Supplementary Online Content

Messinger CJ, Lipsitch M, Bateman BT, et al. Association between congenital cytomegalovirus and the prevalence at birth of microcephaly in the United States. *JAMA Pediatr*. Published online September 14, 2020. doi:10.1001/jamapediatrics.2020.3009

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Sensitivity analyses for the case definition of microcephaly for Medicaid Analytic eXtract (MAX) (2000-2013) and MarketScan (2011-2015) databases

	Microcephaly Prevalence at Birth (cases per 10,000 live births)		
Sensitivity Analysis	**MAX**	**MarketScan**	**Pooled Dataset**
Require 1 code for microcephaly (ICD 742.1)			
No exclusions	8.3	6.0	7.7
Exclude chromosomal anomalies; Reclassify infants with comorbid NTDs as non-cases	6.4	4.6	5.8
Require 1 microcephaly code (ICD 742.1) + ≥1 additional code[a]			
No exclusions	4.1	3.5	4.0
Exclude chromosomal anomalies; Reclassify infants with comorbid NTDs as non-cases (primary case definition)	**3.1**	**2.4**	**2.9**
Exclude chromosomal anomalies; Reclassify infants with comorbid NTDs or major structural malformations[b] as non-cases	2.3	1.4	2.1
Exclude chromosomal anomalies; Reclassify infants with comorbid NTDs as non-cases; require presence of ≥ 1 comorbid sign of cCMV[c]	0.32	0.55	0.38
Exclude chromosomal anomalies; Exclude infants with SGA or preterm; Reclassify infants with comorbid NTDs as non-cases	1.6	1.2	1.5

[a] See Methods for description of 2-code algorithm

[b] Major structural malformations defined as the presence of cardiovascular, other vascular, respiratory, oral cleft, gastrointestinal, genital, urinary, musculoskeletal, limb, or other anomalies; reclassified to further exclude syndromic infants from case definition

[c] Comorbid signs of cCMV defined as presence of ≥ 1 code for any of chorioretinitis, eye anomalies, neonatal seizures, or hearing loss; required to increase specificity for microcephaly phenotype consistent with cCMV

eTable 2. Sensitivity analyses for congenital cytomegalovirus (cCMV) diagnosis and testing windows in infant records in pooled Medicaid Analytic eXtract (MAX) (2000-2013) and MarketScan (2011-2015) databases

cCMV diagnosis window	cCMV test window	Tested for cCMV (N)	cCMV+ diagnosis, N (%)	Microcephaly diagnosis, N (%)	Summary PR (95% CI)[a]
Birth – 90 days	Birth – 30 days	572	28 (4.9)	13 (2.3)	15 (5.6-41)[b]
Birth – 90 days	Birth – 90 days	940	49 (5.2)	19 (2.0)	10 (4.2-24)
Birth – 30 days	Birth – 30 days	572	26 (4.5)	13 (2.3)	16 (6.0-44)

[a] Prevalence Ratio (PR) of microcephaly among infants with a cCMV diagnosis divided by that in those without a cCMV diagnosis

[b] Primary analysis presented in main body of article