Care Zones Staffing Model:
Solving Workflow Barriers to Improve Patient and Nurse Outcomes

Emory University Hospital
Atlanta, Georgia

Sigma Theta Tau International
Honor Society of Nursing®

Learning Outcomes

I. Review Care Delivery Model Framework
II. Identify Problems
III. Discuss Design of Care Zones Assignment
IV. Discuss Benefits and Outcomes of Care Zones Assignment
V. Review Care Zones Applications & Implementation

Setting

- 24 Bed General Medicine Unit
- High Acuity Complex Patients
- High Volume Patient Turnover
- Nurse/Patient Ratio 1:4 or 1:3
- Nurse Tech Patient Ratio 1:8-1:12
- 2 Hospital Medicine Teaching Service Teams Rotate Monthly

Accountable Care Unit (ACU™)

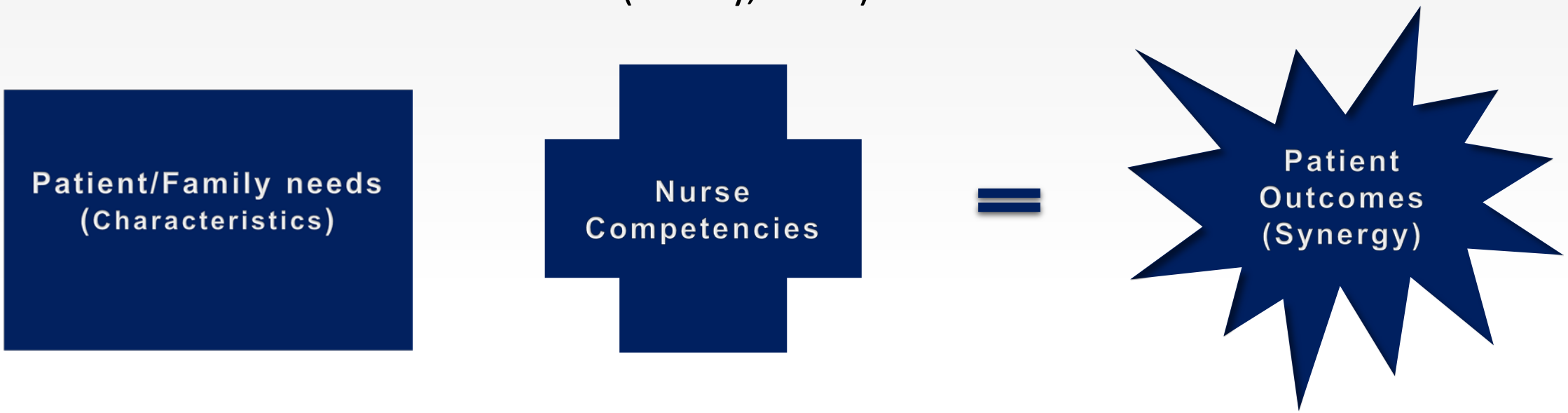
A geographic inpatient area consistently responsible for the clinical, service, and cost outcomes it produces.

ACU Features:

- Unit-Based Patient Teams
- Structured Interdisciplinary Bedside Rounds (SIBR™)
- Unit-Level Performance Reporting
- Unit-Level Nurse and Physician Co-Leadership

Synergy Model

The Synergy Model represents a patient's needs based on the patient's characteristics, matched with and a nurse's practice competencies thus producing optimal patient outcomes (Curley, 1998).



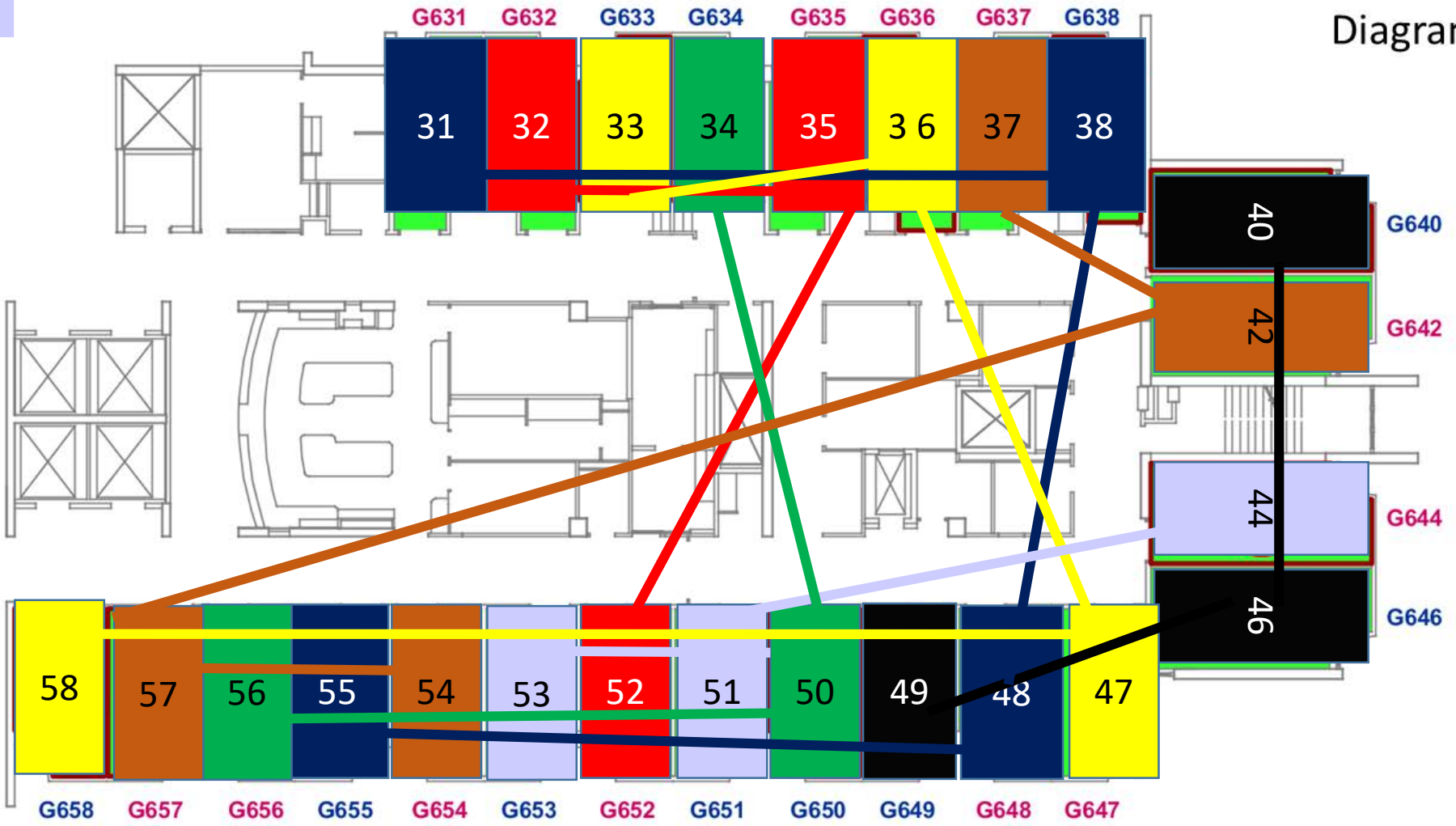
Problems Identified

- RN patient assignments for the on-coming shift were based on synergy acuity that had negative staff feedback. RN staff raised concerns about “unfair” and/or “inconsistent” assignments by charge nurses
- Staff members not geographically located near assigned patients
- RN’s reporting off at shift change to multiple staff members
- Staff members unnecessarily crossing paths throughout shift
- Inter-professional team rounding crossed multiple paths

