There has been no contribution more substantive when it comes to preventing serious disease and saving lives than the use of immunizations-and the pneumococcal vaccine is certainly a great example to support this. But over the past 15 years as we have improved the standard pneumococcal conjugate vaccine from 7 serotypes (PCV-7) to 13 (PCV-13), how has that affected serotype colonization? Even more interesting is how has the use of antibiotics in the setting of this vaccine further altered colonization and a child's risk for getting serious pneumococcal infection. Lee et al. (10.1542/peds.2017-0001) explored these trends using 15 years of nasopharyngeal swab collections from children in Massachusetts, before and after the move from PCV-7 to PCV-13 by looking at colonized serotypes that were grown from the swabs. More than 6500 children are included in this study, and there is lots of good news, but also some concerning news. For example, the added serotypes to PCV-13 that were prevalent before that vaccine was instituted, were much less common after PCV-13 began to be given in children who received this vaccine. However, as might be expected, non-PCV serotypes not in the PCV-13 vaccine have begun to increase in prevalence on swabs over the past few years.

When you add in antibiotic use, the investigator show that serotypes in the PCV-13 are more prevalent in nasopharyngeal swabs of immunized children on antibiotics than in those immunized who have not received antimicrobial medications. What do findings like these mean? Even with resistant strains or new strains surfacing as colonizers, why aren't we seeing more invasive pneumococcal disease in the setting of this colonization? We asked infectious disease specialists Drs. Douglas Swanson and Christopher Harrison from Children's Mercy in Kansas City to inject their opinion on this study and its implications (10.1542/peds.2017-2034). Check out both the study and commentary to learn more about what the future holds for pneumococcal disease in children in the setting of vaccine and antibiotic usage.