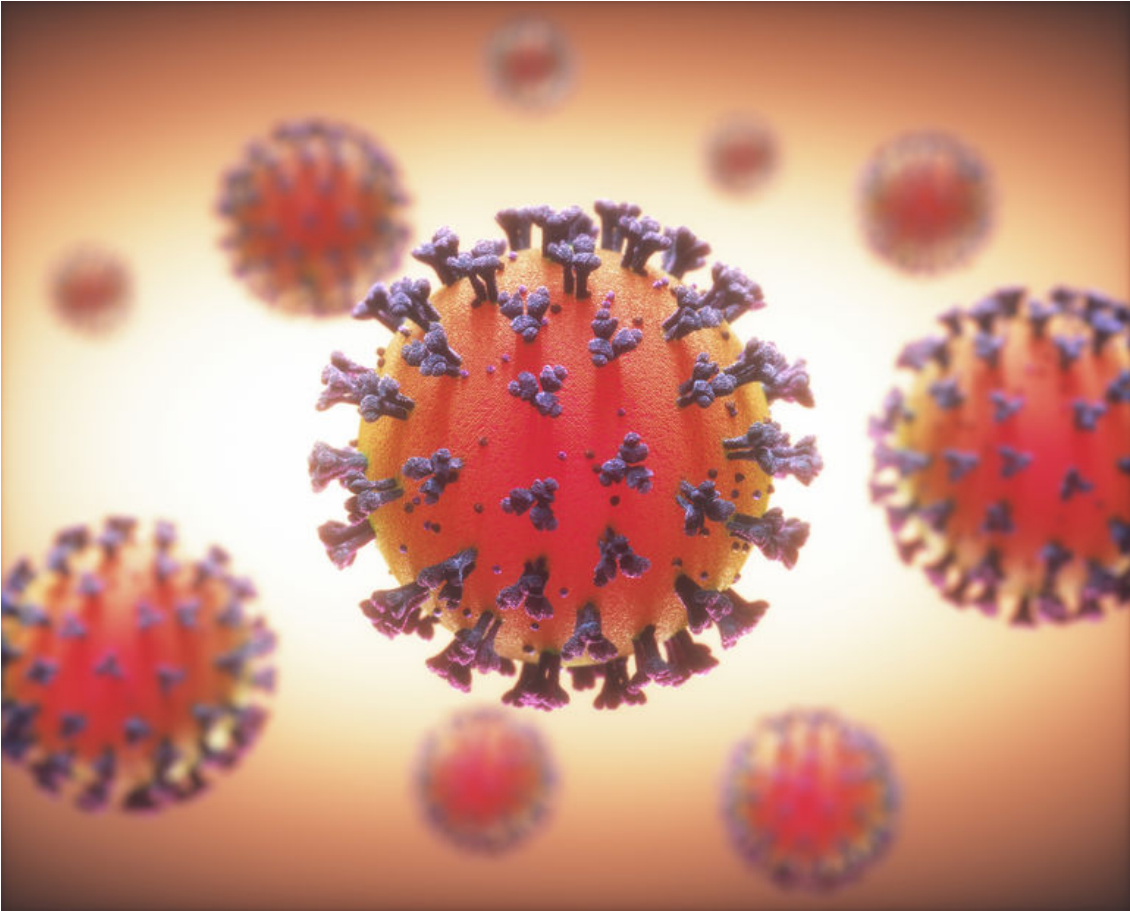


Men and COVID-19

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This is a new disease



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- Coronavirus
- COVID-19
- SARS-CoV-2

12th May



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2,441 Results for term "covid-19"

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COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv

13th May



2,638 Results for term "covid-19"

Nearly 200 more scientific papers in 24 hours

What we know

- Generally about equal between men and women testing positive – in Ireland more women are testing positive for the virus
 - (13,129 [57.35%] women, 9,698 [42.36%] men in Ireland, 67 (0.29%) unknown gender)
- Men are more at risk of developing serious illness
- Men may be recovering more slowly from the virus
- 1476 deaths in Ireland - Men have a higher death rate (51%) men, (49%) women in Ireland)
 - Deaths among confirmed cases 7.5% male, 5.2% female

Transmission of the virus?

