

# Musculoskeletal Deaths and Disabilities

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This post is a deviation from my usual updates on the US economy and inflation. This post is meant to bring awareness to our latest research from our Humanity Projects branch of Phinance Technologies. The Humanity Projects are dedicated to providing accurate analysis of data that is sometimes controversial (due to its the implications to established interests and policies), but in our view is essential for any informed public discussion. We do this work pro-bono. Over time we've had a group of like-minded individuals who give up their own personal time to be part of our team of volunteers. All of these individuals are heroes in my mind, who give me hope and energy to work towards a better future.

Our latest piece of research at the Humanity Projects was on trends in [musculoskeletal deaths in the US](#), with a focus on older individuals<sup>1</sup>. Deaths from musculoskeletal diseases tend to be unimportant in the wider context of mortality in the US, however, we believe that the large increases in these types of deaths only show “the tip of the iceberg” of a wider problem related to the pandemic and in particular from 2021 onwards, coincident with the introduction of the novel COVID-19 inoculations across the whole population. Our prior research on disability claims in the UK (PIP claims, Personal Independence Payments) shows that the increases in musculoskeletal deaths for older individuals are mirrored by increase in musculoskeletal claims from younger, working age individuals, from 2021 onwards. We estimate that for each death from musculoskeletal diseases there are multiple disabilities from these conditions. At the “base of the iceberg” however lies the largest damage which are individuals that are suffering from chronic musculoskeletal issues (hip, ankle, knee, shoulder... inflammations and pains) that stubbornly persist and confound medical professionals as to the underlying cause.

The link between these issues and the economy is obvious in terms of the productivity of the workforce. However, in similarity with the “broken window fallacy”<sup>2</sup>, the impact on GDP will likely go unnoticed as all these chronic conditions will increase the demand for goods and services on medical care for those conditions. One would have to evaluate the missed possibilities (opportunity costs) from not having these chronic conditions in order to access the true economic impact of “the iceberg of chronic disease” and in this particular case, the impact of chronic musculoskeletal diseases.

## Part 1: Excess Musculoskeletal Deaths in Older People

In our paper we show that MC (multiple-cause) excess musculoskeletal-related deaths rates (where a musculoskeletal disease was either the underlying cause of death or a contributory cause) rose substantially from 2020 to 2023 relative to the prior trends, as shown in Figure 1.

In the figure we can observe that the excess MC death rates from musculoskeletal diseases were 18.3% (Z-Score of 9.0)<sup>3</sup> in 2020, then rose to 27.2% (Z-Score of 13.4) in 2021, and to 28.8% (Z-Score of 14.2) in 2022, and 35.3% (Z-Score of 17.4) in 2023. In terms of the statistical significance of the excess deaths, these can be considered extreme events.

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<sup>1</sup> For a direct link to our ResearchGate paper please follow:

[https://www.researchgate.net/publication/382947553 Trends in death rates from musculoskeletal diseases in the US for all ages and detailed analysis for 75-84](https://www.researchgate.net/publication/382947553_Trends_in_death_rates_from_musculoskeletal_diseases_in_the_US_for_all_ages_and_detailed_analysis_for_75-84)

<sup>2</sup> For an explanation see for example: <https://www.economicsonline.co.uk/definitions/broken-window-fallacy.html/> or on Wikipedia: [https://en.wikipedia.org/wiki/Parable\\_of\\_the\\_broken\\_window](https://en.wikipedia.org/wiki/Parable_of_the_broken_window).

<sup>3</sup> For a detailed analysis please refer to the ResearchGate paper, following the link above.

Figure 1 also shows the excess MC\* death rates from musculoskeletal diseases where COVID-19-related deaths were removed (blue columns). The excess death rates were 8.3% (Z-Score of 4.1) in 2020, 14.5% (Z-Score of 7.1) in 2021, 18.2% (Z-Score of 9.0) in 2022 and 30.3% (Z-Score of 15.0) in 2023. Of note is that even after removing COVID-19-related deaths, excess MC death rates from musculoskeletal diseases rose in each consecutive year from 2020 to 2023.

