HOST: We talked this week with Ari Minino, a statistician with the NCHS Division of Vital Statistics and co-author on a new report out on October 28th on COVID-19 mortality in 2020 by occupation and industry. The report was a collaborative analysis conducted by NCHS and NIOSH - the National Institute for Occupational Safety and Health.

HOST: Before we get into what your study is all about, can you briefly tell people or caution people what your study does not cover.

ARI MININO: The study is limited to information on what the usual occupation and industry of the decedent was. That is, what was the work or usual job that the person did for most of his working life. So this is not, for example, a study on exactly where it was that the person contracted the condition - in this case COVID-19. It is a study trying to associate the co-determinant of work which is co-determinant of health and how that relates to the, in this case the risk of the person died from COVID-19. That is a delicate distinction, but I think it's important one.

HOST: So, in this study your coauthors actually were from the National Institute for Occupational Safety and Health, is that correct?

ARI MININO: That's correct. Yeah, it's important to note that this is a close collaboration between the National Institute for Occupational Safety and Health and the National Center for Health Statistics and this goes back many decades ago. We used to have data on the usual occupation and at the industry of the decedent included as part of our mortality data for the years 1984 through 1998. And it was only recently - and probably I'm going to say it started in 2018 - there was a signed agreement between the two agencies that we started working towards trying to incorporate these data again into the mortality data. And so the first year that we're including this data is for 2020 and we're very excited, very happy that these data are finally part of the mortality, national vital statistics file, and this report that we're discussing is kind of like our introduction to that. And my colleagues, Dr. Andrea Steege and Dr. Rachael Billock, they were the true driving force for this study, and they produced most of the coding and they did actually all of the analysis, all the analytical work. And they were with us in NCHS on a detail for the duration of the period of this study, when this study was conducted.

HOST: It's obviously very difficult or almost impossible to determine where and how anyone gets COVID, and so that's one of the limitations you wanted to point out, out front, correct?

ARI MININO: That is correct. One other important limitation of this work is that this is not a complete global or universal variable in the sense that it does not cover all of the decedents but has some specific limitations. We only included data for 46 States and New York City, which is a separate registration area, and we only include information for decedents age 10 years and up to 64.

HOST: And just for those who aren't familiar with the terminology, when you say "decedent" you're talking about the people who died, in this case from COVID-19.

ARI MININO: That is correct. This information is entirely based on information collected from the death certificate of all the diseases or in this case the decedents who died from COVID-19.

HOST: Now, turning to what your study did uncover, your study found some interesting things about mortality from COVID-19 and occupation. And what was in your view the biggest finding in your new report?

ARI MININO: Well, the biggest finding is something that was sort of expected which is that when we discuss risk, the specific occupation that the decedent had or the usual occupation of this varied quite substantially in terms of the risk of dying from COVID. For example, when we look at the death rate, which is only one of the measures that we looked at, we found that workers in protective service occupations were the ones who had the highest death rate from COVID.

HOST: And when you say "protective services" give us some examples.

ARI MININO: These are policemen, these are people working building security, that type of occupation. So the other group that had very high death rates were people who worked in accommodation and food service industries. These are people who work in, for example, hotels. These are people who work in restaurants.

HOST: OK so these are the occupational settings where you mentioned you would expect to see sort of higher mortality. Were there any surprises in looking at COVID mortality across different occupational settings?

ARI MININO: There were some surprises. In particular, when we looked at the measure that we called the "proportionate mortality ratio." And this is not an indication necessarily of risk, but rather of a disproportionate amount of or a disproportionate count of people who died from COVID-19 relative to all the other decedents. This is not a measure that can exactly relate to risk necessarily. This particular way of looking at decedents, we found some variation when we look at deaths by race and Hispanic origin. In particular, in the way in the specific occupations that showed higher proportions of COVID-19 mortality.

HOST: I guess what you're saying is that there were demographic groups with higher COVID mortality and some interesting comparisons along occupational lines, is that correct?

