



Le nuove prospettive di vaccinazione nell'anziano

Renzo ROZZINI

Dipartimento di Geriatria - Istituto Ospedaliero Poliambulanza-Brescia
SIGG-SICGe-AIP

Le nuove prospettive di vaccinazione nell'anziano



Introduzione: perché un geriatra deve occuparsi di vaccinazioni?

- Elevata suscettibilità alle infezioni (prevalenza)
- Mortalità
- Funzione
- Cognitività
- Uso dei servizi

Malattie prevenibili con la vaccinazione (Polmonite, COVID-19, HZ, Flu, RSV)

Benefici della vaccinazione

Cause di mancata vaccinazione: cosa si può fare (prospettive)

Conclusioni

Le nuove prospettive di vaccinazione nell'anziano



Introduzione: perché un geriatra deve occuparsi di vaccinazioni?

- Elevata suscettibilità alle infezioni (prevalenza)
- Mortalità
- Funzione
- Cognitività
- Uso dei servizi

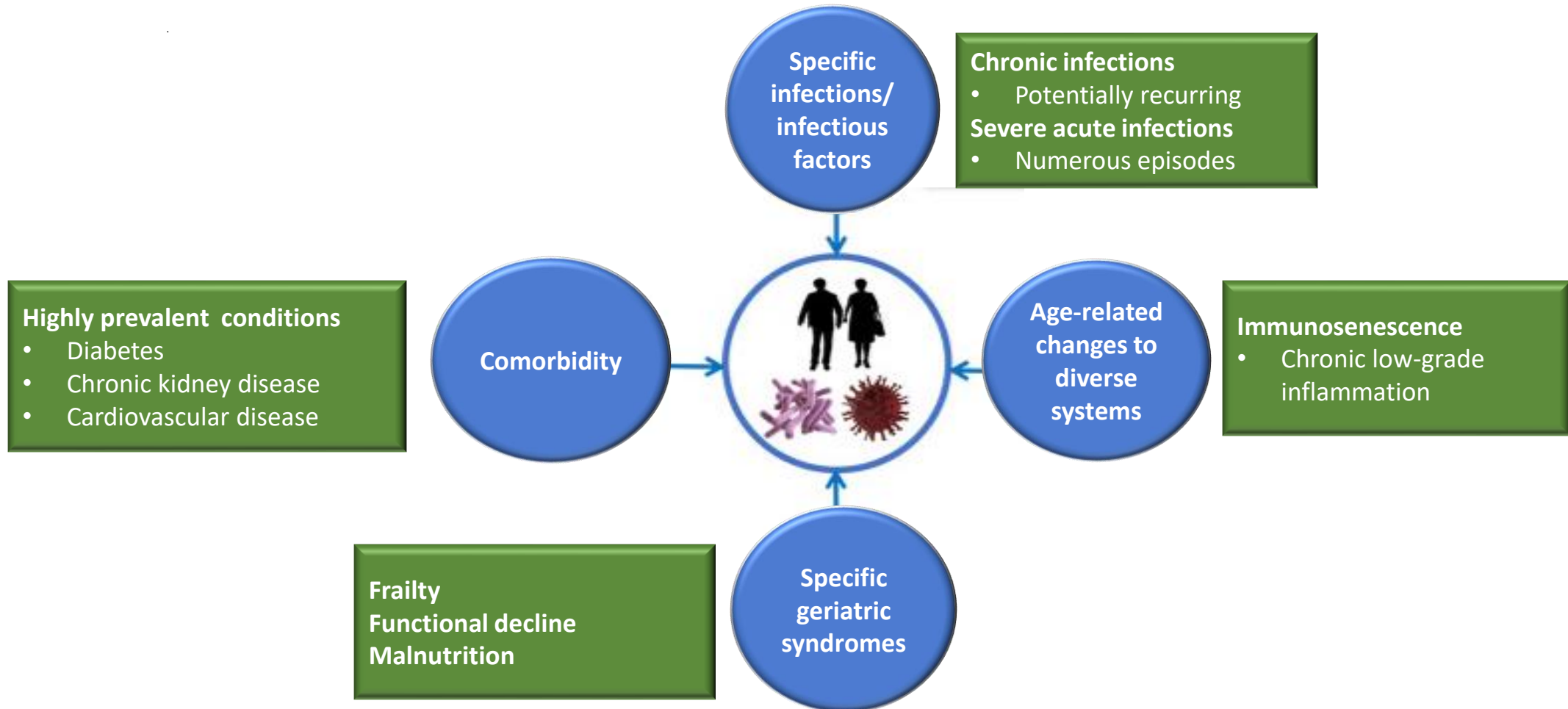
Malattie prevenibili con la vaccinazione (Polmonite, COVID-19, HZ, Flu, RSV)

