

Washington Child Health Improvement Partnership (WA-CHIP)



Washington
Child Health Improvement Partnership

Background

- Missed opportunities, defined as healthcare encounters where a child is missing a vaccine and does not receive it, contribute to suboptimal vaccination coverage in children and adolescents.
- Implementing evidence-based best practices such as reminder-recall systems, daily provider huddles, and offering vaccines at acute care visits can decrease missed opportunities in primary care practices.

WA-CHIP Goals

- **Global Aim:** Increase childhood and adolescent vaccination rates at participating practices in King County & WA State.
- **Specific Aim:** In 9 months, participating practices will decrease their missed opportunities for administering vaccines to 4-6 and 11-17 year-olds by 20% vs baseline rate.



WA-CHIP Team

Public Health Seattle King County

- Elisabeth Beaber, PhD, MPH
- Andie Lyons, MTS

Washington State Dept of Health

- Chrystal Averette, MPH

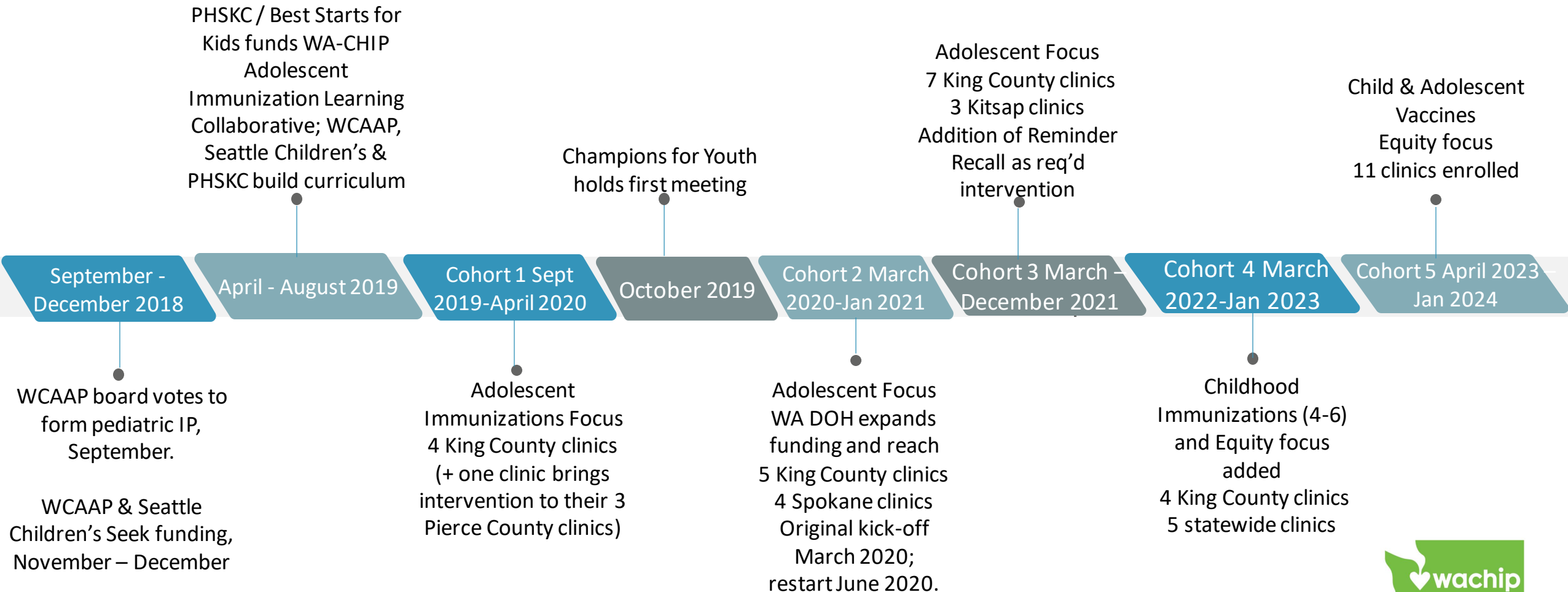
Washington Chapter of the American Academy of Pediatrics

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- Marina Martinez
- DeAnna Dudley, RN

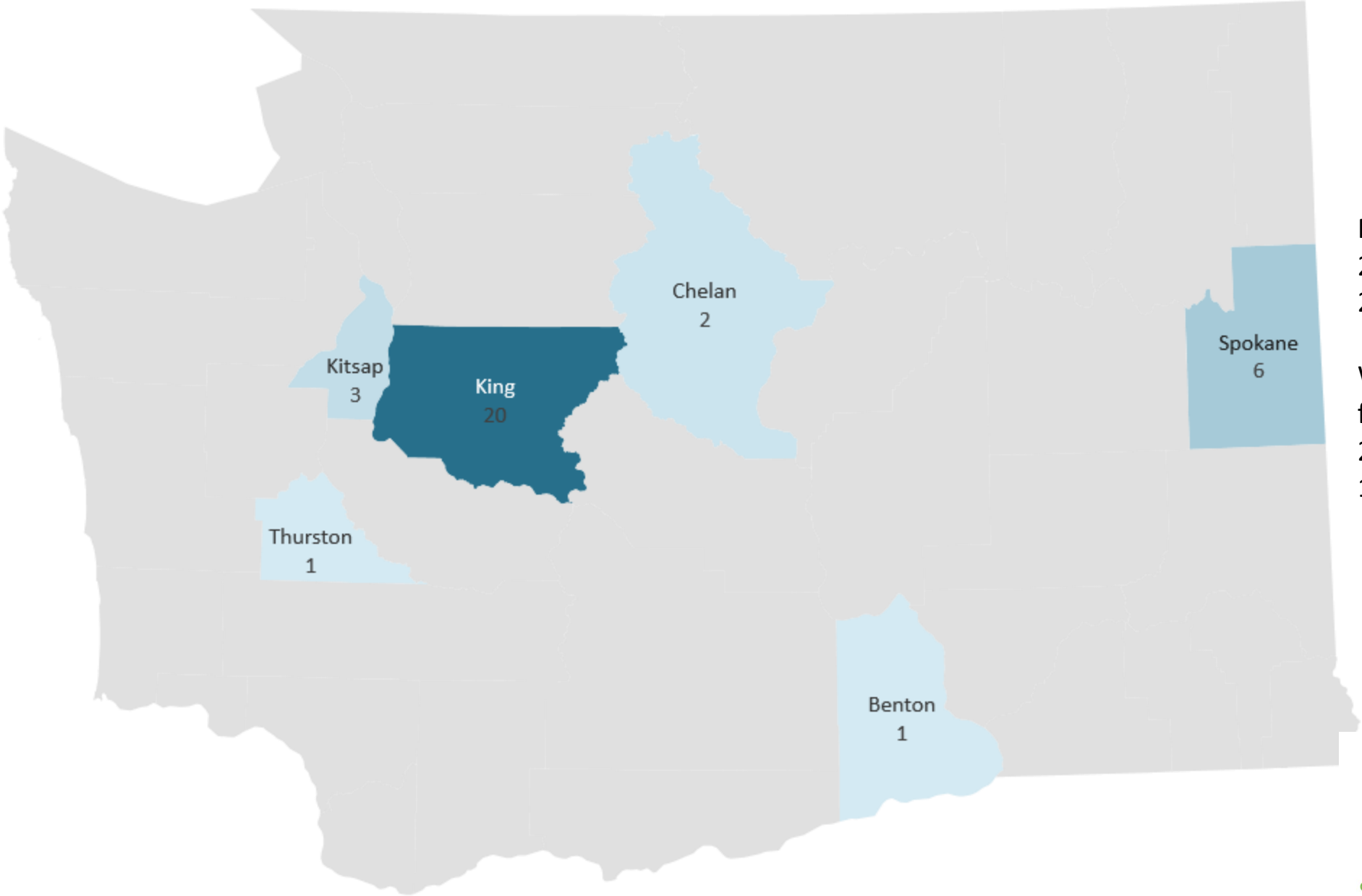
Seattle Children's

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WA-CHIP Learning Collaborative 2019-2023