ARI MININO: Yeah and something that is important is that we used two measures. The main measure that we use, the statistical measure, is the "proportionate mortality ratio." And we use that to analyze the differences. In particular, among the different race and Hispanic origin groups. That's because we didn't have a good sample size with the denominator data. And it's very difficult to get denominator data for these occupation and industry groups because the Census is not geared exactly to look at that, and to produce good estimates for that. And so we looked at PMRs, and that is something – it's very important to distinguish that, for example when you look at a high PMR, it does not necessarily mean that there is a higher risk for the condition, just because we found a high PMR for a particular occupation. It just means that there's a disproportionate number of COVID-19 deaths among the decedents, and its just the numerator.

HOST: Doesn't that sort of speak to the broader issue - that we're not really assessing risk with this study, right?

ARI MININO: Yeah, with the measures that are done using the death rate, yes they do speak to risk because we do use a denominator that was available from census that would fit the numerators but--

HOST: The other measures, that's a different story.

ARI MININO: It's a different story, yeah. You see that the results when we look at PMRs and in particular when we look at PMRs by race and Hispanic origin, we find that when we look at the non-

Hispanic American Indian and Alaska Native population, for example, as well as for non-Hispanic white, we find that the highest PMRs were for people with occupations in community and social services types of occupations. However, when we look at non-Hispanic Asian and non-Hispanic Black, decedents were observed among those in protective service occupations - same as we found for the overall population.

HOST: And again, that is using the "proportionate mortality ratio."

ARI MININO: Uh-huh.

HOST: And you indicated that that isn't necessarily a measure that defines risk but rather—

ARI MININO: A disproportionate number of COVID-19 deaths among that particular group when compared with the rest of all of the decedents in that particular group for all other occupations.

HOST: So we would close then by asking if there's anything else you'd like to mention about your study?

ARI MININO: I think this is a good introductory study for bringing in awareness about how we have these data for 2020. Because these data, even though we had industry and occupation data for a selected number of states between 1984 and 1998, this is the first time that we've included these data in the mortality file. And I think – well, because of course of the pandemic situation - I think I thought that it was a very good idea to do an introductory study focusing on COVID. But this is only the first of a series of studies that we have planned. And we're gonna be looking at drug overdose and industry and occupation on how those how those two relate in terms of mortality.

HOST: Well thanks very much for joining us Ari.

MUSIC

HOST: October was a busy month for NCHS, starting with the release of the latest [quarterly provisional birth data](#) in the United States on October 11th. The quarterly dashboard features data on a number of measures, including the fertility rate in the United States. The general fertility rate is the number of births per 1,000 females ages 15-44, and the rate increased from 55.2 to 56.4 in the one-year ending in Quarter 2 of 2022 compared with the previous year.

The next day, on October 12th, NCHS released the latest summary health statistics for [children](#) and [adults](#) in the United States, based on data from the National Health Interview Survey or NHIS. This dashboard features a wealth of data on a variety of measures, including smoking. The NHIS data shows the percentage of adults in the U.S. who smoke cigarettes has declined from 14% in 2019 to 11.5% in 2021.

The same day, NCHS released the latest [provisional monthly estimates](#) of drug overdose deaths in the nation. 108,022 Americans died from overdoses in the one-year period ending in May of 2022.

The following day, on October 13, NCHS released a new [report](#) on telemedicine use for 2021. The study, featuring data from the NHIS, showed that 4 in 10 adults in the United States used telemedicine in the past year.

That busy week closed out on October 14 with a new [study](#) on COVID-19 mortality among older Americans age 65 and up. The study showed that during the first year of the pandemic, the death rate

from COVID for people age 85 and up was nearly three times higher than the rate for people ages 75-84, and seven times higher than the rate for people ages 65-74.

The following week, on October 19, NCHS released a new report on fetal deaths in the United States from 2018 to 2020. The study showed that there were nearly 47,000 fetal deaths at 20 weeks of pregnancy or longer during this period.

NCHS rounded out the month with three new data releases in the last week, starting with an October 25 study on COVID-19 mortality during the first year of the pandemic by urban-rural status, showing as expected that people living in the most urban areas of the country had higher mortality from COVID than in other geographic areas.

And on October 26, NCHS updated another of its quarterly dashboards, this one on leading causes of death in the country, through the one year period ending in Quarter 1 of 2022. The data show a drop in the country's death rate during this period compared to the year before.