Benefici della vaccinazione

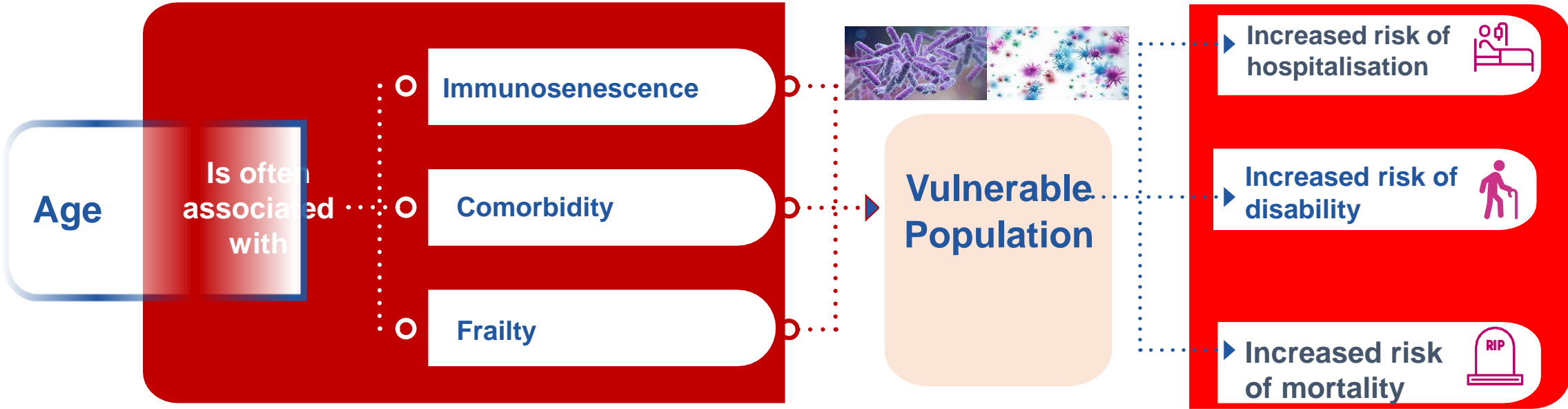
Cause di mancata vaccinazione: cosa si può fare (prospettive)

Conclusioni

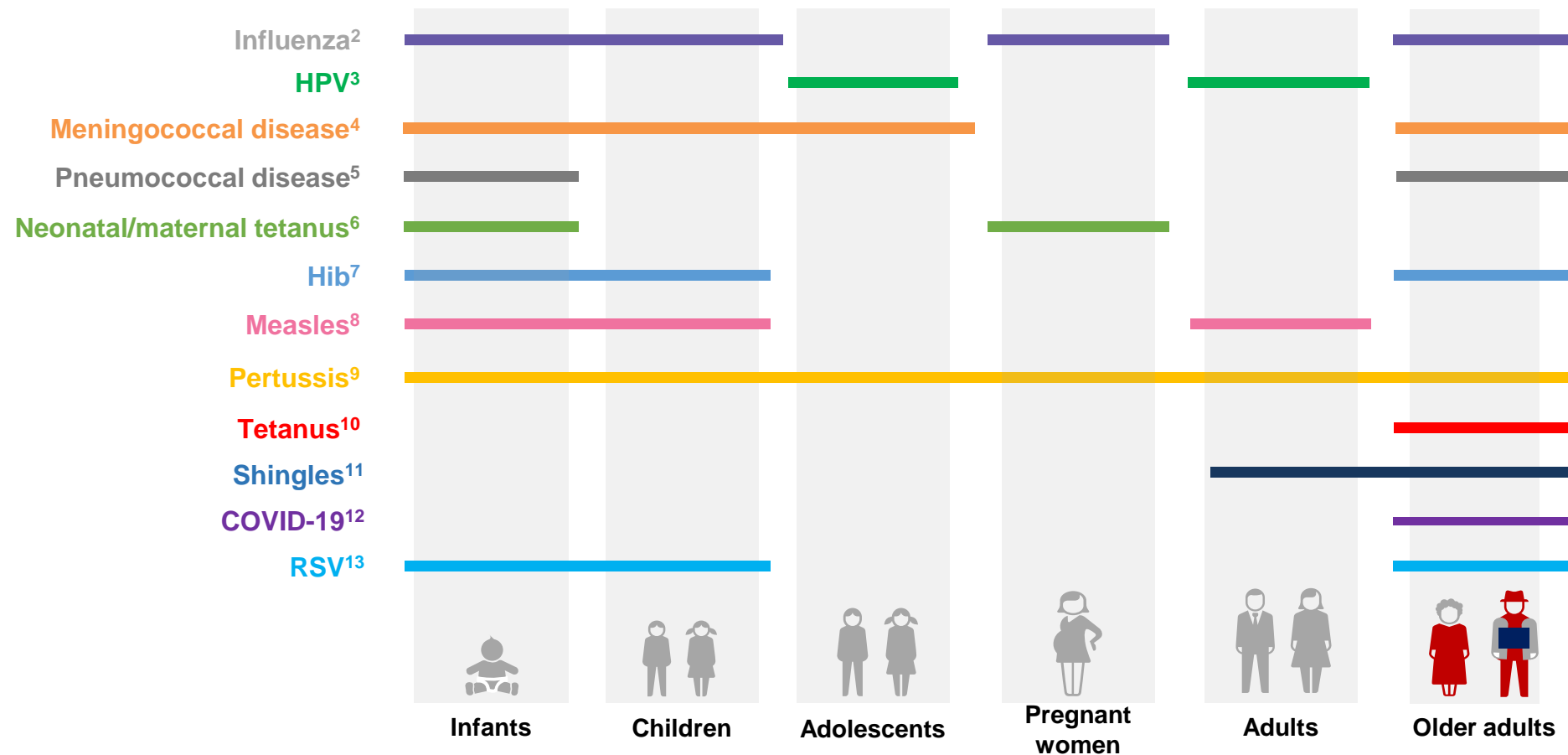
Older adults are more susceptible to infectious diseases and to a potential weakened immune system



