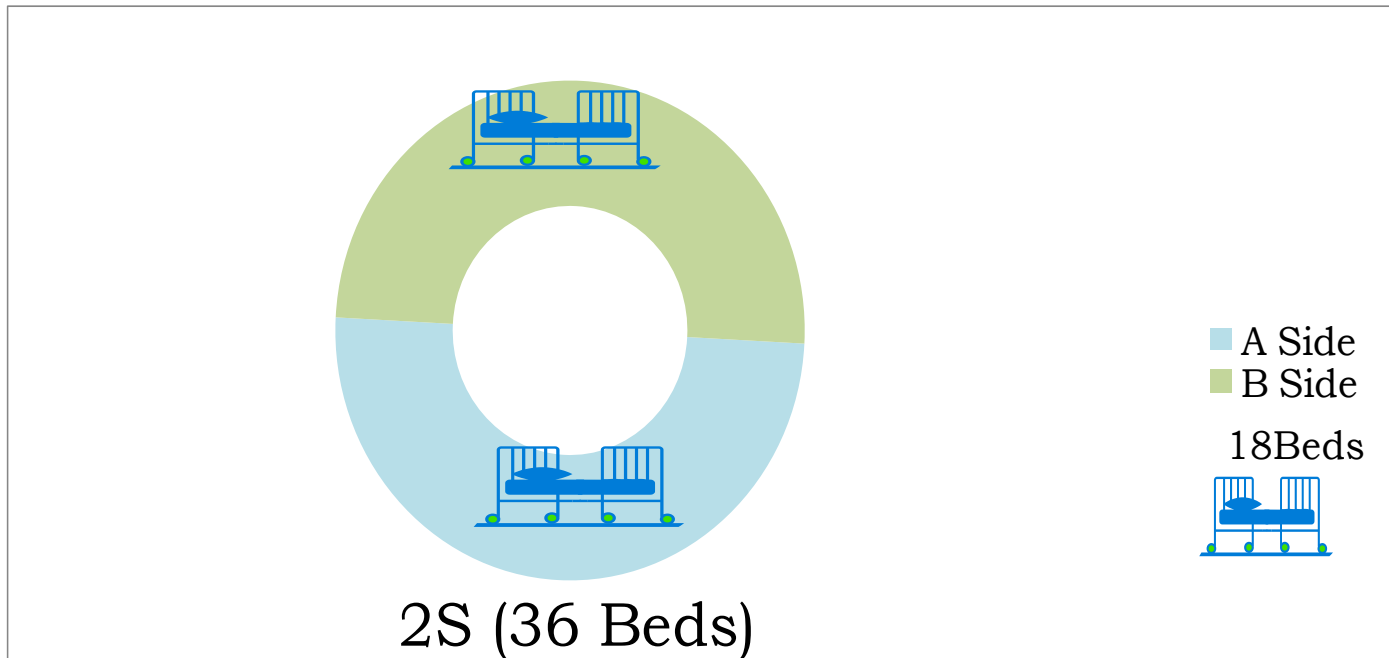


# Better Together: Establishment of a Geographic Inpatient Unit Permits Alignment for Successful Patient Care and Education Outcomes



**Together we're better.**

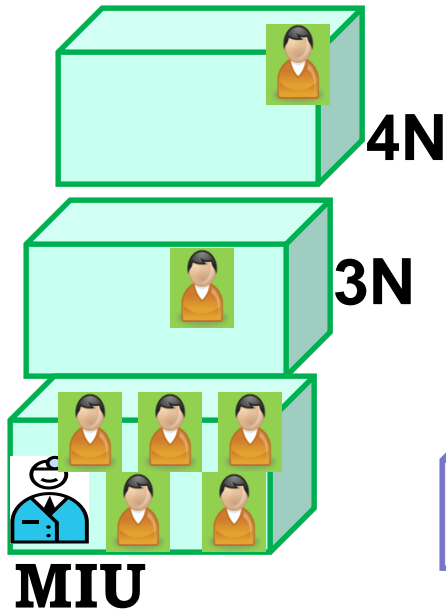
# Background

- 2013 ACGME CLER standards for sponsoring institutions established
- The ECU IM residency must implement a QI and PS Curriculum for ACGME Accreditation
- ECU GIM teams routinely serviced 10 separate units
- The previously identified GIM unit housed <50% of ECU pts and was underperforming across various metrics
- Pascual *et.al* demonstrated in a 5 yr study surgical patients placed in alternate ICU units had increased HAC and complications compared to patients in the home SICU.

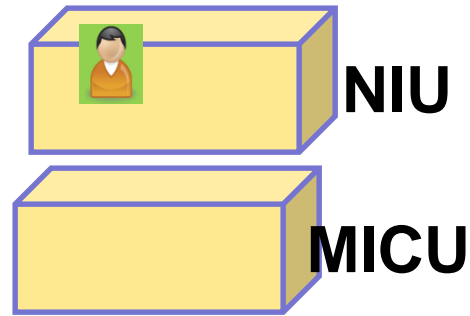
ECU General Internal  
Medicine  
Bronze Team 2/26/13



