Essential Hospitals Engagement Network (EHEN)
2014 Best Practice Survey: Highlights and Responses

Hospital-Acquired Infections (HAI)

Catheter-Associated Urinary Tract Infections (CAUTI)
Central Line-Associated Blood Stream Infections (CLABSI)
Surgical Site Infections (SSI)
Ventilator-Associated Events/Pneumonia (VAE/VAP)

Background

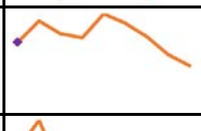
- In May 2014, EHEN asked its hospitals to complete a survey of the interventions and practices they have implemented or plan to implement as part of their quality improvement efforts.
- Response rate: 12 of 22 hospitals responded (55 percent).

Report Information

- This report is not intended to recommend any one intervention or practice, nor is it intended to prove causation between interventions and outcomes.
- Hospitals were not necessarily able to answer every question.
- The highlight section provides comparisons between conditions and associations with relevant outcome data. The outcome data was collected though the National Healthcare Safety Network (NHSN) or UHC's clinical database (CDB/CDB-lite). The remainder of the report is a full breakdown of responses to each question from the survey.
- For questions, please contact your improvement coach or e-mail EHEN@essentialhospitals.org.

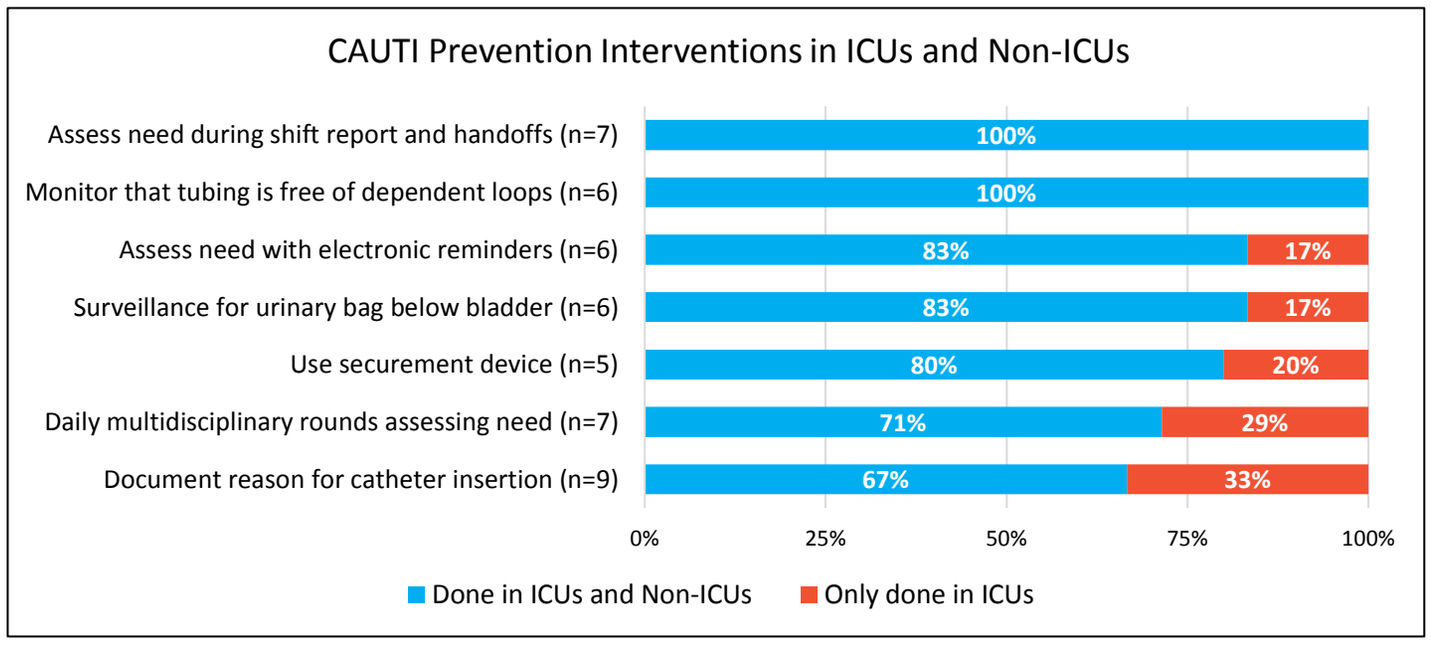
CAUTI: Best Practice Survey Highlights

In their own words... Top three effective CAUTI prevention strategies in the past 18 months from top performers.

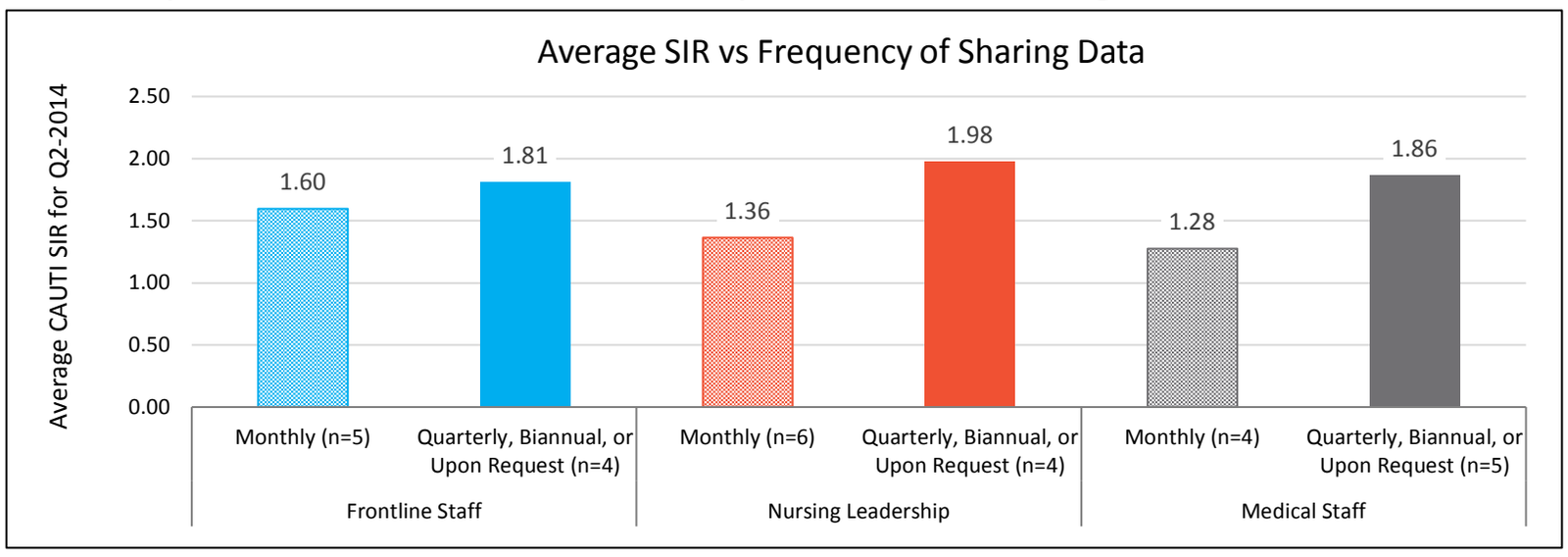
			Top Three Effective Strategies (Identified by the Hospital)		
	% Improvement	Sparkline	#1	#2	#3
Contra Costa Regional Medical Center	-52.8		Electronic MD reminders to remove foley	Change to new catheter insertion tray with reminders and booklets for patients and families	
San Francisco General Hospital and Trauma Center	-37		Remove Foleys when discharged from ICU	Development of standard indications	Added to daily rounding
John H. Stroger Hospital of Cook County	-32		Securement devices	Closed system insertion kits	Staff education
Regional One Health	-15.8		Daily Rounds	White communication boards	Data sharing

Notes: Performance based on overall NHSN CAUTI Standardized Infection Ratio (SIR). For all, the baseline is Q1-Q2'12 and the performance period is Q2'14. Sparklines show trend over time from baseline to Q2'14.

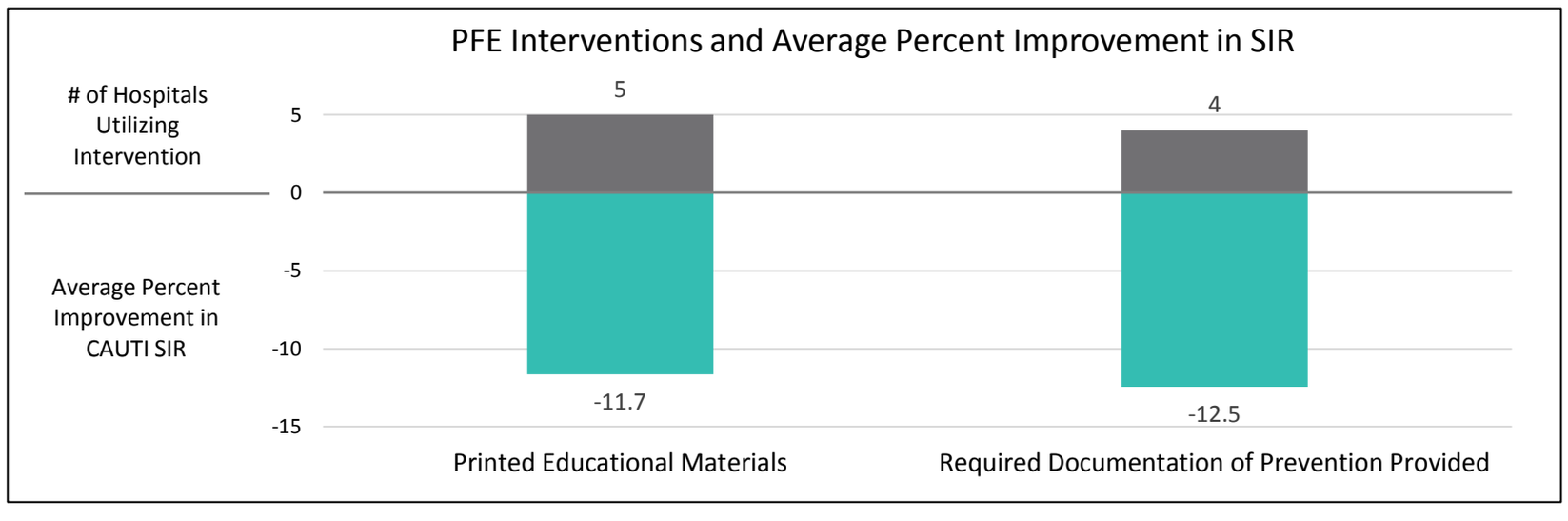
Going beyond the ICU... When implemented in the ICU, several interventions are spread to Non-ICU units.



