develop PDSA cycles (Plan-Do-Study-Act)	31	65 *	2	-21
q4_12	Develop SDSA cycles (Standardize-Do-Study-Act)	45 *	54 *	3	-17
q4_13	Create plays for playbooks (Standard	40	46 *	8	-1
q4_14	Use LEAN improvement knowledge and tools	75 *	12	4	6
q4_15	5S (Sort, Set, Shine, Standardize, Sustain)	78 *	22	-6	-7
q4_16	Value stream mapping	75 *	15	14	2
q4_17	Create workflow diagrams/spaghetti diagrams	55 *	16	24	13
q4_18	Create and use driver diagrams, including outcome measures	62 *	21	22	0
q4_19	Mesosystem Improvement including feed	82 *	10	9	1
q4_20	Manage up in the health care organization	66 *	12	6	25
q4_21	Use observation skills	25	-10	19	75 *
q4_22	Conduct Force Field Analysis	89 *	-1	6	9
q4_23	Explore the Ladder of Inference	92 *	-9	7	8
q5_01	Define measures (conceptual & operational definitions)	4	37	46 *	14
q5_02	Use Microsoft Excel (basic / fundamental skills)	-21	10	63 *	14
q5_03	Create Pareto Charts	38	5	51 *	-22
q5_04	Develop a data collection plan	-13	23	77 *	10
q5_05	Collect data using tick and tally sheets	3	-2	75 *	14
q5_06	Differentiate process, outcome, and balanced measures	12	0	82 *	7
q5_07	Create clinical value compass	48 *	-12	62 *	-11
q5_08	Create and interpret Run Charts	33	18	53 *	-28
q5_09	Create and interpret Statistical Process Control Charts (p Charts, XmR charts)	40 *	-1	60 *	-26
q5_10	Create and interpret Data walls and Dashboards to track improvement over	18	23	63 *	-19
q5_11	Determine when to transition to an audit of measures	27	13	64 *	-12
q5_12	Link short term & long term measures (Registries, Leading & Lagging)	26	12	66 *	-3

Factor Method: Principal Components; Rotated Factor Pattern (Standardized Regression Coefficients) (n=463) Ordinal					
		Microsystem leader	Org. leader	Team -Aware of others	Team-Aware of Self
q6_01	I am confident in my ability to elicit others'	12	-18	78 *	6
q6_02	I can distinguish between interests and positions.	-1	5	68 *	13
q6_03	I am able to recognize resistance in team members.	-13	0	90 *	-4
q6_04	I am confident in my ability to use reflection in responding to resistance in team members.	0	2	68 *	27
q6_05	I am comfortable giving negative feedback.	7	13	17	68 *
q6_06	I am confident in my ability to manage my emotions in the face of conflict.	14	8	35	55 *
q6_07	I am confident that I can help team members manage their emotional reactions in the face of	14	15	42 *	55 *
q6_08	I am confident in my ability to apply conflict management skills to situations involving upset or	6	13	46 *	58 *
q7_01	Staff members discuss the CF program's core	70 *	-3	17	1
q7_02	Constructive criticism and differences of opinion are always respected	71 *	4	-6	11
q7_03	The CF program has a culture that encourages exploring new ways to deliver care	84 *	-2	-8	2
q7_04	The CF program does not punish individuals for errors; they try to learn from them	78 *	-8	-6	-2
q7_05	People who think differently are encouraged and seen as assets	85 *	-6	-12	20
q7_06	The CF program is prepared to make sacrifices to make an improvement initiative successful	62 *	8	7	-11
q7_07	Staff members who are affected by changes participate in the development of goals, objectives, measures, and implementation of those changes	73 *	10	1	-1
q7_08	All information within the CF program is easily accessible	71 *	-3	-8	18
q7_09	Opportunities exist to discuss CF program priorities	70 *	-2	0	-7
q7_10	The CF program has experience with creating successful change	66 *	9	11	-7
q7_11	Staff members in the CF program have the skills and knowledge needed to make change	38	7	35	-3
q7_12	The CF program has a shared set of aims	68 *	12	7	-8
q7_13	Frontline leaders have the ability to remove barriers and obtain needed support for improvement	19	63 *	4	-9
q7_14	Frontline leaders allow others to lead improvement	38	30	29	-39
q7_15	Frontline leaders are committed to playing an active role in improvement work	58 *	24	21	-29
q7_16	Frontline leaders take personal interest in the improvement project, seek out updates regularly,	52 *	30	19	-25
q7_17	Organizational leaders have the ability to remove barriers and obtain needed support for improvement	-10	84 *	13	4
q7_18	Organizational leaders allow others to lead	12	70 *	15	-25
q7_19	Organizational leaders are committed to playing an active role in improvement work	0	87 *	-22	17
q7_20	Organizational leaders take personal interest in the improvement project, seek out updates regularly, and give feedback	1	92 *	-18	15

