Background and Aims Aboriginal infants are at substantially higher risk for respiratory illness (RI) and respiratory syncytial virus (RSV) infection and hospitalization compared to non-Aboriginal infants. The purpose of the present study is to compare the hospitalization rates for RI events and RSV infection in Aboriginal infants versus non-Aboriginal infants in the CARESS database.

Methods A prospective, observational registry of infants from 30 Canadian sites who received ≥1 dose of palivizumab during the 2005–2011 RSV seasons. Utilization and hospitalization outcomes were collected monthly throughout respective RSV seasons.

Results 10,452 infants were recruited (318 Aboriginal; 10,134 non-Aboriginal). A greater proportion of Aboriginal infants had factors that increased their risk of RSV infection (p<0.05): having siblings, being a multiple birth, exposure to smoking, and >5 individuals in the household. Aboriginal infants were less compliant with treatment (p<0.05) whether calculated by injection intervals or by expected number of injections during the season. Aboriginal infants had a significantly higher R1 hospitalization rate (15.2% versus 6.2%, p<0.005), but only a trend towards a higher RSV-positive hospitalization rate (2.64% versus 1.57%, p=0.059). A Cox proportional hazards analysis restricted to Aboriginal infants found the risk of RSV-positive hospitalization was higher among non-compliant than compliant infants (hazard ratio=9.2, 95% CI 1.1–76.7, p=0.04).

Conclusions This study confirms that several demographic and environmental factors that are prominent in enhancing the risk of both RSV infection and overall RI hospitalizations are at play in Aboriginal infants. Ensuring compliance with prophylaxis will likely reduce RSV hospitalization rates in this vulnerable population.

Conclusion CM was clinically over-diagnosed in our study. It is advisable to do all the necessary investigations, particularly a thorough blood film examination, before diagnosing CM. It is recommended to study cases that resemble CM for more detailed viruses disease.