Adult Immunization:
RECOGNIZE, AIM, ENCOURAGE

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Despite the public's popular belief...

Adults need vaccines, too!

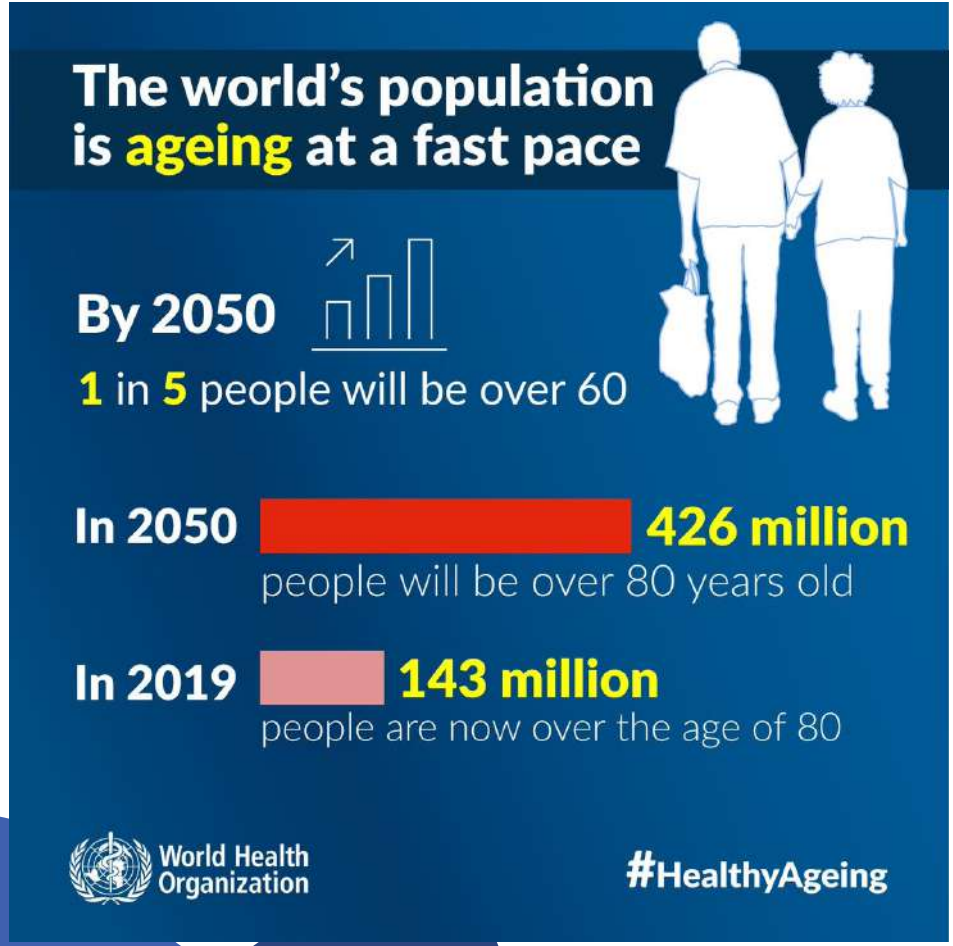
VACCINES

are not just for kids.

