



To Vaccinate Or Not To Vaccinate: *an analysis of flu vaccination coverage*

Ankit Tandon

Burden of the seasonal Influenza

- 40,000 average annual flu-associated deaths in the US since 2010
- 470,000 average annual hospitalizations in the US since 2010
- 79,000 deaths in the US during the 2017-2018 flu season

All statistics according to the CDC estimates

<https://www.cdc.gov/flu/about/burden/why-cdc-estimates.htm>

The signs are everywhere!

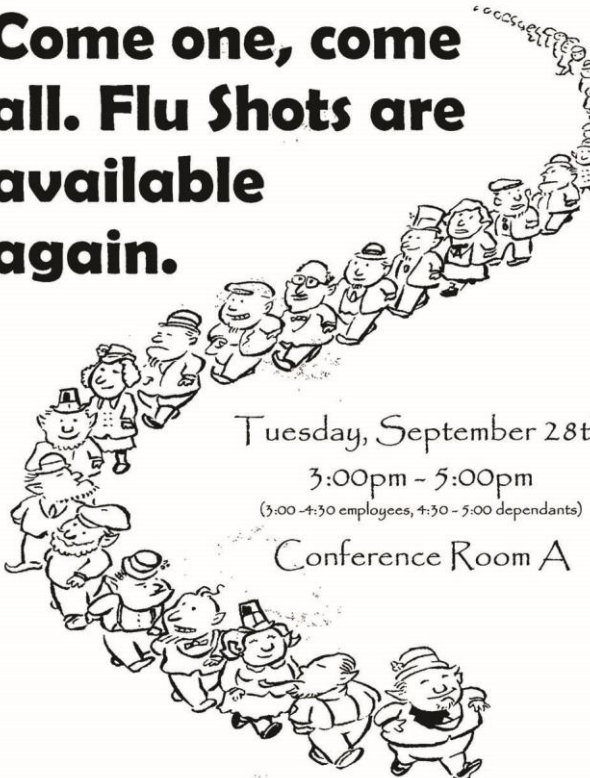


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Come one, come all. Flu Shots are available again.



Tuesday, September 28th
3:00pm - 5:00pm
(3:00 - 4:30 employees, 4:30 - 5:00 dependants)
Conference Room A

Free for employees. Only \$20 for dependants.

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W HALL HEALTH CENTER
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GET YOUR FLU SHOT



Screenshot by Ankit Tandon taken on 12/05/2018. Webpage located [here](#)

