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The coronavirus pandemic: learning from international experience

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Based on the Ordinance of the Minister of Science and Higher Education, in August 2020 the President Stanisław Wojciechowski State University of Applied Sciences in Kalisz, Poland was transformed into the Calisia Academy. The inauguration of the new academic year at Calisia Academy took place on 19 October 2020. As a result of the long-standing scientific cooperation with the Academy's Institute – European Observatory of Health Inequalities team, the Rector of the Calisia University, prof. Andrzej Wojtyła and the Director of the Institute, prof. Witold Zatoński, invited prof. Martin McKee to deliver the inaugural lecture.

Martin McKee is Professor of European Public Health and Medical Director at the London School of Hygiene and Tropical Medicine. He is also Research Director of the European Observatory on Health Systems and Policies and Past President of the European Public Health Association. He trained in medicine and public health and has written extensively on health and health policy, with a particular focus on countries undergoing political and social transition.

Professor McKee's inaugural lecture was entitled "The coronavirus pandemic: learning from international experience". The video recording of the lecture is available at: https://www.youtube.com/watch?v=2DYAqGNwoMo&feature=youtu.be in English, or at https://akademia.kalisz.pl/inauguracja-roku-akademickiego-2020-2021-2/ with Polish translation. The transcript of the lecture is presented below.

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It is an enormous privilege to be invited to talk to you at the beginning of this academic year.

Public health is more important than ever. Across the world public health professionals have made an enormous contribution to the struggle against the coronavirus. What I want to do in this brief talk is to look at some of the international experiences that we have been gathering over the past few months.

It was only a matter of time. For many years writers such as Laurie Garrett have been warning of the risk of pandemics [1]. In particular they have been warning about the risk of zoonotic infections – infections transmitted from animals. Yet for just as long their warnings have been ignored and of course we are living with the consequences of that now.

When I recorded this talk, the number of deaths from COVID-19 worldwide was over 1 million [2]. There were almost 38 million cases worldwide. Nearly 8 million of them were in the United States, a country that has suffered 215,000 deaths. Poland fortunately has done much better, but nowhere has been spared this onslaught.

The reason why many countries have been affected so badly is that COVID-19 like any epidemic disease follows a course of exponential growth, in other words, the higher the rate of infection, the faster it grows. This is something that is remarkably poorly understood by many people. We can draw the graphs on two scales, with the y-axes on a linear scale and on a logarithmic scale. When we put it on a logarithmic scale, we can see that the rate increases, but it does not look so dramatic. When we put it on a linear scale, we can see that it is rising very rapidly, almost like a rocket into space. Then we can look at the effect of three different reproduction rates. The "R" note is the number of cases that one person who is infected will on average infect themselves. We want to control the disease by getting the "R" number down to below one. If we can get this down to 0.7, then the disease will ultimately die out. In fact, it will die rel-

atively quickly. But if it is even a tiny bit above one, then it will go up dramatically. But if it is two then it will go up extremely fast. Unchecked, the reproduction number of COVID-19 is about 2.5 to 3. So, you can see why it is so important to do something that will stop the transmission and to bring this figure, the "R" number, down to less than one.

At the same time, we have to recognise that many of the things that we do have impact on beyond the transmission of COVID-19. There are direct and the indirect effects of the pandemic [3]. The direct effects are due to people being infected and becoming ill and dying, but the indirect effects are due to isolating people at home, restricting certain non-essential sectors like shops, restricting the use of public transport and the closure of educational facilities. All of these have consequences for mental and physical health. People who are isolated are more likely to become depressed and anxious and have a risk of increased suicide. People who have chronic diseases and are unable to see a physician are more likely to have complications of their condition. So we have to engage in a delicate balancing act to maximise our action against the transmission of the disease, but at the same time minimise the consequences of the lockdown policies. I should stress that this is not a choice between opening up the economy and keeping it closed. We have to keep the reproduction number below one, otherwise it will simply get out of control and we will have to lock down at some point. There are some people who promote an idea of herd immunity but it is completely misplaced, unjustified and has no basis in evidence whatsoever.

The challenge is that we want to stop transmission. We could do that by preventing anybody from meeting one another if we could just isolate everybody for a few weeks, but that would have a huge economic and health cost. It would cause job losses, abandoning people who are in need of care from health workers or social care and those people who have to go to work to keep the country running, keeping the electricity generated, keeping the Internet functioning, keeping the gas supply working and so on.