What we have to UNDERSTAND

A Change in Epidemiology Caused by the Aging Population

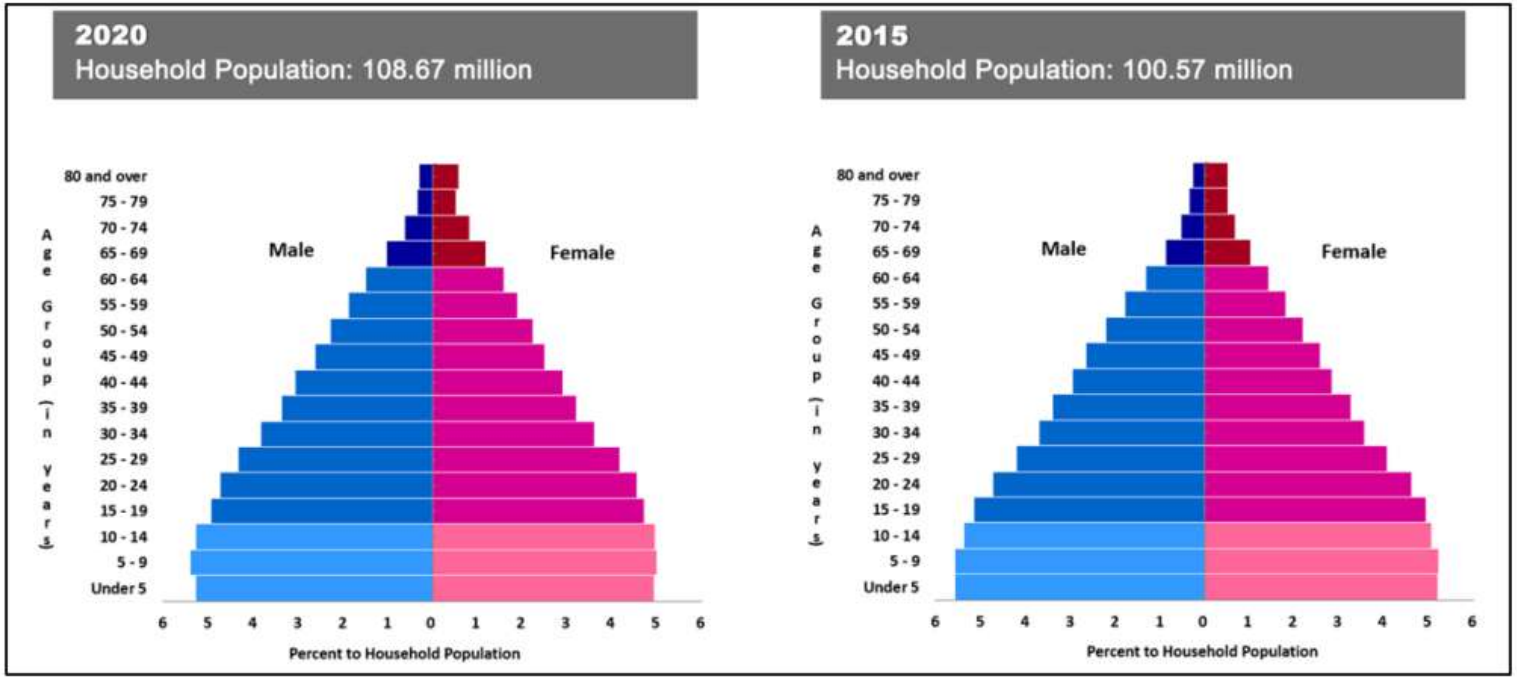
- **Comorbidities and chronic diseases increase with age**
  - European data: Most 65-year-olds have at least two chronic diseases, which account for 70–80% of healthcare costs.
- Heart disease is the most common long-term illness, followed by lung disease, diabetes, brain ischemia, kidney failure, tumors, and liver cirrhosis.



Populations are getting older faster than in the past, which could make it hard for countries to make sure their health and social systems are ready to take advantage of this change.

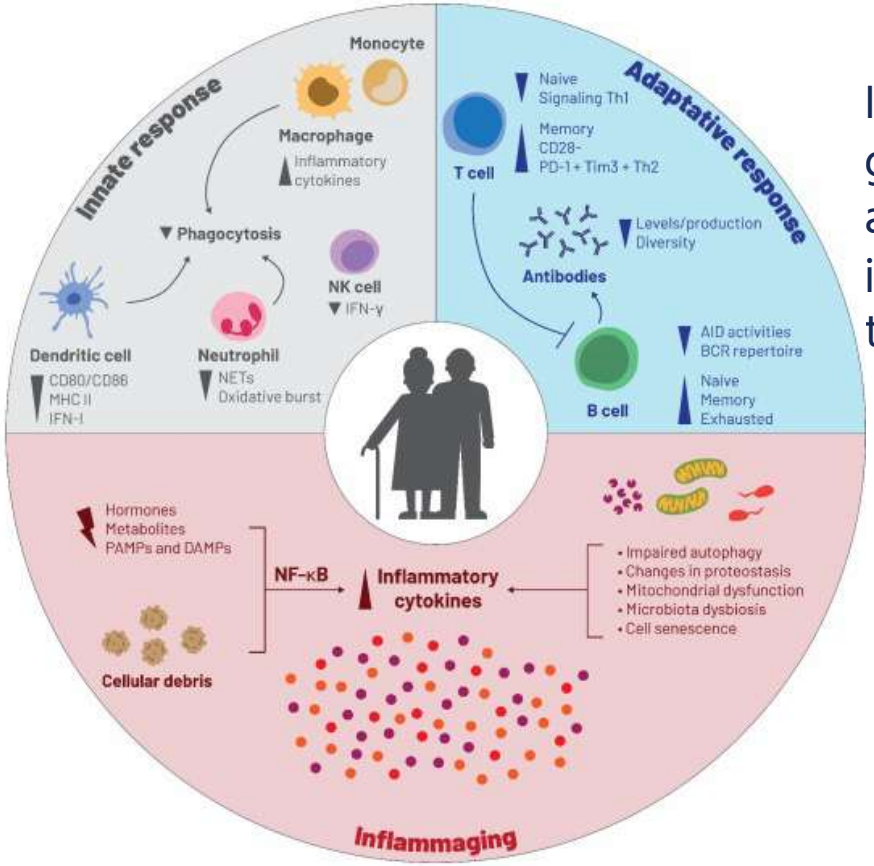
Population of Filipino children has decreased over the last 20 years, while senior citizens now account for 8.5% (or 9.2 million) of the Philippine population as of 2020.

