

Protecting Public Health and Preventing School Exclusion: A Case Study of Seattle Public Schools' (SPS) 2019-20 Immunization Campaign

Bridgett Chandler, DNP, MIS, RN



Swickley Valley Pediatric and Adolescent Medicine

DISCLAIMERS

- The report upon which this presentation is based was made possible, in part, by the support of Seattle Public Schools. Opinions contained in this report reflect those of the author and do not necessarily reflect those of Seattle Public Schools.
- The author was a member of the Seattle Public Schools nurse corps when this project was undertaken in partial fulfillment of the requirements for the University of Washington School of Nursing degree of Doctor of Nursing Practice in Family Practice. Attempts to reduce the high possibility of author bias included extensive external expert and faculty review of this project.
- The author continues to serve as the SPS School Nurse at Sanislo Elementary



RESPECT FOR FAMILIES

- “Compliance” causes distress for many
- Use “OOC” or “not up to date”
- “Adherent” or “up to date” will indicate when records are on file with the Washington Immunization Information System



INTRODUCTION

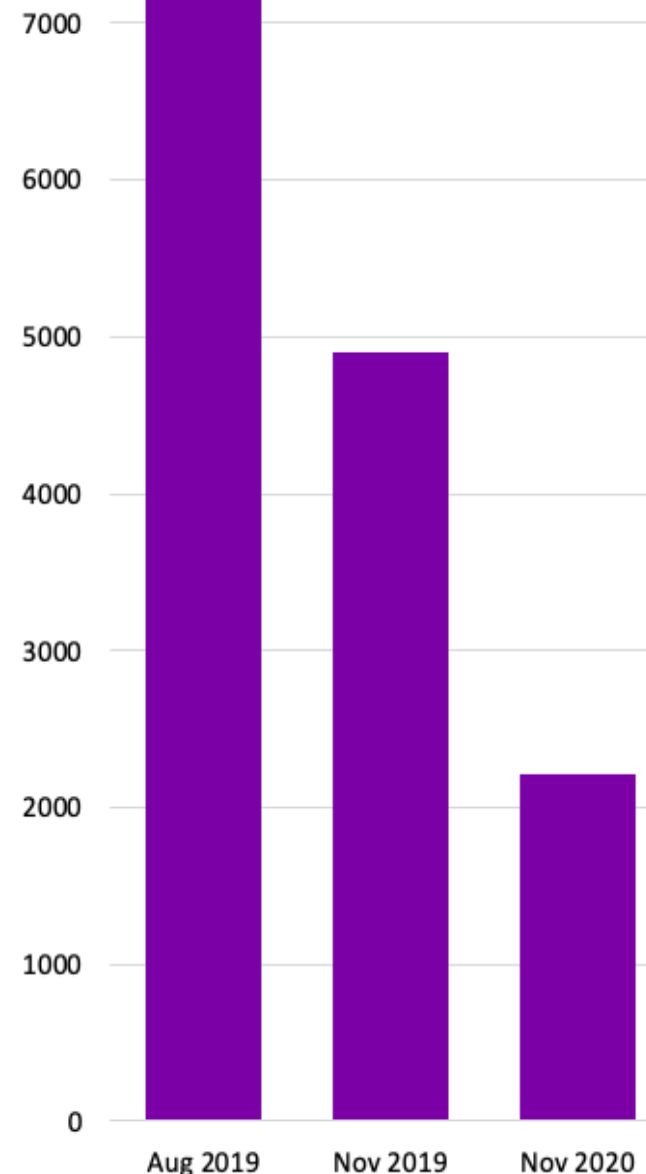
WA LISTENS TO SCIENCE

- Measles outbreaks spur new law in 2019
- Laws at the time required :
 - Vaccines for school attendance
 - Providers must give evidence-based patient education before signing exemptions
- Since 2019
 - Personal exemption for MMR removed in WA state



