



Weill Cornell Medicine

**Department of Medicine
Quality Improvement
& Patient Safety Committee**

Poster Session Abstracts

May 23th, 2018

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Tai Chi for Enhanced Inpatient Mobilization

Bao GC, Dillon J, Besada M, Marianova A, Mathewos A, Kochhar S, Jannat-Khah D, Tung J, Lee JI

Abstract

Background: Low mobility is a significant but often overlooked problem among hospitalized patients, leading to loss of functional independence and slower illness recovery. Researchers and healthcare leaders are advocating for adoption of inpatient mobilization as a standard of care for medical-surgical units. To our knowledge, no study has investigated tai chi or qigong as a means to promote mobility among hospitalized patients.

Objective: To establish a feasible, inpatient mobilization protocol using beginner, video-guided tai chi classes, taught by physical therapists.

Methods: We chose a single-arm feasibility study to test whether video-guided tai chi classes could be successfully implemented on the medical-surgical wards. Patients admitted to Lower Manhattan Hospital over a 16-week period were referred to the class if deemed eligible by a physical therapist. The primary outcome measure was the number of patients attending class each week. Secondary measures included patient and staff satisfaction, collected through surveys and semi-structured interviews. Process measures included class duration, number of referrals each week, and reasons for non-referrals. Balancing measures were of adverse events.

Results: Of 119 referred patients who were available for recruitment, 45 gave informed consent, and 38 patients attended at least one class, resulting in a total of 60 class attendees during the study period. As the project progressed and changes were implemented, the number of referred patients and class attendees per week increased. Based on first-class experience, 68% (26/38) of patients reported enjoying the class “quite a bit” or “extremely,” 66% (25/38) of patients reported feeling “more mobile” afterward, and 81% (29/36) of patients “agree” or “strongly agree” that the class made them more comfortable going home. Average class duration was 29 minutes. Zero falls occurred during or immediately following class.

Conclusions: Video-guided tai chi classes are feasible at Lower Manhattan Hospital. Patients enjoy the class and believe they help them transition from hospitalization to discharge. Though nursing staff believe that the class is beneficial for patients, the burden of transporting patients to and from class was a major obstacle. The possibility of this class preserving mobility and functional independence or reducing length-of-stay may be tested in a future randomized trial.



Background

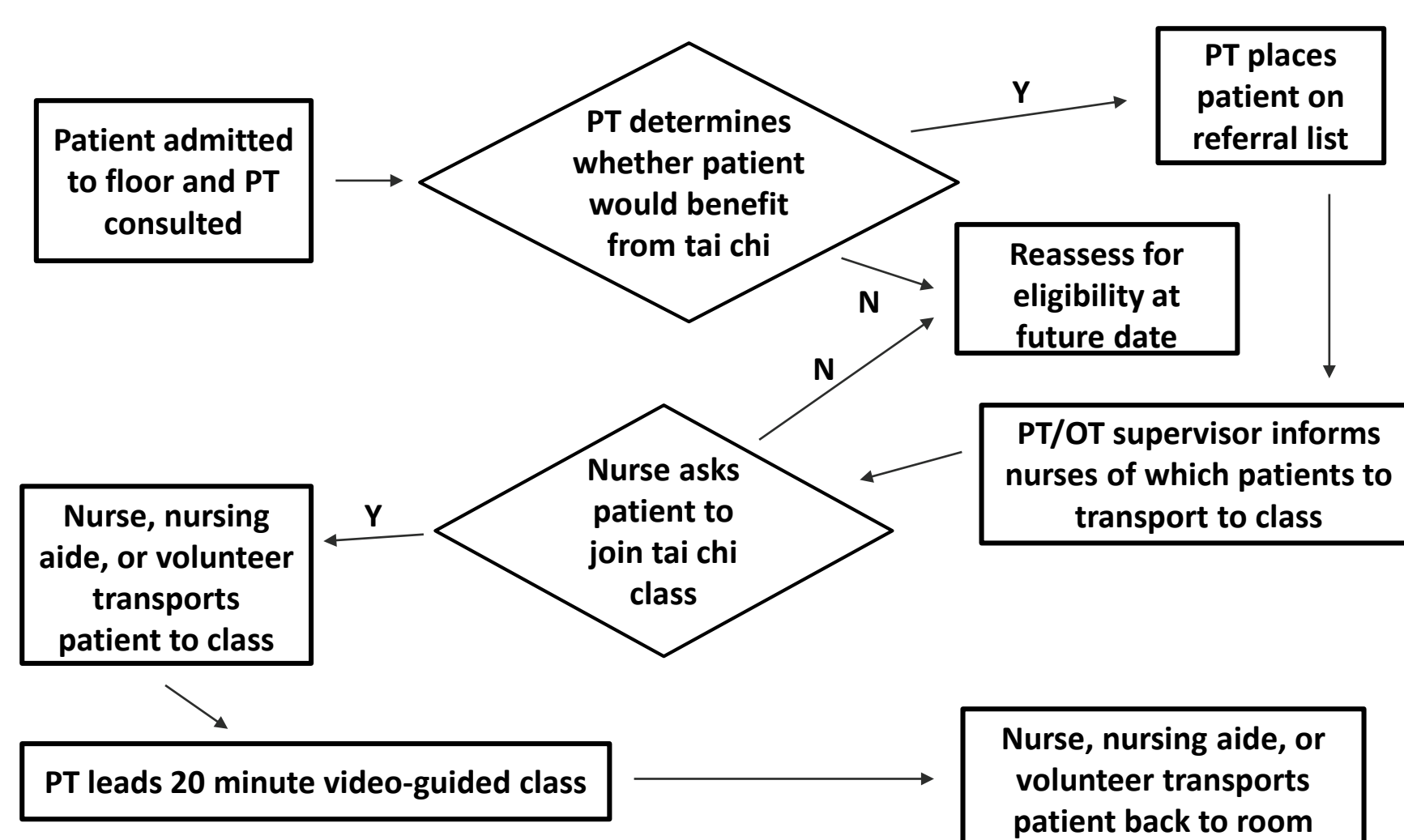
- **Immobility among hospitalized patients leads to:**
 - Deconditioning
 - Loss of functional independence
 - Slower recovery from illness
 - Numerous acquired medical conditions
 - Longer lengths of stay and readmissions
- **Prior research suggests inpatient mobilization protocols benefit patients**
- **Prior research suggests tai chi benefits balance, pain, conditioning, and general wellness**

Objectives and Aim Statement

1. To establish a **feasible**, inpatient mobilization protocol using beginner, video-guided tai chi classes, taught by physical therapists
2. To test how acceptable it is to patients and staff

Methods

Map of the System



Selected outcome measures:

- # of patients attending class each week
- # of classes each week
- Satisfaction surveys of patients
- Semi-structured interviews of nurses and PTs

Selected process measures:

- # of patients referred by PT each week
- Reasons for non-referrals
- Length of time from admission to PT consult
- Length of time for each class

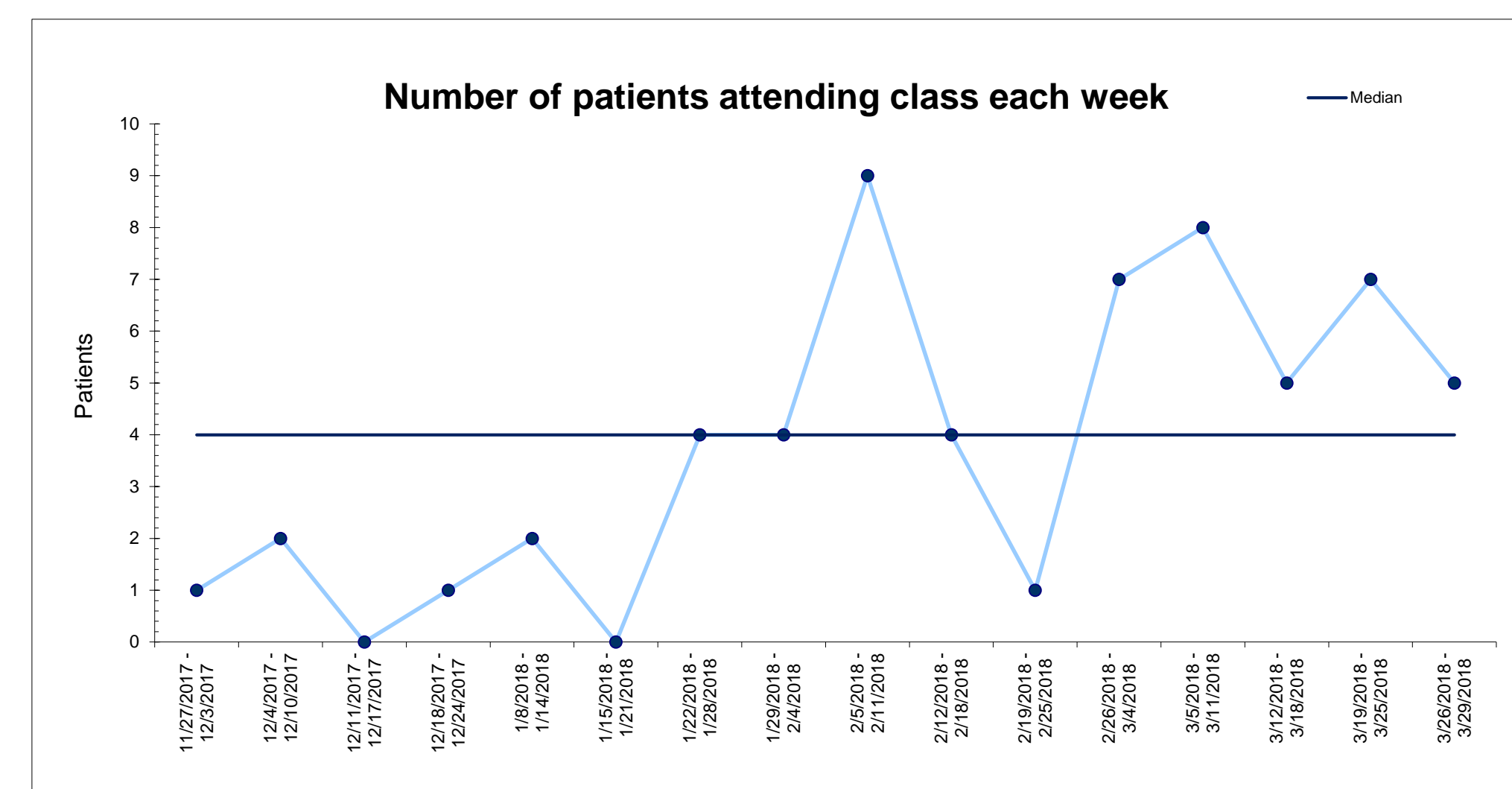
Balancing measures:

- Adverse events (e.g., falls)

Results

- **Data collection period: 11/27/17 to 04/01/18**
 - 11/27/17: Recruitment begins on 4C ward
 - 01/07/18: PTs record reasons for non-referral
 - 01/08/18: Recruitment expands to 5C ward
 - 01/22/18: Recruitment expands to all ages
 - 03/05/18: Recruitment expands to 4A ward
- **164 patients referred by PT → 119 patients still present (not discharged) by class time → 45 patients recruited → 38 patients attended at least 1 class**
- **0 falls during or immediately following class**

Tables and Figures



Patient Characteristics	Value (N = 38)
Age, mean (SD)	69.13 (17.25)
Gender	
Male	23 (61%)
Female	15 (39%)
Race	
White	11 (29%)
African American	6 (16%)
Asian	7 (18%)
Other	14 (37%)
Primary Language	
English	30 (79%)
Chinese/Mandarin/Cantonese	5 (13%)
Spanish	3 (8%)
Body Mass Index, mean (SD)	27.65 (8.17)
Admitting Service	
Medicine	32 (84%)
Surgery	6 (16%)
Length of Stay, mean (IQR)	6.54 (4.87, 10.69)
Time from Admission to PT Consult (SD)	2.1 days (2.31)
Assistive Device	
No	17 (45%)
Yes	8 (21%)
Not Recorded	13 (34%)
Independent in all activities?	
No	8 (21%)
Yes	15 (39%)
Not Recorded	15 (39%)
AM-PAC Raw Score, median (IQR)	20.00 (17.00, 23.00)
Previous Experience with Tai Chi	
No	30 (79%)
Yes	6 (16%)
Not Recorded	2 (5%)

Q18 - Did you enjoy this tai chi class?

Answer	%	Count
Not at all	0%	0
A little bit	13.16%	5
Somewhat	18.42%	7
Quite a bit	31.58%	12
Extremely	36.84%	14

Q22 – Do you feel more mobile after this tai chi session?

Answer	%	Count
Yes	65.79%	25
No	31.58%	12
Not recorded	2.63%	1

Q27 - I feel that this class made me more comfortable about going home.

Answer	%	Count
Strongly disagree	5.56%	2
Disagree	2.78%	1
Neither agree nor disagree	11.11%	4
Agree	58.33%	21
Strongly agree	22.22%	8

Conclusion

Video-guided tai chi classes are feasible at Lower Manhattan Hospital

Patients enjoy the classes and believe they help them transition from hospitalization to discharge

Nursing staff and physical therapists believe that the classes are beneficial for patients

Limited and noisy space, small video-display, and lack of familiarity of the class among nursing staff hampered feasibility and the ability to have larger classes

Nursing staff needs more assistance transporting patients to classes

Building a culture of mobility takes time

Implications and Next Steps

Video-guided tai chi sessions might be employed at other hospitals and be agreeable to patients and staff

Best patients may be those designated as candidates for home PT

Possibility of reducing length of stay and readmissions

Possibility of increasing mobility and preserving functional independence when used as a supplement to standard PT, which can be tested at a future time

Interest in tai chi and qigong extends beyond just Chinese patients

Limitations

Obtaining informed consent may have hampered recruitment

We could have recruited more patients had there not been a cap of 4 patients for each class

Some Chinese patients may have refused class thinking it is too hard

Some non-Chinese patients may have been interested in the novelty of the class

Funding Source: Quality University, LMH Dept. of Medicine

Acknowledgements: Joseph E. Russo; LMH PT/OT Dept.; PT instructors: Katherine Li, Manjinder Singh, Lu-Bing Hajallie; LMH nursing staff on 4C, 5C, and 4A; LMH Volunteering Dept.; LMH Transportation Dept.; Alexi Archambault, Linda Gerber, Paul Christos, Chui-Man Lai, and Keith Mages; Quality University Co-Fellows and Instructors



Standardizing and Streamlining DKA Guidelines

in the Weill Cornell Medical ICU and the Lower Manhattan Hospital ICU

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Problem:

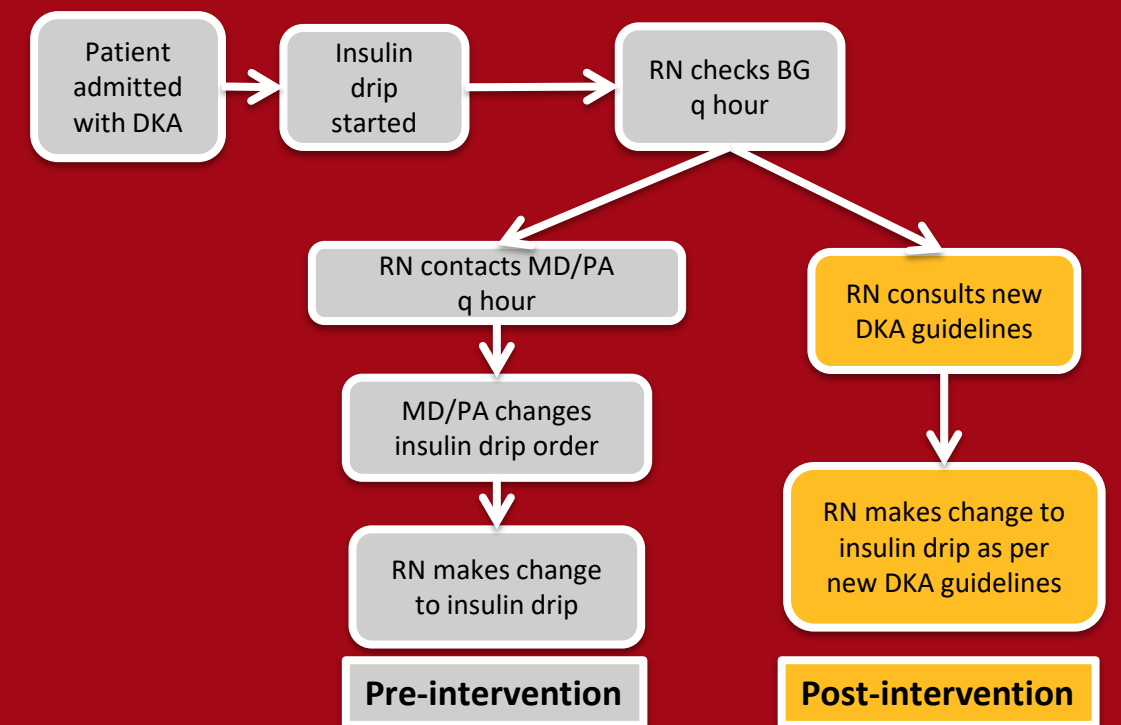
- Current NewYork-Presbyterian Hospital (NYPH) DKA guidelines lack clear dosing guidance
- American Diabetes Association (2018) inpatient standards of care recommends protocols with *adjustments based on glycemic fluctuations & insulin dose*
- Approved DKA guidelines are *not nurse-directed*, requires RN to consult with MD/PA every hour for dose adjustments based on current blood glucose (BG)
- There is no standardized dosing in the approved NYPH DKA protocol that follows the ADA recommendation to use past and current BG and the rate of change for insulin dose titrations

Objective:

- To create a comprehensive DKA protocol that includes a standardized hyperglycemia management component with insulin dosing guidelines based on glycemic fluctuations and a transition algorithm from intravenous (IV) to subcutaneous insulin (subQ) that will improve both health outcomes and clinician satisfaction

Methods:

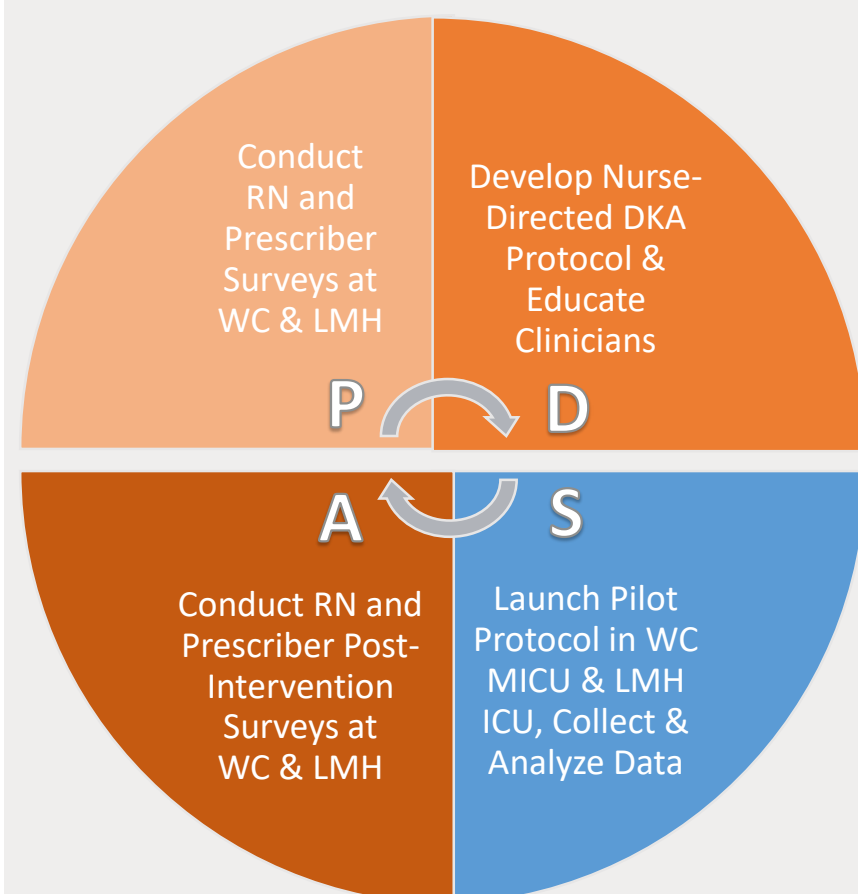
- Validated protocol from University of Pittsburgh Medical Center (UPMC) was modified to match other NYPH nurse-directed insulin drip formats
- Surveys were conducted to assess nurse and prescriber knowledge and satisfaction with the current guidelines
- Staff education was provided to nursing staff in both ICUs, medical housestaff at Weill Cornell MICU, and Physician Assistants (PAs) in LMH ICU
- New DKA Guidelines were launched on December 16, 2017 in Weill Cornell MICU and December 18, 2017 in LMH ICU
- Prospective chart reviews were conducted for four months. Data was collected for patient demographics, length of time to close anion gap, rates of hypo- and hyperglycemia, length of stay in ICU and in hospital. Data was compared to retrospective chart reviews from same dates of previous year



Primary Outcomes:

- % BG in target range (BG 70-180)
- % Hypoglycemia (BG < 70)
- % Hyperglycemia (BG > 180)
- Time to close anion gap
- Change in MD/PA/RN knowledge & satisfaction with guidelines

Assess RN and prescriber knowledge and satisfaction with current DKA protocol



	Weill Cornell		LMH	
	Pre	Post	Pre	Post
Percent of hypoglycemia (BG < 70 mg/dL)	0.6%	3.3%	2.5%	0.6%
Percent of BG in Target (BG 70-180 mg/dL)	48.2%	46.3%	36.7%	37.1%
Percent of hyperglycemia (BG > 180 mg/dL)	51.2%	50.5%	59.3%	62.9%
Time to close anion gap, hrs	16.8	12.7	11.8	14.9
Time on insulin drip, hrs	21.3	14.0	13.0	16.0
Frequency of recurrence of anion gap	1/8 patients	2/13 patients	3/15 patients	3/11 patients
ICU length of stay, days	2.4	1.9	2.4	2.9
Hospital length of stay, days	12.5	4.0	3.0	6.0

Total DKA Cases			
Weill Cornell		LMH	
Pre	Post	Pre	Post
8	13	15	11

	RNs WC		RNs LMH	
	Pre	Post	Pre	Post
Clinical provider knowledge of guidelines	12.9%	44%	42.1%	71.4%
Clinical provider satisfaction with guidelines	43.3%	52%	42.1%	85.7%
DKA guidelines save clinical provider time	33.3%	60%	36.8%	85.7%

Discussion

Weill Cornell

- Reduced time to close the anion gap and decreased number of hours on insulin drip
- Shortened hospital length of stay

Weill Cornell and LMH

- Increased adherence to administering insulin glargine 2 hrs before discontinuing insulin drip
- Rates of in target BG levels (70-180), hypoglycemia (< 70), and hyperglycemia (> 180) pre- and post-intervention were similar

Conclusions

- Changes in clinical parameters did not reach statistical significance, possibly due to small sample size
- We were able to demonstrate an increase in satisfaction amongst medicine housestaff at Weill Cornell, PAs at LMH, and RNs at both campuses with new DKA guidelines
- RNs at both campuses also reported that they were able to save time by using new DKA guidelines

Future Directions

- Continue data collection for full year through December 2018 at both campuses to increase sample size
- Re-analyze clinical data points at the end of full year
- Collect additional surveys from RNs, housestaff, & PAs at conclusion of full year to gauge further changes in knowledge & satisfaction with new DKA guidelines
- Present final results at multi-campus NYPH Inpatient Glycemic Management committee meeting with goal of adopting new DKA guidelines at all NYPH sites

"Round rate down to nearest 0.5 units/hr		Current Insulin Rate (units/hour)			
Current BG Level (mg/dL)	BG change from previous BG (mg/dL)	≤ 3.5	4-6.5	7-10	> 10
< 40		Decrease rate to 0.5 units/hr. Give 25 G (50 mL) D50 intravenous push (IVP) Q 15 min, repeat PRN for BG < 40 mg/dL. Notify prescriber. Re-check BG Q 15 minutes until BG > 80 mg/dL then Q 1 hour. Call prescriber and request orders to increase the rate of dextrose-containing fluids or change to D10W. DO NOT TURN OFF INSULIN. Follow-up with prescriber q 2-4 hours to see if gap has resolved.			
40-69		Decrease rate to 0.5 units/hr. Give 12.5 G (25 mL) D50 IVP Q 15 min, repeat PRN for BG 40-69 mg/dL. Notify prescriber. Re-check BG Q 15 minutes until BG > 80 mg/dL then Q 1 hour. Call prescriber and request orders to increase the rate of dextrose-containing fluids or change to D10W. DO NOT TURN OFF INSULIN. Follow-up with prescriber q 2-4 hours to see if gap has resolved.			
70-100		Decrease rate by 50% and recheck BG in 1 hr. Call prescriber and request orders to increase the rate of dextrose-containing fluids or change to D10W. DO NOT TURN OFF INSULIN. Follow-up with prescriber q 2-4 hours to see if gap has resolved.			
101-149	Call prescriber and request orders to increase the rate of dextrose-containing fluids or change to D10W. Titrate insulin per nurse-driven protocol until ketosis and anion gap resolves. Follow-up with prescriber q 2-4 hours to see if gap has resolved or if potassium repletion is needed.				
	Any Increase	Continue same rate			
	No Δ or Decreased by < 15	Decrease by 25%*	Decrease by 1	Decrease by 2	Decrease by 3
	Decreased by 15-25	Decrease by 50%*	Decrease by 2	Decrease by 3	Decrease by 4
	Decreased by > 25	Decrease by 50%*	Decrease by 3	Decrease by 4	Decrease by 5
150-200	Call prescriber and request orders to increase the rate of dextrose-containing fluids or change to D10W. Titrate insulin per nurse-driven protocol until ketosis and anion gap resolves. Follow-up with prescriber q 2-4 hours to see if gap has resolved or if potassium repletion is needed.				
	No Δ or Decreased by < 25 or any increase	Continue same rate			
	Decreased by 25-50	Decrease by 50%*	Decrease by 2	Decrease by 3	Decrease by 4
	Decreased by > 50	Decrease by 50%*	Decrease by 3	Decrease by 4	Decrease by 5
	201-250	Call prescriber and request orders to replace current IV fluids with IV fluids containing Dextrose 5% (D5%NS or D5NS) at the same rate. Titrate insulin per nurse-driven protocol until ketosis and anion gap resolves. Follow-up with prescriber q 2-4 hours to see if gap has resolved or if potassium repletion is needed.			
No Δ or Decreased by < 25 or any increase		Increase by 0.5	Increase by 1	Increase by 2	Increase by 3
Decreased by 25-50		Continue same rate			
Decreased by 51-75		Decrease by 50%*	Decrease by 1	Decrease by 2	Decrease by 3
Decreased by > 75		Decrease by 50%*	Decrease by 2	Decrease by 3	Decrease by 4
> 250	Call prescriber and request orders to increase the rate of dextrose-containing fluids or change to D10W. Titrate insulin per nurse-driven protocol until ketosis and anion gap resolves. Follow-up with prescriber q 2-4 hours to see if gap has resolved or if potassium repletion is needed.				
	No Δ or Decreased by < 25 or any increase	Increase by 2	Increase by 4	Increase by 6	Increase by 8
	Decreased by 25-50	Increase by 1	Increase by 2	Increase by 3	Increase by 4
	Decreased by 51-100	Continue same rate			
	Decreased by > 100	Decrease by 50%*	Decrease by 2	Decrease by 3	Decrease by 4

QU Abstract

Principle Investigator: Laura Gingras

Title: The Power of “Pod Cards”: A Simple Visual Tool to Improve Physician-Patient Continuity in a Resident Primary Care Practice

Statement of the Problem:

Numerous studies have shown a strong relationship between provider-patient continuity in outpatient primary care, and a wide range of important quality, cost, and satisfaction outcomes. In addition, physician-patient continuity is a core element of resident education in ambulatory medicine. Despite these benefits, nation-wide, there are low rates of provider-patient continuity in resident practices. In keeping with this trend, at Weill Cornell Internal Medicine Associates (WCIMA), historically only 40-45% of resident visits are with patients for whom that resident is the designated primary care provider (PCP). An additional 10-15% of visits are with patients for whom that resident is part of the primary care team (the “pod”). The remaining 40-50% of visits are with patients with whom the resident has no continuity relationship.

