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 11th birthday until 30 days after their 13th 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 13th 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<0.001)
  – 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 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)

<table>
<thead>
<tr>
<th>Vaccine Type</th>
<th>Peds</th>
<th>NonePeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPV Yes</td>
<td>4,999</td>
<td>1,099</td>
</tr>
<tr>
<td>No</td>
<td>5,139</td>
<td>1,780</td>
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<tr>
<td>MCV Yes</td>
<td>9,470</td>
<td>1,940</td>
</tr>
<tr>
<td>No</td>
<td>716</td>
<td>816</td>
</tr>
<tr>
<td>Tdap Yes</td>
<td>9,333</td>
<td>2,504</td>
</tr>
<tr>
<td>No</td>
<td>816</td>
<td>207</td>
</tr>
</tbody>
</table>

• 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

CONCLUSIONS

• 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
• 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 13th birthday