Older adults are more vulnerable to vaccine-preventable diseases (VPDs) than younger populations*



Vaccine-Preventable Diseases-VPDs that commonly affect different age groups



*People can be susceptible to any of these infections at any age – this illustration is only meant to show where the greatest burden of disease lies

CDC, Centers for Disease Control and Prevention; COVID-19, Coronavirus Disease 2019; Hib, Haemophilus Influenza Type B; HPV, human papillomavirus; RSV, respiratory syncytial virus; VPD, vaccine-preventable disease; WHO, World Health Organisation

1. Rappuoli R *et al.* *Nat Rev Immunol* 2011;11:865–872; 2. CDC, 2022. Key facts about influenza (flu). <https://www.cdc.gov/flu/about/keyfacts.htm>; 3. CDC. 2022. Vaccine Pink Book. <https://www.cdc.gov/vaccines/pubs/pinkbook/hpv.html>; 4. CDC. 2023. Meningococcal disease. Risk Factors. <https://www.cdc.gov/meningococcal/about/risk-factors.html>; 5. CDC. 2022. Pneumococcal disease. <https://www.cdc.gov/pneumococcal/about/risk-transmission.html>; 6. WHO. 2023. Tetanus. <https://www.who.int/news-room/fact-sheets/detail/tetanus>; 7. National Vaccine Information Center (NVIC). Who is at Highest Risk for Getting Hib? 2022. <https://www.nvic.org/disease-vaccine/hib/hib-highest-risk>; 8. CDC. 2021. Measles. Pink book. <https://www.cdc.gov/vaccines/pubs/pinkbook/meas.html>; 9. CDC, 2022. Pertussis. <https://www.cdc.gov/vaccines/pubs/pinkbook/pert.html>; 10. CDC. 2022. Tetanus. <https://www.cdc.gov/tetanus/clinicians.html#risk-groups>; 11. CDC. 2021. Zoster. In: *Epidemiology and Prevention of Vaccine-Preventable Diseases Pink Book*, Hall E *et al.* (Eds). 14th edn. Washington, DC: Public Health Foundation, 2021. pp. 349–358; 12. WHO. 2021. Coronavirus. https://www.who.int/health-topics/coronavirus#tab=tab_1; 13. CDC. 2022. Key facts about RSV. <https://www.cdc.gov/rsv/index.html>. URLs accessed October 2023

Impact of pre-admission functional status on in-hospital mortality of COVID-19 older patients – a cohort study

Table 2
Cox Multivariable Regression Analysis of Determinants of In-Hospital Mortality

Model 1: Clinical and Laboratory Variables				Model 2			
Variables	HR	95% CI	P	Variables	HR	95% CI	P
Barthel Index, (≥ 75 vs < 75)	0.383	0.24-0.62	<.001	COVID-19 MRS, (for unitary increase)	1.49	1.33-1.69	<.001
Age (per year increase)	1.06	1.01-1.11	.015	Barthel Index (≥ 75 vs < 75)	0.35	0.22-0.57	<.001
Dementia (no vs yes)	0.52	0.31-0.88	.015	Frailty (no vs yes)	0.60	0.39-0.94	.024
RR (per breaths/min increase)	1.06	1.02-1.09	<.001				
PaO ₂ /FiO ₂ (per unit increase)	0.995	0.994-0.999	.019				
Creatinine (per mg/dL increase)	1.20	1.04-1.39	.012				
Platelets (10 ⁹ /L per unit increase)	0.997	0.992-0.998	.003				

CI, confidence interval; HR, hazard ratio; RR, respiratory rate.

