("baseline") through 60 days after pregnancy end ("follow-up"). Maternal Tdap and influenza immunization rates are described by calendar year of pregnancy end. Analyses are reported separately for Commercial and Medicaid cohorts.

Results. A total of 1,862,705 and 628,079 eligible pregnancies in the Commercial and Medicaid databases, respectively, were identified. After the 2013 ACIP recommendation to administer Tdap vaccination during each pregnancy, the proportion of pregnancies vaccinated against Tdap was 39% in 2014 and increased to 54% in 2016 for the Commercial cohort (Figure 2). A similar trend for Tdap MI was observed for the Medicaid cohort (Figure 3). In 2016, 41% and 25% of all pregnancies received influenza vaccination in the Commercial and Medicaid cohorts, respectively. Tdap and influenza MI rates also varied by several factors, including maternal age group, geographic region, urban/rural location, and race/ethnicity.

Conclusion. In this analysis of large claims databases, for pregnancies ending in 2016 in the Commercial cohort, over 50% received Tdap vaccination and over 40% received influenza vaccination, whereas, in the Medicaid cohort, 30% of all pregnancies were vaccinated against Tdap and 25% received influenza vaccination.

Figure 1: Study Time Periods

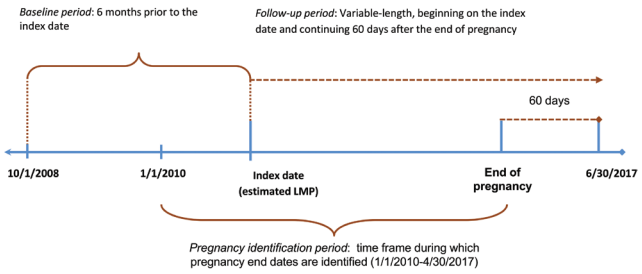


Figure 2: Maternal Immunization Rates with Tdap/Influenza Vaccines in the Commercial cohort

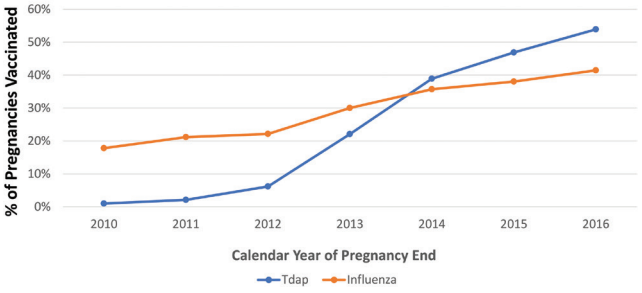
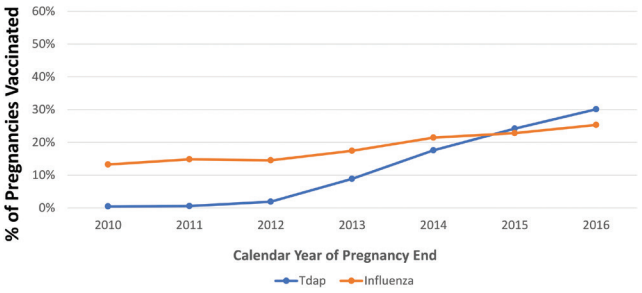


Figure 3: Maternal Immunization Rates with Tdap/Influenza Vaccines in the Medicaid cohort



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2279. A Randomized Open-Label Trial of 2-Dose or 3-Dose Primary Rabies Immunization Among Thai Children

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Background. The World Health Organization (WHO) recently recommended 2-dose primary rabies immunization instead of the 3-dose standard regimen. Given limited data of 2-dose regimens in pediatric population, this study was conducted. The objective was to compare the immunogenicity between 2-dose and 3-dose primary rabies immunization.

Methods. This study was an open-label clinical trial. Inclusion criteria were children aged 2–12 years with rabies virus neutralizing antibody (RVNA) titers < 0.5 IU/ml at baseline. The participants were divided into 2-dose vaccination (2D) on days 0 and 28 and 3-dose vaccination (3D) on days 0, 7, and 28 with a 2:1 ratio. A dose of 0.5 ml purified vero cell rabies vaccine (PVRV) was administered intramuscularly. RVNA titers were measured at 14-day post primary immunization. RVNA titers ≥ 0.5 IU/ml were considered seroprotective against rabies. Geometric mean titers (GMT) were calculated. T cell specific response to rabies vaccine antigen were measured from peripheral blood mononuclear cells (PBMCs) using the interferon-gamma enzyme-linked immunospot (IFN-gamma ELISpot) assay.

Results. From September to October 2017, 105 participants (52% male), 76 in 2D group and 29 in 3D group were enrolled. Median age and body weight was 70 months (IQR 53–88) and 19.2 kilograms (IQR 15.9–24.3), respectively. All participants had seroprotection at 14-day post primary immunization with GMT of 18.6 (95% CI 15.8-21.9) and 16.3 (95% CI 13.1–20.0) in 2D and 3D groups, respectively ($P = 0.35$). Median IFN-gamma level at 14-day post primary immunization was 60 spot forming cells (SFC) per 10^6PBMCs and 132 SFC per 10^6PBMCs in the 2D and 3D groups, respectively ($P = 0.15$).

