

# Assessing compliance with best practices for the prevention of surgical site infections: Statewide Survey of Infection Preventionists and Perioperative Personnel

Margaret Drake<sup>1,2,3</sup>, L. Kate Tyner<sup>1,2</sup>, Xiao Wang<sup>1,2,3</sup>, Kate Boulter<sup>1,2</sup>, Mark E. Rupp<sup>1,2,5</sup>, Michelle Schwedhelm<sup>1,2</sup>, Maureen Tierney<sup>3</sup>, Muhammad Salman Ashraf<sup>2,5</sup>

<sup>1</sup> Nebraska Medicine <sup>2</sup> Nebraska Infection Control Assessment & Promotion Program <sup>3</sup> Nebraska DPH Division of Epidemiology <sup>4</sup> University of Nebraska Medical Center, College of Public Health, <sup>5</sup> University of Nebraska Medical Center, Department of Internal Medicine

## BACKGROUND

An increase in SSI were observed for the calendar year 2015 based on NHSN data. The Nebraska state HAI coordinator wanted to know what led to the increase in SSI, in particular abdominal hysterectomies.

- 0: No policy is in place and staff are not aware this should be done and do not do this
  - 1: Protocol is in place and/or some staff are aware this should be done. No data or observation done to know if practice is correct.
  - 2: Policy/protocol is in place and most staff are aware this should be done. It is likely this is happening frequently but documentation is not done or not consistent
  - 3: Policy is in place, staff are aware that this is the best practice, audits are in place and/ or proper action is consistently performed and documented
- Person completing assessment please check one: IP \_\_\_\_ Surgical personnel \_\_\_\_  
Thank you for input and time.

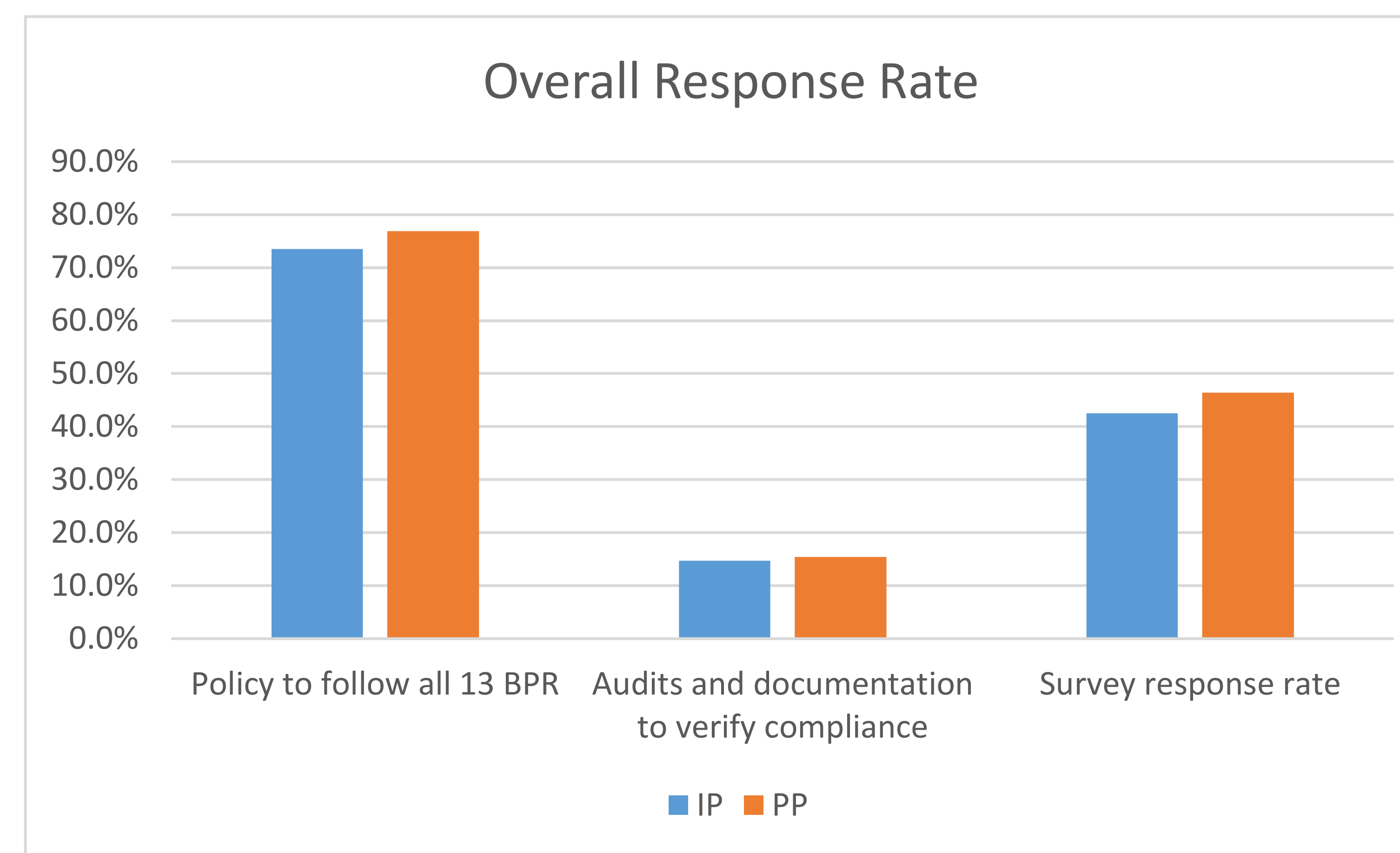
	0	1	2	3
Staff do not work with illness (cough, cold)				
Staff in the surgical suite use proper attire (e.g. hair covered, clean scrubs not worn outside of hospital)				
CHG bathing done preoperatively				
Skin antiseptics is performed according to package instructions (e.g. technique, length of time)				
Personnel traffic in the OR suite is limited				
Skin prep product is effective and appropriate for the type of procedure				
Patient is maintained at normothermia				
Diabetic patients kept in tight glucose control				
Preoperative antibiotic based on procedure type				
Preoperative antibiotic administered one hour before cut time (unless vancomycin)				
Preoperative antibiotic dosage determined by BMI				
Re-dosing of antibiotic for procedure longer than half-life of antibiotic.				
Maintain optimal tissue oxygenation throughout perioperative period by administering supplemental oxygen at intra-operatively and post-operatively				