- Droplet
 - Sneezing
 - Coughing
 - Laughing
 - Singing
- Mist
 - Clouds of tiny aerosol droplets
- Formites
 - Hard objects



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<https://quillette.com/2020/04/23/covid-19-superspreader-events-in-28-countries-critical-patterns-and-lessons/>

Common symptoms in hospitalised patients

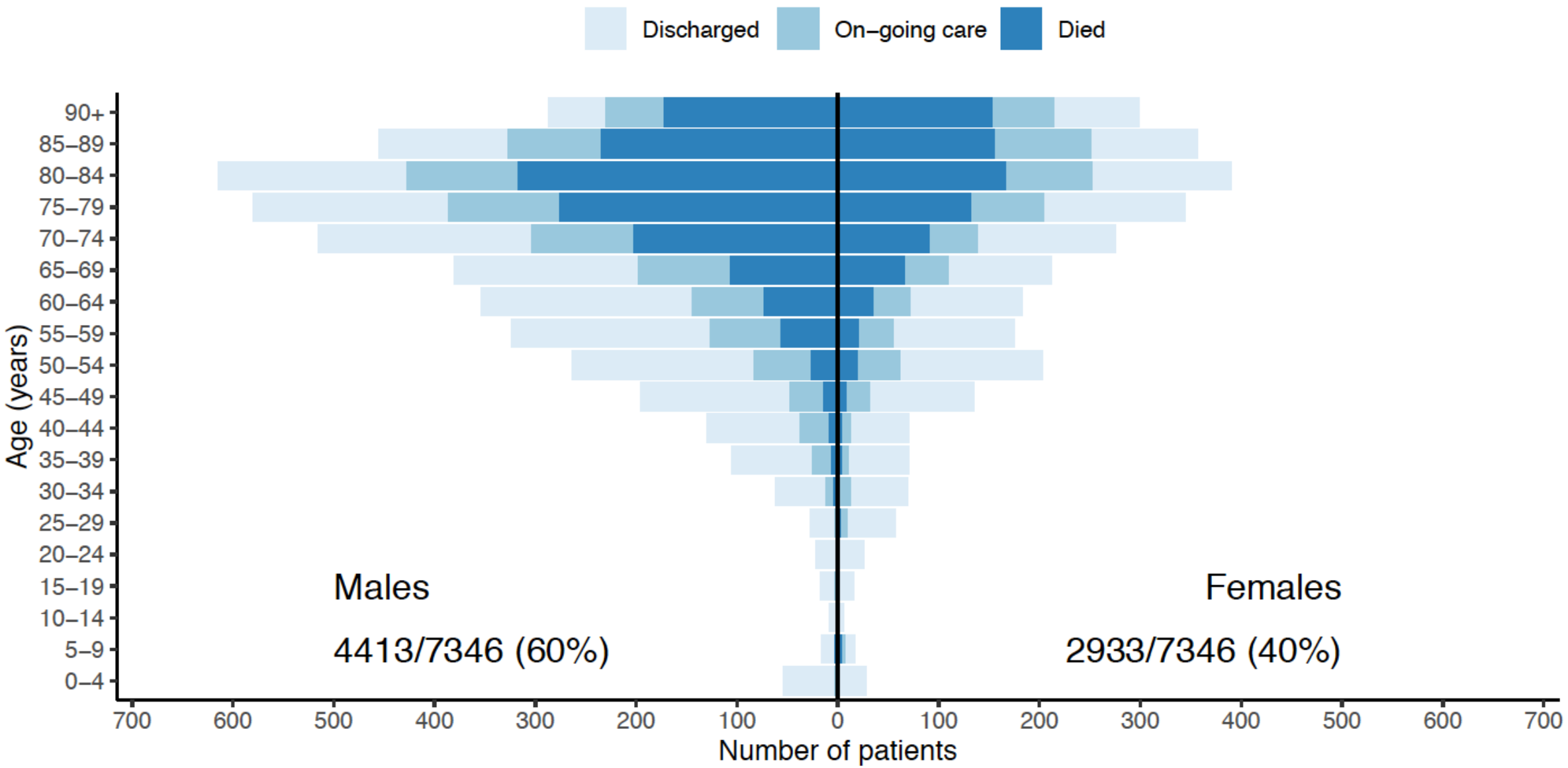
- Respiratory (cough (70%), fever (65%), shortness of breath (65%), sputum, sore throat, runny nose, ear pain, wheeze, and chest pain)
- Systemic (myalgia, joint pain and fatigue)
- Enteric (abdominal pain, vomiting and diarrhoea).

