

# Validation of NHSN Annual Hospital Survey questions: Do responses differ depending on the professional completing the survey?

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## Background

- Facilities reporting into the Patient Safety Component of NHSN complete an Annual Hospital Survey which includes 12 questions pertaining to antibiotic stewardship
- The survey is completed by an infection preventionist who is encouraged to gain input from physician and pharmacist stewardship champions
- The frequency in which the survey responses reflect the answers from key stewardship stakeholders is not well defined

## Objectives

- Assess the frequency in which professionals familiar with the hospital's antibiotic stewardship program (ASP) provide input on the antibiotic stewardship questions in the annual NHSN hospital survey
- Compare matched responses between an independent survey of hospitals and the NHSN survey to compare number of core elements met and identify differences that exist depending on who completes the survey

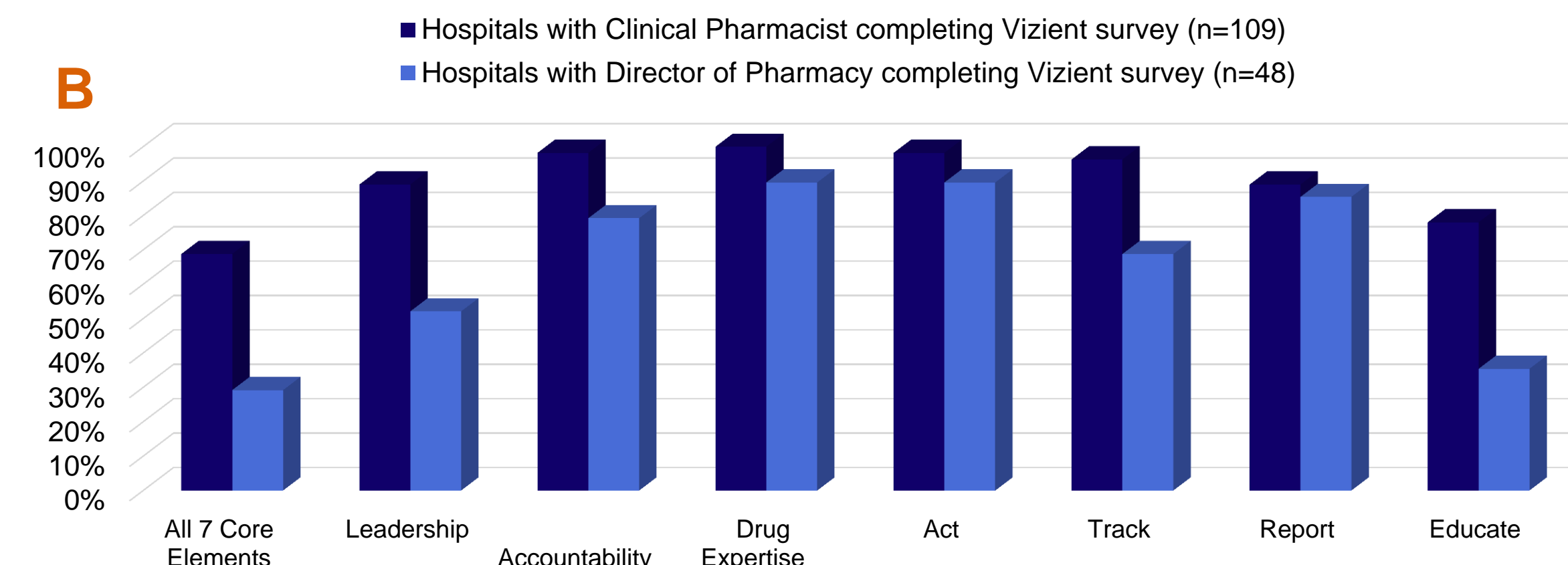
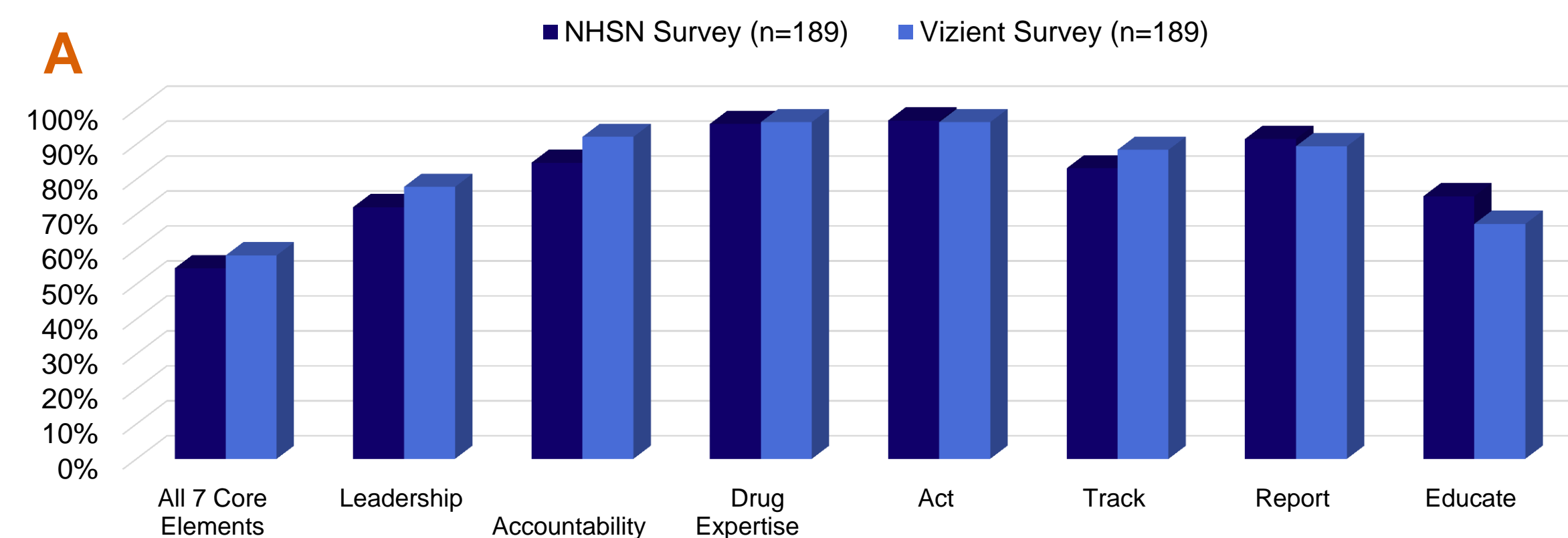
## Methods

