

### Clinical Safety & Effectiveness Cohort # 22 Team 2

## Clean in, Clean out: Hand Hygiene Compliance



Center for Patient Safety & Health Policy



Educating for Quality Improvement & Patient Safety

### THE TEAM

We Represent Every Part Of The Process

### CS&E Participants

- Aprilynn Agpalo, BSN, RN, CPN
- Lorraine Bonilla, BSN, RN, CPN
- Monica Narvaez, RN
- Madeline Petri, BS
- Becky Rodriguez, MSN, RN, CPN
- Ted Wu, MD

### • Sponsor Department

- Emily Volk, MD
- Greg Abrahamian, MD

### Team Facilitator

 Sherry Martin, Health Care Quality Management Consultant

### • Extended Team – Hospital Collaborators

- Annierose Abogadie, MSN, RN, NE-BC, CCRN-K, RN-BC
- Sara Collins, BSN, RN, CPN
- Kelsey Sherburne, MD Pediatric Hospitalist
- Michelle Arandes, MD Pediatric Residency Director
- Lillian Liao, MD Pediatric Trauma
- Timothy McEvoy, MD Pediatric ENT
- Isabela Tarasiewicz, MD Pediatric Neurosurgery
- Mark Nadeau, MD Family Practice Residency Director
- Sekinat McCormick, MD Pediatric Orthopedics
- Environmental Services
- UTHSCSA Division of Pediatric Critical Care Physicians & UTHSCSA Pediatric Residents

### The Team

We Represent Every Part Of The Process



### Aim Statement

To increase hand hygiene compliance of anyone entering patient rooms of the PICU and PIMU at UHS from 80% to greater than 95% compliance by June 1<sup>st</sup>, 2018.

### Joint Commission

**Requirement** 

## **Background Material**

### Why Is Hand Hygiene Important?

- Two million health care associated infections (HAIs) occur across the United States health care system each year.\*
- Many transmitted by health care personnel
- JCAHO require healthcare organizations to implement a hand hygiene program
- Set goals for improving compliance with the program
- Monitor the success of those plans
- Steadily improve the results through appropriate actions

- Effective January 1, 2018, for all accreditation programs
- Any observation by surveyors of individual failure to perform hand hygiene in the process of direct patient care will be cited
- "The [organization] uses standard precautions, including the use of personal protective equipment, to reduce the risk of infection."

### **Background Material**

The Improvement Imperative with Hospital Acquired Condition (HAC) Penalty Changes for 2017: MRSA and C Diff rates become part of the penalty calculation



### MANDATORY IMPROVEMENT:

With significant cuts to reimbursement fees (\$94B by 2022) and penalties for poor quality (CMS Penalties), continuous improvement is mandatory. When 100% of hand hygiene events are captured, compliance can improve, risk of infections and penalties are reduced and costs are avoided.



### **Flow Diagram**



### **Baseline Data - PICU**



8

### **Baseline Data - PIMU**



### **Fishbone Diagram**



### **Driver Diagram**

Goal	Primary Drivers Main drivers identified in our diagnostic journey that influences our goal	Interventions Actions, processes, or interventions that may lead to a positive effect on the associated driver	Measure Metric for the associated interventions	Responsible Individuals responsible and anticipated deadline		
To increase hand hygiene compliance of anyone entering patients rooms of the PICU and PIMU at UHS from 83% to greater than 95% compliance by June 1st, 2018.	Lack of Consistency and Effectiveness of Resource	Change the process to stock the carts prior to coming onto the Pedi floors (RS 3)	Number of properly stocked carts per week (Observational audits)	EVS		
		Modify existing process to avoid use of PAR SKY	Number of times PAR SKY used per week	EVS		
	Non-functioning Equipment	Change sanitizers to manual, non-battery operated stations (RS 4)	Number of operational sanitizers	Becky and team		
		Labelling Sanitizer stations				
		Develop and deliver education to staff and families (2)	Number of individuals trained			
	Awareness	Change auditing process using Phone app (4)	Percent compliance by group	Initials and date on observation audits		
		Develop an educational video for training (RS 2)				
	Improve access to sanitizer supply	Modify inventory process to place supplies in commonly known areas (RS 3)	Number of operational sanitizers	Central Supply		

### **Pareto Chart of Barriers to Hand Hygiene**



Pareto Chart of Barriers to Hand Hygiene

### **Improvement Metrics**

$$Percent \ Compliance = \frac{(No. \ Compliant)}{(No. \ Observations)} \times 100$$