Variables excluded ($P > .10$) from Model 1: frailty, number of drugs, C-reactive protein, and number of comorbidities.

Frailty was assessed based on the modified Frailty Index (mFI) created by Saxton and Velanovich by mapping 11 variables (nonindependent functional status, history of diabetes mellitus, chronic obstructive pulmonary disease or pneumonia, heart failure, myocardial infarction, angina or coronary revascularization, hypertension, peripheral vascular disease, presence of impaired sensorium, TIA or cerebrovascular event without or with deficit) present in the Canadian Study of Health and Aging Frailty Index.

Table 2—Three-Month Mortality Risk in 2,948 Elderly Hospitalized Patients

Characteristic	Events/No. of Patients	RR ^a	95% CI	RR ^b	95% CI
Age ≥ 90 y	58/269	2.5	1.8-3.4	1.7	1.2-2.4
Male	144/1,070	1.5	1.2-1.8
Smoker	103/857	1.2	1.0-1.5	1.2	1.0-1.8
Disabled 2 wk before admission	145/642	3.5	2.7-4.4	1.6	1.2-2.2
APACHE II-APS subscore > 12	55/138	6.2	4.3-8.9	1.7	1.2-2.6
Urea/creatinine ratio > 60	110/770	1.7	1.3-2.2	1.4	1.1-1.9
Pneumonia	46/240	2.1	1.5-2.9	1.4	0.9-2.0
Delirium	71/322	2.6	1.9-3.5	1.5	1.1-2.1
Dementia	122/554	3.6	2.8-4.6	1.9	1.4-2.7
COPD	88/608	1.5	1.2-1.9	2.4	1.1-5.8
Renal failure	70/447	1.7	1.2-2.2
Malnutrition	70/227	4.4	3.2-5.9	1.9	1.3-2.6
Stroke	65/362	1.9	1.4-2.6
Metastatic cancer	50/173	3.7	2.6-5.3	1.2	1.1-1.3
Charlson index ≥ 5	217/1,067	4.2	3.3-5.4	1.8	1.3-2.5
Drugs ≥ 7	133/621	2.5	1.9-3.3	1.6	1.2-2.1

Cox proportional hazard ratio was used to model the time-of-death data to identify possible predictors of mortality. Variables significantly associated with mortality in crude analysis were included as potential confounders in a final Cox proportional hazards regression model, with CAP admission status as the main predictor and time to death as the outcome. RR = relative risk. See Table 1 for expansion of other abbreviations.

^aCrude analysis.

^bFinal Cox proportional hazards regression model.

Rozzini & Trabucchi, 2003, 2011

Is Pneumonia Still the Old Man's Friend?

Table 1. Characteristics and 6-Month Mortality Rate of 1803 Inpatients Consecutively Admitted in a Geriatric Ward for Pneumonia or Other Acute Noninfectious Diseases*

Characteristic	Acute Noninfectious		P Value
	Pneumonia (n = 241)	Diseases (n = 1562)	
Age, y	83.3 ± 6.9	79.7 ± 7.0	.001
Male, %	24.5	19.3	.001†
MMSE score	19.7 ± 9.1	22.9 ± 7.1	.001
GDS score	5.1 ± 3.2	5.1 ± 3.6	.98
Barthel Index (15 days before admission)	72.6 ± 31.5	83.8 ± 23.2	.001
Barthel Index (on admission)	55.3 ± 37.9	74.5 ± 30.0	.001
IADL (functions lost)	3.9 ± 3.0	3.1 ± 2.8	.001
Diseases, No.	6.1 ± 2.1	5.3 ± 2.0	.001
Charlson Index	8.3 ± 2.5	7.0 ± 2.6	.001
Drugs, No.	4.5 ± 2.3	4.3 ± 1.9	.19
APACHE II score	13.3 ± 6.3	7.9 ± 4.1	.001
APS-APACHE II subscore	3.8 ± 4.2	1.9 ± 2.7	.001
Serum albumin, g/dL	3.6 ± 1.3	3.9 ± 0.6	.001
Hemoglobin, g/dL	11.7 ± 2.3	12.3 ± 2.0	.02
Serum cholesterol, mg/dL	186.2 ± 51.9	204.7 ± 51.1	.001
CRP, mg/dL	7.5 ± 5.6	2.6 ± 7.8	.001
Creatinine, mg/dL	1.2 ± 0.8	1.1 ± 0.8	.20
Length of stay, d	8.1 ± 5.1	6.4 ± 3.3	.001
6-mo mortality, %	27.4	20	.001†

Abbreviations: APACHE, Acute Physiology and Chronic Health Examination; APS, Acute Physiology Score; CRP, C-reactive protein; GDS, Geriatric Depression Scale; IADL, Instrumental Activities of Daily Living; MMSE, Mini-Mental State Examination.