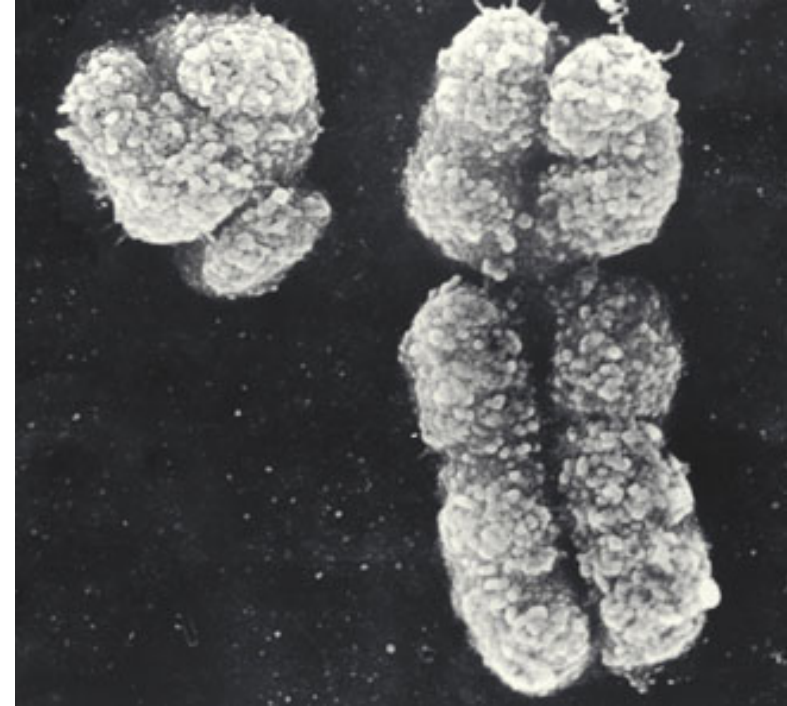
~80% mild case
~14% severe case
~5% critical
~98% survival

Severe disease

- Bigger dosage of the virus
- Older age – over 65 years (median age 72 years)
- Respiratory disease – COPD (19%) Asthma (14%)
- Cardiovascular problems - hypertension, heart failure (29%)
- Diabetes (19%)
- Obesity
- Chronic renal disease / liver disease
- Immunocompromised