Palliative  
Care

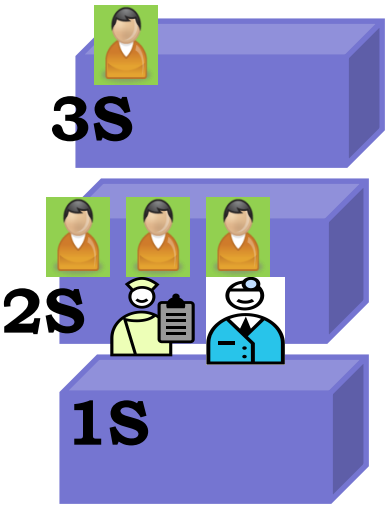


MIU

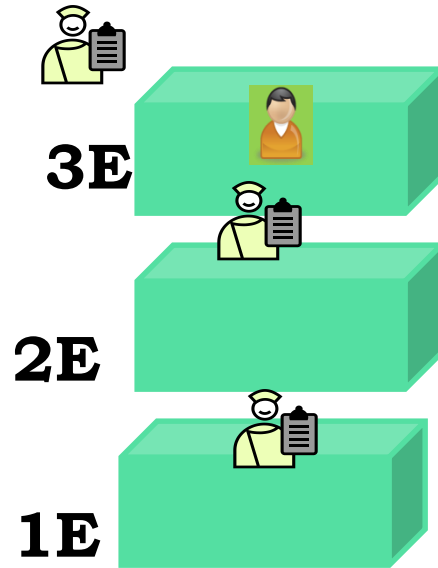


NIU

MICU



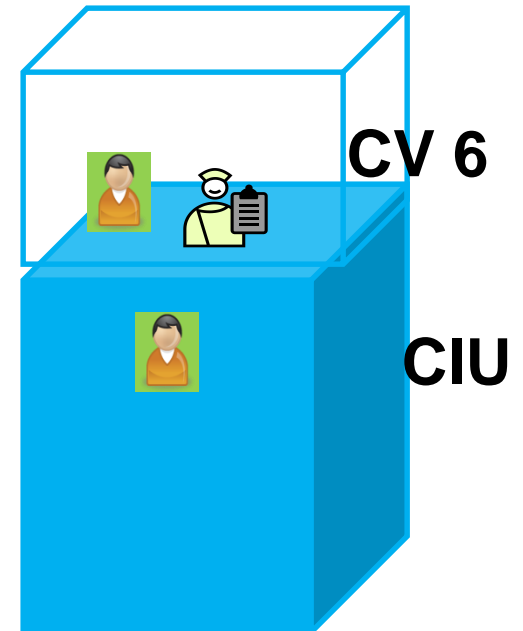
VMC



VMC



EMERGENCY



HEART TOWER

# Why Involve Residents in Quality and Safety?

- They have frontline insights and good ideas
- Their “buy-in” is crucial to system changes
- They are a receptive (and captive) audience
- It is a critical part of practice here and beyond

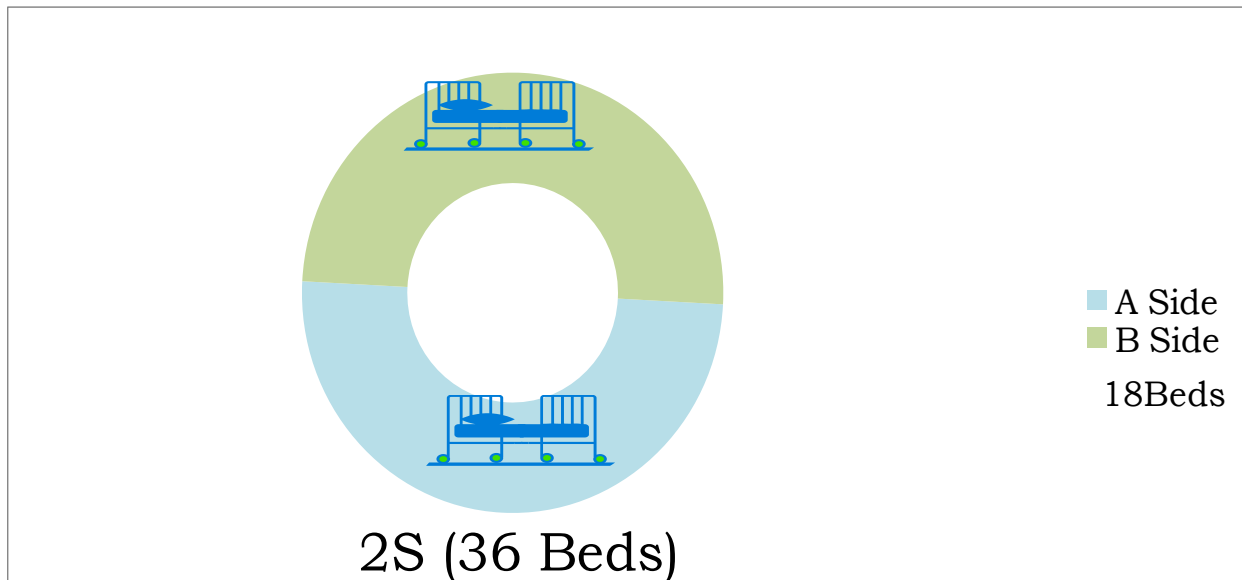
**Training residents in Quality and Safety creates a culture of quality at the institution**

# Collaborative Team Members

- Niti Armistead, MD 2S Medical Director
- Eve Clayton, RN , 2S Nurse Manager
- Georgia Perry RN, 2S Nurse Manager
- 2013 IM Chief Residents :
  - Reed Friend, MD
  - Azeem Elahi, MD

# Medical Education Innovation Unit

A patient centered medical unit where interdisciplinary team members are accountable to each other for the benefit of the patient.



