This Thematic Issue on *Neisseria* stems from the abstracts presented at the 20th International Pathogenic Neisseria Conference held in 2016 in Manchester, UK. This conference came at a critical time in relation to the biology and prevention of infections caused by *Neisseria meningitidis* and *Neisseria gonorrhoeae*, and the genetic and functional relationships among strains of these pathogens as well as with their commensal relatives in humans and other species.

Whole genome sequencing of microbes has revolutionised the field of microbiology, and work on pathogenic *Neisseria* has been at the forefront. The MRF Genome Library was the first nationwide repository of genome sequence data of any major bacterial pathogen (1), and provides sequence data on all meningococcal disease isolates from Wales and England. It is evident that MenAfriVac has had an enormous impact on reducing the burden of meningococcal disease in sub-Saharan Africa caused by serogroup A strains (2). Vaccines against serogroup B strains of *N. meningitidis*, once the bane of vaccine development due to their non-immunogenic capsule, have recently become available. These vaccines are being introduced in national campaigns and in at risk populations. Despite these efforts, further approaches will be needed before the world is free from meningococcal disease. *N. meningitidis* is still a prominent cause of death and disability throughout the world, and fundamental research is still needed to understand what allows this bacterium to cause invasive disease.

There is an ever growing concern about our ability to treat infections caused by *N. gonorrhoeae*, highlighted by the statement from the World Health Organization in July 2017 about the emergence and spread of alleles conferring resistance to multiple antimicrobials in this naturally competent bacterium (3). The spread of antimicrobial resistance (AMR) has re-emphasised the importance of studies on the pathogenesis of this important sexually transmitted infection. These studies will help inform new therapeutic approaches to treat gonorrhoea, for which there is a crucial need. Such approaches include non-culture-based diagnostics for AMR strains of *N. gonorrhoeae* and new vaccines and antimicrobials that target the bacterium’s virulence mechanisms.

The 16 articles in this Thematic Issue bring together cutting-edge and emerging concepts in *neisseria* biology. The topics range from the fundamental molecular and cellular biology of *Neisseria* to immune evasion, comparative genomic, transcriptomic, and glycomic approaches, and studies on carriage and public health perspectives on treatment and prevention. Our intention is that the articles provide state-of-the-art reviews by leading experts, and highlight important directions for future research. We thank the many authors and reviewers who made this Thematic Issue possible, as well as the editorial staff of Pathogens and Disease for their support throughout. We hope these reviews stimulate new critical research on these important yet relatively understudied bacteria.

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References