INTRODUCTION

SPS OOC OVER TIME
DATA SOURCE: SPS



- Seattle Public Schools (SPS) devoted considerable resources to updating vaccination records
- Nurses led effort to move SPS from 87% - 97% “up to date”
- SPS then sought to:
 - Solicit nurse wisdom and evaluate nurse practice
 - elements of success
 - areas for improvement
 - Study 3% Out Of Compliance (OOC) to close the gap
 - Increase student health and community immunity
 - Prevent school exclusion
 - Contribute to the collective understanding of vaccine hesitancy in a time of global pandemic

OBJECTIVES

- **Survey SPS nurses**
 - Tool frequency of use and effectiveness
 - Identify shared traits of OOC students
 - Solicit expert opinion for improvement
- **Analyze student data**
 - Demographics and vaccine status
- **Identify/characterize**
 - Any observed risk factors for OOC
- **Recommend**
 - Steps to address health inequities and prevent school exclusion
- **Disseminate**
 - Share findings to aid immunity efforts in a time of global pandemic



WHY WE VACCINATE



- Save >6 M lives and many more millions of dollars each year
- Safe
- Effective
- Can confer a lifetime of protection
- Strengthen community immunity

WHY WE DON'T



Sergiy Maidukov

- Immunocompromise
- Culture & religion
- Forgot disease toll
- Fraud
- Fear
- Free riders

LITERATURE ON IMMUNIZATION

- Evidence grows on vaccine safety/efficacy, yet US immunity dropping
- Outbreaks of dangerous diseases increasing
- Medical/religious/cultural exemptions are a small %
- Many US families' beliefs are still fueled by discredited information; lack of awareness of severity of diseases compounds health risks, “protest” may not be about vaccines *per se*.
- Vaccination increases for hesitant families when:
 - Trusted and empathetic sources give science-based info
 - Clinics are convenient and no-cost
 - School nurses are involved