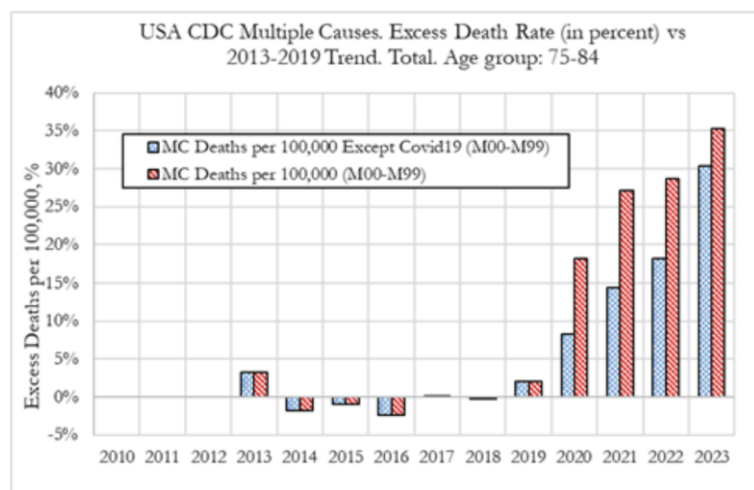


Figure 1 - Excess musculoskeletal deaths (ICD10 codes M00-M99) for individuals aged 75-84 in the US.

In the conclusions of the paper we state that as for possible causes for this phenomenon, a larger body of evidence is pointing towards the continuous uptake of COVID-19 inoculations within the older age groups. The evidence of side effects from the vaccines is shown by [Fraiman et. al.](#), and particularly for inflammatory musculoskeletal diseases shown in [Park et. al.](#) Furthermore, the recent paper by [Alessandria et al.](#) points to higher all-cause mortality COVID-19 vaccinated individuals when compared to unvaccinated ones. We cannot exclude other causes such as long-COVID, successive COVID-19 exposures, or others, as contributing factors towards higher excess mortality from musculoskeletal diseases.

Musculoskeletal diseases are normally not the underlying cause of death, but instead are mostly classified as a contributing factor. We show in our paper that only about 20%-25% of musculoskeletal deaths are classified as the underlying cause for the 75-84 age group. Additionally, the death rates from musculoskeletal diseases are relatively low in the context of other common causes of death. Consequently, to understand the impact of the pandemic on the individuals' musculoskeletal conditions, let's look at disabilities.

## Part 2: Rise in Musculoskeletal Disabilities

Early in 2022 we tracked disabilities reported by the US BLS (Bureau of Labor Statistics) and associated the rise in disabilities with the rollout of the COVID-19 inoculations. This piece of research was the first clear sign of the novel "vaccines" playing a role in detrimental effects in the population. We used re-analysis of serious adverse events in the Pfizer and Moderna clinical trials by [Fraiman et. al.](#) to estimate the impact on the population through the rollout of the vaccines. Our research can be viewed [here](#).

We show that excess death from 2021 onwards was associated with multiple excess disabilities and consequently the analysis of disabilities provided a larger sample size to establish statistical significance. The BLS employment survey is a monthly survey that has been running since 1948 and the question on whether the individuals are disabled or not was first introduced in 2008. It has a big advantage of being a timely indicator of ongoing morbidity in the population and can be used as an early indicator of excess mortality appearing later on (morbidity leads mortality). However, it has a limitation of not providing the cause for the disability, nor is it associated with a medical diagnosis.

When searching for public datasets on disabilities we found that the PIP system of the UK DWP (Department of Work and Pensions) is based upon medical evaluation of the disability claims, and the claims are classified in terms of underlying cause. At the Humanity Projects, we built an interactive visualisation interface<sup>4</sup> to plot the PIP disability claims by underlying cause so anyone who is interested can visualise the data. Using the interface, I obtained the disability claims where the underlying cause was attributed to musculoskeletal diseases, shown in Figure 2.