The first thing I want to do, is to look at responses in different countries. Recently at the excess death rate per hundred thousand population in different countries [4]. The advantage of looking at the overall excess death rate, by which I mean the number of deaths in addition to those we would expect given the time of year in previous years, is that we take into account both the direct and indirect effects. For men – England and Wales is at the top, for women – Spain comes just above it. But there are many countries that have done very well: Bulgaria, Hungary, New Zealand, Slovakia (but these are data from earlier in the year, obviously, the Czech Republic has not done so well recently). What it does tell us, is that a high rate of infection and a high death rate are not inevitable. Some countries have done much better than others, and

there is tremendous potential to learn from each other. There is one obvious reason why some countries have done poorly. Countries that have populist leaders – these are politicians who reject ideas of scientific evidence and who appealed to the mass media, have done particularly pure poorly. Jair Bolsonaro in Brazil, Donald Trump, Vladimir Putin, Narendra Modi. And also, perhaps not as bad, perhaps because he has been constrained by others – Boris Johnson. If we look internationally we also see that the countries that had female leaders – Finland, Iceland, Germany, New Zealand – have all done very well. But there is more going on than that. We published a paper in the Lancet looking at five countries in the Asia-Pacific region and four countries in Europe. In Europe we look to: Germany, Norway, Spain and the United Kingdom, in the Asia-Pacific region – Hong Kong, Japan, New Zealand, Singapore and South Korea. They all implemented lockdowns or movement controls. Hong Kong was very fast, Korea a little bit slower. United Kingdom, and the other countries even slower. They all acted in different ways.

When we do look at these countries, we can find certain overall principles that are associated with success. The first thing is that you need to establish and maintain trust. Quite simply, you cannot expect people to follow your advice, if they do not believe you. This had been a huge problem in the United States and a problem in the United Kingdom, particularly after the close adviser to the British Prime Minister broke the curfew and the quarantine and travelled to several hundred kilometres away from his home but did not resign.

It is really important to have a clear and easily understood strategy. Everybody needs to know what they are meant to be doing and why they are doing it. The strategy should also make sure that everybody has access to information. We should avoid the situation where the people who are working on the ground are not getting the information they need. That unfortunately, has been the case in some countries.

It is really important to set out the goals and ensure that your policies reflect them. Are you trying to suppress the virus? Are you trying to eliminate it? Are you trying to balance the economic consequences in the short term, with the spread of the virus? What are you trying to do? Because if people do not know what you are trying to do then how can they help you to achieve it?

We can see an example of confused messaging in the United Kingdom. The first message was very clear: stay home, protect the NHS and save lives. Stay home that was clear. Do not go out unless you absolutely have to. And the reason was to protect the National Health Service to prevent the hospitals from being overwhelmed the way that it was happening in Italy. But then the government wanted to open up the economy. It did not want people to stay at home anymore. So they changed the message to: stay alert, control the virus and save lives.

Which is fine. Except that people were asking how do I stay alert when I am faced with an invisible virus? How do I control a virus I cannot see? What does it mean for me? What do I actually have to do? A classic example of creating confused messaging and unfortunately creating the conditions for the virus to come back.

In our Lancet paper, we look to the series of key elements that were important in being able to deal with the pandemic. You need to understand what is happening. We need near real time data systems. Obviously, you cannot get information from one second to another, but you should have data within a day or two days at the most. We need data on testing, how many people were tested, how many were positive. But we also need to know their ages, where they are in the country. We need to know where they are working – in the healthcare sector and social care, in food processing and hospitality. If we do not have these data we are flying blind. This is a disease that kills people at all ages. It is more dangerous at old age, but even young people are dying. All countries do have a system for recording mortality, but that often takes time because of the vital registration, the data have to be catalogued in detail, you need to have a lot of information about the underlying cause of death. Maybe you need to have a post-mortem, there may need to be an enquiry into the cause of death, and it can take time. In a pandemic you may need a separate system, recognising that you will have to make some changes, whenever the vital registration data become available, to try to reconcile them. All of the data you collect should be linked to measures of inequality. We should know who is being affected most by this virus, rich or poor, where do they live and where do they work. We need absolute transparency. The data should not just be presented as a picture or a graph. The data should be able to be downloaded for academics, for researchers, for civil society groups, for journalists to be able to analyse, to find out what is happening.

The second priority is community engagement. We will not control the pandemic if we do not bring the people with us. In health services research and public health, we often talk about coproduction. We work with people to develop measures, knowing that it is really important to listen to the people who have to implement them. If we do not understand the practical problems they will face, if we do not understand the barriers that confront them, then we will simply provide solutions that are unworkable. We need to work with people to understand how they can physically distance, where they can wear face coverings. We need to take account of the risk that they face and the feasibility of doing things. Obviously, if you are in a health care facility, you will often need full personal protective equipment. You probably do not need much if you're outdoors, but in crowded spaces you will need something. But there are challenges involved, for example, if you decide to keep restaurants and bars

open. We need to discuss with people who are running shops and restaurants and bars to learn from them and to find a solution that works for them, and that they believe in. We need to look at precautionary measures in schools and workplaces. Education is a priority. If we are closing anything down, schools should be closed down last. We may need to close down schools. Transmission does occur there. We need to remember that it is not just children who are affected, but teachers and support staff.

We need to have honesty and transparency. We also need to work to protect vulnerable populations, and that means knowing who they are and providing social economic support for people who are isolated.

We need strong public health capacity, with public health teams at local level. We need contact tracing to work very well. Backwards contact tracing, not just identifying people who are infected, and to try to get them to isolate themselves, but we need to work around their networks, to address where the sources of outbreaks are. Where did they get infected? Was it in a church, a hospital or in a factory?