Figure 1. Age-Sex Pyramid of the Philippines: 2020 and 2015



Sources: Philippine Statistics Authority, 2020 Census of Population and Housing and 2015 Census of Population

Immunosenescence



Immune system keeps changing as we get older, which affects both the innate and adaptive immune systems and makes it harder for them to make antibodies that work.

- Inflammaging triggers the clinical manifestation of underlying pathologies
- increases older adults' susceptibility to infections and the severity and medical sequelae of infectious diseases like influenza, herpes zoster , pertussis, pneumococcal disease, and COVID-19.

Pietrobon, AJ et al. Front. Immunol., 27 October 2020.

From the point of view of health care, an older population could mean more people with chronic diseases that get worse over time and more people who need health and social care. This would cost the health care system a lot of money.

As the average age of the population rises, the issue of vaccinations for adults is becoming more important.

Diseases that can be prevented with vaccines have big effects on adult death, health, and quality of life.

1

90%

of deaths from flu and pneumonia are in people older than 65.[1,2]

2

Infectious diseases

can cause heart problems, raise the risk of getting heart disease, and make asthma or chronic obstructive pulmonary disease (COPD) symptoms worse.

3

Chronic diseases

in older people are harder to treat when infectious diseases are also present.

1. Esposito, S et al. Vaccine 2018;36:5819-5824. 2. Patterson, BJ et al. Mayo Clin Proc 2019;94:763-775.

RECOGNIZE

Vaccine-Preventable Diseases and Vaccination Benefits

Respiratory infections like flu and pneumonia killed more than 1.5 million adults 50 years or older around the world in 2017, causing 23 million years of life lost due to early death.

FLU can cause severe damage to multiple body organs.

A terrible effect on the body, with problems like heart attack and pneumonia.

8x increased risk of **stroke**[1]

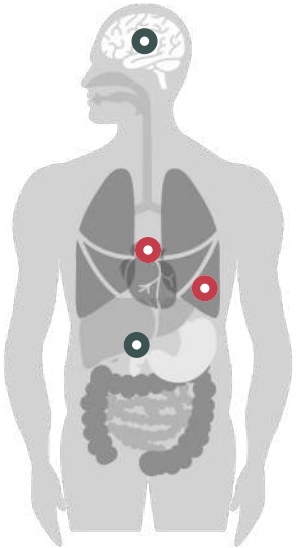
Neurological

23% experience **loss of independence**[2]

Loss of autonomy

75% increased abnormal **glycemic events**[3]

Diabetic complications



Cardiovascular

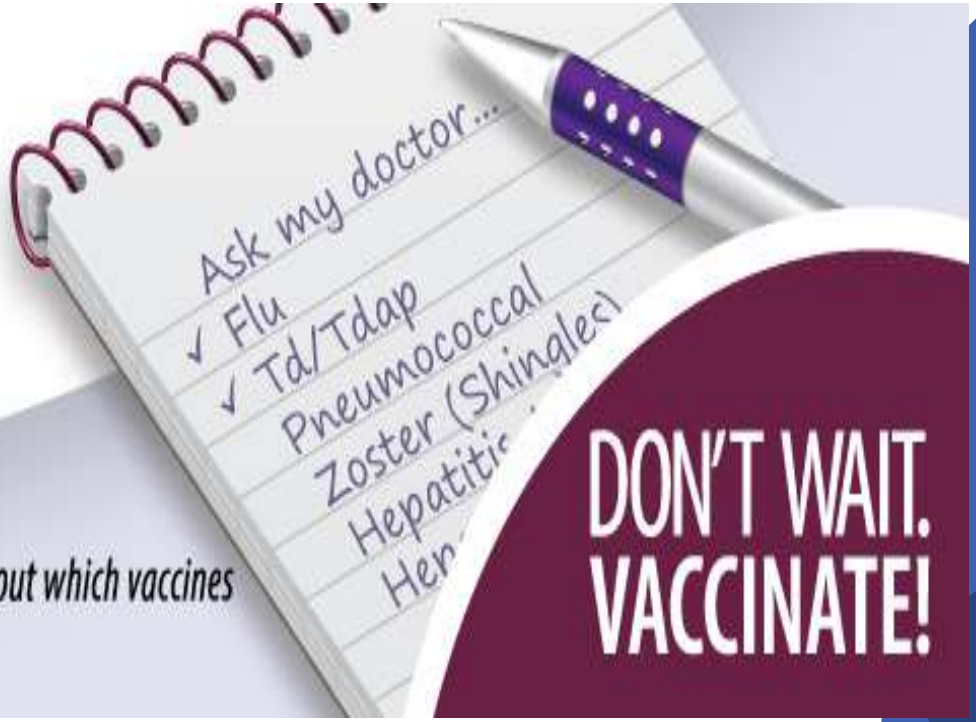
10x increased risk of **heart attack**[1]

