Presentation of the VINAA Study to NVAC

(Vaccination Intervention for Nursing Assistants and Aides)

September 9, 2015

This initiative is supported by a partnership grant from Pfizer Inc. to the Immunization Action Coalition

 | August 18, 2015

Acknowledgements

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- Co-Principal Investigators
  - L.J. Tan, MS, PhD
  - Cori L. Ofstead, MSPH
- Key Project Staff
  - Robin VanOss and other IAC staff
  - Mimi Amelang, Dr. Harry Wetzler, and other Ofstead researchers
- Approval from Western Institutional Review Board (WIRB)
- Participation of four long-term care facilities (LTCFs) and their corporate leaders
- Support from the Chicago Department of Public Health

Rationale for VINAA study

- Respiratory outbreaks continue to occur in LTCFs despite high reported rates of resident vaccination
- HCP flu vaccination prevents resident morbidity and mortality
- Nursing staff influenza vaccination rates in LTCFs are low

Goals for VINAA study

- Prevention of influenza and pneumonia in LTCFs
- Increasing understanding of vaccine decision-making among HCPs
- Developing customized, evidence-based interventions:
  - Goal-setting and policy implementation
  - Improved documentation and tracking
  - Educational programming and staff engagement
  - Kick-off events and other vaccination opportunities
- Increasing influenza vaccine uptake among LTCF nursing staff (RNs, LPNs, CNAs)

VINAA Methods

- Baseline assessment conducted spring and summer 2014:
  - Site characteristics
  - History with outbreaks of respiratory infections
  - Resident vaccination rates for influenza and pneumococcal
  - Employee vaccination programs and outcomes for influenza
  - Nursing staff knowledge, attitudes, and experiences with vaccination (influenza, pneumococcal, and others)
- Customized interventions developed to meet local needs
- Support for program implementation at sites
- Interim evaluation of vaccine up-take and employee engagement with interventions through December 2014
- Final evaluation conducted via administrative data, surveys, and interviews in April and May, 2015.

Insights about the long-term care environment

- LTCFs are seen as residences, not healthcare facilities
- Huge variation along the continuum of care
  - Skilled nursing facilities ("nursing homes") are regulated
  - Assisted living is an unregulated environment
- Centers for Medicare and Medicaid Services (CMS) regulation provides opportunities for intervention design
  - Nursing homes rated 1-5 stars based on quality measures—may be seeking ways to demonstrate quality to CMS and residents
  - Facilities must report resident vaccination rates for:
    - Influenza
    - Pneumococcal
  - 12 hours/year in-service training for CNAs required

Institutional culture at VINAA sites

- Facilities are struggling to stay afloat
- Residents are vulnerable with high needs
  - Limited or no financial resources
  - Frequently lack family support
  - Serious health problems
  - Personal issues (homelessness, mental illness, addiction)
- Lack of resources
- Low technology capabilities (flip charts and fax)
- Lack of motivation or resourcefulness among managers
- Poor communication with staff

Background information about LTCF staff

- Positions in LTCFs are not considered attractive:
  - Pay is low
  - Work is hard
  - Many staff are not eligible for benefits or can't afford premiums
  - Nursing staff leave for better jobs as soon as they can
- Nursing assistants are mostly female adults aged 25-54
  - Not highly educated
    - 29% high-school dropouts; 46% completed HS; 25% college
    - Must receive only 75 hours of training
  - 36% have total household income <$20,000
    - 80% earn <$12.00/hour
    - 19% earn <$8.00/hour

Sources: VINAA Study site administrators and Groenewold 2012;13(1):85.e17-85.e23.

Background about vaccination status of CNAs

- Vaccination rates are lower among those who:
  - Have shorter tenure
  - Are dissatisfied with their job
  - Do not feel respected for their work
  - Work in larger facilities
  - Are employed by for-profit facilities
  - Do not have employer-sponsored health insurance

Source: Groenewold 2012;13(1):85.e17-85.e23

Participating sites (from 3 LTC corporations)

Site	Location	CMS certified beds	Census (beds filled as of 3-31-2014)	CMS quality rating (based on 5 stars)
Site A	Wisconsin	133	80 **(60%)**	
Site B	Indiana	183	100 **(55%)**	
Site C	Illinois	210	187 **(89%)**	
Site D	Minnesota	268	260 **(97%)**	

Note: The Illinois site's involvement in quality improvement initiatives resulted in them being awarded 2-star status in late 2014.

Vaccination rates among residents in LTCFs:

Data reported to CMS compared with data from medical records

	Influenza vaccination rate		Pneumococcal vaccination rate	
Site	Reported to CMS	Extracted from medical records for VINAA study	Reported to CMS	Extracted from medical records for VINAA study
Site A	89%	100%	94%	88%
Site B	96%	85%	92%	62%
Site C	86%	87%	99%	69%
Site D	93%	82%*	98%	84%

*calculation issues

VINAA administrative data: Turnover among nursing staff

Site	Location	# of nursing staff employed on 6-23-2014	# of nursing staff terminated during flu season (Sept-March)	Turnover rate during flu season (Sept-March)	Annual turnover rate
Site A	Wisconsin	78	37	47%	**81%**
Site B	Indiana	90	52	58%	**99%**
Site C	Illinois	100	82	82%	**141%**
Site D	Minnesota	290	37	13%	**22%**

Gaps identified in existing vaccination programs

- Lack of clear policies
- Absence of tracking mechanisms or documentation
- Resistance from both leadership and nursing staff
  - Often anti-vaccination or vaccine-reluctant
  - Reactive rather than proactive
- Sustainability issues
  - Turnover among leadership and nursing staff
  - No communication of policies to new hires
- Misconceptions about flu and flu shots
- Lack of training or education

Overview of intervention components

- Goal-setting
- Clear policies on staff vaccination and declination
- Improved documentation and tracking
- Educational programming
- Staff engagement and incentives
- Multiple vaccination opportunities at work

Goal-setting and policy worksheets (Site C)

Goal-setting

1. Vaccination rates will be tracked for (select one):
   - ☐ Nursing staff only
   - ☑ All staff (including housekeeping, dietary, administration, etc.)
2. Vaccination rate goals:
   - 75% after mass vaccination kick-off event in mid-October
   - 95% by October 31st
   - 95% by December 10th
   - 95% for the influenza season overall (including anyone working in the facility Oct. – Mar.)

Policy implementation

Staff vaccination policy

1. Annual influenza vaccination offered free to all staff at work and (select one):
   - ☐ Strongly encouraged by management
   - ☑ Required unless a declination form is signed
   - ☐ Required as a condition of employment
2. Accepted reasons (select all that apply)
   - ☑ Personal reasons
   - ☑ Religious objection

Goal-setting and policy worksheets (Site D)

Goal-setting

1. Vaccination rates will be tracked for (select one):
   - ☐ Nursing staff only
   - ☒ All staff (including housekeeping, dietary, administration, etc.)
2. Vaccination rate goals:
   - 10 % after mass vaccination kick-off event in mid-October — October 15th – October 16th 10 – 4 PM
   - 30 % by October 31st
   - 50 % by December 10th
   - 75 % for the influenza season overall (including anyone working in the facility Oct. – Mar.)

Policy implementation

Staff vaccination policy

1. Annual influenza vaccination offered free to all staff at work and (select one):
   - ☐ Strongly encouraged by management
   - ☒ Required unless a declination form is signed
   - ☐ Required as a condition of employment
2. Accepted reasons (select all that apply)
   - ☐ Personal reasons
   - ☐ Religious objection
   - ☒ Medical contraindication

New tracking mechanisms:
An employee vaccination roster

Hire Date (mo/day/yr)	Employee ID Number	Last Name	First name	Age	Department	Role	Termination Date (mo/day/yr)

Vaccination status (Accepted/Declined)	Documented Vaccination			Location	Date of vaccination (mo/day/yr)	Vaccinator (on-site only)
	Onsite	Offsite	Proof of off-site vaccination (Y/N)			

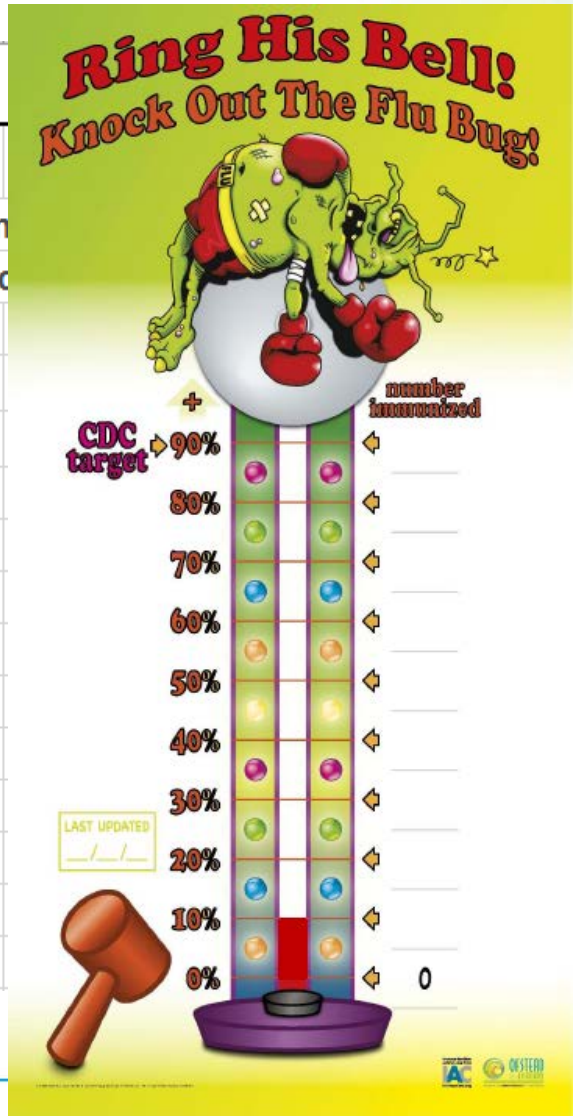
Declination Form			
Signed (Y/N)	Date (mo/day/yr)	Reason	Consequence declination

New tracking mechanisms:
A vaccination gauge and instructions for use

How to use the vaccination rate gauge

Step 1. Enter the total number of staff at your facility in the yellow box below.
Step 2. Excel will calculate how many staff members correspond to each increm
Step 3. Use these numbers to fill in the corresponding blanks on your vaccinatio
Step 4. Update your vaccination gauge regularly and watch your progress!