Conclusion. The immunogenicity of 2-dose primary rabies immunization at 14-day post primary vaccination is comparable to the 3-dose regimen. Participants are currently being followed for 1-year results.

Disclosures. **All authors:** No reported disclosures.

2280. Antibiotic Exposure Does Not Impact Serological Responses to Rotavirus Vaccination

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Background. Antibiotic exposure around the time of rotavirus (RV) immunization has been suggested to diminish immune responses, but data are sparse.

Methods. We retrospectively analyzed data from a randomized RV vaccine study (NCT01266850) outlined in the Table. Concomitant antibiotic use, defined as receipt of an antibiotic 14 days before or 7 days after RV immunization, was recorded. The primary outcome was RV-specific IgA seroresponse (IgA ≥20 U/mL) by ELISA obtained 1 month after the last dose of RV vaccine and geometric mean titer (GMT) to strain WC3 (RV5 backbone) or strain 89–12 (RV1 backbone). Only subjects who received all scheduled vaccine doses and phlebotomy were included. Data were assessed for homogeneity across vaccine schedule groups, stratified by antibiotic exposure. We examined differences in seroresponse adjusting for treatment group, gender, race, ethnicity, and study site using logistic regression models.

Results. Of the 1384 immunized children, 1174 (85%) met inclusion criteria.

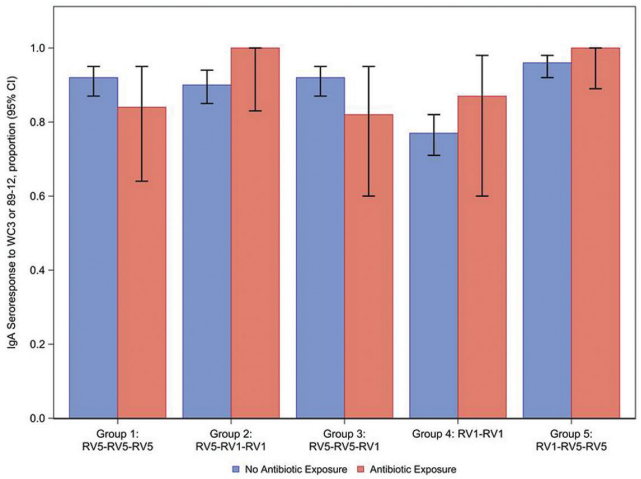
Table: Treatment Allocation and Effect of Antibiotic Exposure on Seroresponses

Groups	1	2	3	4	5
Immunization Schedule	Rotateq® (RV5) 3 doses $N = 206$	RV5, RV1, RV1 $N = 207$	RV5, RV5, RV1 $N = 194$	Rotarix® (RV1) 2 doses $N = 287$	RV1, RV5, RV5 $N = 280$
Seroresponse: Antibiotic Exposed	21/25 (84%)	20/20 (100%)	18/22 (82%)	13/15 (87%)	32/32 (100%)
Seroresponse: Antibiotic Not-Exposed	167/181 (92%)	168/187 (90%)	158/172 (92%)	209/272 (77%)	238/248 (96%)

Nearly 10% ($n = 114$) of participants were antibiotic exposed; group 4 had the ***least*** antibiotic exposure ($P = 0.05$). No differences in GMT or seroresponses were observed to either WC3 or 89–12 (figure) by antibiotic exposure. In the multivariable logistic regression model, there were no significant differences for gender, race, ethnicity, site, or antibiotic exposure (P-value ≥0.5 for IgA seroresponse). The only observed difference in seroresponses was by RV vaccine group ($P < 0.0001$).

Conclusion. Antibiotic administration around the time of RV vaccine did not diminish RV-specific IgA seroresponses observed 1 month after the last RV vaccine dose.

Figure: Proportion mounting IgA seroresponse to rotavirus immunization, stratified by antibiotic exposure status



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2281. Impact of the Introduction of the *Haemophilus influenzae* Type B Conjugate Vaccine in Southern India

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Background. *Haemophilus influenzae* type b was the leading cause of bacterial meningitis in infants and children below the age of 2 years prior to the introduction of *H. influenzae* type b conjugate vaccines. In December 2011, the Indian government introduced *H. influenzae* b vaccine in the state of Tamil Nadu. Prospective surveillance for bacterial meningitis was established at the Institute of Child Health in Chennai to evaluate the etiology of meningitis and the impact of the vaccine.

Methods. Infants aged 1 to 23 months who were admitted to the hospital with symptoms of suspected bacterial meningitis were enrolled and lumbar puncture was performed. Cerebrospinal fluid samples were analyzed for white blood cells, protein, and glucose. Bacterial culture and a latex agglutination test for common bacterial pathogens were performed.