Objective/Aim of the Study:

The primary aim of this QI project was to ensure that at least 60% of resident patients seen at WCIMA who need follow-up are scheduled for a follow-up visit with their PCP, and at least 75% for a follow-up visit with their PCP or primary care team (“pod”), by implementing the Pod-Card intervention over a period of two months. A secondary aim was to improve the percent of completed appointments that occur with the PCP or the pod, in the same group of patients.

Project Design/Methods:

In this project, we utilized the Model for Improvement methodology for process improvement. The study was also designed as a prospective cohort study to compare the continuity outcomes of patients who received the Pod-Card intervention to a control group of patients who were seen during the same time period, but were not exposed to the intervention. The “Pod-Card” intervention consists of the use of colorful, printed card, which contains photographs of the patient’s PCP and the other residents in the pod, dates when specific pod-members are in practice, as well as a space for written instructions from the resident to the front-desk staff. The Pod-Card is given by the resident to the patient at the end of each visit, at which time the resident indicates when and with whom the patient should follow-up, and uses the card to educate the patient about the pod system and the benefits of continuity. The patient takes the card to the front-desk, where the staff uses the card to schedule the patient’s next appointment.

Results:

Over the first eight weeks of the study, 123 patients completed the Pod-Card intervention. This represented approximately 12% of total patients seen in the intervention area of the practice. Of these patients, 94% had a follow-up appointment scheduled at that visit. In comparison, 34% of the control group had a follow-up appointment scheduled. Of the patients scheduled for a follow-up visit, in the intervention group 73% were scheduled with their PCP, compared to 63% in the control group. In the intervention group 95% were scheduled with either their PCP or a pod-member, compared to 78% in the control group. Only 5% of intervention group patients were scheduled to see a resident outside of their pod, compared to 22% of the control group.

When looking only at the next *completed* appointment after the index visit (as opposed to scheduled appointments), 48% of patients in the intervention group had their next completed visit with their PCP, compared to 43% in the control group. 75% of patients in the intervention group had their next completed visit with either the PCP or a pod-member, compared to 57% in the control group. 25% of patients in the intervention group had their next completed visit with a resident outside their pod, as compared to 43% of patients in the control group.

Conclusions:

Up-take of the Pod-Card intervention was low, particularly during the initial phase of the study, which limits some of the conclusions which can be drawn. However, among the patients studied, the use of the Pod-Card was strongly associated with an increased likelihood that a follow-up visit would be scheduled with the PCP or with the Pod. When looking at next completed visit, the use of the Pod-Card was not associated with an increased likelihood of seeing the PCP, but it was associated with a substantially increased likelihood of seeing a pod-member and a decreased likelihood of seeing a resident outside of the pod. These results demonstrate that the Pod-Card intervention has promise in increasing resident-patient continuity, particularly with additional efforts to increase use of the intervention.



The Power of “Pod Cards”: A Simple Visual Tool to Improve Physician-Patient Continuity in a Resident Primary Care Practice

Weill Cornell Department of Medicine Quality Improvement Poster Session

Laura Gingras, Masha Jones, Perola Lamba, Mariella Ntamatungiro, Peggy Leung, Derek Mazique, Lauren Acinapura, Evgeniya Reshetnyak, Deanna Jannat-Khah, Sanjai Sinha, Jennifer Lee, Bob Kim | May 23, 2018

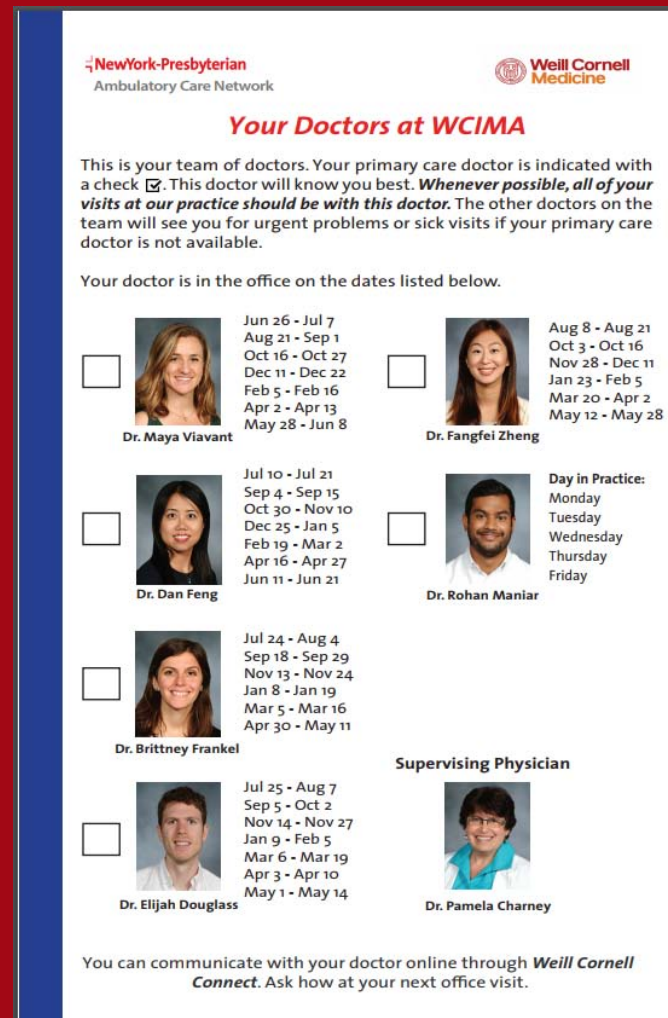
Problem Statement

Numerous studies have shown a strong relationship between provider-patient continuity in outpatient primary care, and a wide range of important quality, cost, and satisfaction outcomes. In addition, physician-patient continuity is a core element of resident education in ambulatory medicine.

Despite these benefits, nation-wide, there are low rates of provider-patient continuity in resident practices.

Historically, at Weill Cornell Internal Medicine (WCIMA):

- 40-45% of resident visits are with patients for whom that resident is the designated primary care provider.
- An additional 10-15% of visits are with patients for whom that resident is part of the primary care team (the “pod”).
- The remaining 40-50% of visits are with patients with whom the resident has no continuity relationship.



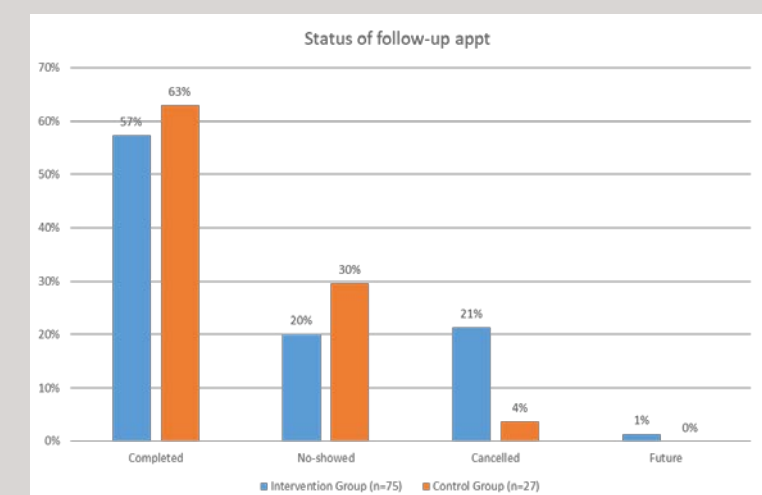
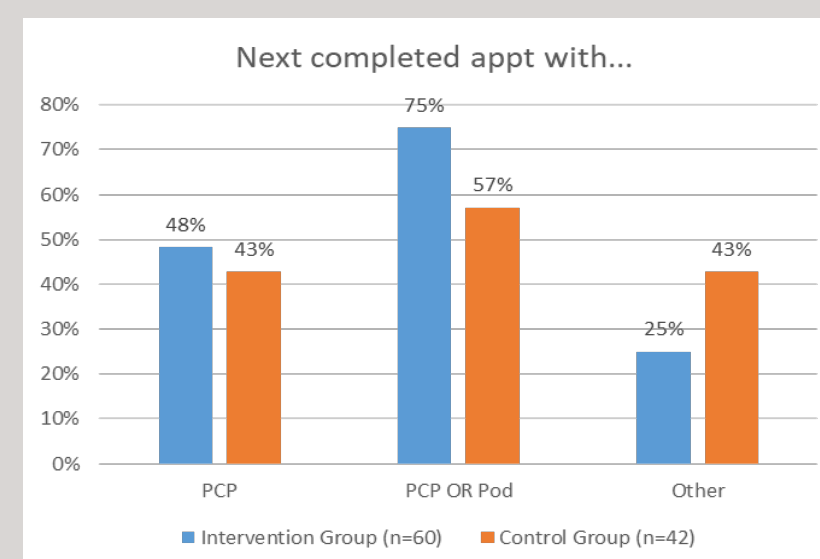
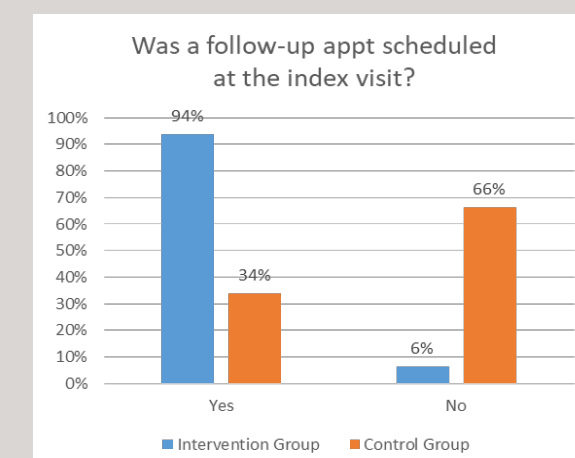
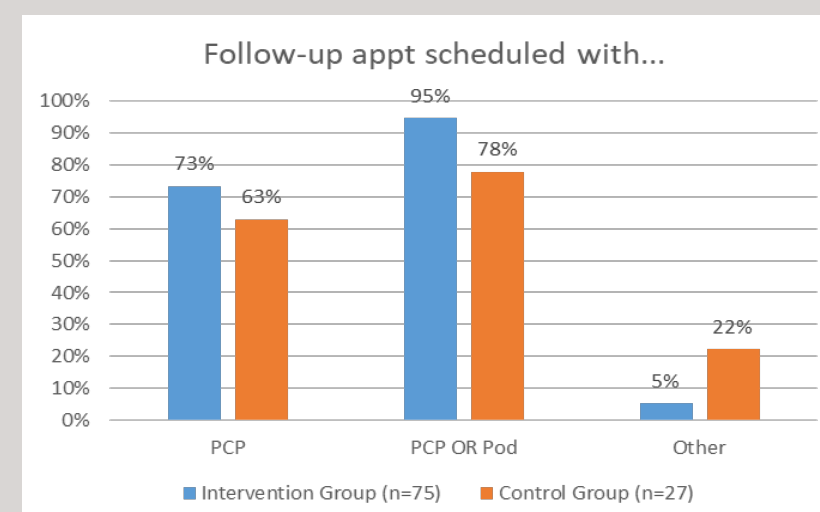
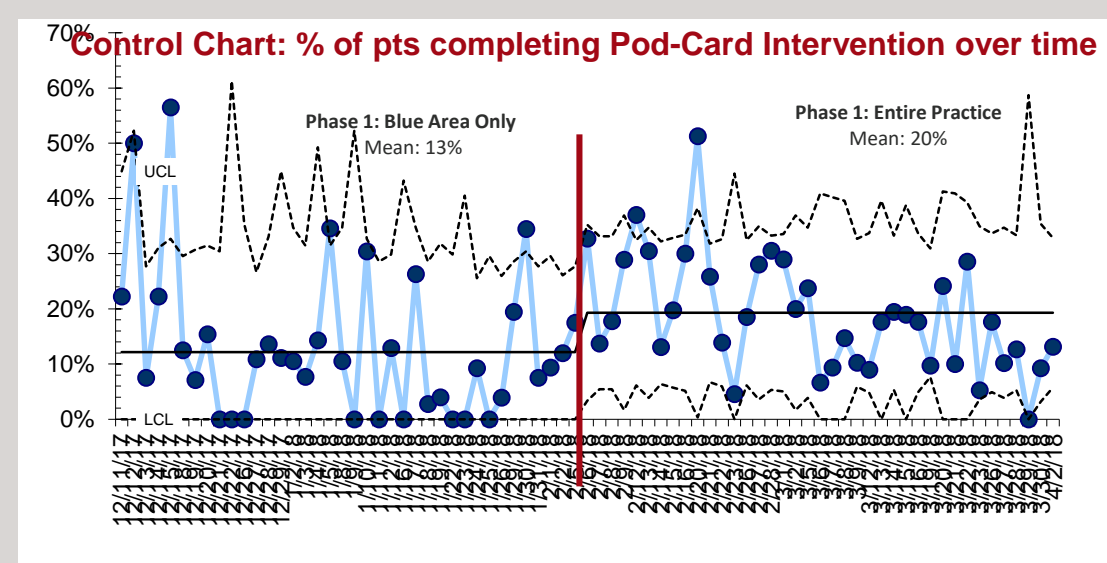
Objective/Aim Statement

To ensure that at least 50% of patients seen at WCIMA who need follow-up are scheduled for a follow-up visit with their PCP, and at least 75% for a follow-up visit with their PCP or primary care team (“pod”), by implementing the Pod-Card intervention over a period of two months.

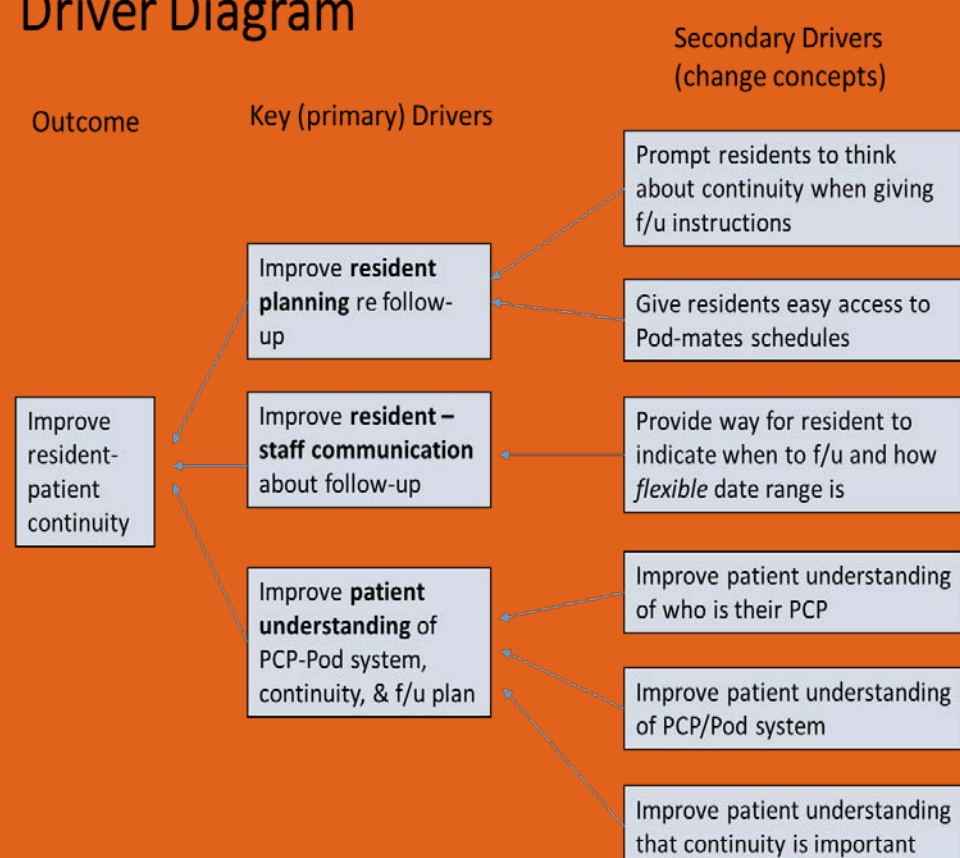
Design/Methods

- QI Project utilizing the Model for Improvement methodology; Prospective cohort study
- During an initial 8-week phase, the Pod-Card intervention was introduced to one randomly selected section of the practice.
- Data from patients who completed the Pod-Card intervention was compared to data from a control group.
- The intervention was then expanded to the entire practice.

Results



Driver Diagram



Conclusions/Lessons Learned

- Results limited by low uptake of the intervention
 - Residents forgetting to use cards (changing habits); Patients not bringing cards to front desk (long lines)
- Control & Intervention groups likely differ in important ways
 - But the sub-group of the controls who made appts or who completed appts may be more comparable
- For patients who have follow-up appts scheduled, using a Pod-Card substantially increases the likelihood that their appointment will be scheduled with their PCP, or with a member of their Pod.
- The Pod-Card does NOT seem to increase the likelihood that the patient's next completed appt will be with their PCP.
- The Pod-Card does substantially increase the likelihood that the patient's next completed appt will be with a member of their Pod rather than with an unrelated resident (75% vs 57%).

Next Steps

- Explore ways to increase uptake of the Pod-Card
- Early introduction to new interns – habit formation
- Greater availability & visibility of cards (in exam rooms?)
- Engage patients separately from residents (signage?)
- Further analyze data to explore differences between patients who complete pod-card process and those who do not. Use information to improve the process.
- Further analyze data to explore differences between patients and residents with high & low continuity. Use this information to develop future interventions.

For Residents, by Residents: Development a Physician Handoff Tool at an University Affiliated Hospital

Siddharth Bhesania, MD MPH; Emdad Ali, MD; Lu Chen, MD MS; Parag Mehta, MD; Stephen Peterson, MD; Todd Simon, MD M.S.Ed.;

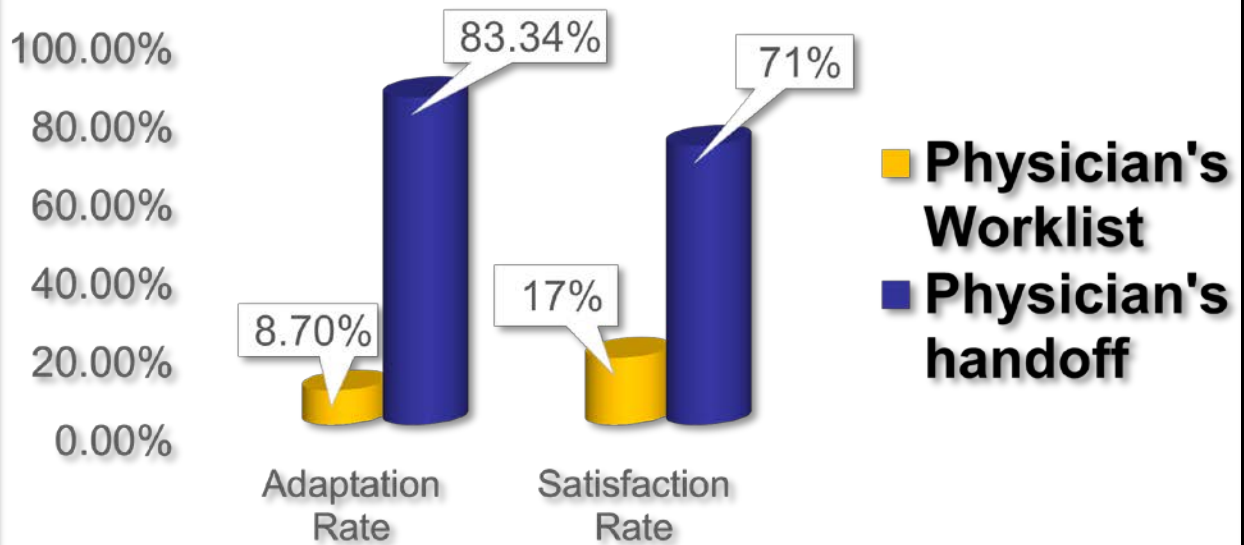
The ripple effect of duty hours restriction has resulted in an increased number of care transitions performed by resident physicians. Both verbal handoff and supplemental documents are vulnerable to errors. The purpose of this work is to describe our experience and the lessons learned in successfully developing a electronic handoff system for resident physicians. It is necessary to develop a handoff system that optimizes the efficient transfer of critical clinical information while minimizes the possibility of errors.

“Physician Worklist” was initially developed to automate electronic handoffs via our Electronic Health Record (EHR). This system was not received well by the residents due to lack of editing capability and need for action items. The leadership of Department of Medicine, residents and CMIO along with IT team decided to improve the existing handoff system. Mutual agreement was reached to use I-PASS as the model of choice and “Physician Handoff” was developed. Through multiple PDSA cycles, incorporating residents input, the final product was implemented and all residents were credentialed by chief residents in Physician Handoff. Anonymous survey was conducted to evaluate satisfaction, adaptation rate, and feedback on the Physician Handoff compared to Worklist. Trained observers evaluated verbal handoff to measure the quality of information received by the incoming residents in the following categories: Illness Severity, Appropriate Chart Review, Patient Information, Code Status, Primary Diagnosis and Situational Awareness.

Adaptation rate of Physician Worklist among residents was at 8.70%, while adaptation rate for Physician Handoff was 83.34%. Satisfaction rate was high for Physician Handoff (7.1 out of 10) and low for Physician Worklist (1.7 out of 10). 83.33% of the residents believe Physician Handoff is more efficient compared to previously used handoff tools. Of the 622 handoffs observed, near perfect handoffs were observed in all evaluated categories except for Primary Diagnosis (439 out of 622 or 70.58% satisfactory handoffs) and Situational Awareness (521 out of 622 or 83.76% satisfactory handoffs).

An efficient handoff system should be time-saving while ensuring accurate and vital patient information is passed on to the receiving residents. Successful adaptation of the physician handoff was facilitated by adequate provider training, integration with EHR and automation of handoff’s update process. The most important element was recognizing and incorporating end-user feedback into the handoff system.

Physician's worklist vs Handoff



Care Team: Internal Medicine (All Facilities)

Illness Severity

Illness Severity: ☐ Stable

Unstable

Watch

Stable

Discharging

Patient Summary

Enter patient summary here

Displaying information for the selected medical service only. [View All](#)

Actions

Enter new action here



DC with PICC line on Ertapenem (q24h). Ask Dr Vatti (MSK radio to review MRI, if BONE BIOPSY would be needed, then request IR for procedure) (Ortho already said they wouldnt do it.

Lee (MD), Tien-Hao | FEB 14, 2018 15:02



Displaying information for the selected care team only. [View All](#)

Situational Awareness & Planning

Enter new comment here

No comments documented.

Displaying information for the selected care team only. [View All](#)

For the Residents, by the Residents: Developing a Physician Handoff Tool at a University Affiliated Hospital

Lu Chen, MD MS; Siddharth Bhesania, MD MPH; Emdad Ali, MD; Parag Mehta, MD; Stephen Peterson, MD; Todd Simon, MD M.S.Ed.;
Department of Medicine, NewYork-Presbyterian Brooklyn Methodist Hospital, New York

Background

- The ripple effect of duty hours restriction has resulted in an increased number of care transitions performed by resident physicians.
- **Both verbal handoff and supplemental documents are vulnerable to errors.**

Objective

- It is necessary to develop a handoff system that **optimizes the efficient transfer of critical clinical information** while **minimizes the possibility of errors.**
- The purpose of this work is to describe our experience and the lessons learned in **successfully developing a electronic handoff system** for resident physicians.

Description of Program

- “Physican Worklist” was initially developed to automate electronic handoffs via our Electronic Health Record (EHR)
- This system was not received well by the residents due to lack of editing capability and need for action items.
- The **leadership** of Department of Medicine, **residents** and **CMIO** along with **IT team** decided to improve the existing handoff system.
- Mutual agreement was reached to use **I-PASS** as the model of choice and “Physician Handoff” was developed.