The figure shows that the number of PIP claims due to musculoskeletal conditions rose sharply after September 2021 from a “normal” level of about 10,000 per month to more than 18,000 per month. The rise in monthly clearances did not occur in 2020 or early 2021 but only later, around September 2021, suggesting that the COVID-19 vaccination rollout might be playing a role. A recent paper published in November 2023 from Korea by [Park et. al](#) reinforces<sup>5</sup> our suspicions on the vaccines playing a role in the rise of musculoskeletal disabilities. The results show a statistically significant rise in several inflammatory musculoskeletal conditions, for example a rise in bursitis incidence rates of 109% after 3 months in mRNA vaccinated individuals when compared to unvaccinated ones.

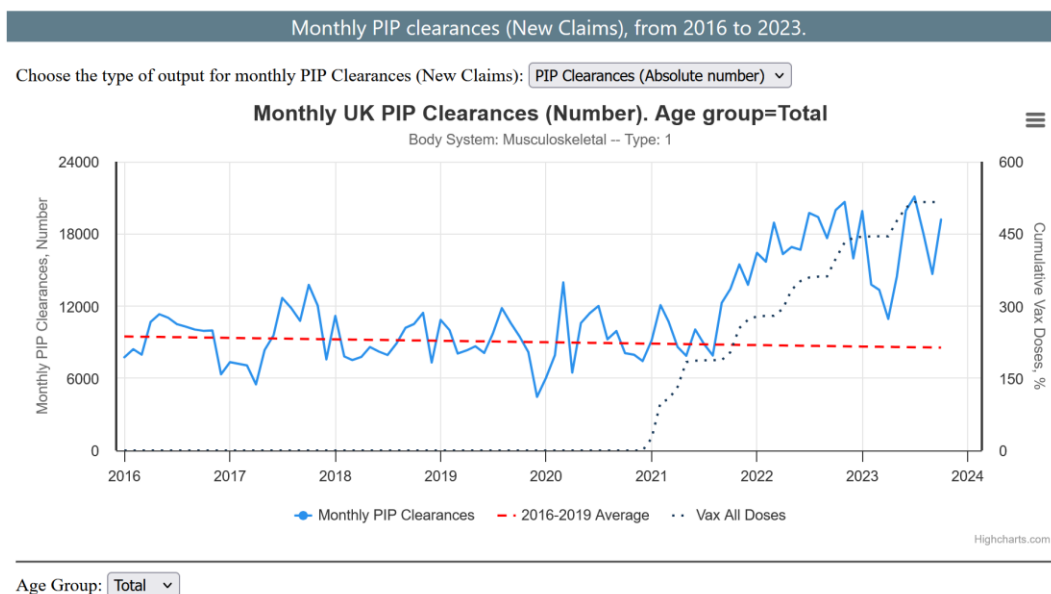


Figure 2 – UK musculoskeletal disability claim clearances.

It should be noted that the PIP grants are attributed to working-aged individuals, aged 16 to 69 and do not show how older individuals are affected as per our research paper on musculoskeletal deaths in the US. As previously mentioned, musculoskeletal conditions do not generally lead to death, but instead are associated with other co-morbidities.

The rise in disability claims from musculoskeletal conditions point to a large rise in morbidity in the population. However, this does not reflect the full magnitude of the effect. The elephant in the room is the unseen damage in the population.

<sup>4</sup> By body system: <https://phinancetechnologies.com/HumanityProjects/PIP%20Analysis-Systems.htm>

By underlying cause: <https://phinancetechnologies.com/HumanityProjects/PIP%20Analysis-Causes.htm>

<sup>5</sup> A review of the Korean paper can be found here:

[https://phinancetechnologies.com/HumanityProjects/Korean%20Adverse%20events%20population%20studies.htm#Nav\\_ReviewPaper3](https://phinancetechnologies.com/HumanityProjects/Korean%20Adverse%20events%20population%20studies.htm#Nav_ReviewPaper3)

### Part 3: How Many Injured with Musculoskeletal Conditions?

It is difficult to estimate how many individuals are suffering from increased rates of musculoskeletal conditions at a population level. At the Humanity Projects we attempt to estimate the population that might be affected by adverse effects from the vaccines (or successive COVID-19 exposures).

