WHO calls for new innovations to tackle antimicrobial resistance crisis

AMR threatens the effective prevention and treatment of an ever-increasing range of infections caused by bacteria, parasites, viruses and fungi

CANADA, July 6, 2022 /EINPresswire.com/ -- The World Health Organization (WHO) states that new innovations are needed to ensure that global healthcare systems can effectively respond to the increasing threat of multi-drug resistant infections. WHO further warns that antibacterial treatments currently in development are inadequate to deal with the rising tide of antimicrobial resistance1.

With only a few antibiotics in clinical development, new technologies, especially ones that do not develop antimicrobial resistance, are needed to treat healthcare-associated infections. An innovation from UCL in London and developed by Canadian life sciences company, Ondine Biomedical, uses photodisinfection to kill infection-causing pathogens, including viruses, bacteria, and fungi. Ondine's patented nasal photodisinfection technology, Steriwave™, has been used in Canadian hospitals for many years in the prevention of hospital-acquired infections (HAIs), where it demonstrated an up to 84% reduction of postoperative infection rates, as well as significant cost savings.

Carolyn Cross, Ondine Biomedical's CEO stated, "We believe that our photodisinfection technology can help global healthcare systems deal with the oncoming antimicrobial resistance crisis. Photodisinfection has proven to be effective against all types of pathogens and is easy to use for both patients and healthcare workers. Most importantly, this technology is very cost effective and does not succumb to resistance like other antimicrobials. We are heeding the call from the WHO and are working hard to bring this new technology to patients across the world to treat a wide variety of infections."
Photodisinfection is a targeted antimicrobial approach to infection control which uses non-thermal light to activate a photosensitive agent at the source of infection. In a few minutes, this light-based therapy destroys the pathogens' cell membranes and surface proteins through an oxidative burst without any impact on human tissue.

Dr Hanan Balkhy, WHO Assistant Director-General on AMR, commented, "There is a major gap in the discovery of antibacterial treatments, and more so in the discovery of innovative treatments. This presents a serious challenge to overcoming the escalating pandemic of antimicrobial resistance and leaves every one of us increasingly vulnerable to bacterial infections including the

simplest infections.”

The impact of the lack of new antibiotics is already being felt across the world, with 30% of new-borns with sepsis dying due to bacterial infections resistant to first-line antibiotics.

While photodisinfection is initially focussed on preventing HAIs, the technology can be used widely to kill pathogens in many applications such as burns, ulcers, sinusitis, skin infections -- anywhere the photosensitizer liquid can be activated by a specific wavelength of light.

The Steriwave photodisinfection process, known in the scientific community as antimicrobial photodynamic disinfection therapy (“aPDT”), works by using a specific wavelength of laser light to excite a photosensitizer that targets bacteria, viruses and fungi. This combination treatment rapidly destroys cell membranes and surface proteins of pathogens without producing resistance. Steriwave photodisinfection technology has been shown to be safe and effective against drug-resistant pathogens.

The nose and upper airway have been identified as the primary reservoir for many threatening pathogens including MRSA, Candida auris, and SARS-CoV-2. Ondine’s Steriwave nasal photodisinfection therapy can rapidly and painlessly eradicate pathogens in the nose and is currently being clinically trialled for the suppression of SARS-CoV-2 infection and transmission.

Steriwave is CE marked and approved for use in Canada and a number of other countries. Clinical trials are currently underway to secure regulatory approval in the United States.

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