Utilizing data... Hospitals that share data on a monthly basis have on average a lower Standardized Infection Ratio (SIR).

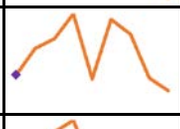
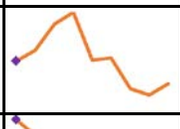


Engaging patients & families... On average, patient and family engagement (PFE) interventions are associated with improvement in SIR.



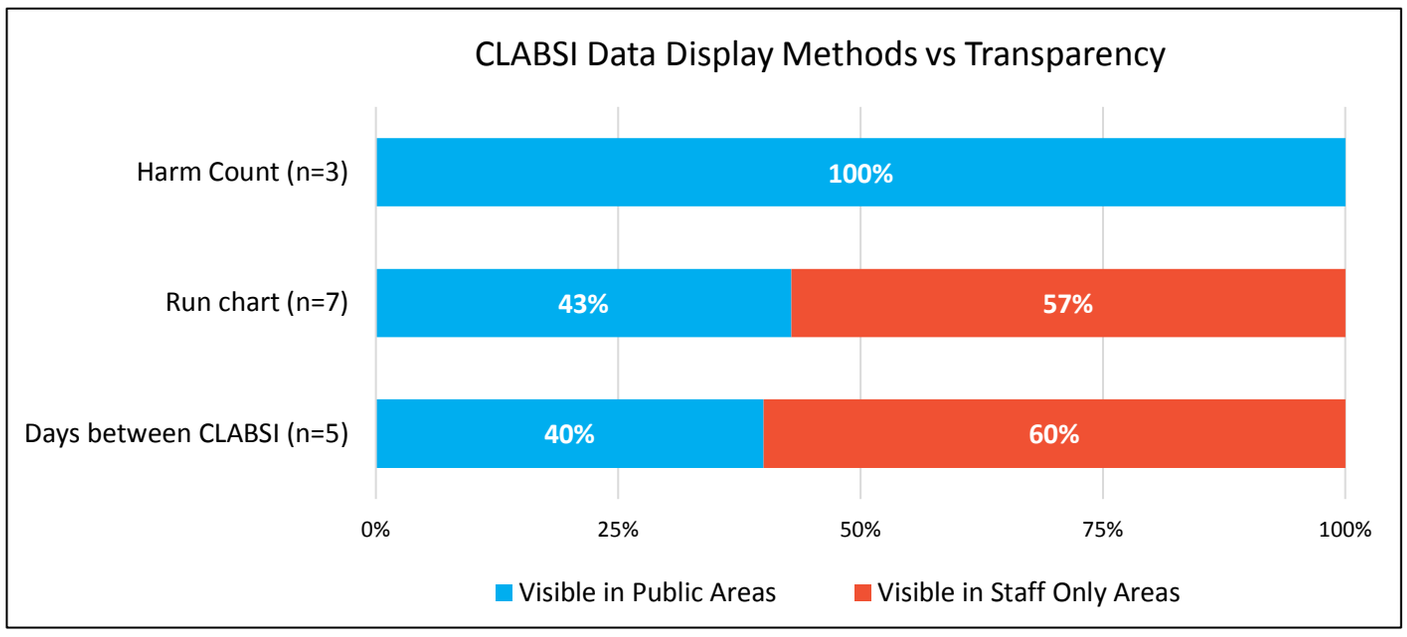
CLABSI: Best Practice Survey Highlights

In their own words... Top three effective CLABSI prevention strategies in the past 18 months from top performers.

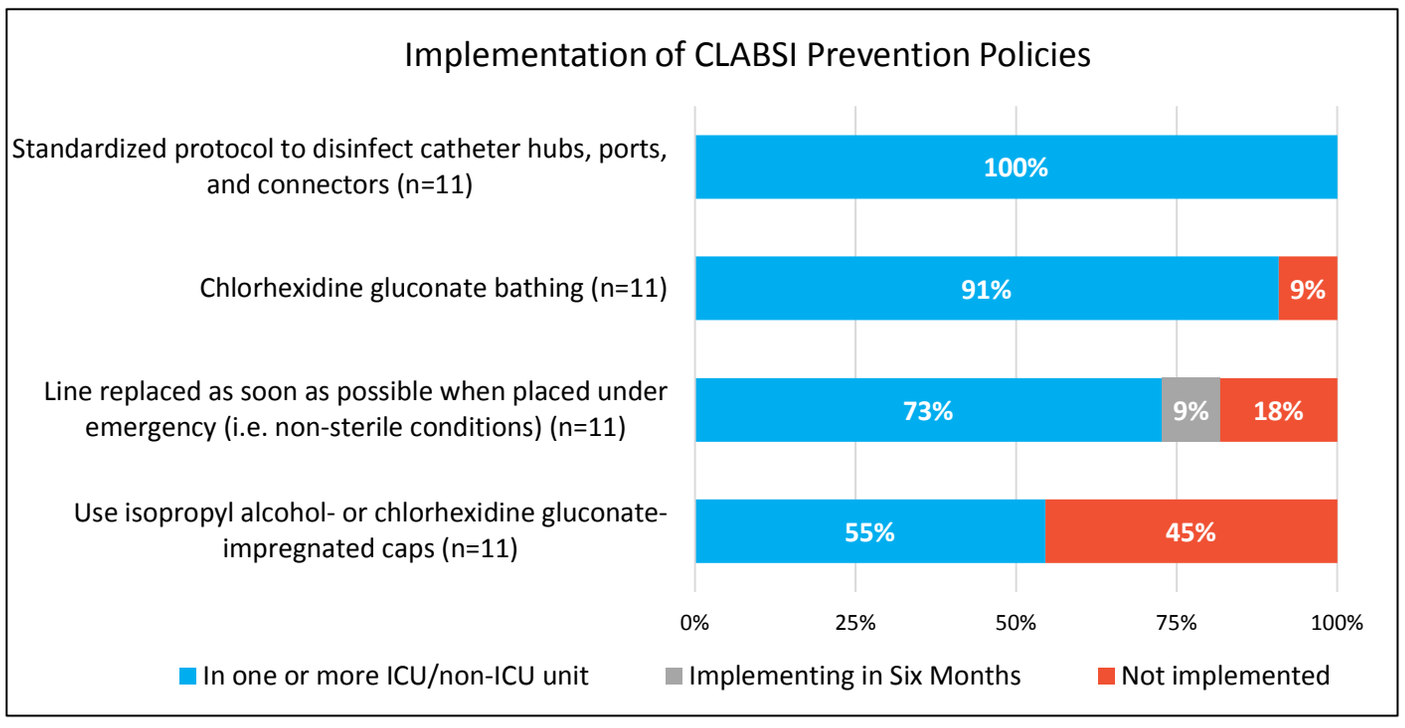
			Top Three Effective Strategies (Identified by the Hospital)		
	% Improvement	Sparkline	#1	#2	#3
San Francisco General Hospital and Trauma Center	-100		Regular line care audits	Daily line necessity and prompt removal	Documentation tool to assist with decision support
Maricopa Integrated Health System	-52.5		Universal decolonization	Line maintenance team rounding weekly on all patients with central lines	Curos devices (port protectors, for Tego, and for male luer tips)
Regional One Health	-51.9		Standardization of dressing change trays	Data sharing	Daily rounds
Truman Medical Centers-Hospital Hill	-44.3		Impregnated chlorhexidine caps	PICC insertion lists	

Notes: Performance based on overall NHSN CLABSI Standardized Infection Ratio (SIR). For all, the baseline is Q1-Q2'12 and the performance period is Q2'14. Sparklines show trend over time from baseline to Q2'14.

Toward transparency... When data is displayed using these methods, it is often shown in public areas.

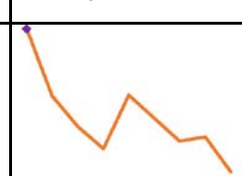
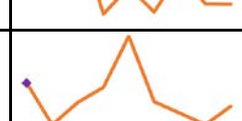


Regarding policies... Using impregnated caps is one of the least widely adopted CLABSI prevention policies.