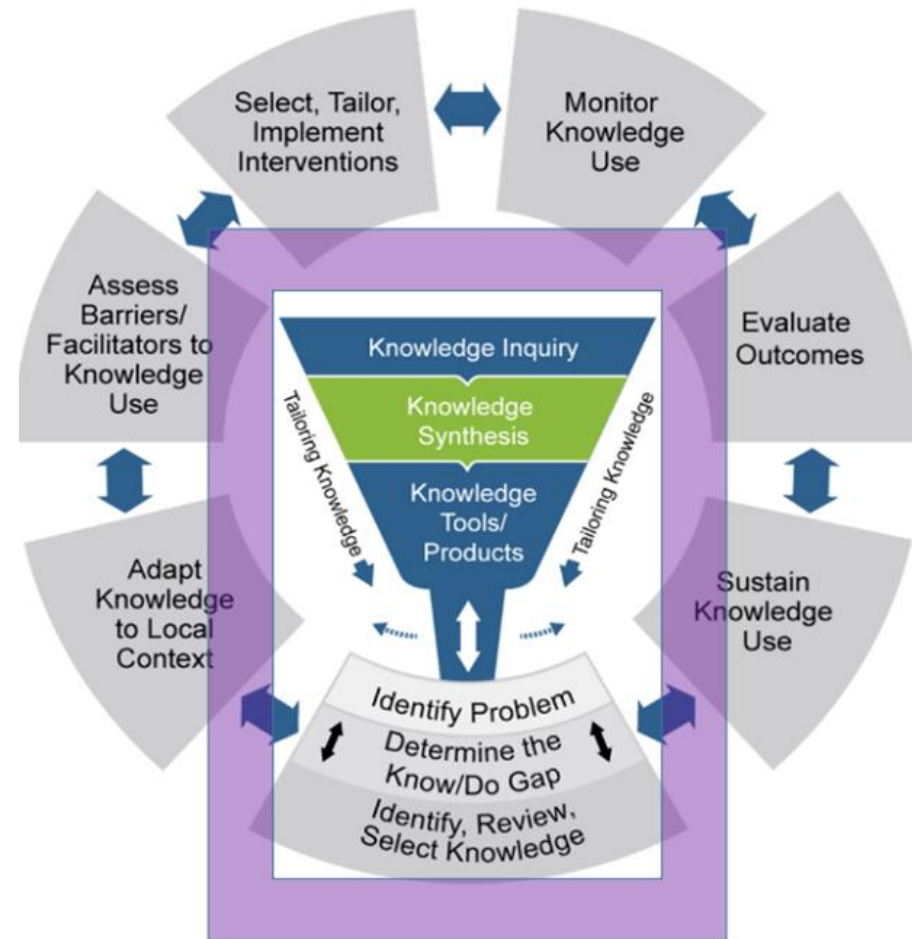
IMPLEMENTATION: GUIDING FRAMEWORKS

Knowledge to Action

- Egalitarian
- Iterative
- Dynamic
- Collaborative

Phenomenological