Patients with outcome stratified by age, and sex



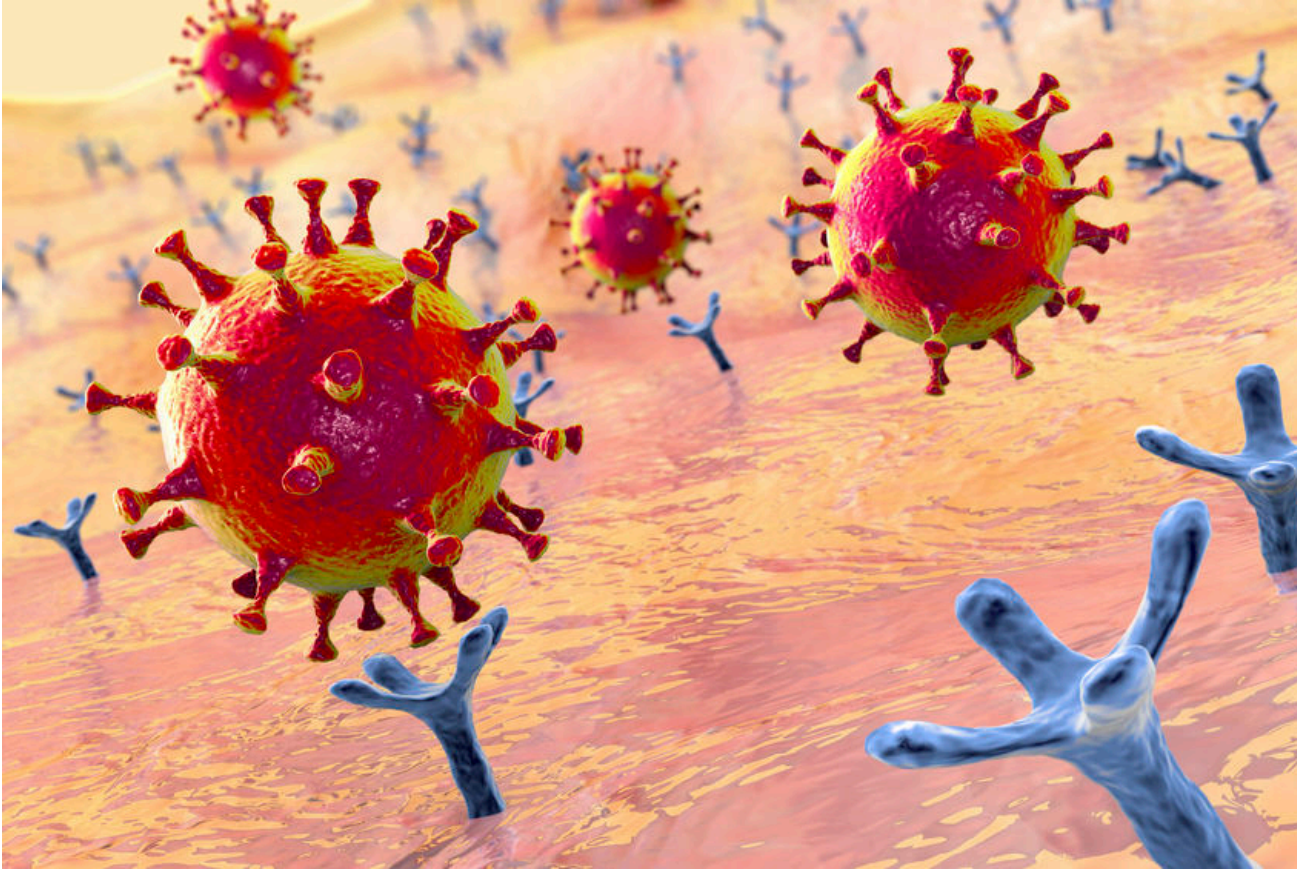


https://evolution.berkeley.edu/evolibrary/news/140513_ychromosome

Possible biological explanations

- **Age** – Over 65's more vulnerable but men have higher rates of severe disease at earlier ages
- **Co-morbidity** – men have higher rates of CVD, renal disease, diabetes, respiratory illness
- **Obesity** – Linked with metabolic syndrome, epithelial dysfunction & ACE2
- **Women have stronger immune response** – Oestrogen, TLR7 gene
- **Testosterone** – Immuno-suppressive
- **Angiotensin-converting enzyme 2 (ACE2)**

Angiotensin-converting enzyme 2 (ACE2)



Acts as the key to get the virus into the cells

More highly expressed in men & patients with obesity, CVD, diabetes and smokers

It becomes damaged and cannot do its main function, which leads to increased risk of severe disease