Number of staff:	
10%	
20%	
30%	
40%	
50%	
60%	
70%	
80%	
90%	
100%	



2015 survey respondent characteristics:

Job class and insurance status

Survey respondent demographics (%)		Site A Wisc.	Site B Indiana	Site C Illinois	Site D Minnesota	Overall
Role	CNA	49%	60%	56%	69%	**58%**
	LPN	24%	25%	28%	7%	**22%**
	RN	22%	12%	12%	10%	**13%**
Employment status	Full-time	78%	92%	82%	76%	**82%**
	Part-time	15%	8%	18%	18%	**15%**
	On-call	4%	0%	0 %	3%	**1%**
Tenure at facility	< 3 months	9%	7%	22%	3%	**13%**
	3 – 6 months	7%	10%	12%	18%	**12%**
	7 – 11 months	11%	12%	18%	7%	**13%**
	1 – 3 years	29%	30%	20%	18%	**23%**
	Over 3 years	42%	42%	28%	54%	**38%**
Health insurance	Insured	80%	73%	79%	87%	**80%**
	Uninsured	16%	22%	18%	9%	**17%**

Data from 2015 survey, n = 323

Baseline influenza vaccination rates among nursing staff (2013-2014)

Site	Annual turnover rates	Influenza vaccination rates for nursing staff in 2013-2014	
		Method 1	Method 2 (includes turnover)
Site A	81%	68%*	**34%**
Site B	99%	8%	**5%**
Site C	141%	94%	**75%**
Site D	22%	69%	**62%**

Method 1: Accepted / Accepted + Declined + Unknown (at a particular point in time)
Method 2: Accepted / Current staff + Terminated staff (during the entire flu season; accounting for turnover)

*Data quality issues

Data from 2014 administrative spreadsheets

Vaccination rates achieved by sites *for all employees*

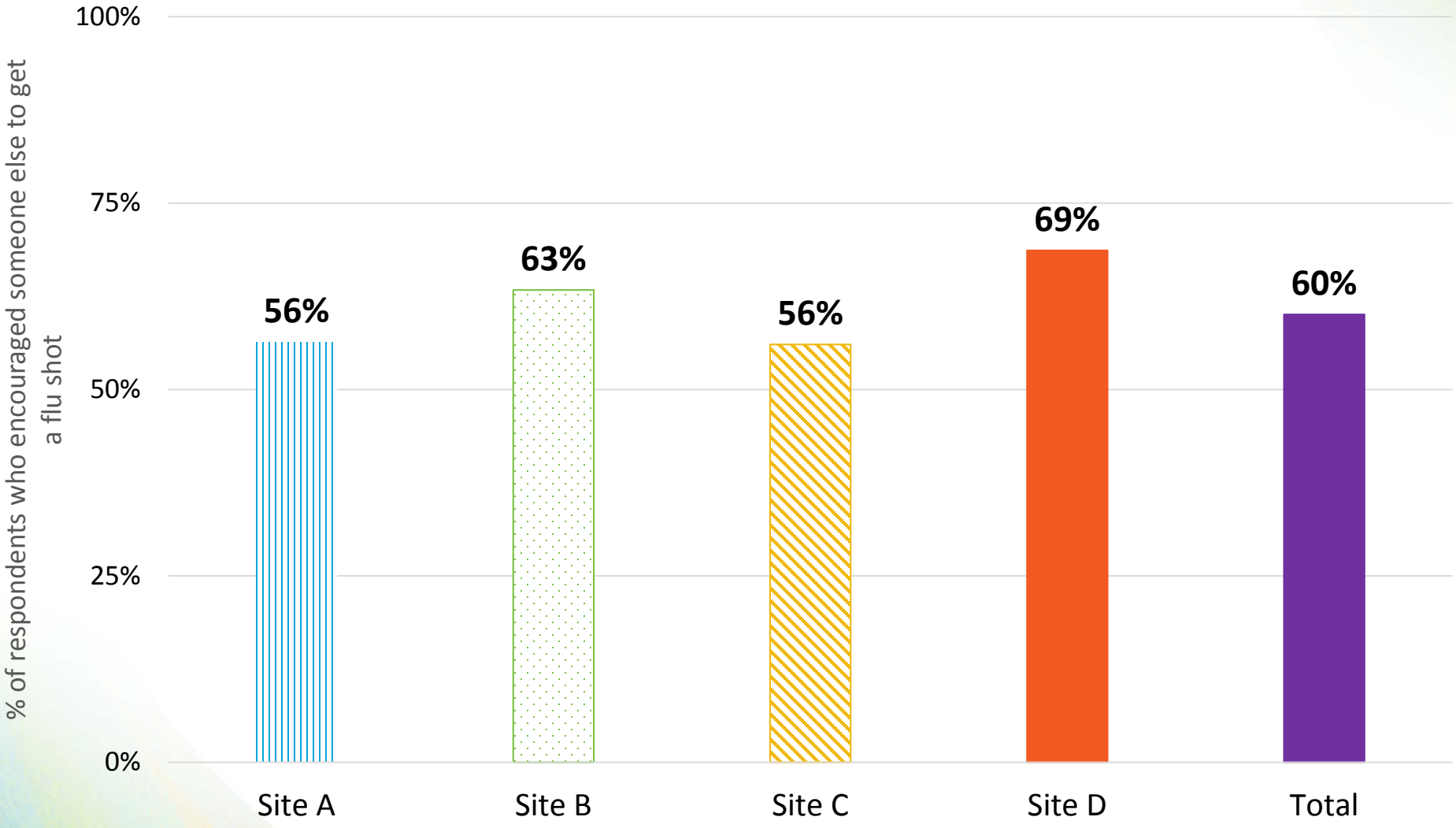
Site	Campaign kick-off weeks	After kick-off week	October 31st	December 10th	Season over-all (March 31st)
Site A	Oct. 15-22	68%	67%	89%	**84%**
Site B	Oct. 8-15	46%	73%	76%	**71%**
Site C	Oct. 1-8	97%	98%	99%	**96%**
Site D	Oct. 20-27	30%	74%	79%	**83%**

Rates include vaccination status for all employees at each facility

Data from communications with sites and 2015 vaccination rosters

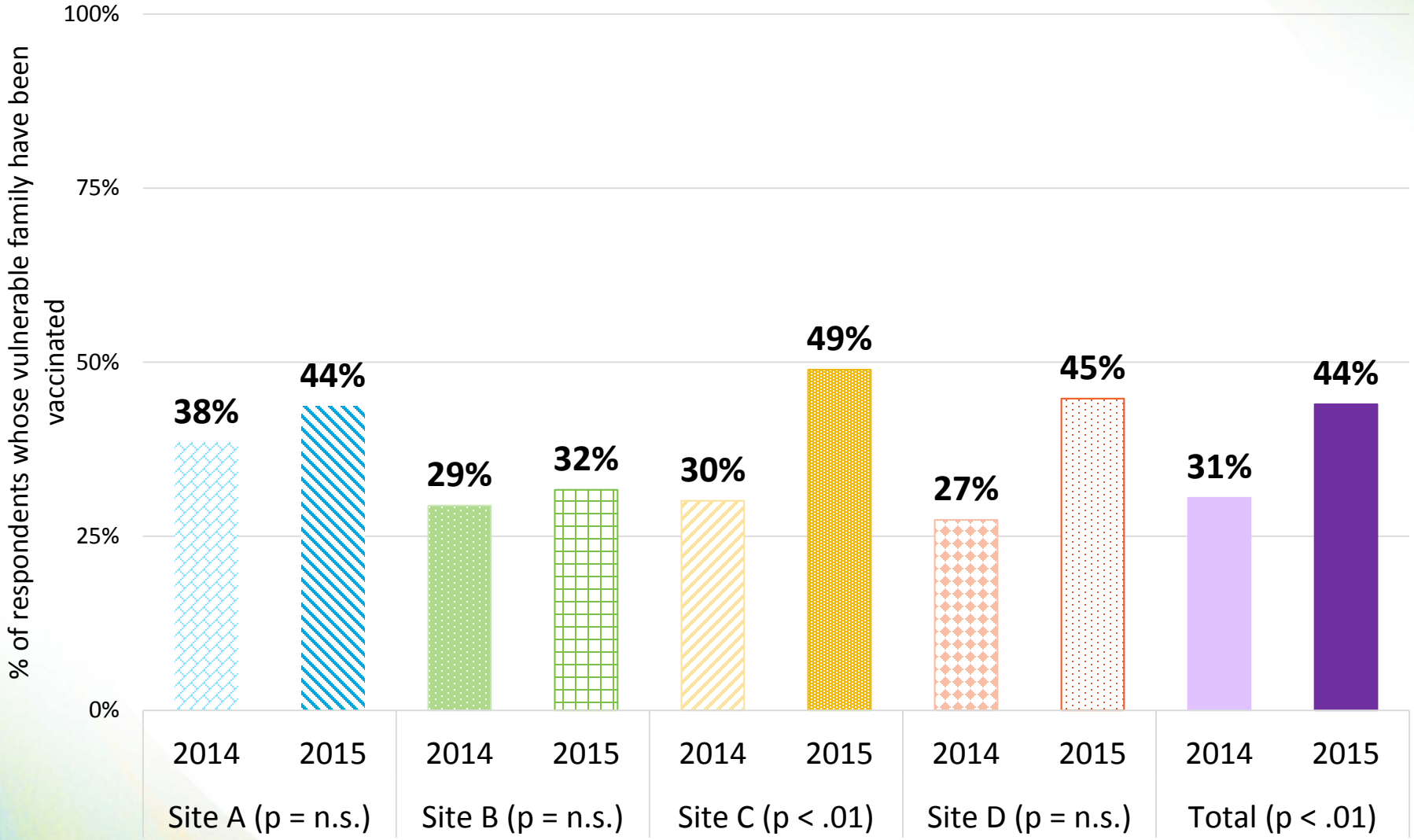
Creating "Vaccine Champions":