Exploratory Factor Analysis of QI Skills

Exploratory Factor Analysis of Organization & Team Dynamics

Abstracts

Abstract IHI ID 22 Table 2a CFA Standardized Factor Loadings for QI Skills

System BY				
	Estimate	S.E.	Est./S.E.	P-Value
Q4_23	0.860	0.022	38.513	0.000
Q4_22	0.894	0.017	53.479	0.000
Q4_19	0.930	0.012	75.475	0.000
Q4_15	0.862	0.017	50.886	0.000
Q4_14	0.836	0.018	47.615	0.000
Q4_16	0.937	0.011	83.758	0.000
Q4_20	0.774	0.022	35.148	0.000
Q4_18	0.918	0.012	78.119	0.000
Q4_17	0.858	0.016	53.717	0.000
Q4_10	0.768	0.021	36.278	0.000
Knowledge BY				
	Estimate	S.E.	Est./S.E.	P-Value
Q4_07	0.863	0.013	67.642	0.000
Q4_05	0.857	0.015	59.068	0.000
Q4_04	0.815	0.018	45.973	0.000
Q4_11	0.882	0.011	77.058	0.000
Q4_09	0.725	0.023	31.872	0.000
Q4_08	0.848	0.016	54.577	0.000
Q4_06	0.824	0.016	51.340	0.000
Q4_12	0.924	0.011	84.852	0.000
Q4_03	0.747	0.022	33.348	0.000
Q4_13	0.831	0.018	46.360	0.000
Variation BY				
	Estimate	S.E.	Est./S.E.	P-Value
Q5_06	0.826	0.018	46.782	0.000
Q5_04	0.766	0.022	34.883	0.000
Q5_05	0.675	0.027	24.829	0.000
Q5_12	0.896	0.014	62.733	0.000
Q5_11	0.888	0.015	57.548	0.000
Q5_02	0.453	0.038	11.787	0.000
Q5_10	0.879	0.015	56.828	0.000
Q5_07	0.865	0.018	47.908	0.000
Q5_09	0.866	0.020	43.977	0.000
Q5_08	0.893	0.016	56.077	0.000
Q5_03	0.801	0.028	28.352	0.000
Q5_01	0.774	0.022	35.635	0.000
Psychology of Change BY				
	Estimate	S.E.	Est./S.E.	P-Value
Q4_02	0.821	0.031	26.471	0.000
Q4_21	0.551	0.048	11.466	0.000
Q4_01	0.823	0.028	29.069	0.000

Abstract IHI ID 22 Table 2b CFA standardized factor loadings for organization culture/team dynamics

Microsystem Leader BY				
	Estimate	S.E.	Est./S.E.	P-Value
Q6_01	0.738	0.041	18.005	0.000
Q6_02	0.713	0.034	20.889	0.000
Q6_03	0.709	0.033	21.194	0.000
Q6_04	0.800	0.030	26.300	0.000
Organization Leader BY				
	Estimate	S.E.	Est./S.E.	P-Value
Q6_05	0.602	0.037	16.411	0.000
Q6_06	0.750	0.029	25.562	0.000
Q6_07	0.896	0.020	44.431	0.000
Q6_08	0.853	0.021	40.324	0.000
Team Dynamics-Awareness of Others BY				
	Estimate	S.E.	Est./S.E.	P-Value
Q7_01	0.744	0.023	32.578	0.000
Q7_02	0.689	0.024	28.714	0.000
Q7_03	0.760	0.022	34.673	0.000
Q7_04	0.661	0.029	23.002	0.000
Q7_05	0.762	0.021	36.165	0.000
Q7_06	0.664	0.027	24.780	0.000
Q7_07	0.791	0.020	39.092	0.000
Q7_08	0.625	0.029	21.611	0.000
Q7_09	0.634	0.030	21.437	0.000
Q7_10	0.732	0.025	29.375	0.000
Q7_12	0.753	0.022	33.739	0.000
Q7_1516	0.724	0.020	35.452	0.000
Team Dynamics-Awareness of Self BY				
	Estimate	S.E.	Est./S.E.	P-Value
Q7_18	0.836	0.032	25.756	0.000
Q7_1317	0.762	0.027	27.982	0.000
Q7_1920	0.635	0.034	18.751	0.000