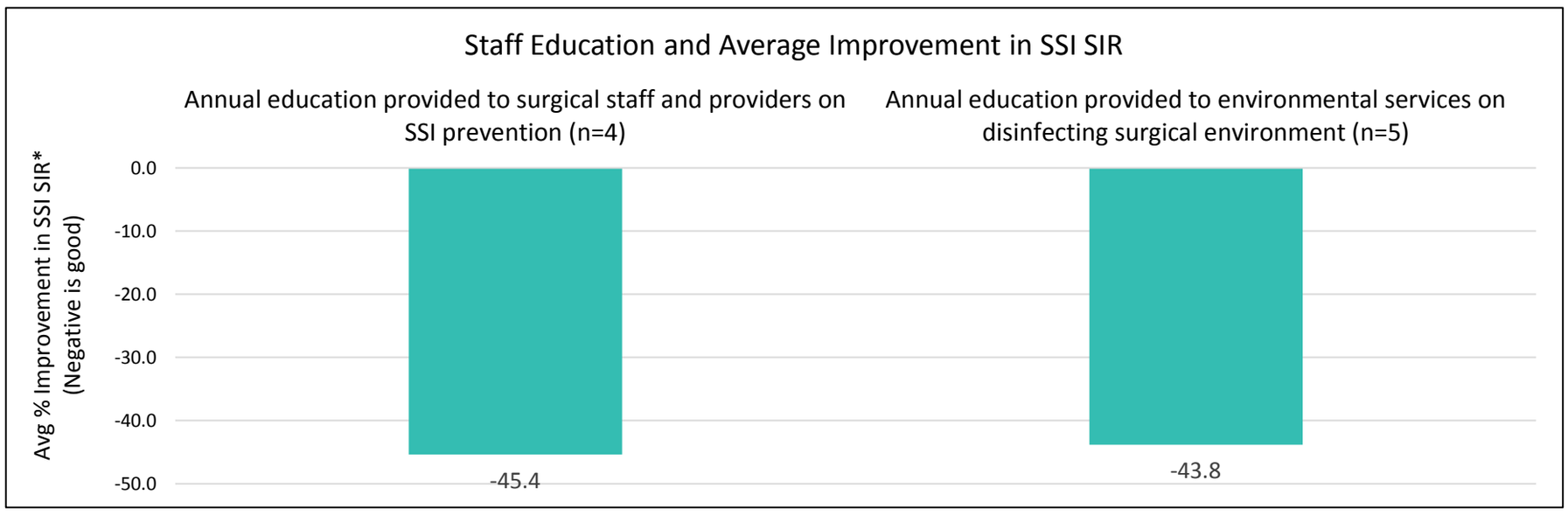
SSI: Best Practice Survey Highlights

In their own words... Top three effective SSI prevention strategies in the past 18 months from top performers.

			Top Three Effective Strategies (Identified by the Hospital)		
	% Improvement	**Sparkline**	**#1**	**#2**	**#3**
Maricopa Integrated Health System	-100		Installed retractable straps on the outer doors of the ORs to decrease the frequency of them opening during surgery	Stopped exchanging linen carts in order to decrease the amount of dust/dirt particles coming into the department	Monthly review of ATP Audits (cleanliness of the environment) which are shared with staff and reviewed with EVS staff monthly
San Mateo Medical Center	-69.2		HgbA1c monitoring	Chlorhexidine bathing	One on one education with surgeons
Regional One Health	-55.6		Centralization of high level disinfection	Rounding	Surgical attire education
San Francisco General Hospital	-47.7		SSI included on harm dashboard	Chlorhexidine bathing in the ICU	

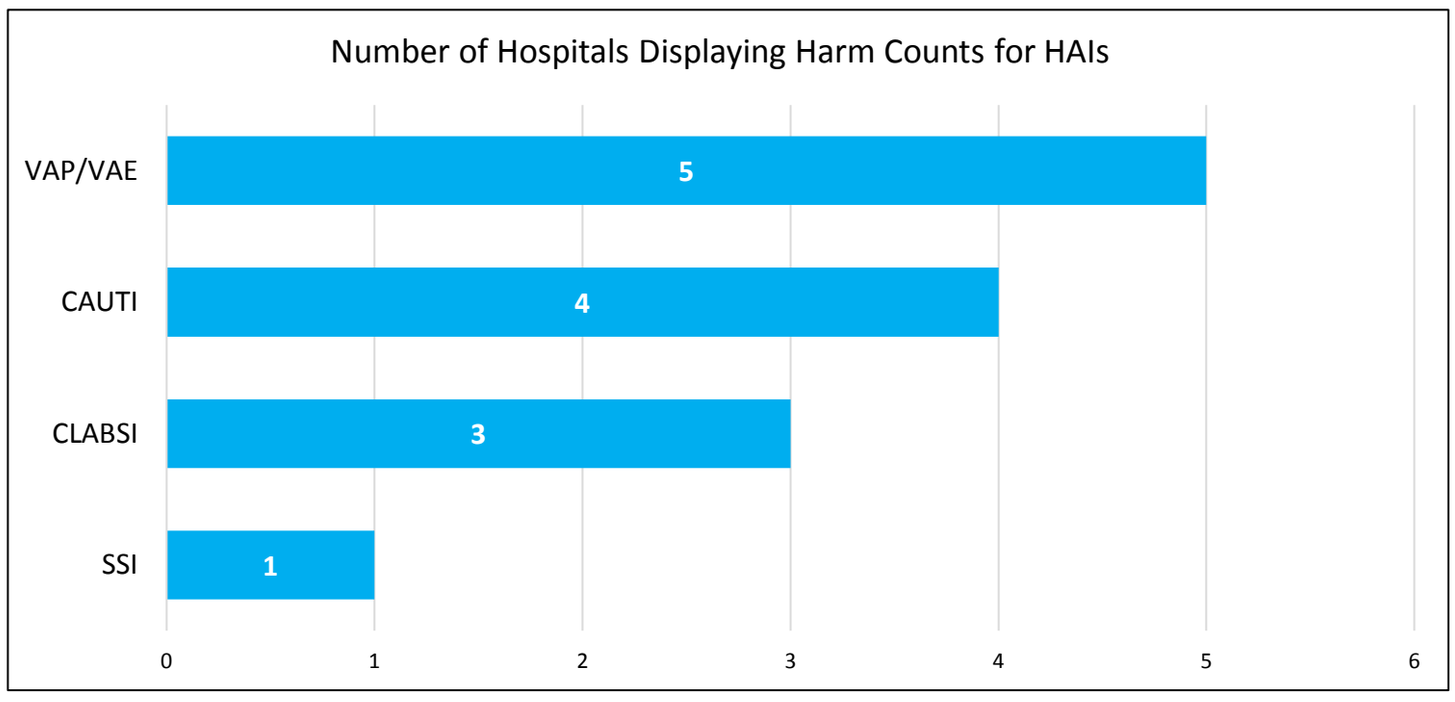
Notes: Performance based on NHSN All SSI Standardized Infection Ratio (SIR). For all, the baseline is Q1-Q2'12 and the performance period is Q2'14. Sparklines show trend over time from baseline to Q2'14.

Alongside staff education... Hospitals providing annual education to staff have, on average, seen substantial improvement.



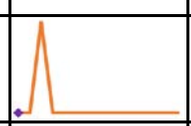
*- Improvement is based on a baseline of Q1-Q2'2012 and performance of Q2'2014

Displaying Harm Counts... Only one hospital displays harm counts for SSI as well as the other hospital-acquired infections.