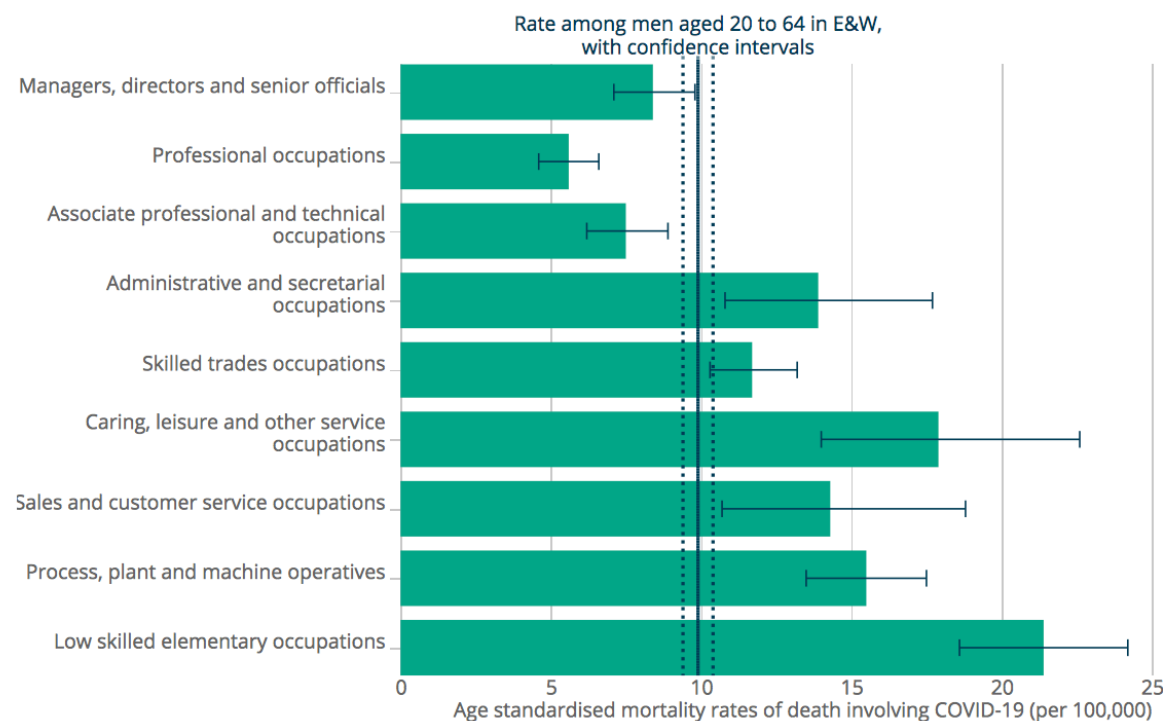
Intersectional factors and COVID-19

- Ethnicity / Race
- Poverty
- Housing / working conditions
- Migrant / asylum seekers
- Access to health services

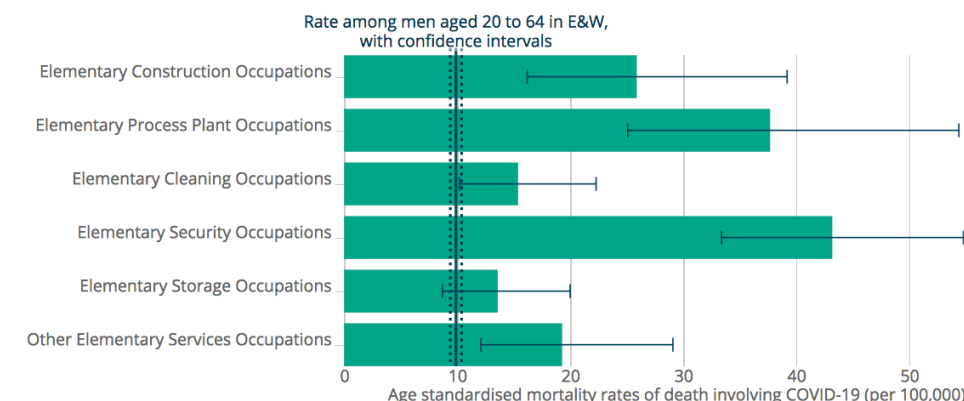
Behavioural factors?

