Increasing HPV vaccination through a pediatric and OBGYN collaboration

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Prevalence of HPV-related cancers

- **Cervical cancer:**
  - >12,000 new cases and >4,000 deaths in US in 2014
  - Incidence higher among Hispanic (vs non-Hispanic) and black (vs. white) women

- **Oropharyngeal cancer:**
  - >12,500 new cases in males annually
  - 4X more common in men than women

- **Anal, vulvar, vaginal and penile cancers caused by HPV**

Viens LJ et al. MMWR 2016;65(26):661-66
Cervical cancer mortality rates

Texas ranks 7th in US for prevalence of cervical cancer
Texas ranks 9th for cervical cancer-related deaths

HPV vaccine is a game changer!

- 9vHPV vaccine could prevent:
  - >80% of cervical cancers
  - >65% of oropharyngeal cancers
  - 60–90% of anal, penile, vaginal, vulvar cancers

- 70–80% of males and females need to be vaccinated to eliminate most oncogenic types (herd immunity)

Viens LJ et al. MMWR 2016;65(26):661–666
Lopalco PL. Drug Des Devi Ther 2017;11:35–44
Brisson M et al. Lancet Public Health 2016;1:e8-17
Current CDC recommendations

- Recommended for boys and girls at 11–12 yo
- Approved for use up to age 26 if not vaccinated at a younger age (referred to as catch-up vaccination)
Importance of catch-up vaccination (13–26 yo)

- Infection with all vaccine-types not reported
  - Even sexually active young adults can benefit
  - May prevent re-infection

- Will help achieve herd immunity faster
HPV vaccine initiation (≥1 dose)

- United States
  - 63% of girls & 50% of boys 13–17 yo
  - 42% of 19–26 yo women
- Rates lower at UTMB due to many barriers
  - Less than 20% of 11–12 year olds
  - 16% among 18–26 yo postpartum women from Galveston Co. who deliver an infant at UTMB

6 barriers identified among UTMB’s low income pp patients

- No insurance to pay high cost: >$600 for 3 doses
- Lack of access & information: 54% didn’t know where to get it or know enough about it
- Fear of side effects: 14% (1 in 7) feared side effects
- Lack of provider recommendation: Not discussed by providers during prenatal or postpartum care
- Difficulty with completion: Did not make or keep f/u appointments
- Vaccine hesitancy against all vaccines not the primary issue
Development of HPV vaccination program for UTMB pp women

- **Evidence-based:** Young, postpartum women willing to initiate HPV vaccine while hospitalized and complete at follow-up visits (Columbia University)
- **Safety established:** HPV vaccine safe to administer while breastfeeding
- **Model available:** Rubella and Tdap vaccines routinely administered on postpartum unit if needed
- **Could leverage funding:** Medicaid lasts until 8 wks pp

Barriers addressed in CPRIT proposal

- **Eliminate access problem**: Give 1st dose in hospital
- **Increase follow-up rates**:
  - Give 2nd dose at pp check
  - Give 3rd dose at pediatric clinics when mother brought baby in for baby’s vaccines
- **Decrease cost to CPRIT**: Give first 2 doses before Medicaid expires
Additional barriers addressed by PNs

• Lack of information or provider recommendation and fear of side effects:
  • PNs provide individual counseling
• Lack of follow-up:
  • PNs schedule appointments and remind patients; reschedule appointments as needed
• Clinic barriers:
  • PNs make certain vaccine is kept in stock
  • PNs help educate clinic staff
Duties of patient navigators

• **Identify unvaccinated pp patients** each day in EMR
• **Counsel mothers** and obtain consent
• **Communicate with physician** to inform them when mothers desire vaccination in hospital
  • Physician places order in EMR and nurse administers 1st dose prior to discharge
• Schedule follow-up doses with **well-baby visits** or **postpartum checkups**
• Call mothers to **remind** them of upcoming appointments
• Call mothers to **reschedule** missed appointments until series completed
Challenges to implementation

- Hiring and maintaining bilingual staff willing to work on weekends and all holidays
- Obtaining support of nurses on pp unit
- Timely entry of orders in EMR by physicians caring for patients on pp unit and in clinics
- Explaining to billing how to correctly charge vaccine costs
- Ensuring vaccine was in stock at all times at multiple clinics
- Tracking of population who frequently change phone numbers
Final results from Cycle 1

• Increased HPV vaccination initiation rate from 16% to 78% among women from Galveston County who delivered at UTMB

• Among initiators, 76% completed 3-dose vaccine series
Qualitative assessment of program

• Interviewed 18 providers near end of Cycle 1

• Demonstrated that pp intervention was well-accepted and had been integrated into clinics
  • Physicians & nurses support postpartum vaccination
  • Initial challenges of communicating vaccine orders and vaccinating mothers at pediatric appointments overcome
  • Postpartum vaccination is now standard of care


- Expanded services to all women who deliver at John Sealy Hospital
  - New inclusion criteria adds 37 Texas counties
  - Added standing orders in EPIC for HPV vaccine to be given to eligible postpartum women who consent
- Estimated 2,121 women would be eligible and consent to HPV vaccination during Cycle 2
Cycle 2 progress to date

- Volume of deliveries at UTMB has increased!
- Completed Year 1 of Cycle 2
  - Ahead of all project goals for HPV vaccination
  - 1,782 women counseled (65% of 3-year goal)
  - 2,181 vaccine doses administered to 1,204 women (41% of 3-year goal)
Long-term goals

• To permanently change the standard of care so that offering the HPV vaccine postpartum is routine for women not vaccinated at younger age

• To increase HPV vaccination rates in Texas and achieve herd immunity which will:
  • Decrease the psychological, physical, and economic burden of abnormal Pap smears among our patients
  • Ultimately prevent most HPV-associated cancers
New collaboration (PP150004)

- Postpartum project led to development of new project to vaccinate 9–17 yo boys and girls seen in UTMB pediatric clinics
- This project benefitted from education performed in pediatric clinics during postpartum project
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