- Our metric measures the hand hygiene compliance in the PICU and PIMU
- Record observation audits through two versions of the paper form and an innovative reporting app

### Hand Hygiene **Observation Form #1**

### HAND HYGIENE OBSERVATION TOOL

### Due on the 12<sup>th</sup> for the previous month, by entering into the online data collection tool. Date of observations / / Unit / Clinit E 110

_	Dat	re of observation://	Unit/Clini	c:	
#	Time	Professional Observed	Name of Person Observed	Hand Hygiene Process	If Non-compliant, please indicate one of the following
1		<ul> <li>RN/LVN/Med. Assist/Med Surg Tech</li> <li>MD/NP/PA</li> <li>Tech (non-nursing)</li> <li>Respiratory Therapy</li> <li>Other*</li> </ul>		□ Compliant □ Non-Compliant	<ul> <li>Did not perform any hand hygiene</li> <li>Done inadequately</li> <li>No sink or hand gel within reach</li> <li>Other:</li> </ul>
2		<ul> <li>RN/LVN/Med. Assist/Med Surg Tech</li> <li>MD/NP/PA</li> <li>Tech (non-nursing)</li> <li>Respiratory Therapy</li> <li>Other*</li> </ul>		<ul> <li>Compliant</li> <li>Non-Compliant</li> </ul>	<ul> <li>Did not perform any hand hygiene</li> <li>Done inadequately</li> <li>No sink or hand gel within reach</li> <li>Other:</li> </ul>
3		<ul> <li>RN/LVN/Med. Assist/Med Surg Tech</li> <li>MD/NP/PA</li> <li>Tech (non-nursing)</li> <li>Respiratory Therapy</li> <li>Other*</li> </ul>		<ul> <li>Compliant</li> <li>Non-Compliant</li> </ul>	<ul> <li>Did not perform any hand hygiene</li> <li>Done inadequately</li> <li>No sink or hand gel within reach</li> <li>Other:</li> </ul>
4		<ul> <li>RN/LVN/Med. Assist/Med Surg Tech</li> <li>MD/NP/PA</li> <li>Tech (non-nursing)</li> <li>Respiratory Therapy</li> <li>Other*</li> </ul>		<ul> <li>Compliant</li> <li>Non-Compliant</li> </ul>	<ul> <li>Did not perform any hand hygiene</li> <li>Done inadequately</li> <li>No sink or hand gel within reach</li> <li>Other:</li> </ul>
5		<ul> <li>RN/LVN/Med. Assist/Med Surg Tech</li> <li>MD/NP/PA</li> <li>Tech (non-nursing)</li> <li>Respiratory Therapy</li> <li>Other*</li> </ul>		□ Compliant □ Non-Compliant	<ul> <li>Did not perform any hand hygiene</li> <li>Done inadequately</li> <li>No sink or hand gel within reach</li> <li>Other:</li> </ul>
6		<ul> <li>RN/LVN/Med. Assist/Med Surg Tech</li> <li>MD/NP/PA</li> <li>Tech (non-nursing)</li> <li>Respiratory Therapy</li> <li>Other*</li> </ul>		<ul> <li>Compliant</li> <li>Non-Compliant</li> </ul>	<ul> <li>Did not perform any hand hygiene</li> <li>Done inadequately</li> <li>No sink or hand gel within reach</li> <li>Other:</li> </ul>
7		= RN/LVN/Med. Assist/Med Surg Tech = Mb/NP/PA = Tech (non-nursing) = Respiratory Therapy = Other*		<ul> <li>Compliant</li> <li>Non-Compliant</li> </ul>	<ul> <li>Did not perform any hand hygiene</li> <li>Done inadequately</li> <li>No sink or hand gel within reach</li> <li>Other:</li> </ul>
8		<ul> <li>RN/LVN/Med. Assist/Med Surg Tech</li> <li>MD/NP/PA</li> <li>Tech (non-nursing)</li> <li>Respiratory Therapy</li> <li>Other*</li> </ul>		<ul> <li>Compliant</li> <li>Non-Compliant</li> </ul>	<ul> <li>Did not perform any hand hygiene</li> <li>Done inadequately</li> <li>No sink or hand gel within reach</li> <li>Other:</li> </ul>
9		<ul> <li>RN/LVN/Med. Assist/Med Surg Tech</li> <li>MD/NP/PA</li> <li>Tech (non-nursing)</li> <li>Respiratory Therapy</li> <li>Other*</li> </ul>		<ul> <li>Compliant</li> <li>Non-Compliant</li> </ul>	<ul> <li>Did not perform any hand hygiene</li> <li>Done inadequately</li> <li>No sink or hand gel within reach</li> <li>Other:</li> </ul>
1 0		<ul> <li>RN/LVN/Med. Assist/Med Surg Tech</li> <li>MD/NP/PA</li> <li>Tech (non-nursing)</li> <li>Respiratory Therapy</li> <li>Other*</li> </ul>		<ul> <li>Compliant</li> <li>Non-Compliant</li> </ul>	<ul> <li>Did not perform any hand hygiene</li> <li>Done inadequately</li> <li>No sink or hand gel within reach</li> <li>Other:</li> </ul>