Lower respiratory

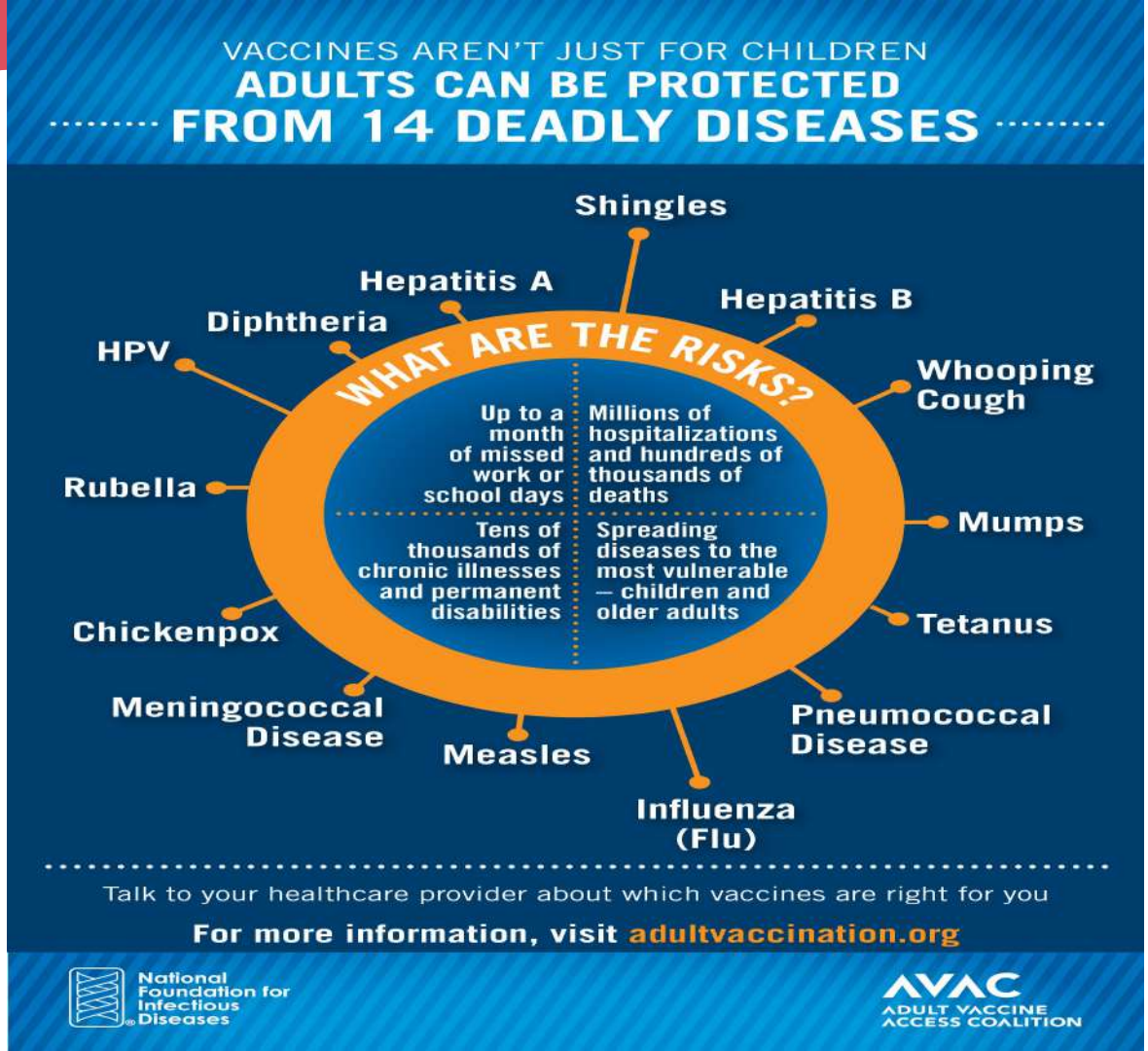
8x increased risk of **pneumonia***[4]

1. Warren-Gash C, et al. Eur respir J. 2018
2. Andrew MK, et al. J Am Geriatr Soc. 2021.
3. Samson SI, et al. J Diabetes Sci Technol. 2019
4. Kubale J et al., Clin Inf Dis. 2021

What Vaccines do You need?