WA-CHIP Immunization Learning Collaborative: Clinics Served



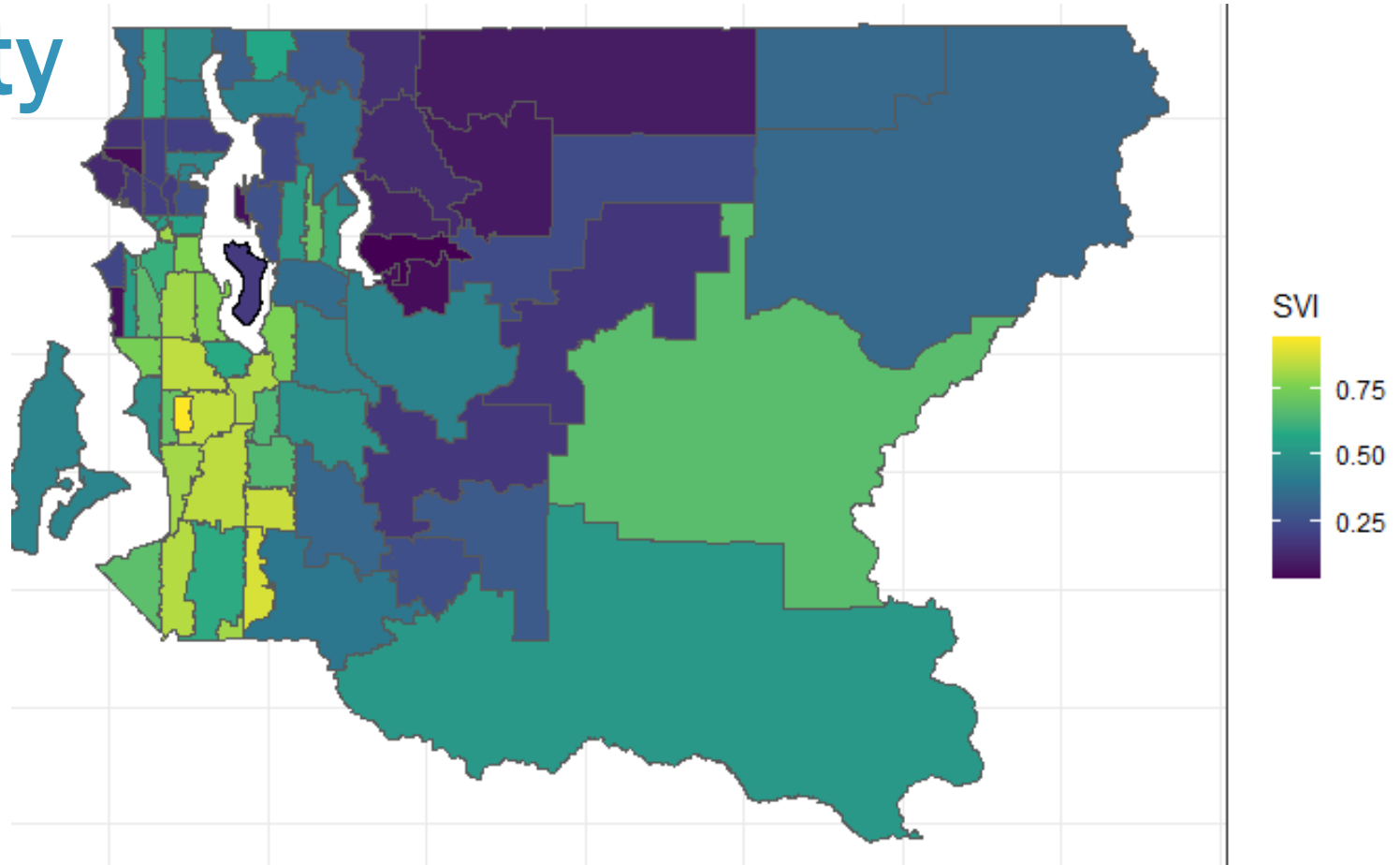
PHSKC funding
2019-2023:
20 clinics served

WA State DOH
funding
2020-2023:
13 clinics served



Social Vulnerability

- Over half the clinics in cohort 5 have either:
 - Half of patients on Medicaid
 - Or are situated in a high social vulnerability area



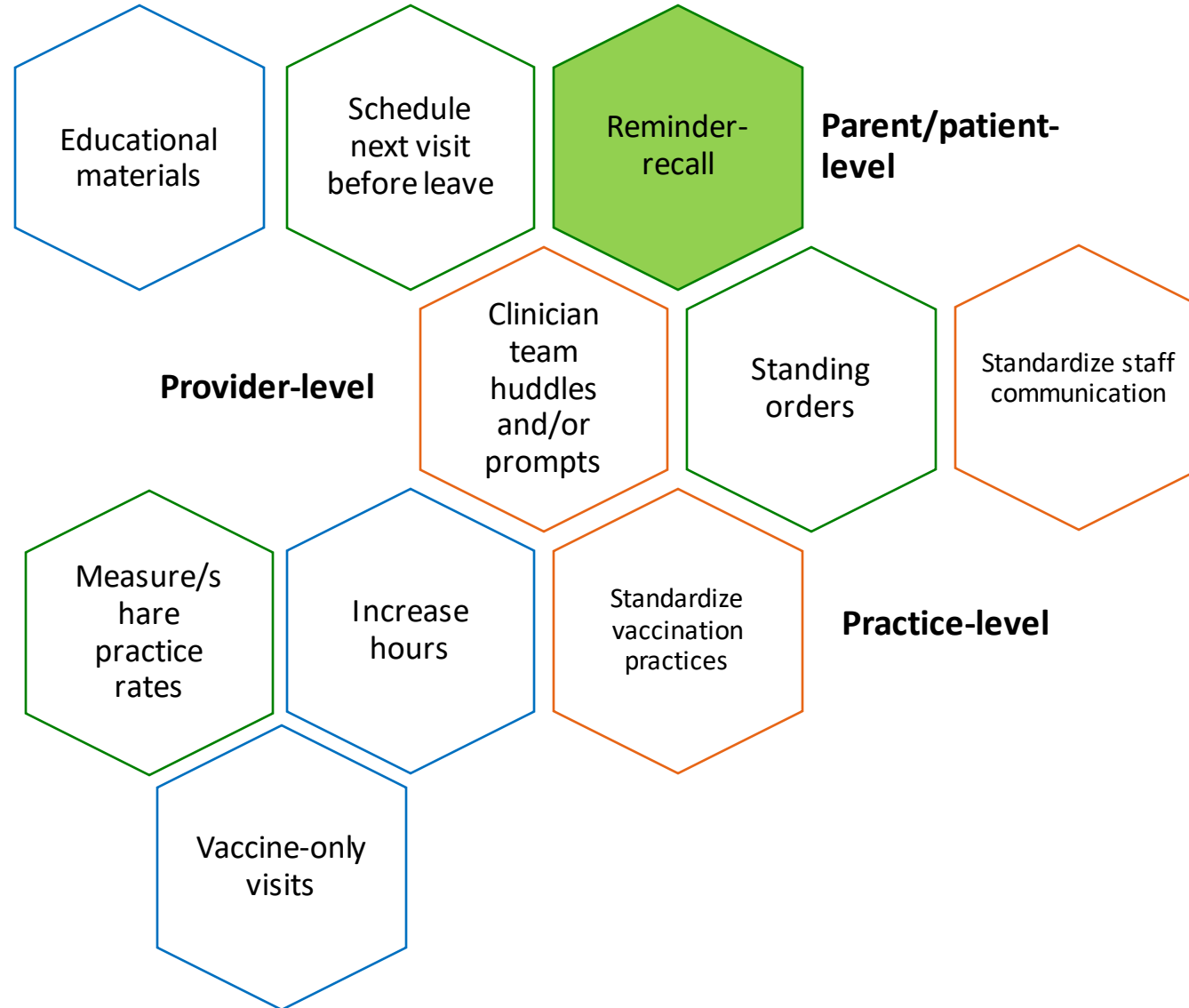
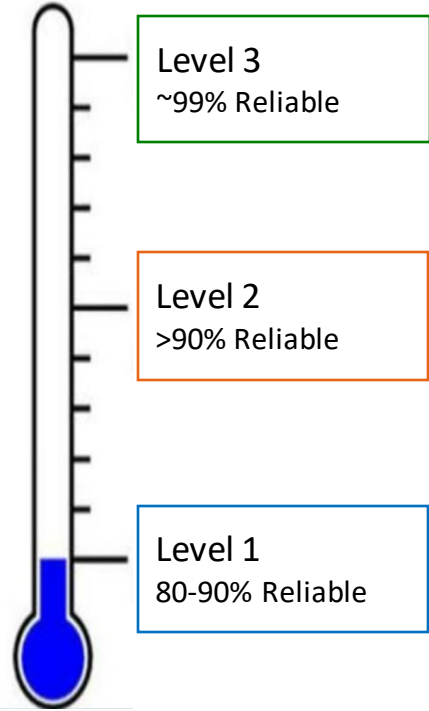
A 0.6 or higher (green and yellow) is where we need to serve shown in the Social Vulnerability Index above.

