

<https://www.andrewbostom.org/2022/01/december-2021-rhode-island-department-of-health-data-confirm-prior-covid-19-infection-naturally-acquired-immunity-regardless-of-vaccination-status-confers-an-28-fold-lower-risk-for-covid-19-mortality/>

## December 2021 Rhode Island Department of Health Data Confirm Prior Covid-19 Infection/Naturally Acquired Immunity, Regardless of Vaccination Status, Confers An ~28-Fold Lower Risk for Covid-19 Mortality, and An ~6-Fold Lower Risk for Covid-19 Hospitalization, Relative to Full Vaccination

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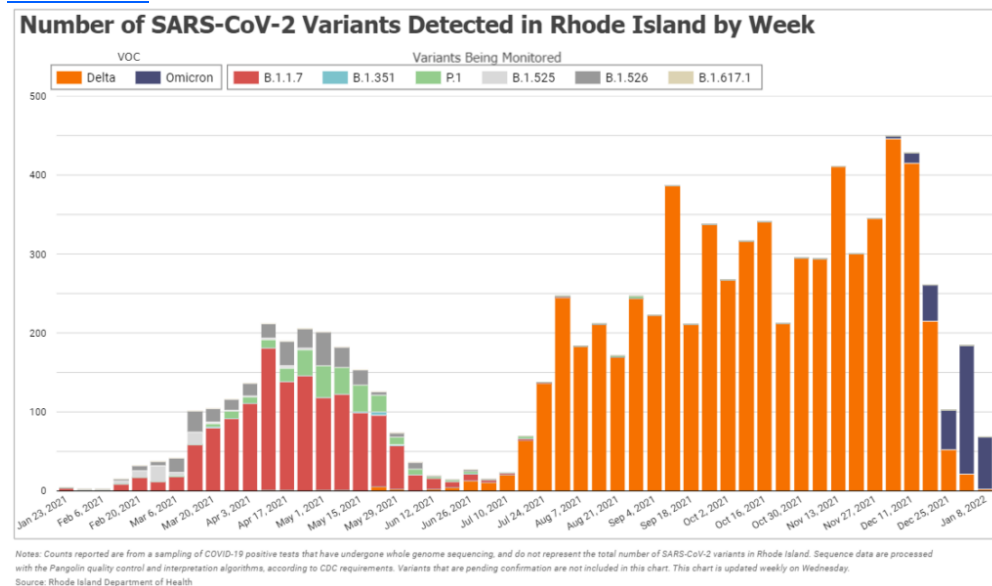
### Bottom line:

*There was ~6X lower risk of covid-19 hospitalization and ~28X lower risk of covid-19 death, comparing those with natural immunity to covid-19, regardless of vaccination status, to those fully vaccinated*

Hyperlink to e-mail from Rhode Island Department of Health (RIDOH) releasing data: [December 2021 data letter from RIDOH](#)

Link to excel file with raw RIDOH data: [RIDOH Dec 21](#)

[RIDOH data](#) on covid-19 variants:



Estimates of fully vaccinated, not fully vaccinated, and previously infected at November, 2021 midpoint (11/15/21) from RIDOH, U.S. census data (July 1, 2021; n=1,095, 610) <https://www.census.gov/quickfacts/fact/table/RI/PST045219>, and <https://covidestim.org/> (a CDC sponsored website run by Harvard, Stanford, & Yale epidemiologists; n=66% of Rhode Islanders were infected, cumulatively, at some point during the pandemic as of 12/16/21):

-756,950 fully vaccinated

-338,660 not fully vaccinated

-723,103 with a history of prior infection at some point during the pandemic

1,243 hospitalizations (with/from covid-19)

-395 (38.8%) among fully vaccinated; **Rate= 52.2/100,000**

-848 (68.2%) among not fully vaccinated; **Rate= 250.4/100,000**

-54 (4.3%) among previously infected regardless of vaccination status; **Rate= 7.5/100,000**

152 deaths (with/from covid-19)

-59 (38.8%) among fully vaccinated; **Rate= 7.8/100,000**

-93 (61.2%) among not fully vaccinated; **Rate= 27.5/100,000**

-2 (1.3%) among previously infected regardless of vaccination status; **Rate=0.3/100,000**

Rhode Island raw data on covid-19 infections by vaccination and prior infection status, December, 2021

**Rhode Island raw data on covid-19 infections by vaccination and prior infection status, December, 2021**

Group	Infections (% total)	Hospitalizations (% total)	Deaths (% total)
<b>Fully vaccinated</b>			
-No prior infection	21,365 (46.4)	363 (29.2)	58 (38.1)
-Prior infection	2,249 (4.9)	32 (2.6)	1 (0.7)
<b>Not fully vaccinated</b>			
-No prior infection	20,842 (45.3)	826 (66.5)	92 (60.5)
-Prior infection	1,551 (3.4)	22 (1.8)	1 (0.7)
<b>Totals</b>	<b>46,007</b>	<b>1,243</b>	<b>152</b>

Rhode Island relative risk estimates for hospitalizations and deaths comparing fully vaccinated (n=363 hospitalizations; n=58 deaths) to those with a prior infection (n=54 hospitalizations; n=2 deaths), regardless of vaccination status, December, 2021

Relative risk calculator

**Exposed group**

Number with positive (bad) outcome:  a

Number with negative (good) outcome:  b

**Control group**

Number with positive (bad) outcome:  c

Number with negative (good) outcome:  d

Results

Relative risk	0.1557
95% CI	0.1170 to 0.2073
z statistic	12.751
Significance level	P < 0.0001

Relative risk calculator

**Exposed group**

Number with positive (bad) outcome:  a

Number with negative (good) outcome:  b

**Control group**

Number with positive (bad) outcome:  c

Number with negative (good) outcome:  d

Results

Relative risk	0.0361
95% CI	0.0088 to 0.1478
z statistic	4.618
Significance level	P < 0.0001