\*Other includes non-unit, non-physician staff, such as transporters, pharmacists, case managers, OR/PACU staff, dietary, lab, pastoral care, EVS, physical therapy, occupational therapy, administration, registration staff, and anyone else who works for UHS and should participate in Hand Hygiene but is not supervised by the unit administration. Ext 358-

Observer:

(print)

Hand Hygiene Observation Tool - Revised Jan 2009

Hand Hygiene	
<b>Observation Form</b>	#2

### Hand Hygiene Observation Tool

### Instructions:

- IMPORTANT! Feedback is a key component of sustaining hand hygiene compliance please complete the feedback column (compliment/reminder/none) so we can understand the role of this feedback in sustaining compliance and develop strategies for improving the delivery of feedback.
- Please complete at least 5 observations (5 rows in table below) in a single location. ٠
- In each row, circle one selection in each column. •
- All staff must clean hands immediately before or upon entering and exiting a patient's room or space. ٠
- An observation of staff who clean hands as they exit one room and enter the next room/space should be included as only one ٠ observation of compliance (either in or out of the room/space).

### Thank you for being a part of this important effort!

Please submit the observations you make below to the Infection Control and Prevention Intranet home page under the IC&P Hand Hygiene Data Entry tab. If you have any questions, please contact Infection Control and Prevention at infectioncontrol@uhs-sa.com or 210-358-2927.

Data	
Dale.	

Observer Name:

Location of Observations:

Observer Employee Number:

O b s	Job Classification (CIRCLE ONE IN EACH ROW)	Hand Hygiene (either clean in or clean out)	Feedback
1	RN/LVN MD/NP/PA M/STech RT Radiology EVS PT/OT/SLP Dietary Transport SW/CM MA Student Lab Other	Yes -o <i>r</i> - No	Compliment -or- Reminder -or- None
2	RN/LVN MD/NP/PA M/STech RT Radiology EVS PT/OT/SLP Dietary Transport SW/CM MA Student Lab Other	Yes -o <i>r</i> - No	Compliment -or- Reminder -or- None
3	RN/LVN MD/NP/PA M/S Tech RT Radiology EVS PT/OT/SLP Dietary Transport SW/CM MA Student Lab Other	Yes -o <i>r</i> - No	Compliment -or- Reminder -or- None
4	RN/LVN MD/NP/PA M/STech RT Radiology EVS PT/OT/SLP Dietary Transport SW/CM MA Student Lab Other	Yes -o <i>r</i> - No	Compliment -or- Reminder -or- None
5	RN/LVN MD/NP/PA M/S Tech RT Radiology EVS PT/OT/SLP Dietary Transport SW/CM MA Student Lab Other	Yes -or- No	Compliment -or- Reminder -or- None

Legend: RN/LVN=Nursing; MD/NP/PA=Physician/Nurse Practitioner/Physician Assistant; M/S Tech=Med/Surg Tech; RT=Respiratory Therapy; Radiology=Radiology Tech; EVS=Environmental Services; PT/OT/SLP=Physical Therapy/Occupational Therapy/Speech Language Pathologist; Dietary=Dietary/Nutrition and Food Services; Transport=Patient Transporters; SW/CM=Social Workers/Case Managers; MA=Medical Assistant; Student=Any student; Lab=Phlebotomy; Other=All other health system personnel

### Feedback Scripting:

After observation of compliance: "I am conducting hand hygiene observations and observed that you performed hand hygiene appropriately (before you entered the patient's room/after leaving the patient's room). Thank you for keeping our patients safe with your clean hands.'

