

## The link between

# Non-Communicable-Diseases (NCDs) & INFLUENZA



## **INFLUENZA**

#### **PREVALENCE**



5-10% adults infected each year



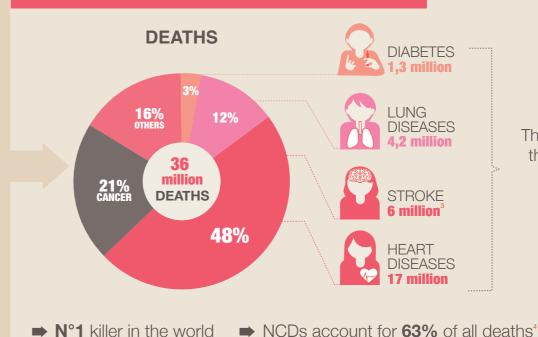
**20-30% children** infected each year

### COMPLICATION



Global burden of disease per year

## Non-Communicable-Diseases



These 4 diseases are the leading cause of **NCD** mortality worldwide<sup>4</sup>

INFLUENZA INCREASES THE RISK OF COMPLICATIONS FROM THE FOLLOWING NCDs

**RISKS POSED BY INFLUENZA**  H HOSPITALIZATION

**T** EXACERBATION

**→** DEATH

nospitalization°

Risk of experiencing a Heart Attack after systemic respiratory infections<sup>6</sup>

Risk of experiencing a Stroke after systemic respiratory infections<sup>6</sup>

at Risk group for Influenza mortality '

NCDs AT RISK OF COMPLICATIONS WITH INFLUENZA

**INFLUENZA IMMUNIZATION BENEFITS** 

**▶** PREVENT INFECTION

**▶** PROTECT AGAINST NCDs (e.g.heart attack, stroke)

**▶** PROTECT AGAINST **COMPLICATIONS FROM EXISTING NCDs** 



- 28% deaths

- 79% admissior

**- 50%** heart attack occurence

- 24% occurence

significant reduction of exacerbation.

**INFLUENZA VACCINATION HELPS REDUCE** COMPLICATIONS FROM CHRONIC DISEASES





WORLD HEALTH ORGANIZATION CONSIDERS INFLUENZA **VACCINATION** THE MOST EFFECTIVE WAY TO PREVENT INFECTION

http://www.who.int/mediacentre/factsheets/fs211/en/

World Health Organization. Global status report on noncommunicable diseases 2010 - Description of the global burden of NCDs, their risk factors and determinants. Chapter 1: Burden: mortality, morbidity and risk factors. http://www.who.int/nmh/publications/ncd\_report\_chapter1.pdf

World Health Organization, Media Center, The top 10 causes of death, Fact sheet no 310.July 2013 http://www.who.int/mediacentre/factsheets/fs310/en/

World Health Organization. Fact file. 10 facts on noncommunicable diseases. http://www.who.int/features/factfiles/noncommunicable\_diseases/facts/en/

5 CDC. Diabetes Public Health Resource. Protect yourself from influenza (the flu) http://www.cdc.gov/diabetes/news/docs/flu\_protect.htm

th L, Thomas SL, Hall AJ, Hubbard R, Farrington P, Vallance P. Risk of myocardial infarction and stroke after acute infection or vaccination. New England Journal of Medicine 2004;351:2611-18.

Case fatality from influenza A in COPD can be 30% or more. Case-fatality rate in healthy persons is 1–2 per 2000

Plans-Rubio P. Prevention and control of Influenza in persons with Chronic obstructive pulmuonary disease. Int J Chron Obstruct Pulmon Dis. 2007; 2(1)):41-53.

Poster 156 EP Vamos, UJ Pape, V Curcin, MJ Harris, J Valabhji, A Majeed and C Millett. Influenza vaccine effectiveness against hospitalisation and death in people with Type 2 diabetes. Diabetic Medicine, 31 (Suppl. 1), 28–183. http://onlinelibrary.wiley.com/doi/10.1111/dme.12378\_2/pdf

Colquhoun AJ. Effectiveness of Influenza vaccine in reducing hospital admissions in people with diabetes Epidemiol Infect 1997; 119: (3) 335-41 
<sup>10</sup> Harvard Health Publications. Flu shot linked to lower heart attack, stroke risk. Oct 23, 2013.

http://www.health.harvard.edu/blog/flu-shot-linked-to-lower-heart-attack-stroke-risk-201310236795 Siriwardena N, Asghar Z, Coupland CCA. Influenza and pneumococcal vaccination and risk of stroke or transient ischaemic attack - Matched case control study. Vaccine, 2014; DOI: HYPERLINK http://dx.doi.org/10.1016/j.vaccine.2014.01.029" \t " blank"10.1016/j.vaccine.2014.01.029