Exploitation of industrial products for the treatment of BWA’s

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Problem: The biological warfare agents (BWA’s) are resistant to treatment with the antibiotics that are currently available. Added to this is the global, increasingly important issue of Antimicrobial Resistance (AMR). Finafloxacin is an antibiotic that has been chemically altered by MerLion Pharmaceuticals to improve its activity. We have shown that finafloxacin is significantly better than ciprofloxacin when used to treat infections with Burkholderia pseudomallei, Francisella tularensis and Coxiella burnetii. Figure 1 demonstrates this activity for Burkholderia pseudomallei.

Collaborator: MerLion Pharmaceuticals are currently developing finafloxacin for the treatment of urinary tract infections. Their concept of use is treating with an intravenous formulation followed by a step down to oral therapy. Finafloxacin has completed Phase 2 clinical trials and no serious side effects have been reported. Finafloxacin also has activity against multi-drug resistant bacteria, see Figure 2.

Benefits: The additional benefits of using finafloxacin are demonstrated in Figure 3.

Future: We are continuing to investigate finafloxacin as part of a multinational consortium through the MOU as an alternative antibiotic for use against infections with BW agents.