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Increasing HPV Vaccination Rates at PMG Milwaukie Family Medicine

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Background

Introduction

- Between 2013 and 2017, about 45,000 HPV-related cancers were diagnosed in the US per year
- Of these, cervical cancer is the most common and is almost exclusively caused by HPV
- About two-thirds of vulvar/vaginal and penile cancers are the result of HPV infection
- Vaccination has potential to dramatically reduce incidence of these cancers, and nearly eliminate cervical cancer. Nationally, only 51% of teens are fully vaccinated against HPV and Oregon averages 58-59%.

Background Research and Literature Review

Many interventions to improve HPV vaccination rates have been undertaken and studied. Interventions we found include:

- Boston FQHC demonstrated an increased likelihood of vaccination by >10 percentage points and completion rates by age 13 by 4 percentage points, when the HPV vaccination was initiated at age 9-10
- Another large study (n=36,000) of one entire MN county showed a strong association between vaccine initiation at age 9-10 and series completion by age 13-15 (when compared with initiation at age 11-12)
- Standing orders and patient reminders have improved vaccine rates in multiple studies

Other takeaways:

- Peer-to-peer provider education was not demonstrated to be effective
- Few interventions were aimed at addressing parental resistance to vaccination
- Pharmacists are now licensed to administer pediatric vaccines

Project Aim Statement

Increase completed HPV vaccination rates from 68% to 80% in adolescents younger than 15 years old by April 1st, 2021 at the Providence Milwaukie Family Medicine Clinic.

- Outcome Measure: Completion of vaccination series by age 15 (end of 2 dose series)
- Process Measure: initiation and completion of on time vaccination by age 13
- Balancing Measure: Tdap and MCV vaccination rate by age 13



Understanding the Problem

Root Cause Analysis

In order to understand the problem, we:

- Mapped clinic workflows and driver through a swim lane diagram and a driver diagram.
- Interviewed the stakeholders (clinic managers, MA, faculty physician)

We identified the following areas as opportunities for intervention:

- Parent and child education regarding the vaccine-side effects and cancer prevention rather than STD prevention
- Limited access to provider, creating alternative MA vaccine
- Patient reminder, especially during decrease WCC during pandemic
- Clinic availability in setting of covid isolation

Missed Opportunity	Material	Well Child Check	Clinic Access	Provider Knowledge	Patient Choice	Vaccine Completion
During acute visits	Supply chain	Lack of adolescent age WCC	Access slots	Updated EM-alert	Bias	Unable to schedule >3 month follow up
Incomplete chart scrub	Power outage	Availability	No evening clinic	Counseling	Sex	Follow up issues
PA visits	PPE	Series completion	Sick clinic	Ages that qualify	Health literacy	
		Schedule	3 month scheduling	Ages for insurance coverage	Stigma	

Methods

PDSA 1 – Staff/Provider Education

- **Plan/Do:** Clinic wide intervention included a collaborative education session/CME "You are the Key" with American Cancer Society, including education on vaccine education, bundling and cancer prevention messaging. Patient education material in HPV Cancer Free education posters, exam and waiting room screen savers.
- **Study/Act:** We recorded pre and post intervention vaccination rates via EPIC healthy planet system. Results were complicated by COVID related decline in all vaccination rates. Our clinic will continue provide poster and screen saver information around our clinic.