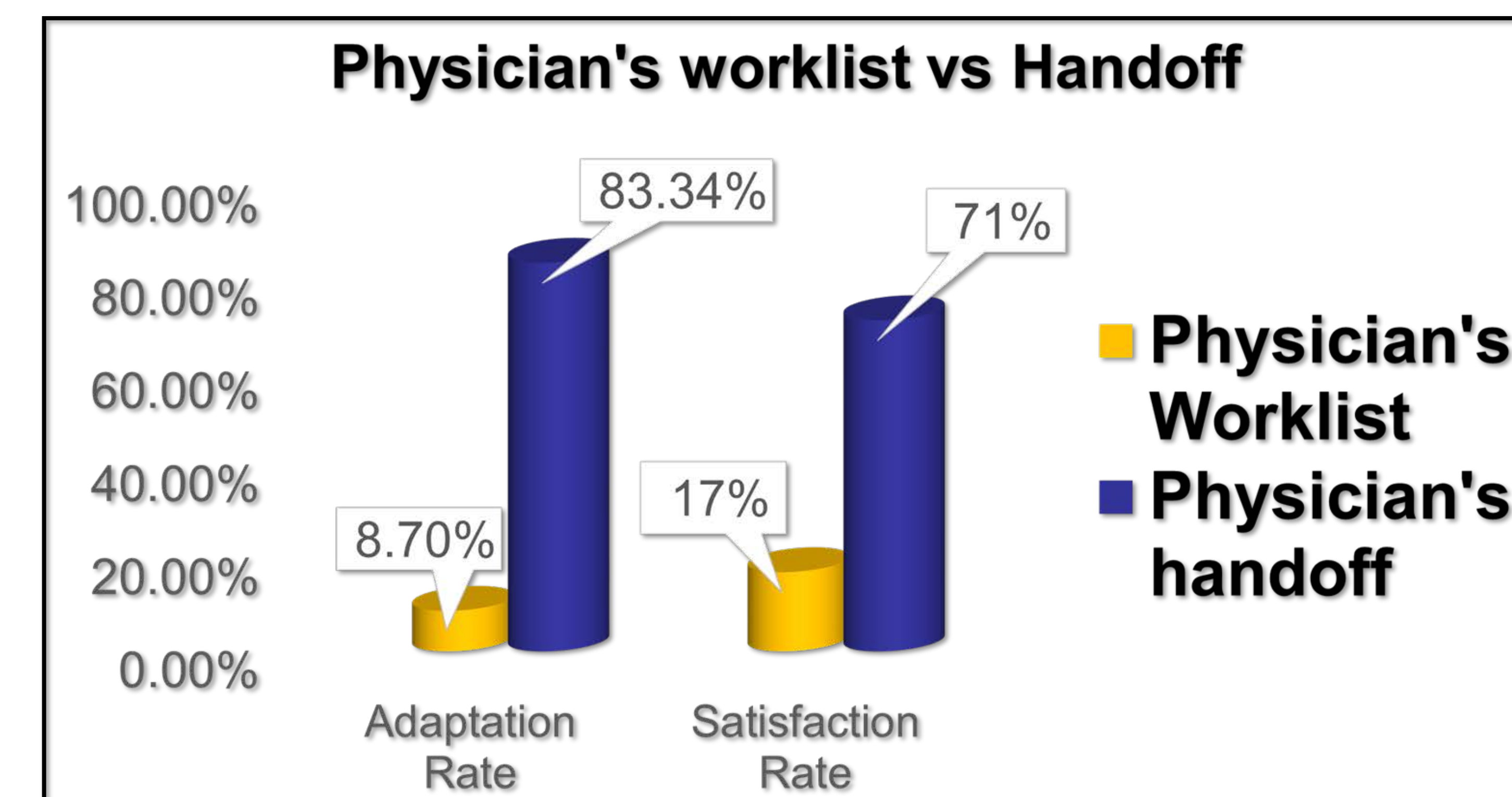
- Through multiple PDSA cycles, incorporating residents input, the final product was implemented and all **residents were credentialed by chief residents** in Physician Handoff.

Measures of success

- Anonymous survey was conducted to evaluate **satisfaction, adaptation rate, and feedback on the Physician Handoff compared to Worklist.**
- Trained observers evaluated verbal handoff to measure the quality of information received by the incoming residents in the following categories: Illness Severity, Appropriate Chart Review, Patient Information, Code Status, Primary Diagnosis and Situational Awareness.

Name	MRN	Location of Pt.	52 Years	M	90.70 KG	PMD Name	Resident's Name	Last	Pre	98.1	165	72	65	18	95														
DNR:																													
Diet: Adult Diet																													
Allergies: lisinopril, Valium																													
Diagnosis: CHEST PAIN SHORTNESS OF BREATH, Chest pain																													
Problems: Acute recurrent sinusitis, Adult hypothyroidism, Benign hypertension, Chest pain, Chronic kidney disease, Clinical depression, DEPRESSIVE DISORDER, NOTELSEWHERE CLASSIFIED, DIABETES MELLITUS, Diabetic neuropathy, Drug-induced complication, Gastritis, Herniated disc, Lower back pain, Major depressive disorder, recurrent episode, Marijuana smoker, Panic attacks																													
Medications: acetaminophen, aspirin, atorvastatin, baclofen, carvedilol, clonazepam, clopidogrel, gabapentin, heparin, hydroALAZINE, insulin aspart, NIFEDIPINE, tramADOL																													
Lab Results:																													
<table border="1"> <tr> <td>135</td> <td>97</td> <td>19</td> <td>207</td> <td>3.5</td> <td>10.8</td> <td>203</td> </tr> <tr> <td>3.8</td> <td>27</td> <td>4.13</td> <td></td> <td></td> <td>33.7</td> <td></td> </tr> </table>																135	97	19	207	3.5	10.8	203	3.8	27	4.13			33.7	
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3.8	27	4.13			33.7																								
Comments:																													
Physician's Worklist																													
Care Team: Internal Medicine (All Facilities)																													
Illness Severity																													
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Situational Awareness & Planning																													
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Physician's Handoff																													

Results



- Of the **622 handoffs observed**, near **perfect handoffs** were observed in all evaluated categories **except for Primary Diagnosis** (439 out of 622 or 70.58% satisfactory handoffs) and **Situational Awareness** (521 out of 622 or 83.76% satisfactory handoffs).

Key Lessons

- An efficient handoff system should be **time-saving while ensuring accurate and vital patient information is passed** on to the receiving residents.
- Successful adaptation of the physician handoff was facilitated by **adequate provider training, integration with EHR and automation of handoff's update process.**
- The most important element was **recognizing and incorporating end-user feedback** into the handoff system.

Title: **Standardization and Implementation of a Pre-Endoscopy Inpatient Transfusion Protocol**

Authors: Shirley Cohen-Mekelburg, Arun Jesudian, Kathleen Kane, Craig Budzynski, Kristina Fernandez, Ruchika Goel, Melissa Cushing

Introduction: Over transfusion is prevalent in our health systems and can lead to higher healthcare costs and risks. Recent studies have revealed the benefits of a conservative rather than liberal transfusion strategy. Blood management programs have recently been developed and implemented on an institution level, to reduce transfusions. However, few have published on endoscopy-specific protocols. We aimed to develop an inpatient pre-endoscopy transfusion initiative at New York Presbyterian Hospital to standardize practice and reduce transfusions.

Methods: We developed evidence based standard inpatient pre-endoscopy transfusion guidelines as a multidisciplinary collaboration with transfusion medicine, gastroenterology, hematology and anesthesiology at both Cornell and Columbia campuses. An electronic dashboard was created to follow transfusion frequency and trends among inpatients undergoing an endoscopic procedure. Outpatients, pediatric patients and any patients undergoing advanced endoscopic procedures were excluded. The primary objective was to create a standard protocol. Secondary objectives included implementation of the protocol and assessment of adherence using a PDSA cycle. Pre- and post-intervention transfusion frequency and inappropriate transfusion frequency were also documented.

Next step:

1. Implementation at Weill Cornell
2. Implementation at Columbia
3. Compare pre- and post-intervention appropriate and inappropriate transfusions
4. Reconsider methods for improving adherence

References:

Sadana, Divyajot, Ariella Pratzer, Lauren J. Scher, Harry S. Saag, Nicole Adler, Frank M. Volpicelli, Moises Auron, and Steven M. Frank. "Promoting high-value practice by reducing unnecessary transfusions with a patient blood management program." *JAMA internal medicine* 178, no. 1 (2018): 116-122.

Villanueva, Cándid, Alan Colomo, Alba Bosch, Mar Concepción, Virginia Hernandez-Gea, Carles Aracil, Isabel Graupera et al. "Transfusion strategies for acute upper gastrointestinal bleeding." *New England Journal of Medicine* 368, no. 1 (2013): 11-21.

Standardization and Implementation of a Pre-Endoscopy Inpatient Transfusion Protocol

Shirley Cohen-Mekelburg, Arun Jesudian, Kathleen Kane, Craig Budzynski, Kristina Fernandez,
Ruchika Goel, Melissa Cushing

Background:

- Over transfusion is prevalent in our health systems and can lead to higher healthcare costs and risks.
- Recent studies have revealed the benefits of a conservative rather than liberal transfusion strategy.
- Blood management programs have recently been developed and implemented on an institution level, to reduce transfusions.

Aims:

- We aimed to develop an inpatient pre-endoscopy transfusion initiative at New York Presbyterian Hospital to standardize practice and reduce transfusions.

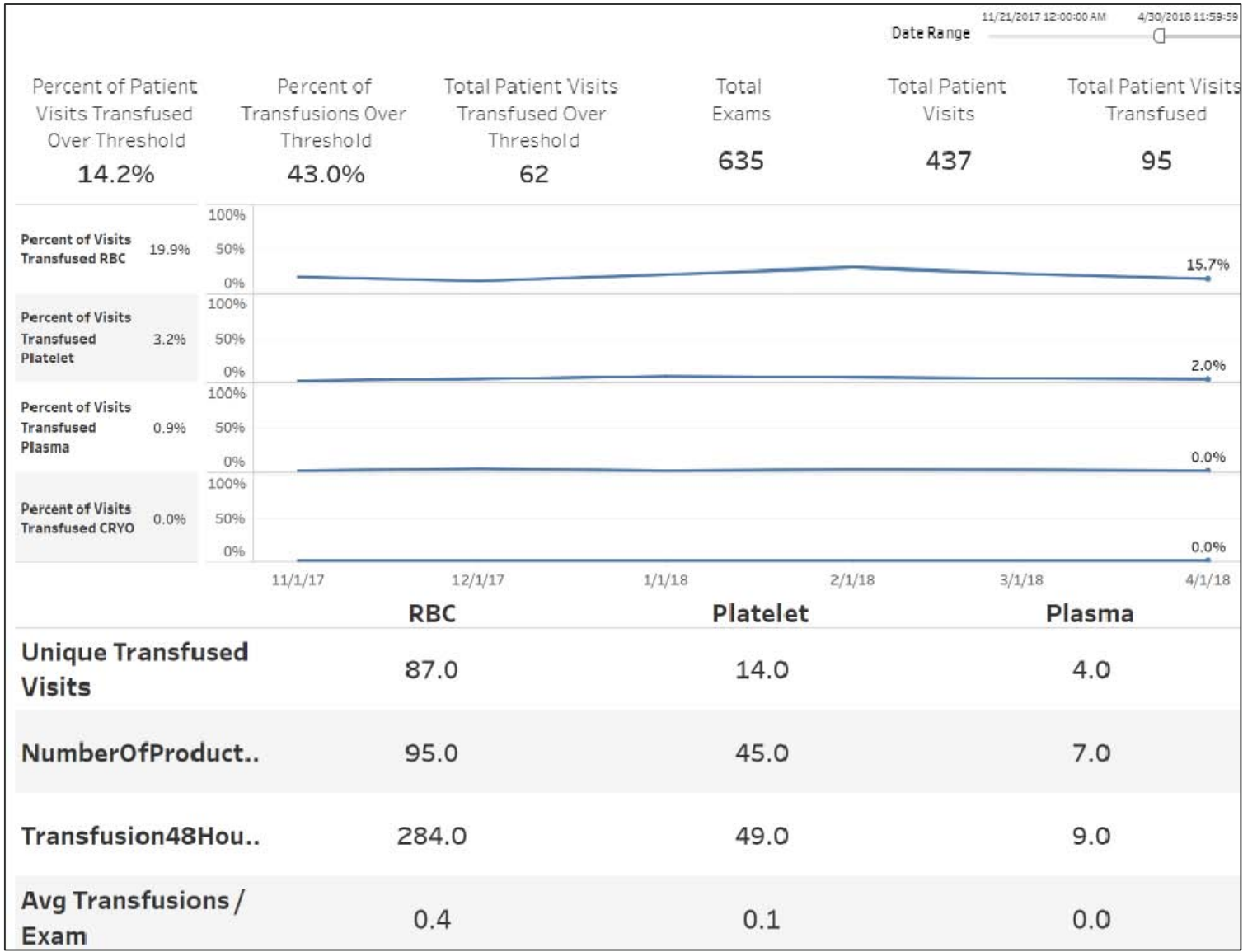
Objectives:

- The primary objective was to create a standard protocol.
- Secondary objectives included:
 1. Implementation of the protocol and assessment of adherence using a PDSA cycle.
 2. Monitoring of pre- and post-intervention transfusion frequency and inappropriate transfusion frequency.

Figure 1. Standard Transfusion Protocol

NewYork-Presbyterian				
Transfusion Guidelines for Patients Undergoing Endoscopy:				
Transfuse :	Red Blood Cells	Platelets	Plasma* (each unit of plasma=200 mL)	Cryoprecipitate
<u>In Adults:</u>	1 UNIT of RBCs	1 UNIT of apheresis platelets	15 mL/kg	1 dose of cryoprecipitate (5 single pooled units)
<u>In Pediatrics:</u>	10-15 mL/kg	10-15 mL/kg	10-15 mL/kg	1 unit / 10 kg of body weight; one "dose" = 5 units
<u>Indications:</u>	•Hgb < 7 g/dL •Hgb < 8 g/d (with cardiovascular disease) •Acute, rapid hemorrhage	• Platelet count < 50,000/ul	•INR > 2.5	•Fibrinogen < 150 mg/dL
Reassess prior to subsequent transfusion(s).				
*Consider 4-factor PCCs and Vit K for urgent reversal of Vitamin K antagonists instead of plasma. For further detail, please reference NYP guideline: Reversal of Antithrombotic Therapy for Life-Threatening Bleeding Guideline for Life-Threatening Bleeding Caused by Antithrombotics or Emergent Surgery				

Figure 2. Baseline Data Using a Dashboard



Methods:

- We developed evidence based standard inpatient pre-endoscopy transfusion guidelines as a multidisciplinary collaboration with transfusion medicine, gastroenterology, hematology and anesthesiology at both Cornell and Columbia campuses.
- An electronic dashboard was created to follow transfusion frequency and trends among inpatients undergoing an endoscopic procedure.
- Outpatients, pediatric patients and any patients undergoing advanced endoscopic procedures were excluded.

Next step:

1. Implementation at Weill Cornell
2. Implementation at Columbia
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1. Sadana, Divyajot, Ariella Pratzner, Lauren J. Scher, Harry S. Saag, Nicole Adler, Frank M. Volpicelli, Moises Auron, and Steven M. Frank. "Promoting high-value practice by reducing unnecessary transfusions with a patient blood management program." JAMA internal medicine 178, no. 1 (2018): 116-122.
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Department of Medicine Quality Improvement and Patient Safety Abstract

Glucose - the Next Vital Sign: An Educational Intervention to Improve Glycemic Control on Medicine Units at NYP/WC Campus

John Falcone, MD, Felicia A. Mendelsohn Curanaj, MD, Jane Jeffrie Seley, DNP MPH, Naina Sinha Gregory, MD

Statement of the Problem:

As the number of people with diabetes reaches epidemic proportions worldwide, the percentage of hospitalized patients with diabetes and/or hyperglycemia continues to multiply. Studies have linked blood glucose variability with poor clinical outcomes and mortality in the acute care setting. According to the American Diabetes Association (2018) *Standards of Medical Care in Diabetes*, a target blood glucose range of 140-180 mg/dL is recommended for most critically ill and non-critically ill hospitalized patients. Despite the available evidence, there is a lack of comprehensive education for prescribers and nurses to learn the importance of and the steps needed to achieve the recommended inpatient glycemic targets. As a result, clinicians continue to carry the misconception that there is little detrimental effect of short-term malglycemia, potentially resulting in providing sub-optimal diabetes care.

Objective: To improve the percentage of in target blood glucose readings (70-180 mg/dL) on 5 medicine units (11SA/B, 5N, 5C, 5W, 4N) at New York Presbyterian/Weill Cornell (NYP/WC) by 3% from July through December 2018 compared to July through December 2017.

Project Design:

The project will be conducted in three phases. Phase 1 is a planning stage that will begin by identifying pre-intervention rates of hypoglycemia, hyperglycemia and in target blood glucose levels for each medicine unit by accessing the Point of Care Testing (POCT) Remote Automated Laboratory System (RALS) blood glucose database. Educational and support materials will be created for prescribers (medicine housestaff, hospitalist attendings, physician assistants, and nurse practitioners). Educational interventions will consist of a “live” didactic lecture given to prescribers to raise awareness of the importance of inpatient glycemic control and improve knowledge and skills on inpatient management of diabetes, and a concise pocket card to help guide prescribers on day-to-day glucose control. Pre- and post-education assessments will be developed to gauge prescriber knowledge before and after the intervention. Along with asking each unit to designate one RN to join the Diabetes Champions Committee, a mandatory online teaching module will be designed to educate RNs on caring for patients with diabetes. Lastly, we will create lapel buttons to raise awareness, stating “Glucose: The Next Vital Sign.”

The second phase will consist of carrying out the interventions. Prescribers will receive didactic training and will complete a pre- and post-lecture knowledge assessment. RNs will complete an online education module in the form of a game, which will consist of a series of 10 questions and correct answer explanations. Glycemic management pocket cards will be distributed to prescribers and lapel buttons will be distributed to all clinical staff on the 5 units. Percentage of in target blood glucose levels, hypo- and hyperglycemia will be evaluated monthly for each unit. This data will be displayed on posters in workrooms on each of the 5 units. Each month, the unit with the greatest improvement from the previous month will be rewarded with a breakfast as a means to continually engage participants and encourage best diabetes management practices.

In the third and final phase, we will calculate overall rates of hypo-, hyperglycemia and in target blood glucose levels for each unit from July through December 2018, analyze the glucose data as well as the results of the pre- and post-education knowledge assessments, and share our conclusions with the Department of Medicine.

Results:

Outcome Measure: Assess the percentage of in target blood glucose levels, hypo- and hyperglycemia on 5 medicine units at NYP/WC from 7/1/2018 through 12/31/2018 compared with those from 7/1/2017 through 12/31/2017.

		New York Presbyterian- Weill Cornell Medicine Units January 1 – December 31, 2017									
Blood Glucose (mg/dL)		G4N		G5N		G5C		G5W		11S	
		n	%	n	%	n	%	n	%	n	%
	0 - 69	167	1.06	189	1.56	232	1.72	318	2.42	399	2.01
	70 -180	9632	60.97	7805	64.33	8898	65.83	8538	64.9	12590	63.27
	>180	5998	37.97	4138	34.11	4387	32.46	4300	32.68	6910	34.73

Process Measures:

- Change in score from the pre- to post-education knowledge assessment for prescribers
- Pre-test scores from online module assessment for RNs
- Month by month analysis of percentage of in target blood glucose levels, hypo- and hyperglycemia

Balancing Measures:

- To ensure that the rates of hypo- or hyperglycemia do not increase as an unintended consequence of increasing in target blood glucose levels
- To evaluate any perceived burden on prescribers and RNs as a result of the new glycemic control initiatives

Conclusions: With the implementation of our interventions, we propose to improve the percentage of in target blood glucose levels on 5 medical units at NYP/WC by 3% from July to December 2018 compared to the same period of time in 2017.

Glucose – The Next Vital Sign: An Educational Intervention to Improve Glycemic Control on Medicine Units at NYP/WC Campus

John Falcone MD¹, Felicia A. Mendelsohn Curanaj MD²
Jane Jeffrie Seley DNP MPH¹, Naina Sinha Gregory MD²
NewYork-Presbyterian Hospital, New York, NY¹
Weill Cornell Medicine, New York, NY²



Background

- In 2017 the CDC estimated that 30.3 million Americans of all ages, that is 9.4% of the US population, have diabetes.
- As the prevalence of diabetes increases, so does the percentage of hospitalized patients with diabetes and/or hyperglycemia, estimated to be ~ 38% of patients.
- Recent studies have linked blood glucose variability with poor clinical outcomes and mortality in the acute care setting. The American Diabetes Association (2018) *Standards of Medical Care in Diabetes* recommends a target blood glucose range of 140 – 180 mg/dL for most hospitalized patients.
- There remains a lack of comprehensive education for prescribers and nurses to learn the importance of and the steps needed to achieve the recommended inpatient glycemic targets.
- As a result, clinicians continue to carry the misconception that there is little detrimental effect of short-term malglycemia, resulting in clinical inertia and sub-optimal diabetes care.

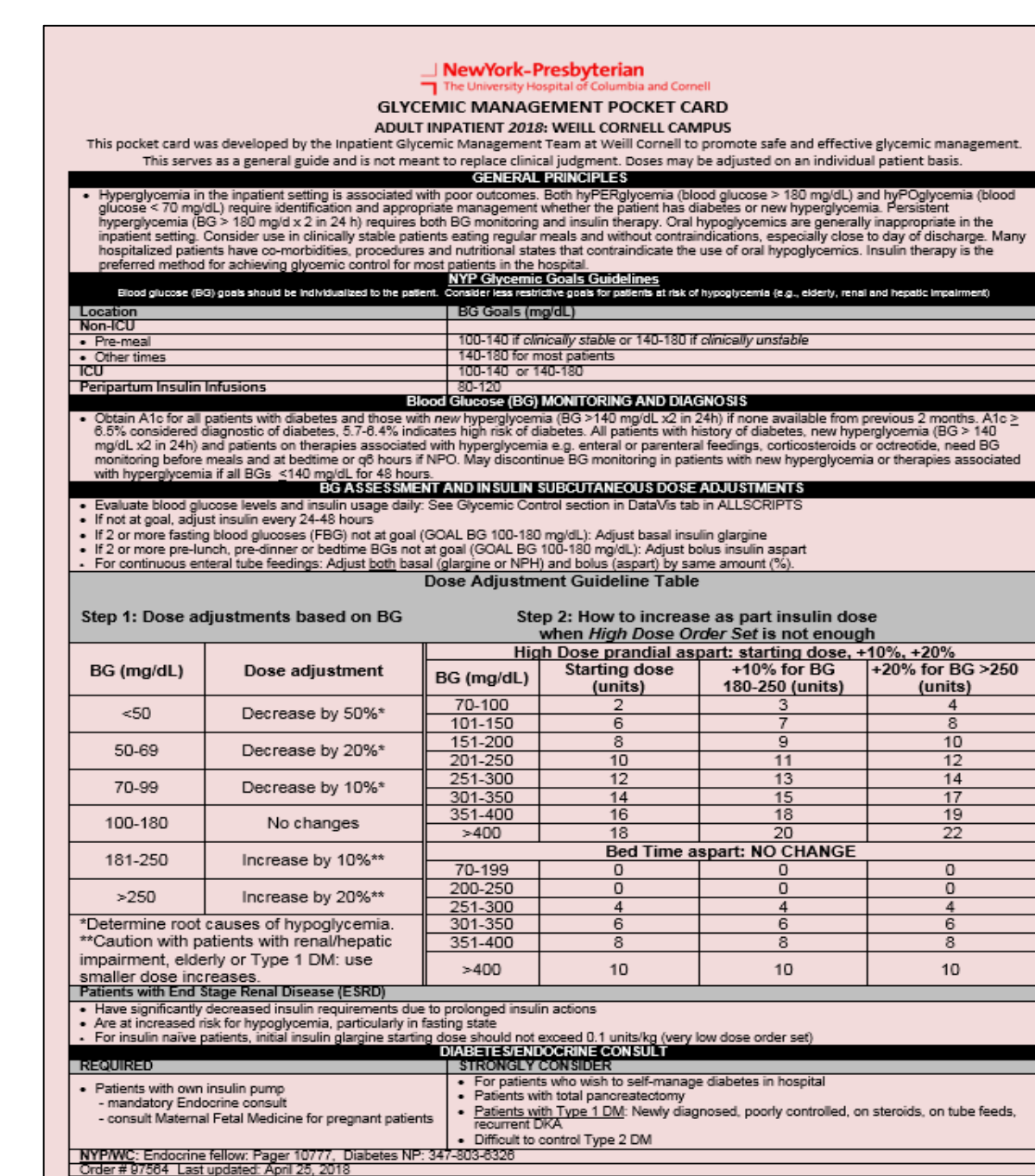
Aim

To improve the percentage of in target blood glucose readings (70 – 180 mg/dL) on 5 medicine units (11SA/B, 5N, 5C, 5W, 4N) at NewYork-Presbyterian/ Weill Cornell Medical Center (NYP/WC) by 3% from July through December 2018 compared to July through December 2017.

