SUPPLEMENTARY TABLE 2. Parameters for dynamic measles model to measure the impact of public health interventions on measles outbreak size — Chicago, Illinois, 2024

Parameter	Median	Method	Notes
Basic reproductive number, R_0	25	Fit using ABC	• Prior distribution informed by expert opinion (reported in the literature to range from 12 to 18). • Value used for modeling was informed by ABC posterior distribution fit to the cumulative daily case series from the outbreak. • The prior distribution that was used for ABC was a PERT distribution* (minimum = 5, maximum = 45, mode = 12, shape parameter = 5).
Active case-finding efficacy (reduction in infectious period)	25%	Fit using ABC	• Prior distribution informed by expert opinion in conversation with the field team in Chicago and ABC posterior distribution. • The prior distribution that was used for ABC was a PERT distribution (minimum = 0%, maximum = 80%, mode = 20%, shape parameter = 5).
Vaccine efficacy (infant)	84%	Derived from literature†	—
Vaccine efficacy (not infant)	92.5%	Derived from literature†	—
Delay from vaccination to immunity (days)	7 days	Derived from literature†	—
Latent period (preinfectious component of incubation period)	8 days	Derived from literature†	—
Infectious period	5 days	Derived from literature§	—
Time from infectiousness onset to case ascertainment	2.5 days	Derived from literature¶	• Cases are ascertained after an exponentially distributed delay with mean = 2.5 days. • This parameter is intended to correspond more directly to the difference between symptom and rash onset.

Abbreviation: ABC = approximate Bayesian Computation; PERT = Program Evaluation and Review Technique.

* The PERT distribution is a modified beta distribution, characterized by a minimum value a, maximum value c, mode b, and shape s. The mean is $\mu = (a + sb + c)/(s + 2)$. The beta shape parameters are $\alpha = (\mu - a)(2s - a - c)/(c - \mu)(b - a)$ and $\beta = \alpha(c - \mu)/(c - a)$.

† https://doi.org/10.1056/NEJMoa1602295

§ https://doi.org/10.1016/S2468-2667(23)00130-5

¶ https://doi.org/10.1093/infdis/jir102