COVID-19 and Risk – Online Summit

On 10th November, The Society of Occupational Medicine (SOM), The Faculty of Occupational Medicine (FOM) and the University of Glasgow held a summit to review how reducing one risk to control COVID-19 will cause risk elsewhere.

INTRODUCTORY COMMENTS - PROFESSOR EWAN MACDONALD

In 1957 US Surgeon General Burney wrote of a future pandemic: *"I am sure that what any of us do we will be criticised either for doing too much or for doing too little. If it does occur, I hope we can say that we have done everything and made every preparation possible to do the best job within the limits of available scientific knowledge and administrative procedure."* Our world of occupational medicine and health and safety is based on risk assessment: is the pilot fit to fly the plane? is the train driver fit to drive? is the surgeon with early Parkinsonism fit to operate? what are the risks of occupational exposures? And, in a COVID pandemic, is it safe for the worker with a high COVID Age to return to their job?

Advising workers and workplaces requires competence in risk assessment and control and so I was shocked by initial guidance on PPE issued to the health service which demonstrated either incompetence or a lack of preparedness and made me realise that health care workers were going to die because of preventable occupational exposures. And so we applauded our NHS workers every Thursday and called them heroic, which indeed they are but far too many have died because of their work. This in a world where we can put a worker into the core of a nuclear power station without harm and equip an astronaut to go for a spacewalk.

Nowadays workers should never die because of their occupations. At the onset we had to shield the vulnerable, who without notice received a letter from the government to tell them that they were at risk. For many this was very traumatic and whole families have lost their jobs because they believed they had to protect a family member and had stopped work. "We are ruined," said one extremely anxious parent. The mental health consequences of COVID are significant. For a time it seemed that all routine NHS activity had stopped, and General Practice doors were adorned with large signs saying do not enter. NHS appointments were cancelled, follow up investigations for cancer significantly delayed, and it is likely that the deaths due to the interruption of the process of general health care will kill more than COVID. The interruption of care has also prolonged sickness absence and caused job loss and the medical profession in general has a blind spot about employment and unemployment.

The challenge we face today has been summed up by the CMO, Professor Chris Whitty - "*in every direction we go there are harms, and we are trying to find the least harmful combination of things we can do*" – and so I hope that today widens our understanding.

The event brought together global experts – academic, public health and scientific leaders addressed questions such as:

- Does unemployment create a bigger societal risk to health than COVID-19?
- Are scientific approaches to individual and societal risk to COVID-19 challengeable?
- What long-term approach to risk should medical leaders take to the public?
- Do people understand risk and what level of risk can we afford?

First to speak, introduced by **Dr Anne de Bono, President of the FOM** was **Dr Oliver Morgan, Director, WHO Health Emergency and Risk Assessment** who gave his thoughts on *Balancing risk in Health, Economy and Society*. With over 50 million COVID-19 cases recorded, more than 1.25 million lives lost, and many more lives lost indirectly, he said we are now living in a world where everyone is trying to manage risk. He suggested we balance the public health response to control against considerations of the impact to society and balancing economic concerns. The scale of the WHO's role in assessing public health risks is huge, with 9 million pieces of information processed each month, 7,000 signals screened, 300 events investigated, and 10 risk assessments made. He offered the example of a recently concluded

two-year long Ebola outbreak in the DRC, where there was debate about travel restrictions, with concerns that no travel to Rwanda and Uganda would cut off important communication routes for the population. He suggested pandemic risks can be split into three levels:

- Emergence – including exploitation of ecosystems, and climate variability and change,
- Amplification – including poor living conditions and unsafe health care settings, and
- Propagation – including domestic and international travel.

Managing pandemic risk is dynamic, and we must balance changes as epidemiology changes. He finished with a reminder that every day we balance risks, and on the most part we are good at it – however we can also become overwhelmed with information, a challenge for all.

Professor Sir Michael Marmot discussed inequalities in COVID and explained how the pandemic reveals underlying problems in society and amplifies them. While the initial consensus had been that COVID-19 was a great leveller, we were soon disabused of this notion. He said it is anything but and has only exaggerated the persisting inequalities in society. Professor Marmot drew a clear link between how the UK is faring during COVID-19 to how we were faring prior. 2010-11 saw life expectancy slow dramatically, and improvement was slower in the UK than other rich countries in Europe. Regionally, if you were rich your life expectancy was the same regardless of where you lived; if you were poor, life expectancy was declining everywhere, except in London. Numbers of excess deaths from COVID-19 in the UK are the worst in Europe. The COVID-19 mortality in the UK follows a similar social gradient to non-COVID mortality. High COVID-19 mortality rates are likely to be found in those living in overcrowded multigenerational households and working in public-facing roles. Black British women score high for COVID-19 mortality, but when we adjust for geography and deprivation most of this is accounted for. Professor Marmot referenced a question he had posed before: Why treat people and send them back to the conditions that make them sick? What happened between 2010-20 left the UK in a poor position for the pandemic; e.g. the rolling back of the state. Local councils saw large cuts in spending with, ironically, the greater deprivation the area had, the greater the reduction in spending. There is a supposed trade-off between managing the pandemic and managing the country. The UK managed the pandemic badly and had one of the greatest reductions in GDP. Figures show that the lower a country's excess mortality, the lower the reduction in GDP. There is no trade off – manage the pandemic well and you do not have the same economic hit. It comes back to how we are doing as a society. When it comes to building back better, Professor Marmot suggested we learn from New Zealand, whose wellbeing approach seeks to enable citizens to live lives of purpose, balance, and individual meaning. *"We need to put wellbeing at the heart of what we are trying to achieve."*