Typical Shift Assignment Pattern

RN 1	RN 2	RN 3	RN 4	RN 5	RN 6	RN 7
40	31	32	33	34	37	44
46	38	35	36	50	42	51
49	48	52	47	56	54	53
	55		58		57	

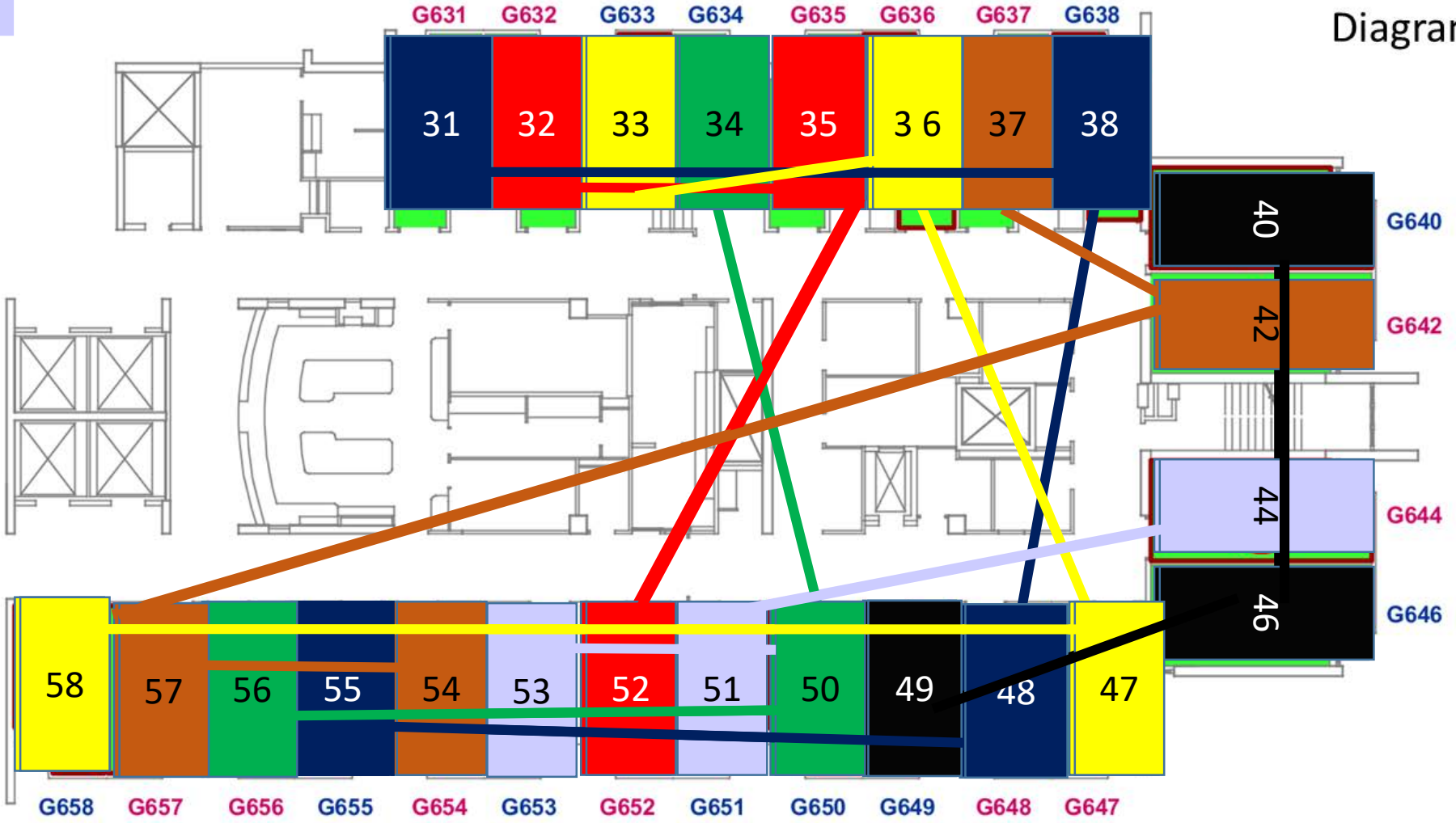
Spaghetti Diagram



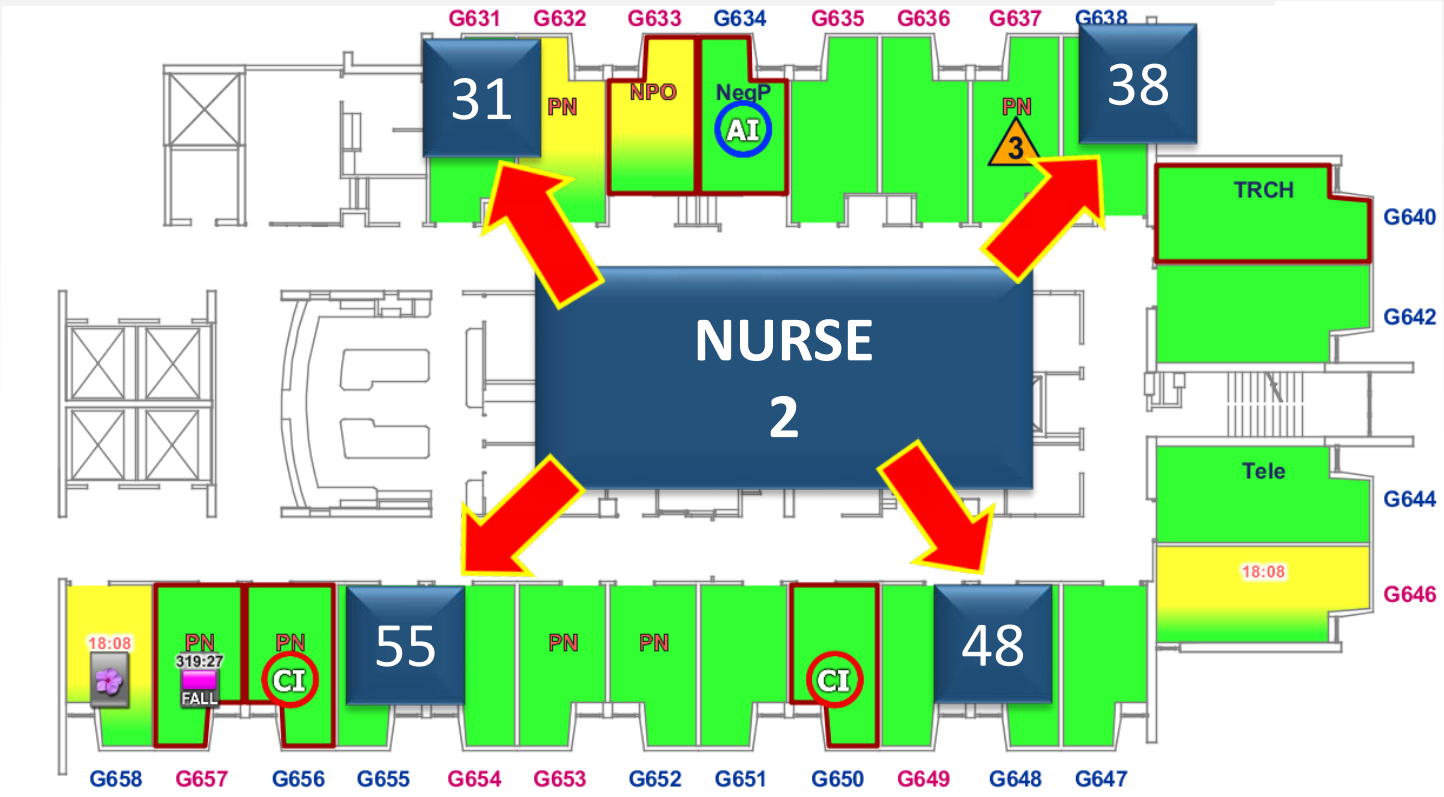
Typical Shift Assignment Pattern

RN 1	RN 2	RN 3	RN 4	RN 5	RN 6	RN 7
40	31	32	33	34	37	44
46	38	35	36	50	42	51
49	48	52	47	56	54	53
	55		58		57	

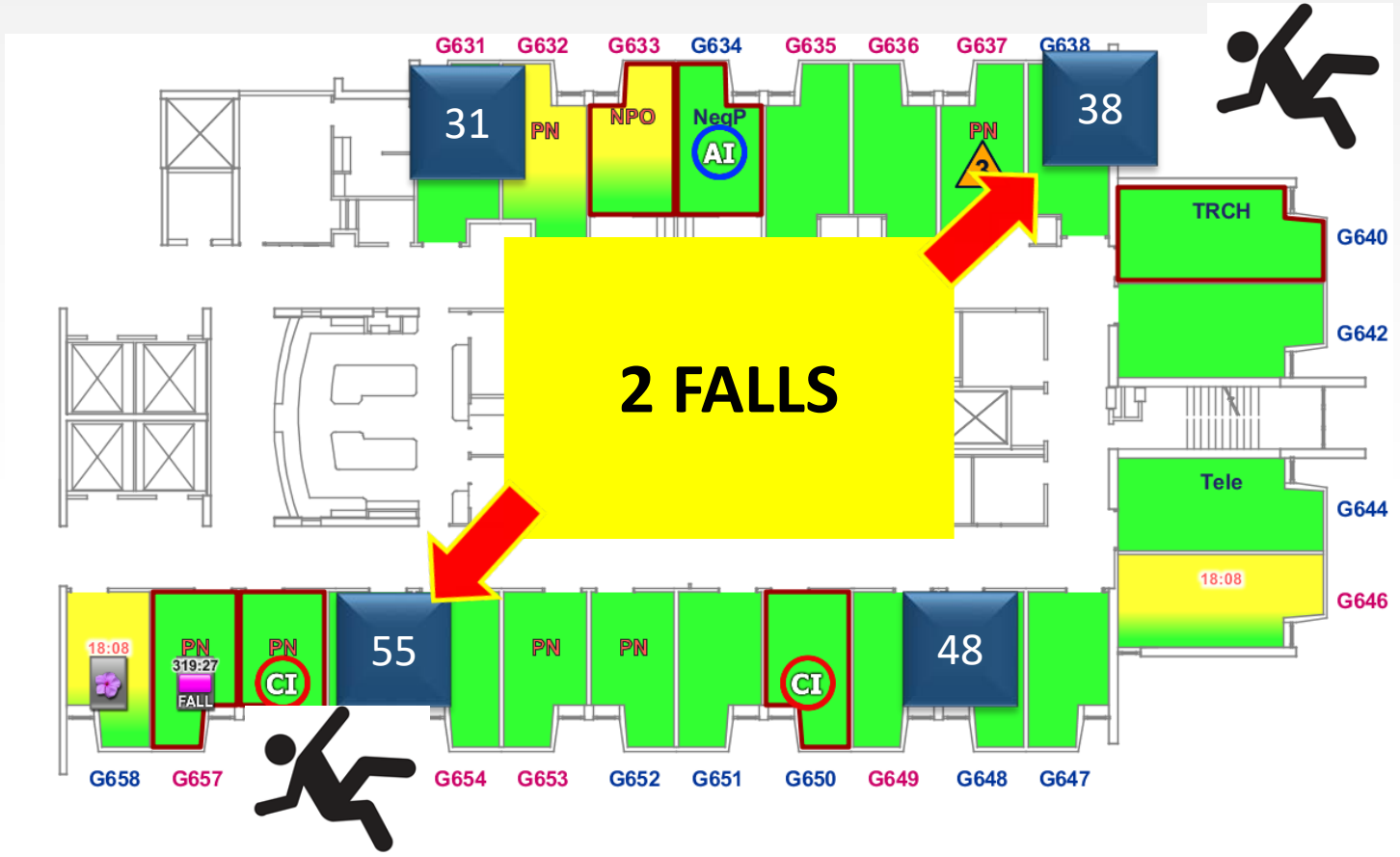
Spaghetti Diagram



A Closer Look into a Nurse's Assignment



Leading to Patient Impact



Goal

Promote an efficient staffing assignment model that produces favorable outcomes.