# Medical Education Innovation Unit

## ECU General Internal Medicine

	Exec. Spns. /Physician	2012 Perf.	2013 Imprv Tgt	2013 Goal	Oct	Nov	Dec	Q	Jan	Feb	Mar	Q	Apr	May	Jun	Q	Jul	Aug	Sep	Q	YTD	
<b>Safety</b>																						
Events of Harm		212	1-142	0	14	18	12	44	19	13	17	49	17	25	15	57	10	12	9	31	181	
Preventable Harm					12	18	10	40	18	12	17	47	17	23	14	54	8	8	9	25	166	
Serious Safety Events	B. Floyd/ Stachelhof	2	1	0	0	0	0	2	0	1	3	0	0	0	0	0	0	1	1	4	4	
Falls with Harm	G. Siddons/H. Giesken	3	1	0	0	0	0	0	0	0	0	1	2	0	3	0	1	0	1	4	4	
Falls Bundle Compliance	G. Siddons/H. Giesken	48%	95-99%	100%	86%	75%	75%	78%	88%	59%	77%	73%	83%	64%	81%	76%	63%	62%	70%	74%		
Medication Errors with Harm	T. Hickey/H. Giesken	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
Medication Reconciliation Compliance	L. Hoffer/H. Smith		95-99%	100%	75%	68%	77%	73%	96%	94%	95%	95%	88%	88%	94%	98%	91%	95%	92%	88%		
HA Pressure Ulcers - Stage 3,4 & Unstageable	B. Floyd/ Stachelhof	68	1-53	0	4	6	2	12	6	7	3	11	5	11	3	19	0	0	3	3	45	
Pressure Ulcer Prevention Bundle Compliance	A. Wisniewski/Giesken	72%	95-99%	100%	95%	100%	92%	96%	95%	95%	94%	92%	96%	99%	95%	93%	92%	95%	97%	94%	94%	
DVT/VTE	T. Anderson/H. Smith	46	1-35	0	3	5	3	11	5	3	5	13	4	6	3	13	7	6	2	15	52	
Hospital Acquired Infections	K. Ranney	92	1-74	0	7	7	7	21	6	8	8	22	7	6	9	22	2	5	3	10	75	
Catheter Related UTI	S. Ralston/C. Giesken	60	1-49	0	3	3	5	11	3	5	3	11	4	3	4	11	1	3	3	7	40	
Urinary Catheter Bundle Compliance	S. Ralston/C. Giesken	89%	95-99%	100%	97%	100%	92%	96%	95%	96%	94%	95%	94%	92%	94%	93%	100%	94%	97%	97%	95%	
Central Line Infections	T. Anderson/H. Smith	27	1-21	0	3	4	2	9	3	2	2	8	2	2	4	8	0	2	0	2	27	
Central Line Bundle Compliance	T. Anderson/H. Smith	88%	95-99%	100%	74%	85%	97%	96%	100%	95%	95%	97%	96%	95%	96%	96%	98%	92%	94%	95%	92%	
Ventilator Associated Pneumonia	A. Wisniewski/Tackling	2	1	0	0	0	0	0	0	1	1	2	1	1	1	3	1	0	0	1	6	
Ventilator Bundle Compliance	A. Wisniewski/Tackling	97%	95-99%	100%	100%	100%	91%	97%	91%	98%	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%	98%	
MRSA HAI	R. Bates/K. Ranney	4	1-3	0	1	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	3	
Hand Hygiene Compliance	L. Hoffer/H. Watson	97%	95-99%	100%	96%	96%	95%	95%	94%	93%	94%	94%	93%	94%	92%	93%	94%	95%	96%	95%	94%	
<b>Performance Improvement</b>																						
Provides Optimal Care - % Patient Receiving Optimal Care		98%	99%	100%	96%	99%	99%	98%	98%	99%	99%	99%	99%	99%	99%	98%	99%	98%	97%	100%	98%	99%
Acute Myocardial Infarction (AMI)	V. Smith/D. Devarona	99%	99%	100%	99%	100%	100%	100%	100%	99%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heart-Failure (HF)	V. Smith/D. Call	97%	99%	100%	99%	100%	97%	99%	96%	98%	99%	98%	98%	97%	98%	98%	99%	98%	100%	99%	98%	
Pneumonia (PN)	V. Smith/D. Call	96%	99%	100%	94%	100%	100%	98%	96%	98%	96%	97%	94%	100%	94%	96%	99%	88%	100%	90%	95%	
Surgical Care Improvement Project (SCIP)	S. Ralston/C. Giesken	99%	99%	100%	94%	99%	99%	97%	100%	100%	100%	100%	100%	99%	99%	99%	99%	99%	99%	99%	99%	
Immunization Core Measures Composite	B. Ross, H. Giesken	99%	100%	100%	93%	89%	88%	90%	91%	89%	92%	91%	88%	98%	89%	92%	85%				85%	90%
Outpatient Care Measures Composite	T. Hickey/K. Ranney	96%	99%	100%	96%	96%	97%	96%	98%	96%	97%	97%	98%	96%	97%	97%	95%	97%	97%	96%	97%	
<b>Patient and Family Experience</b>																						
Reduce ED Wait Times			98%	98%																		
Median Time from ED Arrival to ED Departure for Admitted ED Patients (ED-1b)	J. Carter/P. Balle				356	412	496	397	415	352	417	366	380	339	364	356	394			394	371	
Admit Decision Time to ED Departure Time for Admitted Patients (ED-2b)	J. Carter/P. Balle				155	199	195	190	174	170	130	160	180	81	108	119	149			149	156	
<b>Patient and Family Experience</b>																						
Exceptional Patient Experience		%ile	> 90	> 95																		
Dimension 1: Nurse Communication	L. Hoffer/P. Stachelhof	85	90	80	88	96		76	81	79		78	78	78		79	79	77		77		
Dimension 2: MD Communication	L. Hoffer/P. Stachelhof	85	90	78	84	79		73	73	70		63	65	66		68	68	67		67		
Dimension 3: Responsiveness of Staff	L. Hoffer/P. Stachelhof	85	90	81	82	79		70	64	64		61	63	65		65	62	62		63		
Dimension 4: Pain Management	L. Hoffer/P. Stachelhof	85	90	89	82	82		77	67	68		63	66	75		77	76	70		70		
Dimension 5: Med Communication	L. Hoffer/P. Stachelhof	85	90	99	98	98		94	96	93		91	90	93		93	89	90		90		
Dimension 6: Environment (clean & quiet)	L. Hoffer/P. Stachelhof	85	90	67	70	61		58	62	60		60	59	58		60	58	60		60		
Dimension 7: Discharge Info	L. Hoffer/P. Stachelhof	85	90	89	81	82		72	77	76		75	76	76		77	76	76		76		
Dimension 8: Overall rating	L. Hoffer/P. Stachelhof	85	90	70	82	78		73	73	71		70	70	73		76	75	75		75		
Reduce Acute Myocardial Infarction Readmissions- Readmission Rate	T. Daley	19.6%	18.9%	9.7%	9.7%	16.7%	12.2%	15.3%	18.7%	13.0%	15.8%	13.6%	20.5%	12.8%	15.9%	11.7%					14.3%	
Reduce Heart Failure Readmissions - Readmission Rate	T. Daley		25.1%	23.1%	28.3%	32.6%	32.6%	28.2%	26.3%	28.8%	23.9%	24.9%	20.2%	24.2%	23.8%	22.0%	19.1%				24.2%	
Reduce Community Acquired Pneumonia - Readmission Rate	T. Daley		18.5%	17.8%	26.8%	14.0%	8.4%	16.3%	18.8%	20.4%	8.0%	18.1%	13.8%	13.0%	14.0%	13.8%	11.1%				14.8%	