Adults need vaccines too! Answer a few quick questions to find out which vaccines you may need.

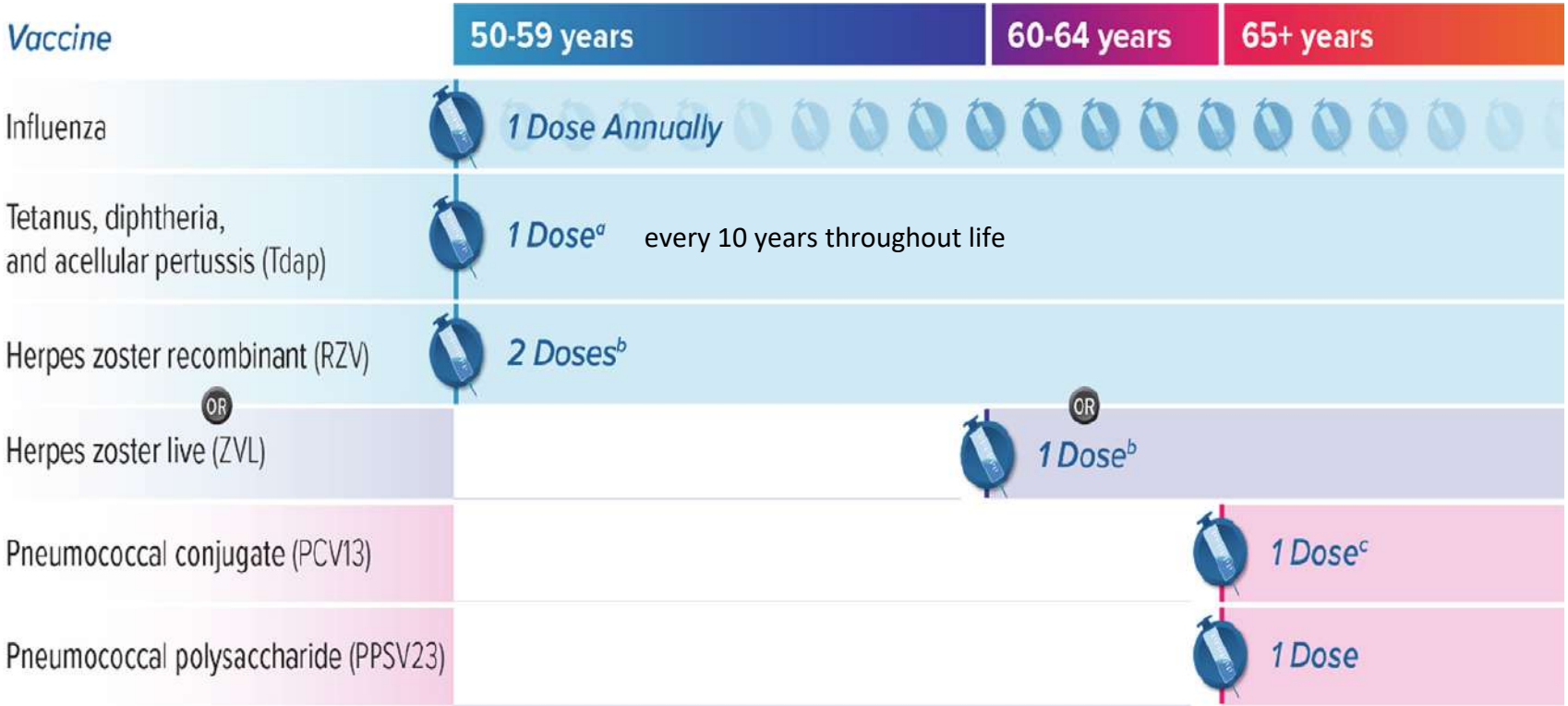

VACCINES AREN'T JUST FOR CHILDREN
ADULTS CAN BE PROTECTED
FROM 14 DEADLY DISEASES
Shingles
Hepatitis A
Hepatitis B
Diphtheria
HPV
WHAT ARE THE RISKS?
Whooping Cough
Up to a month of missed work or school days
Millions of hospitalizations and hundreds of thousands of deaths
Rubella
Mumps
Tens of thousands of chronic illnesses and permanent disabilities
Spreading diseases to the most vulnerable – children and older adults
Chickenpox
Tetanus
Meningococcal Disease
Pneumococcal Disease
Measles
Influenza (Flu)
Talk to your healthcare provider about which vaccines are right for you
For more information, visit adultvaccination.org
National Foundation for Infectious Diseases
AVAC
ADULT VACCINE ACCESS COALITION