Abstract 22 Table 3 Correlations and reliability for Latent variables

A. Correlation between latent variables for QI Skills				
	1	2	3	4
1. Complex Skills (System/Improvement)	(0.94)			
2. Skills/Tools used in fundamental QI Tasks (Knowledge)	0.869	(0.93)		
3. Skills that inform accuracy (Variation)	0.810	0.805	(0.92)	
4. Team Dynamics/Psychology of Change	0.576	0.686	0.538	(0.68)
B. Correlation between latent variables for Organizational Structure/Team Dynamics				
	1	2	3	4
1. Microsystem Leader	(0.90)			
2. Organizational Leader	0.734	(0.77)		
3. Team Dynamics-Awareness of Others	0.377	0.399	(0.73)	
4. Team Dynamics-Awareness of Self	0.280	0.351	0.656	(0.80)

Conclusions Study provides evidence QIA survey possesses strong psychometric properties. High model fit indices show the data reflect theoretical models of organizational change. Moderate correlations between scales indicate assessment of distinct constructs and high scale reliabilities signify precise and robust measurement.

IHI ID 23

SAVING TIME, MONEY, AND STRESS: A QUALITY IMPROVEMENT REVIEW OF BOSTON MEDICAL CENTER'S GUARDIANSHIP PROCESS

Wendoly Langlois, Dianne Yacovone. *Boston Medical Center, USA*

10.1136/ihisciabs.23

Saving Time, Money, and Stress:

A Quality Improvement Review of Boston Medical Center's Guardianship Process

Wendoly O. Langlois, JD & Dianne Yacovone, JD (co-authors); Wanda Carlson, RN, MSN, ACM; Kevin Donnelly-Boyle, MD; Brenda English, MSW, LICSW; Neha R. Gaur; Noah Tananbaum, Paralegal; James M. Moses, MD, MPH (mentor)

BACKGROUND

- A guardianship is a legal process that takes place when a patient cannot make informed healthcare decisions and there is no Health Care Proxy. A court appoints a person to serve as guardian.
- Before this project, the burden was on a patient's family to navigate the court system when a guardianship was necessary. For individuals without family members or friends able to pursue and serve as guardian, hospital counsel would handle the case and look for a person to serve as guardian. This was difficult because Massachusetts has no public guardian program.
- Boston Medical Center** is a private, not-for-profit, academic medical center in Boston, Massachusetts. The primary teaching affiliate for Boston University School of Medicine, BMC is the largest safety net hospital and busiest trauma and emergency services center in New England. Before beginning this project the average length of stay for a BMC patient needing a guardian was 120 days and the median was 98 days. The hospital's average length of stay is 5 days. At any given time, BMC has 10-15 inpatients pursuing guardianship.
- BMC began this project to improve the overall length of stay for patients who need a guardian, to avoid delays in care while awaiting appointment of a guardian, reduce costs related to discharge delays, and create an efficient guardianship process.

AIM

To reduce the median number of days a patient who lacks capacity remains in the hospital because of judicial guardianship related issues from 98 to 30, by October 1, 2018.

METHODS

- We formed a multi-disciplinary group consisting of core departmental stakeholders from legal affairs, business strategy, social work, case management, psychiatry and the hospitalist service.
- This core group worked with executive leadership to identify, plan and execute interventions to streamline the guardianship and conservatorship processes. The group followed the Institute for Health Care Improvement's Model for Improvement using the Plan, Do Study, Act (PDSA) model.

SOLUTIONS

RESULTS

Outcome Measure: Reduced Median Length of Stay

Process Measure: Trend Shows Fewer Days Between Case Identification and Guardian Appointment

Balancing Measure: Reduced Workload for Social Workers Involved in Guardianships

Balancing Metric: Workload
Audience: Social Workers
Change in guardianship workload
~75% of full-time adult inpatient Social Workers responded to the survey
11 out of 13 social workers reported a decrease in guardianship workload

-30%

Workload reduction

"There has been major stress and time lifted off of the family. Also, the guardianship process has moved exponentially faster and therefore fewer internal meetings reviewing alternative discharge planning options (even if there were no alternatives)."
- BMC Social Worker

CONCLUSIONS

- What worked well and why
 - Engaging outside counsel immediately created a more efficient process
 - Internal support for the overall project
- What barriers were encountered
 - Competing priorities of the core group members
 - Implementing necessary changes to workflow
 - Developing relationships with, and expectations of, outside counsel
 - Managing court delays
 - Timely identification and resolution of insurance coverage issues that delay patient discharge
- Why barriers may have arisen
 - Data not available and difficulties in data analysis
 - Apprehensive stakeholders
 - Resource constraints

KEY FINDINGS / RECOMMENDATION

- Using outside counsel and establishing a guardianship oversight group to regularly review the status of patients admitted longer than the hospital's average length of stay were key to the project's success.
- Those two interventions will (1) reduce unnecessary prolonged hospital stays caused by delays in the guardianship process, (2) reduce the costs related to these prolonged stays, and (3) increase the availability of hospital beds for patients in need of acute health care services.