

# Human Papilloma Virus Vaccine Initiation In An Insured Population

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## BACKGROUND

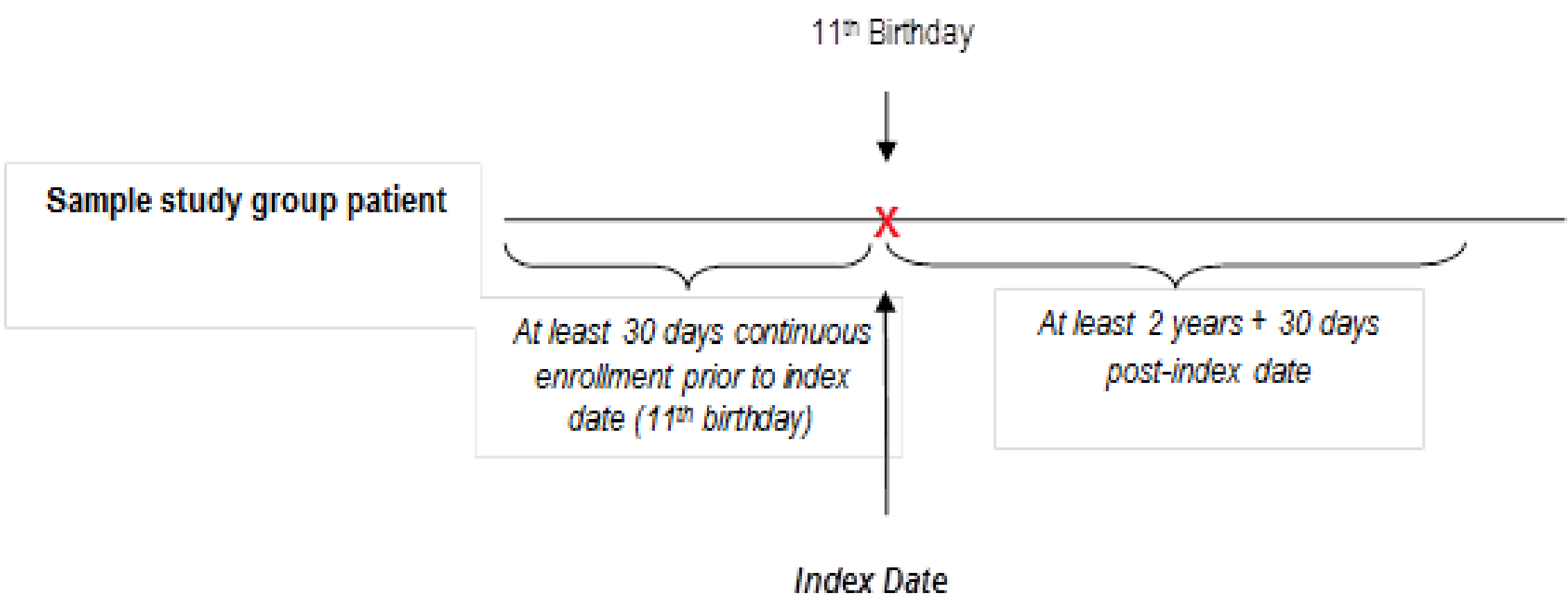
- Human papillomavirus (HPV) vaccine is highly effective at preventing disease caused by HPV types contained in the vaccine
- Routine vaccination has been recommended for adolescent females 11-12 years since 2006
- Despite the obvious public health benefits, rates of HPV vaccination remain low, in contrast to other adolescent vaccines
- Identifying missed opportunities could improve HPV vaccination rates

## METHODS

- Design:** Retrospective analysis of Humana commercial and Medicaid claims from January 2010 through August 2015
- Inclusion criteria:** Females with at least 2 years of continuous enrollment beginning 30 days before their 11<sup>th</sup> birthday until 30 days after their 13<sup>th</sup> birthday (Figure 1)
- Outcome:** Initiation of HPV vaccine series was defined as having received at least one dose of HPV vaccine. HPV vaccine receipt was defined as presence of a claim that contained CPT code 90649 (Gardasil) or 90650 (Cervarix)
- Data analysis:** Kaplan-Meier curves were used to describe immunization uptake