Methods



A. Figure 1A: Lapel Pin
Pins to be distributed to all employees on the 5 units to raise awareness



B. Figure 1B: Glycemic Management Pocket Card
Comprehensive pocket cards to for prescribers to guide day-to-day glucose management strategies

Process Map

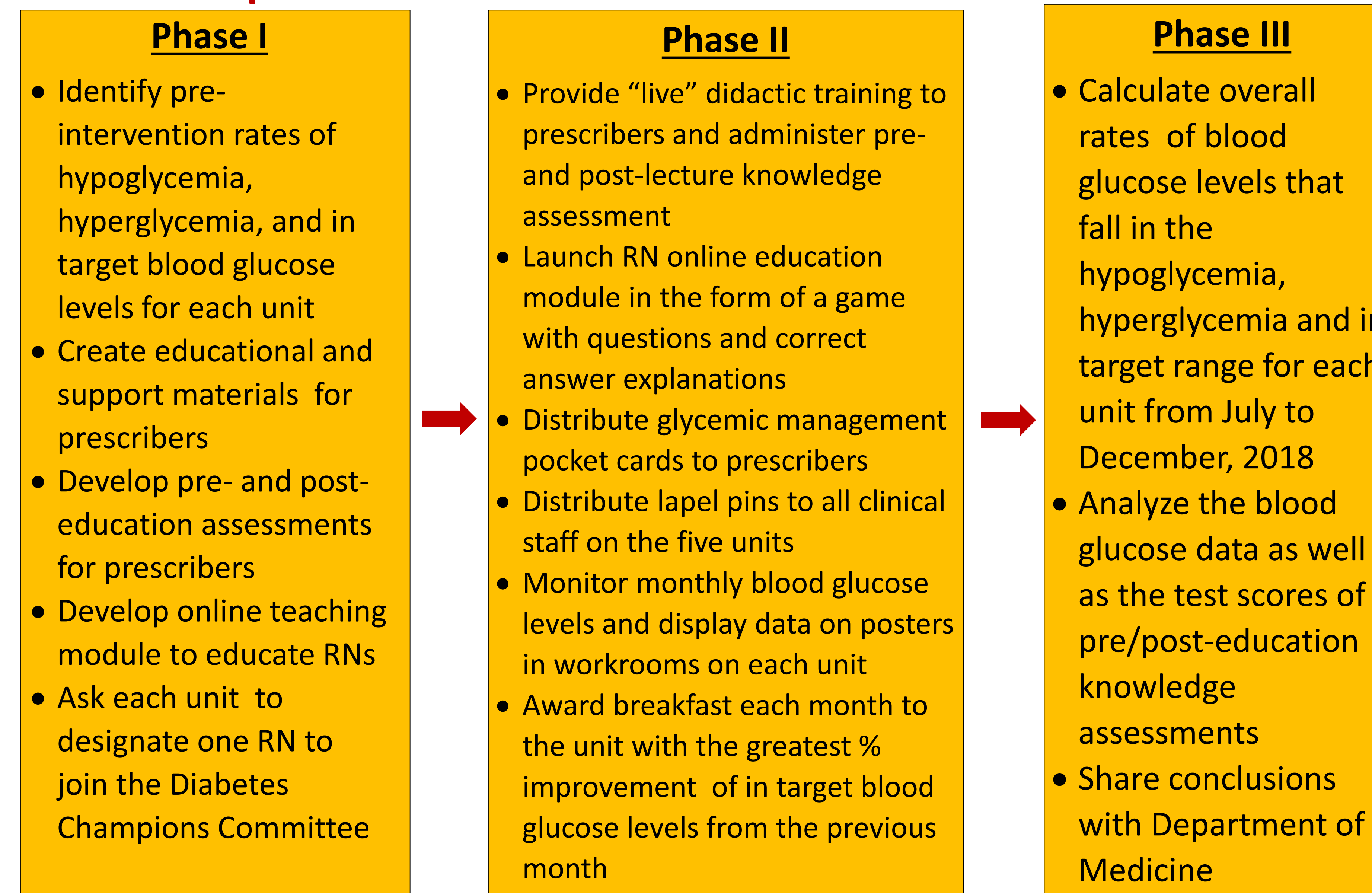


Figure 2: Online Teaching Module for RNs
Interactive module with questions and correct answer explanations to educate RNs on caring for patients with diabetes

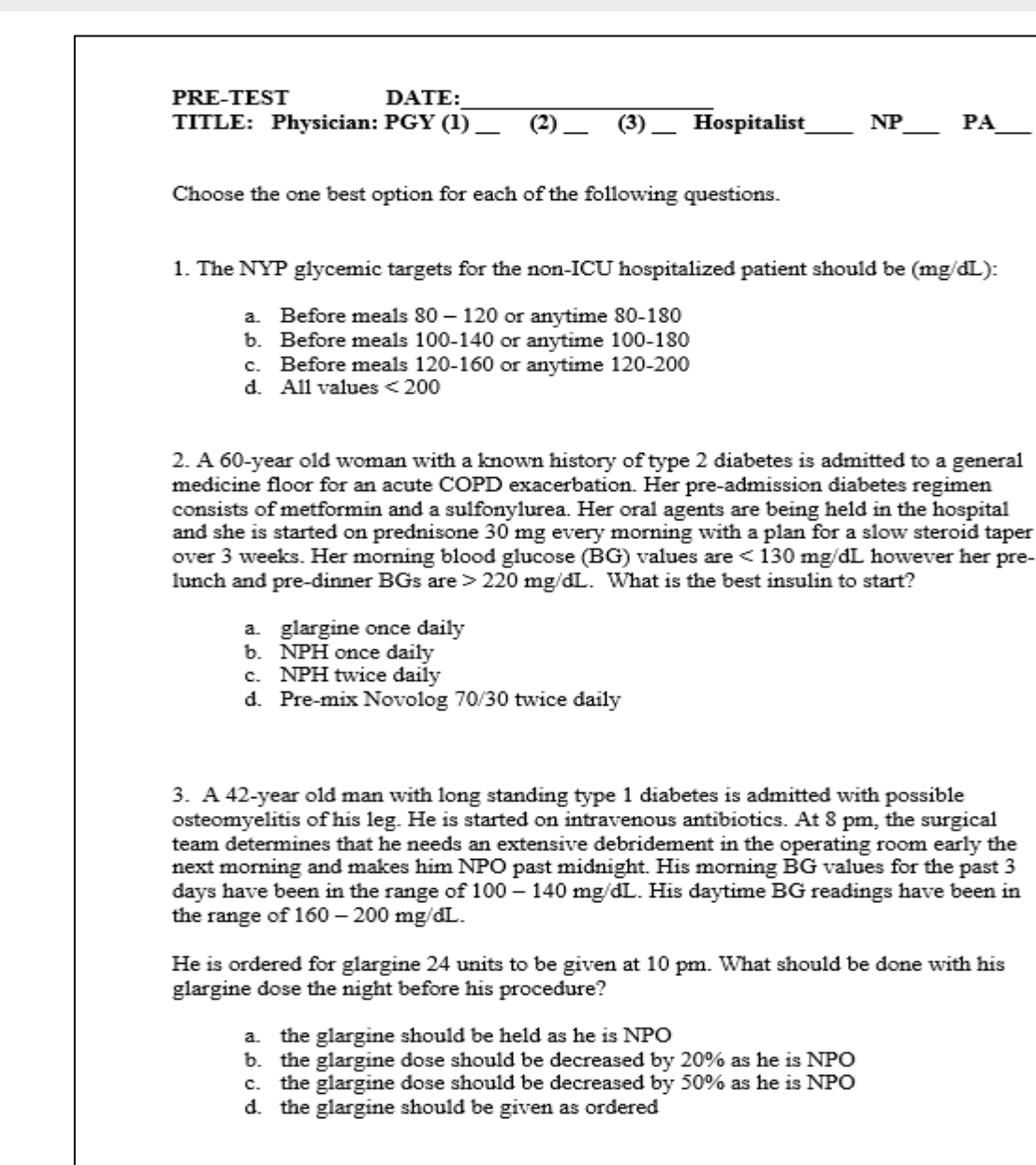


Figure 3: Pre- and Post-Education Assessments for Prescribers
Assessment for medicine housestaff, hospitalist attendings, PAs, and NPs to gauge prescriber knowledge pre/post educational intervention

Preliminary Data

NewYork Presbyterian/ Weill Cornell Medicine Units January 1 – December 31, 2017												
Blood Glucose (mg/dL)		G4N		G5N		G5C		G5W		11S		
		n	%	n	%	n	%	n	%	n	%	
		0 - 69	167	1.06	189	1.56	232	1.72	318	2.42	399	2.01
		70 -180	9632	60.97	7805	64.33	8898	65.83	8538	64.9	12590	63.27
	>180	5998	37.97	4138	34.11	4387	32.46	4300	32.68	6910	34.73	

Figure 4: Number and percentage of blood glucose levels that fall in the hypoglycemia, hyperglycemia and in target range on each of the five medicine units from January 1 to December 31, 2017

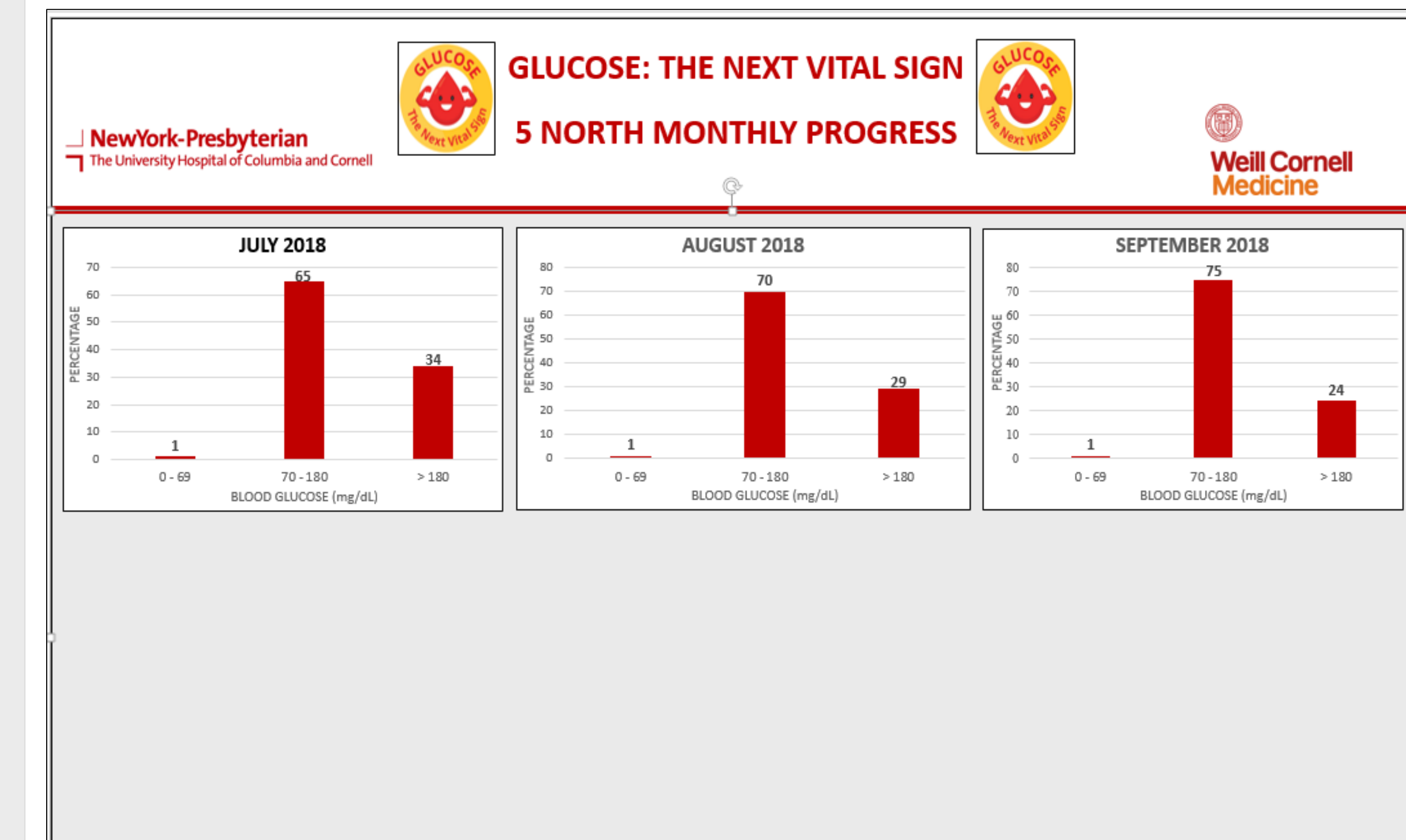


Figure 5: Unit Specific Progress Poster
A poster will be displayed in workrooms on each unit and will be updated each month with the unit's blood glucose data

Outcome Measure:

- Assess the percentage of blood glucose levels that fall in the hypoglycemia, hyperglycemia and in target range on five medicine units at NYP/WC from 7/1/2018 through 12/31/2018 compared with those from 7/1/2017 through 12/31/2017

Process Measures:

- Change in test scores from the pre- to post-education knowledge assessment for prescribers
- Pre-test scores from online module assessment for RNs
- Month by month analysis of percentage of blood glucose levels that fall in the hypoglycemia, hyperglycemia and in target range.

Balancing Measures:

- To ensure that the rates of hypo- or hyperglycemia do not increase as an unintended consequence of increasing in target blood glucose levels
- To evaluate any perceived burden on prescribers and RNs as a result of the new glycemic control initiatives

Conclusions

We propose that targeted educational interventions across inter-disciplinary teams that care for patients on five medicine units at NYP/WC will provide the skills and knowledge needed to improve inpatient glycemic control.

Selected References:

- American Diabetes Association. 14. Diabetes Care in the hospital: Standards of Medical Care in Diabetes – 2018. Diabetes Care 2018;41(Suppl. 1):S144-S151.
- Corsino, L., Dhataria, K., & Umpierrez, G. (2014). Management of diabetes and hyperglycemia in hospitalized patients.

QUALITY IMPROVEMENT ABSTRACT

Name: Amy Shaw (Geriatric Fellow), Eleni Footman (Geriatric Fellow), Neha Naik (Geriatric Fellow), Parham Khalili (Geriatric Fellow), Sharda Ramsaroop, MD (Faculty Sponsor)

Primary contact: Amy Shaw

Division: Geriatrics and Palliative Care Medicine

Project Title: After-Hours Telephone Calls from Community-Dwelling Patients of an Academic Geriatric Medicine Clinic

Statement of the Problem:

Access to after-hours communication remains important for patient-centered care. Despite this, there are few published studies on the after-hours needs of community-dwelling older adults and approaches to triage. In the New York Presbyterian-Irving S. Wright Center for Aging, clinical fellows take telephone calls from and about patients of the practice on nights, weekends, and holidays. Often these encounters require synthesis of information from the electronic medical record, patients, available caretakers and friends or family. Information on the scope of care needs among the clinic's population would assist in refining triage approaches and training fellows and other clinical staff.

Objective/Aim of the Study:

This study has two aims: (1) to explore after-hours care needs of community-dwelling older adult patients of an academic geriatrics clinic, and (2) to identify opportunities for improvement in triaging and responding to these after-hours phone calls.

Project Design/Methods:

Four clinical geriatric medicine fellows recorded information from after-hours phone calls at an academic geriatrics practice from November 13, 2017 to January 31, 2018, and from March 23, 2018 to April 26, 2018. After-hours calls were defined as telephone calls received on nights (5 p.m. to 9 a.m.), weekends, and holidays. Recorded data included time of call, reason for call, relationship of caller to patient, severity of symptoms (if applicable), and management decision. Plan-Do-Study-Act (PDSA) cycle methodology was used at monthly meetings to improve standardization of the data collection process and improve categorization of medical symptoms and other care needs. Data was entered into a shared online data system. Descriptive analysis was applied to the collected data.

Results:

Fellows recorded 334 calls total on 84 days over the study period. Majority of calls were from family members or caregivers than from patients themselves. 183 (54.8%) of all calls were for symptoms, of which, 42.1% were classified as severe. The three most frequent categories of symptoms were gastrointestinal (25.6%), cardiovascular (20.9%) and neurologic (14.0%), respectively. Fellows recommended immediate evaluation at an emergency department or urgent care facility for 30.0% of symptom-related calls and otherwise were able to manage symptoms overnight with close follow-up in the clinic or by a home care agency for example. Factors for referral to the emergency department or urgent care center included the need for a

time sensitive clinical evaluation or testing, inability of caregiver to safely manage the patient overnight, and patient or caregiver preference.

Conclusions:

This study highlights the main reasons for and outcomes of after-hours phone calls at an academic outpatient geriatrics practice. Factors complicating the care of these patients include multimorbidity, polypharmacy, cognitive and functional impairment, social isolation, coordination of care with multiple caregivers, and goals of care. Importantly, fellows were able to manage 70% of symptom-related phone calls without sending patients to an urgent care facility or emergency department. Future educational opportunities could focus on the assessment of symptom severity and triage decision-making, particularly with respect to common types of symptoms presenting after-hours in a geriatric clinic.

Problem Statement

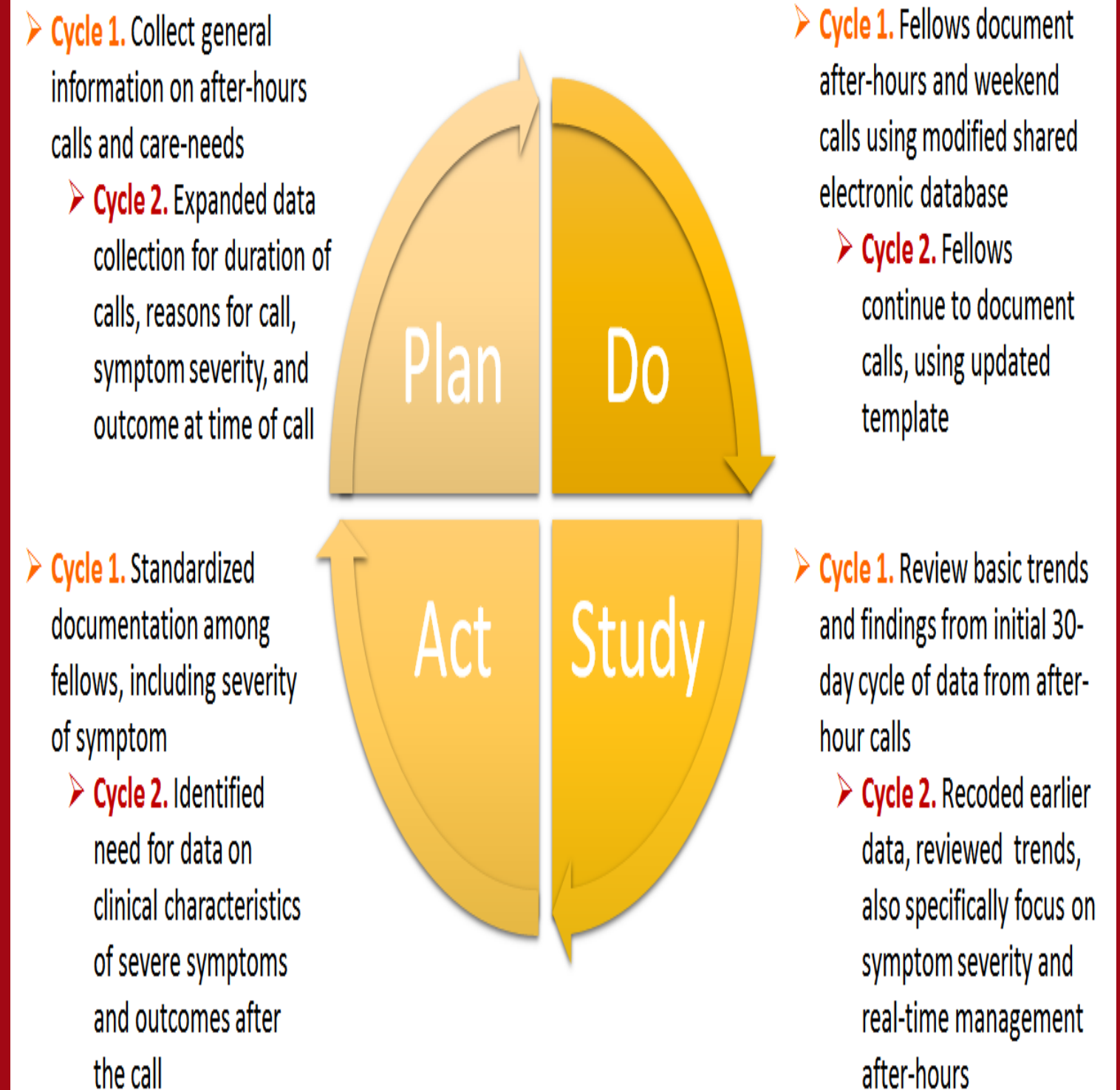
- Access to after-hours communication remains important for patient-centered care
- There is a paucity of literature on after-hours needs of community-dwelling older adults and evidence-based approaches to telemedicine triage

Objectives

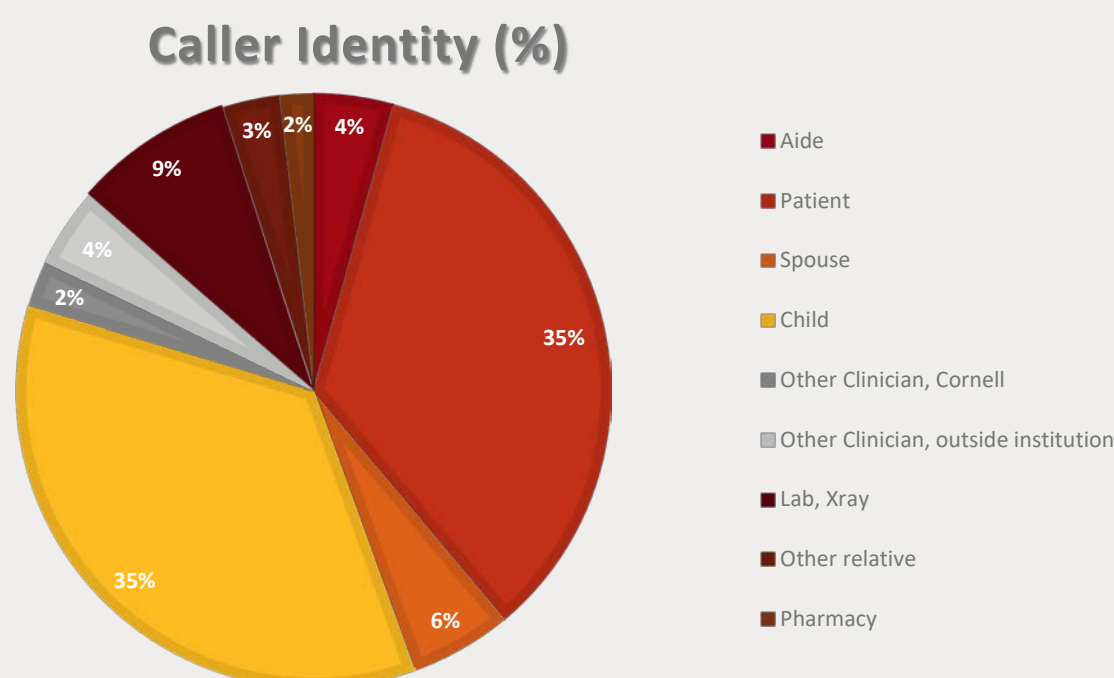
1. To explore after-hours care needs of community-dwelling older adult patients of an academic geriatrics clinic
2. To identify opportunities for improvement in triaging and responding to these after-hours phone calls

Methods

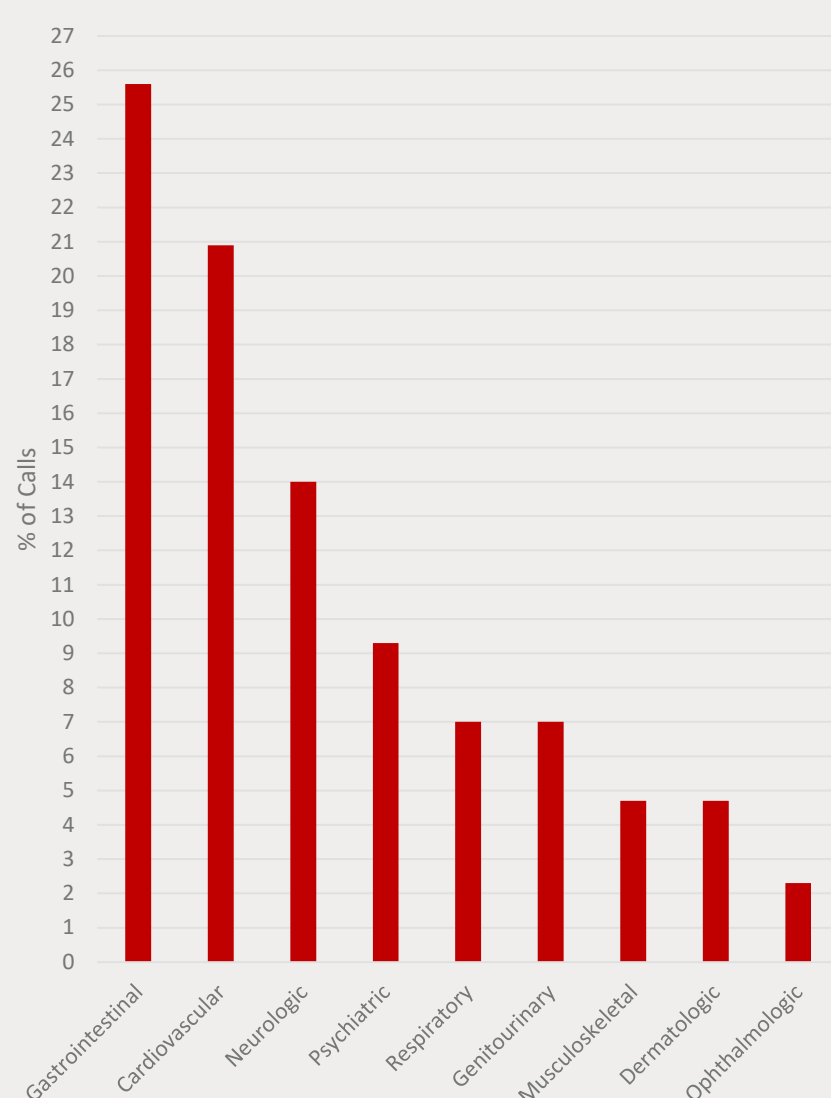
- Geriatric medicine fellows recorded information from after-hours phone calls ($n=334$) for 2 cycles between November 13, 2017 and April 26, 2018
- Recorded data included time of call, reason, relationship of caller to patient, severity of symptoms, and outcome
- Plan-Do-Study-Act (PDSA) cycle methodology was used at monthly meetings to refine data collection
- Descriptive analysis was applied to the collected data



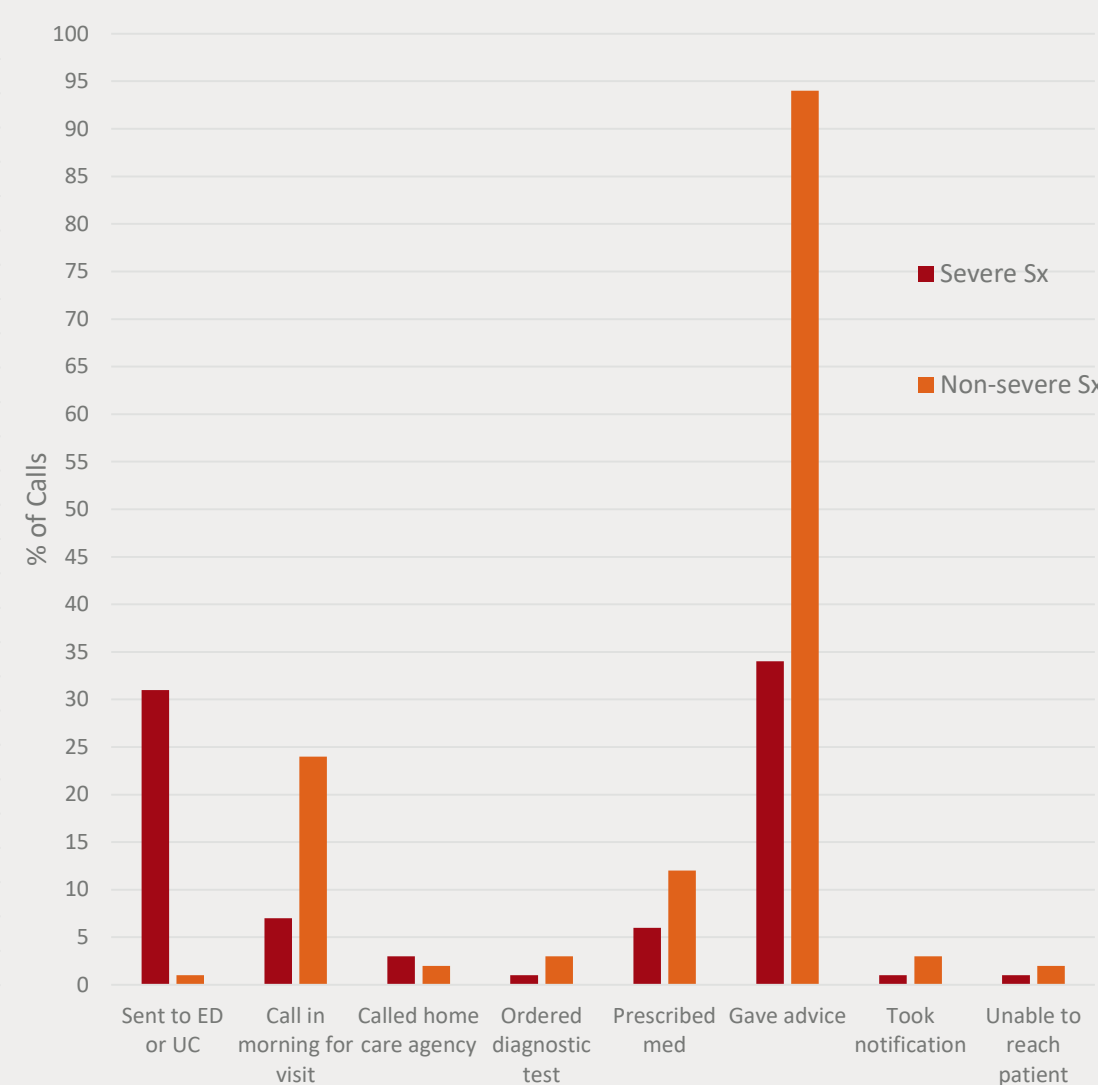
Results:



Symptom Categories



Management Decision by Symptom Severity



Results:

- 183 calls (54.8%) were for symptoms with 77 calls (42.1%) classified as severe symptoms
- 70% of symptom-related calls were managed at home

Conclusions/Lessons Learned

- This project highlighted demographics and common reasons for after-hours phone calls
- Decision-making in our *geriatric* population is influenced by functional impairment, multi-morbidity, polypharmacy, cognitive impairment, social isolation, coordination of care with caregivers, and goals of care

Next Steps

- Development of a symptom-based algorithm to improve healthcare delivery for geriatric patients
- Additional training for clinical fellows on telemedicine communication and triage based on common after-hours phone call scenarios

Name (If you are a resident, fellow or student, please also include the name of your faculty spon...