Proportion of respondents who encouraged others to get flu shots



Data from 2015 survey; n = 323

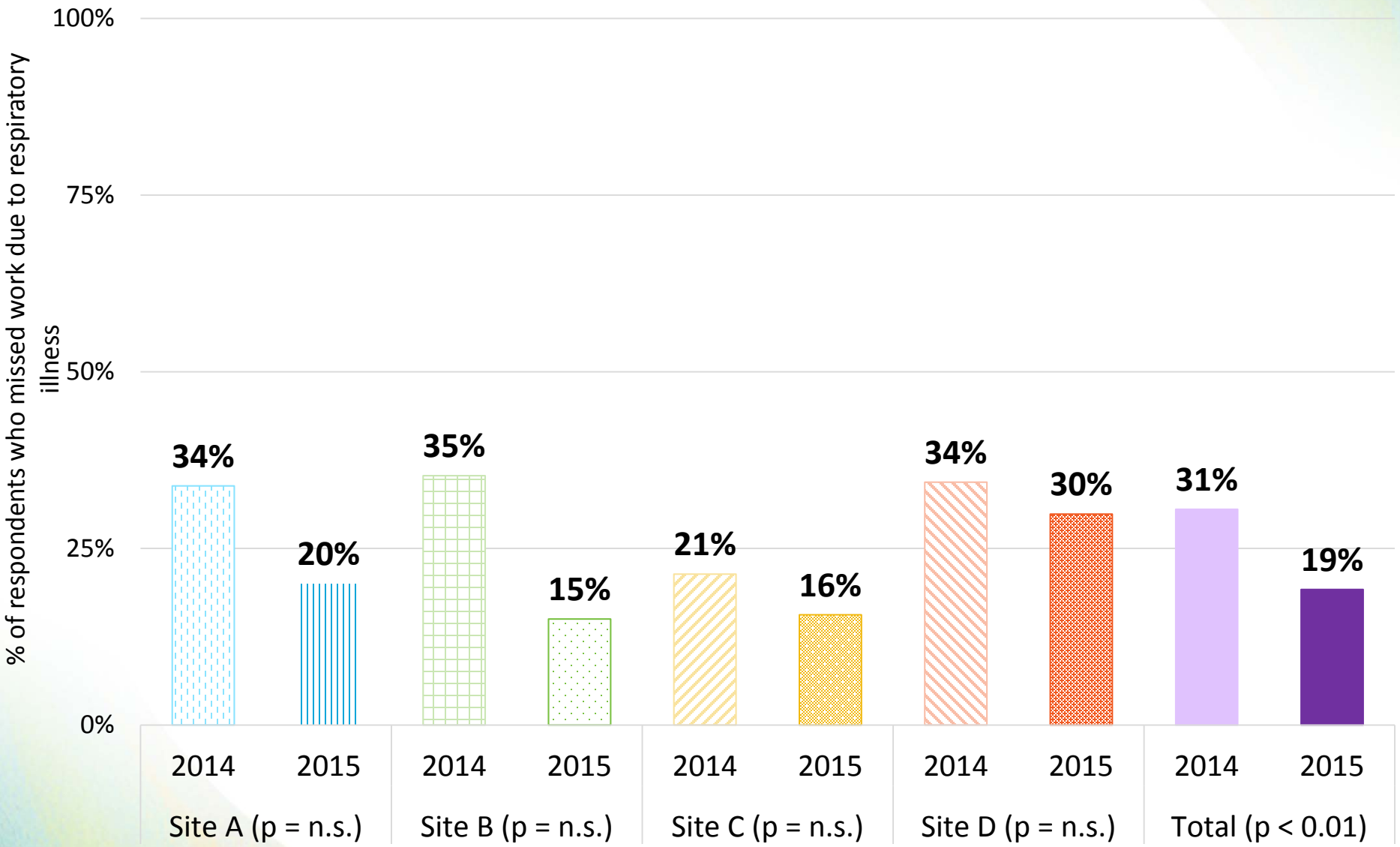
Vaccination of HCPs' young children and older family members: 2014 vs 2015



*Children under age 14 and adults over age 65

Data from 2014 survey, n = 347; 2015 survey, n = 323

Absenteeism due to respiratory illness: 2014 vs 2015



Data from 2014 survey; n = 347; 2015 survey; n = 323

Quotes from 2015 interview:

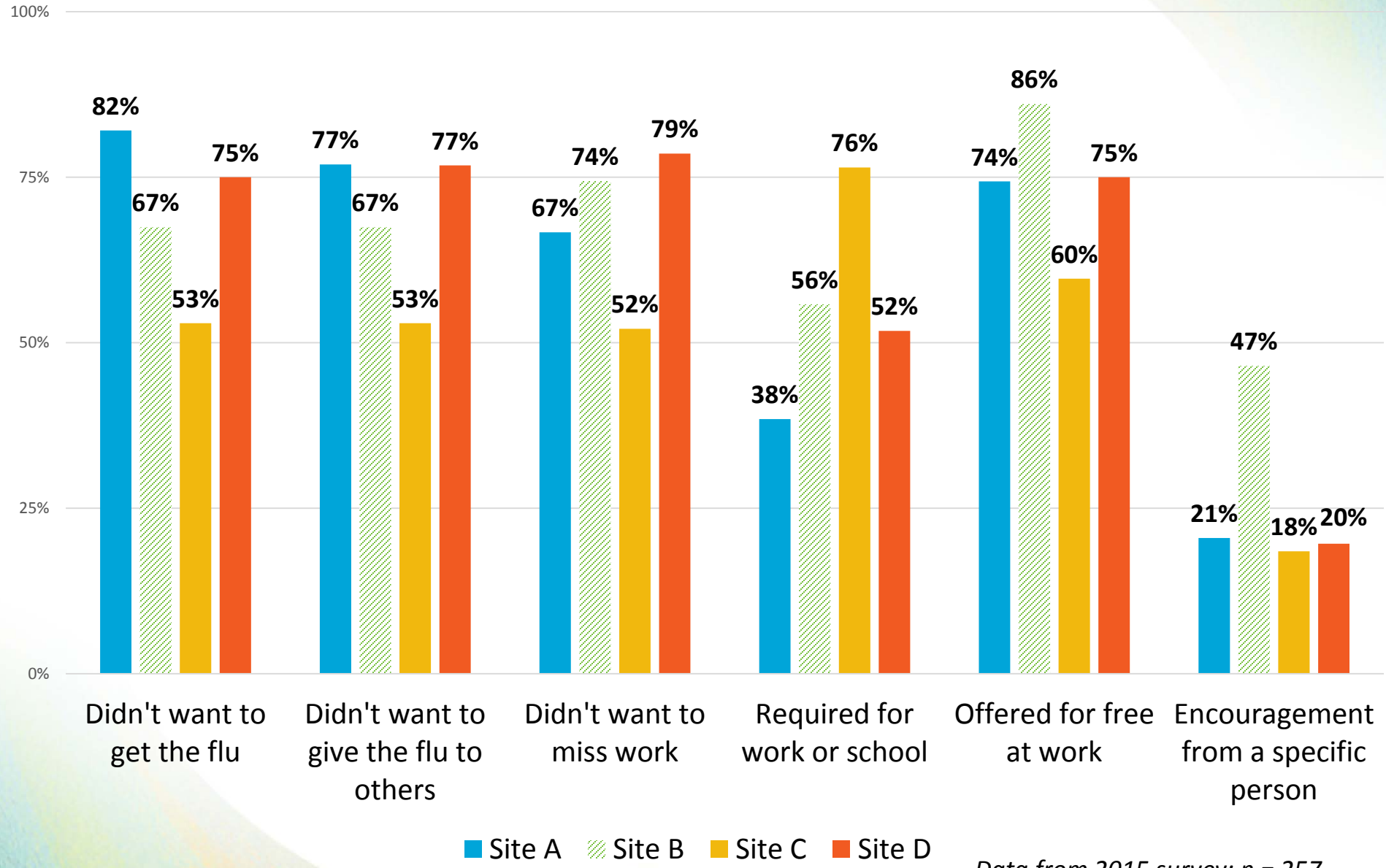
Influenza-like-illness and absenteeism among nursing staff

"[We] saw a difference this year – people were healthier. We came through the season relatively unscathed."