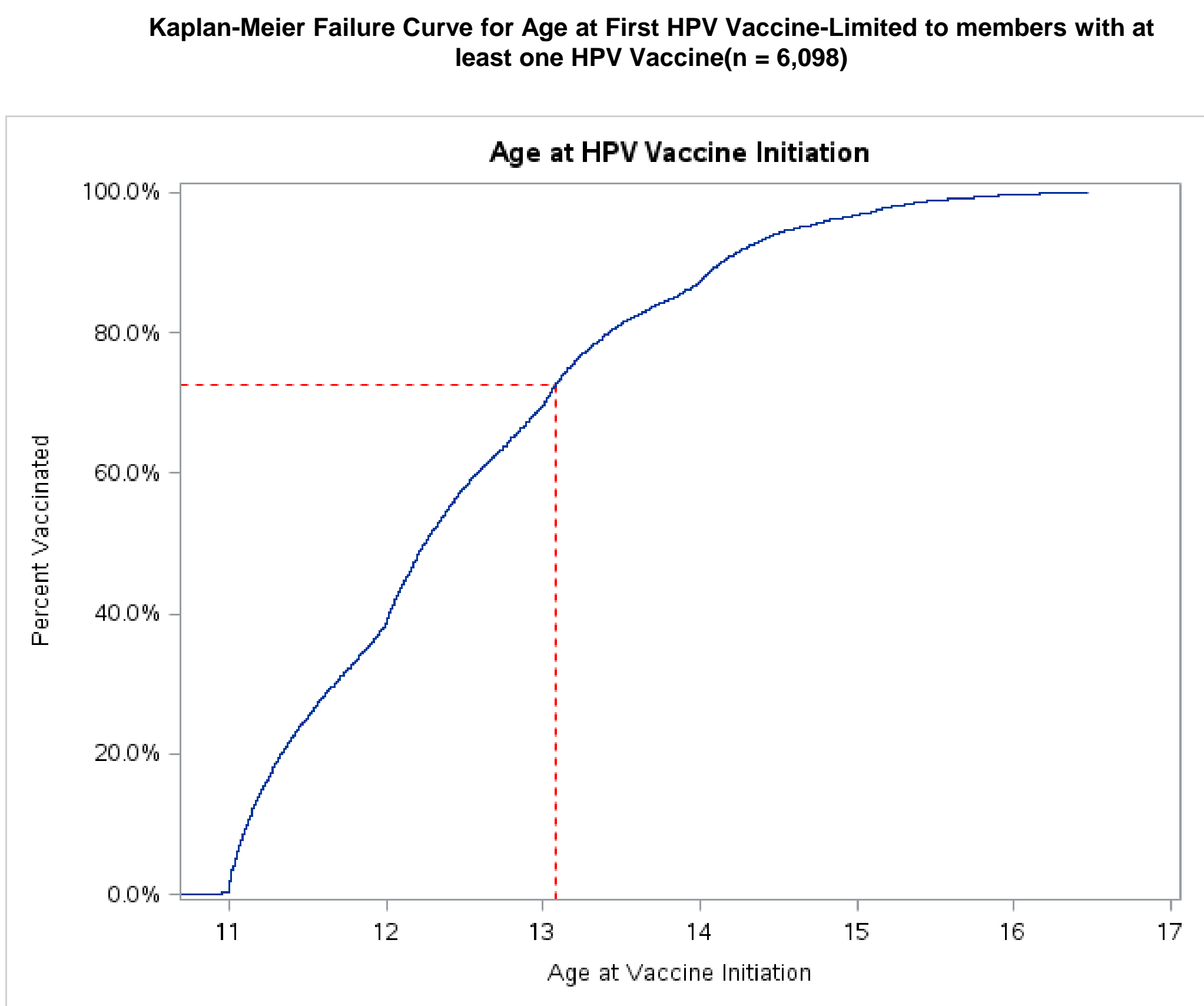
## RESULTS

- The cohort included 14,588 adolescent females and the enrollment period is displayed in Figure 1



**Figure 1. Study period**

- The vast majority (94%) of adolescents had commercial plans and lived in suburban areas (83%)
- Only 42% of eligible adolescents initiated the HPV vaccine series
- Among all vaccine initiators, 76% received at least two doses and 53% completed the series during the study period
- 73% of all initiators received the HPV vaccine on or before their 13<sup>th</sup> birthday (Figure 2)
- Compared with girls who did not initiate the HPV vaccine series, those who received at least one dose of HPV vaccine during the study period were more likely to:
  - be insured by Medicaid (11% vs. 3%, p<0.0001)
  - have received Tdap (86% vs. 73%, p<0.0001)
  - have received MCV (86% vs. 64%, p<0.0001)
- Overall, receipt of Tdap (81%) and MCV (78%) was much higher than HPV (42%) vaccine
- Most girls (89%) received at least one dose of the recommended vaccines (either Tdap, MCV, HPV) during the study period



**Figure 2. Age at HPV Vaccine Initiation**

- The majority of girls in the the cohort (85%) had more than 3 claims for outpatient visits for any reason
- Pediatric providers saw the majority of adolescent girls (78%) who received vaccines during the study period (Table)

**Table. Provider specialty for first vaccine (n= 12,940 girls with ≥ 1 HPV, Tdap or MCV vaccine)**

Vaccine Type		Provider Specialty	
		PEDS	NON-PEDS
HPV	Yes	4,999	1,099
	No	5,139	1,703
MCV	Yes	9,470	1,940
	No	716	814
Tdap	Yes	9,333	2,504
	No	816	287

- Among all girls with a vaccine encounter (HPV, MCV or Tdap) during the study period, 49% received HPV vaccine if they saw a pediatric provider, but only 39% received HPV vaccine if they saw a non-pediatric provider

## RESULTS Cont.

- Among all adolescent females with a vaccine encounter during the study period, the percentage of vaccination for MCV and Tdap varied depending on the provider
  - 93% of girls received MCV if they saw a pediatric provider vs. 70% if they saw a non-pediatric provider; for Tdap, the percentages were 92% vs. 90%, respectively

## CONCLUSIONS

- Similar to prior studies, in this insured, mostly suburban population, uptake of HPV vaccine is poor
- Adolescent girls in this cohort were less likely to receive HPV vaccine than other recommended adolescent vaccines
- Efforts to reduce missed opportunities should be reinforced
- Medicaid coverage was associated with receipt of HPV vaccine
- Receipt of MCV and Tdap was associated with receipt of HPV vaccine, supporting the idea that HPV vaccine should be “normalized” and given in a “bundle” with other adolescent vaccines
- Most HPV vaccine initiators in this cohort received their first dose before age 13

## LIMITATIONS

- May not be generalizable to other insured or uninsured populations
- Inability to perform additional studies among those who started the HPV vaccination series after their 13<sup>th</sup> birthday