Search for Evidence Based Practice

The University Of Michigan Health System

- Increased nurse satisfaction
- Increased patient satisfaction
- Decreased call lights
- Decreased patient falls
- Decreased incremental overtime

(Friese et al., 2014)

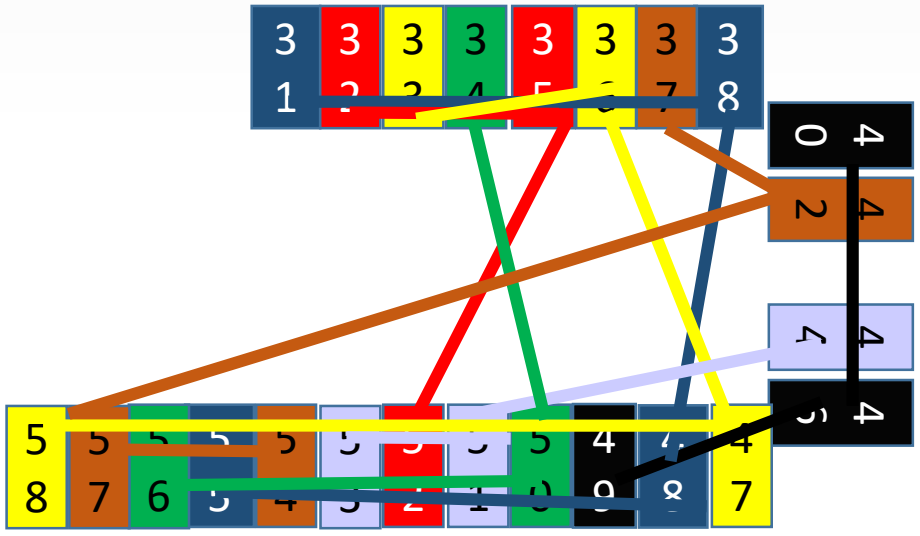
University of Pittsburgh Medical Center Shadyside

- Patient satisfaction with nurses keeping them informed
- Increase promptness responding to patient calls and attention to patient/personal needs

(Donahue, 2009)

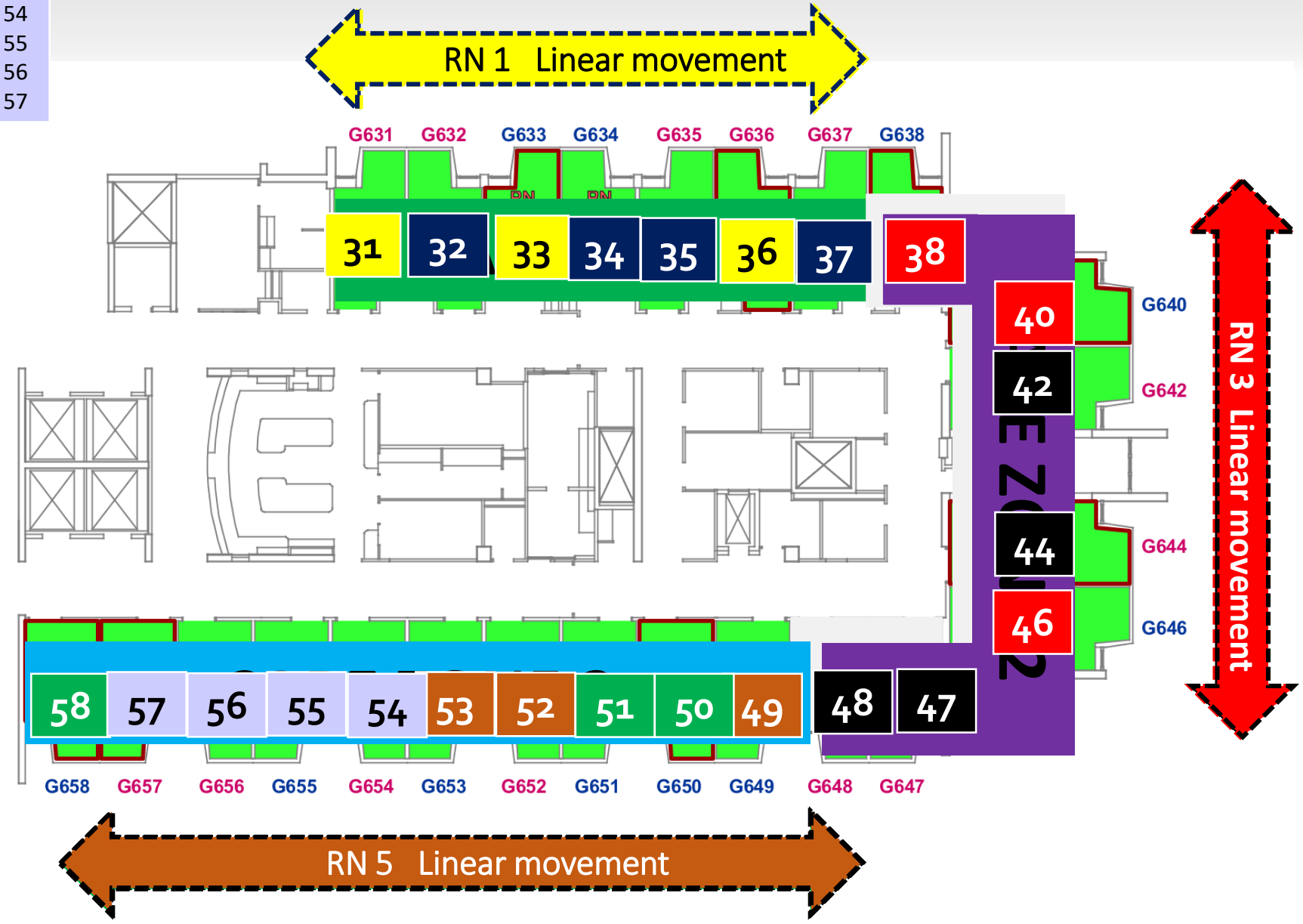
Definition

Care Zones are staff assignments that are made based on patient geography, acuity, and skills required of the nursing care team to achieve optimal patient outcomes.



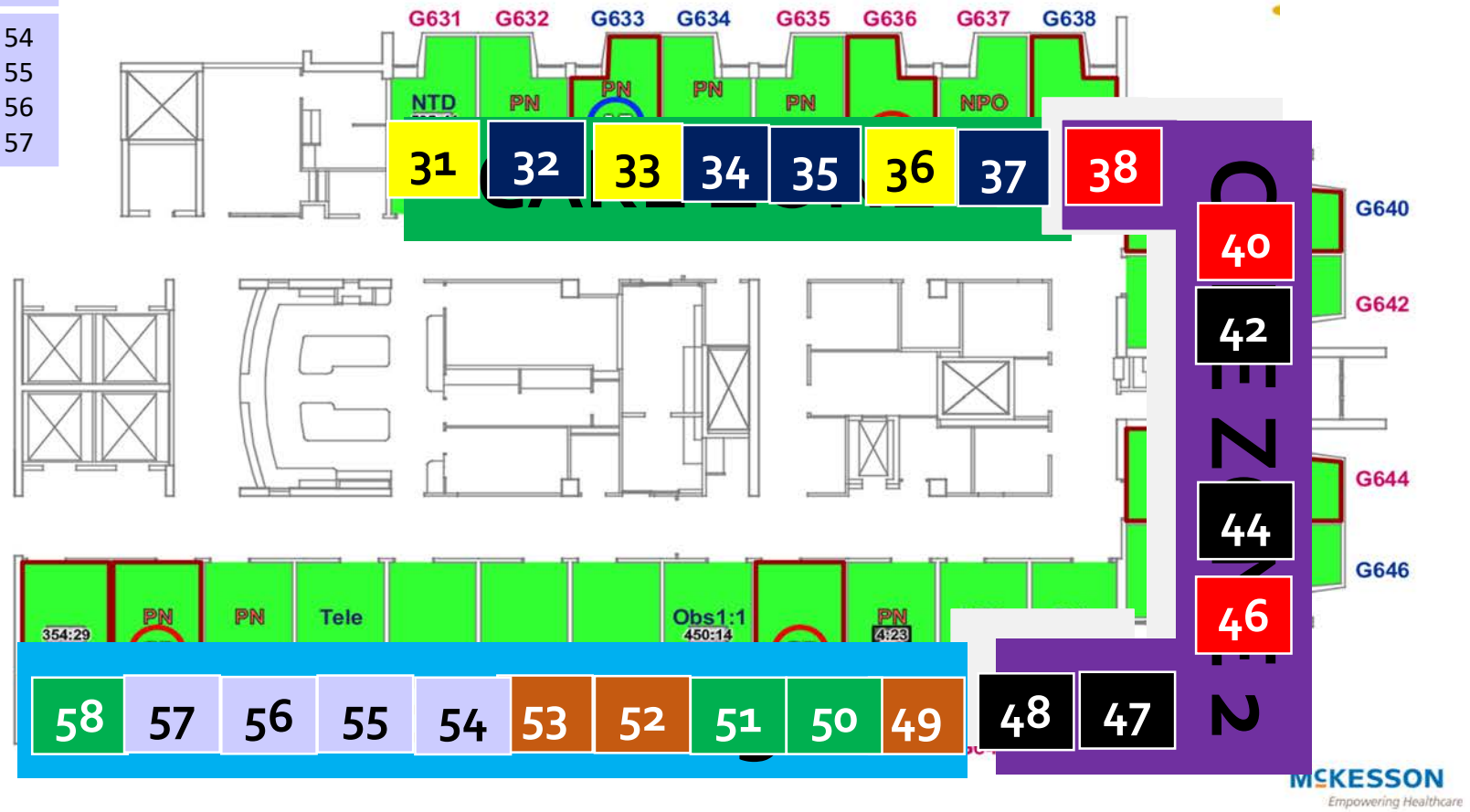
RN 1	RN 2	RN 3	RN 4	RN 5	RN 6	RN 7
31	32	38	42	50	53	54
33	34	40	44	51	52	55
36	35	46	47	58	49	56
	37		48			57