› Administrator, Site A

Photo source: Shutterstock

Reasons for receiving flu shots



Data from 2015 survey; n = 257 (unvaccinated respondents excluded)

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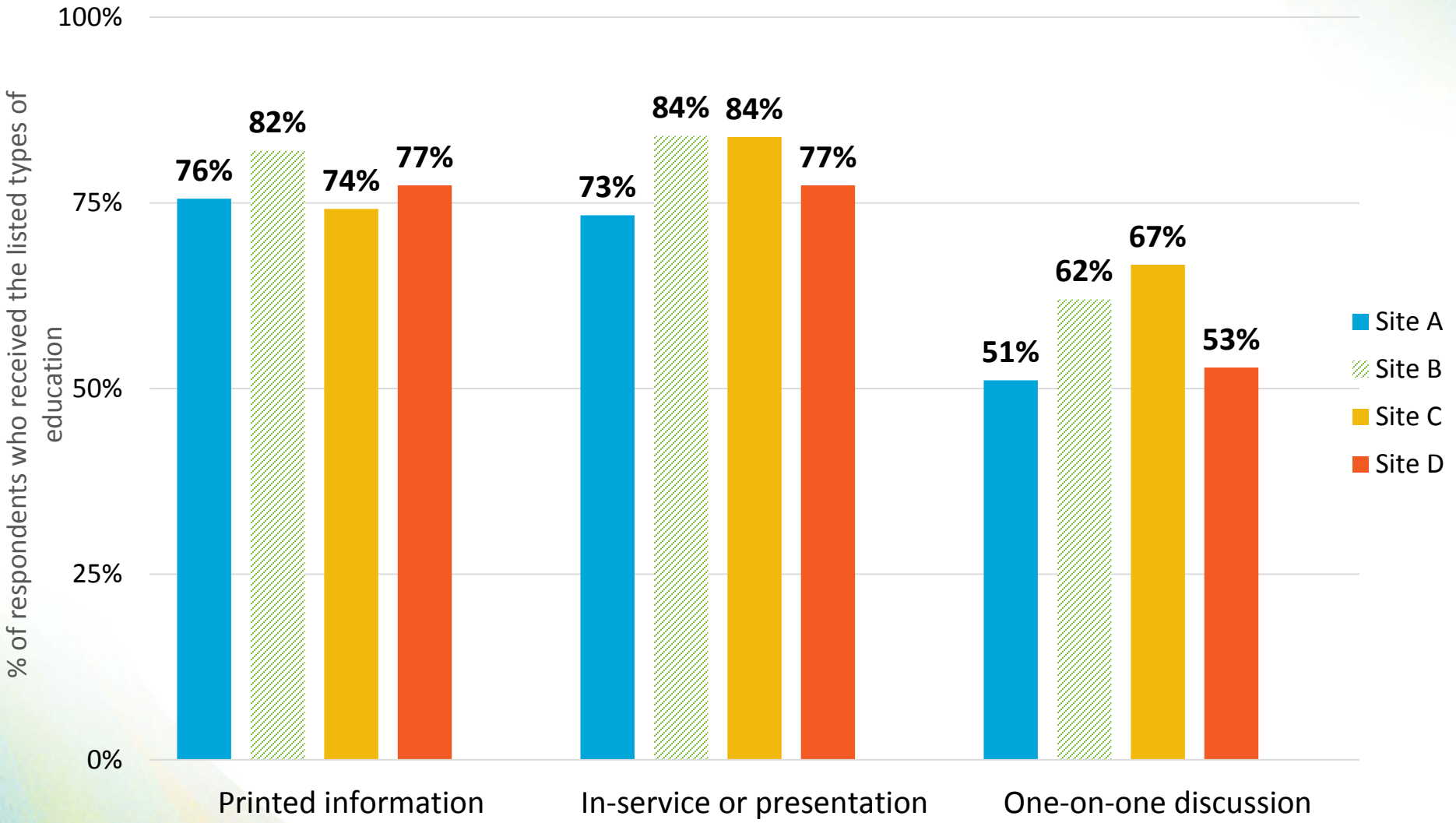
Quotes from 2015 surveys:

Who encouraged you to get a flu shot?

- "Co-workers"
  - Site A
- "My wonderful nurse"
  - Site A
- Nurse educator
  - Site B
- "My family"
  - Site B
- "Nursing supervisor"
  - Site C
- "Granddaughter"
  - Site C
- "Employer"
  - Site D
- "Friend"
  - Site D

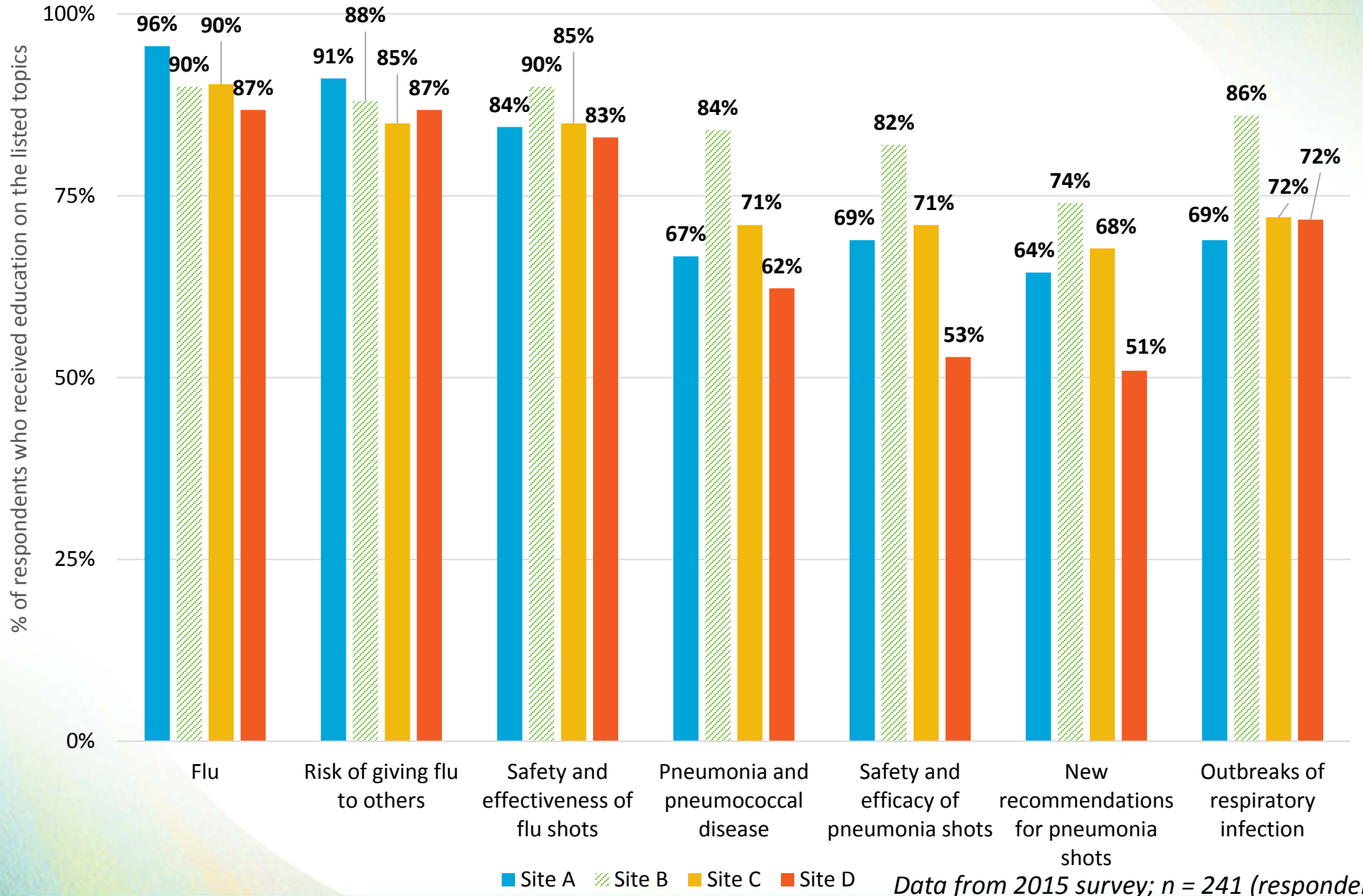
Types of education provided:

Printed information, in-services, one-on-one discussions



Data from 2015 survey, n = 241 (respondents with job tenure 6 months or less excluded)