George D. Rodriguez, PharmD

Primary contact email (information regarding status of submission and the poster session logistic...

gdr9005@nyp.org

Division

Antimicrobial Stewardship Program | NewYork-Presbyterian Queens

Project Title

Implementing an Outpatient Antibiotic Stewardship Program at 5 Outpatient Practices: Outcomes and Future Direction

Statement of the Problem: Should describe the context and importance of the study

An estimated 30% of all antibiotics prescribed outpatient are considered inappropriate, with upper respiratory infections (URIs) accounting for the most common diagnosis. In 2016, the Center for Disease Control and Prevention (CDC) published the Core Elements of Outpatient Antibiotic Stewardship.

Objective/Aim of the study

The inpatient Antibiotic Stewardship Program (ASP) at NewYork-Presbyterian Queens was awarded a two-phase grant (along with other NYC institutions) to investigate current outpatient practices and implement a safe and effective outpatient ASP.

Project Design/Methods: Should include a description of the methods used including study design,...

A total of five-outpatient practice sites were selected for inclusion based on their volume of URIs. For Phase I, a randomized, retrospective, 30-chart abstraction was conducted at each site for patients diagnosed with a URI per ICD-10 (Table 1) during Oct 2015 and Mar 2016. Physician surveys were performed to understand perspectives towards antibiotics and stewardship. Lastly, champions were appointed to serve as ASP liaisons at their respective sites. For Phase II, multiple initiatives were proposed/employed based on Phase I data results (Figure 2). Patient surveys were conducted to understand the antibiotic perspective from the patient level.

Results: Should describe the results in sufficient detail to support the conclusions. Outcome,...

Overall antibiotic prescribing for URIs based on the randomized chart abstraction was 49% (Table 1). Azithromycin was the most commonly prescribed antibiotic (Figure 2). Provider surveys suggested patient age and number of comorbidities influenced prescribing, while patient demand/satisfaction did not. All proposed initiative were implemented with the exception of a clinical decision support tool. A reduction in antibiotic prescribing for URIs (based on ICD-10 code) was observed from 2016 to 2017 (Figure 4).

Conclusions: Should state the implications of the findings for clinical practice, research, educa...

Outpatient antibiotic stewardship programs require a multi-disciplinary approach with support from appropriate leadership. Baseline evaluations should be performed to identify current site practices, provider prescribing practices, as well as provider input in regards to stewardship initiatives. Further investigation is warranted to determine the effect on patient outcomes, antibiotic resistance, and expansion to other disease states.

Table I. Phase I Antibiotic Prescribing Results by Demographic and Site

	Antibiotic Prescribed (NYPQ n=152 charts)	
	Yes (%)	No (%)
Total Sample	74 (49)	78 (51)
Ambulatory Care Center	13 (43)	17 (67)
Bayside Primary Care	22 (73)	8 (27)
Center for Dev. Disabilities	12 (40)	18 (60)
Jackson Heights Family Health Center	14 (46)	16 (54)
Specialty Care Center	13 (40)	19 (60)
Patient Age		
18-39 years	24 (46)	28 (54)
40-59 years	25 (42)	35 (58)
60 years or older	25 (63)	15 (37)
Patient Language		
English	63 (52)	58 (48)
Spanish	7 (35)	13 (65)
Other	4 (36)	7 (64)
Patient Sex		
Female	40 (48)	44 (52)
Male	34 (50)	34 (50)
Patient Diagnosis (ICD-10)		
J06.9 Acute URI	12(21)	44 (79)
J02 Acute Pharyngitis	6 (38)	10 (62)
Acute Sinusitis	17 (71)	7 (29)
Acute Bronchitis	25 (78)	7 (22)

Patient Comorbidities		
0	11 (52)	10 (48)
1	22 (53)	20 (47)
2+	41 (46)	48 (54)

Figure 1. Phase I Antibiotic Prescribing Results by Type and Duration

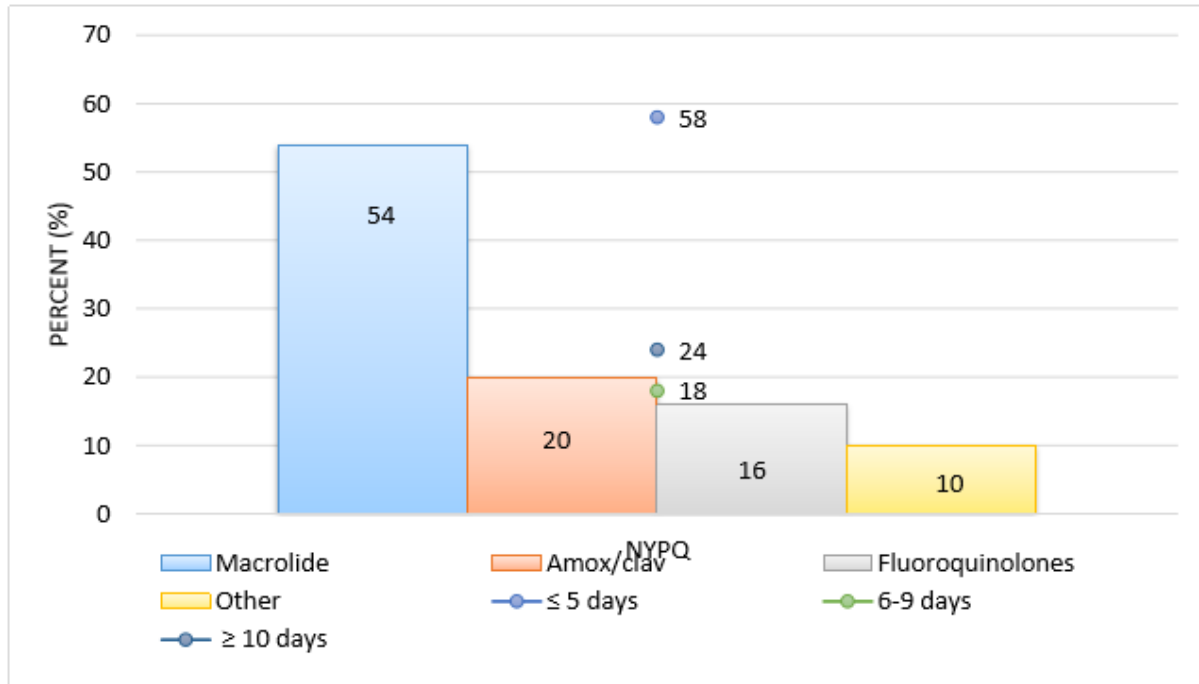
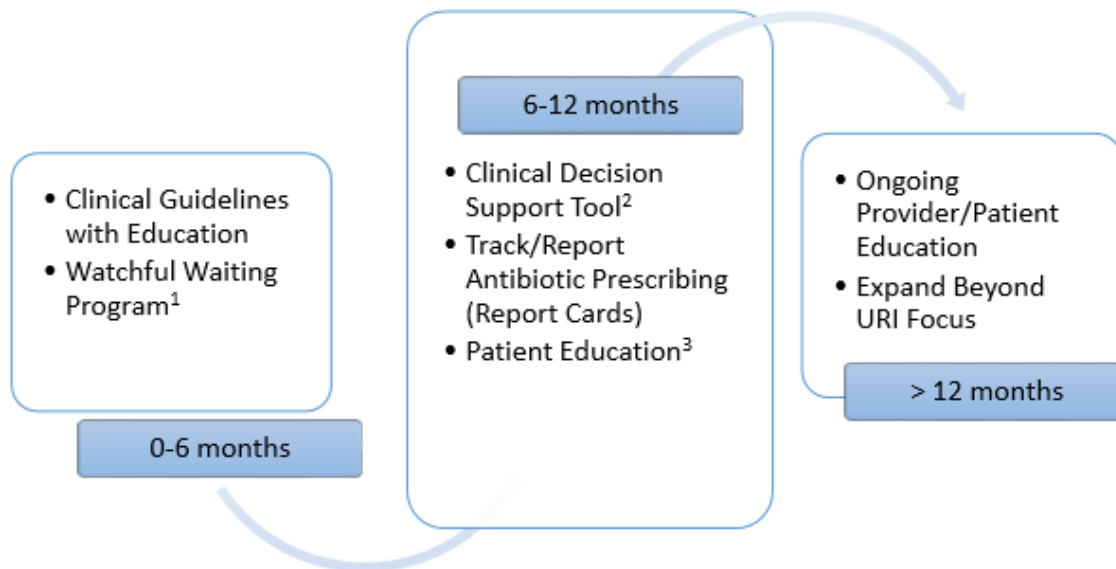


Figure 2. Phase II Action Plan Based on CDC Core Elements



1. Program that allows providers to delay prescribing while a member of the OASP contacts the patient within 48 hours after the visit to assess symptoms
2. Hard stop alert within EMR triggered when antibiotics are ordered for a URI
3. Live seminars, one-on-one in waiting room, and CDC Get Smart brochures

Figure 3. Phase II URI Antibiotic Prescribing Data (June 2016 to Dec 2017)

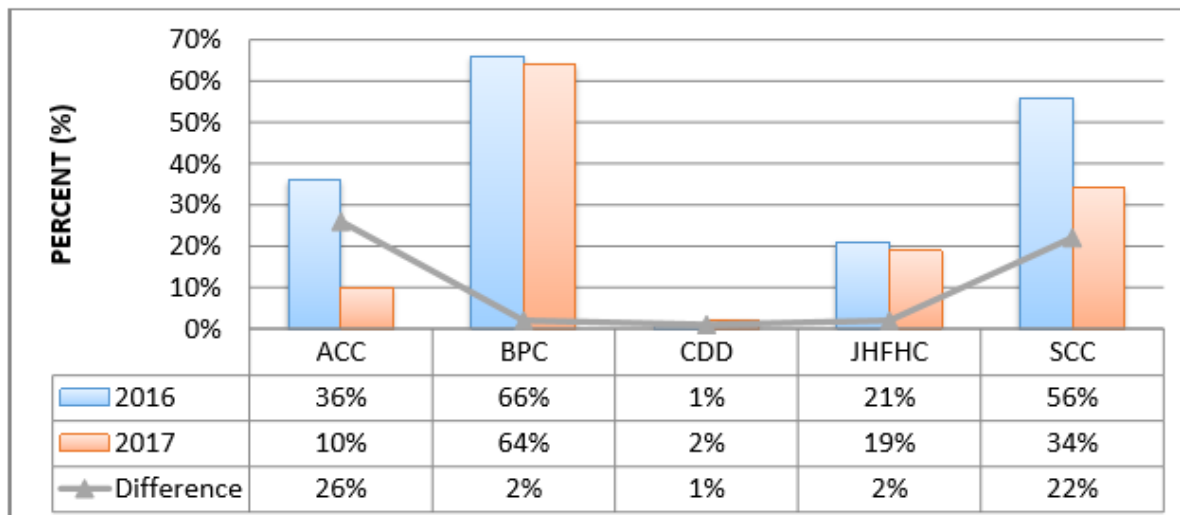


Table 1 Patient Characteristics, Risk Factors, and Location of Initial VTE

Table 1.	Pre Intervention	Quality Intervention
N	23	24
Median Age [Range]	48 [1-78]	45 [30-86]
% Female	57	54
Ethnicity (%)		
White	61	67
Black	17	13
Asian	9	13
Other/Not reported	13	7
Median Risk Factors	2	2
Location Initial VTE (%)		
PE	52	46
DVT + PE	17	22
UE DVT	9	8
LE DVT	4	8
Other	18	16

Figure 1

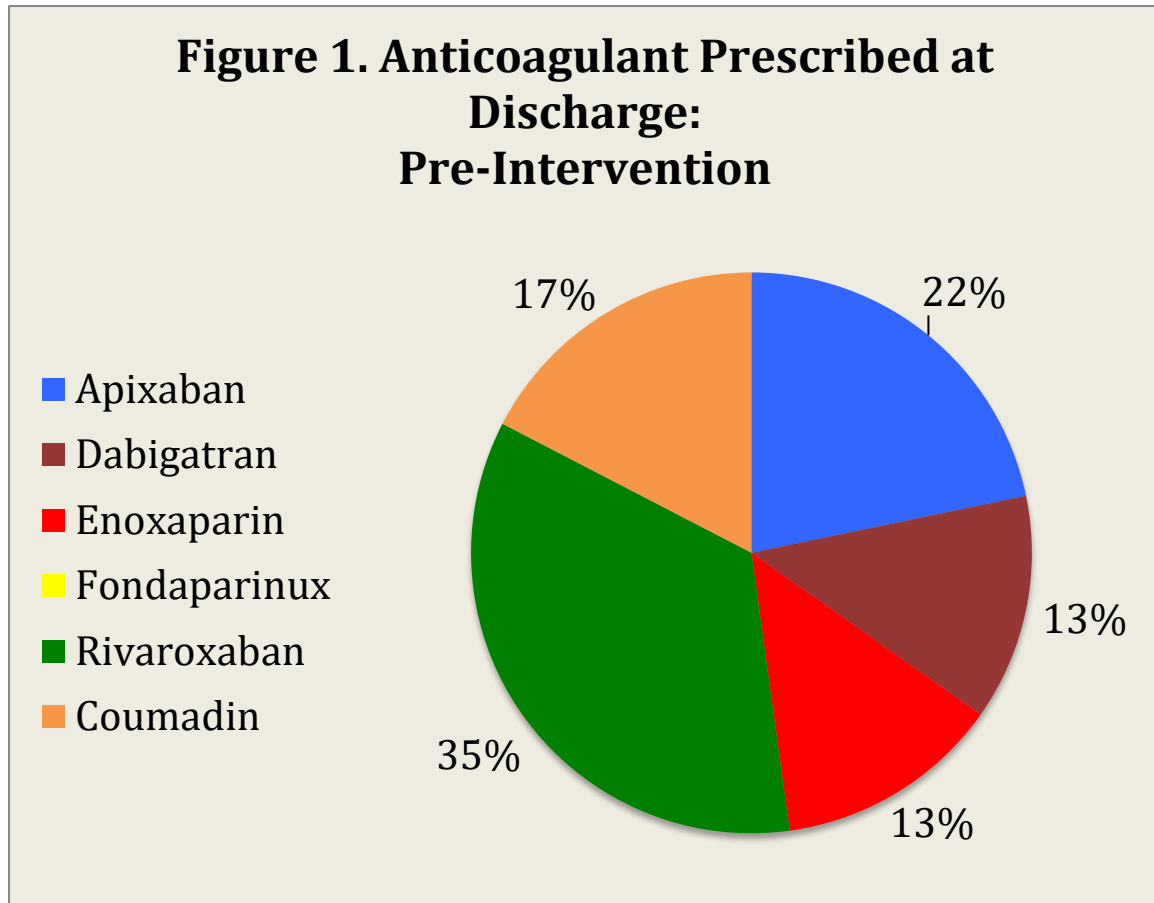


Figure 2

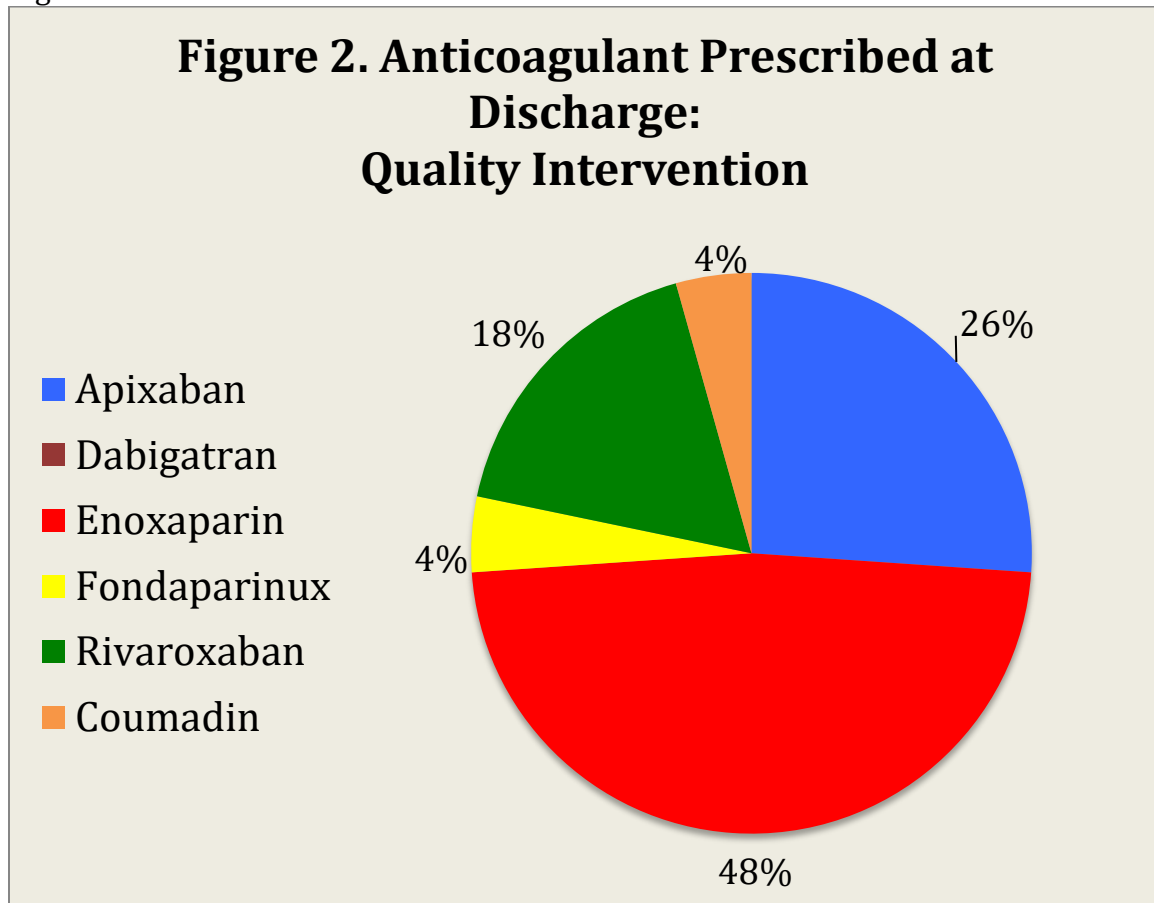
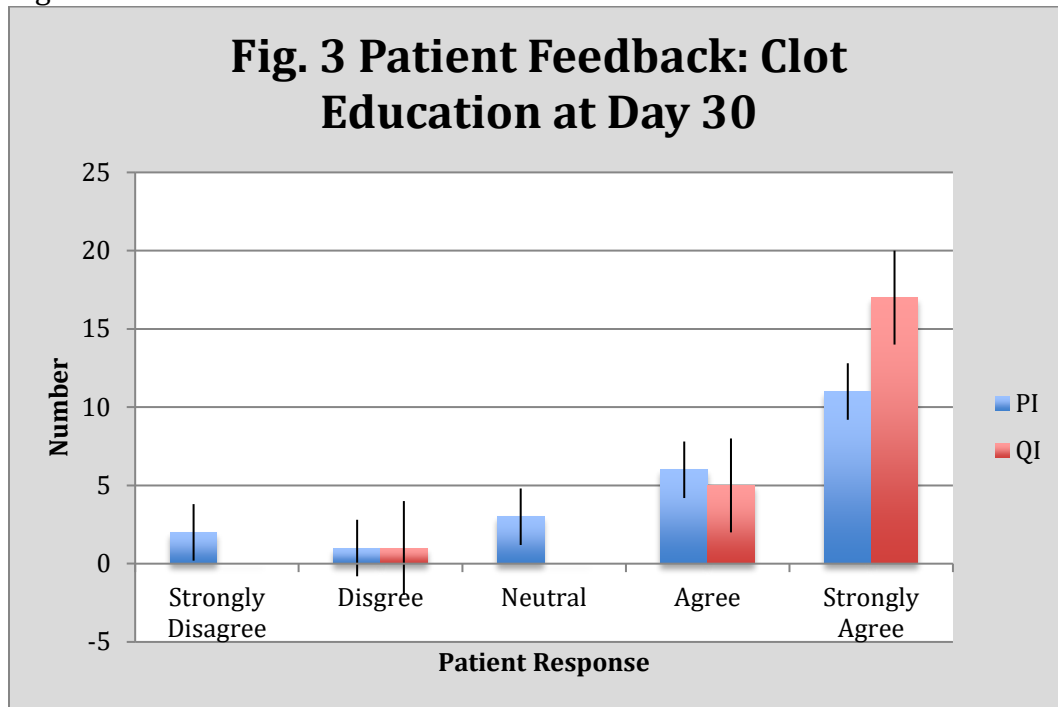
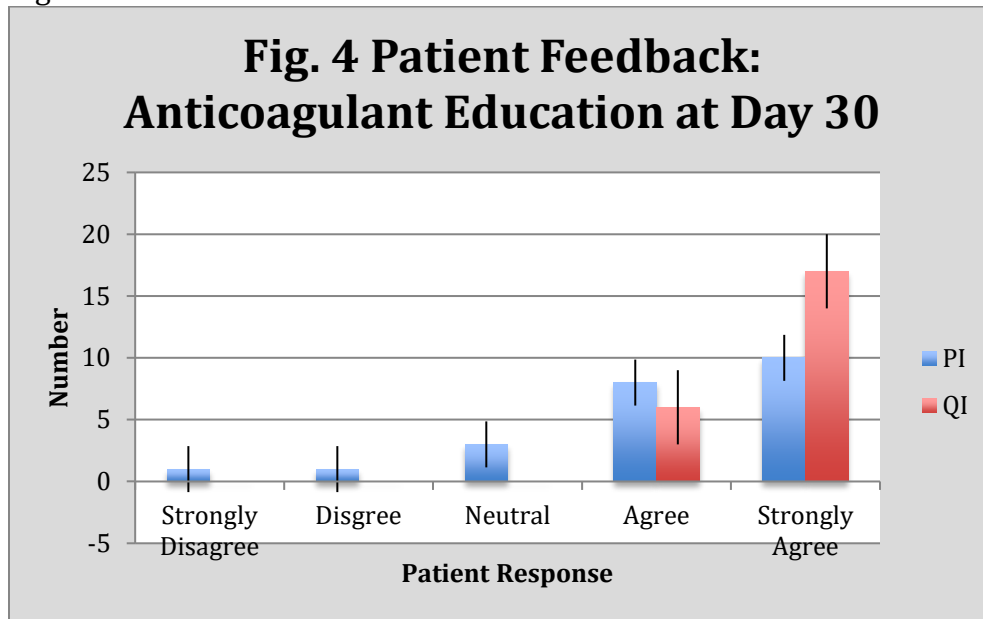


Figure 3



Patient feedback survey at 30 day follow up of discharge from the hospital.

Figure 4



Patient feedback data evaluating education received on their VTE diagnosis at time of discharge from the hospital.