DOH recommends flu, pneumonia vaccines to prevent COVID-19 complications

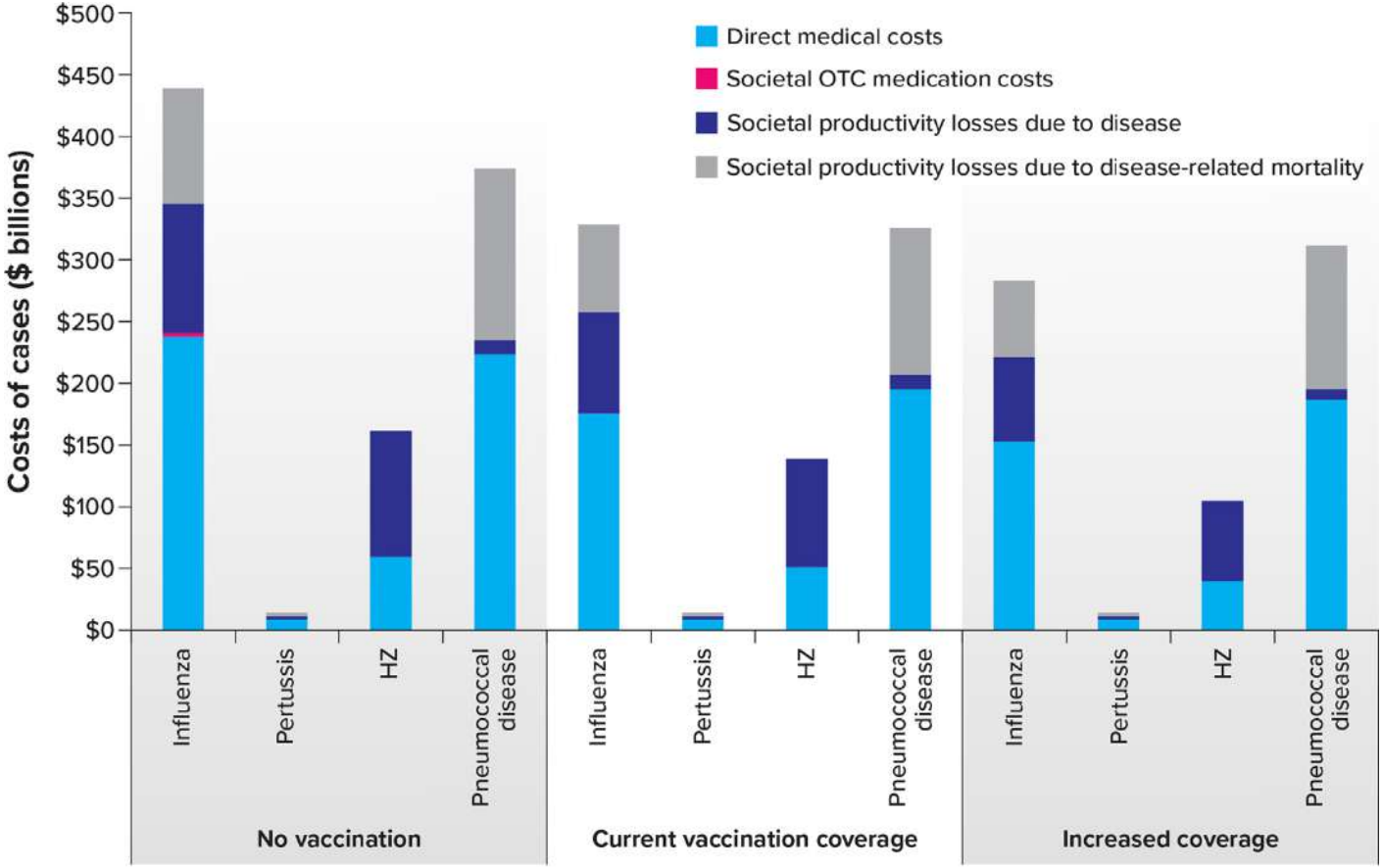
By: Cathrine Gonzales - Reporter / @cgonzalesINQ INQUIRER.net / 11:49 AM July 16, 2020

In 2011, DOH started a free flu and pneumococcal vaccination program for poor older people in the country. This program was later expanded under the National Policy on Health and Wellness Program for Senior Citizens (HWPSC), which aims to prevent functional decline and disease in old age (DOH Administrative Order No. 2015-0009).

