

Influenza-related mortality for hospitalized patients with and without comorbidities in Brazil and Mexico

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INTRODUCTION

- Seasonal influenza results each year in about 3-5 million cases of severe illness and about 290-650 thousand deaths worldwide.¹
- Although all persons are at risk of being infected, the risk of severe influenza is higher for people with chronic medical conditions.^{2,3}

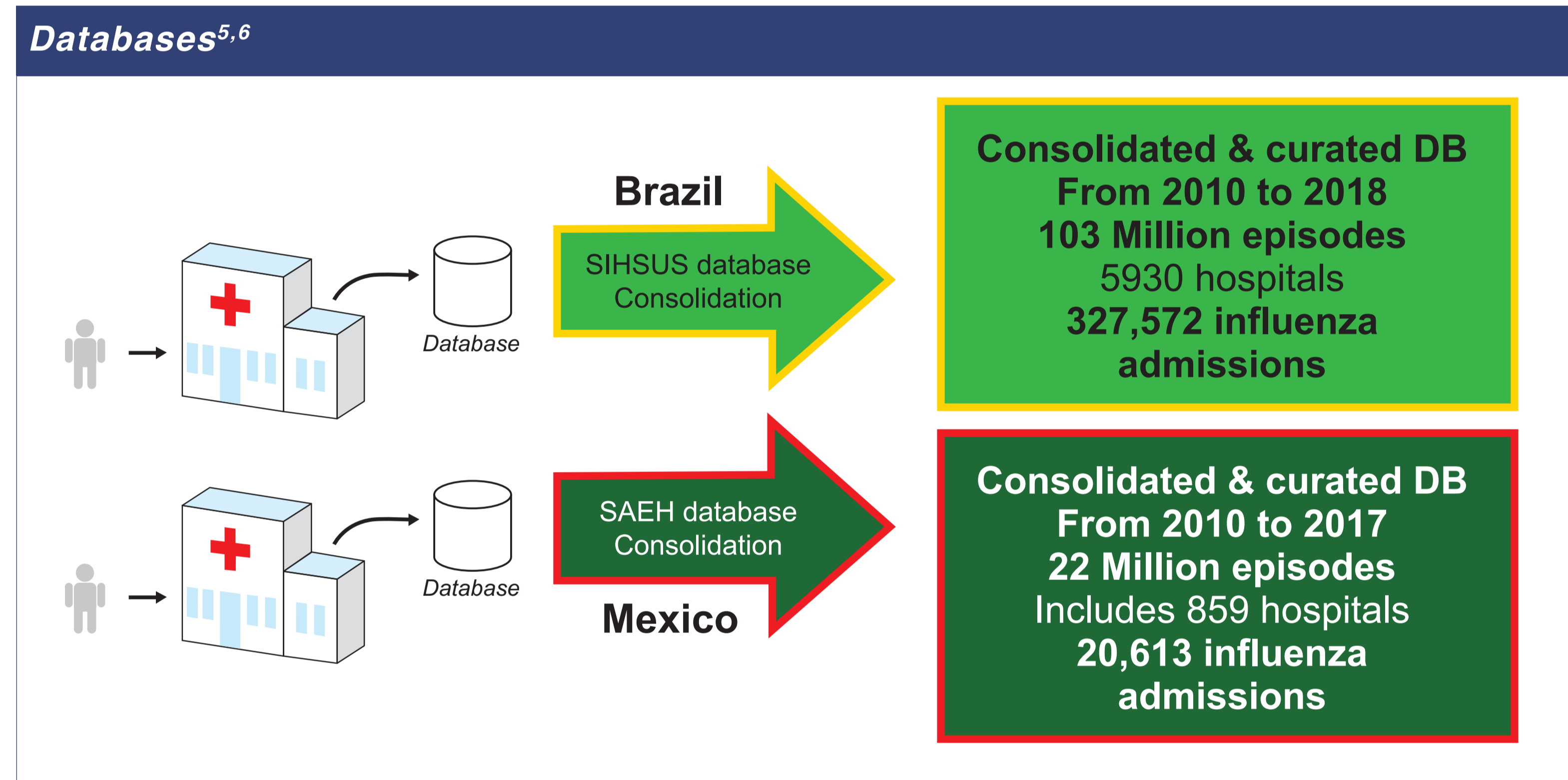
OBJECTIVES

- Primary objective was to compare influenza-related mortality for patients with and without comorbidities in Brazil and Mexico.
- Secondary objectives were to describe the effect of age and comorbidities on the influenza related mortality.