To do so, we do a two-tier approach: Firstly, by measuring the fraction of excess adverse events (of any type) during the vaccine clinical trials exceeding the placebo recipients we can estimate the “upper limit” to the expected fraction of the population that could be experiencing lingering side effects. Secondly, at a population level, we measure the rise in absences from work due to illness or injury in the UK<sup>6</sup> and US<sup>7</sup> as an approximation (a proxy) for the wider impact on the workforce. In similarity with our findings on excess disabilities from 2021 onwards, we find a similar rises in lost worktime and absences from work due to illness or injury.

We summarise our estimates in our “Vaccine Damage Project” that attempts to measure the impact of the vaccinations in the population. We estimate that the workforce pool with some kind of injury from the vaccine is about 18%. It should be noted that this is only a high-level estimate using the data that was available to us. A more accurate estimate is only obtainable by conducting systematic population-level survey such as the one performed in Korea by [Park et. al.](#)

With such a large pool of potentially affected individuals in the workforce, at a level of roughly 1 in 5 individuals, it is very likely that all of us can personally observe anecdotal evidence of these effects. Musculoskeletal issues tend to be neglected in the working population as the type of problems that are “normal” in day-to-day busy and stressful lives. It is normal to have an annoying knee or shoulder pain that lingers for months. We assume that “age” is taking its toll and resort to yoga, Pilates, massages and all other sorts of “healthy-lifestyle” exercises to manage the slow decline of ageing.

However, in the last few years, I’m sure that you’re noticing more and more that the old ankle injury recently got more intense and new injuries suddenly appeared out of nowhere. These new injuries do not go away but linger as a background level of pain. If the pain gets severe enough, a surgical operation is proposed and after a successful intervention, we notice that the recovery is slow and sometimes the pain just resurfaces with a vengeance. Doctors are confounded and cannot find the reasons why the pain does not go away, and the inflammation lingers on. In very extreme cases, as was the case with one of my direct acquaintances, in desperation and exhaustion from months of pain and limitations, some people resort to taking their own life.

The pool of chronically injured individuals clearly leads to productivity issues in the workforce. However, for the economy as a whole, the net effect is almost zero. The rise in chronic musculoskeletal conditions (and other health conditions) leads to more demand upon healthcare services to help manage these conditions. From pharmaceutical products for pain management, anti-inflammatory medications to medical and nursing services, to all the scientists that investigate the underlying technologies, a whole industry is put to work. This is a clear example of “the broken window fallacy” as the opportunity costs of not having these chronic conditions in the first place is unaccounted for.

### Part 4: Accurate Diagnosis Can Lead to Accurate Treatments

The path towards finding the cure to the chronic disease problems starts with diagnosing correctly the origin of the problem. In this way medical care can be targeted at the problem instead of the symptoms that manifest differently from individual to individual.

The rise in post-vaccination incidence rates of inflammatory musculoskeletal diseases shown in the paper by [Park et. al](#) suggests that the most likely underlying cause from the “strange” rise in musculoskeletal conditions observed at a population level have a common origin and likely a common mechanism of action. Our research at the Humanity Projects is aimed at providing insights into the possible mechanisms of

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<sup>6</sup> <https://phinancetechnologies.com/HumanityProjects/Projects%20-%20UK%20Absences.htm>

<sup>7</sup> <https://phinancetechnologies.com/HumanityProjects/Projects%20-%20US%20Absences.htm>

action, through systematic analysis of mortality and morbidity data. Even though the treatments for such conditions are not the scope of this post, we are pleased to observe that other non-conventional and forward-thinking researchers have made significant progress in understanding the underlying mechanisms that lead to the inflammation as well as effective treatments to reverse it.

With these combined efforts we hope that the "broken windows" are fixed effectively, and that lessons are learned to avoid breaking new windows.