Educational topics provided at sites



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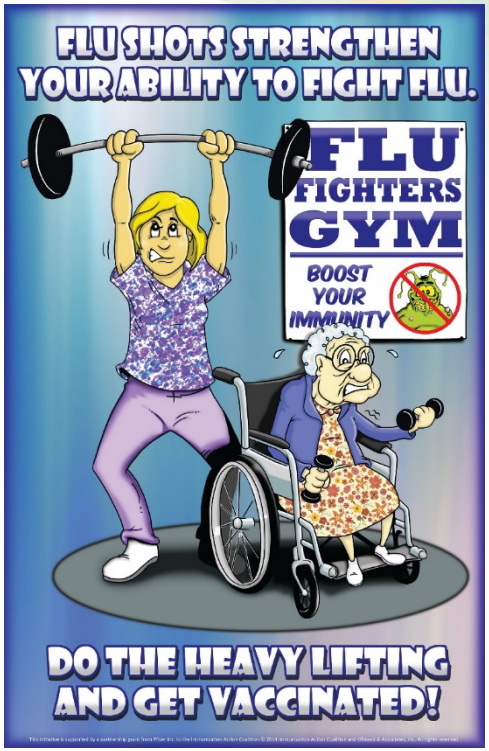
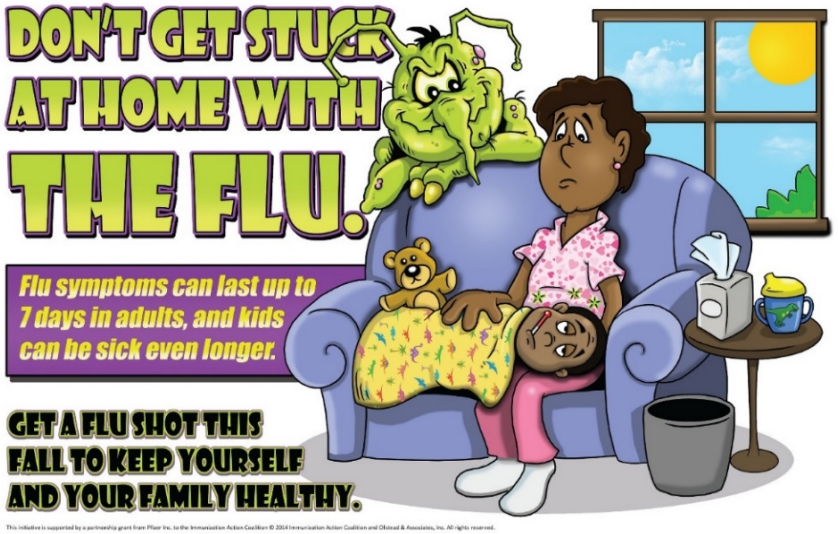
Quotes from 2015 interview:

What went well this year?

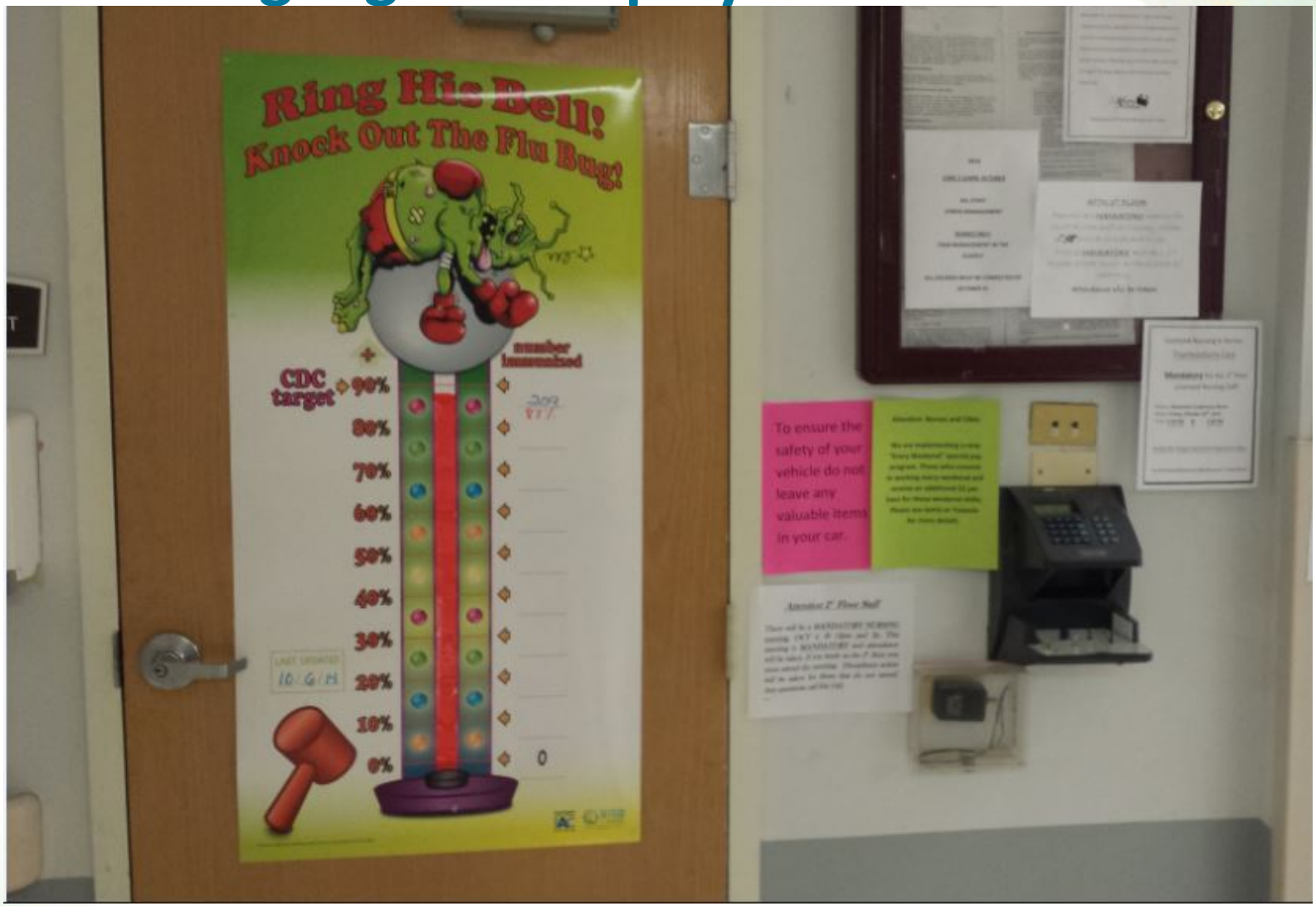
"The poster piece went very well – staff looked at it, read it – same with the vaccination gauge. It was displayed in a common area where everyone could see it."

