

## INTRODUCTION

- Three major vaccine-preventable illnesses, pneumococcal disease, influenza and herpes zoster (shingles), account for an estimated economic burden of \$26.1 billion in the USA.<sup>1</sup>
- Zoster and pneumonia vaccination rates among eligible older adults remain suboptimal, especially in minority populations, with 59% of African Americans (AA) remaining unvaccinated compared to 46% of Caucasians.<sup>2,3</sup>
- Improved knowledge about vaccine-preventable diseases and vaccination may be a key component in improving vaccination rates in this population.
- Vaccine Education through Pharmacists and Senior Centers (VEPSC) is a community-based vaccine education program delivered by either pharmacists (PHARM) or peer educators (PEER) and aims to improve knowledge and beliefs about vaccination, with a focus on zoster, pneumonia, and influenza.

## OBJECTIVE

- The objective of this analysis was to present baseline demographics and knowledge findings.

## METHODS

- VEPSC was delivered to small groups of older adults in community settings in Fall 2017 – Spring 2018.
- The program featured a guided conversation about the presentation, progression, and prevention of zoster, influenza, and pneumonia, followed by an interactive role-play exercise designed to address common misconceptions and fears about vaccines.
- Study procedures are shown in Figure 1.

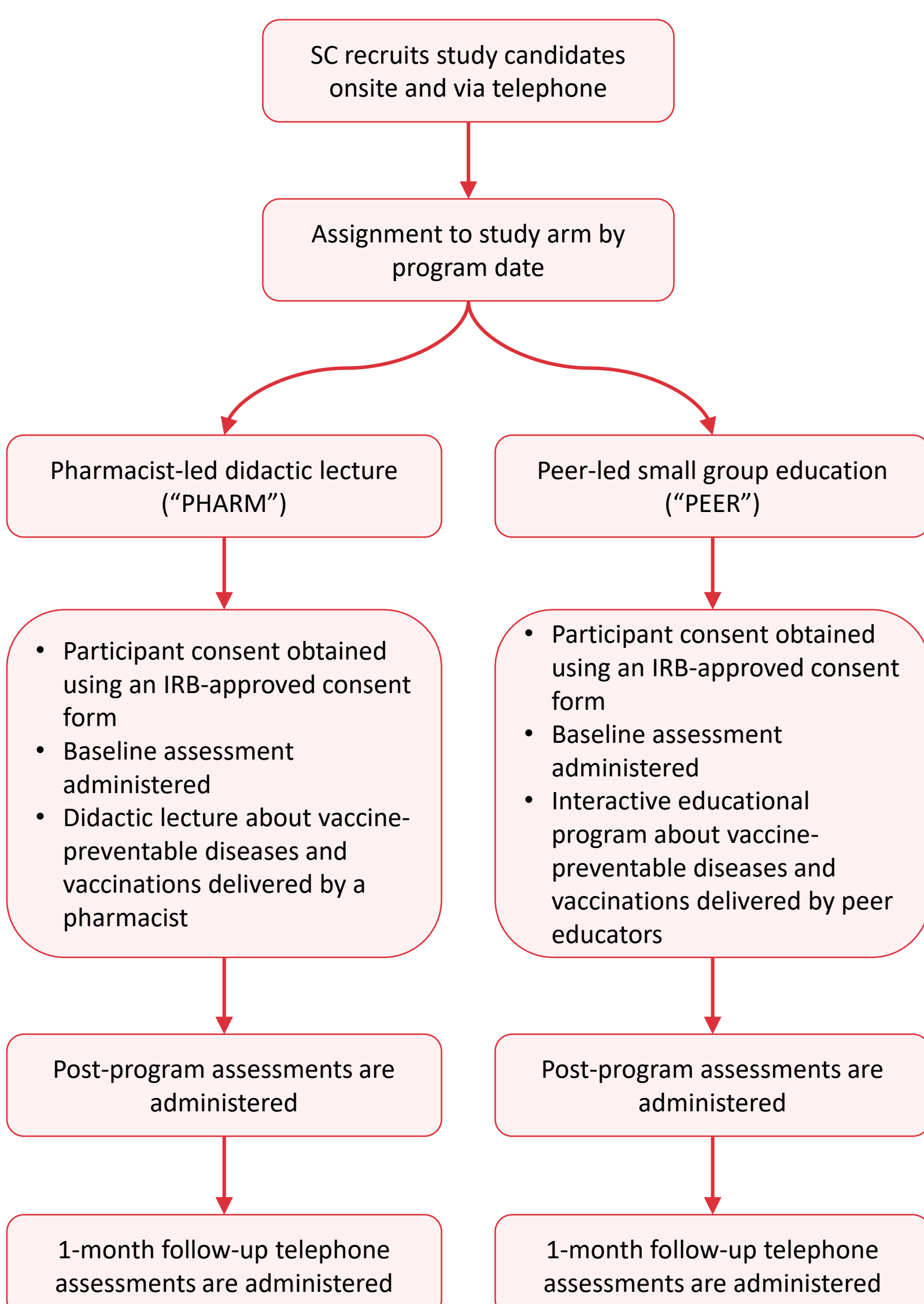
### Study Participants

- A northwest Philadelphia senior center (SC) recruited older adults from the local community.
- Eligibility criteria:
  1. Age ≥50 & Abbreviated Mental Test Score of ≥ 7
  2. Physically able to attend a 2-hour session
  3. Speak and read English at ≥4<sup>th</sup> grade level as determined by a brief reading passage

### Knowledge Assessment

- Baseline knowledge was assessed using a 3-section, 22-item instrument (8 zoster questions, 7 questions each for influenza and pneumonia; maximum achievable score = 22).
- Baseline demographics and knowledge were analyzed using descriptive statistics.
  - Mean knowledge scores for the 3 diseases and total knowledge were calculated.

**Figure 1. VEPSC Study Procedures**



## RESULTS

**Table 1. Participant Demographics (n=51)**

Characteristic	n (% <sup>a</sup> )
<b>Age, mean (SD)</b>	72.1 (8.3)
<b>Gender</b>	
Female	33 (64.7)
<b>Ethnicity</b>	
Black <sup>b</sup>	48 (94.1)
Other	3 (5.9)
<b>Marital Status</b>	
Widowed, not currently married	16 (31.4)
Divorced, not currently married	12 (23.5)
Married or living as married	10 (19.6)
Never married	7 (13.7)
Separated	2 (3.9)