SI conversion factors: To convert cholesterol to millimoles per liter, multiply by 0.0259. To convert creatinine to micromoles per liter, multiply by 88.4.

*Data are mean ± SD value unless otherwise specified.

†P value derived from χ^2 test. Other P values were derived from the t test.

Le nuove prospettive di vaccinazione nell'anziano



Introduzione: perché un geriatra deve occuparsi di vaccinazioni?

- Elevata suscettibilità alle infezioni (prevalenza)
- Mortalità
- Funzione
- Cognitività
- Uso dei servizi

Malattie prevenibili con la vaccinazione (Polmonite, COVID-19, HZ, Flu, RSV)

Benefici della vaccinazione

Cause di mancata vaccinazione: cosa si può fare (prospettive)

Conclusioni

THE PRINCIPLES AND PRACTICE OF MEDICINE

DESIGNED FOR THE USE OF
PRACTITIONERS AND STUDENTS OF MEDICINE

BY

WILLIAM OSLER, M. D.

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON
PROFESSOR OF MEDICINE IN THE JOHNS HOPKINS UNIVERSITY AND
PHYSICIAN-IN-CHIEF TO THE JOHNS HOPKINS HOSPITAL, BALTIMORE
FORMERLY PROFESSOR OF THE INSTITUTES OF MEDICINE, MCGILL UNIVERSITY, MONTREAL
AND PROFESSOR OF CLINICAL MEDICINE
IN THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA

NEW YORK
D. APPLETON AND COMPANY

1892

Rijkers and Pelton *Pneumonia* (2018) 10:8
<https://doi.org/10.1186/s41479-018-0052-7>

EDITORIAL

The old man's friend

Ger T. Rijkers^{1*} and Stephen I. Pelton²

Editorial

The term "old man's friend" is often used when referring to pneumonia. Searching for it on Google yields 16,400 results in 0.33 s for this combination. The term is attributed to William Osler, who in the first edition of his book *The Principles and Practice of Medicine* (1892) wrote:

In children and in healthy adults the outlook is good. In the debilitated, in drunkards and in the aged the chances are against recovery. So fatal is it in the latter class [i.e. the elderly] that it has been termed the natural end of the old man [1].

Etiology.—Pneumonia is one of the most wide-spread of acute diseases. Hospital statistics show that the ratio to other admissions is in the proportion of twenty to thirty per thousand.

It prevails at all ages. Children are quite as susceptible to it as adults, and it is the special enemy of old age. Males are more frequently affected than females. Dwellers in cities and persons whose occupations are associated with exposure, hardship, and cold are most liable to the disease. Contrary to the general rule in infectious diseases, newcomers and immigrants seem less susceptible than the native inhabitants. Debilitating causes of all sorts render individuals more susceptible. Alcoholism is perhaps the most potent predisposing factor. Persons weakened by disease are especially prone to it; thus we find many cases in connection with chronic Bright's disease, diabetes, the chronic affections of the nervous system, and protracted fevers. One important predisposing cause is a previous attack. No acute disease recurs with such frequency. Instances are on record of individuals who have had ten or more attacks.

INFLUENZA

FREQUENTLY COMPLICATED WITH

PNEUMONIA

IS PREVALENT AT THIS TIME THROUGHOUT AMERICA.
THIS THEATRE IS CO-OPERATING WITH THE DEPARTMENT OF HEALTH.

YOU MUST DO THE SAME

IF YOU HAVE A COLD AND ARE COUGHING AND
SNEEZING. DO NOT ENTER THIS THEATRE

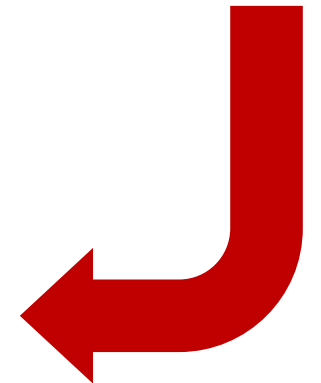
GO HOME AND GO TO BED UNTIL YOU ARE WELL.

