**Science alone cannot win the battle against infectious diseases**

**STANDFIRST>>>>>>**

Not much more than a generation ago, aspiring medical researchers were warned off studying infectious diseases on the grounds that the “war on bugs” had effectively been won. The situation is starkly different today, however. Clare Samson spoke to the organisers of a session at the 6th Pharmaceutical Sciences World Congress about strategies to combat the new disease landscape.

**Main Text>>>>>>**

Epidemic viral diseases have hit the headlines with alarming regularity in recent years, and in February this year the World Health Organization (WHO) published its first list of “priority pathogens”[[1]](#footnote-1): 12 families of drug-resistant bacteria that pose the most urgent threat to public health. Pharmacists and the pharmaceutical industry are waking up to these challenges, but funding streams for research into drugs for infectious diseases are still feeble compared with those for the chronic diseases of affluence. Nevertheless, funds have risen from historic lows, and methods for combating drug resistance and preventing the spread of infection are being debated at the highest levels.

It is, therefore, not surprising that infectious diseases are high on the agenda of the 2017 Pharmaceutical Sciences World Congress (PSWC), and a symposium entitled “Infectious diseases: the battle we have to win” is likely to prove popular. The symposium chairs, Linda Hakes and Ulf Janzon, have over 70 years’ experience of industrial, hospital and community pharmacy between them. Mr Janzon leads policy and communication at MSD in Sweden, and is secretary of the Industrial Pharmacy Section of the International Pharmaceutical Federation (FIP); Dr Hakes is the current chair of the Academy of Pharmaceutical Sciences in the UK. “We wanted to frame our session in economic as well as medical terms,” explains Mr Janzon. “It is easy to see the medical challenge of a world without antibiotics; it can be harder to imagine its enormous economic cost, dwarfing anything that we can spend to prevent it through developing new drugs and improving antibiotic control.” These economic implications will be the focus of the symposium’s first talk by Murray Aitkens, Executive Director of the QuintilesIMS Institute.

**Combative efforts**

Pathogens respect no boundaries, so efforts to combat them will necessarily be as international as possible. One of two speakers to focus on antibiotic resistance will describe a pan-European initiative, COMBACTE,[[2]](#footnote-2) which brings together industrial and academic scientists and regulators from 42 countries. Scientists in this network are collaborating to build frameworks for clinical trials of new antibiotics, discover new options for treating Gram-negative infections in intensive care units, and develop new treatments for the carbapenem-resistant *Enterobacteriaceae* infections that were named as one of the three most critical threats on the WHO list.

Two other talks will focus on new treatments for hepatitis C and parasitic diseases, respectively. Diseases caused by eukaryotic pathogens are endemic in many poor countries and have often been referred to as “neglected tropical diseases”. They have, however, become rather more prominent since the award of the 2015 Nobel Prize for Medicine for the discovery of novel treatments for roundworm infection and malaria. Alan Fairlamb, Professor of Biochemistry and Wellcome Principal Research Fellow at the University of Dundee, Scotland, will describe early-stage drug discovery for parasitic disease and the scientific and financial challenges involved in bringing these into trials and then into clinical use.

If the battle against infectious diseases is to be won — as it must — it will need to involve all pharmacists and pharmaceutical scientists, not just drug developers. “We want delegates to take home the message that we don’t just need new drugs for bad bugs, we need to use those we have in more rational and intelligent ways,” concludes Dr Hakes. All PSWC delegates, including hospital and community pharmacists, will find much food for thought at this congress symposium.

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References

 <http://www.who.int/mediacentre/news/releases/2017/bacteria-antibiotics-needed/en/>

2 <https://www.combacte.com/>

1. <http://www.who.int/mediacentre/news/releases/2017/bacteria-antibiotics-needed/en/> [↑](#footnote-ref-1)
2. <https://www.combacte.com/> [↑](#footnote-ref-2)