

## Twitter Thread by Alex Berenson



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**1/ An excellent new paper from Denmark that tracks every vaccination given to nursing home residents there shows an 40% RISE in infections immediately after the first @pfizer dose and no efficacy at any point. Protection in this population after “full” vaccination is 64%...**

## Abstract

### Background

At the end of 2020, Denmark launched an immunization program against SARS-CoV-2. The Danish health authorities prioritized persons currently living in long-term care facilities (LTCF residents) and frontline healthcare workers (HCW) as the first receivers of vaccination. Here we present preliminary population based vaccine effectiveness (VE) estimates in these two target groups.

### Methods

The study was designed as a retrospective registry- and population-based observational cohort study including all LTCF residents and all HCW. The outcome was a polymerase chain reaction confirmed SARS-CoV-2, and VE was estimated for different periods following first and second dose. We used Poisson and Cox regressions to estimate respectively crude and calendar time-adjusted VE for the BNT162b2 mRNA Covid-19 Vaccine from Pfizer/BioNTech with 95% confidence intervals (CI) for vaccinated versus unvaccinated.

### Results

A total of 39,040 LTCF residents (median age at first dose; 84 years, Interquartile range (IQR): 77-90) and 331,039 HCW (median age at first dose; 47 years, IQR: 36-57) were included. Among LTCF residents, 95.2% and 86.0% received first and second dose from 27 December 2020 until 18 February 2021, for HCW the proportion was 27.8% and 24.4%. During a median follow-up of 53 days, there were 488 and 5,663 confirmed SARS-CoV-2 cases in the unvaccinated groups, whereas there were 57 and 52 in LTCF residents and HCW within the first 7 days after the second dose and 27 and 10 cases beyond seven days of second dose. No protective effect was observed for LTCF residents after first dose. In HCW, VE was 17% (95% CI: 4-28) in the > 14 days after first dose (before second dose). Furthermore, the VE in LTCF residents at day 0-7 of second dose was 52% (95% CI: 27-69) and 46% (95% CI: 28-59) in HCW. Beyond seven days of second dose, VE increased to 64% (95% CI: 14-84) and 90% (95% CI: 82-95) in the two groups, respectively.

### Conclusion

The results were promising regarding the VE both within and beyond seven days of second vaccination with the BNT162b2 mRNA Covid-19 Vaccine currently used in many countries to help mitigate the global SARS-CoV-2 pandemic.

**Impact of the research:** So far, observational studies of the real-world effectiveness of the mRNA Vaccine BNT162b2 has been limited to the period after the administration of the first dose. This is the first report to date to present vaccine effectiveness (VE) estimates after the second BNT162b2 mRNA Covid-19 Vaccine. We estimated a VE of 52% and 46% in LTCF residents and HCW within seven days, which increased to 64% and 90% in the two groups respectively beyond seven days of immunization. These findings supports maintaining a two-dose schedule of the BNT162b2 mRNA Covid-19 Vaccine.

## Introduction

In Denmark, the national Covid-19 vaccination strategy aims at protecting those at risk of severe outcomes of a SARS-CoV-2 infection resulting in hospitalization or death, and secure key societal functions such as the healthcare system<sup>1</sup>. Hence, residents in long-term care facilities (LTCF) and front-line healthcare

2/ The researchers also tracked health-care workers, the other group in Denmark to receive the vaccine first. They actually had an even LARGER rise in infections immediately following dose 1, but overall higher protection at “full” vaccination (a

week after dose 2) - 90%...

3/ This paper is the best yet (because it's the least political). It is also in line with the Israeli and English data show once you wade through their spin. The takeaways are: The vaccine is much less effective in the people who need it most and DON'T DELAY THE SECOND SHOT...

4/ By the way, depending on how long the vaccine provides protection, its OVERALL effectiveness will be below whatever the peak figure is, maybe well below - you need a lot of good weeks to make up for that bolus at the beginning - but I don't even want to go there.

5/ This paper also shows why the raw Israeli numbers are trash - if infections are declining overall (as they were in Israel and Denmark in February) looking at infections in the vaccinated population without adjusting for that trend markedly overestimates the vaccine effect.

6/ One last point: vaccine efficacy is also overestimated on a population basis because the Israeli and Danish data show about 10% of elderly people get one dose but not the second, presumably because they couldn't tolerate it. So they get all the downside and none of the upside.

7/ They are also not counted as fully vaccinated, which makes the vaccine numbers look better.

Source: <https://t.co/RtyNiWlfXL>