Administrator, Site A



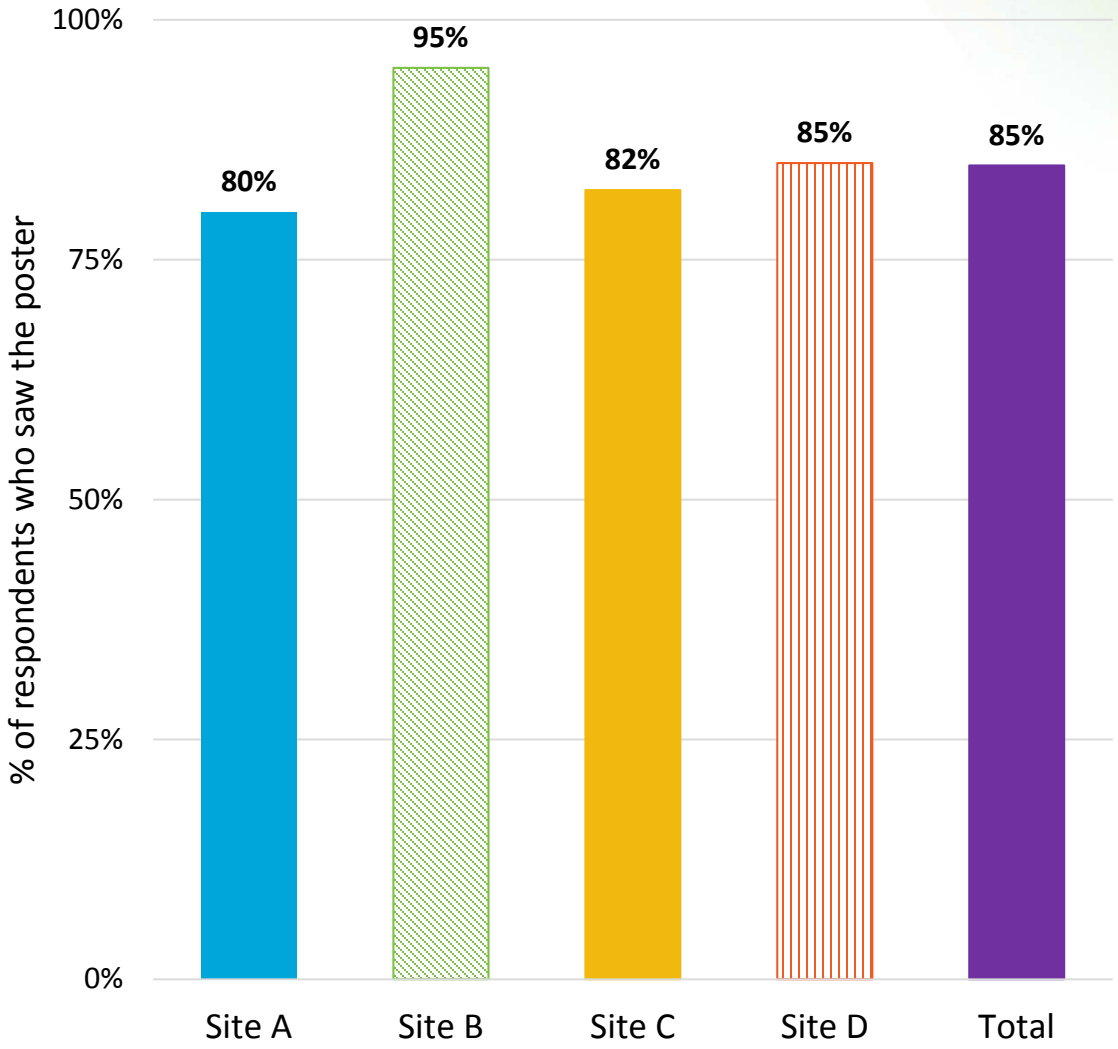


Vaccination gauge on display at Site C



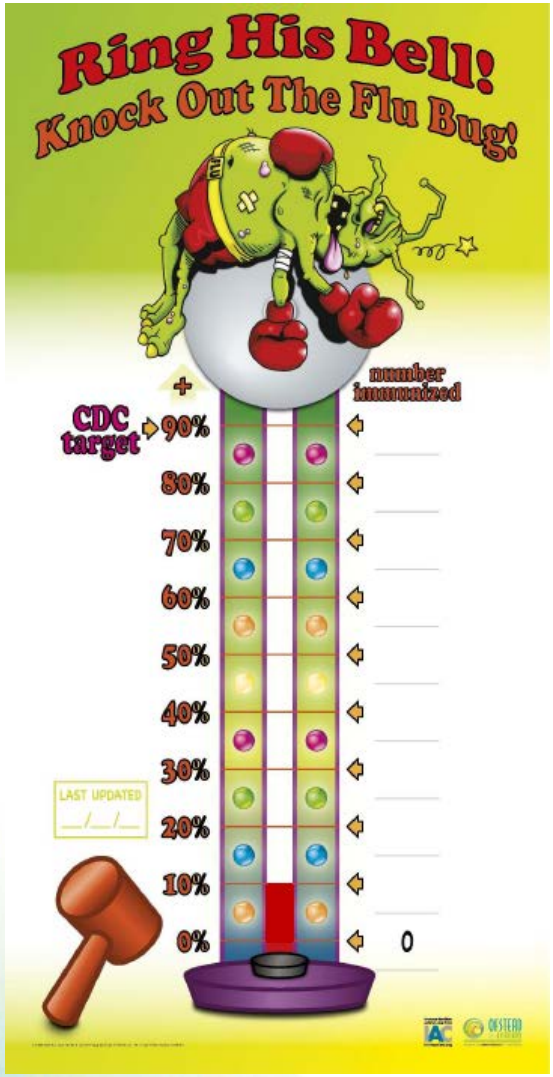
Feedback on educational posters:

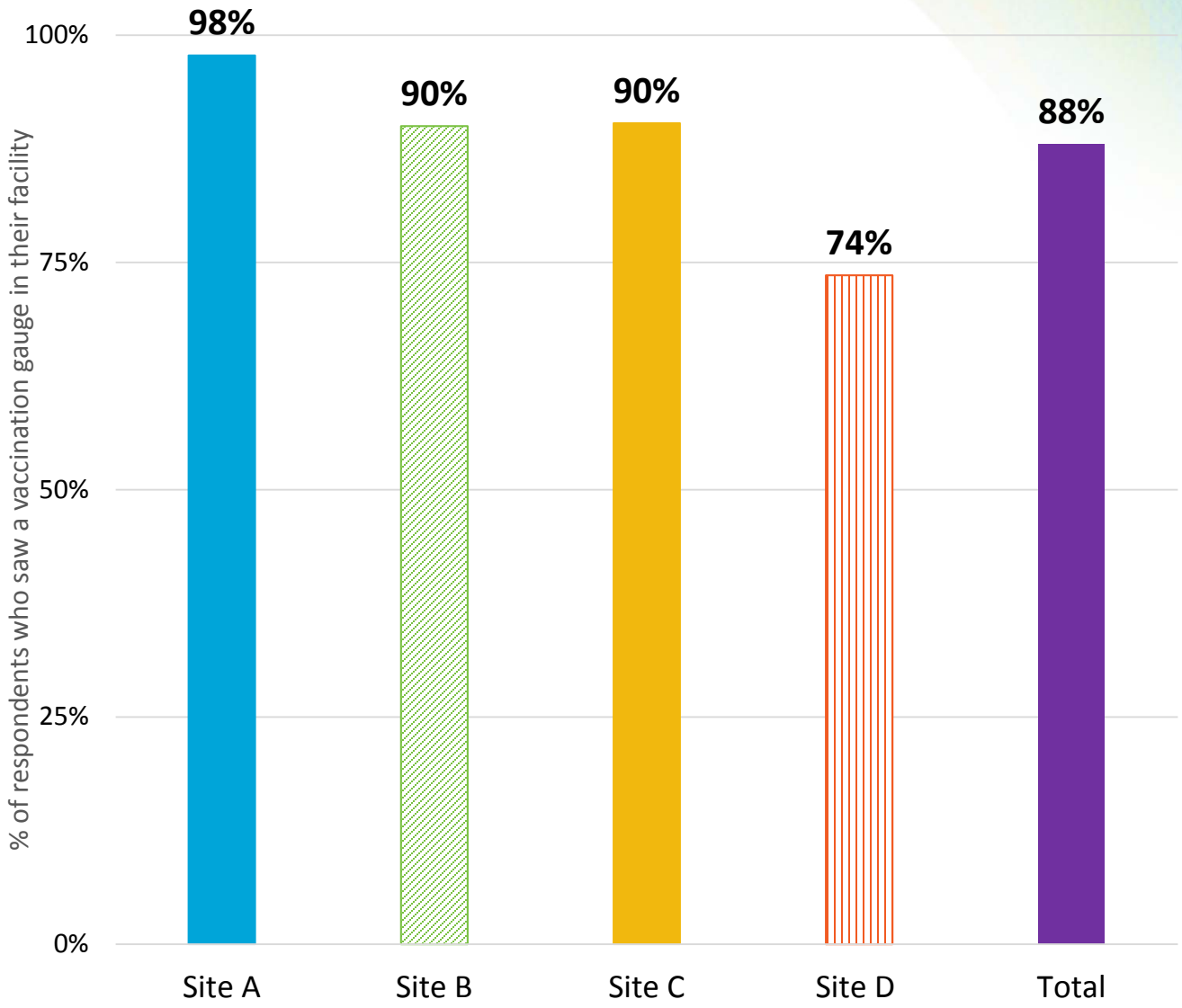
"Meet your new co-worker"



Data from 2015 survey, n = 241 (respondents with job tenure 6 months or less excluded)

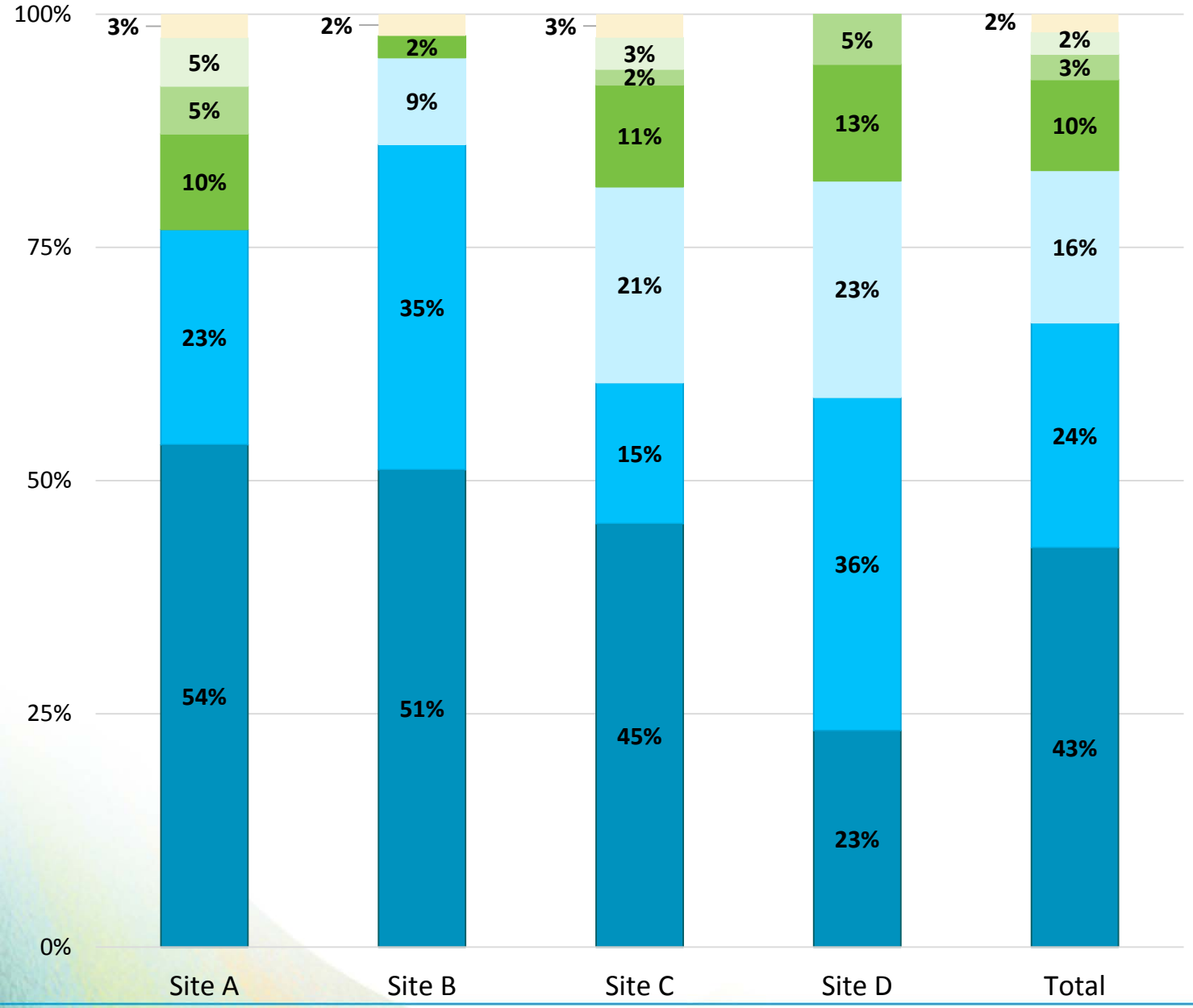
Did you see the vaccination gauge?