WA-CHIP Learning Collaborative

- Each clinic completes a baseline survey to describe their vaccination practices and identify barriers to vaccinating adolescents in their clinic
- Participants from each clinic complete quality improvement (QI) education
- A menu of evidence-based interventions is provided to improve vaccination rates (e.g., reminder recall, standing orders, daily huddles)
- Clinics select ≥ 1 intervention to implement
- In Cohorts 2-5, reminder-recall was a required intervention
- Each clinic participates in ≥ 3 QI coaching sessions to review their missed opportunity data and 5 meetings with the full cohort to share learnings
- Participants receive MOC/CME credits



WA-CHIP Suite of Interventions



WA-CHIP Poster Examples

WELL CHILD CHECK
REVISIÓN DE NIÑO SANO

Children from Birth-18 Years Old / Niños desde su nacimiento hasta los 18 años

Well Child Check / Revisión de niño sano
Vaccination / Vacunación
Hearing Screen / Revisión Auditiva
Vision Screen / Examen Visual

Age/Edad	Recommended Vaccines & Tests / Vacunas y pruebas recomendadas
• 3-5 days/días	Hepatitis B
• 7-14 days/días	
• 2, 4 & 6 months/meses	Hepatitis B, DTaP, Hib, Polio, PCV, Rotavirus
• 9 months/meses	(Catch up / Alcanzar)
• 12 months/meses	MMR, Hepatitis A, Varicella
• 15 months/meses	DTaP, Hib, IPV, PCV
• 18 months/meses	Hepatitis A
• 2 years/años	(Catch up / Alcanzar)
• 3 years/años	
• 4-5 years/años	DTaP, IPV, Varicella, MMR
• 5-8 years/años	
• 9-12 years/años	HPV (2 doses / dosis)
• 11-12 years/años	HPV, TDaP, Meningococcal
• 13-15 years/años	(Catch up / Alcanzar)
• 16-18 years/años	Meningococcal, Meningococcal B (2 doses / dosis)
• 6 months/meses – 18 years/años	Annual Influenza / Influenza anual, COVID

KEEP YOUR CHILD UP TO DATE ON Routine Immunizations

Birth	Hep B	12 months	Hep A PCV MMR Varicella	9-10 years	HPV (2 doses)
2 months	DTaP Hib IPV PCV Rotavirus (Oral)	15 months	DTaP Hib	11 years	Tdap MCV4
4 months	DTaP-IPV-Hib PCV Rotavirus (Oral)	18 months-2 years	Hep A	16 years	MCV4
6 months	DTaP Hib IPV PCV Rotavirus (Oral)	4 years	DTaP-IPV MMR Varicella	16-18 years	MenB (2 doses)

- We recommend an annual flu vaccine for all patients 6 months and older.
- Children and teens should stay up to date on COVID-19 vaccine.

VACCINE KEY:

DTaP: Diphtheria, Tetanus, and Pertussis (whooping cough)	MMR: Measles, Mumps, Rubella
Hep A: Hepatitis A	PCV: Pneumococcal
Hep B: Hepatitis B	Pediarix: Combination vaccine that includes DTaP, Hib, IPV
Hib: Haemophilus Influenza type B	Pentacel: Combination vaccine that includes DTaP-IPV-Hib
HPV: Human Papillomavirus	Tdap: Tetanus, Diphtheria, and Pertussis booster
IPV: Polio	Varicella: Chickenpox
MCV4: Meningococcal A, C, W, Y	
Men B: Meningococcal B	

www.wachip.org/immunizations

PROTECT YOUR CHILDREN WITH IMMUNIZATIONS

PROTECT THEM FROM SERIOUS DISEASES INCLUDING TETANUS, SEPSIS, MENINGITIS, WHOOPING COUGH, FLU, AND CANCERS CAUSED BY HPV.

BIRTH	2 MOS.	4 MOS.	6 MOS.	1 YR
Hep B	DTaP IPV Hib Hep B PCV	DTaP IPV Hib Hep B PCV	DTaP IPV Hib Hep B PCV	MMRV Hib PCV Hep A
	Rotavirus (oral)	Rotavirus (oral)	Rotavirus (oral)	

ASK IF YOUR CHILD IS UP TO DATE TODAY!

18 MOS.	4 YRS	11 YRS	12 YRS	16 YRS
DTap Hep A	DTap IPV MMRV	Tdap MCV HPV	HPV	MCV

ANNUALLY: Flu

VACCINE KEY

DTaP: Diphtheria, Tetanus and Pertussis (whooping cough)
Hep A: Hepatitis A
Hep B: Hepatitis B
Hib: Haemophilus Influenza B
HPV: Human Papillomavirus
IPV: Polio
MMRV: Measles, Mumps, Rubella, and Varicella (chickenpox)
PCV: Pneumococcal
Tdap: Tetanus, Diphtheria, and Pertussis



“Gamify” Engagement: South Sound’s Vaccine Roundup and Cupid Shots Bingo

Vaccine Roundup

How to play:

- Each ranch will receive a list at morning huddle listing the scheduled patients who are due or overdue for vaccines.
- Review the list and choose at least two patients to catch up on vaccines.
- Vaccinate patients who are due or overdue for immunizations.

Goal: The goal is to lasso as many cowboys and cowgirls possible to safely catch 'em up. For each cowboy/cowgirl vaccinated in your ranch gallops your horse forward one spot. The ranch whose horse gallops the furthest wins a fabulous prize at the end of the month.

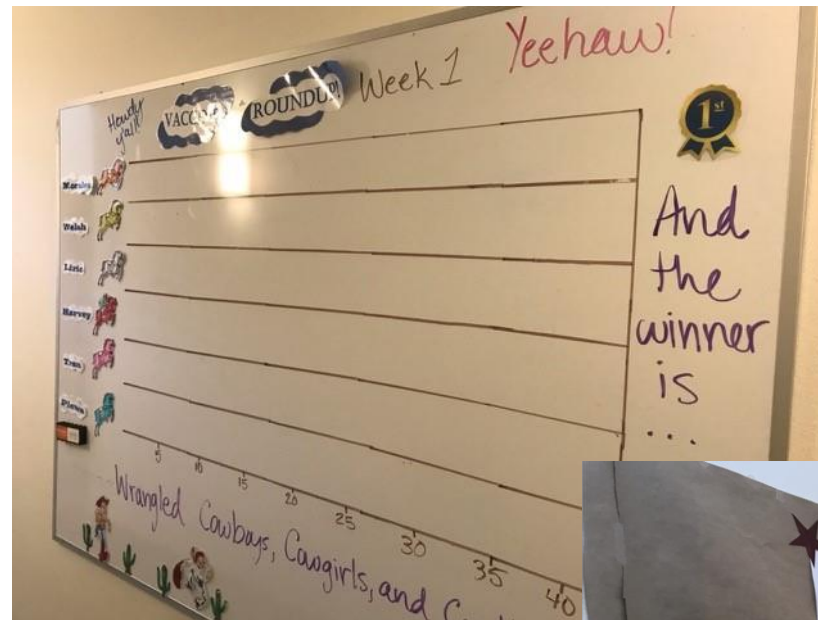
WHOA! BUDDY: SOUR BUCKAROOS OR ROWDY RANCHES WILL LOSE ONE SPACE FOR ANY SIGNS OF NEGATIVITY.