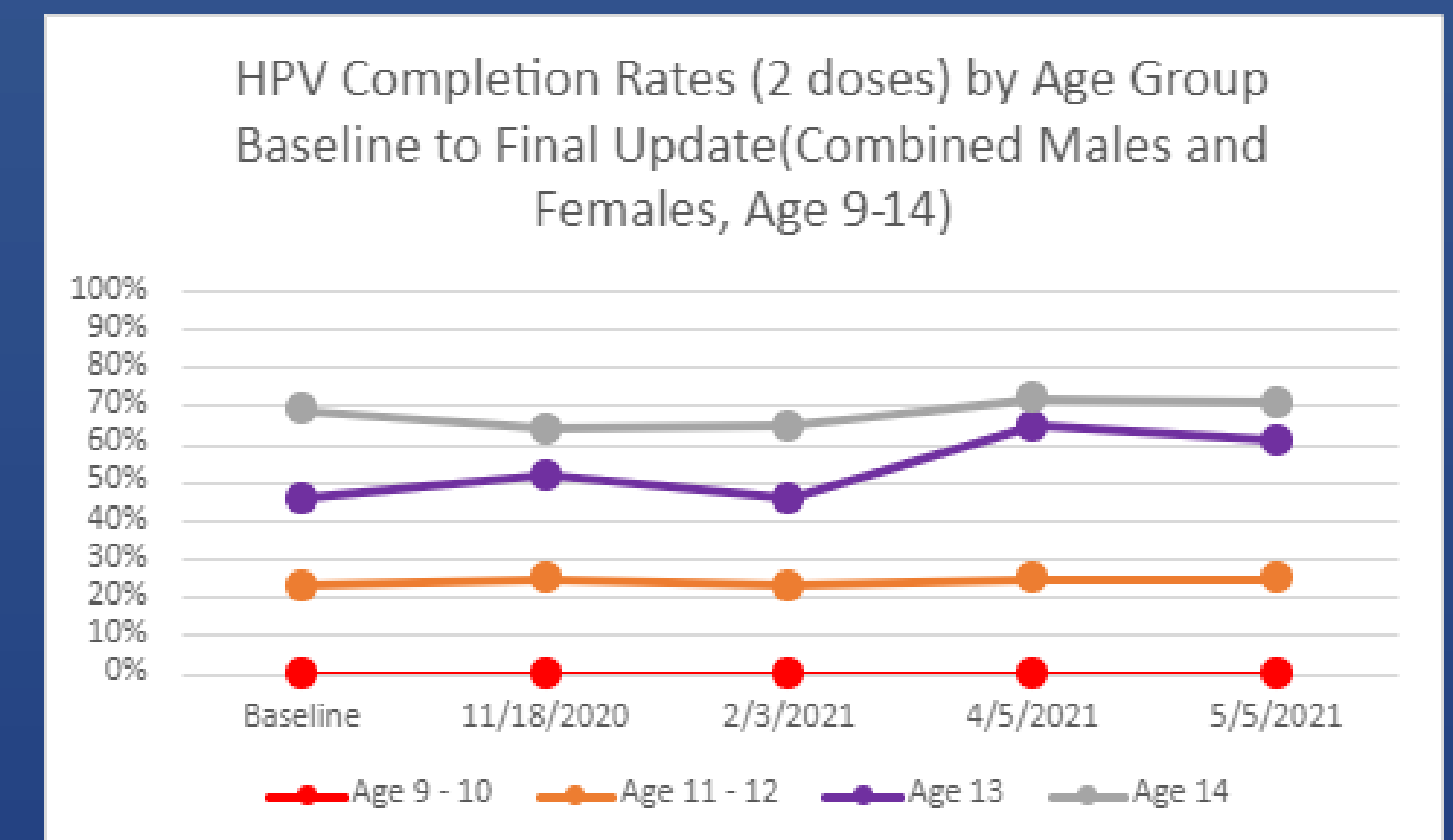
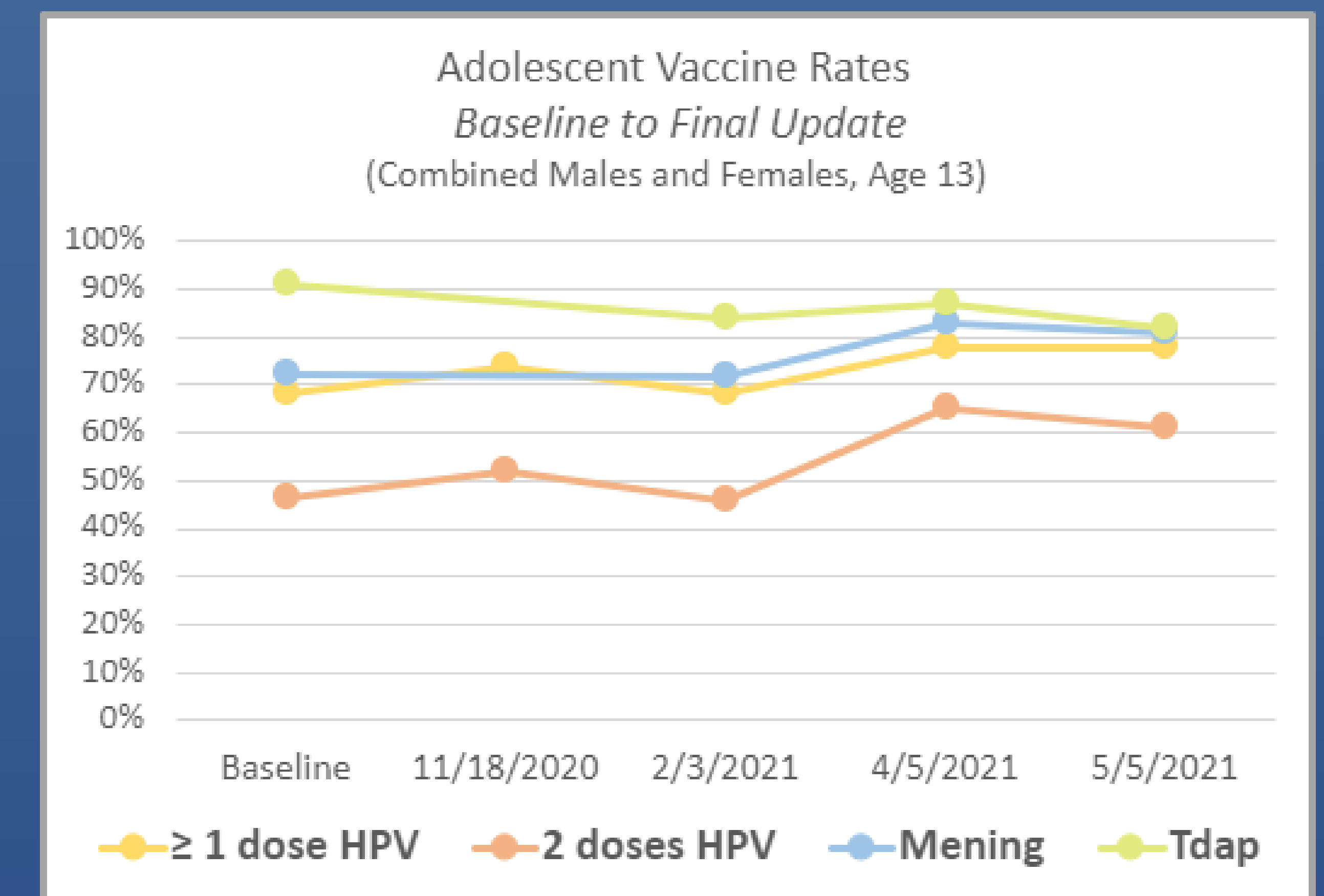
PDSA 2 – Telephone Encounters

