Table S3. Multiple analyses by Goldman and Miller affirm a positive correlation between number of vaccine doses and infant mortality rates

Type of Analysis	# Nations analyzed	*r*-value	*p*-value
Linear regression, original Miller-Goldman study, 2009	30	0.70	< .0001
Odds ratio analysis	30	0.62[a]	< .004
Sensitivity analysis	30 to 46[b]	0.70 to 0.30	.0001 to .04
Linear regression, replication of original study using 2019 data	44	0.45	.002
Linear regression, replication of original study using 2019 data	20	0.73	< .0003
Linear regression, nations categorized by HDI as "very high" developed[c]	35	0.34	.045

[a]Lowest correlation between vaccine doses and IMR among eleven control variables
[b]The *p*-value of the 47th nation analyzed was not significant
[c]See Supplementary Table S4

In this paper, several analyses were provided to address concerns about the reliability and limitations of our original study, which revealed a counterintuitive, positive correlation ($r = 0.70$, $p < .0001$) indicating that among the most highly developed nations, those that require more vaccine doses for their infants tend to have higher IMRs.

An odds ratio analysis was independently conducted to investigate the effect of 11 variables (including low birth weight, child poverty, and breast feeding), on our study. None of these variables lowered the correlation below 0.62 ($p < .001$), thus robustly confirming the original finding.

A sensitivity analysis, consisting of linear-regression analyses of IMR vs. number of vaccine doses, was performed by us on 17 additional nations (until the r-values reported by the analysis were no longer significant). This analysis addressed the Bailey team's criticism that we were only able to achieve our results through "inappropriate data exclusion" since an additional 16 nations could have been included in the linear regression and the findings still would have yielded a statistically significant positive correlation coefficient. As nations with increasing IMRs are successively analyzed by the linear regression model, the correlation coefficient incrementally decreases. Thus, this analysis also provides evidence that when nations with increasingly higher (worse) IMRs are selected for analysis, increasing disparities between nations incrementally alter the model from a homogeneous to heterogeneous selection of nations, the very reason that the Bailey team's analysis of the "full dataset" of 185 nations was irredeemably confounded.

We also conducted a true reanalysis of our original study using 2019 data. The finding of $r = 0.45$ ($p = .002$) described a statistically significant positive correlation that corroborated the trend reported in the original study. This was further substantiated by a Fisher r-to-z transformation which revealed that the correlation coefficient in 2019 was not statistically significantly different from the correlation coefficient reported in the original paper.

When the 2019 analysis was limited to the top 20 nations, the correlation coefficient increased to r = 0.73 (p < .0003), revealing a strong direct relationship between IMRs and number of vaccine doses, providing additional support for limiting analyses of nations to those with homogeneity of socioeconomic factors and high infant vaccination coverage rates.

A linear regression analysis of "very high" developed nations as categorized by the United Nations Human Development Index (HDI) was performed by us (see Supplementary Table S4). A small but statistically significant positive correlation of r = 0.34 (p = .045) was found that corroborated the trend reported in our original study. This analysis addressed the Bailey team's criticism that we failed to analyze all developed countries as categorized by HDI.

Despite extensive confounding in the Bailey team's reanalysis of the "full dataset" of 185 countries, the reported statistically significant positive correlation coefficient of r = 0.16 (p < .03) corroborates the positive direction of the trend reported in our original study.