# Medical Education Innovation Unit: Metrics

<b>Quality</b>	Inpatient Mortality (O:E) 30-day readmissions 7-day readmissions
<b>Safety</b>	Central Line Associated Blood stream Infection (CLA-BSI) Cather-Associated Urinary Tract Infection (CA-UTI)
<b>Efficiency</b>	Discharge Prediction Accuracy % of Discharged Patients with D/C Order by 10 AM % of Discharged Patients who are Out the Door by Noon Transfer accept from outside facility to bed assigned (Medicine) ED to 3 (Medicine) TBD Unit Occupancy % of patient on unit with SIBR
<b>Patient Perception</b>	Pain well controlled Clear communication by nurses Clear communication by doctors Patient understood the purpose for taking medications at discharge



# ECU GIM/VMC Med IU Bedside Safety Checklist

## **Wash Your Hands: Enter room**

**Physicians:** Introductions  
Admitting Dx & 24hr Summary

Test/procedure follow up

## **Nursing** : Updates and Goals

Nutrition Goal Met?

Glycemic Control?

Pain Assessment and Management?  
Cardiac Monitor needed?  
Mobilization/ GEMS Score?

## **Pharmacy:** Medication Communication

Can meds be DC'd, Δ to PO or adjusted?  
PUD prophylaxis Needed?

## **What is the patient's greatest safety risk?**

Any Hypoglycemia?  
DVT prophylaxis?  
Remove Central Line?  
Remove Foley?  
Restraint Order Renewed?  
Skin: Wound Care/Prevention

## **Case Management: Expected DOD?**

Readmission Risk Score?  
Discharge Barriers  
D/C Planning

## **Physicians Wrap Up:**

Family Communication  
What needs to be done to dc patient?

## **Exit Room: Wash Your Hands Again on way Out!**

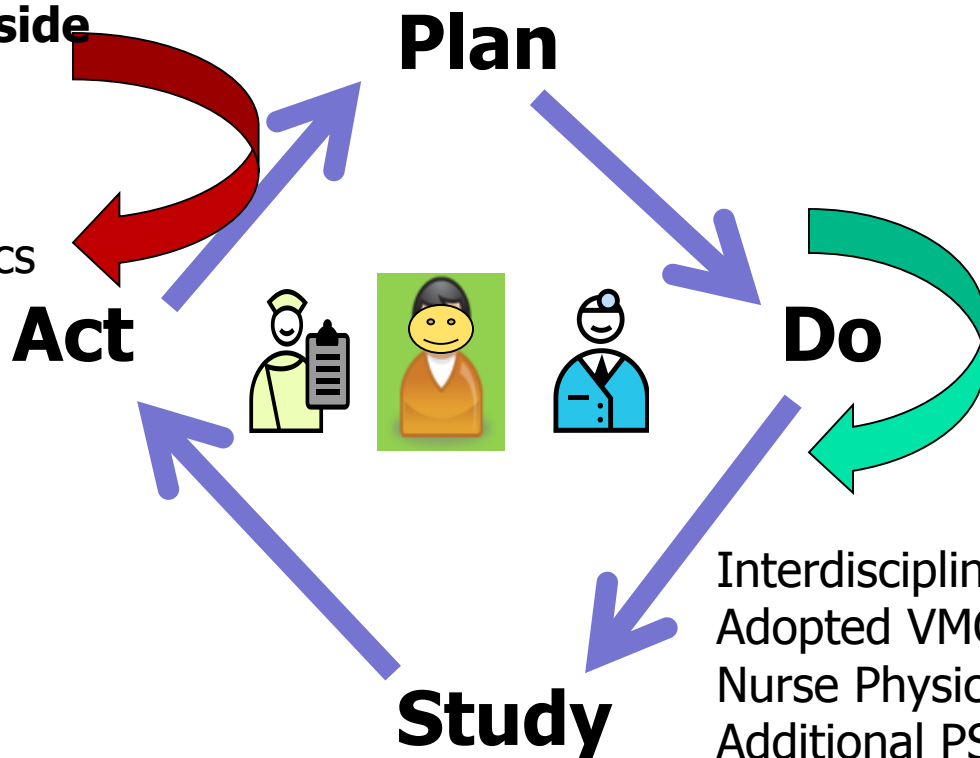
**Code Status** : Order In EHR? Updates ?