Flexible & Fluid movement within the Care Zones

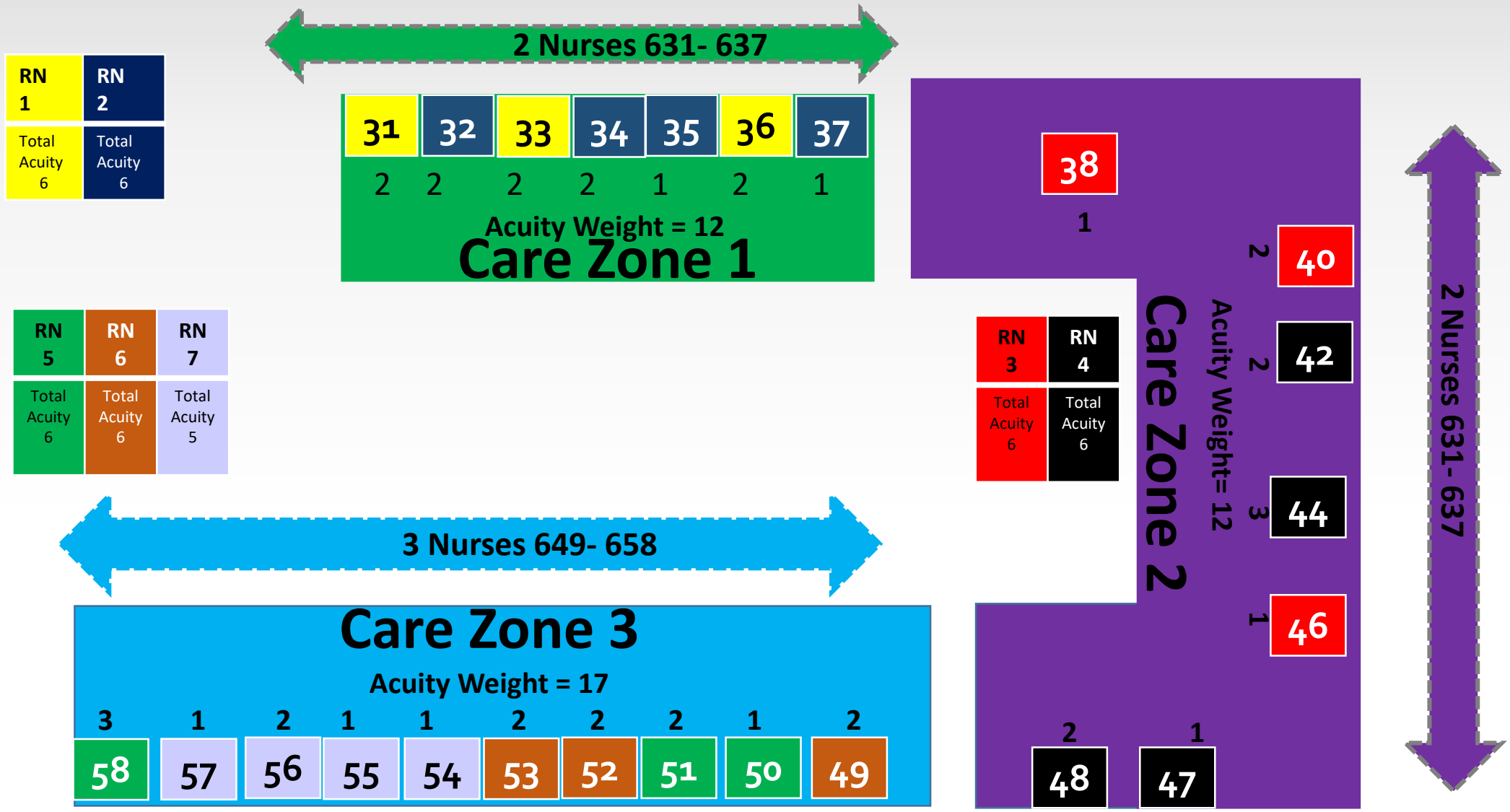


RN 1	RN 2	RN 3	RN 4	RN 5	RN 6	RN 7
31	32	38	42	50	53	54
33	34	40	44	51	52	55
36	35	46	47	58	49	56
	37		48			57

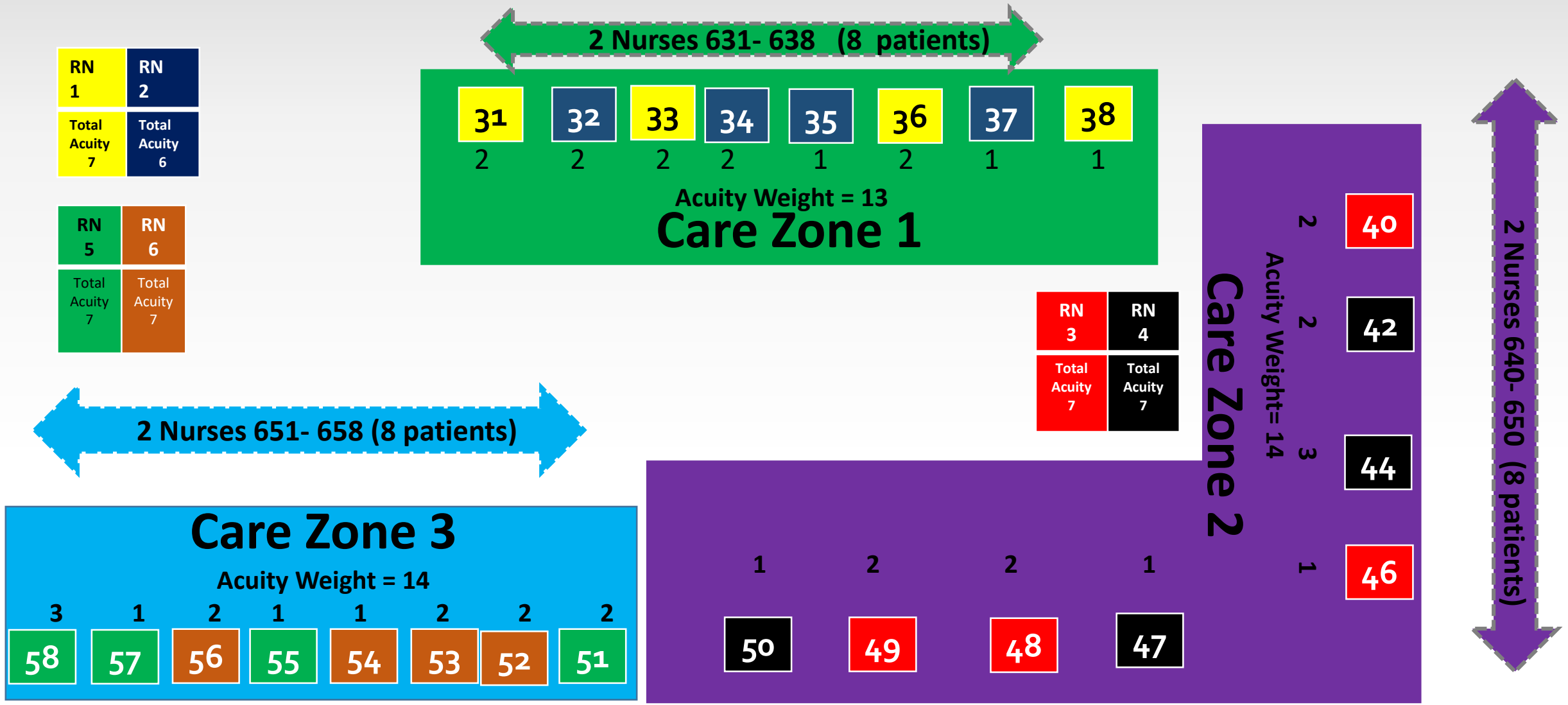
Flexible & Fluid movement within the Care Zones