Results. Between January 2009 and March 2014, 4,770 children with suspected bacterial meningitis were enrolled. Prior to the introduction of the vaccine, an average of 11.7 cases of *H. influenzae* b meningitis and 31.1 cases of probable meningitis with no etiology were identified each year. After introduction, the number of cases was reduced by 79% and 44% respectively. The average *H. influenzae* b vaccine coverage after introduction was 69% among all children with clinically suspected meningitis. In contrast, the mean number of aseptic meningitis and pneumococcal meningitis cases remained stable throughout the pre and post vaccination period; 28.2 and 4.8 per year, respectively.

Conclusion. *H. influenzae* b conjugate vaccine reduced the number of cases of *H. influenzae* b meningitis and probable meningitis within the first two years of its introduction. The impact against meningitis was higher than the vaccination rate, indicating indirect effects of the vaccine. India has recently scaled up the use of *H. influenzae* b conjugate vaccine throughout the country which should substantially reduce childhood meningitis rates further in the country.

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2282. Age-Stratified Analysis of Serotype-Specific Immunity Against Group B Streptococcus

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Background. Development of group B streptococcus (GBS) vaccine is currently underway. In order to establish the immunization policy for the future, it is necessary to understand the basal immune level of risk groups in each country.

Methods. Thirty serum samples were collected from each risk group (neonates/infants, pregnant women and the elderly) between August 2016 and July 2017 at Korea University Guro hospital. Serotype-specific opsonic index (OI) was assessed using GBS multiplex opsonophagocytic killing assay (MOPA) against serotype Ia, III and V, which are most prevalent worldwide.

Results. The mean age of neonates/infants, pregnant women, and the elderly was 1.3 months (range, 1–3 months), 31.9 years (range, 23–41 years) and 68.8 years (range 65–76 years), respectively. Baseline OI of each risk group measured by MOPA was shown in Table 1. The mean OI of serotype Ia was not significantly different among three risk groups (P = 0.156), but relatively lower in the neonates/infants group (mean ± standard deviation, 137 ± 278). For serotype III, the mean OI of neonates/infants (338 ± 623) was significantly lower compared with those of pregnant women (1,377 ± 1167) and old adults (1,350 ± 1741)(P = 0.002); Overall 60% of neonates/infants showed OI below 100. As for the serotype V, OI was particularly lower in neonates/infants (161 ± 445) compared with the elderly (3,669 ± 5,597) and pregnant women (9,414 ± 6,394) with statistically significant differences between three risk groups ($P < 0.001$).

Conclusion. Considering the relatively low OI of neonates/infants despite high maternal titer, intrapartum GBS vaccination might be required to ensure efficient placental transfer of serotype-specific GBS antibodies with high avidity.

Table 1. Comparison of Baseline Opsonic Indexes Between Risk Groups: Mean Opsonic Indexes and 95% Confidence Intervals

Serotypes	Groups	Opsonic Index (Mean)	95% CI	*P*-Value
Ia	Neonates/infants	137	33–241	0.596
	Pregnant women	285	17–552	
	The Elderly	231	3–459	
III	Neonates/infants	338	105–570	0.002
	Pregnant women	1377	941–1813	
	The elderly	1350	700 - 2000	
V	Neonates/infants	161	-5–327	<0.001
	Pregnant women	9414	6825–12003	
	The elderly	3669	1579–5759	

Disclosures. **All authors:** No reported disclosures.

2283. The Impact of a Booster Dose at the Age of 18 on Immunization Against Hepatitis B 4 Years Later

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Background. Primary prevention by vaccination remains the main goal in controlling HBV infections. Observational studies suggest that a primary series of vaccination started at birth provides protection for approximately 90% of recipients for at least 20 years. Data on response to a booster and long-term effects are lacking.

Methods. We evaluated the immunization status of 381 healthcare students who were immunized against HBV in the first year of life. Students were considered immune if antibody titers were ≥ 10 mIU/mL. We compared the results of students who were boosted at the age of 18 during paramedic training (boosted) to students who were not boosted since primary series (primary). Those who had low levels of antibodies were boosted and reassessed 6 months later.

Results. Of the 381 students, 305 only received the primary series and 76 were boosted on average 4 years earlier. The average age of both groups was 22. Only 126 (44%) of the primary group had protective levels compared with 67 (88.2%) of boosted group $P < 0.001$(Figure 1). 8 students from the boosted group who had unprotective levels received an additional booster and all developed protective levels. Of the 135 from the primary series with unprotective levels 126 (93%) developed protective levels following booster.

Conclusion. An immunization series administered during the first year of life does not provide life time protection. A booster provided at the age of 18 augments the primary series and provides protective levels of antibodies for at least 4 years if not longer. Overall response to the booster is high. These data suggests the need for a routine booster dose against HBV at the age of 18.