

New study suggests potential shift in burden of pneumococcal disease

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New studies revealed today by Latin American researchers and global health leaders suggest that the highest burden of deadly pneumococcal disease in Latin America may be shifting to adults as countries successfully immunize more infants with new vaccines. The experts called for increased disease monitoring and more surveillance to understand the full extent of pneumococcal disease in the Americas, including its economic impact, and to devise effective strategies to prevent it.

This research was coordinated by the Sabin Vaccine Institute in partnership with the Pan American [Health](#) Organization (PAHO), the International Vaccine Access Center at Johns Hopkins University (JHU's IVAC) and the [Centers for Disease Control and Prevention](#) (CDC). These results are being presented as part of a two-day symposium that brought together scientists and health leaders to review the pneumococcal situation in the region and discuss the challenges and opportunities of vaccination in older children and adult populations

"The recent studies that are available in the Latin American and Caribbean context indicate that the cost of illness is an important and significant [economic burden](#), suggesting that more use of [pneumococcal vaccines](#) could be cost-effective in adults," said Dr. Fernando de la Hoz, a member of the [Medical Faculty](#) at the National University of Colombia and lead author of the study. "Further research is needed in order for health officials to fully grasp the potential impact of immunizing older populations in Latin America and the Caribbean. We know now that the

vaccine is saving the lives of thousands of our region's youngest citizens. The question is whether we should also be protecting their parents and grandparents."

The study found that direct medical costs to treat bacteremic pneumonia ranged from USD \$993 to USD \$3,535 per person, and the cost of treatment for bacteremic meningitis was as high as USD \$4,490 for elderly persons. The cost analysis concluded that these diseases pose sizable burdens in five countries studied: Argentina, Brazil, Chile, Colombia and Uruguay.

[Pneumococcal disease](#), which causes pneumonia, blood infection, brain inflammation and ear infections kills half a million children worldwide each year—or one child every minute. Thanks to new and improved vaccines, pneumococcal disease among young children is falling dramatically. Since childhood pneumococcal conjugate vaccines were introduced in Latin America in 2003, the disease is declining among children who are vaccinated, and the burden of disease may now be in the older population. Adults and the elderly across Latin America who also fall prey to this fast-acting disease aren't getting vaccines, and relatively little was known about the number of pneumococcal-related deaths in these age groups.

Recognizing the intrinsic danger of some types of pneumococcal disease, researchers found case fatality rates can be as high as 35 percent in studies from Argentina, Brazil, Chile and Uruguay. For pneumococcal meningitis, studies in seven countries found that the percentage of people who died after being infected ranged from 9 percent to 58 percent.

"As people continue to live longer lives, more of them will be at risk of contracting this highly contagious and costly disease," said Carla Domingues of the Brazilian Ministry of Health. "The data reviewed

during this study suggests that pneumococcal disease is an important problem among adults, causing disease and death from pneumonia, sepsis and meningitis."

A major finding of the study is that there is insufficient monitoring and surveillance. "Quantifying the burden of disease for people 5 years of age and older in the Latin America and Caribbean region is important because pneumococcal conjugate vaccines (PCVs) are increasingly being introduced into routine infant immunization programs and are expected to greatly reduce the burden of pneumococcal disease among young children. Thus, prevention of pneumococcal disease among other high-risk groups such as the elderly or immuno-compromised will become increasingly important," said Lucia Helena de Oliveira, Regional Advisor of the Comprehensive Family Immunization Project at the Pan American Health Organization.

Experts examined the cost of illness for pneumococcal disease in older persons in five countries: Argentina, Brazil, Chile, Colombia and Uruguay. They found that in these countries, invasive pneumococcal disease (IPD) incurs considerable costs to [health care](#) systems—generating up to US\$4,490 per case. Researchers also found the total health care costs in the studied countries ranged from USD \$0.94 million to 14.1 million, with higher costs incurred by the elderly due to higher level of resources used for treating the elderly. In total, health care spending as a GDP per capita for IPD among people above 5 years of age in the region was estimated at 0.1 percent compared to the reported 8 to 10 percent of GDP spent on health care overall.

The study authors are calling on policymakers to prioritize adult pneumococcal disease on their public health agendas, so healthcare professionals will devote more resources to detect and report on occurrences of the disease and find ways to combat it.

"Great determination and collaboration among the international health community helped make global reductions in pediatric pneumococcal [disease](#) possible. It is time to transition this success to find solutions to prevent pneumococcal infections in older children and adults, especially those over 65," said Dr. Ciro de Quadros, Executive Vice President of the Sabin Vaccine Institute.

Provided by Sabin Vaccine Institute

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