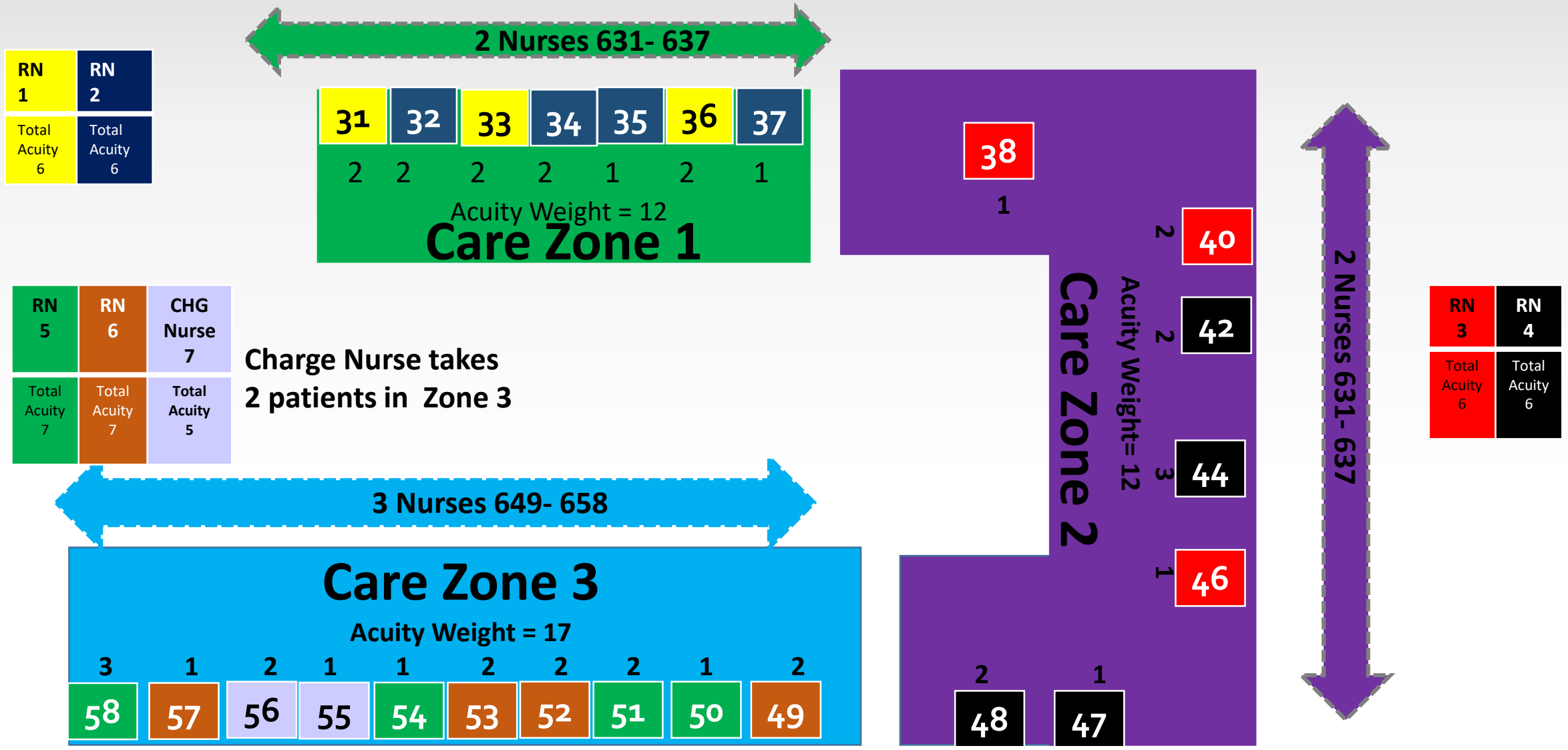
Synergistic Approach in Care Zones



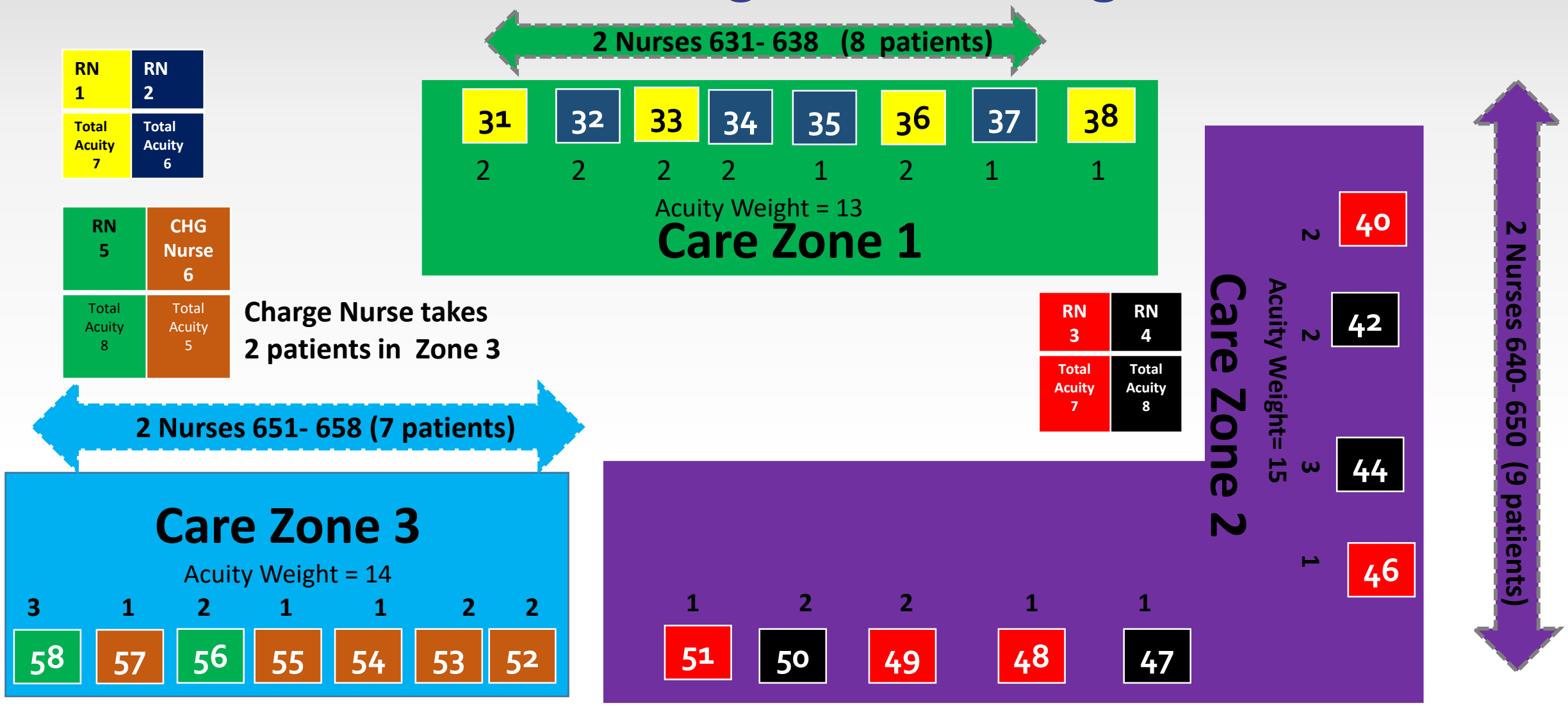
Staff Level Change 7 Nurses Day Shift



Staff Level Change 7 Nurses Night Shift

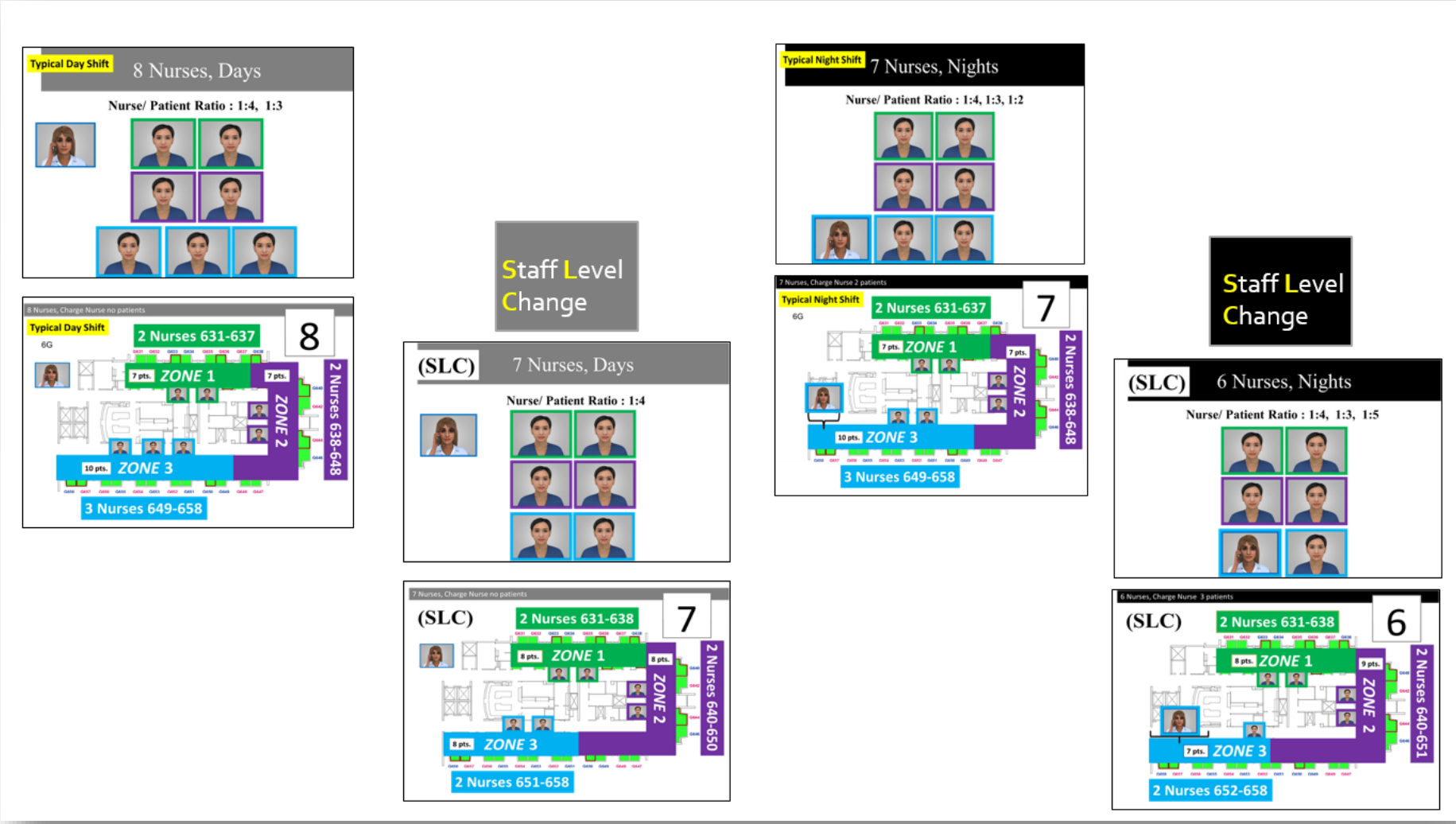


Staff Level Change 6 Nurses Night Shift



Care Zones Flip Chart

Designed to assist charge nurses in making assignments with varying staffing levels



Care Zones Nurse Assignment Sheet

7A-7P DATE: _____ 6G NURSING ASSIGNMENT SHEET CN: _____

Care Zone 1			Care Zone 1			Care Zone 2			Care Zone 2			Care Zone 3			Care Zone 3			Care Zone 3		
NURSE			NURSE			NURSE			NURSE			NURSE			NURSE			NURSE		
N																				
P																				
AL	RM	Pt. Name	AL	RM	Pt. Name	AL	RM	Pt. Name	AL	RM	Pt. Name	AL	RM	Pt. Name	AL	RM	Pt. Name	AL	RM	Pt. Name
BUDDY			BUDDY			BUDDY			BUDDY			BUDDY			BUDDY			BUDDY		

7P-7A CN: _____

