

Development of Systems and Education to  
improve HPV vaccination rates (DOSE-HPV)  
multi-level intervention in federally qualified  
health centers

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Presentation at National HPV  
Roundtable meeting

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# Problem and intervention

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## Problem

Sub-optimal HPV vaccination rates and high HPV-cancer rates in underserved populations

Challenges of changing behavior and health systems in low-resource settings



## Provider-focused intervention using CME and MOC

repeated contacts

education

individualized feedback

strong quality improvement incentives

# DOSE-HPV Intervention structure

## Intervention Step

Pre-intervention: 6-24 month period prior to the first contact with the practices

Session 1 | Feedback of Initial Baseline Data

Session 2 | Education on HPV-related cancers, vaccine efficacy/safety

Sessions 3 & 4 | Motivational interviewing

Session 5 | Creation of individualized action plans with provider- and systems-level components

Session 6-8 | Feedback on follow-up data and action plan review

Post-intervention: 6 -24 month period following the final feedback session and assignment of credits to participating providers

# CME and MOC

Participating providers received 1-5 CME credits per session, incentivizing attendance in the entire program

- Total of 25 eligible credits

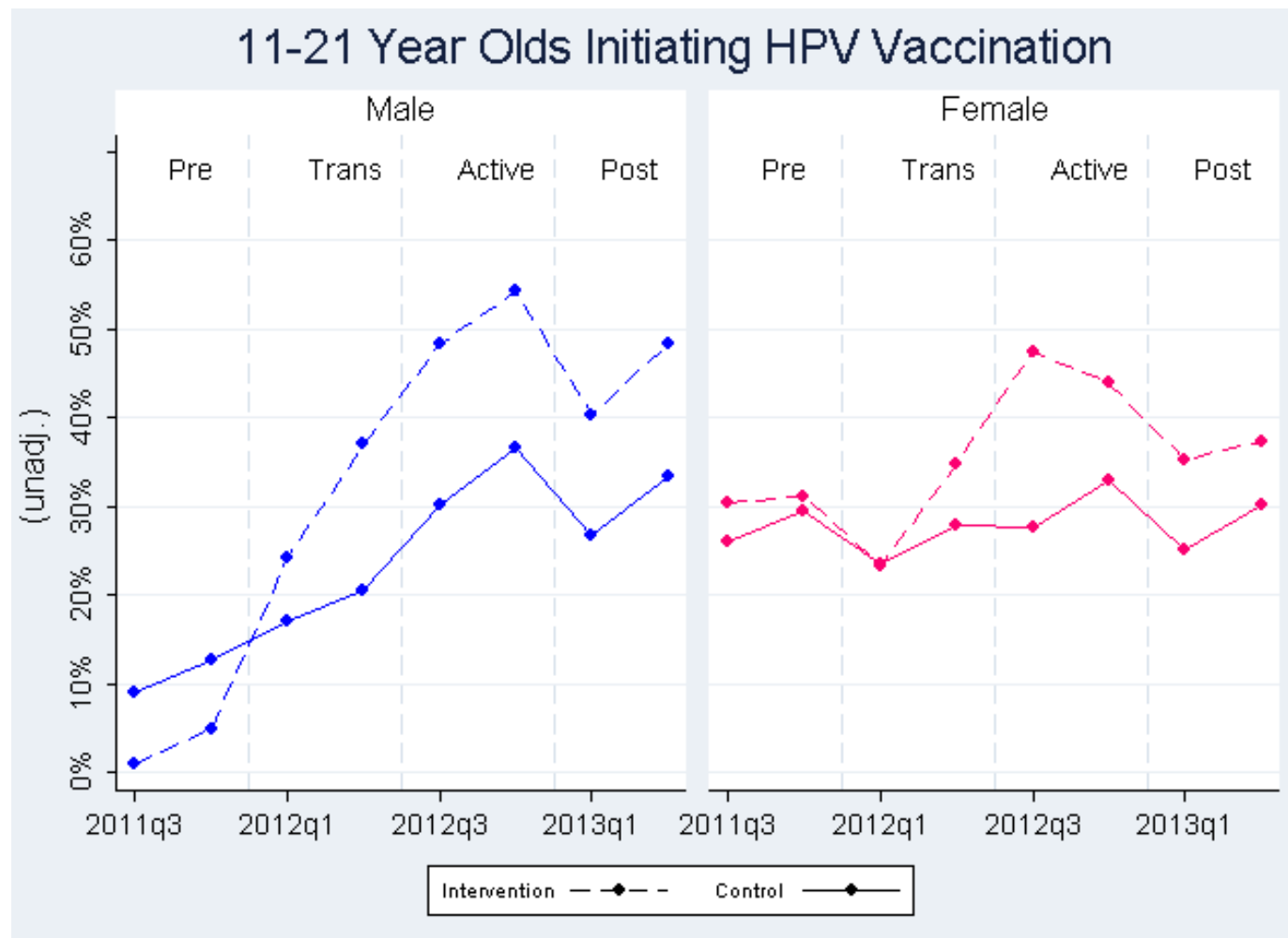
Fulfilled MOC Part IV requirements for American Board of Pediatrics