Recommended vaccines for adults > 50 years old



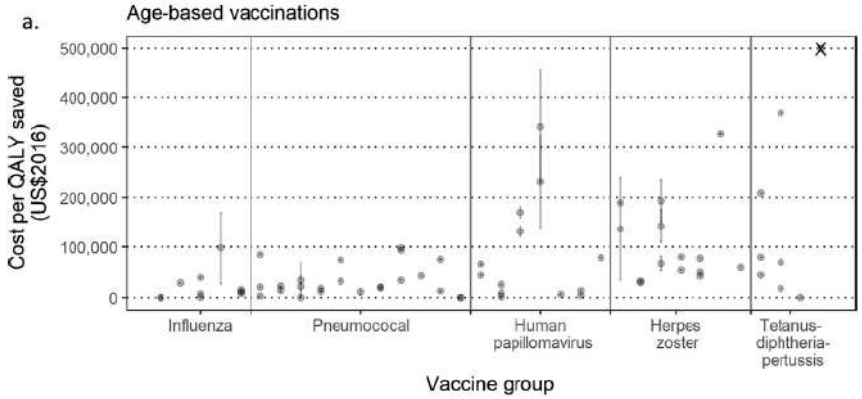
Cost-benefit analysis of vaccination against four preventable diseases in older adults: Impact of an aging population



As compared with no vaccination, the current vaccination program in older adults is associated with a BCR of 1.4 from the societal perspective over a 30-year time horizon, **indicating that vaccination of older adults at current coverage levels is a good value for money.**

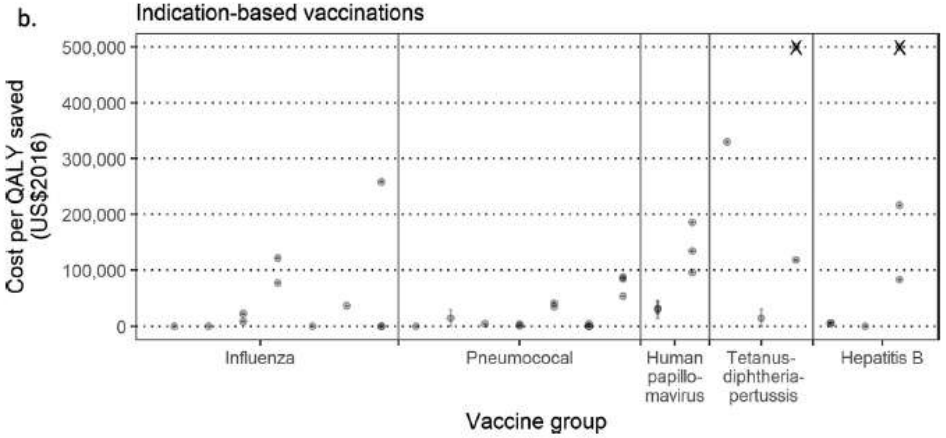
J. Carrico, S.E. Talbird, E.M. Cost-benefit analysis of vaccination against four preventable diseases in older adults: Impact of an aging population La et al. Vaccine 39 (2021) 5187–5197

Adult vaccinations **prevent substantial morbidity, disability and death** among adults and have cost-effectiveness profiles that are considered favorable across multiple age- and medical indication- based recommendations.



For influenza and pneumococcal vaccinations - cost savings or cost-effectiveness ratios ≤$50,000/QALY

For HPV and HZ vaccinations - cost-effectiveness ratios <$100,000/QALY



Adapted From: Leidner, AJ, et al. "Cost-effectiveness of adult vaccinations

HPV: Human Papilloma Virus; HZ: herpes Zoster; QALY: Quality-Adjusted Life Year

Adapted from: Leidner, AJ, et al. "Cost-effectiveness of adult vaccinations: A systematic review" Vaccine 37 (2019) 226–234

Efficacy of influenza vaccines for reducing cardiovascular deaths after myocardial infarction

The IAMI trial evaluated the effect of in-hospital influenza vaccination on death and cardiovascular outcomes in patients with STEMI or non-STEMI