Care Zone 1			Care Zone 1			Care Zone 2			Care Zone 2			Care Zone 3			Care Zone 3			Care Zone 3		
NURSE			NURSE			NURSE			NURSE			NURSE			NURSE			NURSE		
N																				
P																				
AL	RM	Pt. Name	AL	RM	Pt. Name	AL	RM	Pt. Name	AL	RM	Pt. Name	AL	RM	Pt. Name	AL	RM	Pt. Name	AL	RM	Pt. Name
BUDDY			BUDDY			BUDDY			BUDDY			BUDDY			BUDDY			BUDDY		

SIBR™ Rounds Sheet

Geographic SIBR® Rounds Map

Date: 7/23/15 Team: S / P Time: Resident:M. Birnbaum

#	NURSE	PHONE #	PATIENT	PATIENT	PATIENT	PATIENT	PATIENT
1	RN 1	404-111-2122	31	33	37		
2	RN2	404-111-2133	32	34	35	36	
3	RN3	404-111-2134	38	40	46		
4	RN4	404-111-2135	42	44	47	48	
5	RN5	404-111-2135	49	50	52		
6	RN6	404-111-2137	51	53	55	58	
7	RN7	404-111-2138	54	56	57		
8							

SIBR® Debriefing

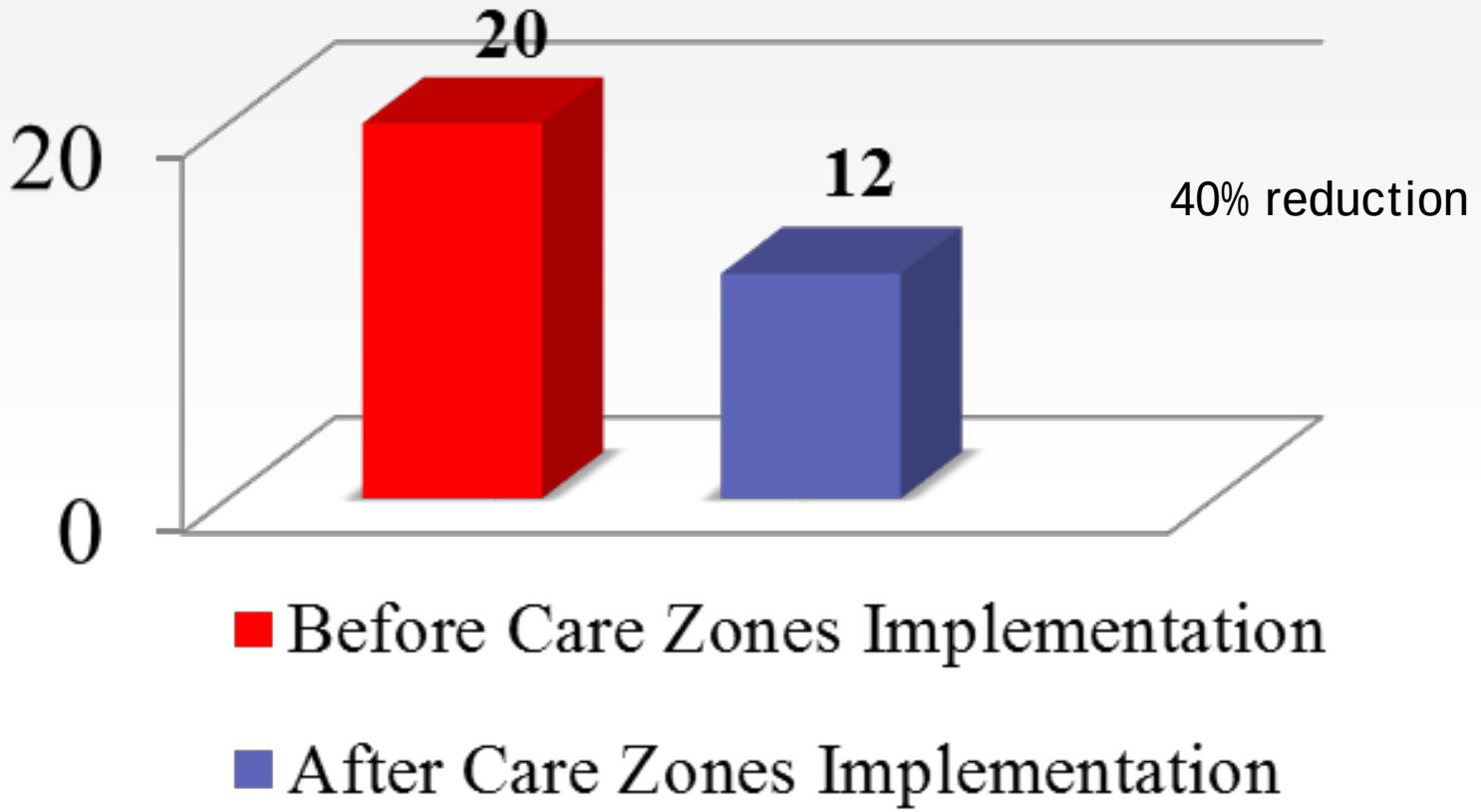
Discharges								
Transfers								
Other :								