Definitions:

- Ranch-pod
- Cowboy/cowgirls-patients
- Gallop-moves
- Buckaroos- employees
- Wandering buckaroos-floats

DISCLAIMER: THE GAME IS INTENDED TO REDUCE THE NUMBER OF MISSED OPPORTUNITIES FOR VACCINES. THIS IS A FRIENDLY COMPETITION AND NO BUCKAROOS SHOULD BE INSULTED DURING THIS COMPETITION. NEGATIVE TALK WILL RESULT IN AN UNFRIENDLY ENVIRONMENT THEREFORE RUINING THE GAME FOR EVERYONE. PLEASE BE KIND AND RESPECTFUL AND MOST OF ALL HAVE FUN AND LASSO UP THEM COWBOYS AND COWGIRLS TO ENSURE HEALTHY FUTURES!

****wandering buckaroos not assigned to specific ranch will automatically be included in the winning team rewards. Front desk staff, IT and management will be cheering each ranch along****



Cupid's Shots Bingo

Each MA will have their own board.
Here are the rules:
This is blackout bingo, meaning you must fill in each square to win.
Each patient can only count for one square, no double dipping.
Write the patient's DOB at the top of the square and write the date at the bottom of the square. This is for accountability.
Turn into Lilly when you complete the board.
The first person to complete the board wins a prize.

Name: _____

Cupid's Shots Bingo				
catch up immun	shot at an acute visit	covid bivalent	this shot	Start HPV at 9
8/15/20	8/1/20	10/25/20	12/24/20	10/1/20
import shots from HS	all kindergarten shots at 4	covid bivalent	this shot	catch up immun
2/1/19	2/1/19	12/26/20	9/24/20	10/1/20
sibling shots	any covid shot	2nd HPV	shot at a med check	Start HPV at 9
				2/24/20
shot at a med check	all kindergarten shots at 4	sibling shots	shot at an acute visit	shot at an acute visit
starting a covid shot	shot at a med check	any covid shot	2nd HPV	starting a covid shot series
1/1/19				

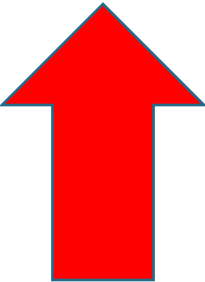


Results



	All	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Data collection period	7/2019-11/2022	7/2019-2/2020	1/2020-12/2020	1/2021-12/2021	2/2022-11/2022
Number of clinics	33	4	9	10	9
Number of providers per clinic (median)	6	9	7	6	6
Percent of patients eligible for the VFC program per clinic	55	50	60	37	72

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Covid-19 pandemic disruptions

	All	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Reminder/recall prior to QI intervention period (yes), n (%)	13 (39)	2 (50)	4 (44)	4 (40)	3 (33)
Type of QI intervention implemented n (%)					
Reminder-Recall	29 (88)	0 (0)	9 (100)	10 (100)	9 (100)
Forecasting for all visits	11 (33)	2 (50)	0 (0)	3 (30)	6 (67)
Added vaccine documentation section to note template	6 (18)	1 (25)	1 (11)	1 (10)	3 (33)
Pre-clinic Huddles	6 (18)	0 (0)	5 (56)	0 (0)	1 (11)
Other interventions included:					
monthly provider emails with updates (n=6)					
posters of vaccine schedule (n=5)					
adding vaccine only clinics (n=3)					
front staff reminders (n=1)					
additional information for families about HPV vaccines (n=1)					
daily vaccine reports (n=1)					

Baseline Survey Results



Baseline Survey Results

- The most common barriers identified by clinicians prior to the QI intervention were:
 - Adolescents/parents refuse or delay vaccines
 - Adolescents/parents underestimate the risk of vaccine-preventable diseases
 - Adolescents rarely make preventative health visits

Baseline Survey Results

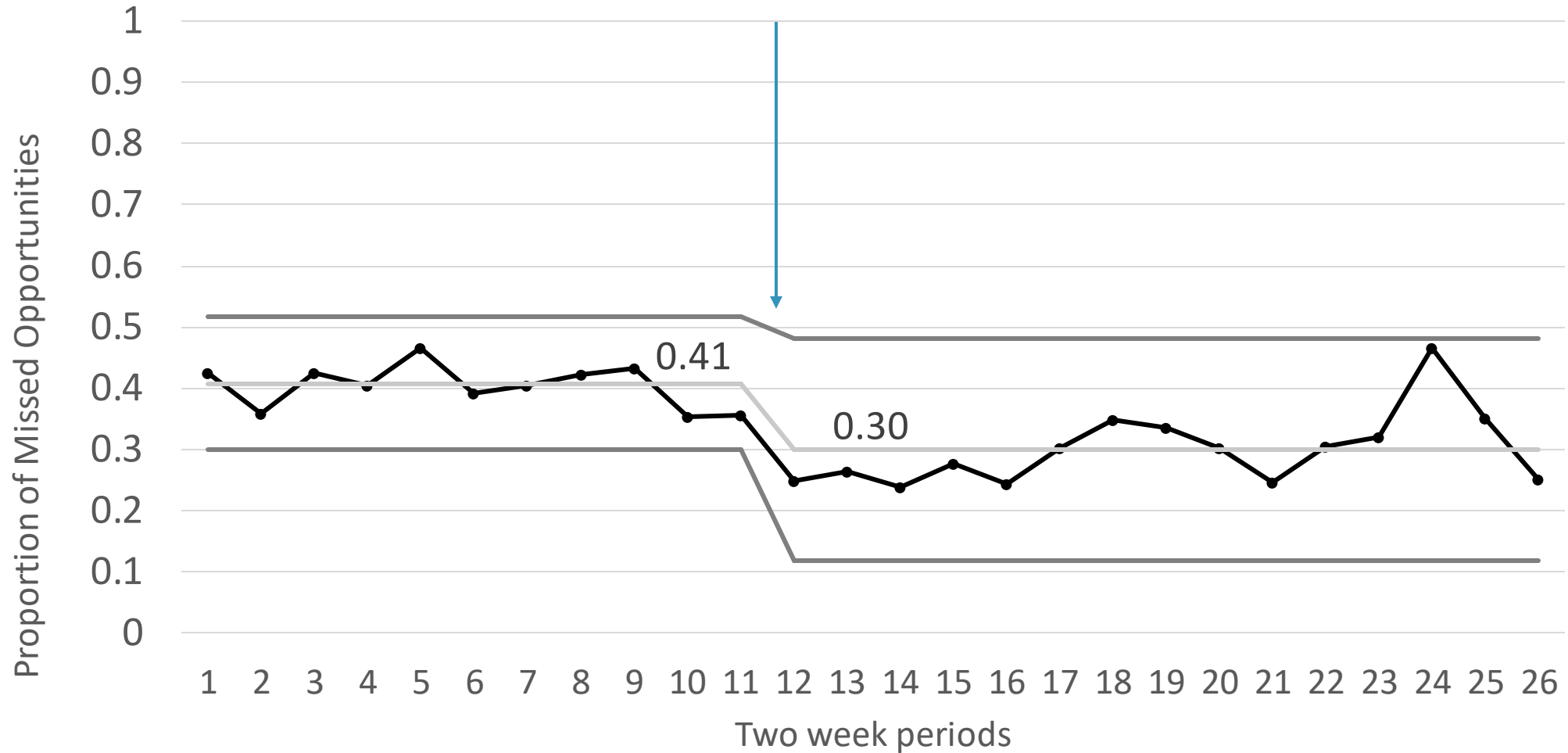
- The most common policies in place prior to the intervention period were:
 - Vaccine training for clinicians and staff
 - System in place for ordering vaccine supply
 - One agreed-upon schedule for vaccines