Inpatient to Outpatient Transition of Care for Patients with Venous Thromboembolism

Jackson W, Russell J NP, Abu-Zeinah G MD, DeSancho MT MSc, MD | May 23, 2018

Problem Statement

- The transition of care (TOC) from inpatient to outpatient setting is crucial to prevent errors in the management of patients with a new diagnosis of venous thromboembolism (VTE).

Objective

- To improve TOC of patients with newly diagnosed VTE by providing education and a written instructional module regarding anticoagulant therapy at discharge.
- To determine patient understanding and adherence to anticoagulation therapy-related instructions and type of anticoagulant therapy 1 week after hospital discharge following the initial VTE diagnosis.

Design/Methods

- Prospective, multi-center quality improvement project at 16 centers affiliated with The American Thrombosis and Hemostasis Network (ATHN)
- The project has 2 phases:
 - Preintervention (PI) phase with no change in standard practice
 - QI phase: standardized written education specific to their anticoagulant therapy at the time of discharge followed by 1 week phone call
- Demographics, disease and treatment characteristics and outcomes are collected.
- Patients’ knowledge and feedback questionnaires are administered at 30 days post-discharge in both phases. We used a two-tailed fishers exact test to analyze the patient feedback responses.

Results

- 52 patients were recruited at NYPH with 47 completing study participation. Patient characteristics are shown in table 1. Rivaroxaban was the most frequently prescribed anticoagulant in the PI phase and enoxaparin was the in the QI phase (Fig. 1).
- Eighteen (83%) and 24 (100%) patients stated receiving education about their anticoagulation at the time of discharge in the PI and QI phases respectively (p=0.022) Fig. 2. Similarly 17 (74%) and 23 (95%) patients reported being educated about their blood clot prior to discharge from the hospital in the PI and the QI phases respectively (p=0.048) Fig. 3. At 30 day follow up 19 (85%) patients in the PI phase and 21 (88%) patients in the QI were able to identify bleeding and thrombosis symptoms (p=0.7).

Conclusions & Next Steps

- Patients in the QI phase demonstrated better education regarding VTE knowledge and anticoagulant medication 1 week after discharge from hospital. However no difference was noted in identifying bleeding and thrombotic symptoms between the two groups at 30 day follow up.

Table 1.	Pre Intervention	Quality Intervention
N	23	24
Median Age [Range]	48 [1-78]	45 [30-86]
% Female	57	54
Ethnicity (%)		
White	61	67
Black	17	13
Asian	9	13
Other/Not reported	13	7
Median Risk Factors	2	2
Location Initial VTE (%)		
PE	52	46
DVT + PE	17	22
UE DVT	9	8
LE DVT	4	8
Other	18	16

DVT= Deep vein thrombosis, PE= Pulmonary embolism, LE= Lower extremity, UE=Upper extremity

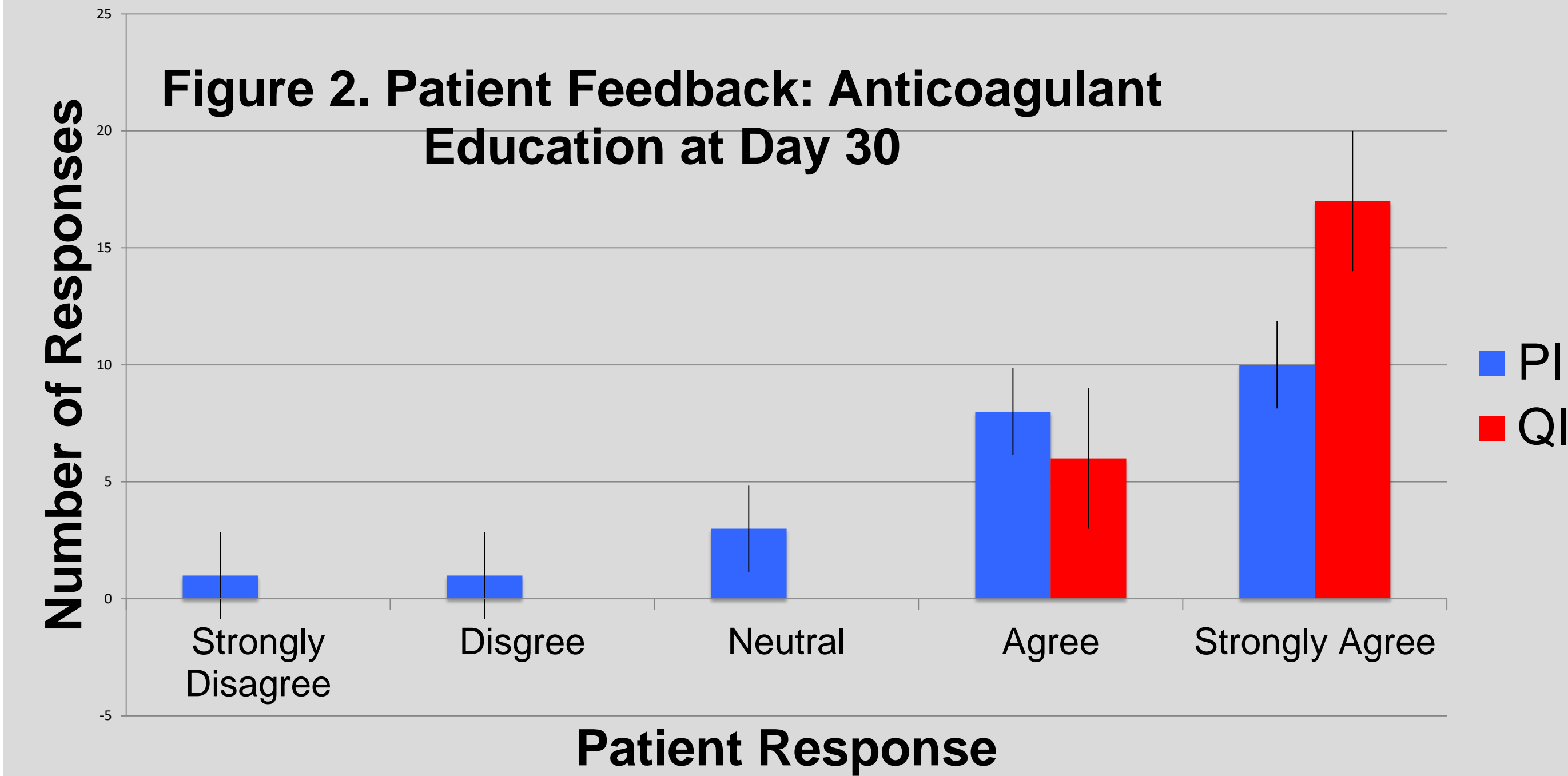


Figure 2. Patient feedback survey at 30 day follow up of discharge from the hospital.

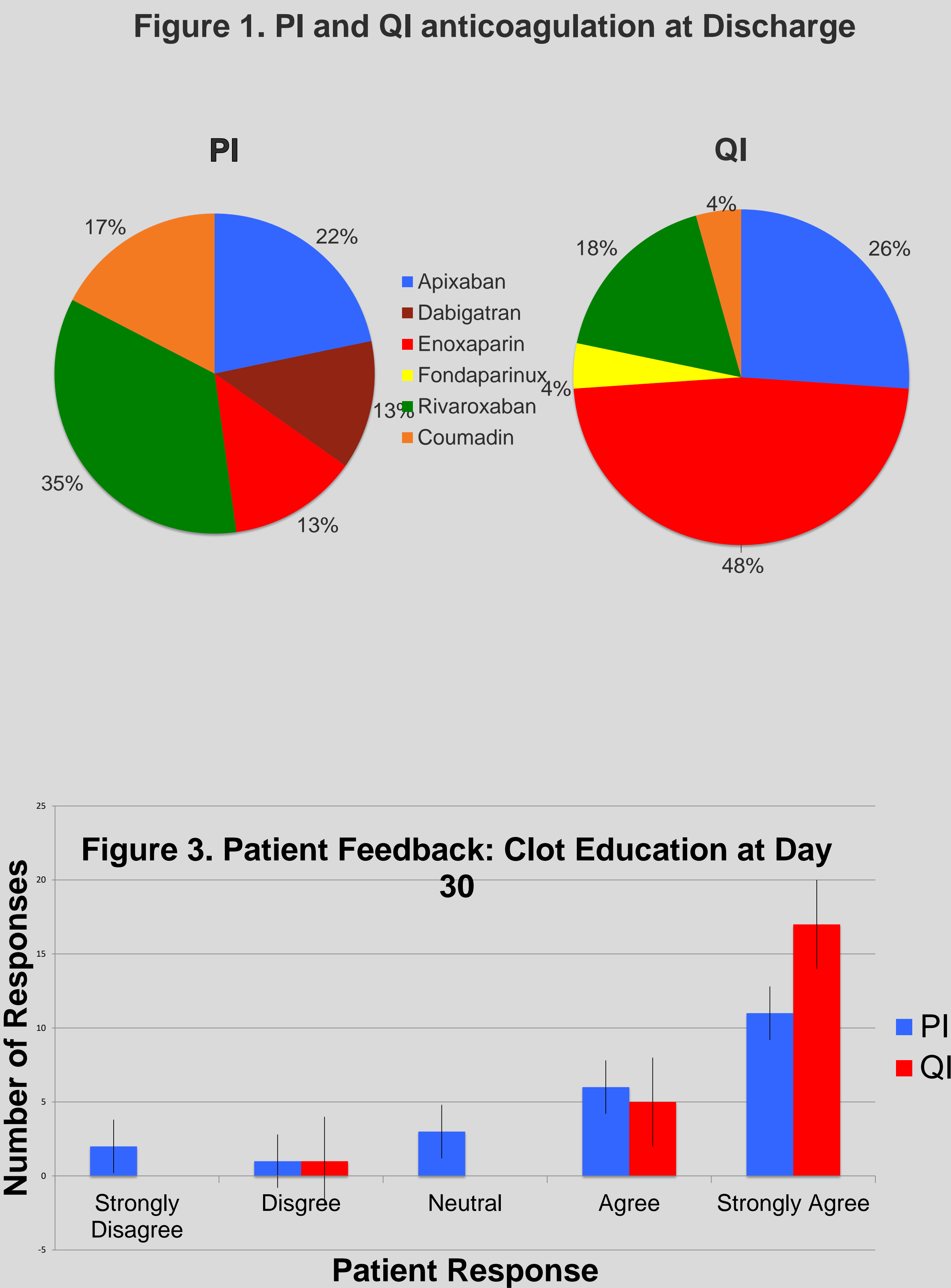


Figure 3. Patient feedback data evaluating education received on their VTE diagnosis at time of discharge from the hospital.

Project Title: Think Outside the Box: Using a Multimodal Approach to Reduce Telemetry Overutilization

Background: Inappropriate remote telemetry is linked to increased healthcare costs and alarm fatigue. On the Internal Medicine service NYPH/WCMC, a telemetry order remains active until a provider discontinues it or it expires after five days (“auto-expiration”). Beyond auto-expiration, there are no institutional methods for when to consider or discontinue telemetry.

Objective:

1. Reduce the total number of days that patients who are admitted to the Internal Medicine service are on telemetry by greater than 30% within 12 months
2. Increase the number of provider discontinuations of telemetry (compared to auto-expiration) in the same population

Methods: From 7/1/2017 to 8/31/2017 (Phase 0, baseline), a daily automated report extracted demographic and order information (including admission date, telemetry start and stop dates, and discharge date) from all patients who were admitted or transferred to the adult inpatient General Medicine service. From 9/4/2017 to 11/2/2017 (Phase 1), we began our patient-driven protocol, which involved modifying our existing telemetry boxes to have a label in both English and Spanish that encouraged patients to discuss their need for telemetry with providers daily. After 11/3/2017 (Phase 2), we began distributing educational material to Internal Medicine resident physicians, physician assistants, and nurses regarding appropriate indications for telemetry based upon the AHA guidelines. Before receiving any educational material, resident physicians and physician assistants were surveyed about their use and awareness of telemetry. On 3/19/2018 (Phase 3), the computerized order entry system (CPOE) was changed for auto-expirations to occur after two days (as opposed to five days) – data collection from that change is ongoing, but preliminary results were analyzed at 4/21/2018.

Results: We identified 1972 patient encounters for remote wireless telemetry from July 1, 2017 through April 21, 2018. Among all three phases, the average duration of telemetry for all patients was 3.5 days. Starting on 9/4/2017, 2870 stickers (approximately 19 per day) were applied to telemetry boxes. After our sticker and educational intervention, there was a non-significant decrease on duration of telemetry days (3.6 to 3.4, $p = 0.23$). Comparing baseline data to the end of Phase 2, the percentage of telemetry orders that auto-expired after five days was significantly decreased from 36.6% to 29.7% ($p < 0.05$). The average number of weekly transfers to a higher level of care were not significantly impacted by each arm of the intervention (7.5 to 4.5, $p = 0.05$). The change in the CPOE from an auto-completion from five days to two days resulted in significant increases in auto-completion (56.6% in Phase 3 compared to 36.6 in Phase 0) but decreases in average duration of telemetry (3.0 days in Phase 3 compared to 3.6 days in Phase 0).

Conclusions: Our patient-centered and educational interventions resulted in a non-significant decrease in the number of telemetry-days among eligible patients. This intervention also significantly decreased the number of telemetry orders that auto-expired after five days (i.e. long-term use of telemetry). The change in CPOE resulted in a significant and sustained decrease in telemetry days, though the

percentage of auto-completed orders rose as orders fell off more frequently. This change in telemetry ordering did not result in patient transfers to higher levels of care (i.e. clinical deterioration).

Implications for Clinical Care: Through a multimodal and novel intervention, we were able to decrease the use of long-term use of telemetry (up to five days), which for most patients on a general Internal Medicine service is a low-value intervention.

Think Outside the Box: Using a Multimodal Approach to Reduce Telemetry Overutilization

Brittany Katz MD¹, Yasin Hussain MD¹, Derek Mazique MD¹, Catherine Galdun MD², Jamuna Krishnan MD¹, Parimal Patel MD¹, Lia Logio MD FACP³

 **NewYork-Presbyterian**
The University Hospital of Columbia and Cornell

NewYork-Presbyterian Hospital/Weill Cornell Medical Center¹
Memorial Sloan Kettering Cancer Center²
Drexel University College of Medicine³

Weill Cornell
Medicine

BACKGROUND

- Inappropriate remote telemetry is linked to increased healthcare costs and alarm fatigue¹⁻³
- On the Internal Medicine service NYPH/WCMC, a telemetry order remains active until a provider discontinues it, the patient is discharged, or it expires after five days (“auto-expiration”)
- Beyond auto-expiration, there are no institutional methods for when to consider or to discontinue telemetry.

AIM

- Reduce the total number of days that patients who are admitted to the Internal Medicine service are on telemetry by greater than 30% within 12 months
- Increase the number of provider discontinuations of telemetry (compared to auto-expiration) in the same population

Figure 1: Telemetry Label



METHODS

Phases:

- **Phase 0** (Baseline, 1 Month): Daily report with demographic and order information from eligible patients
- **Phase 1, Patient-Driven Protocol** (2 Months): Telemetry units modified with a label in English and Spanish (Figure 1) that encouraged patients to discuss telemetry with providers daily
- **Phase 2, Protocol + Education** (4 Months): Material with appropriate indications were distributed to Internal Medicine resident physicians, physician assistants, and nurses
- **Phase 3, Protocol + Education + CPOE** (1 Month): The CPOE (Computerized Order Entry) system was changed for auto-expirations to occur after two days (as opposed to five)

Metrics

- **Outcome Measures:** Total duration of telemetry-days, number of telemetry orders, number of patients on telemetry each week, and number of orders completed versus discontinued versus discharged
- **Process Measures:** Number of stickers placed on telemetry units, number of educational surveys, survey responses
- **Balancing Measures:** Number of transfers of a patient to a higher level of care

RESULTS

- Baseline Characteristics:
 - Patient Encounters: 1972
 - Baseline (Phase 0) average telemetry-days: 3.5 days
 - Baseline discontinued by provider, auto-completed, or discharged (%): 22.9 (DISC), 36.6 (COMP), 34.6 (DISCD)
- Outcome Measures:
 - Average telemetry-days by end of Phase 3: 3.01 (p<0.05 between Phases 0 and 3)
 - Telemetry orders by end of Phase 3: 89.8 (from 79.7 in Phase 0)
 - Types of orders by end of Phase 3 (%): 28.4 (DISC), 50.8 (COMP), 12.5 (DISCD)
- Process Measures:
 - Starting on 9/4/2017, 3960 stickers were applied to telemetry units
 - Of 29 clinician surveys, only 5 respondents had seen the telemetry stickers (13.9%)
- Balancing Measures:
 - Number of transfers to a higher level of care: 223 (Weekly average 7.6 in Phase 0 to 4.5 in Phase 3, p = 0.05)

Figure 2: Run Chart of Average Duration of Telemetry Orders

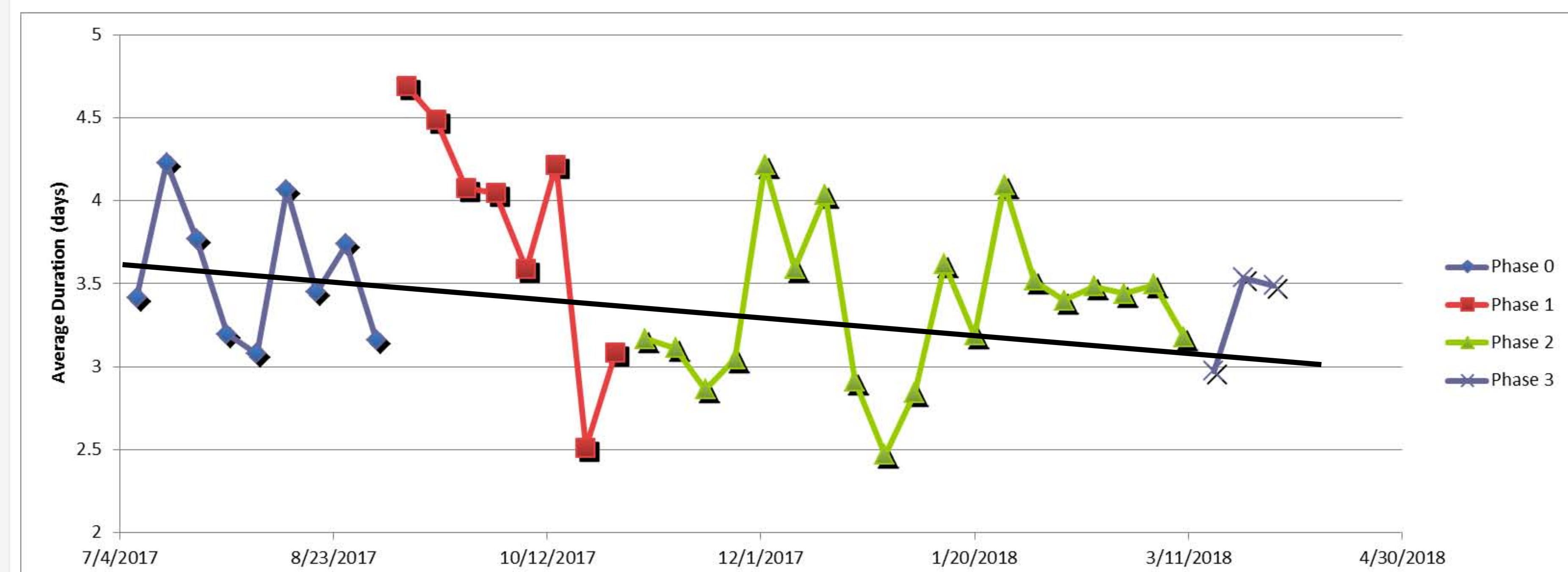


Table 1: Outcome Measures by Phase

Phase	0	1	2	3
Average Duration, days	3.6	3.8	3.4	3.0*
Average Weekly Number of Orders, n	79.7	60.4	59.1*	89.8
Average Weekly Number of Discontinued Orders, n (%)	22.9 (28.7)	18.4 (30.4)	22.5 (38.1)	25.5 (28.4)
Average Weekly Number of Discharged Orders, n (%)	27.6 (34.6)	18.5 (30.6)	19.0* (32.3)	13.5* (15.0)
Average Weekly Number of Auto-Completed Orders, n (%)	29.2 (36.6)	23.5 (38.9)	17.5* (29.7)	50.8* (56.6)

Figure 3: Educational Mnemonic for Telemetry Indications

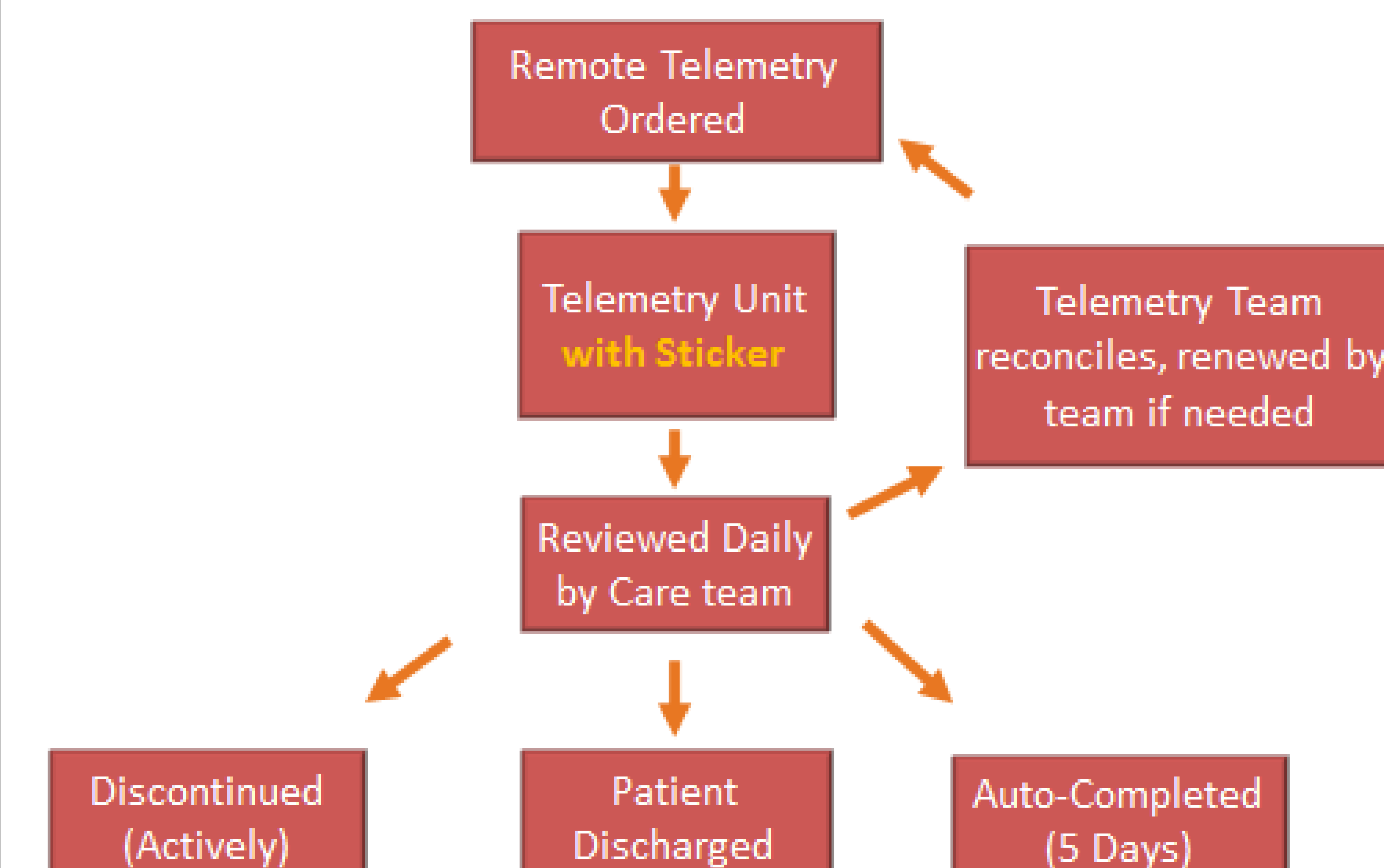
Class I: Review every 72 hours

A Early phase of **ACS**
A Unstable **Arrhythmia**
B AV **Block**
L **Long** QT
E Acute CHF **Exacerbation**

Class II: Review every 48 hours

S **Syncope**
P Chest **Pain** syndromes
E Sub-acute CHF
e **Exacerbation**
D Given arrhythmic **Drug**

Figure 3: Process Map of Telemetry Ordering



CONCLUSIONS

- Our patient-centered sticker and educational interventions resulted in a non-significant decrease in the number of patient telemetry days compared to baseline (3.4 days in Phase 2 compared to 3.6 days in Phase 0)
- During the same period, there was a significant decrease in the weekly average of telemetry orders compared to baseline (59.1 orders in Phase 2 compared to 79.7 orders in Phase 0)
- The change in the CPOE from an auto-completion from five days to two days resulted in significant increases in auto-completion (56.6% in Phase 3 compared to 36.6 in Phase 0) and decreases in average duration of telemetry (3.0 days in Phase 3 compared to 3.6 days in Phase 0)
- This change in telemetry ordering did not result in patient transfers to higher levels of care (i.e. clinical deterioration)

Implications: Through multiple cumulative interventions we were able to decrease the use of long-term telemetry, which is a low-value intervention for most patients on a general Internal Medicine service. Individual, social, and structural changes, were required to see a sustained and measurable change.

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3. Larson TS, Brady WJ. Electrocardiographic monitoring in the hospitalized patient: a diagnostic intervention of uncertain clinical impact. Am J Emerg Med. 2008;26:1047–1055.

* p-value <0.05 compared to Phase 0

Title: A Saturated Approach to TeamSTEPPS® to Improve Quality and Patient Safety in an Emergency Medicine Unit

Authors: Neel Naik, Nancy Creech, Kevin Ching, Tim Clapper

Introduction/Background:

It is well-known that communication issues can lead to medical error. It is also well-known that each profession trains in silos and training does not include formal teamwork and communication training. Implementation of Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®) provides evidence-based teamwork and communication training but implementation can be challenging. Organizations that have attempted to implement the program over long periods of time have experienced difficulty ensuring that everyone with direct patient contact gets properly trained.

Purpose:

The aim of this research was to assess the impact of the saturated training model of implementing TeamSTEPPS®.