# Baseline Data

FY 2012	
DVT	8
CAUTI	5
CLABSI	4
Hand Hyg	94%
Case Review	Random
HCAHPS	17 <sup>th</sup>
% ECU GIM	< 50% pts/ 36 beds

# Classic PDSA Model: Several Refinements

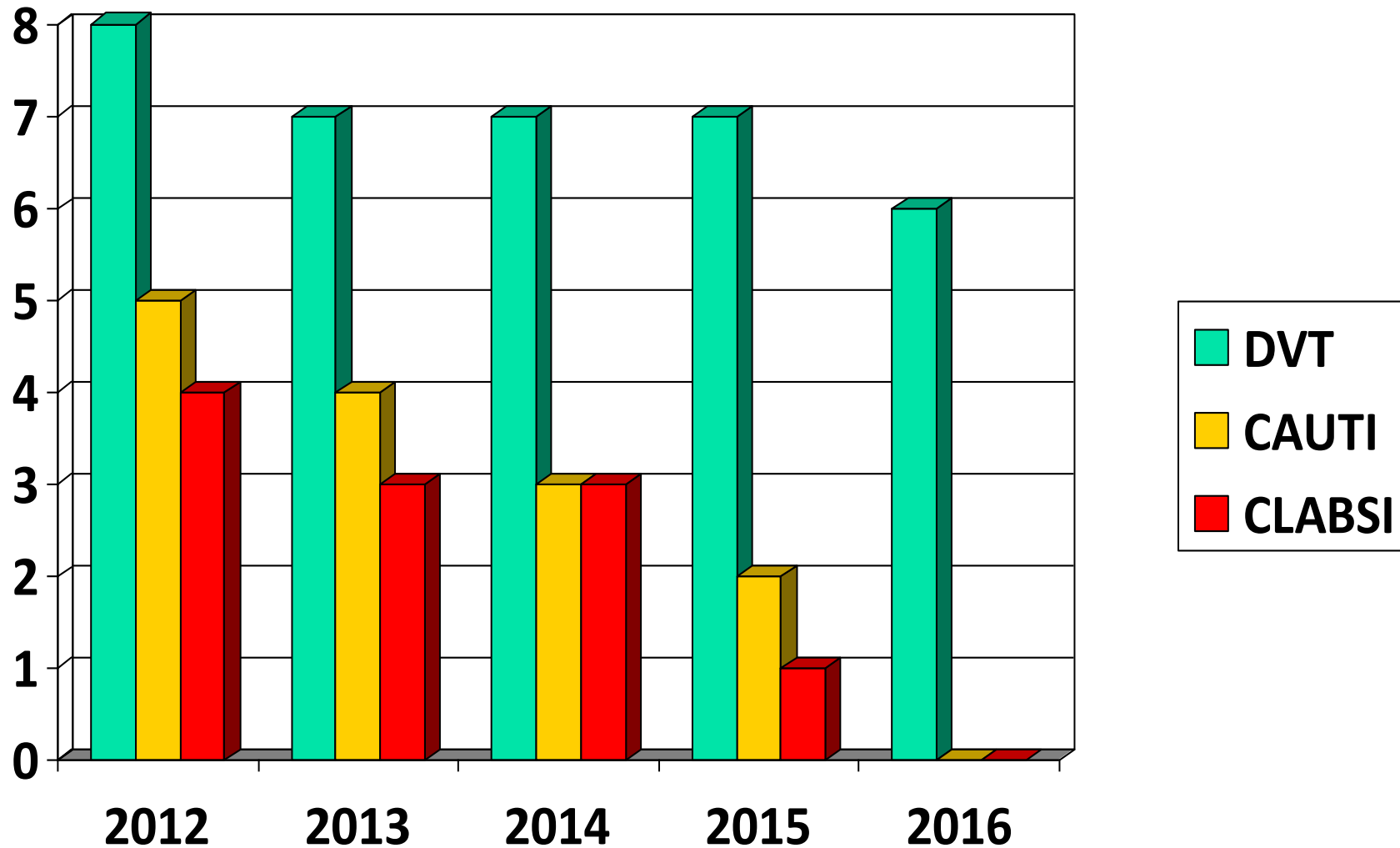
- Interdisciplinary **Bedside** Rounds (SIBR)
- % Pts Discharged by 10AM, Noon
- Project Specific Metrics



- Interdisciplinary **Unit** Rounds
- Adopted VMC PSQI Metrics
- Nurse Physician Bedside Rnds
- Additional PS QI Projects
- No Lows
- Patient Advisor Team Rounds

Together we're better.