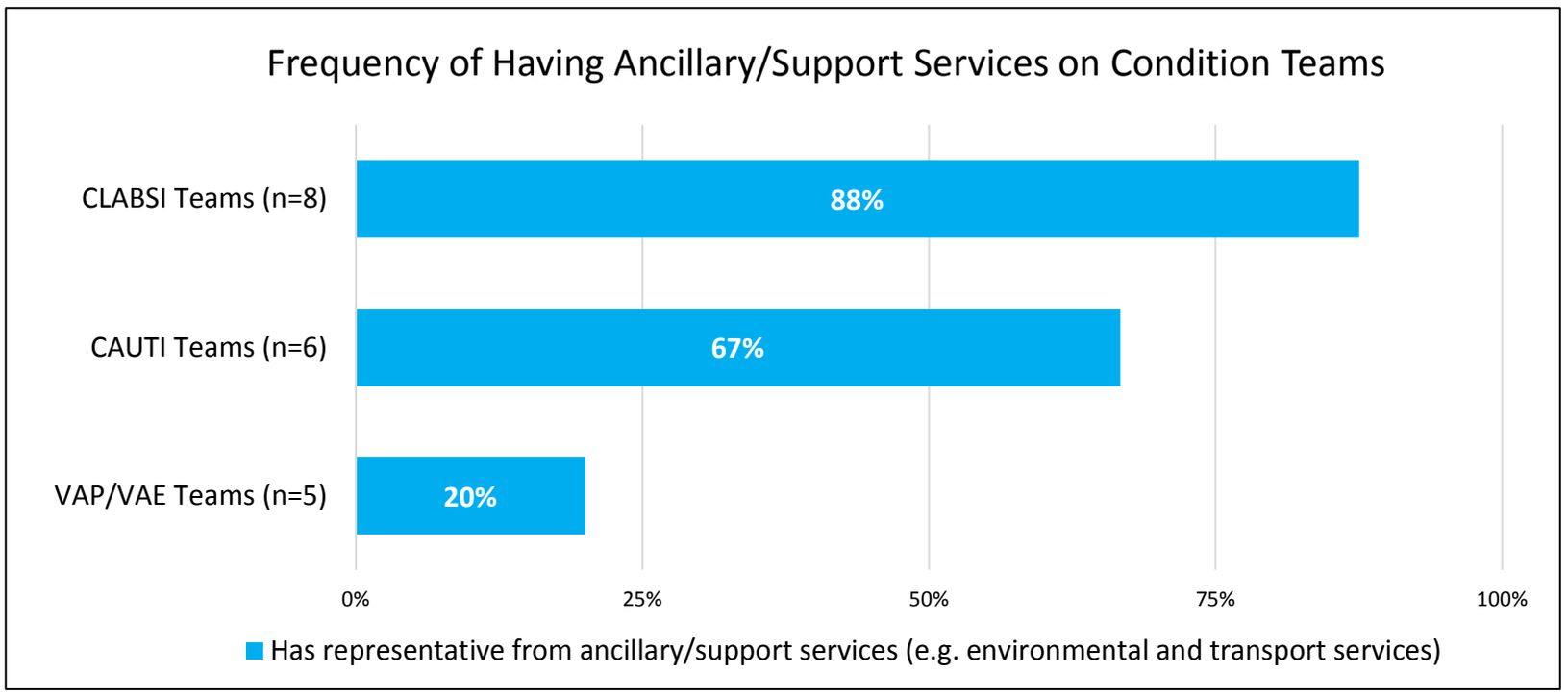
VAP: Best Practice Survey Highlights

In their own words... Top three effective VAP prevention strategies in the past 18 months from top performers.

			Top Three Effective Strategies (Identified by the Hospital)		
	% Improvement	Sparkline	#1	#2	#3
San Mateo Medical Center	Zero Harm		Improved documentation with mandatory fields	Decreased length of intubation	Multidisciplinary rounds in ICU
Rancho Los Amigos National Rehabilitation Center	Zero Harm		Query on medical record system to facilitate data gathering		
Regional One Health	-100		Use of complete mouth care kits	Rounding	Data sharing

Notes: Performance based on UHC-defined VAP, which was collected through UHC's CDB/CDB-lite. For all, the baseline is 2010 and the performance period is Q2'14. Sparklines show trend over time from baseline to Q2'14.

As for team composure... Unlike CAUTI and CLABSI, VAP/VAE teams often do not often have ancillary services represented.



Essential Hospitals Engagement Network (EHEN)

Best Practices Survey 2014 - Hospital-Acquired Infections (HAIs)

Red Numbers Represent Respones (n=12)

Section 4: Hospital-Acquired Infections (HAI)

Infection Prevention Practices

1. In the past two years, has your organization participated in a national, state/regional, grant-funded or systemwide initiative on the following topics?

	Yes	No	If Yes, name of initiative
Hand Hygiene	7	4	
CAUTI	10	1	
CLABSI	9	2	
VAP/VAE	6	3	
SSI	7	2	

2. What current practices are you using to support efforts to improve hand hygiene compliance in your hospital? Check all that apply.

10	Periodic direct observations/audits/secret shoppers
2	Product consumption devices
5	Self-reporting surveys
1	Smart technology (badges, dispenser transmissions, video, etc.)
4	Senior leadership rounds focused on handwashing compliance
2	Other, please specify: SFGH-"real time audits"; Contra Costa-"Med pass survey"
	None at this time

3. What is the total number of staff currently working in your infection prevention department who are certified in infection control?(Describe using FTE's)

SFGH- 3; MetroHealth- 1.8; Stroger- 4; Santa Clara- 2; San Mateo- 1

4. During senior leadership rounds, harm from the following conditions is included as a concern:

	Yes, in all applicable units	No	Yes, but only some applicable units	We do not do senior leadership rounds
CAUTI	3	1	2	4
CLABSI	2	1	2	4
VAP/VAE	2	2	2	4
SSI	2	2	2	4

5. Our hospital has the following processes in place to educate patients and families about preventing hospital-acquired infections. Check all that apply.

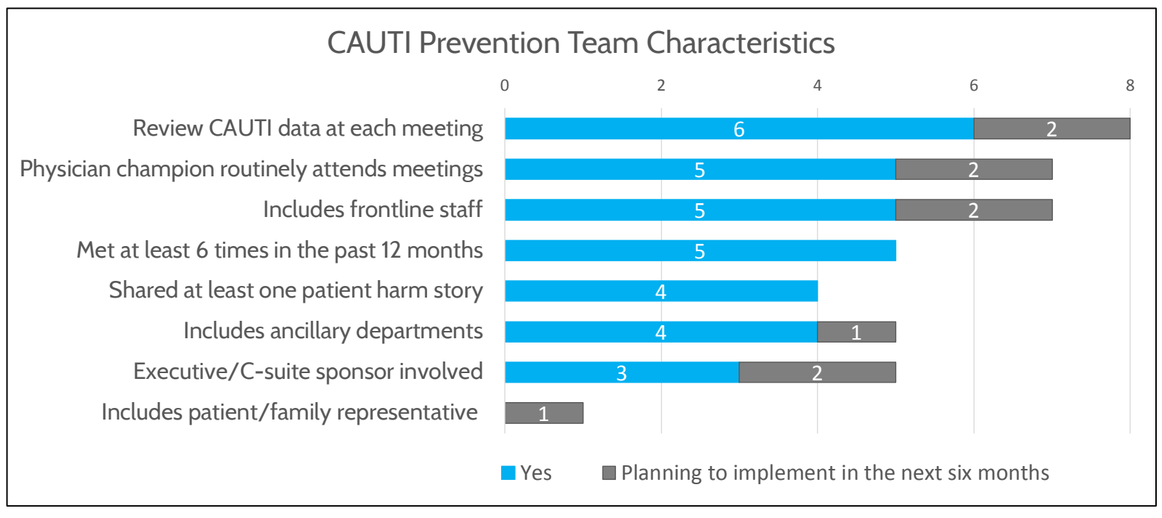
	Printed Educational Materials	Patient/Family Video	Teach-back Process	Required documentation of prevention provided to patient and family members	Other
CAUTI	4		2	4	
CLABSI	4		2	5	
VAP/VAE	4		2	4	
SSI	5		2	5	

Catheter-associated Urinary Tract Infections (CAUTI): Q6 - Q17

6. Does your hospital have a multidisciplinary team that stands alone or is part of an HAI committee *actively* working on CAUTI prevention?

8	Yes
4	No (Go to question 8)

7. Please answer the following questions for your CAUTI prevention team:

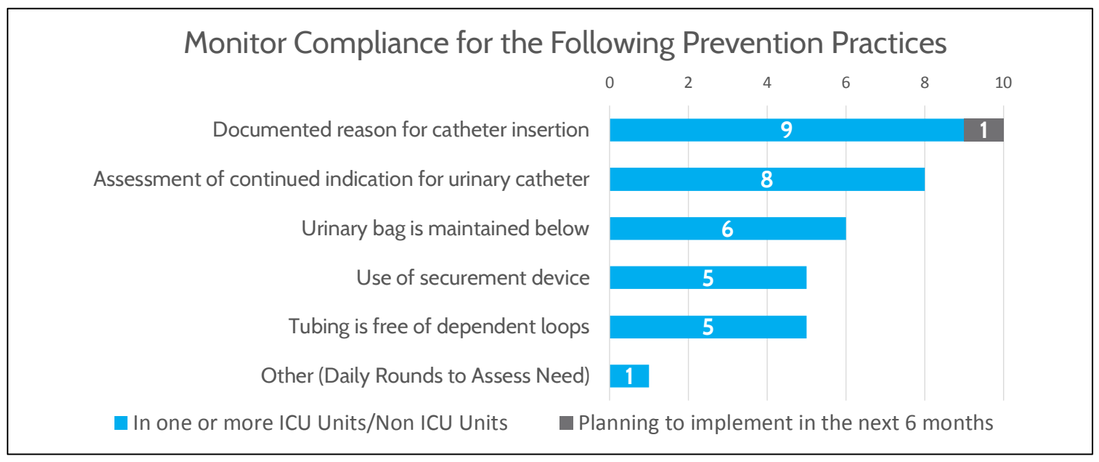


Section 4: Hospital-Acquired Infections (HAI)

8. Our hospital has evidence-based policies that include the following with respect to indwelling urinary catheters:

	Yes	No	Will adopt within six months
Appropriate indications for urinary catheter use	8		2
Automatic catheter removal when indication expires	3	4	3
Proper catheter insertion using sterile technique	9		1
Urinary catheter maintenance	9		1
Use of portable bladder ultrasounds to access urine volume	6	2	2
Indications and frequency for catheter changes	7	2	1