Results

- A mean of 143 charts (standard deviation 38) were reviewed per clinic
- **4,568** total visits were included
- Missed vaccination opportunities decreased for adolescents across all 4 cohorts by 11% using Statistical Process Control (SPC) and 13% (95% CI 9%, 18%) using regression analyses
- The change in missed opportunities in the intervention period varied by cohort

Missed Opportunities among 11-17-Year-Olds All Practices, Cohorts 1-4

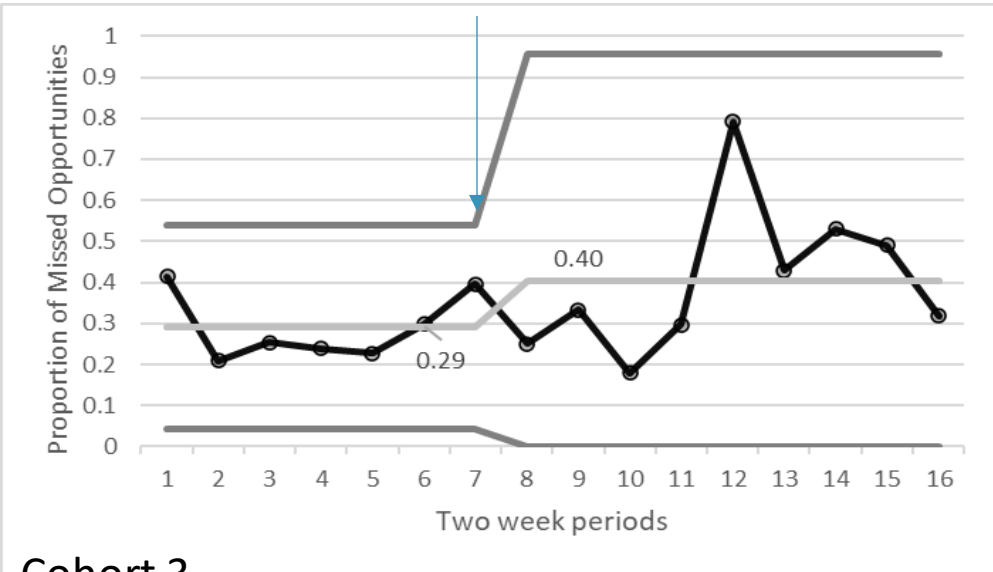
Cohorts 1-4



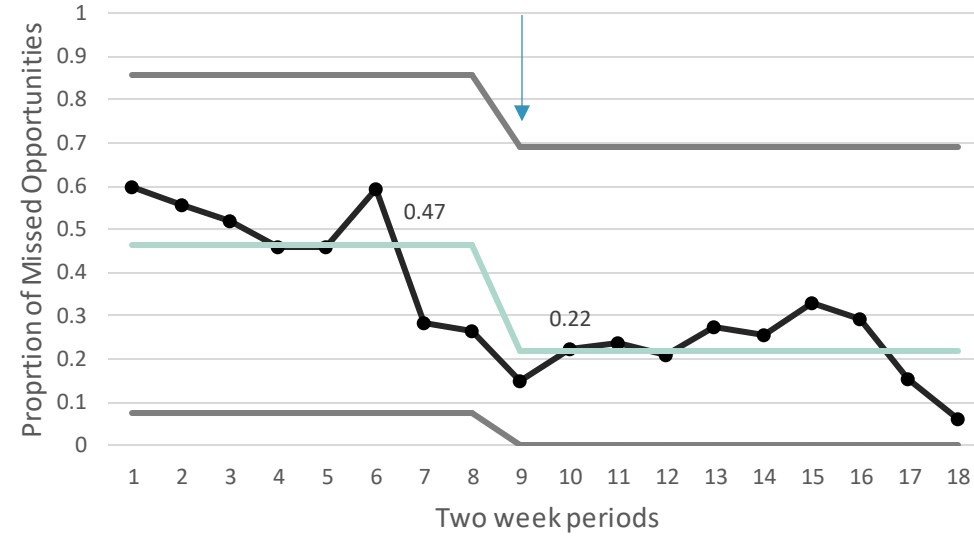
Missed Opportunities among 11-17-Year-Olds