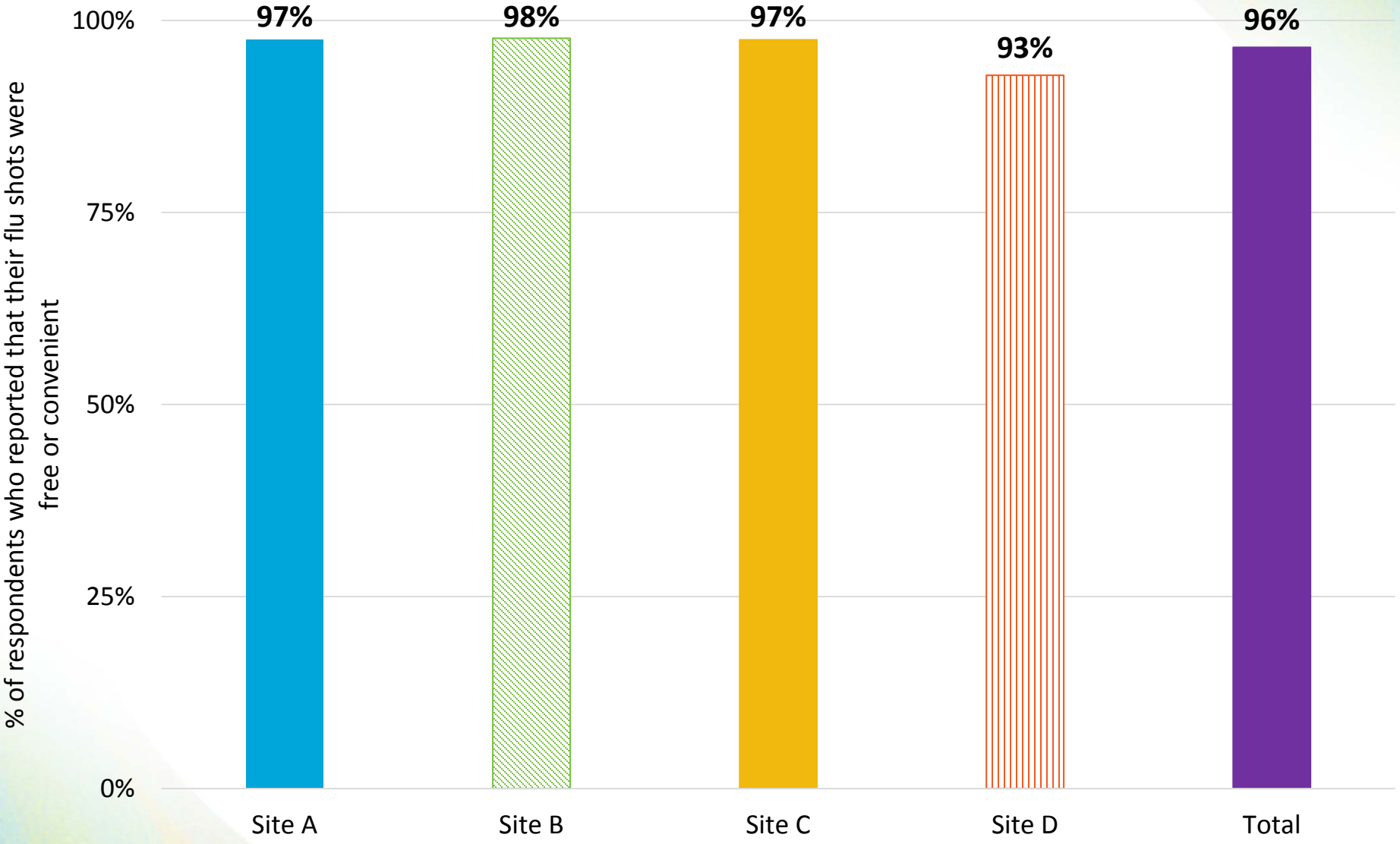
Data from 2015 survey, n = 241 (respondents with job tenure 6 months or less excluded)

Where did LTC nursing staff get their flu shots?



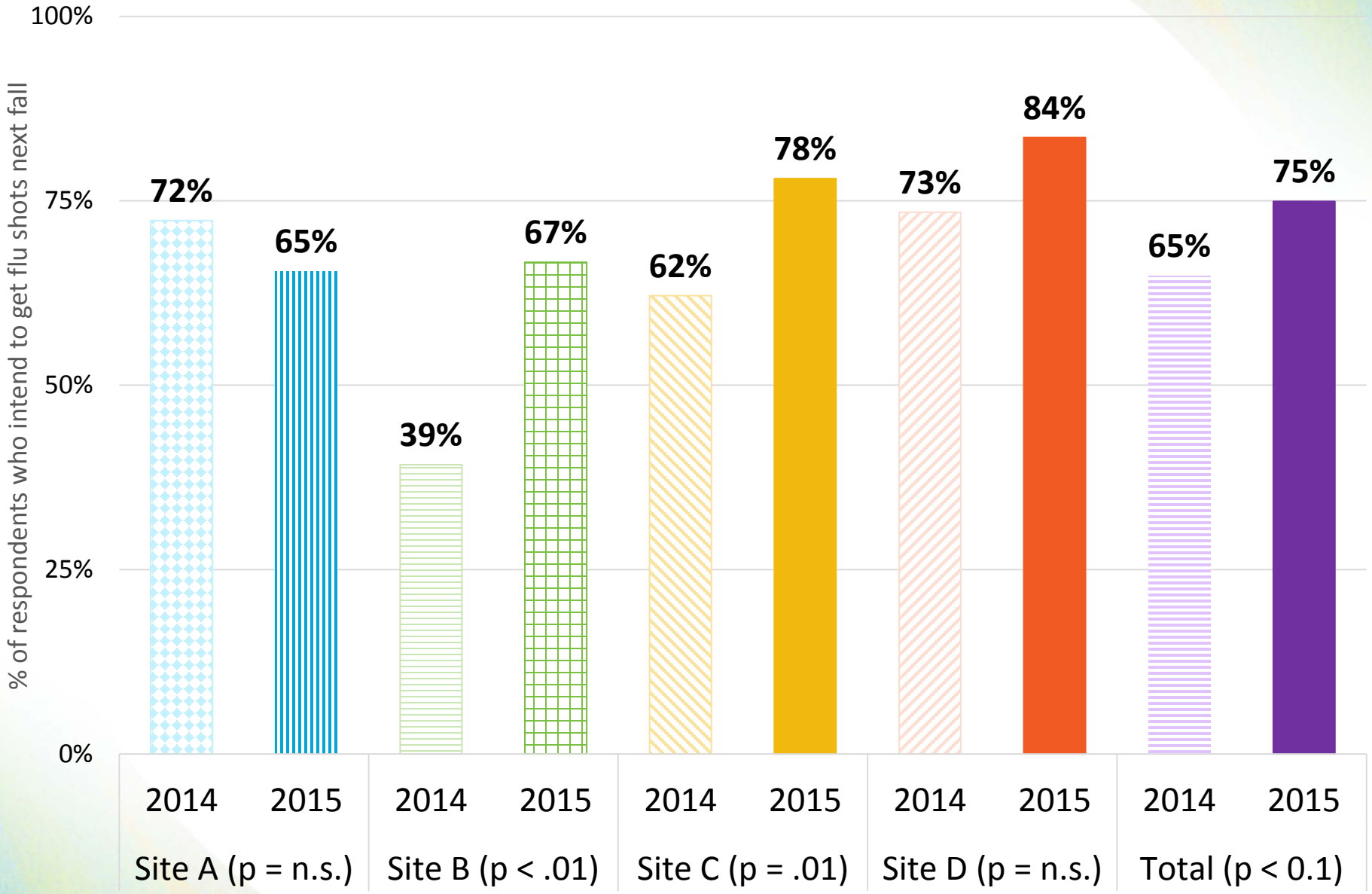
Data from 2015 survey; n = 257 (unvaccinated nursing staff excluded)

Did you get your flu shot at a convenient time and place?