- Captures end-users' meaning



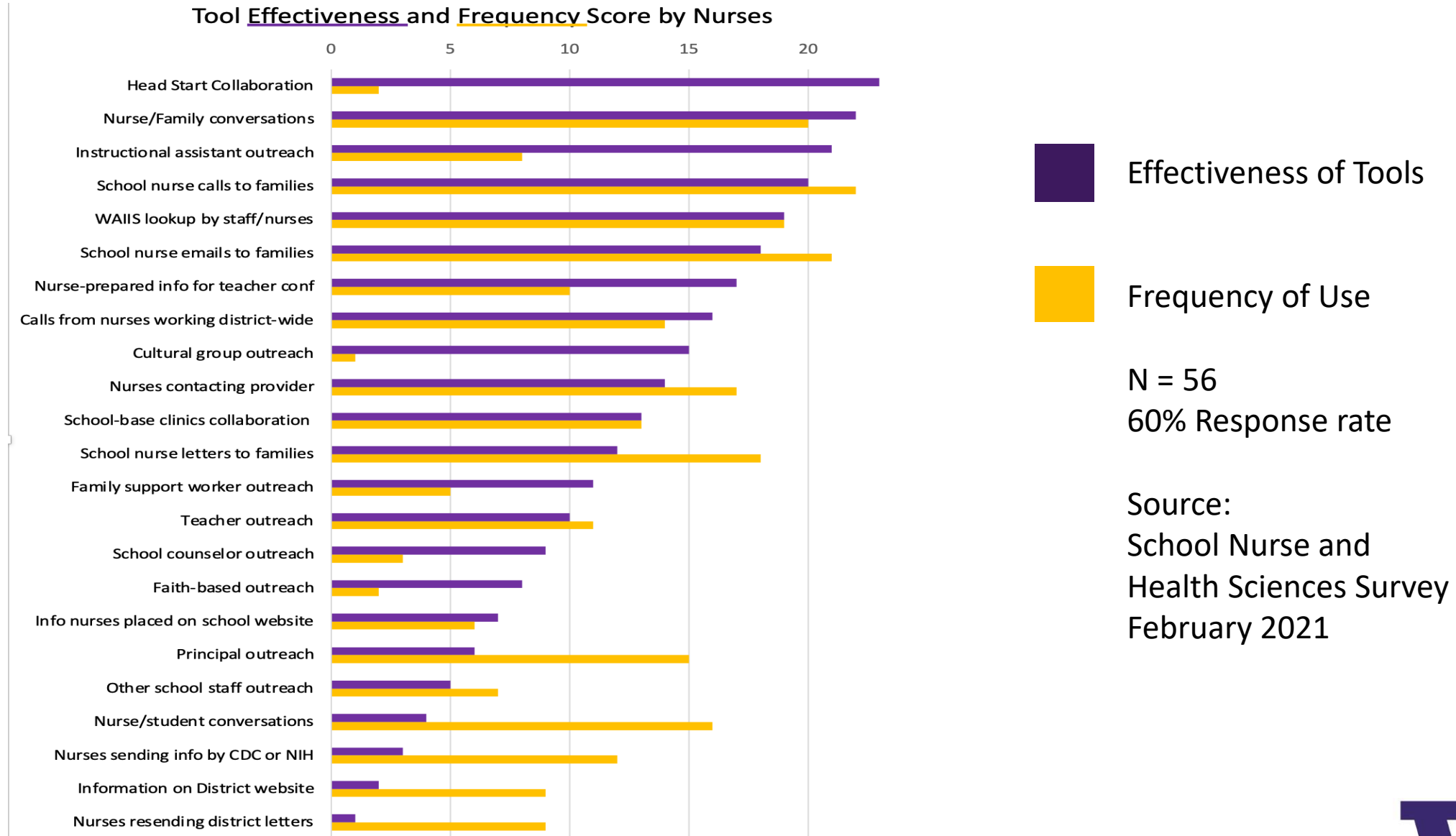
Source: Graham et al. (2006) — <https://www.ncbi.nlm.nih.gov/pubmed/16557505>

