The global respiratory syncytial virus burden

A summary of the latest estimates

Respiratory syncytial virus (RSV) is a leading cause of acute lower respiratory infections (ALRI) in infants and children across the globe. The burden is disproportionately high in low-income country settings. New estimates quantify the RSV ALRI burden at global, regional, and national scales. Herein is a summary of these estimates.

KEY TAKEAWAYS

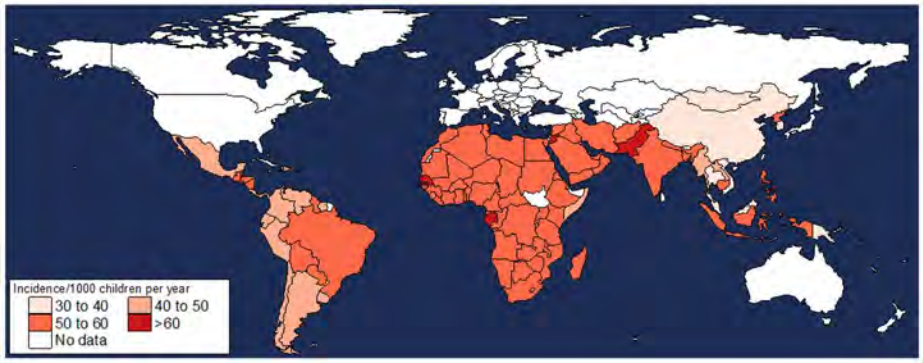
- Approximately 30 million episodes of RSV associated ALRI occur annually, more than 90 percent of which occur in developing countries.
- Ten percent of these episodes lead to hospitalization, though many cases in low- and middle-income countries never make it to a health facility.
- More than 100,000 children are thought to die of RSV ALRI every year, with most deaths occurring in low- and middle-income countries.
- The highest childhood RSV ALRI burden occurs during the first year of life when children are most vulnerable.

GLOBAL RSV ALRI BURDEN AMONG CHILDREN 0 TO 5 YEARS OF AGE

	Reference year			
Burden category	**2015 (Shi et al. 2017)**	**2005 (Nair et al. 2010)**	**2015 (GBD 2015)**	**2005 (GBD 2015)**
Number of new RSV ALRI episodes	33.1 M (21.6 M–50.3 M)	33.8 M	27.3 M	
Number of severe RSV ALRI episodes	6.3 M (2.3 M–18.19 M)			
Number of hospital admissions from RSV ALRI	3.2 M (2.7 M–3.8 M); 1.4 M (1.2 M – 1.7 M) from 0–5 months of age	3.38 M		
Number of hospital RSV ALRI deaths	59.6 K (48 K–74.5 K); 27.3 K (20.7 K–36.2 K) from 0–5 months of age			
Number of RSV ALRI deaths, hospital and community combined	118,200 (94.6 K–149.4 K)	66 K to 199 K	36.4 K (20.4 K–61.5 K)	58.4 K (33.2 K–97.6 K)

Note: Numbers in parentheses are the 95% confidence intervals.

ESTIMATED INCIDENCE OF RSV ALRI AMONG CHILDREN < 5 YEARS OF AGE IN DEVELOPING COUNTRIES



Note: National level estimates of RSV ALRI incidence estimated for 132 developing countries. Reference: Shi et al. 2017.

RSV ALRI BURDEN 0 TO 5 YEARS OF AGE IN DEVELOPING AND INDUSTRIALIZED COUNTRIES (2015)

Burden category	Developing countries	Industrialized countries
Number of new RSV ALRI episodes	30.5 M (19.5 M–47.9 M)	2.5 M (1.2 M–5.3 M)
Incidence of RSV ALRI per 1,000 children	50.8 (32.4–79.7)	35.6 (16.6–76.2)
Incidence of severe RSV ALRI per 1,000 children	10.2 (3.5–29.9)	3 (1.7–5.5)
RSV ALRI hospital admissions	2.6M (2.2 M–3.1 M)	344K (285 K–427 K)
RSV ALRI hospital deaths	59.6K (47.8 K–74.3 K)	200 (100–2.2 K)

Note: Numbers in parentheses are the 95% confidence intervals. Reference: Shi et al. 2017.

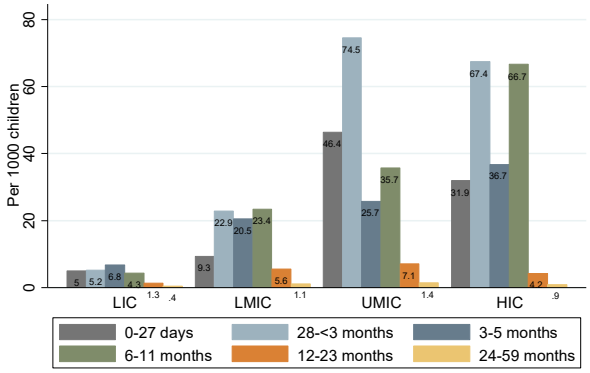
RSV BURDEN IN DEVELOPING COUNTRIES BY NARROW AGE BANDS (2015)

Burden category	Age 0–27 days	Age 28 days–<3 months	Age 3–5 months	Age 6–11 months	Age 12–23 months	Age 24–59 months
Incidence of RSV ALRI per 1,000 children	40 (2.5–635.7)	45.7 (5.9–356.1)	99.6 (38.5–257.7)	98.8 (58.8–166.1)	79.1 (45.1–138.9)	13.4 (8.5–20.9)
Incidence of severe RSV ALRI per 1,000 children	93.4 (11.2–778.3)	28.5 (1.4–594.7)	38.7 (5.7–265)	24.7 (11.5–53.2)	10.3 (4.6–23)	2.8 (1.3–6.2)

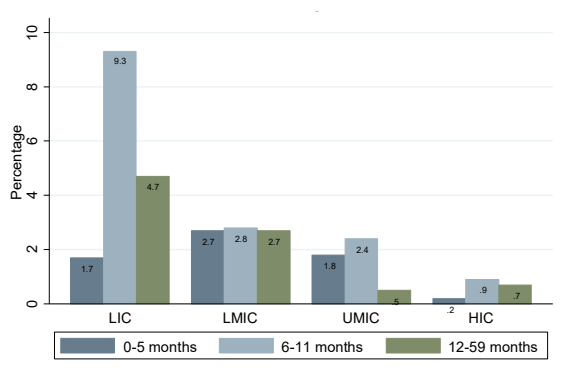
Note: Numbers in parentheses are the 95% confidence intervals. Reference: Shi et al. 2017.

RSV ALRI HOSPITALIZATION RATES AND HOSPITAL CASE FATALITY RATES BY NARROW AGE BANDS

RSV ALRI hospitalization rate meta-estimates



RSV ALRI hCFR meta-estimates



Definitions: hCFR = hospital case fatality rate; LIC = low-income countries; LMIC = lower-middle-income countries; UMIC = upper-middle-income countries; HIC = high-income countries. Reference: Shi et al. 2017.

REFERENCES

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