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## LATE BREAKER ABSTRACTS

**LB-4. Clinical Characteristics and Factors Associated With Measles Transmission in California**

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**Session:** 210. Late Breaker Oral Abstract Session

*Saturday, October 10, 2015: 10:30 AM*

**Background.** Since 2014, California has experienced an increase in measles cases including a large outbreak associated with a theme park. We describe factors associated with measles transmission and clinical features of cases with  $\geq 2$  doses of MCV.

**Method.** Measles cases reported to the California Department of Public Health (CDPH) from January 1, 2000–July 1, 2015 were reviewed. Measles transmitters were defined as patients who transmitted measles to one or more persons based on

epidemiologic linkage, supported by appropriate timing and genotype data, when available. Ambiguous exposure situations were excluded. Multiple logistic regression was used to identify factors associated with measles transmission, including measles clinical features (cough, coryza, conjunctivitis, fever), vaccination status and age. Fisher's exact test was used in a sub-analysis of clinical features among those with verified immunization status.

**Result.** Three hundred ninety-seven measles cases were reported to CDPH. In the multiple logistic regression model, coughing increased odds of transmission (OR: 3.3; 95% CI: 1.1–9.7), whereas age <12 months (OR: 0.1; 95% CI 0.03–0.6) and being vaccinated (any documented MCV doses, OR: 0.3; 95% CI 0.1–0.9) decreased odds of being a transmitter. Of 238 cases with verified immunization status, 27 (11%) had received >2 doses of MCV. In a sub-analysis of those with documented vaccination status, cases with  $\geq 2$  MCV doses less frequently reported cough ( $p < 0.0001$ ), coryza ( $p < 0.0001$ ), conjunctivitis ( $p < 0.0001$ ), fever ( $p < 0.01$ ) and hospitalization ( $p = 0.03$ ) versus unvaccinated cases or those with one dose. The median time since vaccination for cases with  $\geq 2$  MCV doses was 17 years (range: 6–39 years). Three patients with  $\geq 2$  MCV doses transmitted measles to close contacts; all reported cough while none of the patients with  $\geq 2$  MCV doses but without cough transmitted.

**Conclusion.** Clinical and demographic features may be used to identify cases at high risk of transmitting measles and to prioritize investigation of their contacts. Prior vaccination appears to attenuate measles illness and reduce transmission. While some cases with  $\geq 2$  MCV doses are primary vaccine failures, the role of waning immunity among vaccinated people in measles outbreaks should be considered.

**Disclosures.** J. Zipprich, Pfizer: Spouse works at Pfizer, Salary; J. D. Cherry, Global Pertussis Initiative: Member, Honoraria for participating and speaking at many GPI meetings since 2000. SanofiPasteur: Speaker's Bureau, Speaker honorarium

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