METHODS

- This is a **cross-sectional study** based on national hospital databases from Brazil (2010-2018) and Mexico (2010-2014).
- Influenza cases** were defined using ICD10 J09 to J11 and J12.9 codes.
- Patients with the following underlying medical conditions (Chronic Obstructive Pulmonary Disease (COPD), Cardiovascular disease, diabetes, immunodeficiency) were defined using ICD 10 codes.
- Seasonality and peaks of influenza admissions were defined using the Serfling method.⁴
- In-hospital Case fatality rates (CFRs) and Relative risks (RR) were calculated.
- CFRs were compared in populations with and without comorbidities using the Fisher's exact test.

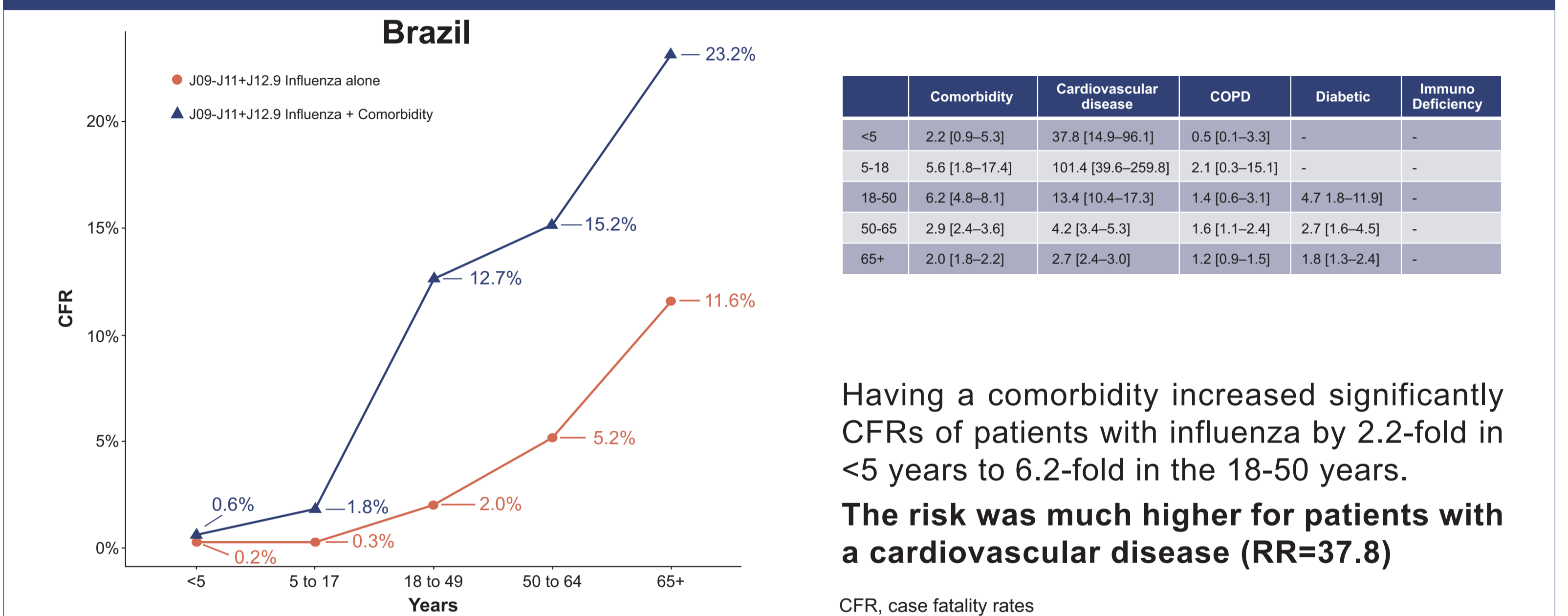
RESULTS



Study population

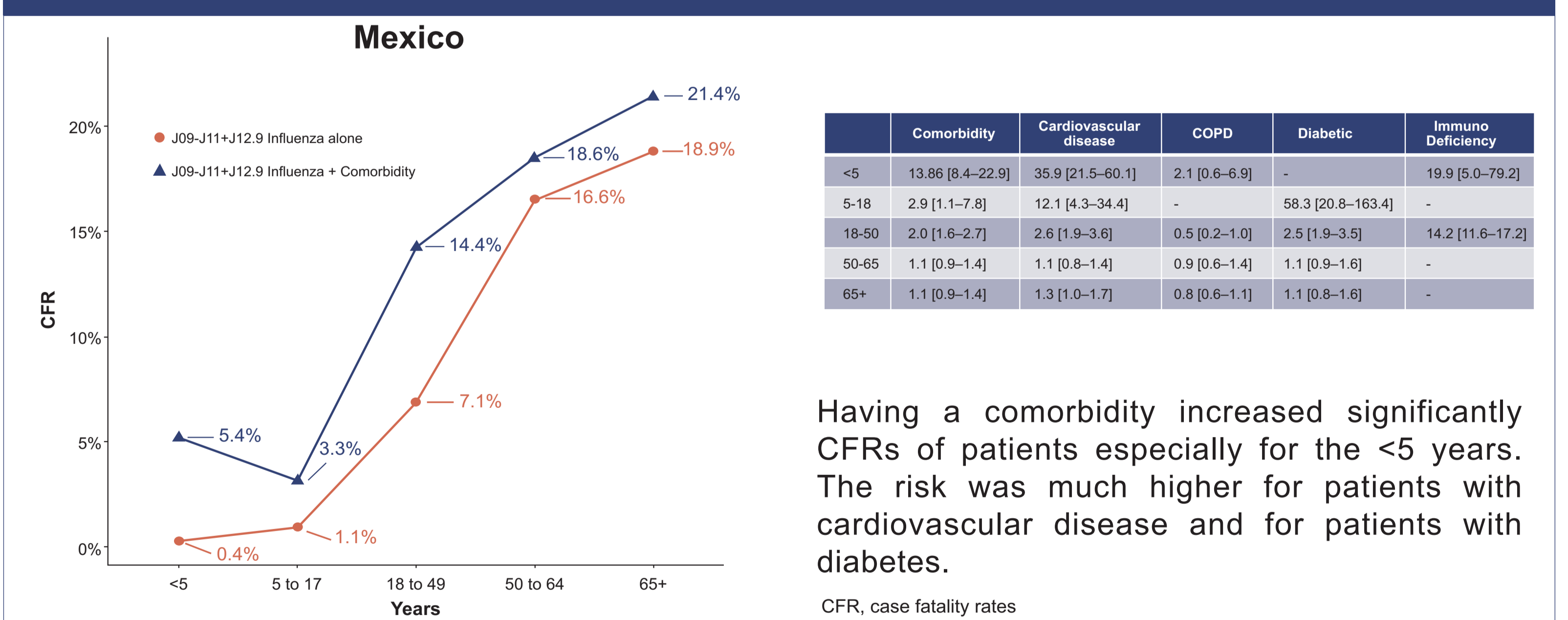
Country (Study period)	Hospitalized patients (n)	Influenza admissions n (%)	Influenza admissions and at least one comorbidity n (%)
Brazil (2010-2018)	103 189 478	327 572 (0.32)	3 364 (1.03)
Mexico (2010 to 2017)	22 709 183	20 613 (0.09)	2 939 (14.26)

