

# Influenza and Pneumococcal vaccination rate in a cohort of adults with chronic comorbid conditions in Colombia.

Cristian C. Serrano-Mayorga<sup>1,2</sup>, Elsa D. Ibáñez-Prada<sup>1</sup>, Yuli V. Fuentes<sup>1,2</sup>, Julian Lozada<sup>1</sup>, Ingrid G. Bustos<sup>1</sup>, Lina Mendez<sup>1</sup>, Ana M. Crispin<sup>1</sup>, Luis Felipe Reyes<sup>1,2,3</sup>

Reyes<sup>1,2,3</sup>

<sup>1</sup> Universidad de La Sabana, Chia, Colombia; <sup>2</sup> Clínica Universidad de La Sabana, Chia, Colombia; <sup>3</sup> University of Oxford, Oxford, United Kingdom.

## BACKGROUND:

Lower respiratory tract infections (LRTI) are the leading cause of mortality and morbidity worldwide. Elderly and patients with comorbid conditions are at higher risk of developing LRTI and systemic complications. Therefore, the Centers for Disease Control and Prevention (CDC) and the United States National Center for Immunization and Respiratory Diseases (US-NCIRD) recommend that patients older than 19 be vaccinated for influenza annually. Patients older than 65 or with comorbid conditions (of any age) should be vaccinated for the pneumococcal vaccine. Low-middle-income countries like Colombia do not have strong policies for adults to get vaccinated. According to CDC recommendations, this study aims to determine the vaccination rate in a Colombian cohort.

## METHODS:

This is the description of a prospective cohort of patients with chronic comorbid conditions between 2020-and 2022 in Bogotá, Colombia. We compared the number of patients vaccinated against Influenza and *S. pneumoniae*, according to CDC recommendations, to determine the adherence to international guidelines.

## RESULTS:

The cohort was composed of 810 patients. The median [IQR] age was 63 [53-62] and the most common comorbidities were 52.2% [423/810] arterial hypertension, 21.7% [176/810] coronary disease, 19.0% [154/810] congestive heart failure, and 17.4% [141/810] chronic kidney disease. According to CDC recommendations, 808 patients should have been

vaccinated against influenza (Figure 1A), but only 31.7% [256/808] were immunized last year. Also, 17.8% [144/810] of the whole cohort were 65 years old and should have received the quadrivalent flu shot. Moreover, 86.4% [700/810] patients meet the criteria for pneumococcal vaccination (Figure 1B), but only 11.9% [83/700] received at least one shot.

## CONCLUSIONS:

Vaccination rates in our cohort of adult patients with chronic comorbidities was very low. Therefore, these patients are at higher risk of developing LRTI complications. More robust vaccination programs for adults are required in Colombia.

**Figure 1.** Panel A illustrates vaccinated patients a Influenza in the cohort, while Panel B shows the patients vaccinated patients with anti-pneumococcal vaccine

