Vertical Transmission



Dena Lyras President of ASM

We are now one-third of the way through 2019 and it is striking to me how prominent microbiology has been in our mainstream media this year. In particular, in human health we have seen the emergence of new and deadly microbes such as *Candida auris*, a multi-resistant fungal pathogen first described in 2009 in Japan. Within a decade *C. auris* has spread worldwide, causing infections or facility outbreaks in over a dozen countries, and it was identified in an Australian patient in 2018. The ease with which *C. auris* is transmitted, coupled with its resistance to treatment, make this microbe a formidable clinical problem and we need to devise effective control and treatment strategies urgently.

Of even greater concern are the recent measles outbreaks that have been reported from around the world. According to the World Health Organization (WHO), these include the Democratic Republic of the Congo, Ethiopia, Georgia, Kazakhstan, Kyrgyzstan, Madagascar, Myanmar, Philippines, Sudan, Thailand and Ukraine, causing many deaths, mostly of young children. In 2019 there has been a spike in numbers in countries with high overall vaccination coverage, including the USA, Israel, Thailand, and Tunisia, mostly in clusters of unvaccinated people, and we are seeing increased numbers in New Zealand and Australia. In 2017, the most recent year for which estimates are available, measles caused close to 110 000 deaths. Global data to date show that reported cases rose by 300 percent in the first three months of 2019, compared with the same period in 2018, and this follows consecutive increases over the past two years.

It is ironic that we are witnessing an increased number of cases in a disease that was, a few short years ago, well on the way to eradication thanks to a safe and effective vaccine. Of relevance to Australia, the gaps in vaccination that have occurred partly because of a strong anti-vaxxer movement have resulted in the alarming spikes in measles that we are seeing this year. The purported link between the MMR vaccine and autism, through the discredited work of Andrew Wakefield, set measles control back considerably. Despite being shown to be incorrect through multiple, large-scale

studies, the damage was done and this untruth continues to be perpetuated, often through social media.

The scale of this health threat cannot be underestimated and is underscored by the declaration by the WHO that the anti-vaccine movement is one of the top 10 global health threats for 2019. Why am I raising this concern in this communication? The answer is because I think the ASM, and our members, have an important role to play in public education about infection diseases and their prevention. I do have sympathy for those who are concerned about vaccinations. They regularly hear about the dangers of vaccines and constantly hear contradictory arguments. For those without a scientific background, it is difficult to know how to critically examine this information. Without being condescending or arrogant, we can make a difference by helping others distinguish science from pseudo-science.

The importance of microbiology as a discipline – from building our basic understanding of microbes, to applications in medicine, industry and agriculture – is reinforced by what we see happening at a global scale. Unfortunately, the worldwide 'anti-science' trend has major implications for the economy and the environment. Locally, the upcoming Federal election gives us an opportunity to consider how our political leaders view science and evidence to develop policies. The ASM plays a role in influencing our political leaders through our attendance at 'Science Meets Parliament' each year, and the Society is keen to build stronger links with Federal and State governments and emphasise the importance of our discipline.

Finally, I am very much looking forward to seeing all of you at our national meeting in Adelaide (http://asmmeeting.theasm.org.au/) from 30 June to 3 July, where you will also hear the first details of our next national meeting in Melbourne in 2020. Note also that our partner meetings, BacPath, is also being held from 30 September to 3 October in Western Australia. BacPath is a wonderful meeting for those interested in bacterial pathogenesis and molecular bacteriology, I encourage you to visit their website for more details (http://www.bacpath.org/).

As always, please visit our website www.theasm.org.au to access information regarding upcoming meetings and awards. You may also like to follow and contribute to ASM on Twitter, @AUSSOCMIC, or on Facebook to make sure you keep up with the latest news, trends and developments in microbiology in Australia and around the world.

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