Brazil



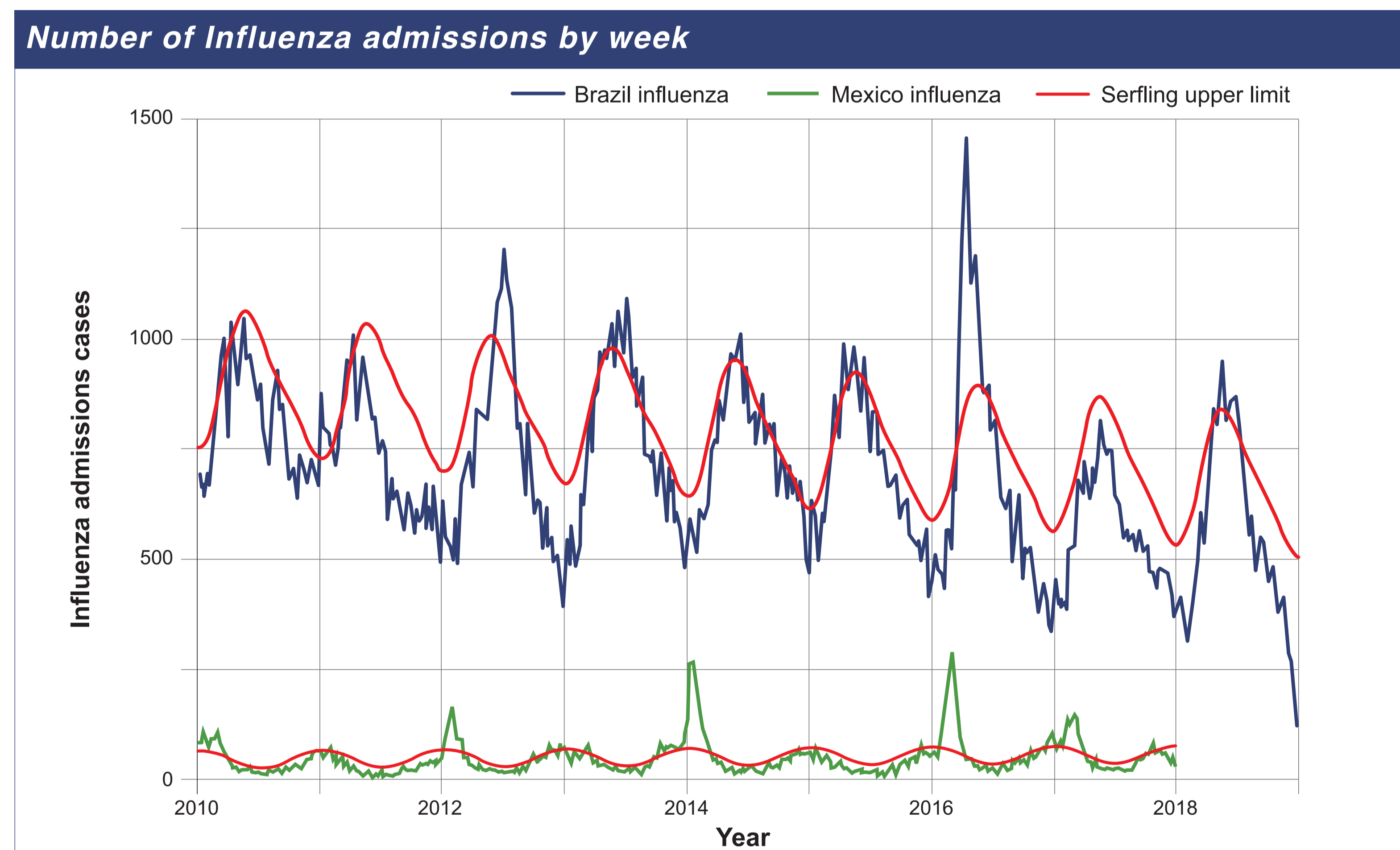
- In Brazil, CFRs increased from 0.3% to 0.6% (0-5 years) and from 11.6% to 23.2% (65+ years) when comparing patients without and with comorbidities.

Mexico



- In Mexico, CFRs increased from 0.5% to 4.4% (0-5 years) and from 18.9% to 21.4% (65+ years) when comparing patients without and with comorbidities.

Seasonality and peak of Influenza admissions



- In **Brazil**, on average the season peaks in week 21 during the study period.
- Mexico**, on average the season peaks in week 04 during the study period.
- Regional differences were identified in cluster analyses.

CONCLUSIONS

- Comorbidities play an important role in hospitalized influenza mortality risk.
- Additional stratified analyses will be developed to support understanding of this association.
- Other outcomes such as length of hospital stay and intensive care unit admissions are also important outcomes to characterize the impact of comorbidities on the severity of influenza disease.

FUNDING STATEMENT

The study has been funded by Sanofi Pasteur

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