All Practices, Cohorts 1-4

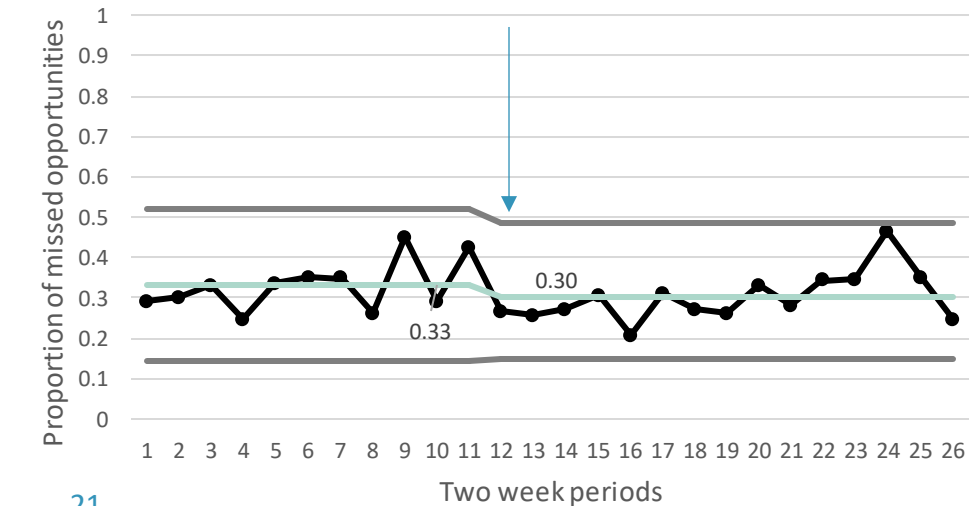
Cohort 1



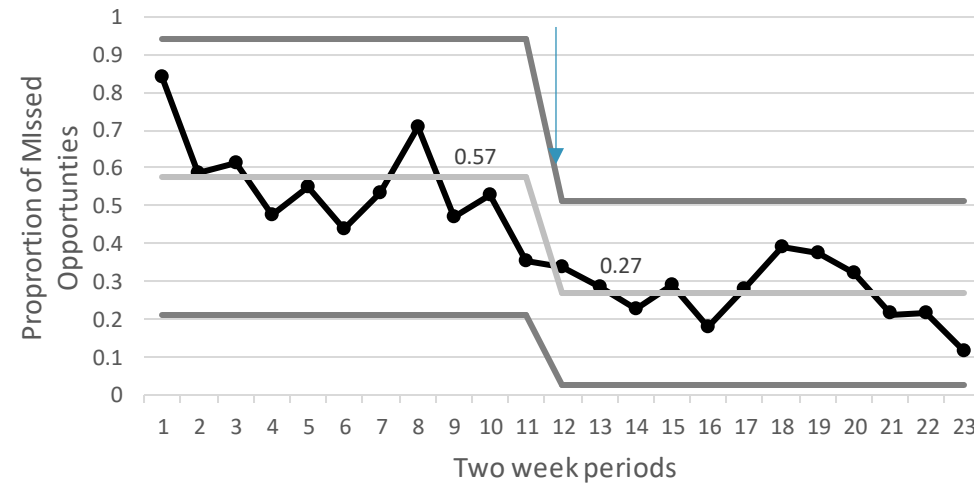
Cohort 2



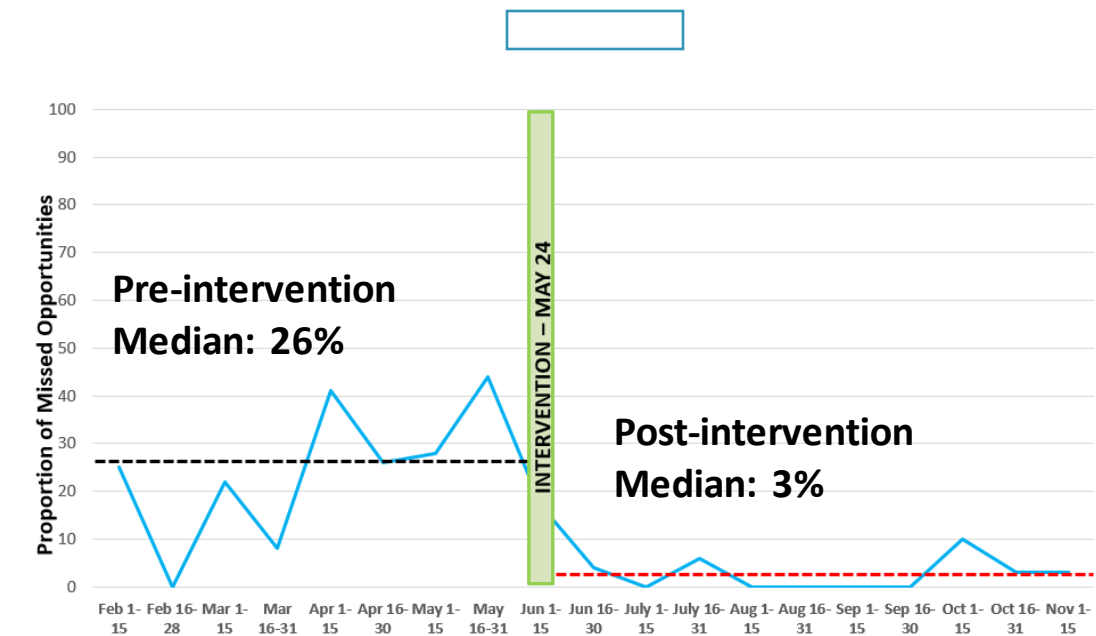
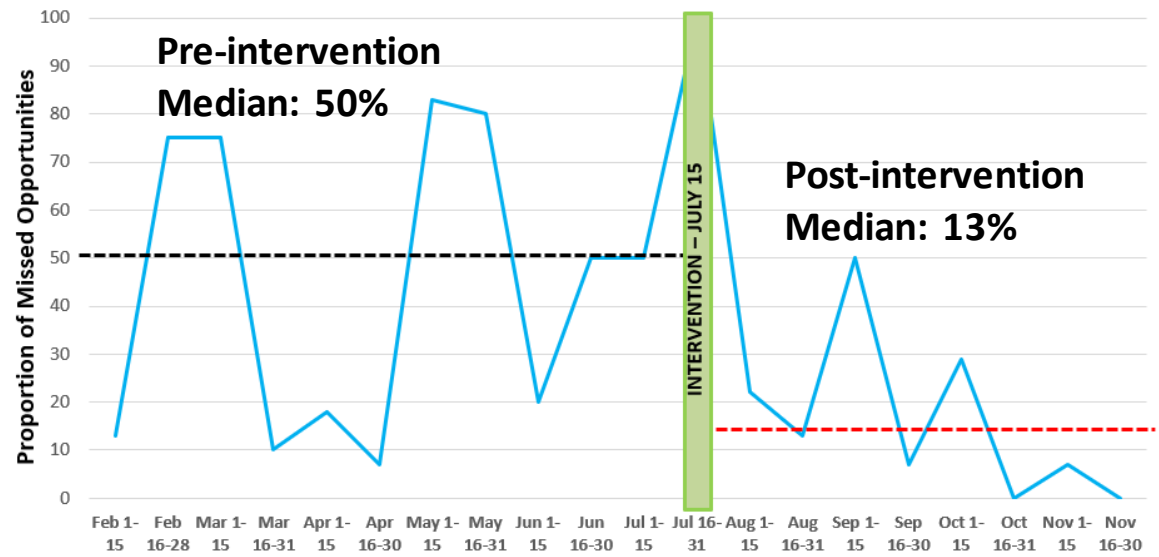
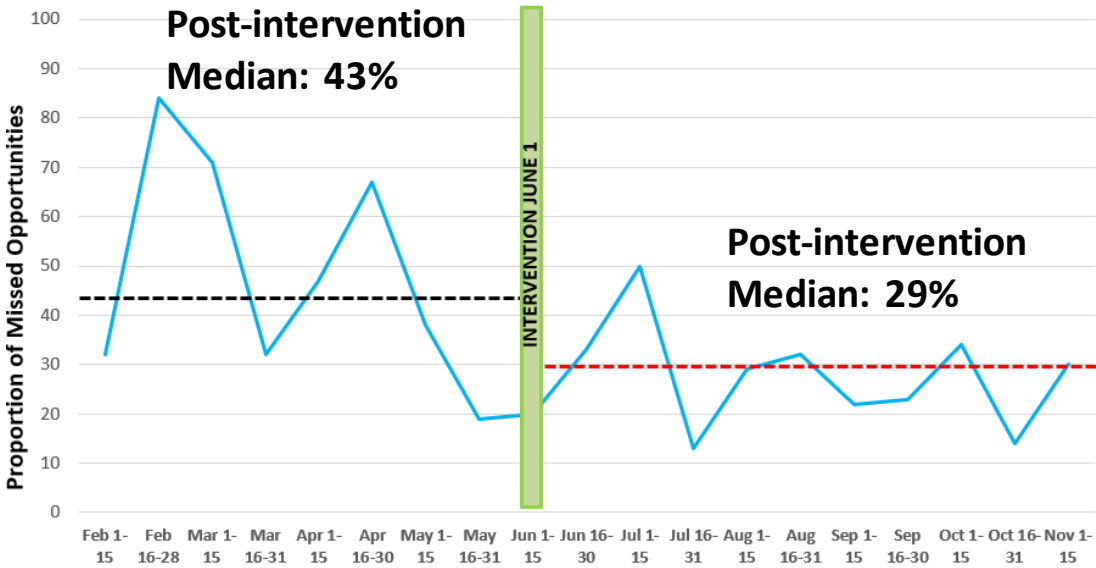
Cohort 3