After observation of non-compliance: "I am conducting hand hygiene observations and observed that you did not clean your hands (before you entered the patient's room/after leaving the patient's room). Please be sure to do this every time you enter and exit the room to prevent the spread of infections."

When you receive immediate feedback, your response must be: "Thank you for the reminder."

SpeedyAudit



## Speedy Audit App



### **Culture of Safety**

"Sense of confidence that the team will not embarrass, reject, or punish someone for speaking up"

(Edmondson, 1999)

## **Implementing The Change**



https://app.frame.io/f/79e81292-36ce-4c08-ac96-7a8ad69cb874

## Interventions

- Equipment Correction
  - Communication with EVS
  - Increase the supplies EVS stocks up in PICU and PIMU
    - Specifically for the stations inside patient rooms
- Changing the culture
  - Incorporating feedback (compliments/reminders) for patient safety
  - Video with example conversation
- Education
  - Proper use of PPE

## **Switch From Old To New Stations**





## **Relocation Of Sanitizing Stations**



## **Station Functionality**

	S	an	iti	zin	g S	Sta	atio	on	s C	)bs	ser	va	tio	on	Sh	ee	et								
Date of Record																									
Observer	_																								
Please check all that apply.																									
Sanitizing Station Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Station is in the PICU																									
Station is in the <b>PIMU</b>																									
Station is inside a patient room																									
Station is outside a patient room																									
Station is working properly																									
Station <b>battery is red/blinking</b>																									
Station battery is dead																									
Station dispenser is almost empty																									
Station dispenser is empty																									
Sanitizing Station Number	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Sanitizing Station Number Station is in the PICU	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Sanitizing Station Number Station is in the PICU Station is in the PIMU	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Sanitizing Station Number Station is in the PICU Station is in the PIMU Station is inside a patient room	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Sanitizing Station Number Station is in the PICU Station is in the PIMU Station is inside a patient room Station is outside a patient room	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Sanitizing Station Number Station is in the PICU Station is in the PIMU Station is inside a patient room Station is outside a patient room Station is working properly	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Sanitizing Station Number Station is in the PICU Station is in the PIMU Station is inside a patient room Station is outside a patient room Station is working properly Station battery is red/blinking	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Sanitizing Station Number Station is in the PICU Station is in the PIMU Station is inside a patient room Station is outside a patient room Station is working properly Station battery is red/blinking Station battery is dead	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Sanitizing Station Number Station is in the PICU Station is in the PIMU Station is inside a patient room Station is outside a patient room Station is working properly Station battery is red/blinking Station battery is dead Station dispenser is almost empty	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51

### Numbering Sanitizing Stations and Tracking Functionality



### **Sanitizing Stations Functionality Reports**



### **Began Recording Additional Data**



### **Result Data - PICU**



### **Result Data - PIMU**



## **Return On Investment**

### Variables

- Cost of filming video Corporate Communications
- Manual Sanitizers Free installation
- Speedy Audit App 3 month free trial and annual fee
- Healthcare-associated infections (HAIs)
  - CAUTI, CLABSI, and C.Diff

### **Return On Investment**

### Year 2017 – 14 HAIs Cases

Based on APR-DRG, if all the same → \$1,222,249 cost 549 days LOS
Based on APR-DRG with HAI → \$1,393,916 cost

652 days LOS

HAIs Increase Direct Costs → \$171,667 cost + 103 days LOS

### **Return On Investment**

**Our Results** 

For every 1% increase of hand hygiene compliance, healthcare-associated infections decrease by 0.6%.

Aim Statement Goal is to increase from 80% to 95%

Achieved Combined 97% Compliance

 $\uparrow$  17% Compliance =  $\downarrow$  10.2% HAIs

## Sustainability

- Educate & Increase Use of Speedy Audit app
- Educational Videos
  - Hand hygiene Assign yearly
  - Feedback process
  - Patient and family Skylight to Speak Up
- Manual sanitizer stations hospital wide
- Pedi Hand Hygiene Steering Committee
  - Expand to all 5 PEDI units
  - Maintain meetings twice a month
  - Include more stakeholders and individuals at meetings

## Acknowledgements

- Facilitators and Speakers of CS&E Cohort 22
- University of Texas Health San Antonio
- University Hospital





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# Thank you!

## **Questions**?



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