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

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Problem and intervention

**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
## 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

- Total of 25 eligible credits

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

  - Improvement must be demonstrated for MOC credit

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

11-21 Year Olds Initiating HPV Vaccination

- Male
- Female

Legend:
- Intervention
- Control
Improvement in receipt of completion doses
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

% of All Eligible Visits (±95% CI)

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Adolescent Patients as an Urban Safety Net Healthcare System
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