- Smoking
- Alcohol
- Handwashing
- Social distancing
- Denial of risk
- Delayed help seeking
- Health literacy
- Nature of work for men – commuting, close working environments (vans, building sites)
- Patterns of behaviour and cultural practices – religion, sport, pubs

Men's risk of death by occupation as a result of COVID-19 (Age-standardised mortality rates), England & Wales



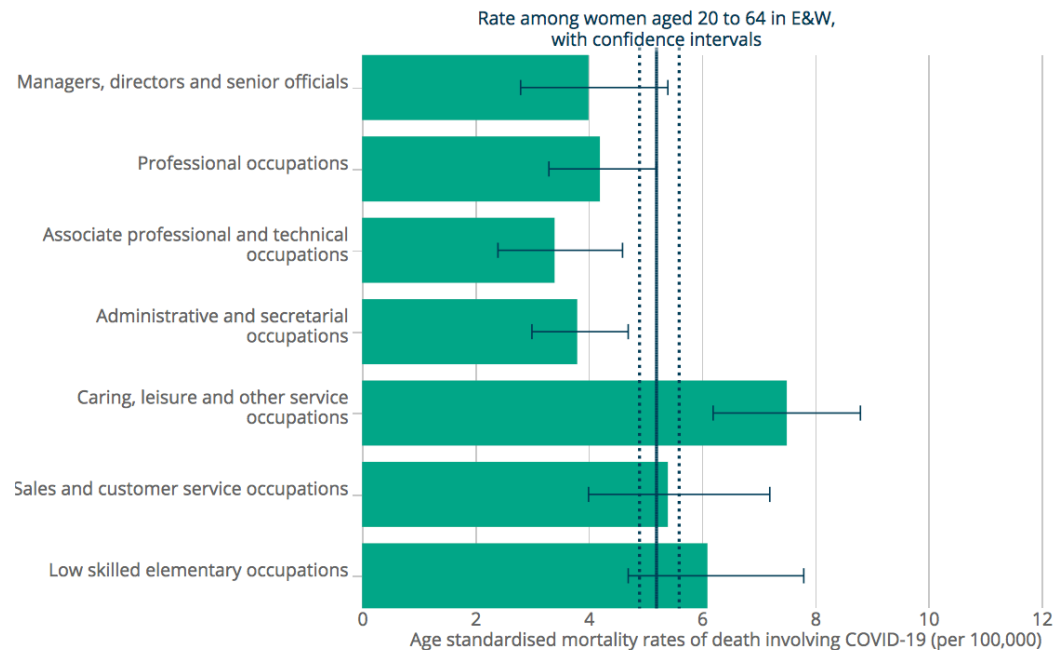
Source: Office for National Statistics



Source: Office for National Statistics

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/bulletins/coronaviruscovid19relateddeathsbyoccupationenglandandwales/deathsregistereduptoandincluding20april2020>

Women's risk of death by occupation as a result of COVID-19 (Age-standardised mortality rates), England & Wales



Source: Office for National Statistics



Source: Office for National Statistics

What we don't know

- Data disaggregation - sex + (weight, chronic conditions ...)
- Intersectional data – sex/gender + (age, ethnicity, socio-economic status, disability ...)
- Impact on other diseases - STI's, missed diagnoses, delayed treatments
- Impact on mental health
- Impact on testicular function and fertility

Wider impacts

- Fatherhood
- Relationships under lockdown
- Intimate partner violence and abuse
- Effect of social isolation and separation from family
- Boredom and worklessness
- Economic consequences and long term financial insecurity
- Changes in our patterns of behaviour – activity levels, diet, socialising, working practices

Summary

- This is a new disease and we are in uncharted territory
- Men have a higher risk of serious disease and death
- There are biological as well as socio-cultural factors at play
- The consequences for men are many – physical, mental, social, economic
- We need a concerted effort to help men get onto the road to recovery