Why does infection with respiratory viruses predispose to severe pneumococcal pneumonia?

Application deadline: Applications accepted all year round
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Summary

*Streptococcus pneumoniae* is the commonest cause of severe pneumonia worldwide. Over one million children, mostly under the age of five, die of pneumococcal pneumonia each year. An important unanswered question is what makes the bacterium change from a harmless commensal in the nasopharynx to the cause of severe pneumonia. One route to the answer could lie in the well-known observation that the seasonal increase in infections with influenza virus or respiratory syncitial virus in young children is strongly associated with increased hospital admissions with invasive pneumococcal disease. This project aims to understand mechanisms that enhance pneumococcal virulence following a viral infection by studying how the virulence of *Streptococcus pneumoniae* changes during exposure to respiratory syncitial and human epithelial cells. This work could lead to new therapies for individuals infected with RSV to prevent them suffering from a subsequent pneumococcal infection.