Change in US Disabilities vs Excess Deaths

Period: February 2021 - November 2022

This Executive Brief analyses the relationship between excess mortality and the increase in disabilities that started around February 2021. This Brief represents the analysis for the Civilian Labor Force as well as the whole Population aged 16-64. Please see the Phinance Technologies web site for our analysis of the 65+ age cohort.

The Vaccination doses refer to the total vaccination doses as a percentage of the respective age group population. The vaccination age groups were 19-64 and 65+ as these were the closest age cohorts we could obtain from the CDC vaccination data, to match the BLS disability age cohorts.

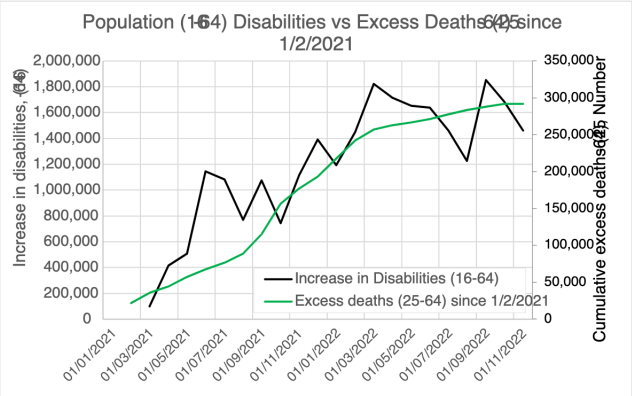
We should note that the Civilian Labor Force are the healthiest cohort in the population as these are individuals that are actively engaged in the labor market. From our analysis, "Rise in US Disability from 2021," we observed that in relative terms, this cohort was more impacted by the rise in disabilities after 2/2021 (associated with the vaccination rollout) than the "not in the workforce" cohort. We also note that the Civilian Labor Force cohort represents about 76% of the population aged 16-64 and only about 23% of the population aged 65+.

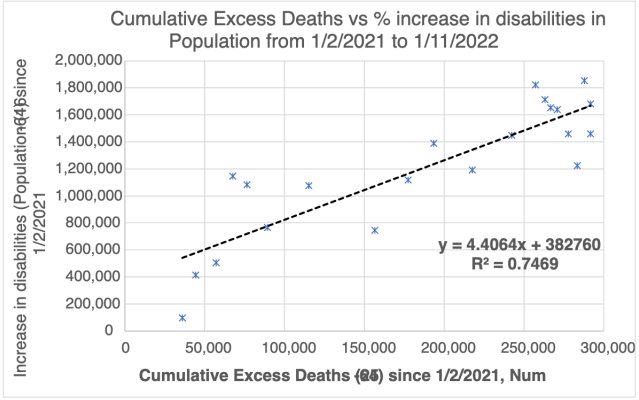
As for excess mortality, the available age groups for the CDC weekly deaths date are 0-25, 25-44, 45-64, 65-74, 75-84 and 85+.

Therefore, we had to aggregate 25-44 + 45-64 = 25-64 for comparing with the 16-64 age group for disabilities. The 25-64 age group represents about 81.5% of the 16-64 age group for disabilities and consequently the comparison between both datasets should take that fact into account.

The following charts compare the rise in the total number of disabilities with the rise in excess mortality for the **whole population aged 16-64.** The chart on the left refers to the time series from 2/2021 (after the vaccine rollout) to 11/2022. The chart on the right, shows the correlation between both time series, with the respective regression line illustrated.

Increase in disabilities in population (16-64) vs vaccine doses





We can observe from the charts above that the rise in disabilities from 2/2021 was accompanied with a rise in excess mortality. The relationship is quite strong as can be observed by the chart on the right. The slope of the regression line is 4.4 which suggests that for each excess death during this period, there were 4.4 more disabilities. As previously mentioned, as the excess mortality age group (25-64) represents roughly 81.5% of the population of the disability age group (16-64) we need to make this adjustment to the slope of the regression, which results in: each excess death during this period corresponded to about 3.6 more disabilities.