- Improvement must be demonstrated for MOC credit

# Data Analysis: Pilot study (2014)

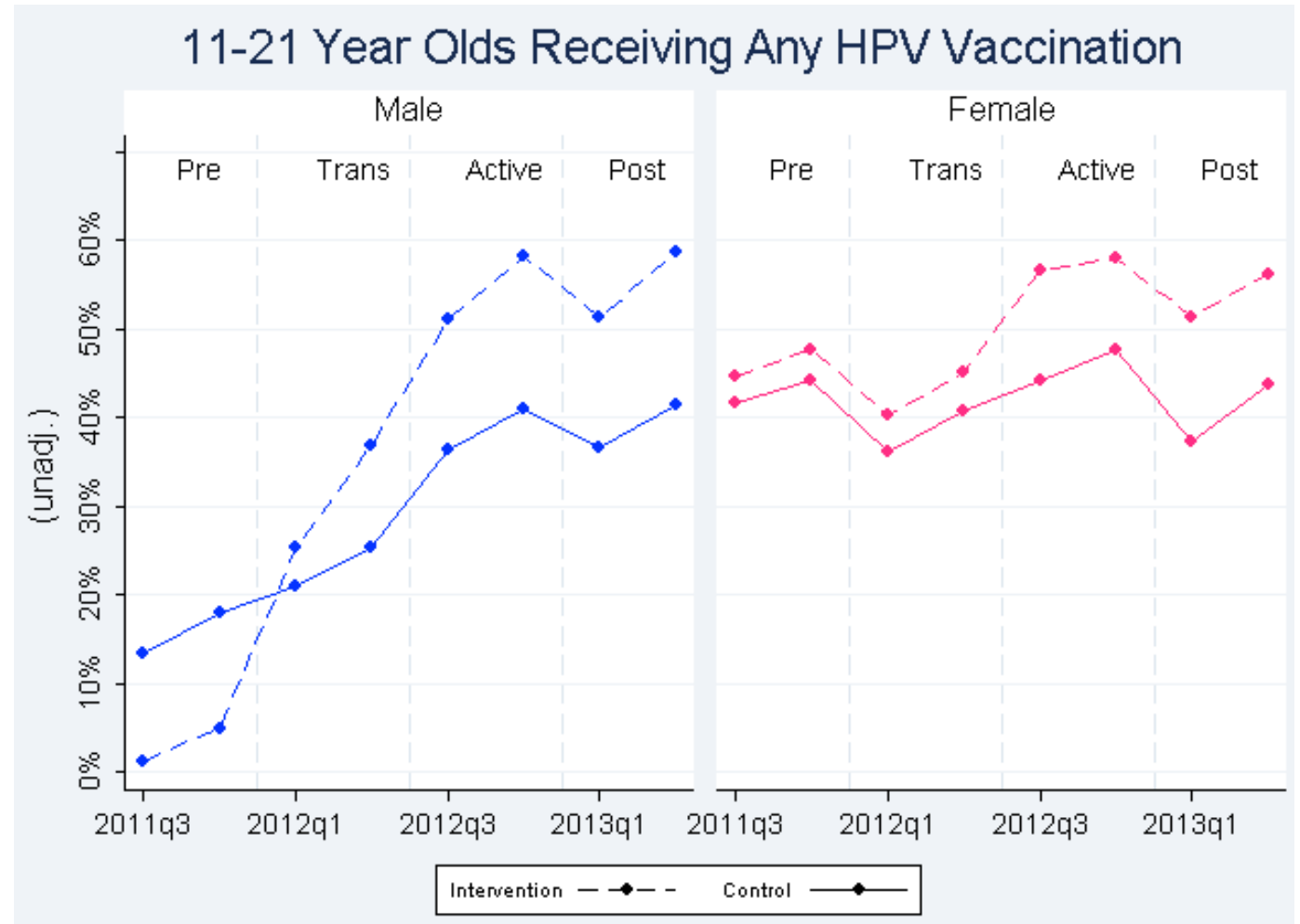
- Comparison of intervention (n=4093 patients) and control (n=9025 patients)
  - HPV initiation and completion of the next needed dose
  - Multivariable logistic regression accounting for clustering by practice