37% vaccinated in the US during the 2017-2018 flu season

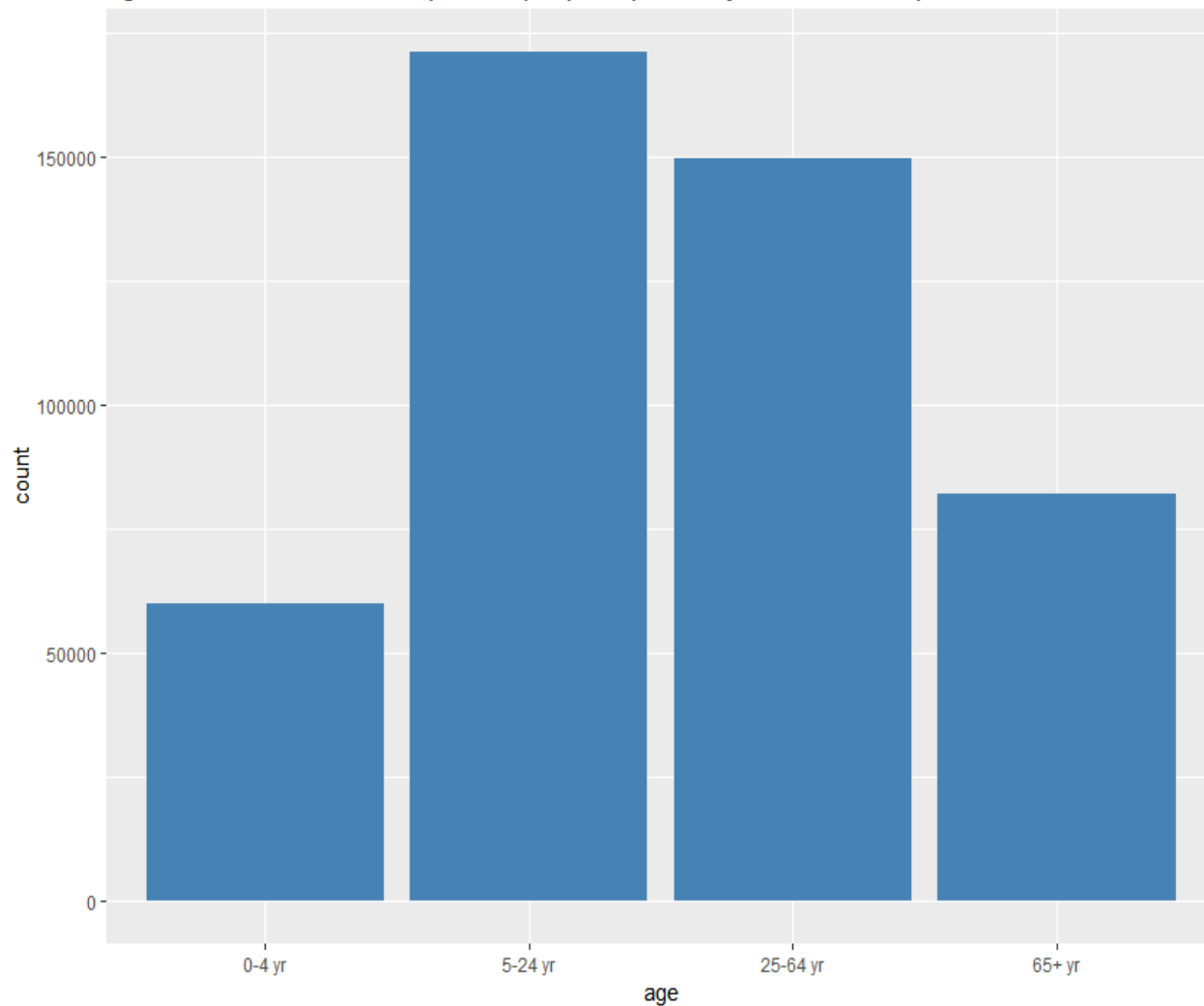
Key Questions:

1. Who is most likely to get infected with the flu?
2. What are the reasons people get/don't get the vaccine?