# 2S Selected Outcomes

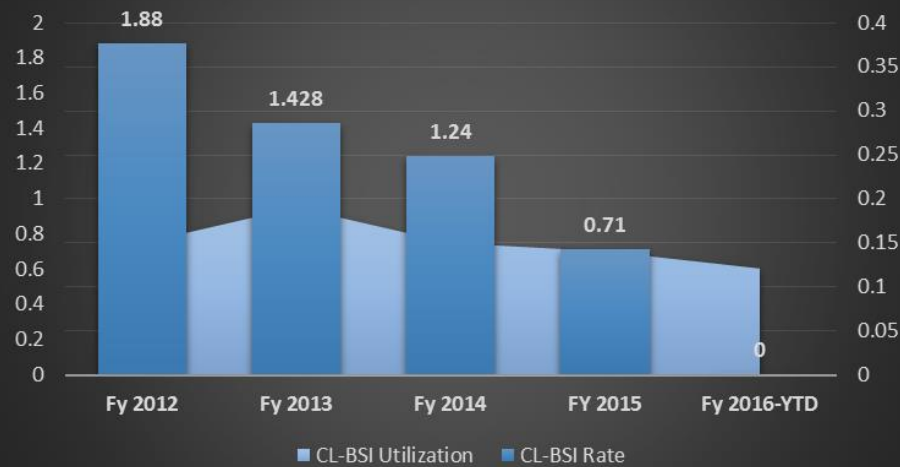


# Are these results meaningful?

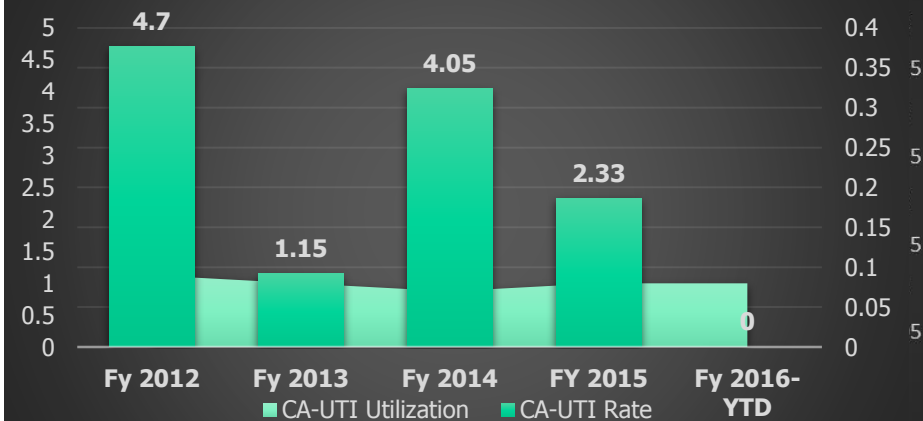
	<b>FY 2012</b>	<b>FY 2015</b>
DVT	8	7
CAUTI	5	2
CLABSI	4	1
Hand Hyg	94%	92%
Case Review	Random	100%
HCAHPS	17 <sup>th</sup>	27 <sup>th</sup>
% ECU GIM	< 50% of 36 beds	80%