# Improvement in initiation



Improvement  
in receipt of  
completion  
doses

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5 practices serving low-income and minority populations



Stepped wedge design implemented 2016-2018



Compared vaccination rates in pre-intervention, intervention, and post-intervention periods using random effects generalized linear regression models with clustering of patients within providers and clinics



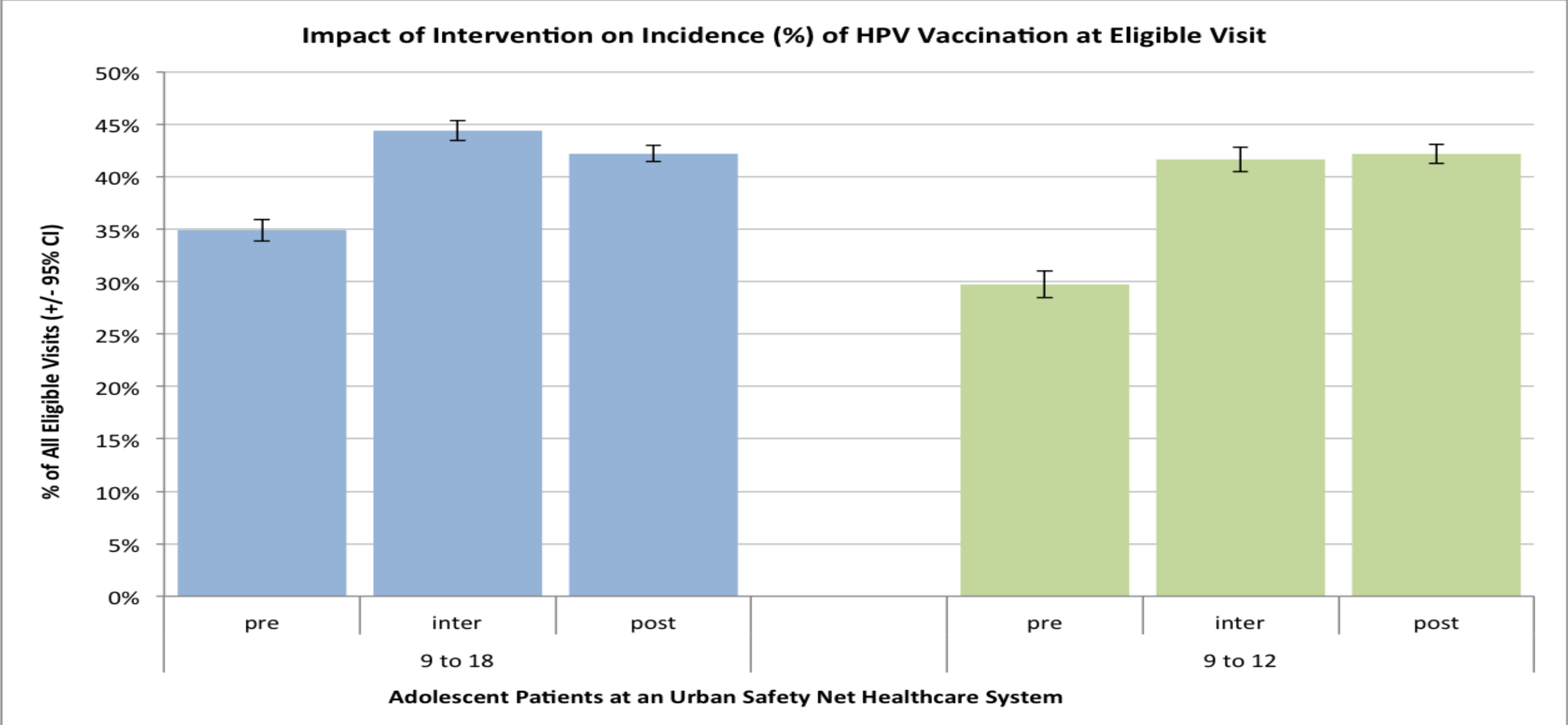
Primary outcomes:

- likelihood that an eligible child visiting the clinic would receive vaccination
- cumulative effect on population-level vaccine initiation and completion rates

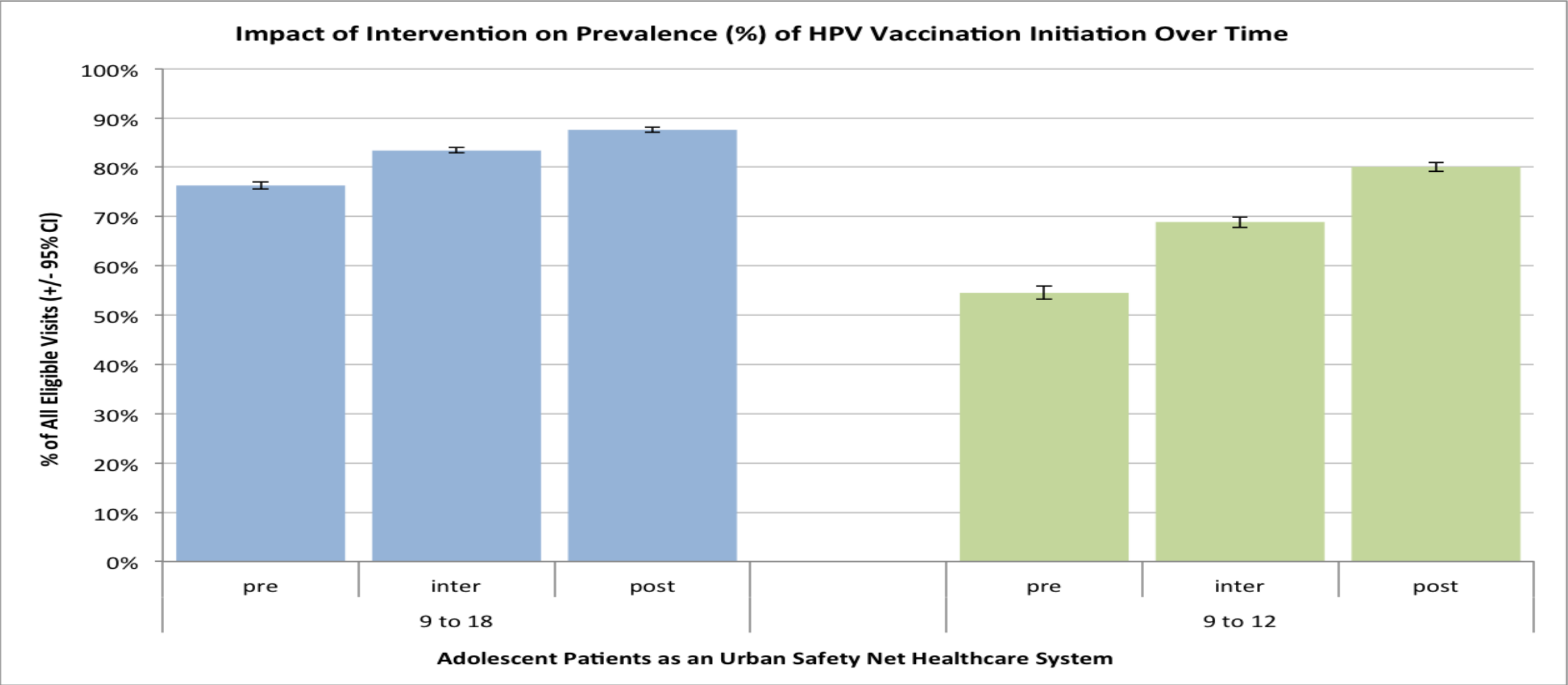
Dissemination and Implementation trial of  
DOSE-HPV