- 1:1 double-blind, placebo-controlled, multi-centre RRCT, across 30 centres in 8 countries
- 28% (95% CI : 0.01-0.48) efficacy of sanofi flu vaccines (TIV & QIV) vs. placebo against the composite of all-cause death, MI and stent thrombosis
- 41% efficacy against cardiovascular deaths (95% CI : 0.1-0.61) and all-cause deaths (95% CI : 0.11-0.61)

	Vaccine (N = 1272)	Placebo (N = 1260)	Hazard Ratio (95% CI)	P-value	efficacy
Primary Endpoints, no (%)					
All-cause death, myocardial infarction, stent thrombosis	67 (5.0)	91 (7.2)	**0.72 (0.52-0.99)**	0.040	28%
Key Secondary Endpoints, no (%)					
All-cause death	37 (2.9)	61 (4.9)	**0.59 (0.39-0.89)**	0.010	41%
Cardiovascular death	34 (2.7)	56 (4.5)	**0.59 (0.39-0.90)**	0.014	41%
Myocardial infarction	25 (2.0)	29 (2.4)	0.86 (0.50-1.46)	0.57	16%
Stent thrombosis	6 (0.5)	3 (0.2)	1.94 (0.48-7.76)	0.34	-0.94%

"Influenza vaccination should be considered as part of in-hospital treatment after MI"

*Influenza vaccine was provided by Sanofi Pasteur, which had no role in the design or conduct of the study. There were grants from Sanofi for the study and Sanofi also provided the vaccine

1. Fröbert O, Götberg M, Angerås O, et al. Design and rationale for the Influenza vaccination After Myocardial Infarction (IAMI) trial. A registry-based randomized clinical trial. Am Heart J. 2017;189:94-102. **2.** Frøbert O, Götberg M, Erlinge D, et al. Influenza Vaccination after Myocardial Infarction: A Randomized, Double-Blind, Placebo-Controlled, Multicenter Trial [published online ahead of print, 2021 Aug 30]. *Circulation*. 2021;0.1161/CIRCULATIONAHA. 121.057042.

A global plan and vision for vaccines and immunization for the years 2021 to 2030

- uses what has been learned, considers new and ongoing problems, and capitalizes on new opportunities
- Immunization is a key part of people's right to the best physical and mental health and an investment in the future that will make the world healthier, safer, and more prosperous.

Strategic Framework

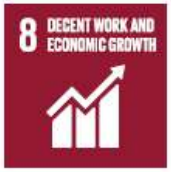
7 Strategic Priorities

informed by

4 Core Principles for action

How and why immunization is important for 14 of the 17 Sustainable Development Goals (SDGs)

Immunization plays a key role in **eliminating poverty**, by reducing treatment costs and increasing longer-term productivity by averting losses due to disability and death.



Immunization promotes a **healthy and productive workforce**, which contributes to the economy.

Immunization and **nutrition** go hand in hand. Malnourished individuals, especially children, are more likely to die from infectious diseases such as diarrhoea, measles and pneumonia.

Vaccine manufacture contributes to national industrial **infrastructure** in low- and middle-income countries.

Vaccination is one of the most cost-effective ways of saving lives and promoting good **health and well-being**.

Immunization prevents diseases that affect **the most marginalized groups**, especially those in poor urban or remote rural settings and in areas of conflict.

Immunization increases **educational attainment**, as it improves long-term cognitive development. Children who are immunized tend to attain more years of schooling and score higher in cognitive tests than those who are unvaccinated.

Immunization protects urban public health and interrupts disease transmission, ensuring **sustainable cities and communities**.

How and why immunization is important for 14 of the 17 Sustainable Development Goals (SDGs)

Removal of gender-related barriers to vaccination contributes to **gender** equality, as it supports women's full participation and equal opportunities for accessing health services.

Immunization is critical to building people's resilience to and mitigating the risk of disease outbreaks linked to **climate change**, such as yellow fever, malaria, meningitis and cholera.

When vaccination is complementary to **clean water, sanitation and hygiene**, it prevents diarrhoeal diseases, which are the leading cause of child mortality in low-income countries.

Effective, safe, people-centred health systems are the backbone of social institutions, and vaccination is often the regular point of contact of the population with the system.

Immunization logistics increasingly involve use of cleaner, more sustainable techniques based on solar and other **renewable sources of energy**.

Immunization programmes broaden **partnerships** and multisectoral approaches, ensuring that civil society, communities and the private sector work together towards common goals.

A Call for everyone in the community to

COMMIT

PLAN

PRIORITIZE

putting and supporting strong adult immunization programs on the public health agenda.

Thank you