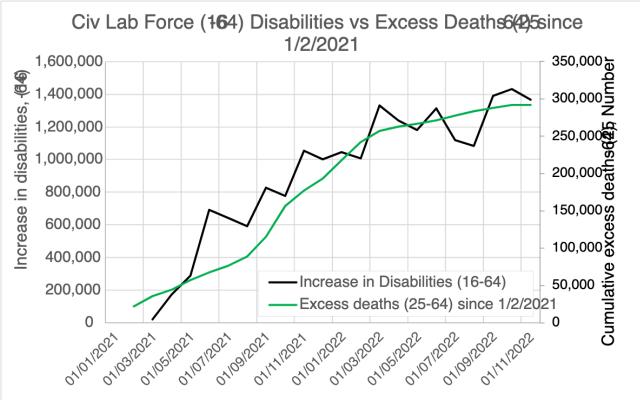
When measuring the absolute numbers, we can observe that from 2/2021 to 11/2022 there was an increase of about 1,500,000 disabilities in the Population aged 16-64 while there were about 300,000 excess deaths (for the 25-64 age group), during that period. After adjusting the size of the 25-64 age group for excess deaths to the 16-64 age group of the disabilities (by dividing by 81.5%), we obtain an estimate of excess deaths of about 352,900 excess deaths.

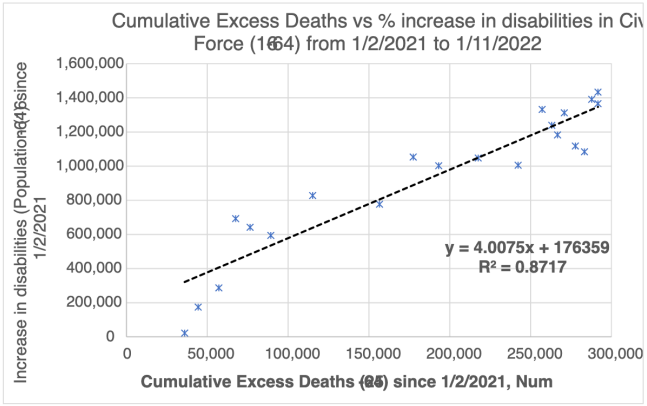
The ratio of the increase in disabilities divided by the excess deaths is R=1,500,000/352,900 ~ 4.25.

Page 2 - Change in US Disabilities vs Excess Deaths

The following charts compare the rise in the total number of disabilities with the rise in excess mortality for the **Civilian Labor Force aged 16-64.** The chart on the left refers to the time series from 2/2021 (after the vaccine rollout) to 11/2022. The chart on the right, shows the correlation between both time series, with the respective regression line illustrated.

Increase in disabilities in Civilian Labor Force (16-64) vs vaccine doses





We can observe from the charts above that the rise in disabilities from 2/2021 was accompanied with a rise in excess mortality. The relationship is quite strong as can be observed by the chart on the right. The slope of the regression line is 4.0 which suggests that for each excess death during this period, there were 4.0 more disabilities. As previously mentioned, as the excess mortality age group (25-64) represents roughly 81.5% of the population of the disability age group (16-64) we need to make this adjustment to the slope of the regression, which results in: each excess death during this period corresponded to about 3.26 more disabilities.

When measuring the absolute numbers, we can observe that from 2/2021 to 11/2022 there was an increase of about 1,400,000 disabilities in the Civilian Labor Force aged 16-64 while there were about 300,000 excess deaths (for the 25-64 age group), during that period. After adjusting the size of the 25-64 age group for excess deaths to the 16-64 age group of the disabilities (by dividing by 81.5%), we obtain an estimate of excess deaths of about 352,900 excess deaths.

The ratio of the increase in disabilities divided by the excess deaths is R=1,400,000/352,900 ~ 4.0

Observations

- At the population level, we found that there is strong correlation between the increase in disability rates and the rise in excess mortality, in both older (65+) and younger individuals (16-64), starting 2/2021 and extending to 11/2022.
- For the 16-64 age group, each rise in excess death seems to be accompanied by a multiplier of about 4 increased disabilities. The multiplier is lower (at about 3.5) for the 65+ age group, which makes sense as these individuals have higher disability rates as a starting point.
- The relationship between the rise in disabilities and excess deaths in the Civilian Labor Force for the 16-64 age group, is even stronger (with higher correlation). We believe that the relationship is stronger as the Civilian Labor force have a lower baseline disability rate and consequently, if the Covid-19 vaccines are adversely affecting individuals, then we'd expect to see a similar rise in disabilities and deaths, albeit at different multiples.
- It does not make sense in showing the plot for the 65+ individuals that are in the Labor Force, as they represent a small percentage of the overall population in that age group.