Data from 2015 survey, n = 257 (unvaccinated nursing staff excluded)

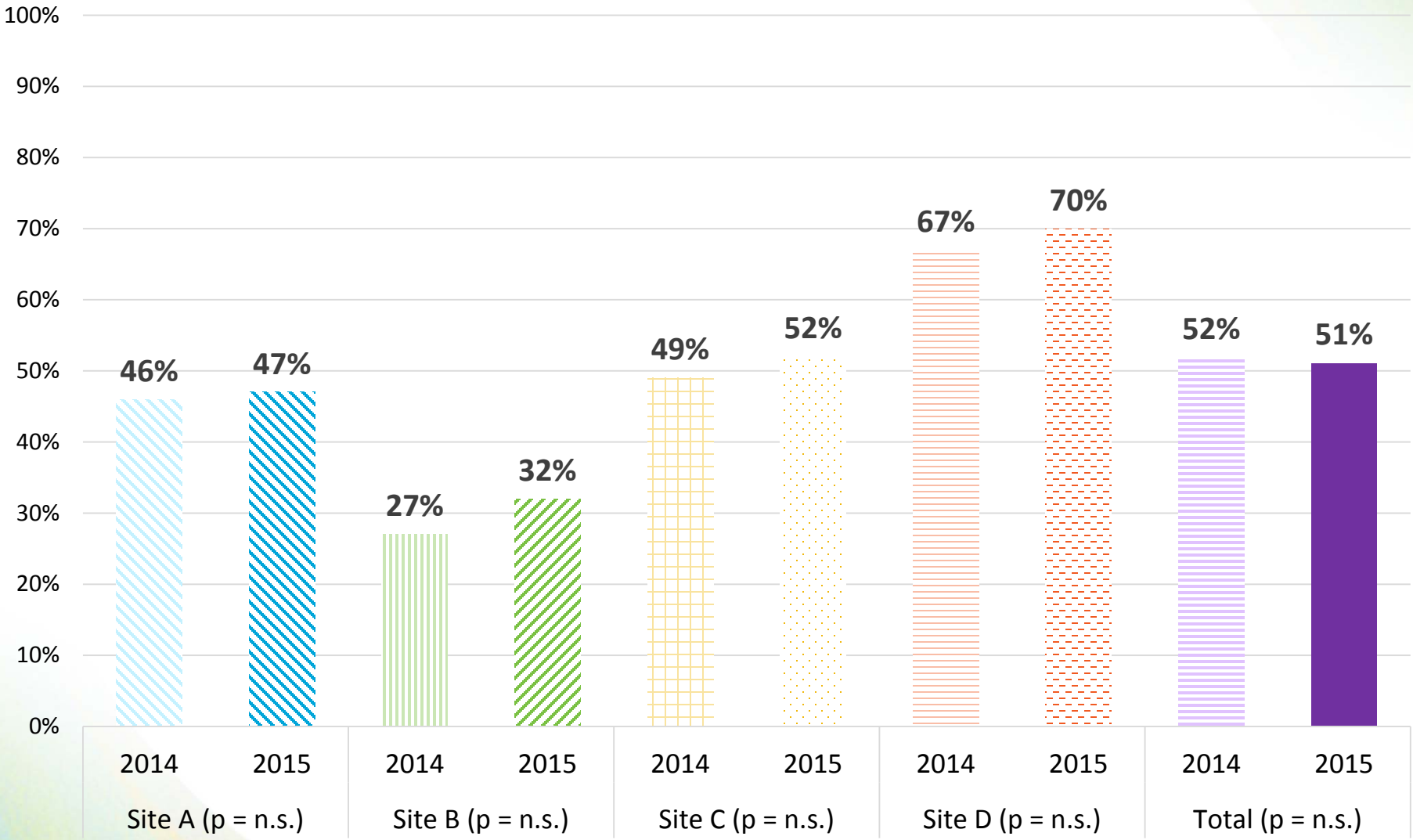
Intent to receive flu shots in the future: 2014 vs. 2015



Data from 2014 survey, n = 347; 2015 survey, n = 323

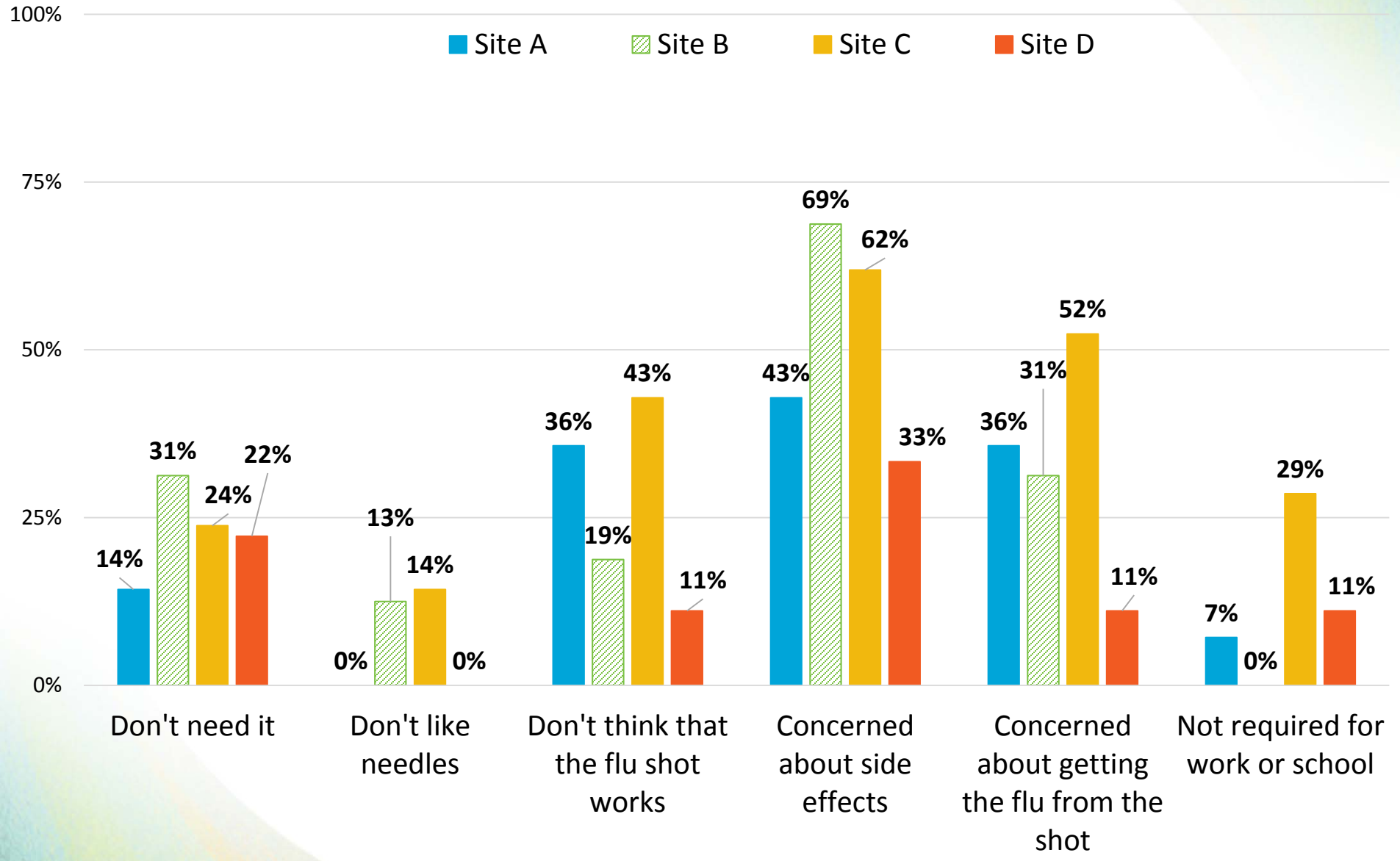
Motivation to receive vaccine: 2014 vs. 2015

If you couldn't get a free flu shot at work, would you still get one?



Data from 2014 survey, n = 347; 2015 survey, n = 323

Reasons for refusing flu shots



Data from 2015 survey; n = 60 (respondents who received flu shots excluded)

Key findings from the VINAA final assessment

- It is possible to “move the needle” on HCP vaccination:
  - Increased the vaccination rates at all sites
  - Found reductions in illness and absenteeism
  - Observed a positive impact on vaccine advocacy by staff
- Factors contributing to success:
  - Engagement from leadership staff
  - Clear goals and strong policies
  - Improved tracking mechanisms
  - Materials customized for LTCFs
  - External support and accountability
- Each LTCF is unique, and results varied across sites

Challenges identified by VINAA follow-up

- High LTCF staff turnover impacts:
  - Vaccination rate accuracy
  - Program sustainability
- Resources limitations and competing priorities in LTCFs
- Entrenched misconceptions:
  - Persistent belief that vaccines cause flu or side effects
  - Newly reinforced belief that vaccines don't work (2014-2015)
- Intention to receive vaccination remains lower than 90%

Conclusions from the VINAA Study

- A customized toolkit “moved the needle” on HCP vax
- HCP vaccination associated with less illness/absenteeism
- Educational program increased vaccine advocacy by staff
- Administrators plan to continue using program elements
- But challenges remain in LTCF settings:
  - Limited resources
  - Competing priorities
  - Staff turnover
  - Misconceptions
  - Need for program customization
  - Sustainability

Proposed next steps

- Refine toolkit components based on VINAA findings
- Develop a strategy for deploying toolkit nationally
- Disseminate study findings to LTC and vaccine leaders
  - Prepare a manuscript for publication
  - Present at national, regional, and local conferences
  - Meet with KOLs
- Use insights to inform research and interventions for pneumococcal vaccination
  - Identifying challenges and barriers in various LTC settings
  - Developing methods to assess vaccination rates and improve algorithm adherence
  - Supporting implementation of new programs in the field