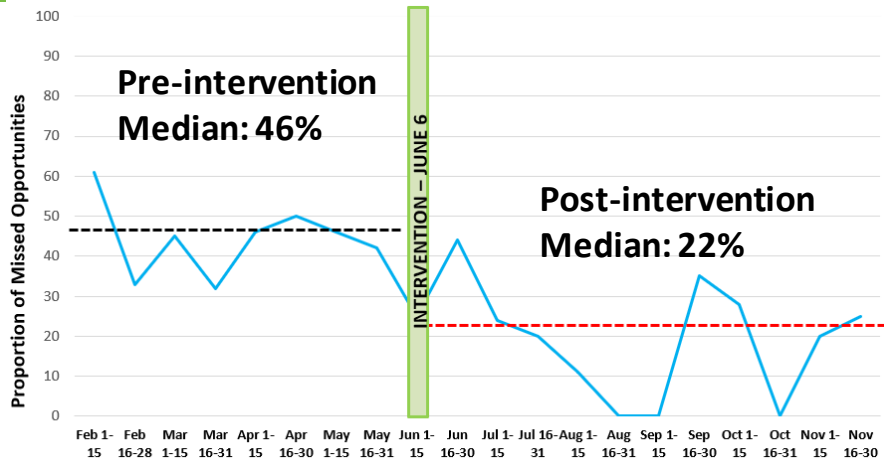


Cohort 4

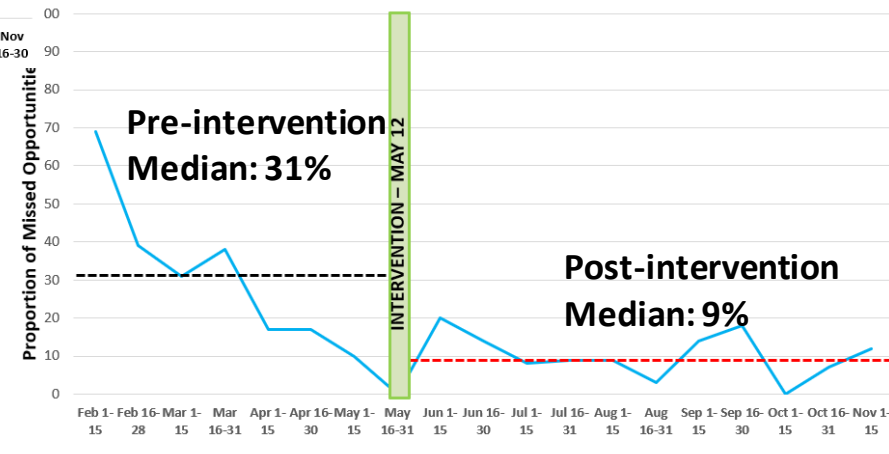
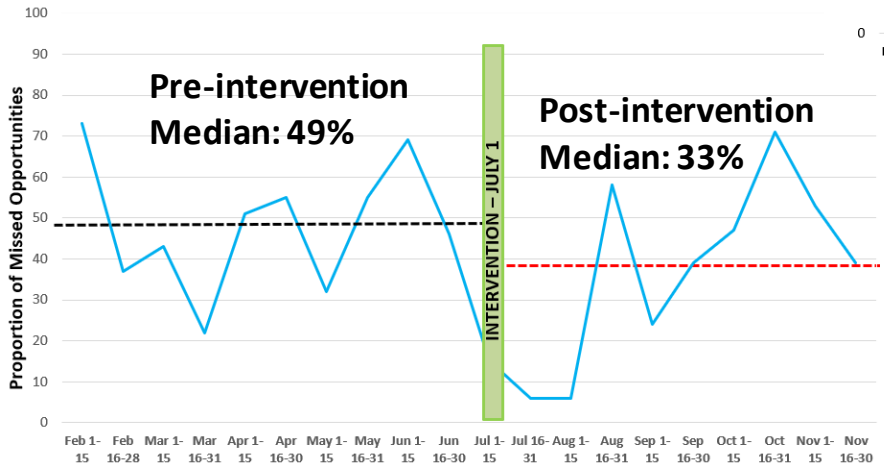
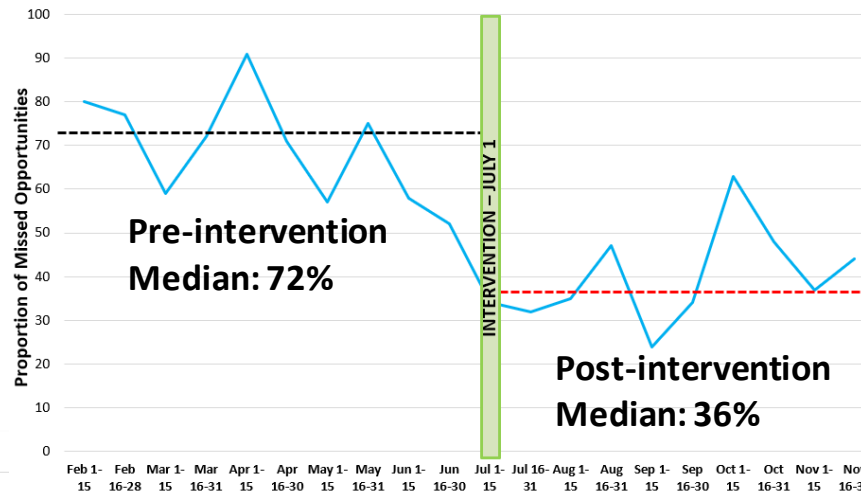
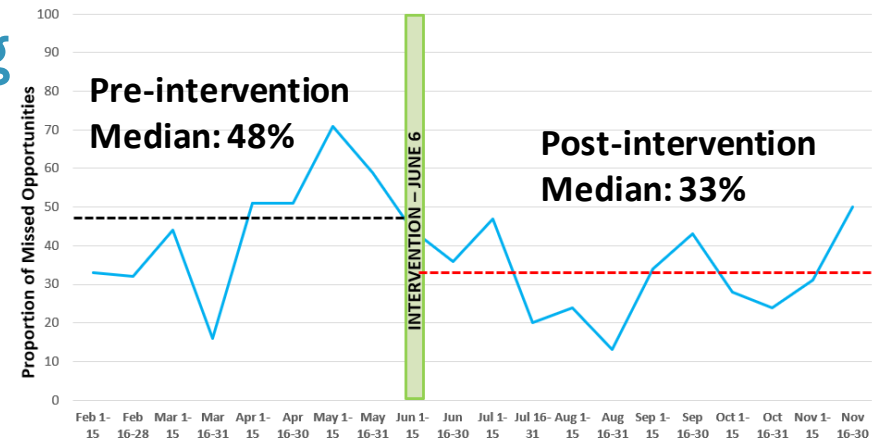


Missed Opportunities among 4-6 and 11-17 Year-Olds 3 King County Practices in Cohort 4





Missed Opportunities among 4-6 and 11-17 Year-Olds 5 Statewide Practices in Cohort 4