3. Where do people get the vaccine?
4. What can be done to increase coverage of vaccine?

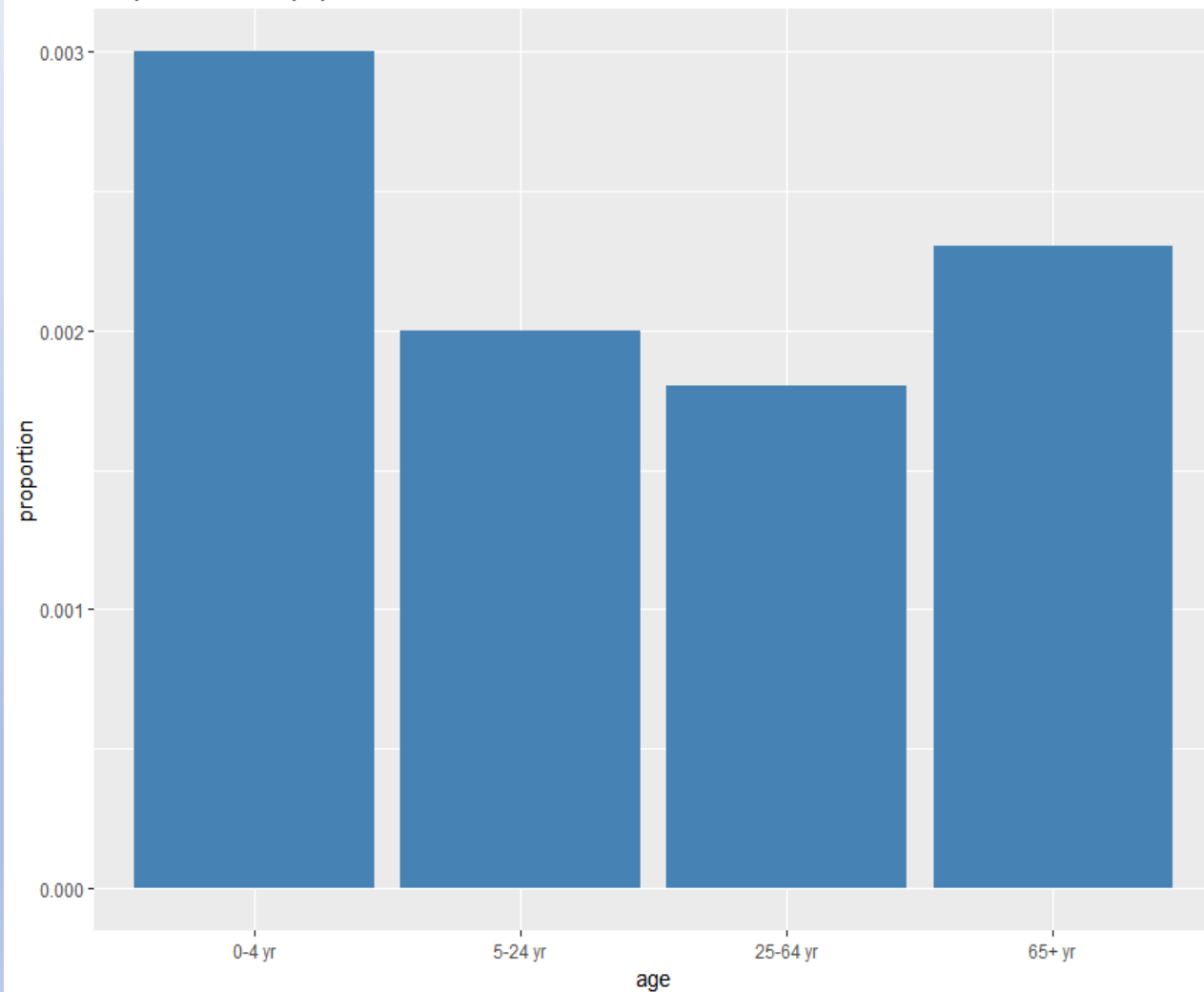
Who is most likely to get infected with the flu?