- **Plan/Do:** A clinic team level intervention to use vaccine registry to identify and contact patients who initiated, but did not complete the vaccine series. Improve access through standard WCC, virtual WCC with MA vaccine only visit, or just MA vaccine visit only.
- **Study/Act:** This method was tested on a single team within the clinic with a patient scheduling rate of 33%. However, this intervention was found to be labor intensive to multiple clinical staff and difficult to complete on top of current workload. This method was not expanded to the clinic wide these barriers. MA vaccine visits proved good access.

PDSA 3 – Partnering with Population Health

- **Plan/Do:** Using vaccine registry, patients age 11-12 due for HPV vaccine received targeted outreach via a text message to parents and link to new mobile platform for scheduling, followed up with a 30-day letter for non-responders. Patients age 13-15 due for HPV that receive a Warm Call.
- **Study/Act:** 164 total patients were identified for outreach. 43 patients scheduled or had appts completed resulting in a positive scheduling rate of 26.2% overall. There was a slightly higher response rate from the age 13-15 group, 30.5% vs 23.8%. This outreach has been instituted and population health will continue these outreach interventions

Data



Conclusions / Lessons Learned

- The COVID-19 pandemic, stay at home orders and significant decline in adolescent well child care significantly complicated QI
- A decline in vaccination rates was seen across all childhood vaccinations during this year. The CDC reported 3 million fewer non-influenza vaccination orders in April 2020 compared to April 2019.
- Commonwealth Fund study demonstrated a 71% decrease in office visits for school age children.
- Population Health outreach demonstrated fair response rates. There may be a higher response rate to warm call methods vs text/mobile platform, however the sample size was small (59 patients in warm call group) and the technology is promising.
- Moving forward we plan to continue patient and provider education HPV vaccination and cancer prevention. Continue providing access through virtual WCC and MA vaccine only visit.
- Population Health is a powerful partner in reaching patients with innovative and persistent approaches.
- Future interventions that hold promise include:
- Standing orders, though system barriers persist to this we were not able to overcome.
- Adopted system provider reminders and [patient education for vaccine initiation at 9-10 years old.

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