We need trust with the local population.

We need a well-functioning laboratory network, and we also need well-functioning transport to make sure that the samples reach the laboratory. Good logistics, to make sure they have supplies of reagents. We need good data systems to make sure people get the result back on time. People need to know if they have a positive result as quickly as possible, so they can tell their contacts, and they can isolate.

But we also need national leadership in public health. We need people to coordinate everything that is happening. We need to develop standards and procedures. We need people who can undertake modelling, who can ask the questions: If I implement this policy, what do I think will happen? And we need researchers to evaluate interventions.

We need capacity in the health system. We need to recognise that COVID-19 is a complex multisystem disease. This means that the different medical specialties need to work together: cardiologists, respiratory physicians, and others. We need to make sure that health facilities have the capacity to expand if they face a surge in cases and that may mean opening up new facilities. We need to be sure that staff can adapt to new roles if needed. Sometimes we have professional barriers in place preventing nurses or pharmacists from doing certain things. That is obsolete. We need to look at what is happening in other countries, to see how everybody can work to their full potential.

We need transparent procurement systems, that is absolutely crucial. The people who are ordering and purchasing personal protective equipment, and reagents, and test kits and so on are under tremendous pressure. In too many countries, including unfortunately the United Kingdom, we have seen far too many examples of corruption.

We need imaginative solutions. A Nightingale Hospital was put together in a conference centre in London. Fortunately, it was not needed in the earlier phase of the pandemic, but it is being kept on standby just in case.

Let me summarise, the key message that I take from looking at countries across the world is the need to build trust. We need to listen to those on the frontline. We need a plan that works, and we have to listen to those who implement it. We need to invest in public health. We need to take a whole systems approach, looking at how the different bits come together. We need to monitor and evaluate.

In this short talk I have only been able to look very superficially at the international experiences of responding to COVID-19. I hope that you find it of some interest. And if you want to learn more can I suggest that you have a look at our COVID-19 health system response monitor, which we run in the European Observatory, which is online, and which has a wealth of information that you will be able to draw on (available at: https://www.covid19healthsystems.org/mainpage.aspx).

Thank you very much indeed. And good luck for the year ahead.

DISCLOSURE

The author reports no conflict of interest.

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Martin McKee qualified in medicine in Belfast, Northern Ireland, with subsequent training in internal medicine and public health. He is Professor of European Public Health at the London School of Hygiene and Tropical Medicine where he established the European Centre on Health of Societies in Transition (ECOHOST), a WHO Collaborating Centre that comprises the largest team of researchers working on health and health policy in central and eastern Europe and the former Soviet Union. He is also research director of the European Observatory on Health Systems and Policies, a unique partnership of universities, national and regional governments, and international agencies. He has published over 1,200 scientific papers, 48 books, and 130 book chapters, with over 125,000 citations and a h-index of 150. In a 2014 bibilometric study he was identified as the most productive researcher in global health systems research. He is Past President of the European Public Health Association and he served as an editor of the European Journal of Public Health for 15 years (six as editor in chief) and is a member of 16 editorial boards. He has given many endowed lectures, including the Milroy Lecture (Royal College of Physicians), the Cochrane Lecture (UK Society for Social Medicine), Ferenc Bojan Lecture (European Public Health Association), DARE Lecture (UK Faculty of Public Health), Victor Horsley lecture (BMA), Thackrah lecture (University of Leeds), Duncan lecture (City of Liverpool), Hjelt lecture (University of Helsinki), Dixon lecture (Ulster Medical Society), Neuberger lecture (Hebrew University), Davidson and Duncan lectures ((Royal College of Physicians of Edinburgh) and Sandy Macara lecture (BMA). He has been chair of the UK Society for Social Medicine and was a trustee of the UK Public Health Association. He sits on a number of advisory boards in Europe and North America, in both the public and private sectors, including the European Commission's Expert panel on Investing in Health, and is a former chair of the WHO's European Advisory Committee on Health Research and of the Global Health Advisory Committee of the Open Societies Foundations, based in New York. He is a Fellow of the Royal Colleges of Physicians of London, Edinburgh and Ireland and the UK Faculty of Public Health. His contributions to European health policy have been recognised by, among others, election to the UK Academy of Medical Sciences, Academia Europaea, and the US National Academy of Medicine, by the award of honorary doctorates from Hungary, The Netherlands, Greece, Sweden (twice), and the UK and visiting professorships at the Universities of Zagreb and Belgrade, the London School of Economics, and the Taipei Medical University, as well as appointment as a distinguished international scholar at the University of Pennsylvania and McMaster University, Canada. In 2003 he was awarded the Andrija Stampar medal for contributions to European public health, in 2014 the Alwyn Smith Prize for outstanding contributions to the health of the population, and in 2015 the Donabedian International Award for contributions to quality of care. In 2020 he was awarded honorary fellowship of the UK Faculty of Public Health, its highest accolade. In 2005 was made a Commander of the Order of the British Empire (CBE) by HM Queen Elizabeth II. He has an active following on Twitter as @martinmckee.