Flu infection by age group

Age distribution of influenza positive people reported by clinics and hospitals



Proportion of the population with flu infection

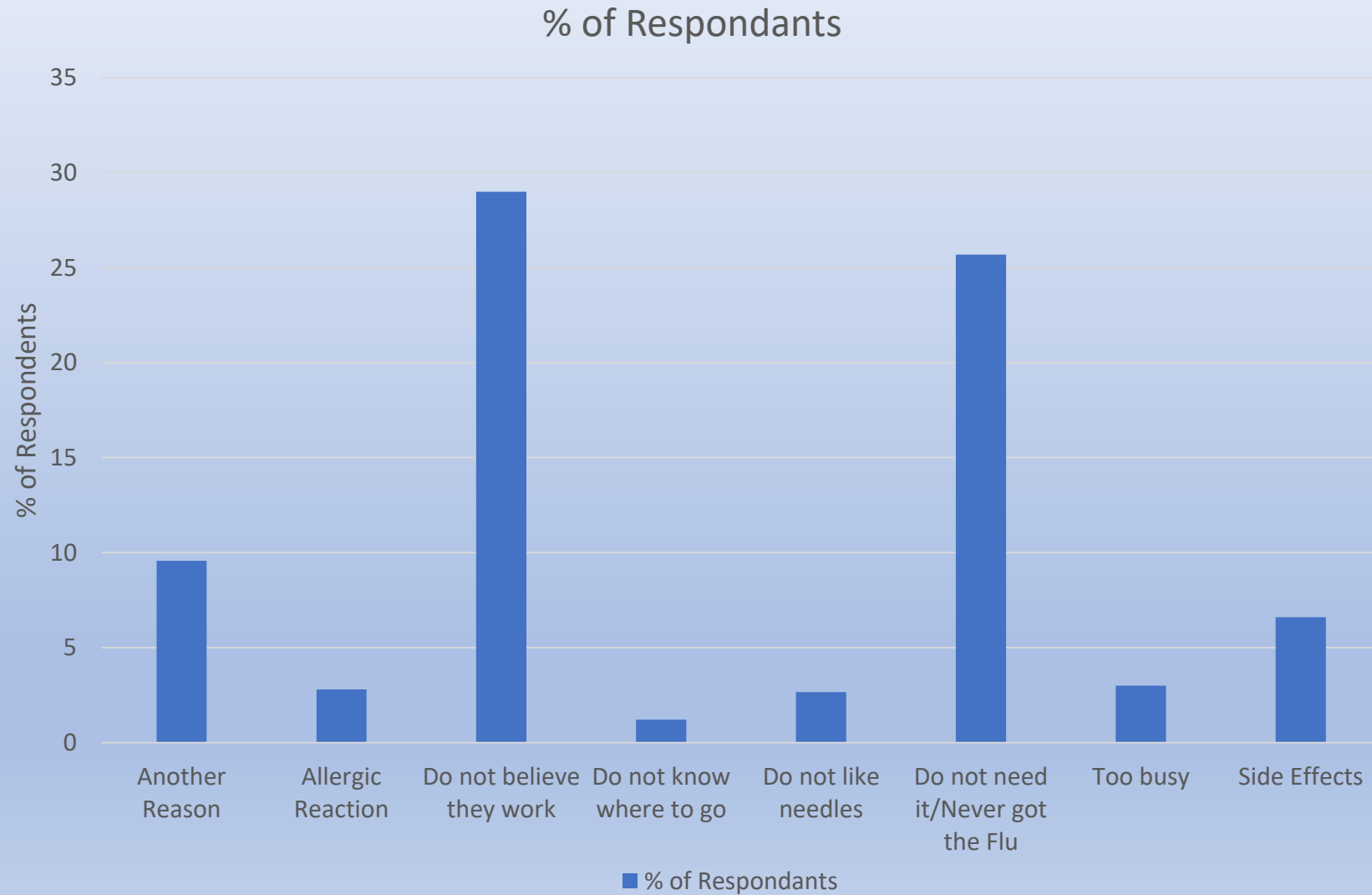


Limitations

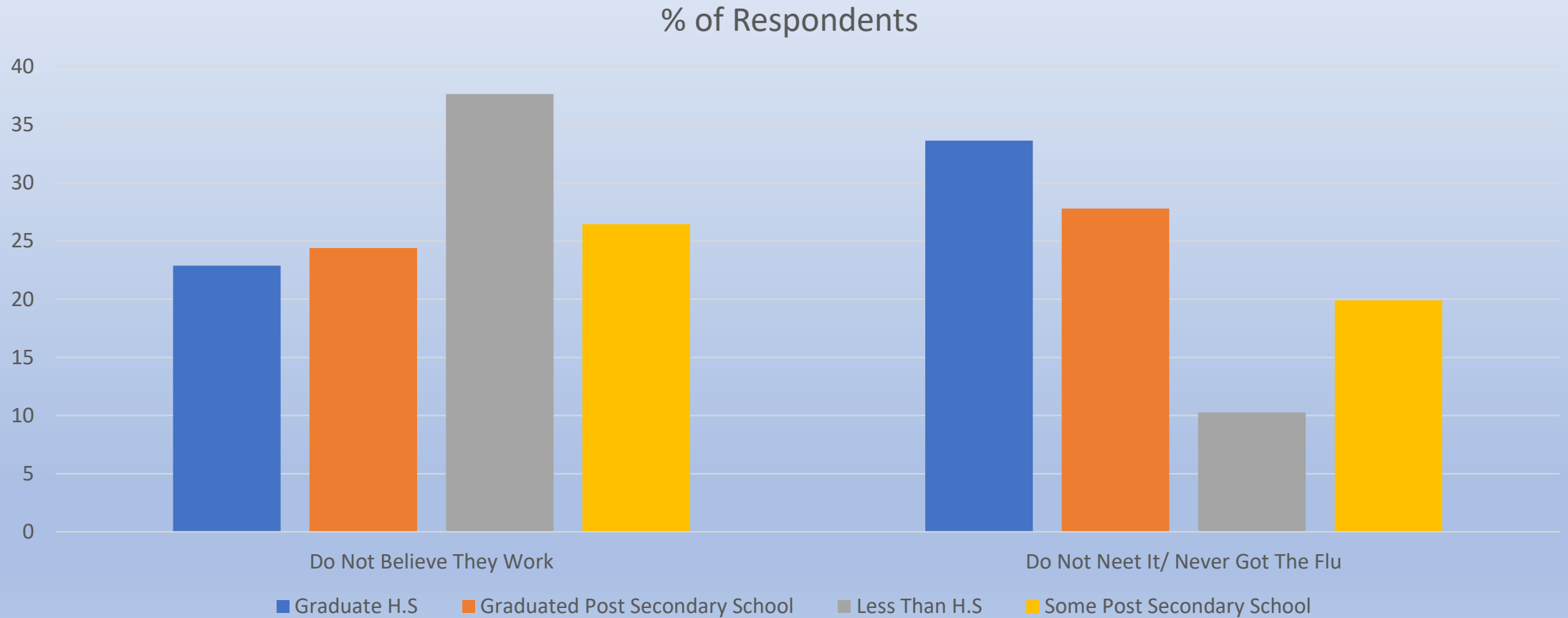
- Based on select network of 3,500 enrolled health care providers across the 50 states
- The only direct demographic data available is age
 - Provided in pre-defined buckets

What are reasons people don't get the vaccine?