Coughing, Sneezing or Spitting Will Not Be Permitted In The Theatre. In case you must cough or sneeze, do so in your own handkerchief, and if the coughing or sneezing persists, leave the theatre at once.

This Theatre has agreed to cooperate with the Department Of Health in disseminating the truth about Influenza, and thus serve a great educational purpose.

**HELP US TO KEEP CHICAGO THE
HEALTHIEST CITY IN THE WORLD**

JOHN DILL ROBERTSON
COMMISSIONER OF HEALTH



The consequences of CAP in adults can be severe, particularly in those with comorbid conditions

In a prospective, population-based, cohort study among adults 18+ years of age hospitalised for CAP in Louisville, KY*



A total of **8284 hospitalisations** were due to CAP during the 2-year study period

~9%



were re-hospitalised for CAP due to a new episode during the same study year



Of the **3789 adults** hospitalised due to CAP during the first year of the study:

13%



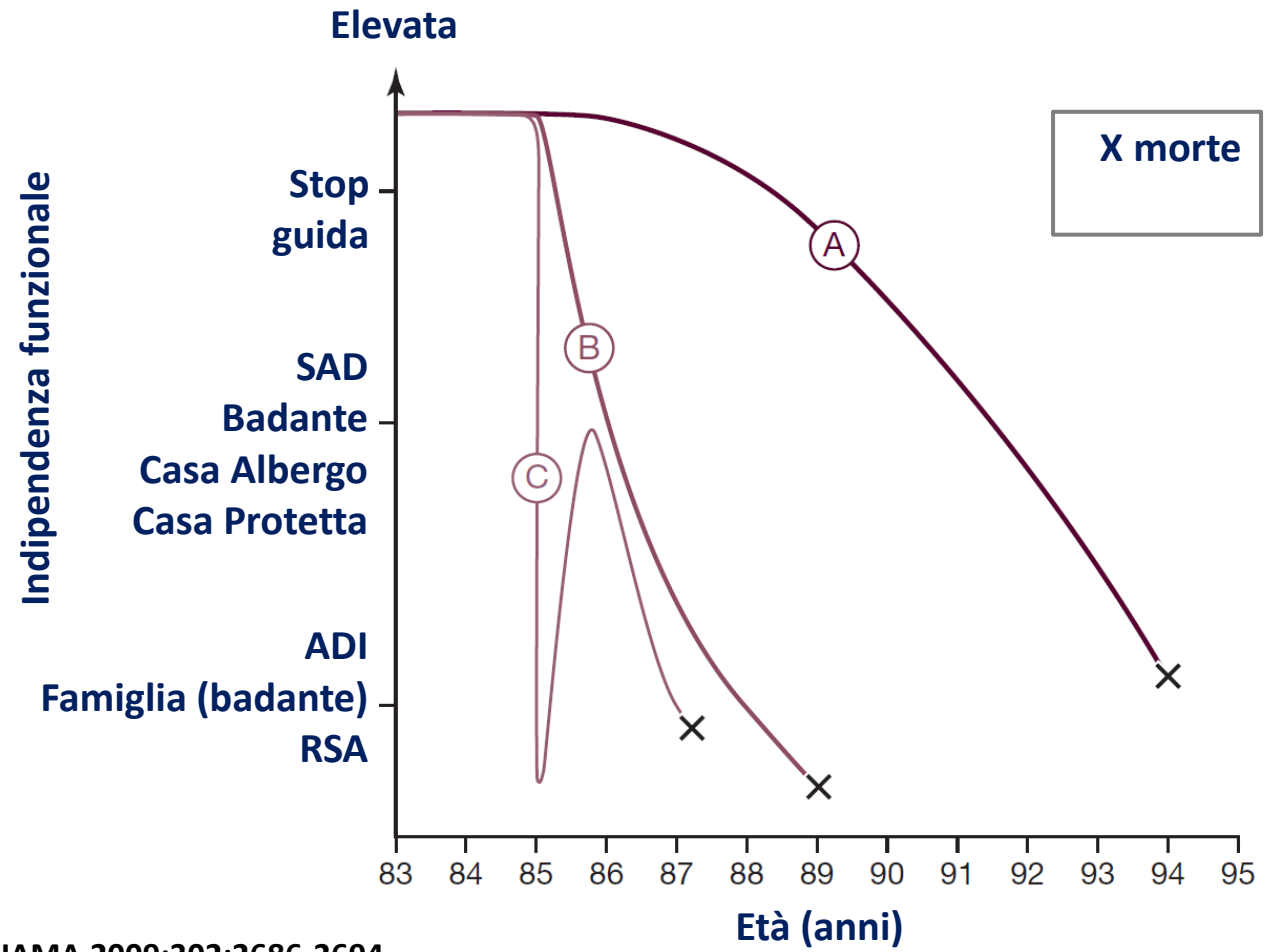
died within 30 days after hospitalisation due to CAP

~31%



died within 1 year after hospitalisation due to CAP

Traiettorie ipotetiche di declino funzionale per il signor R.