6G EUH developed 4-25-2015

Outcome Measurement Data

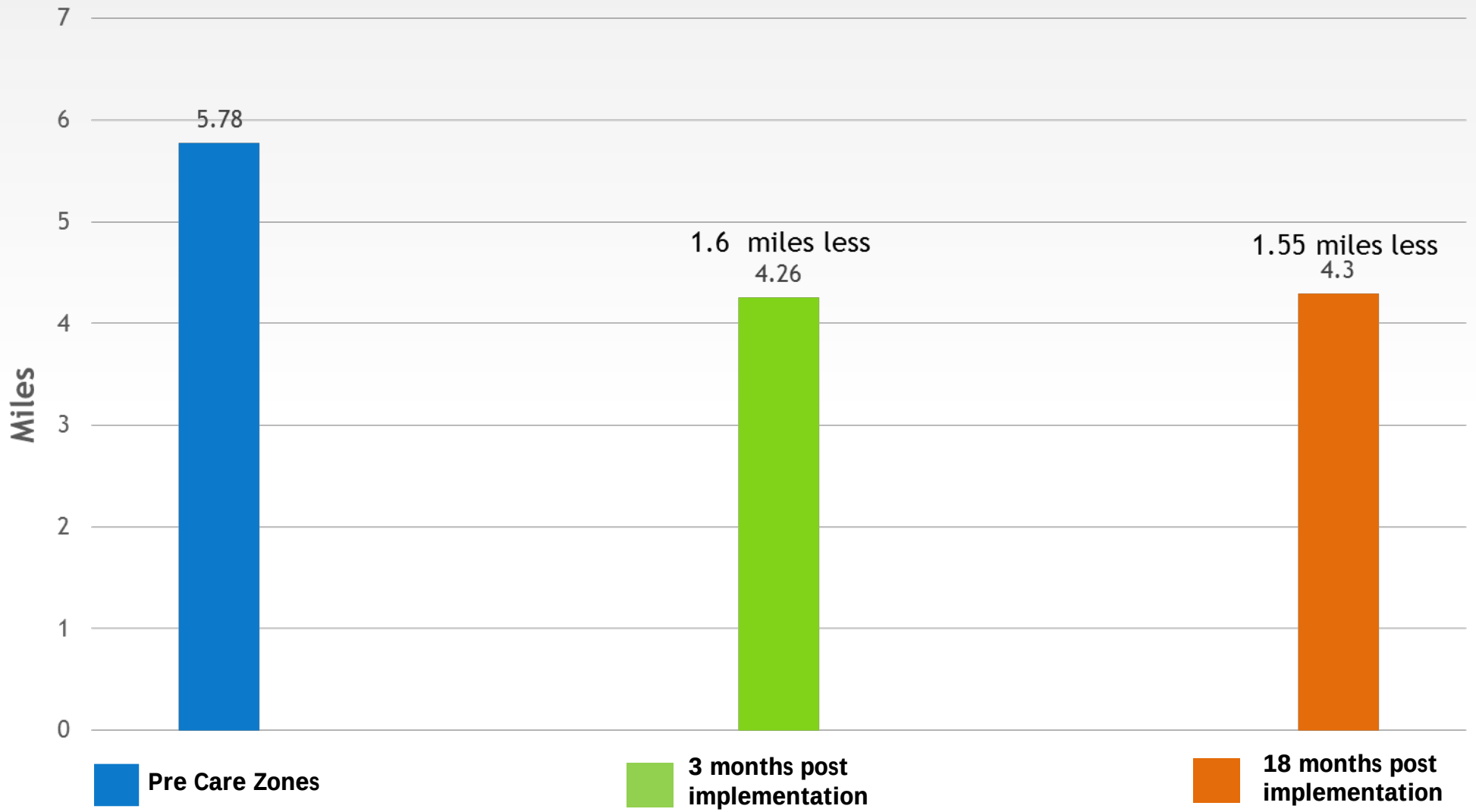
- RN satisfaction with patient assignments and workflow
- Patient falls
- Call light volume
- Late clock outs due to hand off process
- Distance traveled during a shift

Incremental Overtime

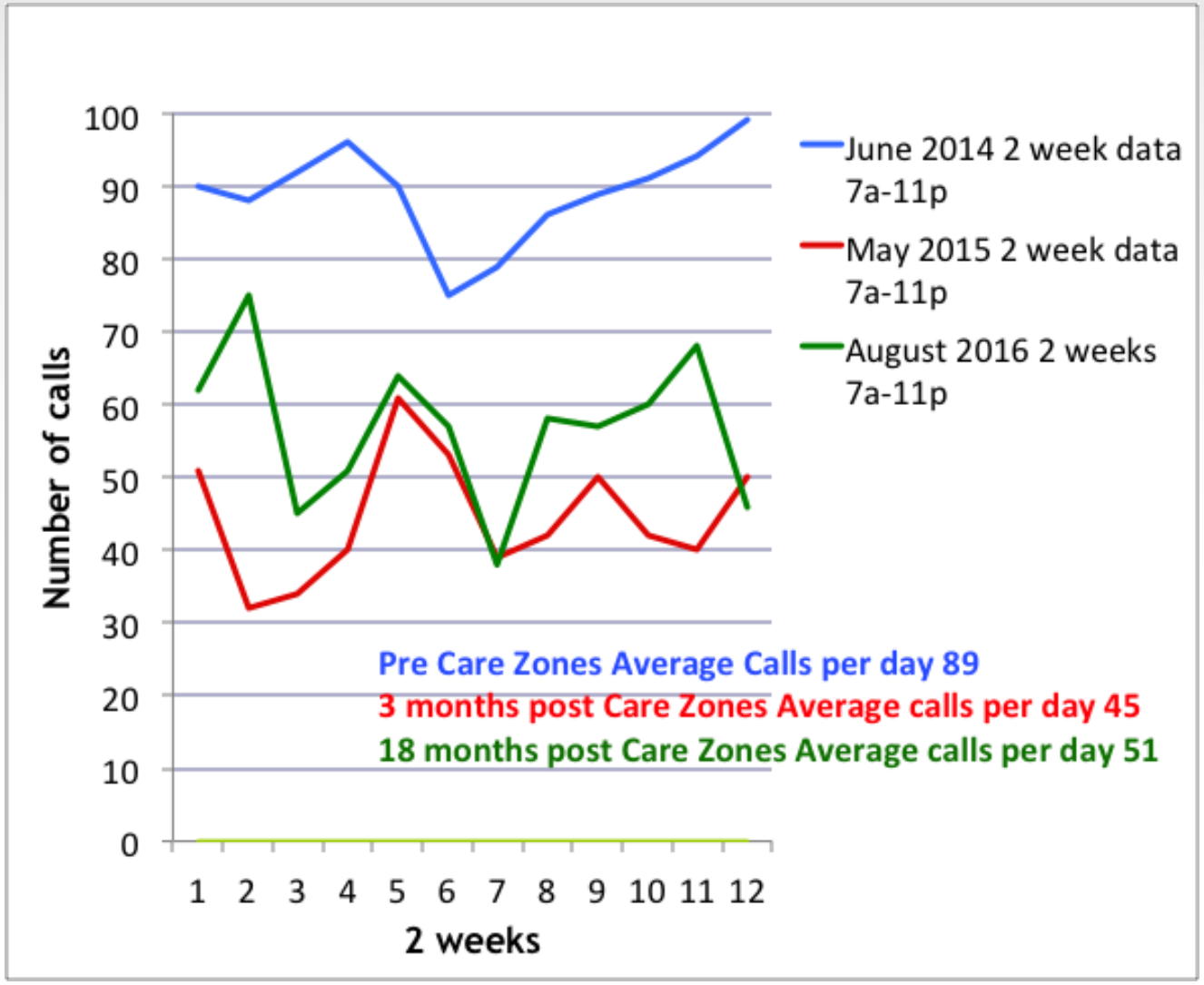


40% reduction

Distance traveled per nurse per 12 hour shift



2 week Call Light Data Comparison



Patient Fall Data

Unit Nursing Quality Index: 6G (Medical)

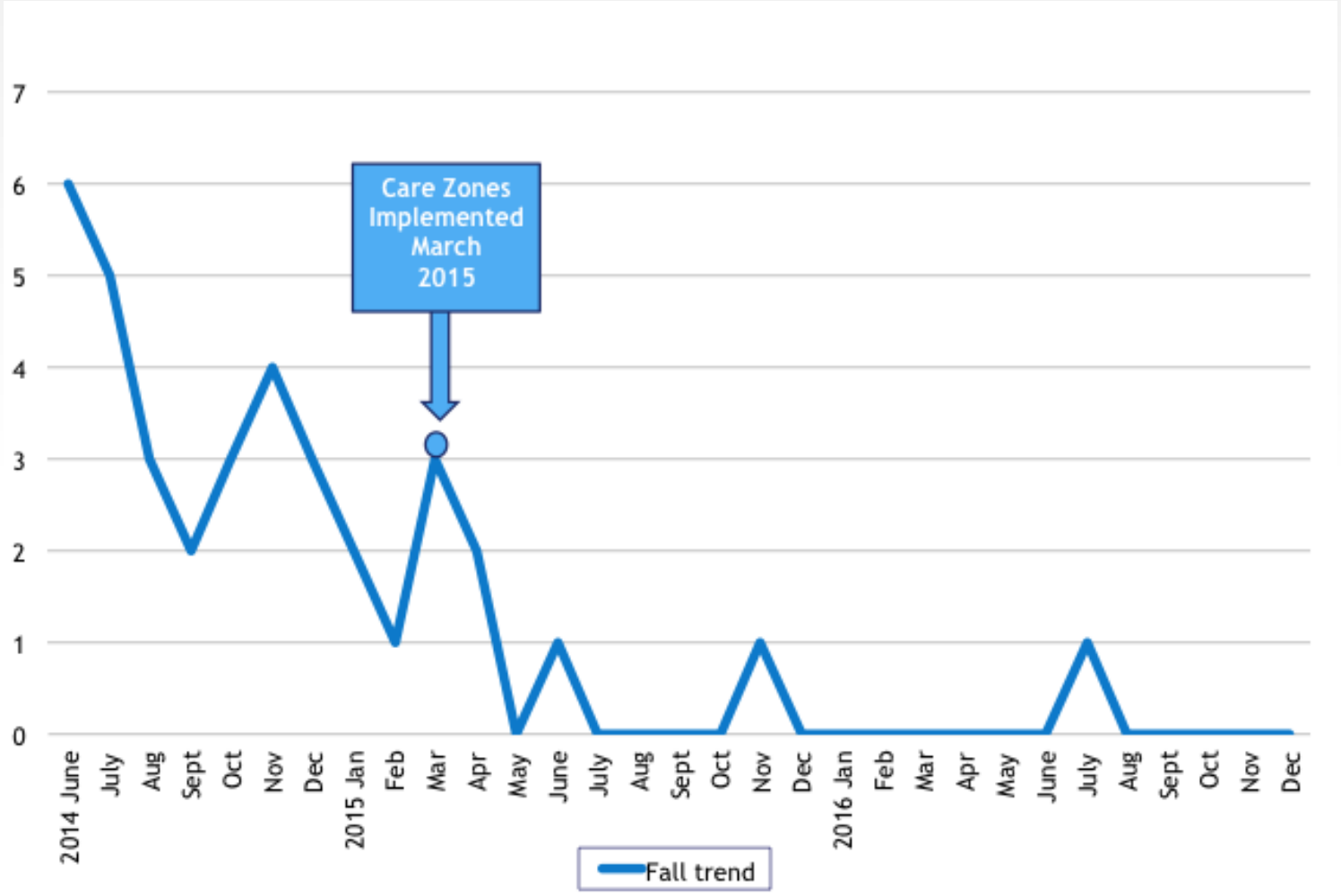
EMORY HEALTHCARE	FY13 Target	FY14 Target	FY15 Target	Q4-FY13 Aug-13	Q1-FY14 Nov-13	Q2-FY14 Feb-14	Q3-FY14 May-14	Q4-FY14 Aug-14	Q1-FY15 Nov-14	Q2-FY15 Feb-15	Q3-FY15 May-15	8-Qtr Trend
Pt Sat: Overall Nurses	50	50	50	82	26	11	71	92	9	95	99	5 of 8
Pt Sat: Nurse Kept You Informed	50	50	50	53	51	25	78	95	9	92	99	6 of 8
Pt Sat: How Pain Was Controlled	50	50	50	89	14	4	84	65	91	41	46	4 of 8
Pt Sat: Promptness Responding to Call	50	50	50	93	24	21	88	73	4	99	99	5 of 8
Pt Sat: Attention Special/Personal Needs	50	50	50	93	18	17	39	82	35	77	99	4 of 8
Pt Sat: Friendliness / Courtesy of Nurses	50	50	50	77	39	16	55	98	33	83	97	5 of 8
Pt Sat: Nurses' Attitude toward Requests	50	50	50	84	17	12	73	96	8	98	99	5 of 8
Falls per 1,000 Patient Days	2.75	2.60	2.50	2.31	3.91	4.36	3.74	5.16	3.73	4.72	1.87	2 of 8
Falls w/ Injury per 1,000 Patient Days	0.52	0.46	0.41	0.46	0.49	0.00	0.00	0.00	0.93	0.47	0.00	5 of 8