9. We have a method to routinely and consistently monitor compliance with the following practices to prevent CAUTI:



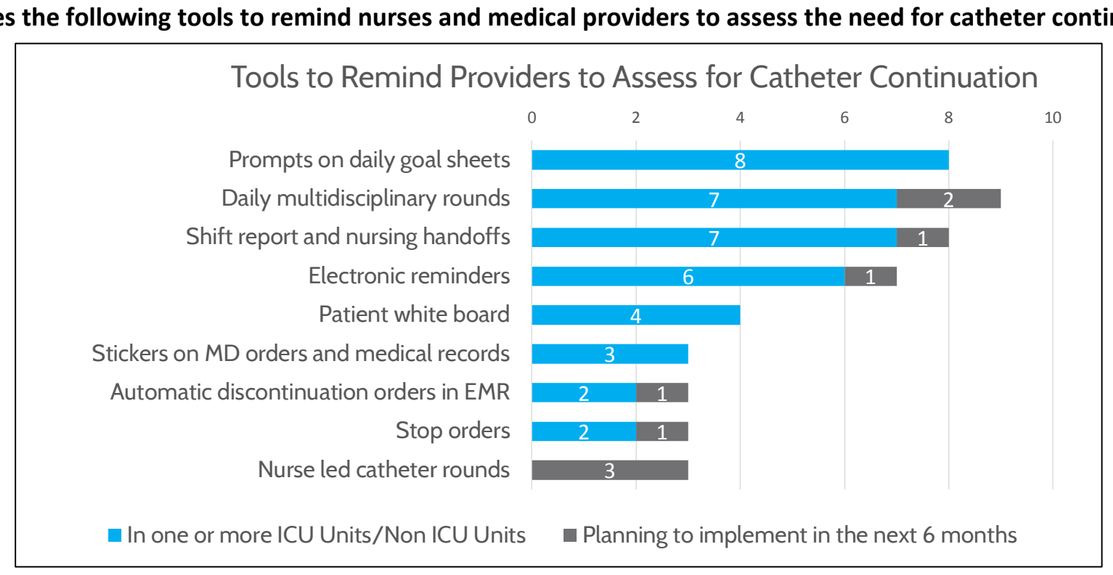
10. Has your hospital implemented a policy that allows nurse-initiated urinary catheter discontinuation (nurse driven protocol)? Check all that apply.

- 1 Yes, in one or more of our ICU units
- 2 Yes, in one or more non-ICU units
- 2 Working to implement within the next six months
- 6 Not at this time

11. What are valid indications for catheter insertion at your hospital? Check all that apply.

- 11 Peri-operative use for selected surgical procedures
- 10 Urine output monitoring in critically ill patients
- 10 Managing acute urinary retention and urinary obstruction
- 7 Assisting with pressure ulcer healing for incontinent patients
- 2 At patients' request to improve comfort
- 3 Other: Chronic use, end of life, unstable thoracic or lumbar spine & pelvic fx

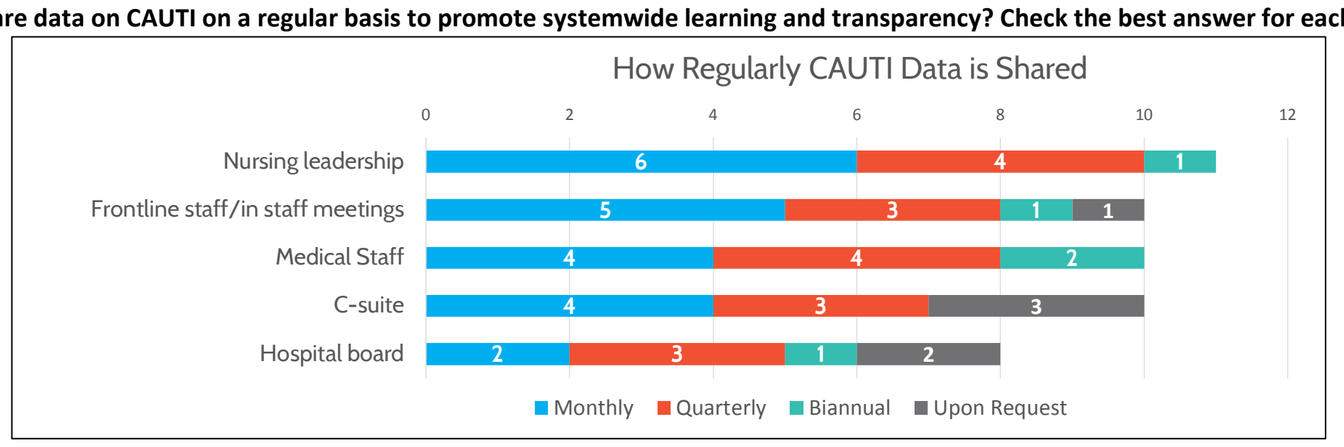
12. Our hospital uses the following tools to remind nurses and medical providers to assess the need for catheter continuation:



13. Does your hospital do a deep dive or root cause analysis to look for opportunities for improvement?

- 3 Yes, on all confirmed CAUTI cases housewide
- 2 Yes, on confirmed CAUTI cases, but only in selected units
- 6 We do not do in-depth reviews on CAUTI cases

14. How do you share data on CAUTI on a regular basis to promote systemwide learning and transparency? Check the best answer for each:



Section 4: Hospital-Acquired Infections (HAI)

15. Which methods are used to display CAUTI data on your clinical units?

	Staff-only accessible areas	Public areas such as hallways	Method is not used
Run charts	5	2	2
Control charts	1		5
Bar graphs/pie charts	2		6
Harm counts	1	3	4
Days between CAUTI	3	2	5
Other:			

16. Effectiveness is defined as the degree to which a tool or strategy produced the desired result or impact on the intended goal. Using this definition, please list the three most effective interventions/strategies for reducing CAUTI you have implemented in the past 18 months.

17. When do you provide education to nursing staff on indwelling urinary catheter indication and maintenance? Check all that apply.

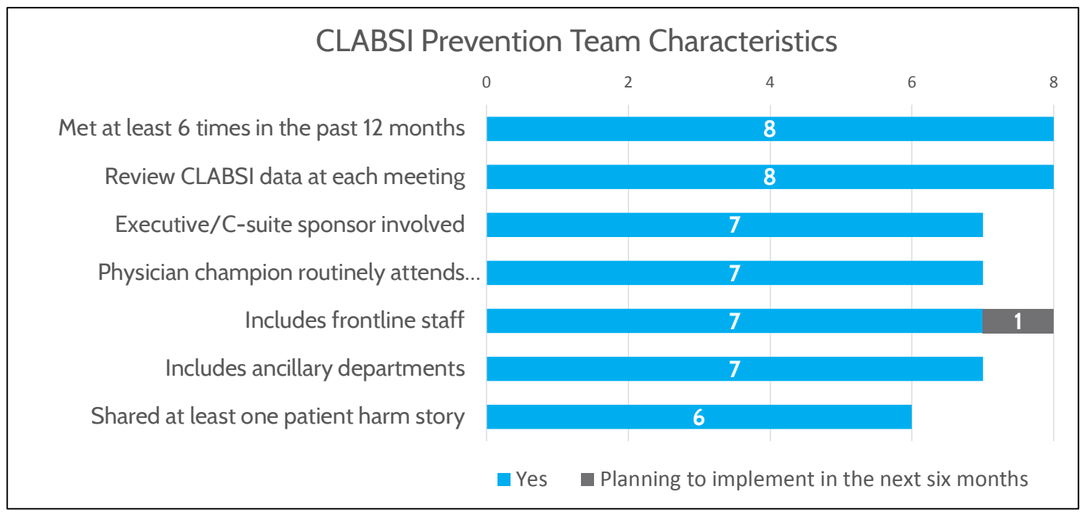
- 9 During new employee orientation
- 8 Annually
- 3 Other:

Central Line-Associated Blood Stream Infections (CLABSI): Q18 - Q33

18. Does your hospital have a multidisciplinary team that stands alone or is part of an HAI committee *actively* working on CLABSI prevention?

- 8 Yes
- 4 No (Go to question 20)

19. Please answer the following questions for your CLABSI prevention team:



20. Are healthcare providers at all levels empowered to stop the central line insertion (i.e. stop the line protocol) if a breach in sterile technique is observed?

- 11 Yes
- No
- Working to implement within the next six months

21. Our hospital has evidence-based policies that include the use of a central line insertion checklist.

- 11 Yes
- No
- Working to implement within the next six months

22. We have a method to routinely and consistently monitor compliance with the following practices to prevent CLABSI:

	In one or more ICU units	In one or more non-ICU units	Not at this time	Will adopt within six months
Hand hygiene at insertion	9	8	2	
Maximal barrier precautions	9	7	2	
Chlorhexidine skin prep at insertion	10	9	1	
Optimal catheter site selection	10	9	1	
Checking line daily for necessity	11	10		
Other: "Scrub the hub"	1			

23. Has your hospital implemented a policy that directs the replacement as soon as possible of central lines placed under emergency (non-sterile) conditions? Check all that apply

- 8 Yes, in one or more of our ICU units
- 6 Yes, in one or more non-ICU units
- 1 Working to implement within the next six months
- 2 Not at this time

Section 4: Hospital-Acquired Infections (HAI)

24. Has your hospital implemented a policy that directs the use of a standardized protocol (e.g. scrub the hub) used to disinfect catheter hubs, injection ports and needleless connectors with 70% alcohol or an iodophor prior to accessing the port? Check all that apply.