## METHODS

A survey tool (Figure 1) of Best Practice Recommendations (BPR) was developed based on the 2014 guidelines update for strategies to prevent SSI in acute care hospitals. Survey was sent out between August and September 2016 to Infection Preventionists (IP) of all hospitals in the state. IPs were also asked to submit a perioperative personnel (PP) contact to receive the same survey. The anonymous survey asked both groups (IPs and PPs) about the presence of policy, staff awareness and audits for each of the 13 BPR assessed in the survey. The variation in the responses by the two groups were compared using two proportions test and one sample T test.

## RESULTS

The response rate (see graphs) for IPs was 42.5% (34/80). IPs recommended 28 PP out of whom 13 (46.4%) responded. Most IPs (73.5%) and PP (76.9%) reported having a policy to follow all 13 BPR, but a smaller group (14.7% and 15.4% respectively) reported presence of documentation or audits to verify compliance. PP were more likely (t score=4.52 p<0.001) to report a policy is in place, staff are aware of this best practice, audits are in place and/or proper action is consistently performed and documented than IPs (76.9% versus 50% respectively reported this for at least 10/13 BPR and 92.3% versus 70.5% for at least 7/13 BPR). However, when responses to each statement were compared individually, the differences were not statistically significant. These results may indicate facilities do have PBR in policy but are not adequately auditing if the processes are being followed as stated in policy. The state ICAR assessment would be one place to start identifying this gap. Validation of SSI results entered into NHSN by DPH would indicate if the IP is applying SSI definitions and reporting correctly. Therefore, validation could indicate that the state SIR is correct, inflated, or depressed.



## CONCLUSION

IPs are not auditing compliance with many of the BPR for prevention of SSI. They should prioritize this activity in order to identify and mitigate the gaps that might be contributing to SSI. Validation would allow mentoring of new and inexperienced IPs and indicate if these are true gaps or one of reporting errors.

## REFERENCES

1 Strategies to Prevent Surgical Site Infections in Acute Care Hospitals: 2014 Update, SHEA/IDSA Practice Recommendation, Infection Control and Hospital Epidemiology, June 2014, Vol. 35, No. 6

2 WHO Global Guidelines for Prevention of Surgical Site Infection 2016. World Health Organization 2016; ISBN 978 92 4 154988 2. Retrieved from <http://apps.who.int/iris/bitstream/10665/250680/1/9789241549882-eng.pdf?ua=1>