Dr Richard Heron (BP) talked on *perspectives from industry*. The COVID-19 pandemic has revealed significant opportunities to improve the workplace health literacy – understanding how exposure to complex health risks not only affect worker health outcomes, but also organisational productivity and national prosperity. While it is difficult, it is also important that we strive for simple, consistent, messages, especially when faced with novel situations, such as COVID-19. It is also important to ensure that preparedness extends beyond immediate crises and incidents towards sustained management of enduring risks (such as changing patterns of infectious disease). These should remain high on every organisations' risk registers. When we commit to continuous improvement, a central part of what we do as leaders, our advice will necessarily change as new information becomes available. It takes courage to stand by informed course corrections and it takes trust to remain credible; these corrections should be seen not as U-turns, but essential evidence of a learning culture – as George Bernard Shaw said, "Those who cannot change their minds cannot change anything." In a world of immediate data visibility pre-published, unreviewed, and syndicated through social media we have a significant role in applying the principles of "good science" to understand and draw inferences. In COVID-19, multiple pre-publications without peer review have caused swift reverses in policy (ibuprofen use and potential of hydroxychloroquine for

example) which amplify a distrust of "the science". We have a key role in synthesising the information for our audience, and then communicating effectively; imparting knowledge is not enough if it is population behaviour change we seek, and trust we need to maintain. When it comes to pandemics our public health roots remind us yet again that we have to take a population approach, and global pandemics do not respect national borders. The future is uncertain, so we must be curious, hopeful, decisive on direction, prepared for course corrections and always have one eye on the rear-view mirror.

Professor Julia Hippisley-Cox talked through The QCOVID clinical risk stratification tool, its development and value. The tool is a living prediction algorithm, published in BMJ. With the virus likely to change, knowledge is likely to change. It is a dynamic model, funded by NIHR, using the data of 10 million currently registered patients in UK. She suggested some caution in predictions as some patients had already started to shield before national guidance came in, so there will be some underestimate of risk. Results of validation show the model is robust and results likely to be generalizable to UK. It Is also efficient at risk stratifying the population and will identify different groups at risk. There are plans to make this available more widely for doctors and patients in the NHS.

Professor David Coggon OBE and Dr Tony Williams discussed *COVID Age - Workplace risk* and their development of the Covid-age tool, which is now the tool of choice for Scotland and Ireland. Dr Williams said we need to focus on the most vulnerable, particularly those in caring roles who often work outside the NHS. They may well have limited or no occupational health (OH) support, and if they cannot work, they do not get sick pay. Lockdowns are immensely damaging to the most vulnerable in society. Shielding those of working age is immensely damaging to them and their families, in most cases for no good reason. Organisations can make themselves COVID-secure, and if they are, they should be allowed to continue to function. David Coggon described how Covid-age provides estimates of relative and absolute vulnerability to COVID-19 according to demographic characteristics and health-related variables in people of working age. Vulnerability is assessed in terms of infection-fatality rate, and risk estimates are derived through regularly updated critical review of published epidemiological studies. The main sources of data have been large cohort studies in which data on potential risk factors, ascertained from general practice and hospital records, were linked to data on mortality from COVID-19 obtained from death certificates or hospital records. Allowance is made for the possibility of bias from differences in exposure to infection (for example, because of regional and socioeconomic variation or selective shielding), and where possible, risk estimates have been triangulated between more than one source.

Professor Trish Greenhalgh OBE talked about the risks and lived experience of long COVID. Professor Greenhalgh explained that Long COVID is COVID symptoms persisting for longer than a month (‘post-acute’) or 3 months (‘chronic’). Its incidence is contested: some say 10% for post-acute and 1% for chronic – but it is likely to be higher. Symptoms are many and varied but fatigue, breathlessness, and cognitive impairment (“brain fog”) dominate. Patients with long COVID describe difficulties accessing services, difficulty being taken seriously, and variable standards of care. Patient-generated quality principles for long COVID include:

- Access (for everyone with long COVID, not just hospitalised people)
- The burden on the patient (reduce)
- Clinical responsibility and continuity of care (a named clinician should be available)
- Multi-disciplinary rehabilitation is needed for many but not all cases
- Evidence based standards and guidance will help reduce variation in care
- Further research is needed, with a priority on acknowledging the condition

For patients with Long COVID there is a risk of losing or becoming unsafe in their job.