# Are these results meaningful?: Accounting for rates of device related infections

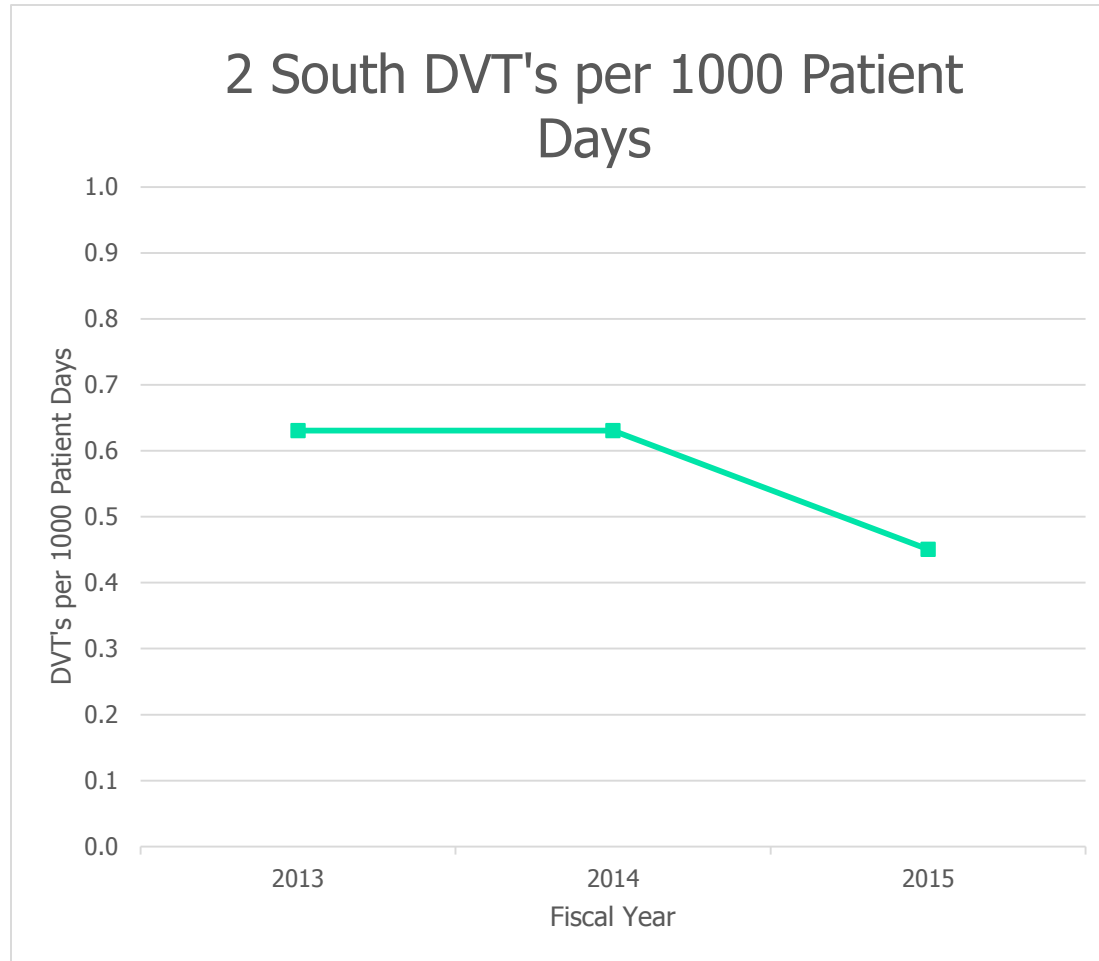
### CL-BSI Rates & Utilization



### CA-UTI Rates & Utilization



# Are these results meaningful?:



# Lessons Learned Through QI Efforts

- Experienced Leadership Matters
- Trust in Interdisciplinary Relationships
- Time : Evolving Generations of Providers
- Unexpected Outcomes:
  - RN Turnover
  - Budget Variance