- A 46 question survey that included the 12 questions on antibiotic stewardship from the 2015 NHSN annual hospital survey was developed
- Questions were piloted by members of the Vizient Antimicrobial Stewardship Network Taskforce
- The final survey was sent in April and May 2016 to Vizient acute care hospital members through their antimicrobial stewardship electronic list-serve
- Vizient responses were matched by facility to NHSN survey responses

## Results

- 211 hospitals completed the Vizient Survey
- 199 of which were successfully matched to NHSN organizational identifiers
- 189 of these 199 completed the 2015 NHSN Annual Hospital Survey
- Of the 189 hospitals completing both the Vizient and NHSN surveys, a similar percentage met all 7 core elements (58.2% and 54.5%). This was higher than the national NHSN average of 48.1% (n=4569)
- However, reported core element uptake differed by Vizient survey respondent, with 68.8% of hospitals with clinical pharmacists completing the survey reporting uptake of all 7 elements, compared to only 29.9% of hospitals with the Director of Pharmacy completing the survey.

**Figure 1:** Percentage of facilities meeting all 7 of CDC's Core Elements and each individual Core Element, A) by survey, B) by respondent



## Results

**Table 1:** Vizient responses by respondent position and participation in the 2015 NHSN Annual Hospital Survey (n=189)

| Respondent Position     | Total responses (%) | % assisted in NHSN survey |
|-------------------------|---------------------|---------------------------|
| Clinical pharmacist     | 109 (58%)           | 61                        |
| Director of Pharmacy    | 48 (25%)            | 48                        |
| Infection Preventionist | 4 (2%)              | 75                        |
| ID Physician            | 5 (3%)              | 80                        |
| Other                   | 23 (12%)            | 61                        |

**Table 2:** Vizient responses by NHSN classified bed size and pharmacist position

| Bed Size as reported on NHSN Annual Hospital Survey | Total number included in analysis | Number (%) meeting all 7 Core Elements | Clinical Pharmacist (n=109) | Director of Pharmacy (n=48) |
|---|-----------------------------------|--|-----------------------------|-----------------------------|
| <100  | 38                                | 8 (21.1%)                              | 6 (5.5%)                    | 30 (62.5%)                  |
| 100-249   | 43                                | 16 (37.2%)                             | 20 (19.4%)                  | 14 (29.2%)                  |
| 250-499   | 42                                | 28 (66.7%)                             | 31 (28.4%)                  | 3 (6.3%)                    |
| 500-749   | 39                                | 27 (69.2%)                             | 30 (27.5%)                  | 0 (0.0%)                    |
| ≥750  | 27                                | 24 (88.9%)                             | 22 (20.2%)                  | 1 (2.1%)                    |

## Conclusions

- NHSN and Vizient survey results were similar when all 7 core elements were measured in aggregate
- However, individual responses differed based on respondent position, hospital bed size, and likely ASP familiarity & infrastructure
- Small hospitals were less likely than larger hospitals to meet all 7 core elements and to have clinical pharmacists on staff.
- Additional investigation is needed to determine the influence that ASP maturity and pharmacist knowledge of ASP activities has on responses provided in small vs. large hospitals
- There is an opportunity to improve pharmacist engagement in assisting with the completion of the ASP portion of NHSN Annual Survey

The authors of this poster have no conflicts of interest to disclose.