Professor Maggie Rae, President of the Faculty of Public Health (FPH) said we need to recognise health and economy are not a choice, they are inextricably related. What we need

to achieve? "*There has been so much talk about trying to protect the NHS but what we have not heard enough of is one of the best ways to protect the NHS is to maintain a healthy workforce*". Workers in public health have been in major incident mode since January, and this will inevitably lead to an increase in mental health problems such as anxiety. She said test and trace are not performing well. Local and regional response has been 95% effective – a better option would be a test and trace programme that was integrated with the current system. FPH has been advocating for proper testing in the workplace. One of the most serious challenges for FPH is communication. Professor Rae talked about the importance of occupational health (OH) – protecting the lives of those on frontline; some may struggle to return through mental trauma, Long COVID, caring duties and many other reasons. OH is the link between healthcare and the workplace and specialised OH expertise is essential to tackling COVID-19. Professor Rae emphasised the importance of access to OH for everyone who is in work. Even more intense services will be required to support people. Public Health and OH must work together, and collaboration should extend into training.

Sir David Spiegelhalter OBE FRS discussed *Communicating risks*. A key message is that age is the dominant risk factor for COVID morbidity and mortality, and this should be made explicit in all guidance. Sir David spoke of the incredible challenge for risk communication that COVID had posed. For example, he had said that the chance of dying if you catch COVID closely matched the normal risks that we face each year, but his words were misinterpreted by the media, giving the wrong impression of COVID-19 risk of dying. He identified some challenges of communicating risk – are we trying to just inform or to persuade? Who are we communicating to? Which risk are we talking about; risk of catching, dying, hospitalisation? Risk in first or second wave? What does 'high risk' mean to people when talking about risk of death from COVID-19? People hugely overestimate the risk of dying from it, but does this matter? If we gave the right numbers would it solve it? No, we must give some context. He concluded that people want this information, and that when presenting it – colour with care, use negative framing, percentages seem clearest, age comparators are useful.

Professor David Heymann CBE presented on *Living with the COVID-19 pandemic: using the tools we have*. Professor Heymann talked us through the history of coronaviruses. SARS stopped through concerted global effort, did not become endemic; whereas MERS is endemic in camels, not humans. So, is COVID-19 destined to become endemic? What we know about COVID-19 has come from Asia. By 20th Jan they were already detecting outbreaks and providing epidemiological data. We know that COVID transmits very easily in closed spaces. At least 7% of infections occur in the presymptomatic phase, but modelling has said it could be up to 40%. Japan has taken a cluster-based approach – identifying contacts, including backwards, and isolating them. They found that much of the transmission was occurring in nightclubs, so they shut down the nightclubs. No country in Asia has locked down like Europe has done – they have been very precise in their lockdowns.

Professor Heymann said there is misunderstanding about herd immunity. We do not have enough information yet to know if it will be possible with COVID-19 e.g. if protective immunity is possible or how long immunity lasts. There may be an unacceptable level of mortality with herd immunity that will be in the elderly. Vaccination with long-lasting immunity in all populations is the surest way of attaining herd immunity. Herd immunity can still be difficult to obtain with a vaccine. He suggested we can live with the virus without a vaccine, if we rapidly detect, isolate, and manage, investigate outbreaks, decrease community transmission. Returning to international travel there is a difficult way forward. WHO infection numbers are reflective of a country's testing system, not actual numbers. He concluded by saying, in terms of the work environment, occupational health is key to getting people back to work.

SOM Patron David Blunkett concluded by discussing the importance of getting the proposed *Centre for Work and Health* off the ground, which would have assisted with the response to the crisis. He spoke of the mental health and musculoskeletal effects of working from home

and that people need to get out of the house not hunched over the computer all day. This was echoed by **SOM President Anne Harriss** who mentioned mental health issues and the dangers of working from home e.g. when home is not a safe place, issues with childcare, multiple workers, and IT issues.

Conclusion

A key risk is interruption to NHS routine care. This poses a risk to the health of the nation, and prevents people staying in work. The outcome of this is yet to be seen.

There is also risk from unemployment. Studies have shown a clear link between unemployment and shortened life expectancy[1], significantly elevated risk of suicide[2] and non-fatal self-harm[3]. Of the 33 million UK citizens who were working before the COVID-19 outbreak, 9.4 million have been furloughed, and 2.6 million self-employed are claiming financial support. Almost 700,000 jobs have disappeared in the UK, and many are facing long-term unemployment and financial difficulties[4].

Has the medical community not articulated well enough the significant health risks (including vastly increased mortality) of unemployment?

There needs to be better links between research and policy, that could have prevented mistakes. Could aspects of the pandemic have been handled better if institutions like the proposed *Centre for Work and Health* were in place?

[1] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4677456/;
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1733024/;
https://academic.oup.com/jpubhealth/article/35/2/313/1544364
[2] https://pubmed.ncbi.nlm.nih.gov/26359902/
[3] https://pubmed.ncbi.nlm.nih.gov/26655123/
[4] https://www.bmj.com/content/370/bmj.m3600