# RN Turnover Selected AMS Units

## 2013

- East- 12.99%
- 2 South- 8.97%
- East- 10.81%
- South 19.31%

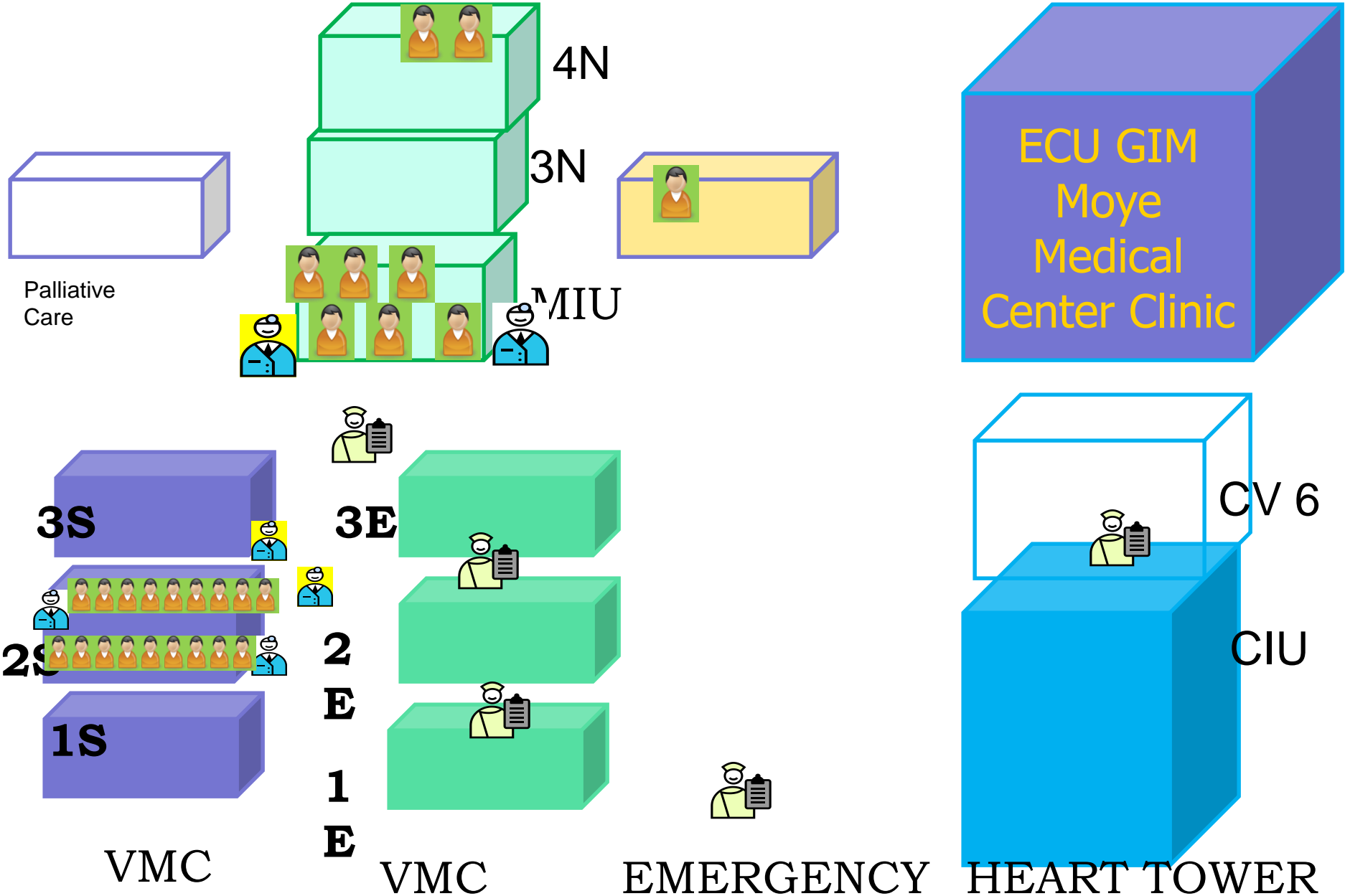
## 2014

- East- 9.66%
- 2 South-6.54%
- East- 17.14%
- South 5.26%

## 2015

- East- 28.37%
- 2 South-16.18%
- East- 22.37%
- South 21.66%

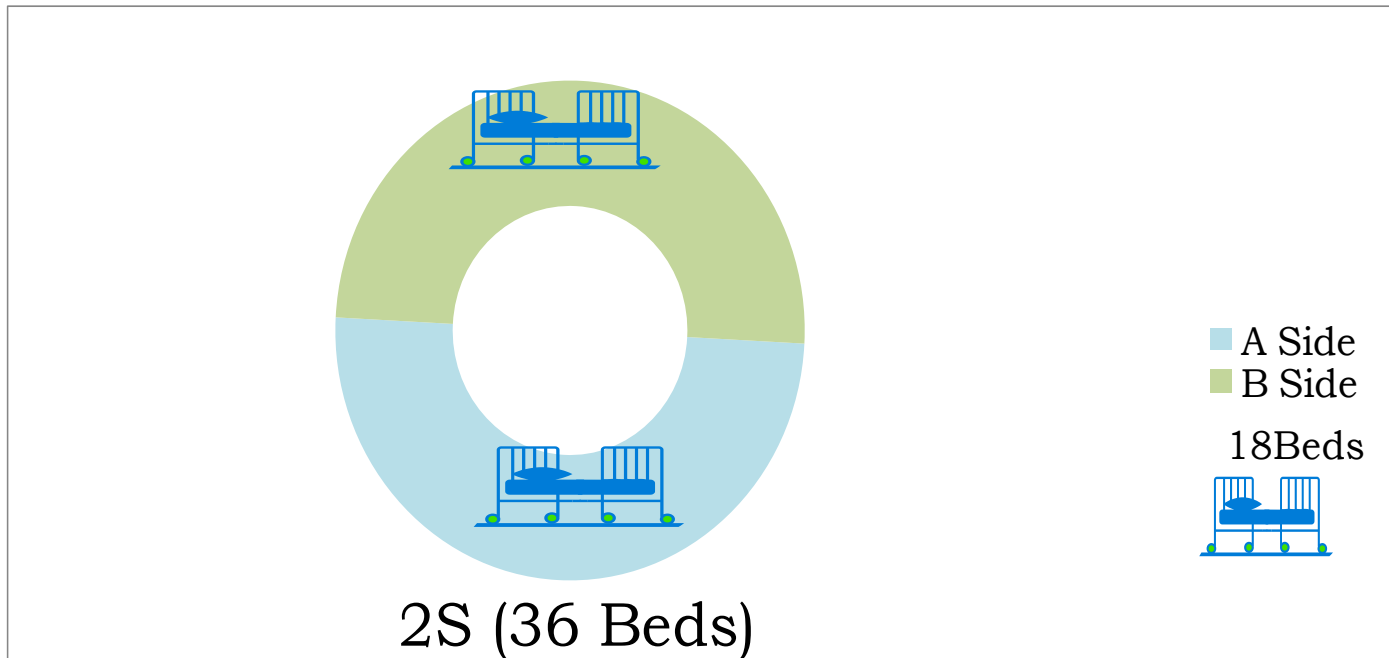
# System for Accountable Care across the Continuum



# Next Steps

- Population Health Synergy: Demonstrate impact across the Continuum of Care for ECU GIM patients
- Expanded Focus on HAC
- Space for 3 ECU GIM Teams
- Despite QI and PS improvement HCAHPS scores for 2S continued to lag
- Our group began a focused project on Physician Communication

# Better Together: Establishment of a Geographic Inpatient Unit Permits Alignment for Successful Patient Care and Education Outcomes



**Together we're better.**

# Appendix 1

## Vidant Health Key Drivers of Nurse Turnover



\*Pay & Direct Manager were not key drivers of Turnover\*

### Voice/Input:

“Have a voice in planning, policy & procedures”  
“Have sufficient input into care”

### Time for Care:

“Have sufficient time for direct patient care”

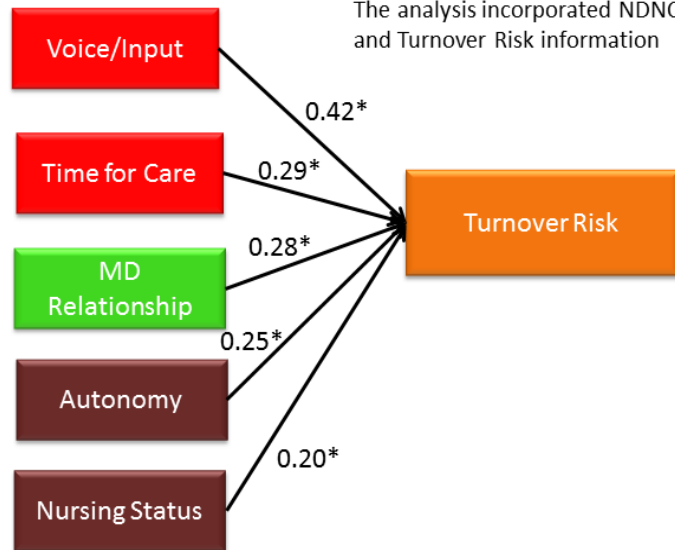
### MD Relationship:

“MDs appreciate RNs”  
“Lots of RN & MD teamwork”

### Autonomy:

“RNs have control over their work”  
“Free to adjust practice to fit patient needs”

### NDNQI Category



# Appendix 2: Falls & HAPU