Next Steps in Cohorts 4 and 5

- Addition of 4-6 year old age group
- Equity-focused Quality Improvement

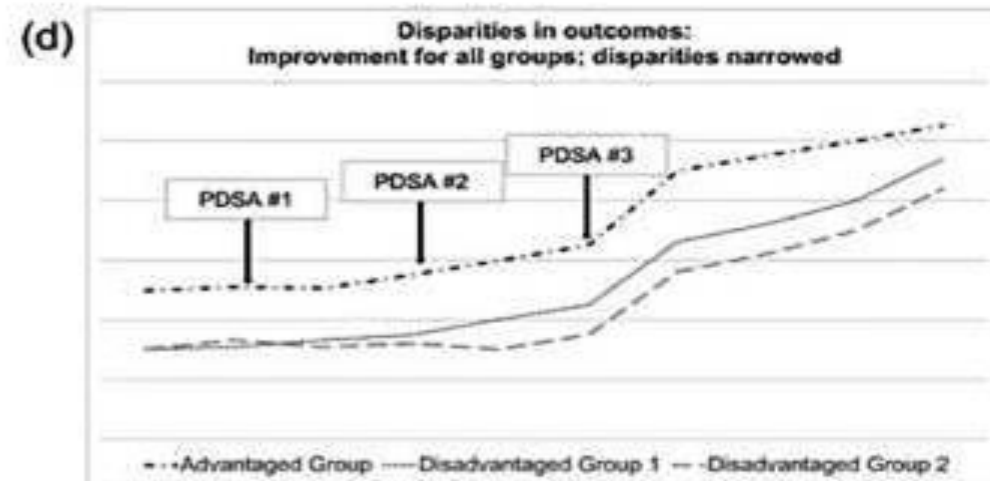
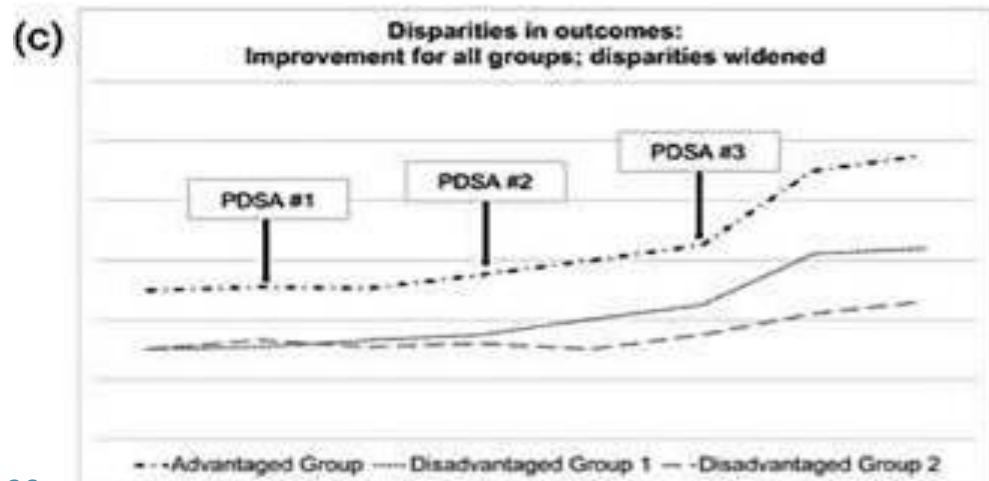
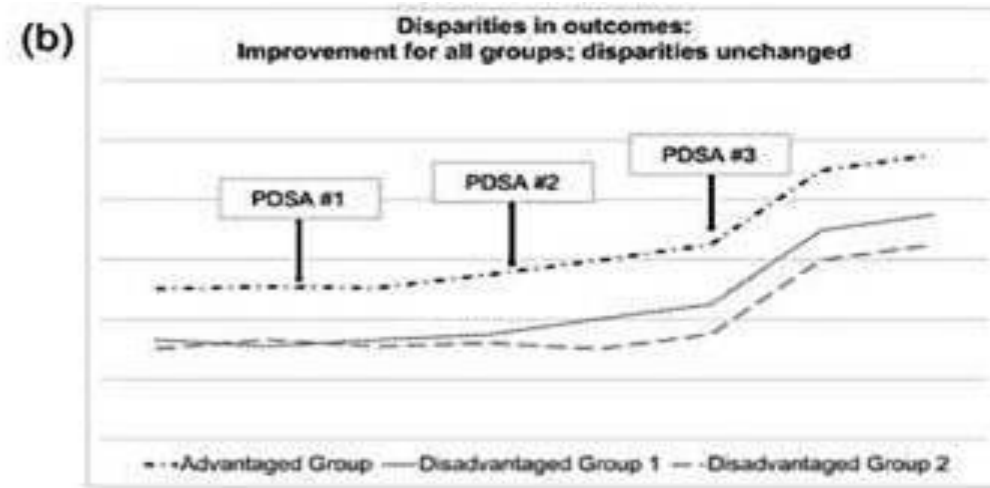
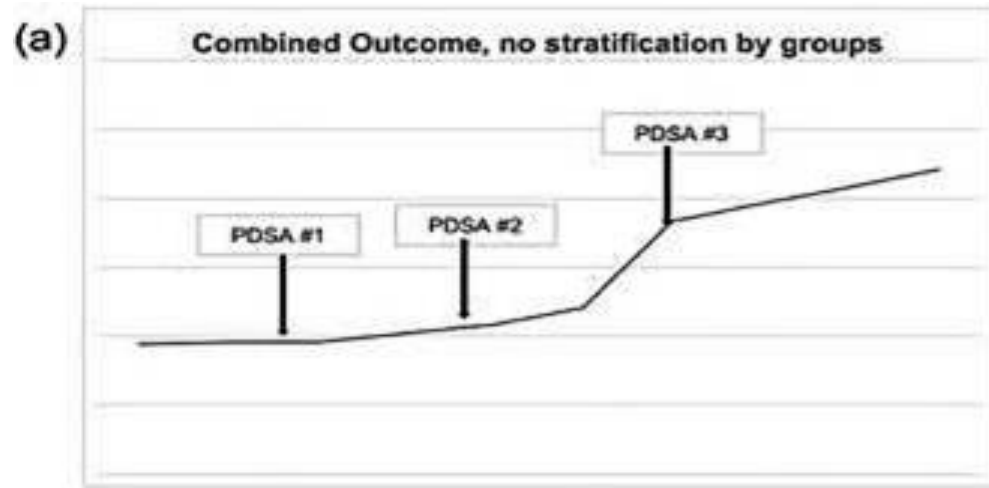
Next Steps in Cohorts 4 and 5

- Addition of 4-6 year old age group
- Equity-focused Quality Improvement
- “Although quality improvement (QI) methodology is often suggested as a tool to advance health equity, the impact of QI initiatives on disparities is variable. **QI work may mitigate, worsen, or perpetuate existing disparities.** QI projects designed without an intentional focus on equity promotion may foster intervention-generated inequalities that further disadvantage vulnerable groups.”

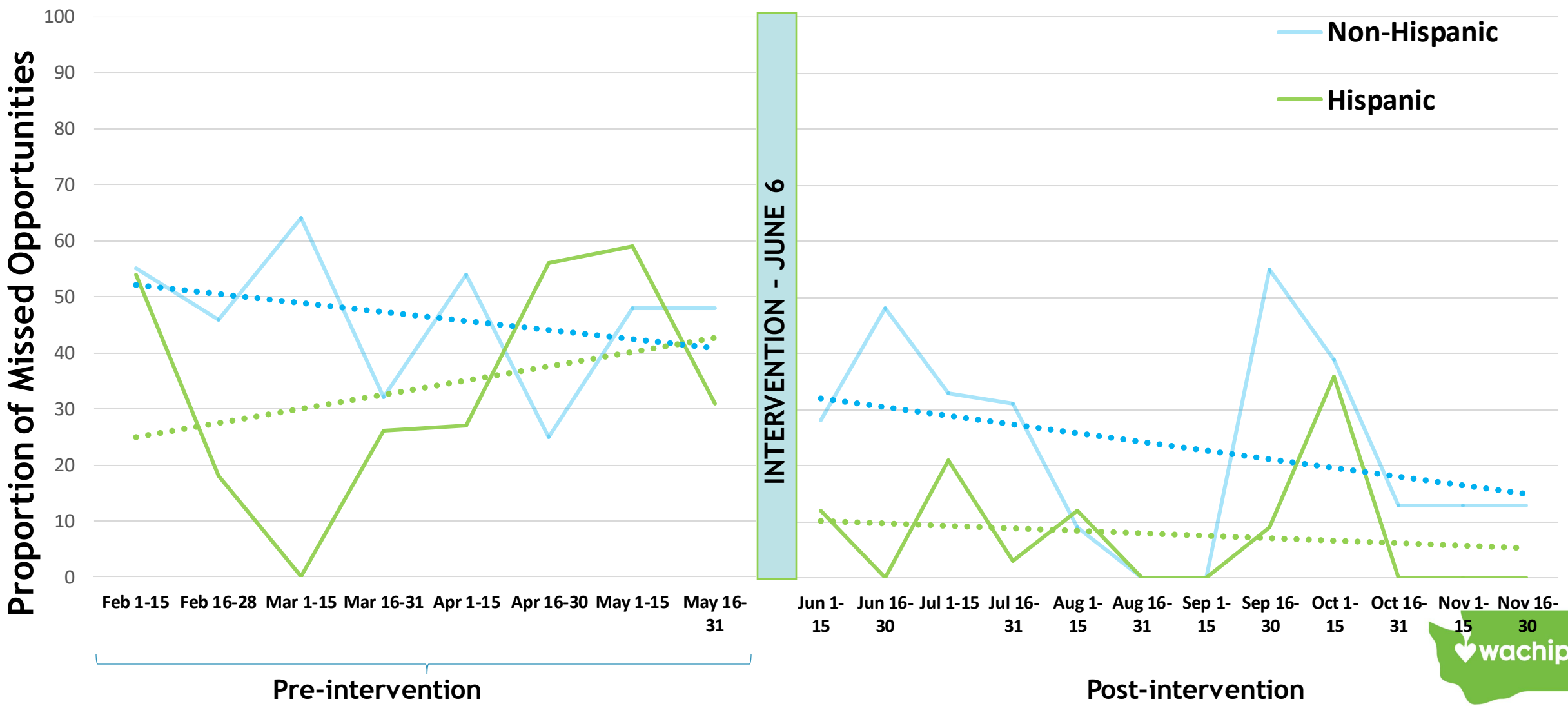
Reichman et al. Seminars in Fetal and Neonatal Medicine 2021



Equity in QI



Example of Missed Opportunities by Ethnicity: Cohort 4



Conclusions and Lessons Learned

- A statewide QI learning collaborative was successful in decreasing the proportion of missed opportunities for adolescent vaccinations in primary care clinics.
- Future directions include collecting race, ethnicity and primary language information to focus on reducing disparities in vaccination rates.



Thank you!

This project was funded by King County Best Starts for Kids and the Washington State Department of Health.