8-Qtr Trend Legend: # Qtrs meeting target	>50%	50%	<50%	# of Indicators at Target

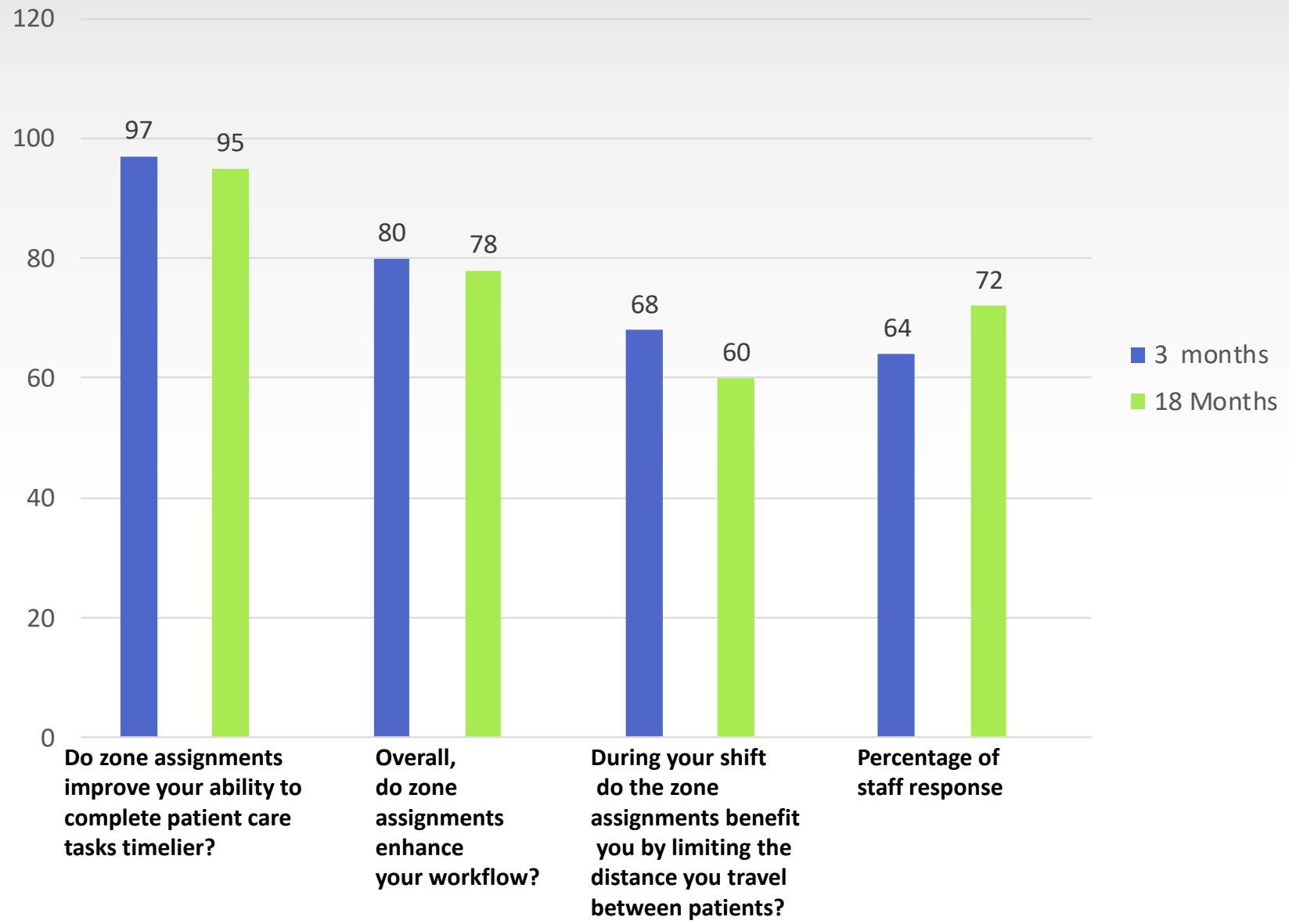
Unit Nursing Quality Index: 6G (Medical)

EMORY HEALTHCARE	FY13 Target	FY14 Target	FY15 Target	Q1-FY14 Nov-13	Q2-FY14 Feb-14	Q3-FY14 May-14	Q4-FY14 Aug-14	Q1-FY15 Nov-14	Q2-FY15 Feb-15	Q3-FY15 May-15	Q4-FY15 Aug-15	8-Qtr Trend
Falls per 1,000 Patient Days	2.75	2.60	2.50	3.91	4.36	3.74	5.16	3.73	4.72	1.87	1.92	2 of 8

Patient Fall Data Continued



Nurse Satisfaction



Benefits of Care Zones Assignment

- Minimize the impact of subjectivity in staff assignments
- Optimize Bedside Shift Report (BSR) process
- Provide a strong support system and safety net for patients and staff
- Care team is geographically close to assigned patients
- Promote team collaboration between staff members
- Increase patient safety and staff efficiencies in workflow

Future Care Zones Expansion at Emory

- Easily Replicable and Adaptable to Other Inpatient Settings
- Supports Inpatient Units of Varied Patient Populations
- The New Hospital Tower will utilize the Care Zones Assignment Model
- Other System Entities are Considering Adoption of Care Zones Assignment Model

Leadership Support: Plan Foundation for Success

- Assess the Culture, Identify Strengths, and Stakeholders Needed for Successful Implementation and Sustainment
- Prepare the Team's Mindset to Demonstrate Dedicationand Commitment to the Project's Success
- Enlist the Informal Leaders to Help Advocate, Role Model and Lead the Change
- Shape Your Stakeholders to Instill Commitment, Adherence, and Application

Needs Assessment

- Readiness Assessment Survey
- Examine Workflow Patterns
- Timeline and Check Points for Rapid Cycle Improvement and Celebrate Milestones
- Utilize the Comfort Level of Staff as a Leverage Point
- Educate to the Cause and Elicit the Buy In

References

Curley, M.A.Q. (1998). Patient-Nurse Synergy: Optimizing Patients Outcomes. *American Journal of Critical Care* 7(1):64-72.

Donahue, L. (2009). A pod design for nursing assignments. *AJN The American Journal of Nursing*, 109(11), 38-40.

Friese, C. R., Grunawalt, M. J. C., Bhullar, S., Bihlmeyer, M. K., Chang,R., & Wood, M. W. (2014). Pod nursing on a medical/surgical unit: Implementation and outcomes . *The Journal of nursing administration*, *44*(4), 207. doi: 1097/NNA.0000000000000051

Titler, M. G., Kleiber, C., Steelman, V. J., Rakel, B., Budreau, G., & Everett, L. et al., (2001). The Iowa Model of Evidence-Based Practice to promote quality care. *Critical Care Nursing Clinics of North America, 13, 497-509.*

Contact Information

Greg Kingsley-Mota, MSN, RN, NEA-BC
Transition Facilitator
Emory University Hospital
1364 Clifton Road
Atlanta, GA. 30322

Barbara Hill, MSN, APRN, AGCNS-BC, ACCNS-AG, CCRN
Clinical Nurse Specialist
Emory University Hospital
1364 Clifton Road
Atlanta, GA. 30322