Men and COVID-19

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This is a new disease

- Coronavirus
- COVID-19
- SARS-CoV-2
Nearly 200 more scientific papers in 24 hours

https://www.medrxiv.org

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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

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

Age (years)

Males
4413/7346 (60%)

Females
2933/7346 (40%)

Discharged
On-going care
Died


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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

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

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