# Sustained increased likelihood of vaccination at eligible visit

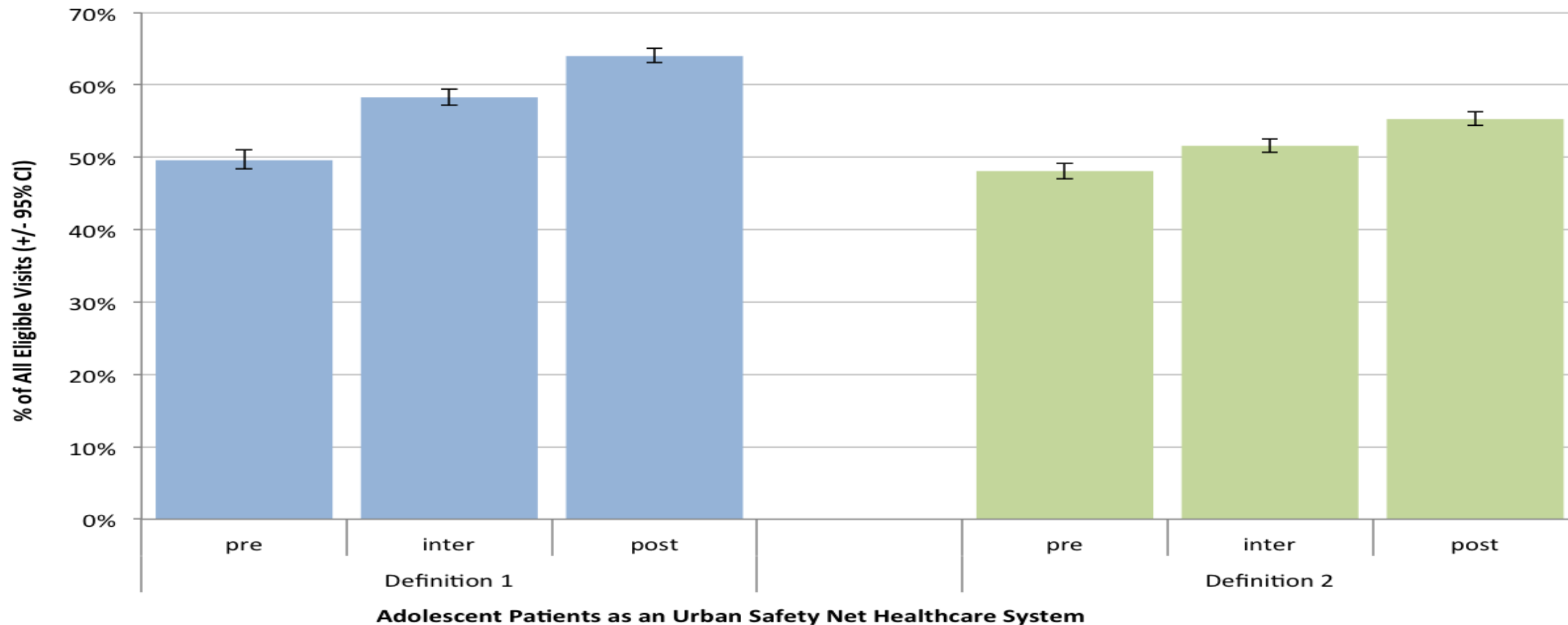


# Continuing increase in population prevalence of vaccine initiation over time



# Continuing increase in population prevalence of vaccine completion over time

**Impact of Intervention on Prevalence (%) of HPV Vaccination Completion Over Time**



Potential for  
further  
dissemination  
and  
implementation

- Collaboration with ACS Vaccinate Adolescents against Cancers (VACs) program
  - Successful work with FQHC networks
  - Next challenge is large integrated health delivery systems

Thank you



*Boston-based Research team*



*American Cancer Society team*



*Federally Qualified Health  
Centers, physician champions,  
and staff*