11	Yes, in one or more of our ICU units
11	Yes, in one or more of our non-ICU units
	Working to implement within the next six months
	Not at this time

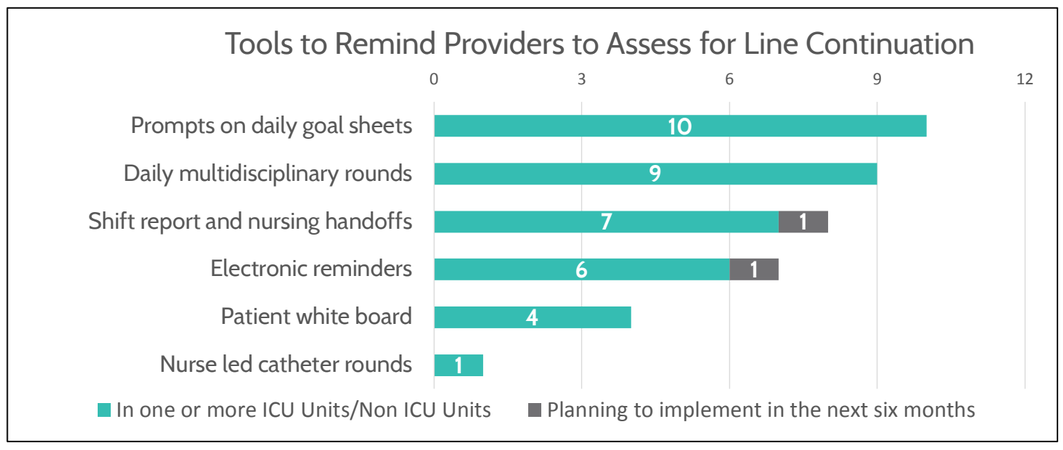
25. Has your hospital implemented a policy that directs the use of isopropyl alcohol- or chlorhexidine gluconate-impregnated caps to prevent intraluminal contamination? Check all that apply.

6	Yes, in one or more of our ICU units
6	Yes, in one or more of our non-ICU units
	Working to implement within the next six months
5	Not at this time

26. Has your hospital implemented a policy that directs chlorhexidine gluconate bathing to reduce bloodstream infections? Check all that apply.

10	Yes, in one or more of our ICU units
3	Yes, in one or more of our non-ICU units
1	Working to implement within the next six months
1	Not at this time

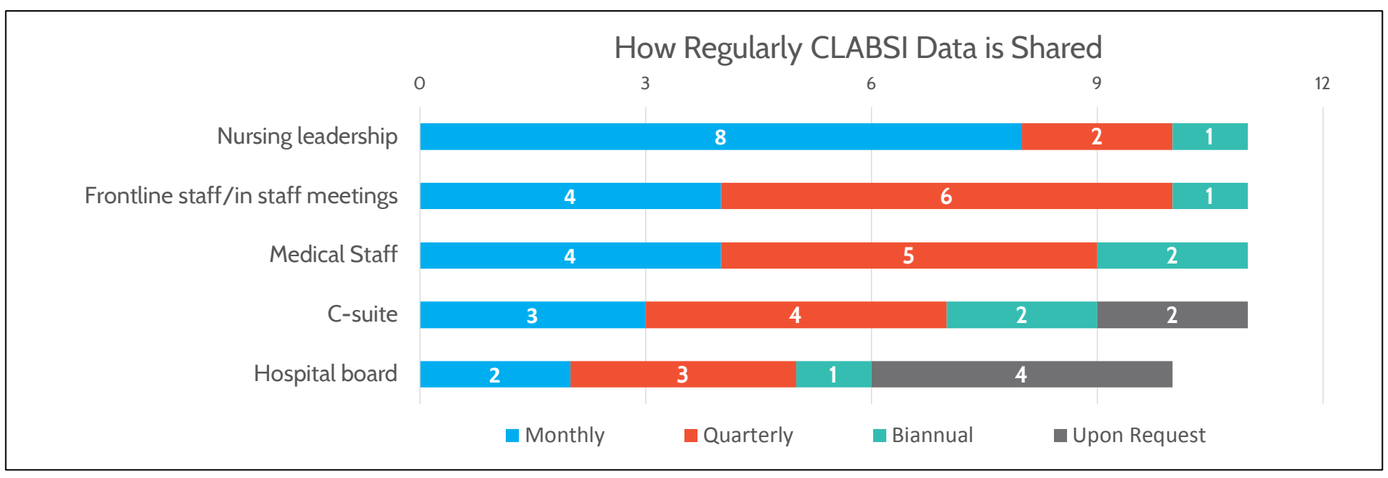
27. Our hospital uses the following tools to remind nurses and medical providers to assess the need for central line continuation:



28. Does your hospital do a deep dive or root cause analysis to look for opportunities for improvement?

5	Yes, on all confirmed CLABSI cases housewide
4	Yes, on all confirmed CLABSI cases, but only in selected units
2	We do not do in-depth reviews on CLABSI cases

29. How do you share data on CLABSI on a regular basis to promote systemwide learning and transparency? Select the best answer for each.



30. Which methods are used to display CLABSI data on your clinical units?

	Staff-only accessible areas	Public areas such as hallways	Method is not used
Run charts	4	3	2
Control charts	2		3
Bar graphs/pie charts	4		3
Harm counts		3	4
Days between CLABSI	3	2	4
Other:			

31. Effectiveness is defined as the degree to which a tool or strategy produced the desired result or impact on the intended goal. Using this definition, please list the three most effective interventions/strategies for reducing CLABSI you have implemented in the past 18 months.

32. When do you provide education to nursing staff on central line insertion and maintenance? Check all that apply.

10	During new employee orientation
9	Annually
3	Other: "Staff Meetings"; "Periodically"

Section 4: Hospital-Acquired Infections (HAI)

33. When do you provide education to medical staff on central line insertion and maintenance? Check all that apply.

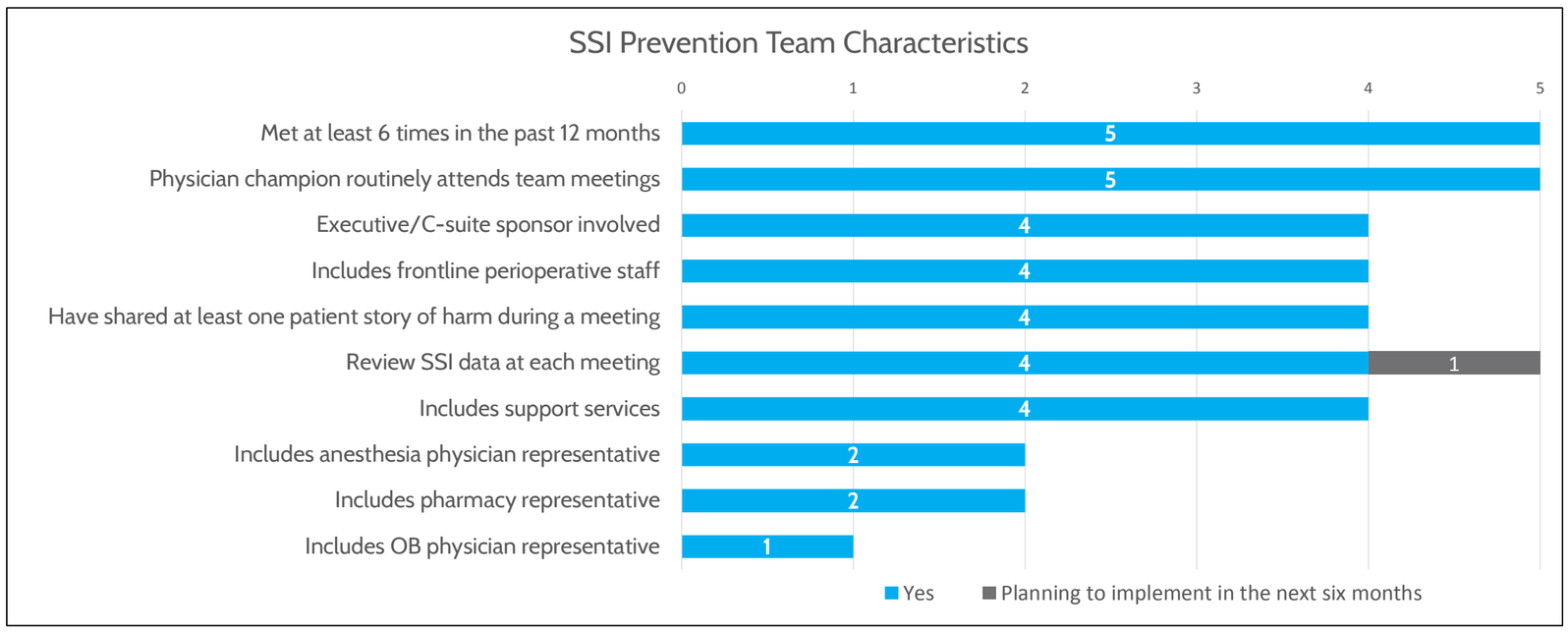
5 During credentialing orientation
4 Annually
5 Other: "As directed by the CLABSI Committee"; "Resident Orientation"; "Routinely via vascular access champions. Quality and Vascular Access classes held for staff 1-2 times per year"

Surgical Site Infections (SSI): Q34 - Q45

34. Does your hospital have a multidisciplinary team that stands alone is part of an HAI committee *actively* working on SSI prevention?