Methods:

This quantitative, pretest/posttest design pilot research used a combination of classroom simulation-based instruction and in-situ simulation in an Emergency Medicine department in an urban academic center. We trained all personnel with direct patient care responsibilities in an interprofessional, simulation-based TeamSTEPPS® program using the Saturation in Training Model. We trained 324 people in an urban academic Emergency Department, achieving more than 95% saturation in less than three months. We compared TeamSTEPPS® course knowledge scores pre-training to post-training using the Wilcoxon rank-sum test. We also assessed the performance of two day and overnight shift teams pre- and post-intervention using the TeamSTEPPS® Team Performance Observation Tool.

Results:

There is a statistically significant improvement in teamwork and communication knowledge scores ($p=0.001$). Post intervention analysis still needs to be completed to assess differences in team performance using the TeamSTEPPS® Team Performance Observation Tool

Conclusions:

Teams in the Emergency Department are expected to perform as high-performing interprofessional teams. When teams are trained together in a shorter period, they are prepared to apply a shared-model of teamwork and communication to improve patient safety.



A Saturated Approach to TeamSTEPPS® to Improve Quality and Patient Safety in an Emergency Medicine Unit

Weill Cornell Department of Medicine Quality Improvement Poster Session 2018

Neel Naik, Nancy Creech, Kevin Ching, Tim Clapper

Problem Statement/Objective: Communication issues can lead to medical error. Implementation of Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®) provides evidence-based teamwork and communication training but implementation can be challenging. Organizations that have attempted to implement the program over long periods of time have experienced difficulty ensuring that all staff get properly trained. The aim of this research was to assess the impact of the saturated training model of implementing TeamSTEPPS®.

Design/Methods: This quantitative, pretest/posttest design pilot research used a combination of classroom simulation-based instruction and in-situ simulation in an Emergency Medicine department in an urban academic center. We trained all personnel with direct patient care responsibilities (n=324) in an interprofessional, simulation-based TeamSTEPPS® program in less than three months using the Saturation in Training Model. We compared TeamSTEPPS® course knowledge scores pre-training to post-training using the Wilcoxon rank-sum test. We also assessed the performance of two day and overnight shift teams, pre- and post-intervention using the TeamSTEPPS® Team Performance Observation Tool.



Results: There is a statistically significant improvement in teamwork and communication knowledge scores ($p=0.001$). Post intervention analysis still needs to be completed to assess differences in team performance using the TeamSTEPPS® Team Performance Observation Tool

Conclusions/Lessons Learned: Teams in the Emergency Department are expected to perform as high-performing interprofessional teams. When teams are trained together in a shorter period, they are prepared to apply a shared-model of teamwork and communication to improve patient safety.

Next Steps: Our goal is to finish analyzing the data and determine the level of improvement in communication and teamwork post training. Further steps include recurring in-situ simulations to refresh acquired skills and ensure new hires understand the TeamSTEPPS® framework.

An evidence-based simulation intervention to improve the competence and confidence of internal medicine fellows performing a cricothyrotomy

Kapil Rajwani, MD; Kevin Anderson, BS; Sravya Jannapureddy, BS; Tim Clapper, PhD

A cricothyrotomy is an emergent skill that may be part of an advanced airway protocol. However, a cricothyrotomy is not performed very often because there are not enough clinical opportunities to apply it. Practice opportunities are also limited because of the constraints on the time internal medicine fellows have available for education, along with competing requirements to maintain proficiency in other skills. We developed an evidence-based course that provided internal medicine fellows in a pulmonary/critical care medicine (PCCM) training program with demonstrations, practice, and feedback in the skills needed to make them more competent and confident in performing a cricothyrotomy. We sought to answer the following questions as part of our intervention:

1. Do PCCM fellows feel more confident with performing a cricothyrotomy following an evidence-based simulation intervention that includes multiple opportunities for practice?
2. Are PCCM fellows gauged more competent in their ability to perform a cricothyrotomy following an evidence-based simulation intervention that includes multiple opportunities for practice?

This research used a mixed-method design to determine the effectiveness and value of an educational intervention to improve the competence and confidence of PCCM fellows performing a cricothyrotomy. It included knowledge and procedural skills pre-posttests and an open-ended survey.

PCCM fellows received a pretest on knowledge related to a cricothyrotomy. Fellows were also surveyed about their current level of comfort with performing cricothyrotomies. Fellows were pre-assessed on their current ability to perform a cricothyrotomy using the Seldinger and McIntyre 3 step bougie techniques using a cricothyrotomy checklist. The educational intervention included didactics, a topic sheet, and multiple opportunities for practice using partial-task simulators, pig tracheas, and hi-fidelity simulators. The fellows then received post-intervention assessments for knowledge and performance. Fellows were surveyed about their current level of comfort with performing cricothyrotomies and complete a knowledge-based posttest following the educational experience.

Participation in the research and course included 11 of the 12 PCCM fellows (6 female/5 male; 4 first year, 3 second year, 4 third year). None of the fellows had performed a cricothyrotomy on a patient prior to the course. All of the fellows had attended an advanced airway training course in the past 2-3 years; the first years fellows had just completed that course approximately two weeks prior to the intervention.

On analysis of the data, we noted that there was improvement in all the knowledge scores. There were also improvements in all the procedural scores and technique in both cricothyrotomy methods (Seldinger and McIntyre 3-Step bougie) from pretest to posttest. The surveys documented improvement in both perceived *confidence* and *competence* across the board. All fellows indicated that they were much more likely to perform a cricothyrotomy following the intervention. Unanimously, they credited their decision to multiple opportunities to practice on realistic simulation equipment and models.

Since cricothyrotomy cases do not occur often it is important for internal medicine fellows to maintain a high degree of comfort and proficiency at all times. This intervention shows great promise for accomplishing this task.



An evidence-based simulation intervention to improve the competence & confidence of fellows performing a cricothyrotomy

Kapil Rajwani, MD; Kevin Anderson, BS; Sravya Jannapureddy, BS; Timothy C. Clapper, PhD

BACKGROUND AND OBJECTIVES

- A cricothyrotomy is an emergent skill that may be part of an advanced airway protocol
- However, a cricothyrotomy is not performed very often because there are not enough clinical opportunities to apply it
- This simulation intervention, therefore, aimed to improve the competence and confidence of pulmonary/critical care fellows in performing a cricothyrotomy

METHODS

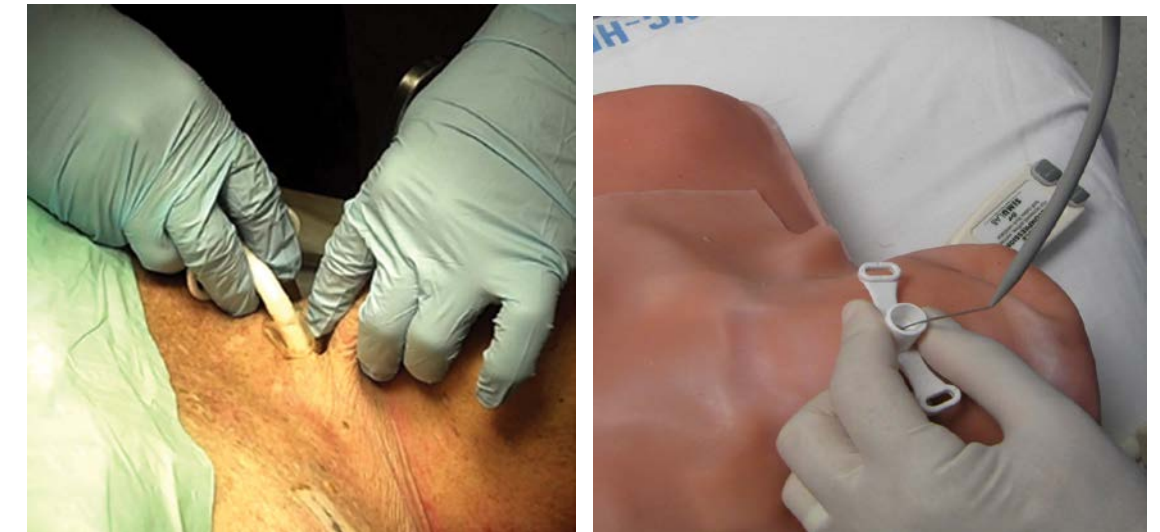
- Learners were administered knowledge and procedural pre- and post-tests
- They also completed pre and post open ended surveys
- Received didactic training and topic sheets
- Two techniques were reviewed: Seldinger and McIntyre 3-step bougie
- This was followed by hands-on training using a task trainer and a pig-trachea
- Then they participated in hi-fidelity simulation using realistic case scenarios with debriefing and feedback

RESULTS

- 11 of 12 pulmonary critical care fellows participated (4 first year, 3 second year, and 4 third year)
- No fellows had performed cricothyrotomy on a patient before the course
- All fellows had attended an advanced airway training in the past 2-3 years; first year fellows had done this training two weeks prior to the intervention
- Pre- and post-intervention surveys show improvements in both perceived *confidence* and *competence* across the board
- All knowledge scores improved from pretest to posttest
- There were improvements in all procedural scores and technique in both cricothyrotomy methods (Seldinger and McIntyre 3-Step bougie) from pretest to posttest.
- All fellows indicated that they were much more likely to perform a cricothyrotomy following the intervention.
- Unanimously, they credited their decision to *multiple opportunities to practice on realistic simulation equipment and models*.

CONCLUSION

The results of this study suggest that a brain-based method of simulation instruction in cricothyrotomy was an effective way of improving knowledge, procedural skills, as well as confidence.



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5 South CLABSI Prevention: An example of Multidisciplinary Excellence
Anthony Sabatino

This article describes the multi-disciplinary interventions implemented in response to a sudden increase in the number of central line associated blood stream infections (CLABSIs) in the first quarter of 2017 in the medical intensive care unit (MICU). The MICU's Attendings, Fellows, Nurse Leaders and 5S RN CLABSI committee chair met with Infection, Prevention and Control to develop a plan to decrease CLABSI rates. The MICU initiated a response plan on March 1st, 2017 that focused on increasing awareness, education, and consistency of practice, created two tools to improve clinician and provider communication and awareness, and implemented several innovative practices. Post-implementation, the MICU's standard infection ratio decreased by half to .699 resulting in successful second, third and fourth quarters. Additionally, there was a significant decrease of our total central line days for the year. These findings demonstrate successful dissemination and implementation of interdisciplinary unit-based interventions to reduce CLABSI rates.



MICU CLABSI PREVENTION: An Example of Multidisciplinary Excellence

Insert presenter name | presentation date

Problem Statement

In the first quarter of 2017, the MICU had 3 CLABSIs. As a response the 5 South CLABSI committee and the MICU MD's and Fellows organized a multidisciplinary meeting involving the Infection, Prevention, and Control (IP&C) and Quality teams to develop a plan to decrease rates.

Objective

Can CLABSI rates (O) be significantly reduced in (P) critical care patients by instituting initiatives using an (I) multidisciplinary approach (C) compared to standard practice?

Design/Methods

Instituted RN and MD led interventions:

1. Awareness

- Fellow Rounding Sheets
- Wall Cards

2. Education

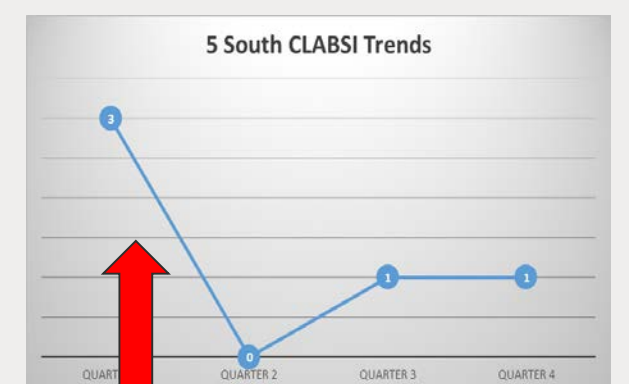
- CVC dressing changes
- CVC accessing
- Chlorohexidine bath
- PowerPoint in-services

3. Nursing Practice Consistency

- Tego caps instituted for CVVHD
- Increase PIV and midline usage
- Increase audits
- Increase use of chlorohexidine impregnated caps on all IV access ports
- Removal of CVCs from OSH
- Femoral line removal target of 72 hours
- Focus on obtaining peripheral blood cx cultures

Results

- NHSN's Standardized Infection Ratio (SIR)
 - 2017 5 South: 1.397
 - 2017 National Median: .941
 - Post-Intervention (March-December)
 - Q2, Q3, and Q4 = .699
- 5 South 2017 Central Line Days
 - Q1 - 863
 - Q2 - 863
 - Q3 - 683
 - Q4 - 766
- 5 South 2017 CLABSIs
 - Q1 - 3
 - Q2 - 0
 - Q3 - 1
 - Q4 - 1



Interventions

Conclusions/Lessons Learned

- ❑ Although our total SIR for 2017 was above the national median, the post-intervention SIR decreased by half, to a SIR below the national median. 5 South expects to attain a SIR below the national median for 2018 by continuing to implement the interventions.
- ❑ For Q3 and Q4, the MICU was able to reduce central line days by approximately 100-200 days.
- ❑ The Q3 and Q4 CLABSIs were during end of life care.

Next Steps

Moving forward, 5 South will continue annual education, biweekly audits, and periodic reviews of CVC care in huddles and weekly newsletters to maintain and improve the consistency of practice.

A Step Beyond the Basics: 5 West Education Day

Jennifer Shaw

Can a Unit-Based Education Day Bridge the Knowledge Gap from Novice to Competent Nurse? 5 West, a 28-bed Adult Medical/Surgical Stepdown Unit, had a nursing staff turnover, resulting in a large number of newly hired nurses with less than two years of experience. Many newly hired nurses had limited experience with complex nursing procedures performed with our patient population. The 5 West Unit Council conducted a gap analysis and identified need for in depth education on: chest tubes/vent care, accessing IVADs/midline care, wound vac dressing changes and performing EKGs. 5 West Unit Council with the help of nursing education and our PCD hosted an Education Day in August 2017.

Flyers for Education Day were posted in break room and Education Day was discussed in huddle in order to recruit participants. 5 West Unit Council recruited 9 experienced nurses to teach lead five skills stations. Each skill station was 10-15 min in length - total time of education day 1 hour. Participants were given an identical pre/post test to evaluate teaching - all test questions/answers taken from NYP Policies. 1 hour CEU was awarded to nurses who attended education day.

Skills Stations Included:

Chest Tube Care/oral care for intubated patients

Performing EKGs

Wound Vac Dressing Change/Skin Care

Accessing IVAD/Midline Removal

IV Insertion

Results:

Pre/Post Test Results:

10 staff nurses attended skills day

9 successfully completed pre/post test

Average score on pretest 57%

Average score on posttest 81%

42% increase from pretest

After the completing the skills day staff nurses did 42% better on the posttest. Multiple nurses verbalized feeling more comfortable with the skills and that they found the education day to be useful. Findings suggest that unit-based education increased RN knowledge of nursing skills and NYP Policy. Next Steps include: presenting findings to other inpatient units at NYP, continue to assess for further staff nurse learning needs, and repeat skills day with a larger group of participants to further evaluate efficacy

A Step Beyond the Basics: 5 West Education Day

Can a unit-based day education bridge the knowledge gap from novice to competent nurse?

Katharine Cavalieri BSN, RN, PCCN

Problem Identification

Background

5 West, a 20-bed Adult Medical/Surgical Stepdown Unit, had a nursing staff turnover, resulting in a large number of newly hired nurses with less than two years of experience.

Many newly hired nurses had limited experience with complex nursing procedures performed with our patient population.

The 5 West Unit Council conducted a gap analysis and identified need for in-depth education on: chest tube/vent care, accessing IVAD/line care, wound vac dressing changes and performing EKGs.

5 West Unit Council with the help of nursing education and our PCCN, hosted an Education Day in August 2017.

Can a Unit-Based Education Day Bridge the Knowledge Gap from Novice to Competent Nurse?

- P - 5 West Staff Nurses
- I - Unit Based Education Day
- C - No Formalized Education Day, Nurses Learn from Exposure and Career Experience
- O - Staff Nurses Have Increased Competency Performing Skills Identified in Gap Analysis, Evidenced by Observation and Post Education Day Quiz.
- T - One Hour Education Day
- S - 5th Floor Conference Room

All skills identified in gap analysis are part of new hire skills checklist for 5 West nurses. However, many skills are only simulated once and orientation experiences vary by individual.

Evidence Review

Review of Evidence-Based Practice Research

- Simulation has demonstrated benefits in nursing in preparation of newly graduated nurses for the practice environment. (1)
- Simulation can provide an effective mechanism for improving competency in a given area. (1)
- Having staff provide input and participate in the education plan can foster a sense of ownership in the plan and maximize its success. (2)
- A randomized, controlled trial showed that simulation training for mechanical ventilation improved the skills of critical care nurses. (3)

Appraise Evidence

- Multiple sources suggest that simulation of skills helps to increase confidence and competence in nursing skills.
- Evidence also suggests that having staff nurses involved in education helps to make unit-based teaching more successful.

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1. Kasper, R., McManis, C. (2016, 2017) Simulation in Nursing Practice: The Impact of Recent Data. *Clinical Nurse Specialist: A Journal of the American Association of Clinical Nurses Specialists*, 30(1), 1-10.
2. Lofgren, J. (2017, 2018) Training in Education: How to Meet the Learning Needs of Nursing Staff. *Clinical Nurse Specialist: A Journal of the American Association of Clinical Nurses Specialists*, 31(1), 1-10.
3. Johnson, M., Haddock, T., O'Rourke, A., Hadden, M., Burrows, K., Kung'u, A. (2016, 2017) Human simulation education in the nursing management of patients requiring mechanical ventilation: a randomized controlled trial. *Intensive Care Medicine*, 21(1), 1-10.
4. Chapman, M., Smith, M., Reid, A., Amey, A., (2017, 2018) Improving Education: A New Model for Inpatient Nursing Education. *Journal of Professional Nursing*, 32(1), 1-10.

Intervention

Flyers for Education Day were posted in break room and Education Day was discussed in huddle in order to recruit participants.

5 West Unit Council recruited 9 experienced nurses to teach lead five skills stations.

Each skill station was 10-15 min in length - total time of education day 1 hour.

Participants were given an identical pre/post test to evaluate teaching - all test questions/answers taken from NYP Policies.

1 hour CEU was awarded to nurses who attended education day.

Skills Stations Included:

- Chest Tube Care/oral care for intubated patients
- Performing EKGs
- Wound Vac Dressing Change/Skin Care
- Accessing IVAD/Line Removal
- IV Insertion

Conduct Research or Change Practice

Pre/Post Test Results:
10 staff nurses attended skills day
9 successfully completed pre/post test.

Average score on pretest 57%

Average score on posttest 81%

42% increase from pretest

Average Test Score



Discussion

After the completion of the skills day staff nurses did 42% better on the posttest. Multiple nurses verbalized feeling more comfortable with the skills and that they found the education day to be useful. Findings suggest that unit-based education increased RN knowledge of nursing skills and NYP Policy.

Next Steps

- Present findings to other inpatient units at NYP
- Continue to assess for further staff nurse learning needs
- Repeat skills day with a larger group of participants to further evaluate efficacy

For more information, please contact:
Katharine Cavalieri BSN, RN, PCCN
kcavalieri@nyp.org

Can a Unit-Based Education Day Bridge the Knowledge Gap from Novice to Competent Nurse?

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Simulation has demonstrated benefits in nursing in preparation of newly graduated nurses for the practice environment. (1)

Simulation can provide an effective mechanism for improving competency in a given area. (2)

Having staff provide input and participate in the education plan can foster a sense of ownership in the plan and maximize its success. (3)

A randomized, controlled trial showed that simulation training for mechanical ventilation, improved the skills of critical care nurses. (4)

References

(1). Aebersold, M., Tschannen, D., (May 31, 2013) "Simulation in Nursing Practice: The Impact on Patient Care" OJIN: The Online Journal of Issues in Nursing, 9(2).

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Intervention

Flyers for Education Day were posted in break room and Education Day was discussed in huddle in order to recruit participants. 5 West Unit Council recruited 9 experienced nurses to teach lead five skills stations. Each skill station was 10-15 min in length - total time of education day 1 hour. Participants were given an identical pre/post test to evaluate teaching - all test questions/answers taken from NYP Policies. 1 hour CEU was awarded to nurses who attended education day.

Skills Stations Included:

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IV Insertion

Conduct Research or Change Practice

Pre/Post Test Results:

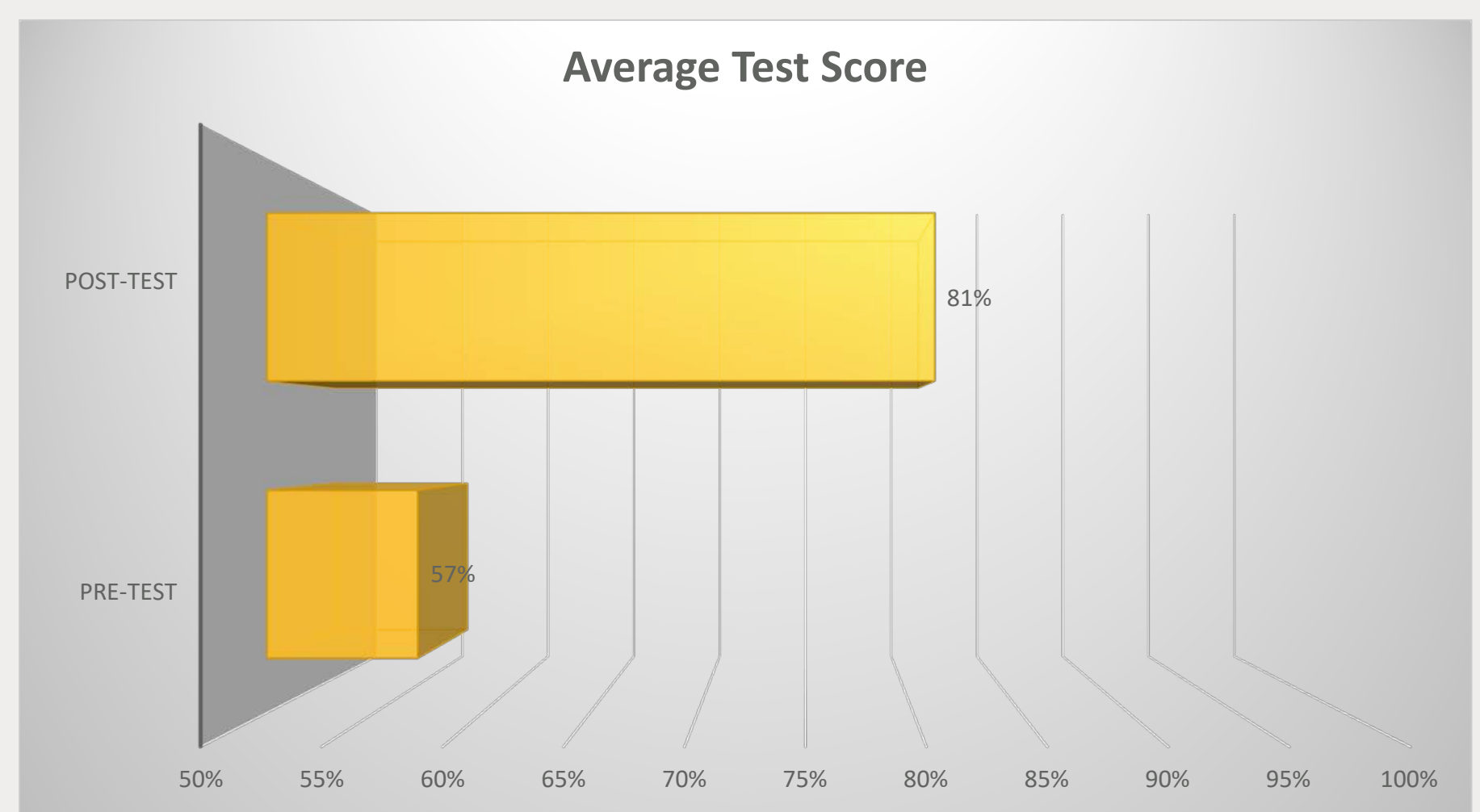
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Next Steps

Present findings to other inpatient units at NYP

Continue to assess for further staff nurse learning needs

Repeat skills day with a larger group of participants to further evaluate efficacy

Implications of Implementation Strategies for New York State Mandated Hepatitis C Virus Screening in Hospitalized Baby Boomers: Does Care Coordination Improve Inpatient Linkage to Care?

Nicole Shen (fellow, faculty sponsor Sonal Kumar)

Chronic hepatitis C virus (HCV) is a significant cause of morbidity and mortality worldwide, and New York State (NYS) law mandates providers offer screening and follow-up diagnostic testing and care to patients born between 1945-1965 (“baby boomers”). For inpatients, there is growing concern of failures along the HCV continuum of care and over testing. We investigated the demographics of HCV antibody (HCV Ab) positive screens and the impact of having a Nurse Practitioner (NP) identify and improve linkage to care failures.

Objective/Aim of the study

To investigate the outcome of patients that screen HCV Ab positive since the enactment of mandated inpatient HCV screening, the incremental impact of care coordination on HCV linkage to care, and implications for cost-benefit and cost-effectiveness.

Project Design/Methods:

This single center prospective study occurred from 1/2017-7/2017. A NP reviewed weekly reports of baby boomers discharged with positive HCV Ab, collecting data on HCV RNA status, prior treatment +/- sustained virologic response (SVR), linkage to outpatient care (defined as scheduled follow-up with a primary care physician (PCP) or specialist), and in-hospital mortality. The NP contacted those without HCV RNA testing or outpatient care, coordinating their next step in the HCV continuum of care. Time spent in each step of this process was captured.

Results:

A total of 147 baby boomers screened HCV Ab positive. The majority, 55.8% (82/147), had undetectable viral loads. Of these, 48.8% (40/82) had known SVR prior to screening. Of the 62 patients with either chronic HCV or incomplete HCV testing, 43.5% (27/62) were lost to follow-up, with the highest loss occurring in those discharged without a follow-up appointment with any physician 44.4% (16/36) or those discharged to follow-up with a PCP or ID doctor 55.6% (10/18). A total of 24.5% (36/147) needed further linkage to care because 1) the patient was discharged with a diagnosis of chronic HCV (15/36, 41.7%), or 2) the patient had incomplete testing (21/36, 58.3%) without follow-up. A total of 55.6% (20/36) were linked to care. At time of analysis, 4 patients were treated at our facility, 50% (2/4) linked by the NP to care, 50% (2/4) discharged with follow-up to a PCP or specialist clinic. Per subject, the NP spent 3.7 minutes determining HCV PCR and disposition status and 5.3 minutes calling those not linked to care or with unknown HCV PCR, totaling to 9 minutes. At a salary of \$100,000 and 10% effort of work time, this intervention is estimated to cost \$10,000 annually; the time spent in this example (17.9 hours) would equate to an hourly wage of \$190/hr.