Reuben, D. B. JAMA 2009;302:2686-2694

JAMA

Traiettorie ipotetiche di declino funzionale per il signor R. Traiettorie A: stato di salute buono; buona aspettanza di vita. Traiettorie B: il paziente ha una malattia cronica degenerativa (ad es., malattia di Alzheimer, malattia di Parkinson): declino funzionale costante con un periodo di dipendenza funzionale prolungato. Traiettorie C: evento catastrofico improvviso (ad es., frattura di femore, stroke, **sepsi, polmonite**) con qualche miglioramento funzionale, ma senza tornare allo stato di partenza, riduzione della aspettanza di vita.

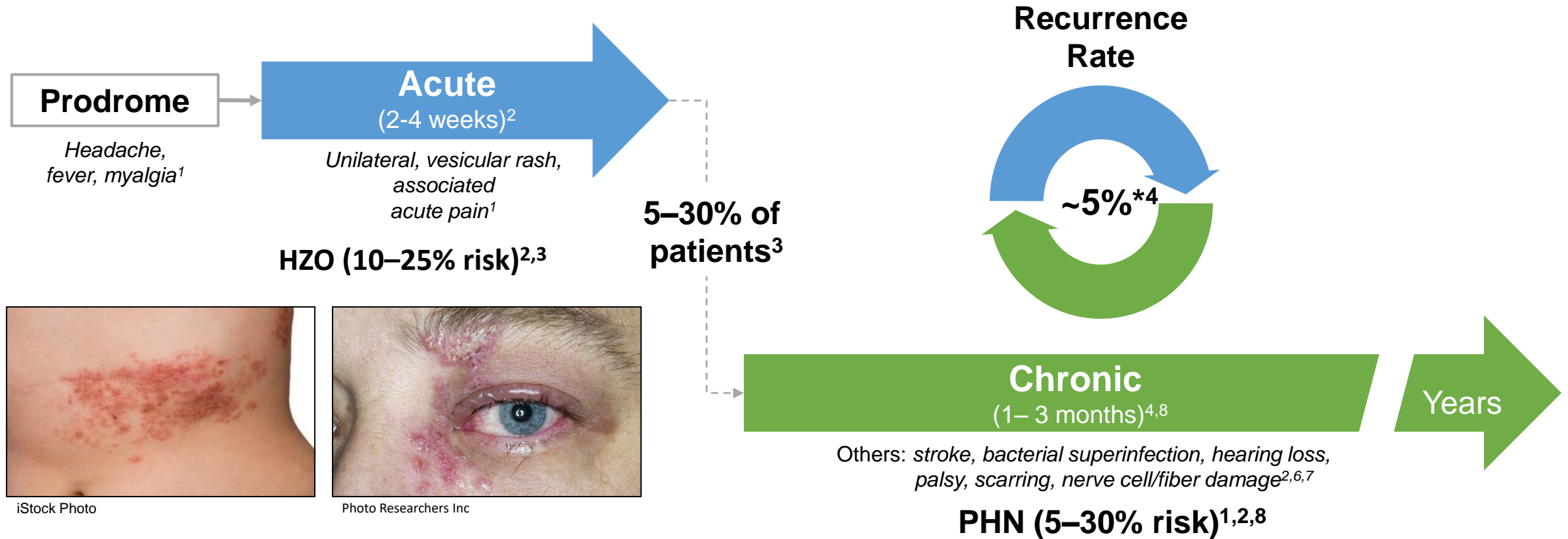
The consequence of the COVID-19 pandemic on other respiratory illnesses and potential future impact

Co-infection

- Co-infection between SARS-CoV-2 and other viruses such as influenza or RSV may result in worse outcomes compared with SARS-CoV-2 only^{1,2}
- Compared with SARS-CoV-2 alone, SARS-CoV-2/influenza co-infection was associated with:
 - ▲ **Increased risk of invasive mechanical ventilation**^{1,2}
 - ▲ **Increased risk of in-hospital mortality**^{1,2}

As social contact returned to pre-pandemic levels, we have seen a resurgence in influenza during winter 2022–2023 to levels higher than before the COVID-19 pandemic³

...Even if not associated with increased mortality, HZ acute phase can be followed by chronic complications that deeply affect quality of life¹