5 Yes
6 No (Go to Question 36)

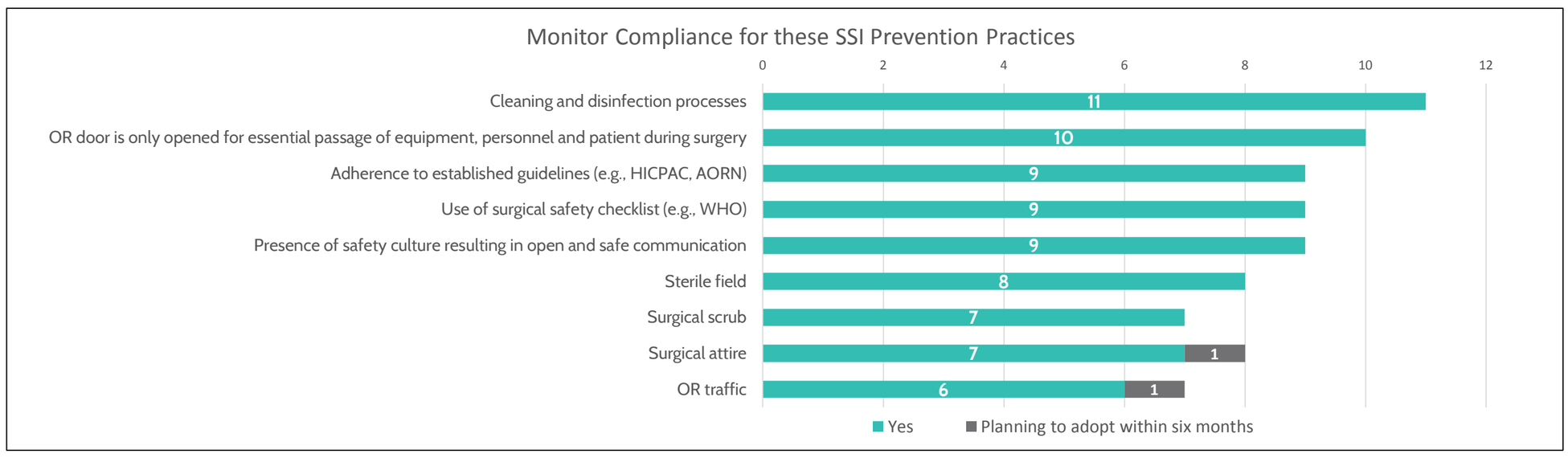
35. Please answer the following questions for your SSI prevention team:



36. Our hospital has evidence-based protocols or order sets that include the following with respect to preventing SSI:

	Yes	No	Will adopt within six months
Antibiotic dosing to include antibiotic selection, timing of administration, weight-based dosing, re-dosing (for prolonged procedures) and discontinuation	12		
Preoperative skin antisepsis using measures such as soap and water showers and chlorhexidine gluconate	10	1	1
Perioperative skin antisepsis practices utilizing the most appropriate skin antiseptic for the type of surgery performed	10	1	
Normothermia using a standardized process for all surgical patients	11	1	
Optimal glucose control for all surgical patients	11	1	
Screening/decolonizing selected patients with *Staphylococcus aureus*	3	7	2
Blood transfusion practices	7	3	1

37. We have a method to routinely and consistently monitor compliance with the following practices to prevent SSI:



38. Does your hospital do a deep dive or root cause analysis to look for opportunities for improvement? Check all that apply

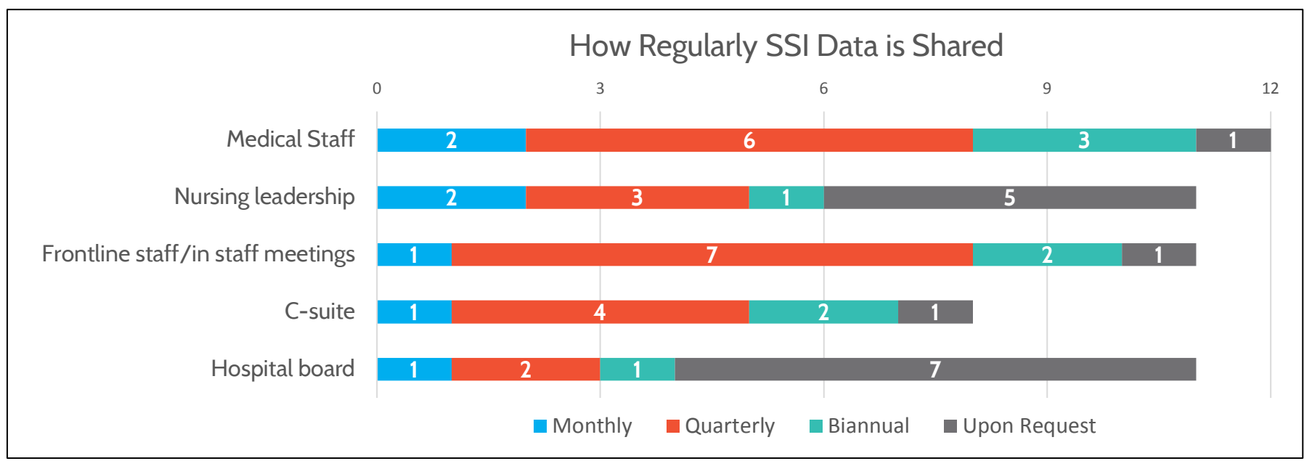
2 Yes, on all SSI housewide
3 Only on SSI for certain procedures
2 Only on SSI of certain severity
5 We do not do in-depth reviews on SSI cases

Section 4: Hospital-Acquired Infections (HAI)

39. Is incisional closure type (i.e., primary closure or delayed primary closure) a standard element in the perioperative record?

9	Yes
2	No

40. How do you share data on SSI on a regular basis to promote systemwide learning and transparency? Check the best answer for each:



41. Which methods are used to display SSI data on your clinical units?

Method	Perioperative areas		Inpatient unit(s)		
	Staff-only accessible areas	Public areas such as hallways	Staff-only accessible areas	Public areas such as hallways	Method not used
Run charts	2	1	2		7
Control charts	1				8
Bar graphs/pie charts	3		3		7
Harm counts		1	3		9
Days between SSIs					9
Other:					

42. Effectiveness is defined as the degree to which a tool or strategy produced the desired result or impact on the intended goal. Using this definition, please list the three most effective interventions/strategies for reducing SSI you have implemented in the past 18 months.

43. When do you provide education to surgical staff and providers on SSI prevention, such as on how to perform, document, and communicate SSI risk assessments results? Check all that apply.

8	During new employee orientation
4	Annually
3	Other: "As Needed"; "During Quality classes held for staff at least annually"

44. When do you provide environmental services staff training, including competency assessments related to cleaning and disinfecting the surgical environment? Check all that apply.

8	During new employee orientation
5	Annually
4	Other: "As Needed"; "Periodic"

45. Do discharge instructions include SSI prevention strategies at home when applicable?

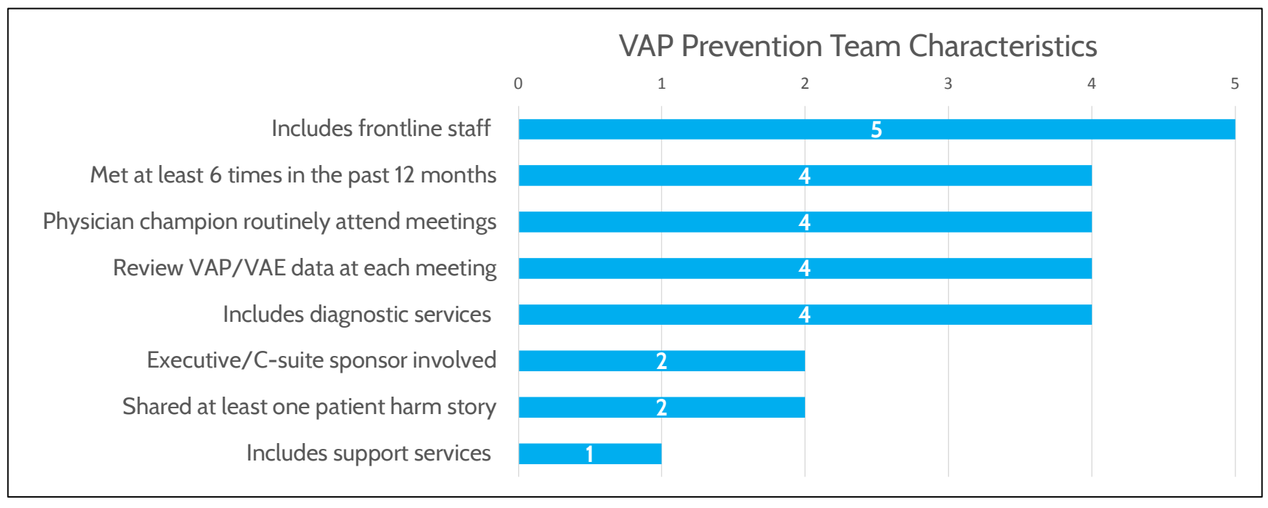
11	Yes
	No
1	Plan to implement within six months

Ventilator-Associated Pneumonia/ Ventilator-Associated Events (VAP/VAE): Q46 - Q56

46. Does your hospital have a multidisciplinary team that stands alone or is part of an HAI committee *actively* working on VAP/VAE prevention?