Conclusions:

Our data suggests that since the mandate of inpatient HCV screening of baby boomers, there is failure of linkage to outpatient care with significant risk of loss to follow-up. Use of a research

NP improved linkage to outpatient care and resulted in treatment initiation with minimal time commitment. These findings also suggest that baby boomers in states with mandated inpatient HCV screening may be at risk of receiving duplicate HCV Ab testing, and care needs to be taken to avoid over testing.



Implications of Implementation Strategies for New York State Mandated Hepatitis C Virus Screening in Hospitalized Baby Boomers: Does Care Coordination Improve Inpatient Linkage to Care?

Nicole T. Shen MD, Arielle Schweitzer NP, Kevin Chan BS, Enad Dawod BS, Savira K. Dargar MS, Amit Mehta MD, Carrie Johnston MD, Robert S Brown MD MPH, Sonal Kumar MD MPH

Problem Statement

Chronic hepatitis C virus (HCV) is a significant cause of morbidity and mortality, and New York State (NYS) law mandates providers offer screening and follow-up diagnostic testing and care to patients born between 1945-1965 (“baby boomers”). For inpatients, there is growing concern of failures along the HCV continuum of care and over testing.

Objective/Aim Statement

To investigate the outcome of patients that screen HCV Ab positive since the enactment of mandated inpatient HCV screening and the impact of care coordination on linkage to care.

Design/Methods

Six month single center prospective study from 1/2017-6/2017

A nurse practitioner (NP) reviewed weekly reports of baby boomers discharged with positive HCV Ab, collecting data on HCV RNA status, prior treatment +/- sustained virologic response (SVR), linkage to outpatient care (defined as scheduled follow-up with a primary care physician (PCP) or specialist, and in-hospital mortality.

The NP contacted those without HCV RNA testing or outpatient care, coordinating their next step in the HCV continuum of care. Time spent in each step of this process was recorded.

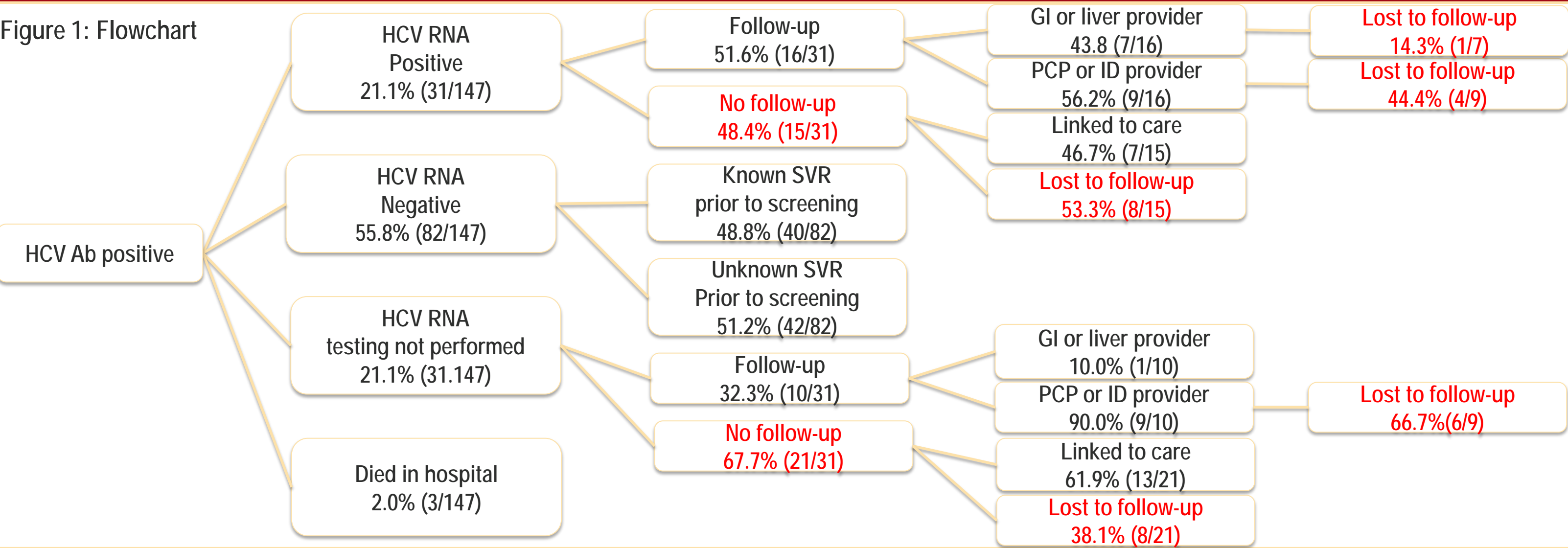


Table 1: Outcomes of baby boomers with chronic HCV or incomplete HCV testing

Outcome	%
Lost to follow-up	43.5 (27/62)
Followed-up elsewhere because of insurance	11.3 (7/62)
Pending liver follow-up	8.1 (5/62)
HCV RNA negative	8.1 (5/62)
HCV treated	6.5 (4/62)
Pending GI follow-up	4.8 (3/62)
Declined treatment	4.8 (3/62)
Pending PCP or ID follow-up	3.2 (2/62)
In prison	3.2 (2/62)
Discharged to hospice	3.2 (2/62)
Pending follow-up elsewhere	1.6 (1/62)
Active drug use	1.6 (1/62)

Results

- A total of 147 baby boomers screened HCV Ab positive. The majority, 55.8% (82/147), had undetectable viral loads. Of these, 48.8% (40/82) had known SVR prior to screening.
- Of the 62 patients with either chronic HCV or incomplete HCV testing, 43.5% (27/62) were lost to follow-up, with the highest loss occurring in those discharged without a follow-up appointment with any physician 44.4% (16/36) or those discharged to follow-up with a PCP or ID doctor 55.6% (10/18).
- A total of 24.5% (36/147) needed linkage to care because the patient was discharged with a diagnosis of chronic HCV (15/36, 41.7%) or had incomplete testing, (21/36, 58.3%) without follow-up. A total of 55.6% (20/36) were linked to care.
- At time of analysis, 4 patients were treated at our facility, 50% (2/4) linked by the NP to care, 50% (2/4) discharged with follow-up to a PCP or specialist clinic.
- Per subject, the NP spent 3.7 minutes determining HCV PCR and disposition status and 5.3 minutes calling those not linked to care or with unknown HCV PCR, totaling to 9 minutes. At a salary of \$100,000 and 10% effort of work time, this intervention is estimated to cost \$10,000 annually; the time spent in this example (17.9 hours) would equate to an hourly wage of \$190/hr.

Conclusions & Next steps

Our data suggests that since the mandate of inpatient HCV screening of baby boomers, there is failure of linkage to outpatient care with significant risk of loss to follow-up. Use of a research NP improved linkage to outpatient care and resulted in treatment initiation with minimal time commitment. These findings also suggest that baby boomers in states with mandated inpatient HCV screening may be at risk of receiving duplicate HCV Ab testing, and care needs to be taken to avoid over testing.

Department of Medicine Quality Improvement and Patient Safety Abstract

Hypoglycemia in Patients Undergoing Hemodialysis

Authors: Uvannie Enriquez, RN, Marifel Axalan, RN, Flannery Cuevas, RN, Eun Yung Yang, RN, CDE, Hyo-Sook Kim, NP, Robee Ravago, RN, Marifel Axalan, RN, Felicia Mendelsohn Curanaj, MD, Jane Seley, DNP MPH, Susanna Slukhinsky, RD, Gulce Askin, MS, MPH, Jeffrey Silberzweig, MD

Statement of the Problem:

Approximately 40% of patients treated by hemodialysis (HD) have diabetes mellitus. Compared to the general population of HD patients with diabetes, hospitalized patients have greater risk of hypoglycemic episodes. Hemodialysis may place patients at greater risk of hypoglycemic episodes as it is an energy consuming procedure and patients frequently eat less due to decreased appetite and side effects of the dialysis treatment including hypotension, nausea and dizziness. Malnutrition is an important contributor to poor outcomes among hospitalized patients. To decrease the likelihood of a missed meal, we began offering meal trays to all patients during HD. This project was brought to the attention of the HD interdisciplinary team by the nursing staff who reported a high rate of symptomatic hypoglycemic episodes during HD.

Objective/Aim of the study:

1. Identify the frequency of episodes of hypoglycemia during hemodialysis among hospitalized patients with diabetes mellitus.
2. Identify risk factors for hypoglycemia during hemodialysis among hospitalized patients with diabetes mellitus.
3. Evaluate outcomes of an educational intervention that empowered nurses to consider expected carbohydrate consumption and prandial insulin dosing during HD.

Project Design/Methods:

After obtaining IRB approval, we retrospectively reviewed the charts of patients with diabetes mellitus undergoing hemodialysis treatment between January and May of 2016 who had point-of-care blood glucose testing during HD. In May of 2016, a Certified Diabetes Educator (EY) in the HD unit educated nursing colleagues' on how to estimate the carbohydrate (CHO) content of meals consumed during HD. Patients who consumed at least 30 grams of CHO continued to receive the full prandial insulin dose as ordered. For patients anticipated to consume less than 30 grams, the nurse contacted the MD to consider a reduction in the insulin dose. The population was divided into pre- (January to May) and post (June to August) educational intervention time periods. Charts were reviewed for co-morbid medical conditions, medications taken during hospitalization and blood glucose levels for the 24 hours surrounding the dialysis treatment.

Results:

Blood glucose levels less than 100 mg/dL were reported in nearly half of our patients (91/201 = 45%). Symptomatic hypoglycemia was reported in 24% (22/91 patients). Factors associated with symptomatic hypoglycemia during HD included younger age and low blood sugar in the 12 hours preceding dialysis treatment. Patients in the post-intervention group were 2.6 times more likely to experience low blood glucose during hemodialysis. There were more patients in the post-intervention group (n = 57, June - August 2016) than in the pre-intervention group (n = 35, January - May 2016).

Conclusions:

We plan to develop a protocol for insulin administration for diabetes patients during HD. The protocol will include an adjusted dose of insulin during HD based on identified risk factors and the carbohydrate content of the meal to be consumed. We will then observe the effect of this protocol based on the frequency of hypoglycemic episodes during and six hours post-HD.

Note: This work was partially supported by the following grant: Clinical and Translational Science Center at Weill Cornell Medical College (UL1-TR002384-01).

Problem Statement

- Approximately 40% of patients treated by hemodialysis (HD) have diabetes mellitus. Compared to the general population of HD patients with diabetes, hospitalized patients are at greater risk for hypoglycemic episodes.
- Hemodialysis may further increase the risk since patients frequently eat less due to decreased appetite and side effects of the dialysis treatment.

Objective/Aim Statement

- Identify the frequency of episodes of hypoglycemia during hemodialysis among hospitalized patients with diabetes mellitus.
- Identify risk factors for hypoglycemia during hemodialysis among hospitalized patients with diabetes mellitus.
- Evaluate outcomes of an educational intervention that empowered nurses to consider expected carbohydrate consumption and prandial insulin dosing during HD.

Design/Methods

Educational intervention with retrospective chart review of pre and post intervention time frame

Sample

- Patients with diabetes mellitus
- Undergoing hemodialysis treatment
- January to August of 2016
- With point-of-care blood glucose testing during HD

Intervention

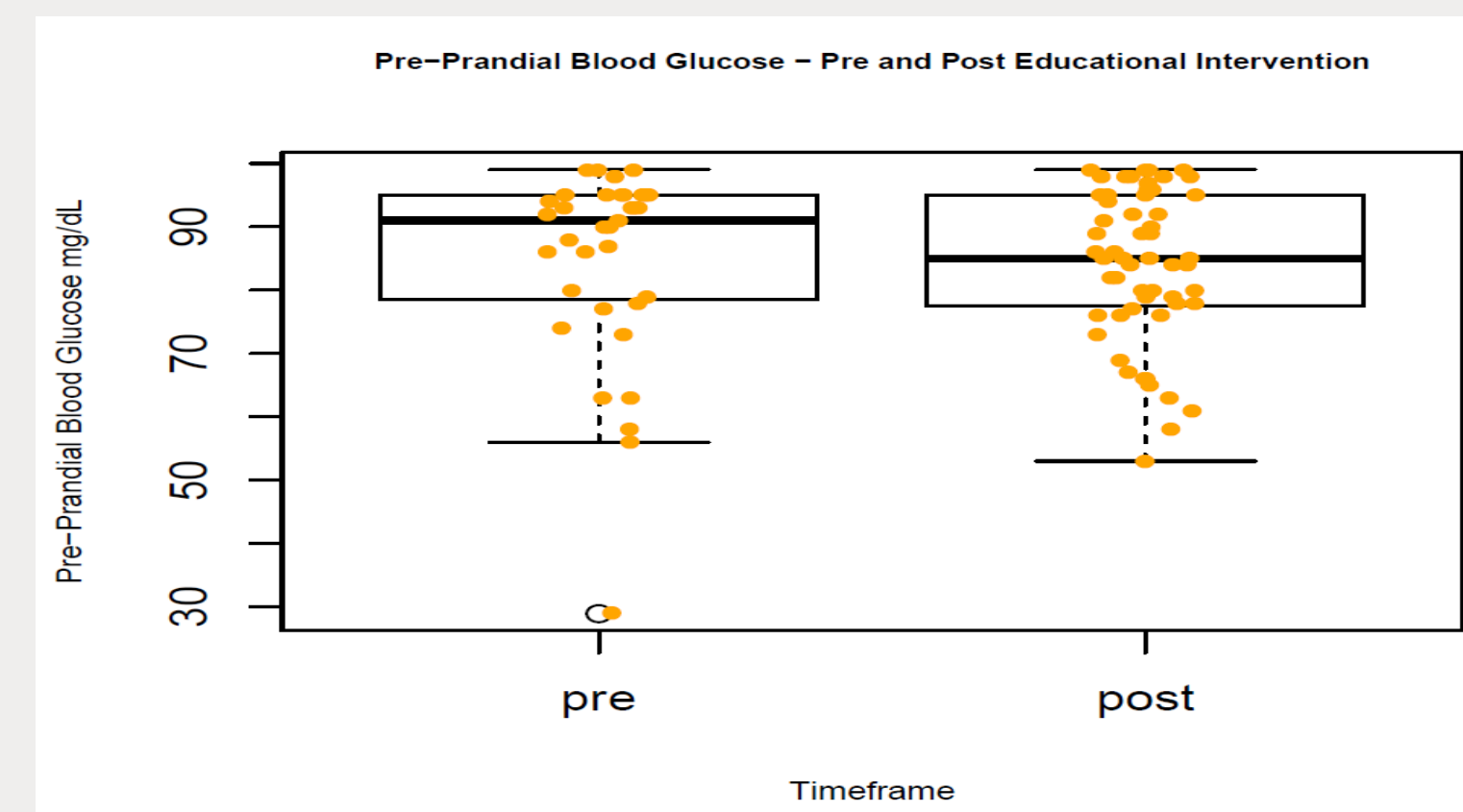
- Nurses educated on carbohydrate (CHO) estimation
- Patients anticipated to consume ≥ 30 grams of CHO continued to receive the full prandial insulin dose as ordered
- For patients anticipated to consume < 30 grams, prescriber asked to consider a reduction in the insulin dose

Analyses

- Charts were reviewed for co-morbid medical conditions, medications taken during hospitalization and blood glucose levels 12 hours pre- & post-HD
- Descriptive statistics and chi-square tests were conducted to assess for pre and post intervention differences

Results

- Intradialytic blood glucose levels < 100 mg/dL were reported in nearly half of our patients ($91/201 = 45\%$).
- Symptomatic hypoglycemia during HD was reported in 24% (22/91 patients).
- Factors associated with symptomatic hypoglycemia during HD:
 - younger age
 - low blood sugar in the 12 hours preceding dialysis treatment



- Patients in the post-intervention group were 2.6 times *more* likely to experience a low blood glucose during hemodialysis.
- There were more patients in the post-intervention group ($n = 57$, June - August 2016) than in the pre-intervention group ($n = 35$, January - May 2016).

Conclusions/Next Steps

- Develop a protocol for insulin administration for diabetes patients during HD.
- Protocol will include an adjusted dose of insulin during HD based on identified risk factors and the carbohydrate content of the meal to be consumed.
- Observe the effect of this protocol based on the frequency of hypoglycemic episodes during and six hours post-HD.

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Enhancing Interdisciplinary Engagement and Collaboration in Quality Improvement at the Unit Level

Vishwas Anand Singh, MD, MS; Lauren Wasson, MD; Adrian Majid, MD; Jennifer Shaw, RN

Statement of the Problem:

Residents as front-line providers, are in a prime position to identify areas of inefficiencies and help drive forward key Quality Initiatives. However, they often do not feel empowered, engaged or even aware of how to participate meaningfully or develop Quality Improvement initiatives. In a pilot survey, 83% of Residents and Interns rotating on two units said they did not know of any ongoing QI projects on their unit, while 42% didn't recognize that Nursing was involved in QI. 25% did not know who to approach to suggest QI ideas or issues. This leads to barriers in QI engagement and success. There is a lack of a meaningful infrastructure to promote such awareness and communication between resident and nursing of QI issues, to generate new project ideas and promote collaboration between nursing and residents on existing and novel QI Projects.

Objective/ AIM of the study

To create and implement a formal communication infrastructure at the unit level that will lead to a measurable increase in Resident awareness and engagement in QI projects and initiatives, as well as a measurable increase in improvement in QI metrics.

Project Design/Methods:

Two units will be selected to pilot the process. A Nurse Quality Champion will be identified. At the beginning of the rotation there will be a 10 minute Unit Quality Orientation, where Residents hear about QI Projects relevant to the unit, and told how they can help and engage in QI. There will be a check-in at the mid-point of the rotation to discuss issues encountered on the unit and reinforce key initiatives and concepts. At the end of the rotation, there will be a debrief of what went well and what areas to work on. The QI RN will update a project progress log, and measure impact on relevant QI outcomes monthly. We will measure feasibility of the process by calculating the amount of times the orientation and debriefs are happening (goal 75% of the time). For impact on awareness, there will be a survey handed out to the residents measuring awareness of QI projects and on lines of communication. After the rotation, there will be a post-intervention survey measuring the same criteria. For impact on Resident knowledge, we will have a pre- and post-test on relevant QI Projects for the unit, and for impact on overall QI initiatives, we will compare QI metrics on units with the intervention to units without the intervention.

Results/Conclusions:

Initial pre-survey data demonstrates a lack of awareness by rotating residents on Unit-Level QI Projects and initiatives, as well as a lack clarity on who to discuss QI issues with. It is difficult to make meaningful impact on QI initiatives when an important component of front-line providers are not meaningfully engaged. This demonstrates a need for a more formalized process and communication infrastructure around QI at the Unit level. We hope to be able to show that the implementation of a formalized QI Orientation and communication infrastructure at the unit level will lead to a measurable increase in Resident awareness and engagement in QI projects and initiatives, as well as a measurable increase in improvement in QI Project and initiative metrics, both within the Unit, and when compared to other units.

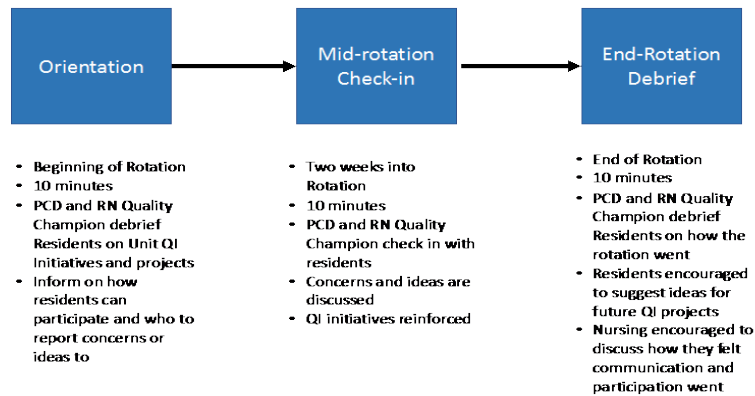


Figure 1: Overview of Process

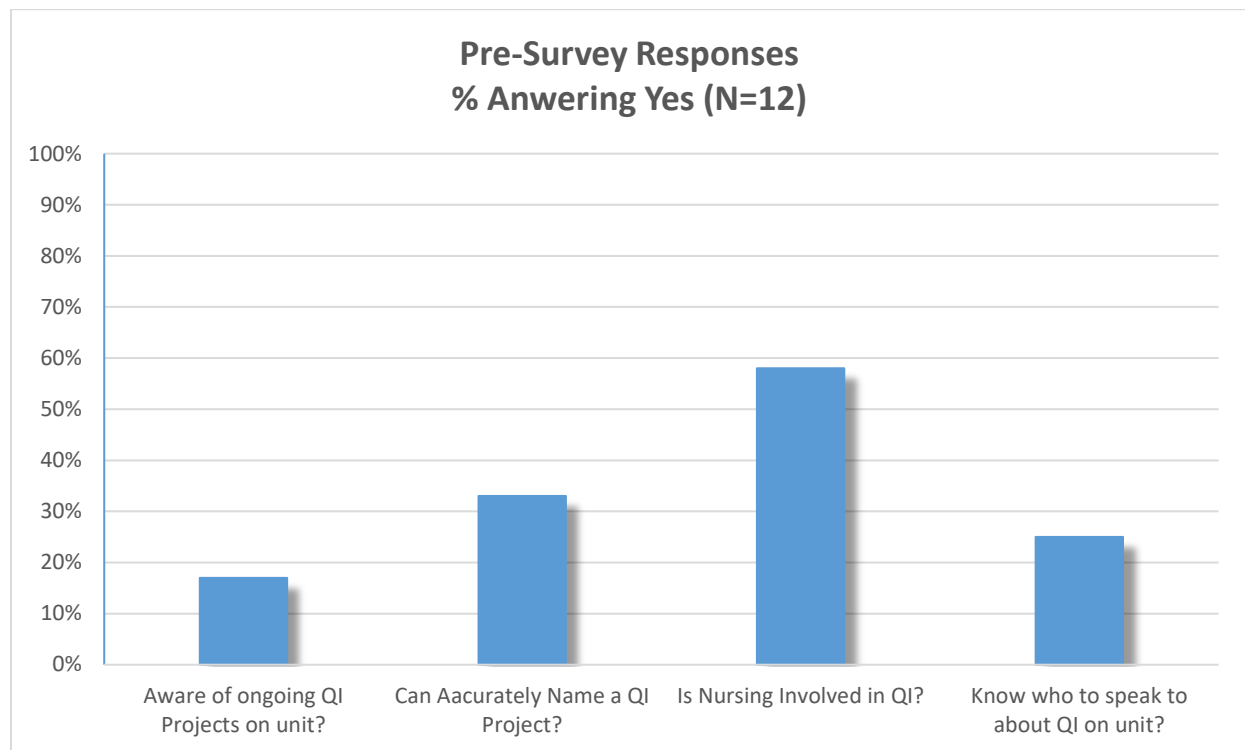


Figure 2: Pre-Survey Responses

Utilizing tele-pharmacy to complete medication reconciliation within the emergency department

Jessica Snead, Leigh Efird

Comprehensive medication reconciliation is a challenge for every hospital. The timing of admission medication reconciliation is challenging especially in the emergency department. For many patients, they are in their most acutely ill phase of presentation and the emergency department can be a very dynamic setting. In the current state, medication history gathering may be a part of the workflow of different providers leading to duplication of efforts and increased patient frustration with providing the same information multiple times. Ensuring a standardized workflow would streamline the process to improve cost-effectiveness, patient experience, medication safety and provider satisfaction. The primary aim of the study is to develop a workflow that promotes efficiency in the medication reconciliation process.

Study design: Evaluation of a workflow process for tele-pharmacy in the emergency department. We are studying a cohort of patients who visited the ED from 9-5pm Monday through Friday for a 2 week period.

Setting/population: During the triage process, a pharmacy technician performs a medication history for patients entering the ED through triage. Once patients are registered, vitals and labs are taken, the patient meets with the technician through a virtual platform. The technician then performs the medication history and verifies the medications with at least 2 sources. A pharmacist reconciles any medication discrepancies with a provider.

Outcome measures include average time per patient to perform med history, number of patients seen per hour by technician, time to perform med rec by technician versus provider and ED HCAHPS related to medications.

QI methodology: We used a PDSA methodology to determine where was the best location for the device to be used to connect to the technician, who would start the visit with the patient in the ED, where the medication history taking process fit best in the ED workflow.

sResults are currently being evaluated.

Problem Statement: A pilot study at Weill Cornell in 2016 showed that over 70% of patients admitted to general medicine and surgery had at least one medication discrepancy on admission. For those with at least one discrepancy, the average was four.

Objective/Aim Statement: Our project aims to improve the medication reconciliation process by increasing accuracy of the home medication list on admission, improving medication safety, decreasing provider time spent obtaining home medications, and enhancing the patient experience.

Design/Methods: Used PDSA methodology to develop a workflow involving incorporation of a tele-health platform into the current triage process. Areas that were studied and redesigned included making the cart stationary versus mobile in the ED areas, collaborating with ED staff to own the process of directing the patients, and training pharmacy technicians on using a tele-health platform.



Quick
registration
/Vitals

Exam by PA

Labs

Medication
history

Assigned
bed in ED

Results

Time to perform the medication history process decreased from a median time of 40 minutes for the in-person process to 5-10 minutes for the tele-health process. We also increased the number of patients we are able to see from approximately 10 patients per day to 30 patients between the hours of 11am and 10pm.

Conclusions/Lessons Learned

Transferring the process into the triage workflow allowed us to capture patients prior to a full ED evaluation.

Next Steps: We are expanding this service to patients with entry points into the hospital of the ambulance bay and ORs at Weill Cornell. We are also expanding to all other EDs across our 10 hospital sites.