IMPLEMENTATION: STEPS

- **Problem ID:** Study OOC with health equity lens
- **Knowledge**
 - **Inquiry**
 - Literature search yielded 17 articles and RCTs
 - SPS campaign tools catalogue
 - SPS + WA Dept. of Health data merged in EXCEL
 - **Creation**
 - Survey of nurses and Health Services staff created/administered in REDCap
 - **Synthesis**
 - Analyzed survey qualitative data
 - Statistical analysis of OOC data in Python using ANOVA
 - **Dissemination**
 - Agency report, briefing and presentation tools, seek publication



OUTCOMES: SURVEY OF SCHOOL NURSES



SURVEY OF SCHOOL NURSES - *continued*



- 98% of nurses observe shared risk factors among OOC students
- Nurses observe distinct trends:
 - Supermajority of families vaccinate
 - Some OOC Black, Indigenous, and People of Color (BIPOC) families with fewer financial resources want to vaccinate but face barriers
 - Some OOC affluent White families have vaccine access and decline vaccines

SURVEY OF SCHOOL NURSES - *continued*



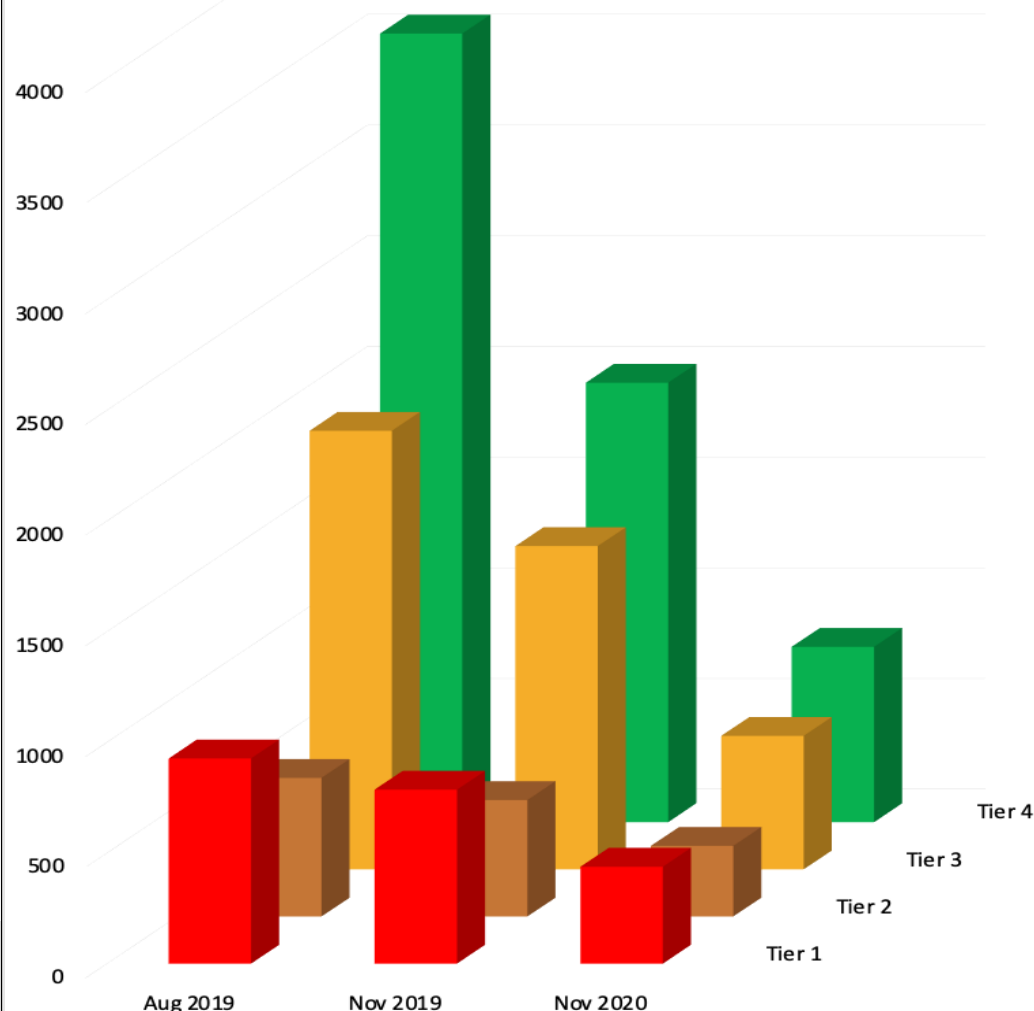
Most frequently nurse-observed shared characteristics among students not up to date with vaccines

