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Maternal immunization & screening in the US: a nationwide retrospective cohort study

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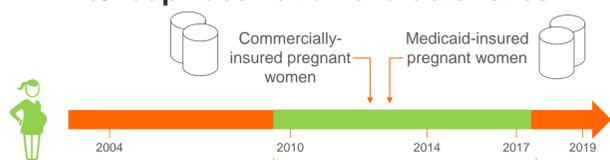
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Pertussis and influenza infection can result in severe illness in newborn infants. However, it is not recommended that infants are vaccinated against pertussis until the age of two months and influenza until six months of age in the US (CDC, 2017). To confer infant immunity to pertussis before vaccinations can be administered, pregnant women in the US are currently recommended to receive tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) and influenza vaccines.

This study assessed maternal coverage of vaccinations against pertussis and influenza.

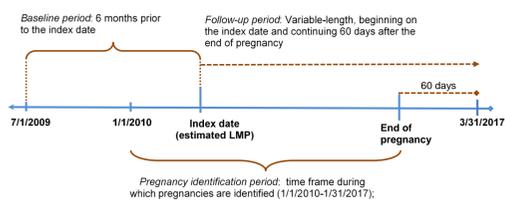
Group B streptococcus (GBS) infections are also significant contributors to infant morbidity (CDC 2010). No vaccines are currently available for prevention of GBS, so prevention of infant infection with GBS relies on limiting infant exposure. **This study also assessed maternal coverage of GBS screening.**

How? The Marketscan database provided flu/Tdap vaccination characteristics



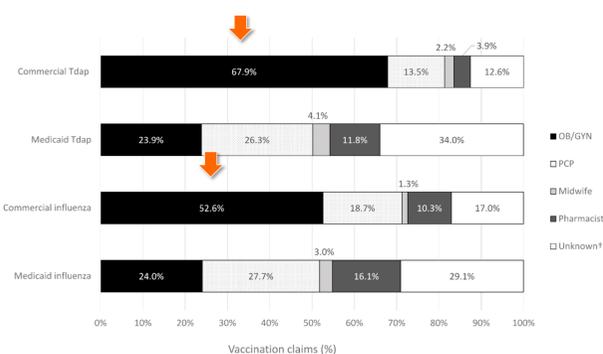
- > Tdap vaccination coverage: every year
- > Influenza vaccination coverage: each season from 2009-2010 to 2016-2017
- > GBS screening coverage: every year
- > likelihood of vaccination
- > demographics
- > clinical characteristics
- > healthcare resource use and costs

Pregnancies ending between 1/1/2010 and 4/30/2017 could enter in our sample



→ 1.5 / 1.8mio pregnancies with Tdap / flu were eligible in the commercially-insured population

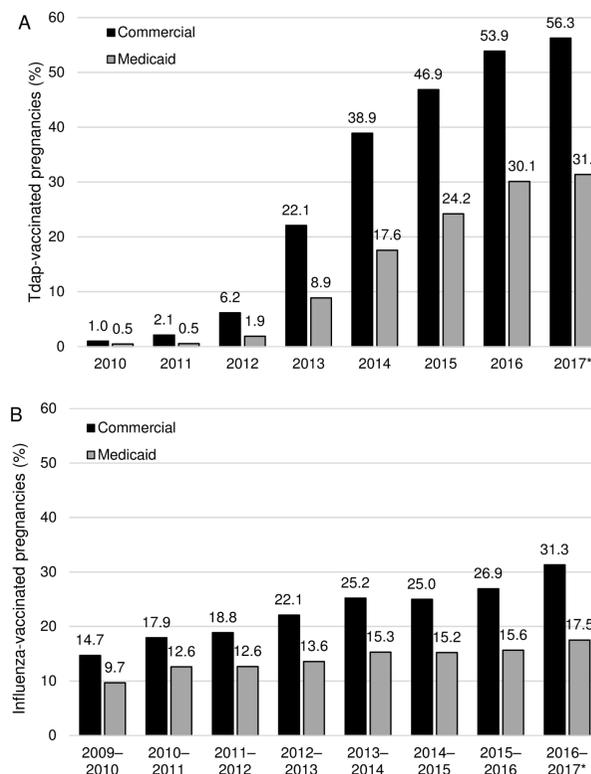
The most common prescriber type was OB/GYNs for the Commercial cohort



Coverage of pertussis and influenza vaccination in pregnant women increased since recommendation in the US.

The likelihood of vaccination increases with receipt of both vaccines.

From 2010 to 2017, Tdap and influenza vaccination coverage increase in the Commercial and Medicaid cohorts



Factors increasing the likelihood of vaccination

- > receipt of the other vaccine during pregnancy (ORs 3.39-5.19)
- > Hispanic origin
- > ≥11 vs 1-5 pregnancy-related visits

Factors decreasing the likelihood of vaccination

- > no pregnancy-related (medical) visits (ORs 0.23-0.40)
- > age 15-19 vs 30-34 years
- > Black race
- > residence in rural areas
- > multiple gestation
- > inpatient admission

And what about GBS?

Among pregnancies that ended between 2010 and 2017, GBS screening coverage increased from 71% to 77% in the Commercial cohort, but decreased slightly in the Medicaid cohort (71% to 69%).

GBS screening coverage was similar among pregnancies of any age categories [14-44] years in the Commercial cohort. However, in the Medicaid cohort, GBS screening coverage decreased with age. No differences in coverage were observed by region.



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