Survey Says...

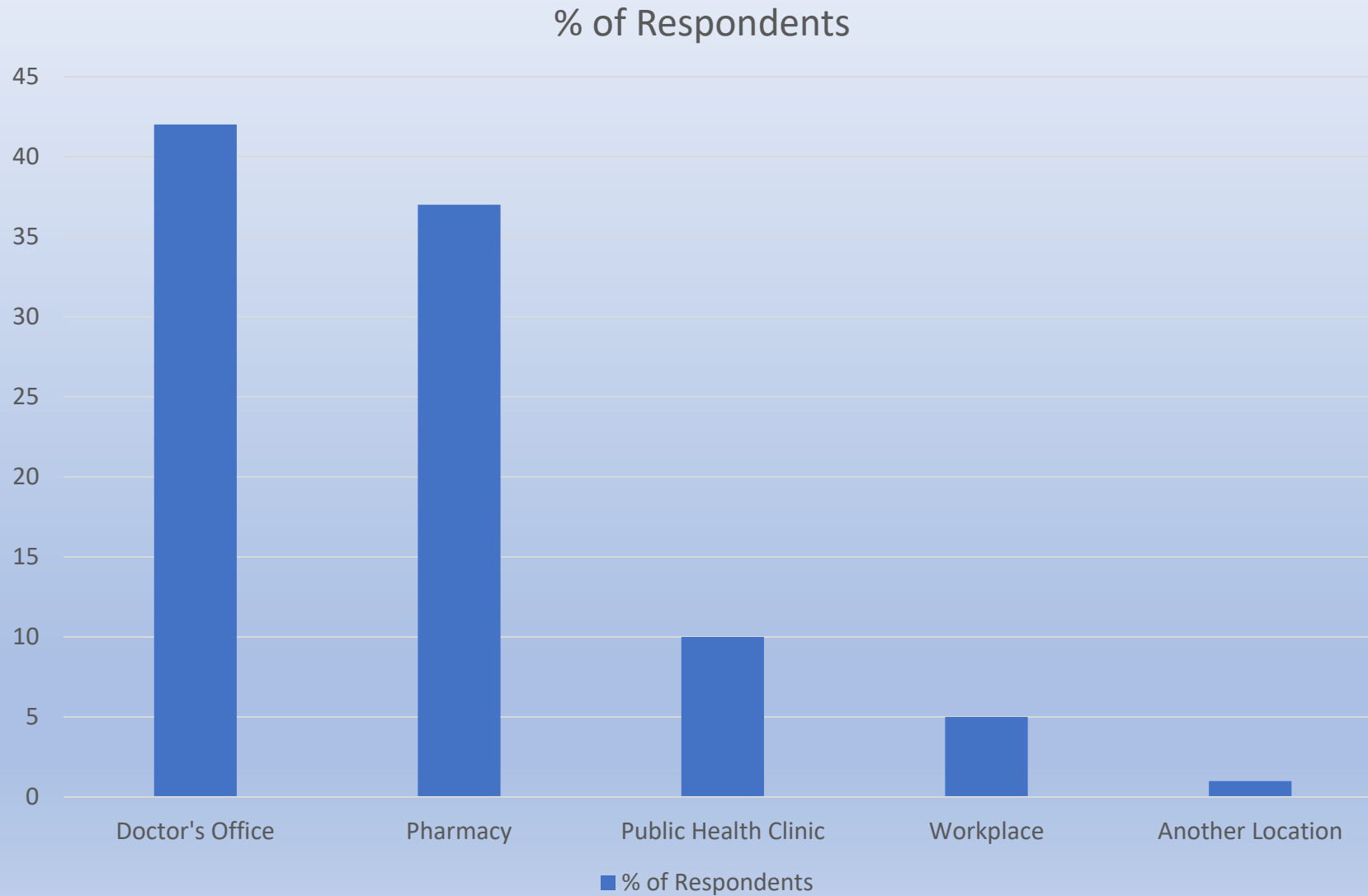


Education Level of those that do not believe they work

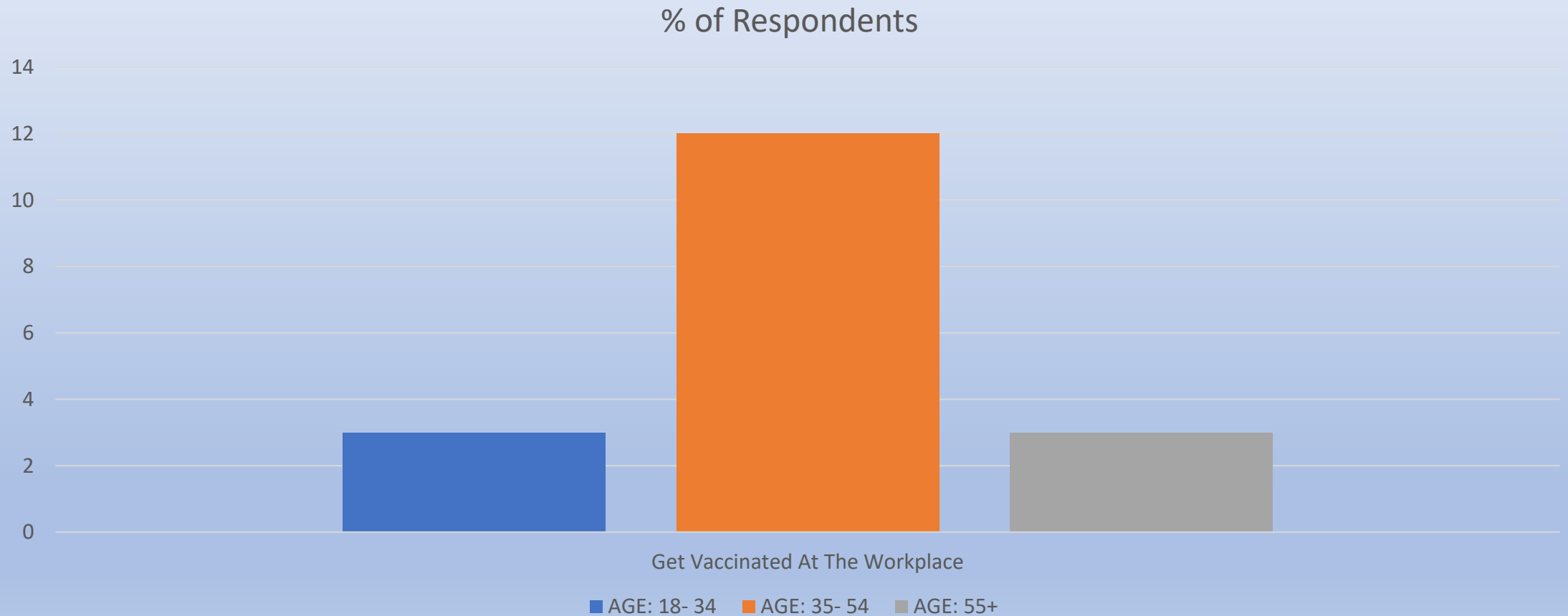


Where do people get their vaccination?

Survey Says...



Getting Vaccinated at the Workplace



How can vaccination coverage increase (at the workplace)?

2 key findings from John Beshears

- John Beshears professor of behavioral economics at Harvard Business School designed a study that tracked 1,801 employees of a health benefits administrator, Express Scripts, during the 2011-2012 flu season.
- The team's findings showed that putting the clinic in a location where employees pass by naturally increased the likelihood of getting vaccinated by 6.4 percent.¹
- Writing the down both a date and a time had a 4.2 percentage point higher vaccination rate.²

¹"Vaccination Rates are Associated With Functional Proximity But Not Base Proximity of Vaccination Clinics" By Beshears, John PhD; Choi, James J. PhD et. al. Medical Care: [June 2016 - Volume 54 - Issue 6 - p 578–583](#)

²"Using implementation intentions prompts to enhance influenza vaccination rates" By Katherine L. Milkman, John Beshears, et. al. PNAS June 28, 2011 108 (26) 10415 10420; <https://doi.org/10.1073/pnas.1103170108>

Limitations

- Small sample size of 1 firm with 1800 employees.
- No cross-industry comparison
- Specific building architecture for the study

Thank you!