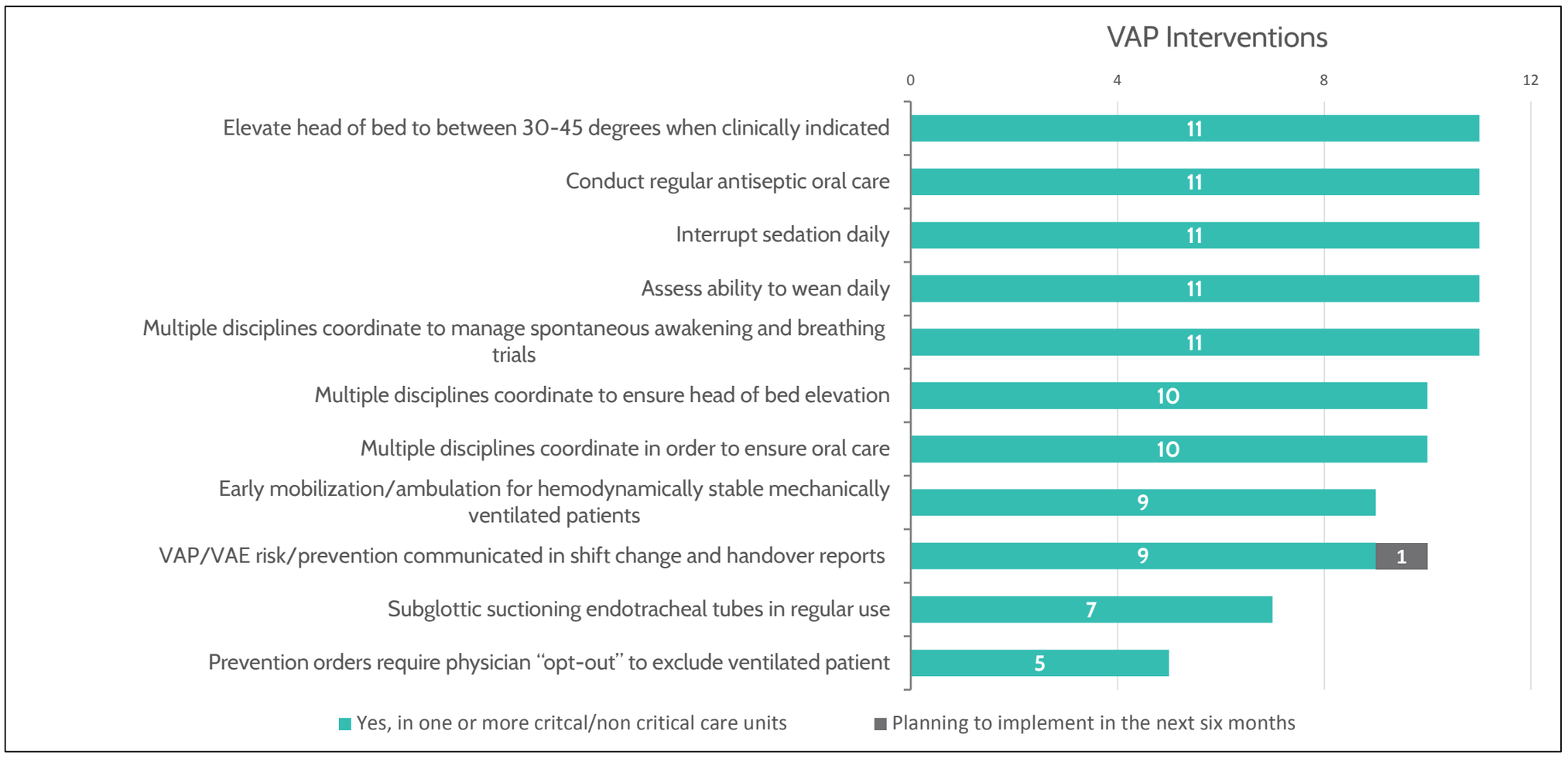
5	Yes
6	No (Go to question 48)

47. Please answer the following questions for your VAP/VAE prevention team:



Section 4: Hospital-Acquired Infections (HAI)

48. Our hospital has evidence-based policies aimed at preventing VAP/VAE. Check all that apply:



49. Do you use any of the following sedation scales to maximize weaning opportunities? Check all that apply.

7	Richmond Agitation and Sedation Scale (RASS)
2	Riker Sedation-Agitation Scale (SAS)
3	Modified Ramsay Score
1	Other: "Ramsey"
	Plan to implement in next six months
	No plans to implement

50. Do you monitor and manage delirium using any of the following scales? Check all that apply.

8	Confusion Assessment Method for the ICU (CAM-ICU)
	Intensive Care Delirium Screening Checklist (ICDSC)
	Nursing Delirium Screening Scale (NU-DESC)
	Delirium Detection Score (DDS)
1	Other: "Modified Ramsay Score"
	Plan to implement in next six months
1	No plans to implement

51. Indicate in which of the following non-ICU areas mechanically ventilated patients' head of bed elevation is reliably maintained as tolerated. Check all that apply.

4	Emergency Department
6	During transport within the hospital
2	During transport (e.g. ambulance, helicopter) between hospitals

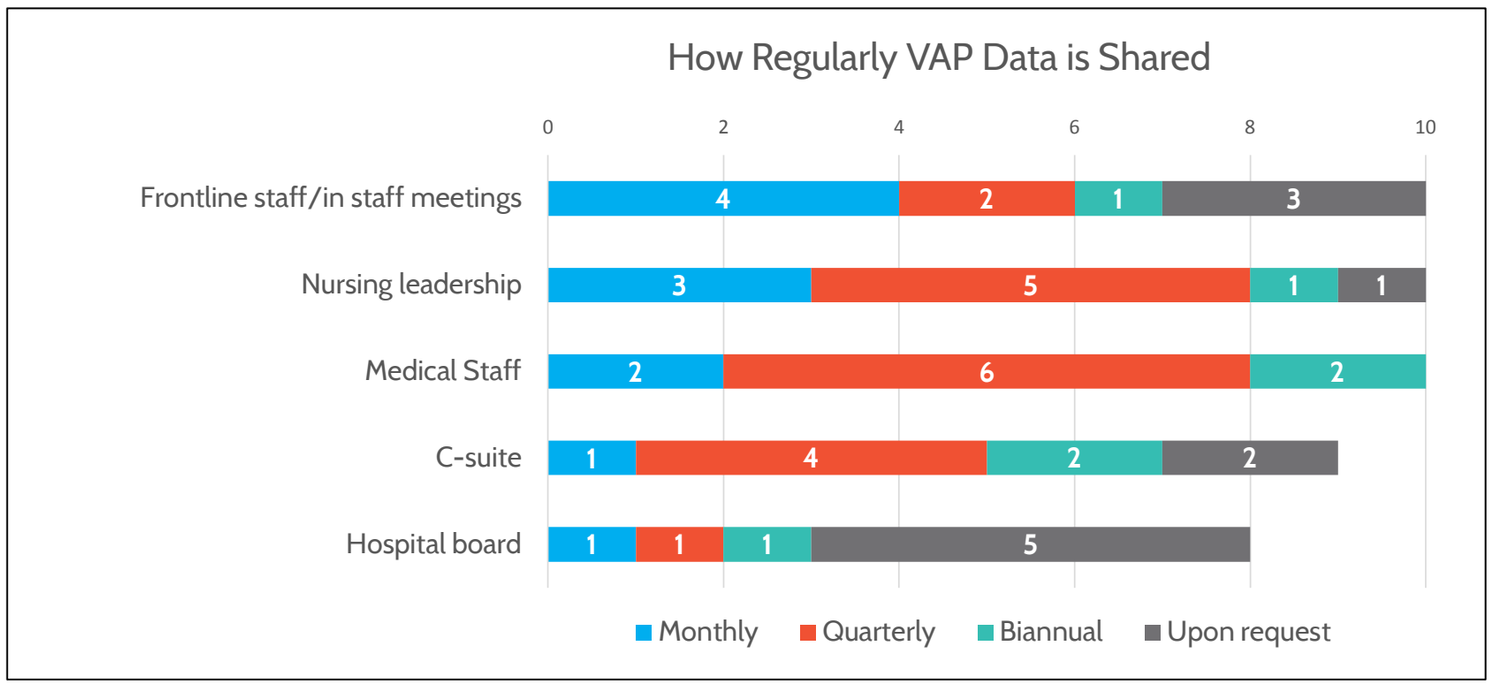
52. Do you do a deep dive or root cause analysis on any of the following categories to look for opportunities for improvement?

	Yes, on all cases	Yes, on cases meeting certain criteria	Planning to implement in the next six months	Intervention not used; no plans to implement
VAC	3	2		5
IVAC	2	2	1	5
Possible VAP	5	2	1	3
Probable VAP	5	2	1	2

53. Effectiveness is defined as the degree to which a tool or strategy produced the desired result or impact on the intended goal. Using this definition, please list the three most effective interventions/strategies for reducing VAP/VAE you have implemented in the past 18 months.

Section 4: Hospital-Acquired Infections (HAI)

54. How do you share data on VAP/VAE on a regular basis to promote systemwide learning and transparency? Select the best answer for each.



55. Which methods are used to display VAP/VAE data on your clinical units?

Method	ICU unit(s)		Medical/surgical unit(s)		
	Staff-only accessible areas	Public areas such as hallways	Staff-only accessible areas	Public areas such as hallways	Method not used
Run charts	3	3	2		3
Control charts	1				4
Bar graphs/pie charts	4		1		3
Harm counts	1	3	1		3
Days between VAP/VAEs		2		1	4
Other:	1		1		

56. When do you provide education to nursing staff on VAP/VAE prevention? Check all that apply.

10 During new employee orientation
6 Annually
1 Other: " As needed"