<b>Highest Level of Education Completed</b>	
High school graduate or GED	25 (49.0)
Some college or vocational school	11 (21.6)
College graduate	11 (21.6)
<b>Religious Preference</b>	
Christian	43 (84.3)
Spiritual but not religious	4 (7.8)
Other	3 (5.9)
<b>Difficulty Affording the Basics<sup>c</sup></b>	
Not difficult at all	21 (41.2)
Not very difficult	12 (23.5)
Somewhat difficult	9 (17.6)

<sup>a</sup>Percentages may not sum to 100% because some participants preferred not to answer.

<sup>b</sup>Black represents the sum of participants that identify as African-American, Black-Caribbean, and Black-African.

<sup>c</sup>Response options were 1) Not difficult at all, 2) Not very difficult, 3) Somewhat difficult, 4) Very difficult, and 5) I don't know / not sure.

**Table 2. Baseline Knowledge Scores (n=51)**

Baseline Knowledge Scores	Mean (SD)	Range
Zoster	3.96 (1.949)	0-7
Influenza	4.45 (1.803)	0-7
Pneumonia	3.41 (2.080)	0-7
<b>Total</b>	<b>11.82 (5.090)</b>	<b>1-20</b>

- Majority of participants identified as Black (including AA), a key target population for this intervention.
- Baseline analysis found no statistically significant difference in baseline knowledge scores by participant education level or ability to pay for basic needs.

## LIMITATIONS

- Results may not be generalizable to other populations.
- This analysis does not assess outcomes of the program.

## CONCLUSION

- Findings indicate that knowledge of these three vaccine-preventable diseases is low, with somewhat better knowledge about influenza than zoster and pneumonia.
- Findings support the opportunity to improve knowledge about vaccines and vaccine-preventable diseases in this population.
  - The need to improve knowledge spans across educational and socioeconomic strata, implying there is a potential population health benefit from this type of education.
- Future work includes assessing change in knowledge by treatment arm and comparing costs and outcomes of PEER and PHARM.

## REFERENCES

1. McLaughlin JM, McGinnis JJ, Tan L, Mercatante A, Fortuna J. Estimated Human and Economic Burden of Four Major Adult Vaccine-Preventable Diseases in the United States, 2013. *The Journal of Primary Prevention*. 2015;36(4):259-273.
2. Williams WW, Lu P-J, O'Halloran A, et al. Noninfluenza Vaccination Coverage Among Adults—United States, 2013. *Morb Mortal Wkly Rep*. 2015;64:95-102.
3. Community Health Data Base. Calling the Shots: Flu and Pneumonia Prevention. <http://www.chdbdata.org/datafindings-details.asp?id=33>.

## FUNDING DISCLOSURE

This study was funded by Merck Sharp & Dohme Corp.