- Homeless
- Immigrant
- Foreign student
- Disability
- English language learner
- Income: high and low

IMMUNIZATION AND GRAPHIC DATA

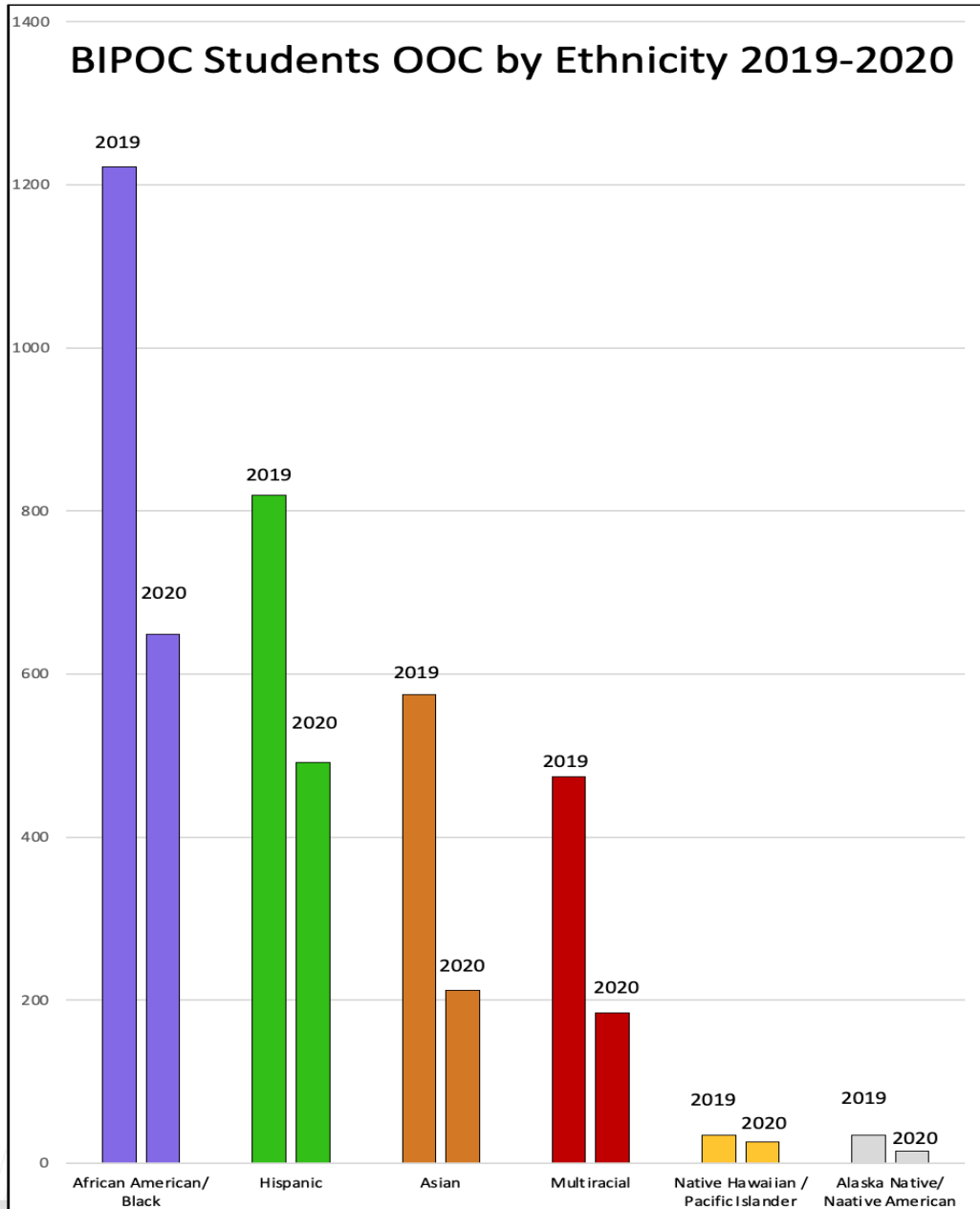
Students Out of Compliance by Equity Tier:

Tiers reflect combined effects of race, poverty, language, and culture on historical opportunity gaps where Tier 1 is the greatest proportion of historically underserved students



- OOC down in all Equity Tiers, all racial groups
- Improvement rates unequal across groups
- Traits statistically significant for OOC
 - Grade level
 - Born outside the USA
 - English language learner
 - Homeless
 - Racial group
 - Primary and home language
 - Equity Tier of school
 - Running Start participant

IMMUNIZATION AND DEMOGRAPHIC DATA - *continued*

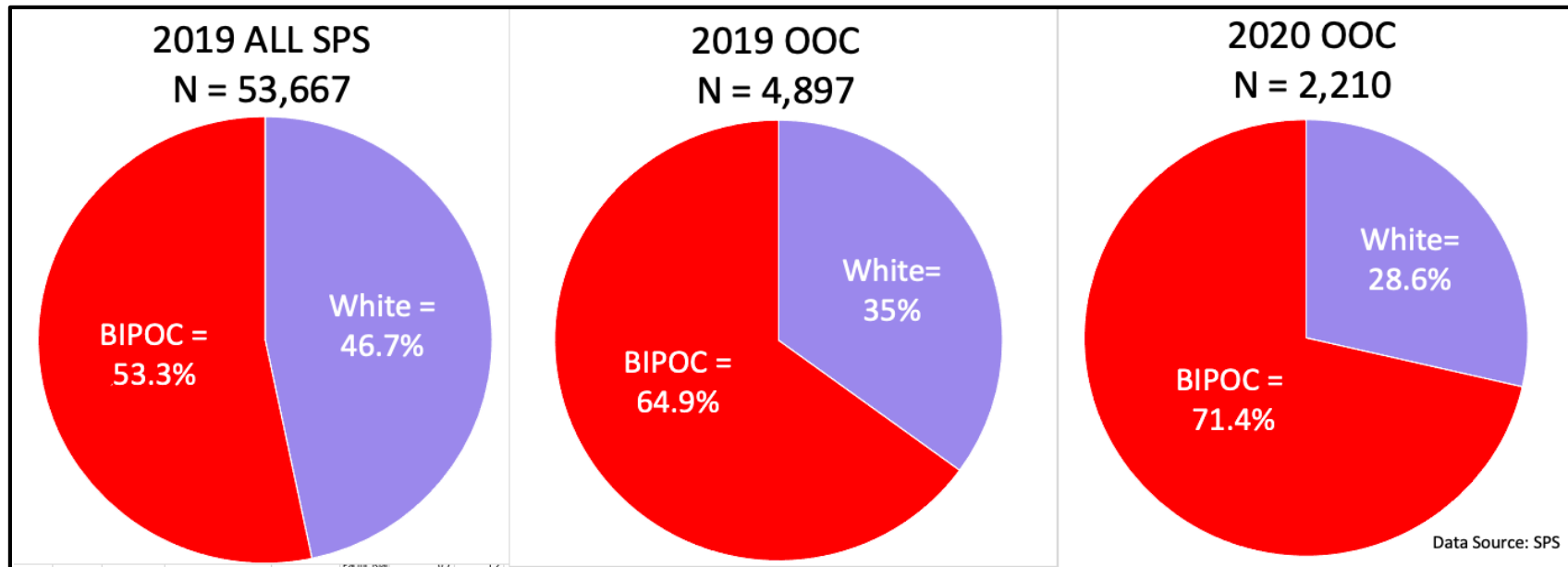


BIPOC Students	%SPS	%OOC
African American	13.99	29.4
Hispanic	12.84	22.3
Asian	12.80	9.6
Multiracial	12.79	8.3
Native American	0.45	0.6
Pacific Islander	0.40	1.2

DATA SOURCE: SPS

CONCLUSIONS

- Campaign an overall success with OOC shrinking in all groups, year after year
- School nurses vital to reducing OOC by such large numbers
- Inquiry shows Evidence-Based Practice and nurse observations backed by data
- BIPOC increasingly disproportionate in OOC



RECOMMENDATIONS



- **Mindset**
 - Deepen commitment to “*Nothing about us without us*” as frame for collaboration with those furthest from educational and health justice
- **Partnerships**
 - Increase faith and cultural partnerships
 - Deepen SBHC collaboration

RECOMMENDATIONS

Infrastructure

- Vaccine clinics by ARNPs to schools lacking School Based Health Center (SBHC)
- Staff to research/enter data and call families for school nurses caring for acute students
- Ongoing professional development in evidence-based communication strategies

Nursing Profession

- Help diversify nursing through an SPS Academy for Rising Nurses



FUTURE RESEARCH

- Interview families
- Refine equity lens
- Exemption rates/types
- Effect of law on nurse relationships with underserved students/families
- Impact of COVID-19 pandemic on vaccine rates and public opinion and knowledge
- Disinformation industry impact on health



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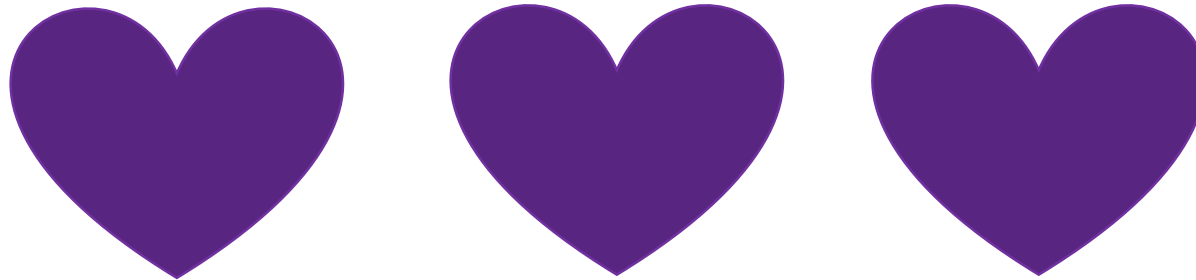
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Thank you!
Questions?
Comments?