*Over ~8 years follow-up

HZ, herpes zoster; HZO, herpes zoster ophthalmicus; PHN, postherpetic neuralgia

1. de Oliveira Gomes J et al. *Cochrane Database Syst Rev* 2023;10:CD008858; 2. Harpaz R et al. *MMWR Recomm Rep* 2008;57:1-30; 3. Kawai K et al. *BMJ Open* 2014;4:e004883; 4. Yawn BP et al. *Mayo Clin Proc* 2011;86:88-93; 5. Dworkin RH et al. *J Pain* 2008;9:S37-44; 6. Dworkin RH et al. *Clin Infect Dis* 2007;44:S1-26; 7. Nagel MA and Gilden D. *Curr Neurol Neurosci Rep* 2015;15:16; 8. Opstelten W et al. *Fam Pract* 2002;19:471-475

Signs and symptoms of RSV infection in adults

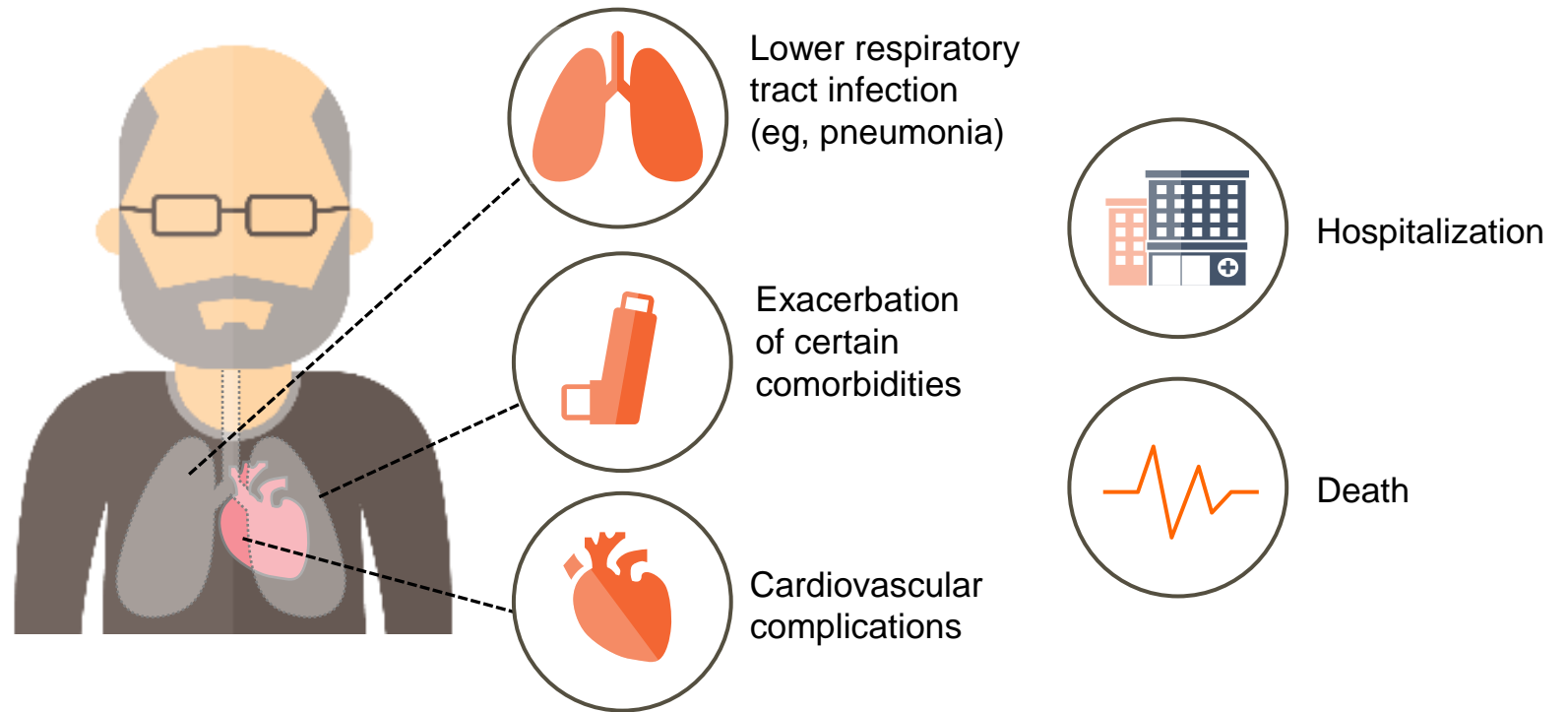
RSV infection is typically mild, but may lead to serious complications and poor outcomes

Typically, RSV infection in healthy adults results in mild, cold-like symptoms^{1,2}



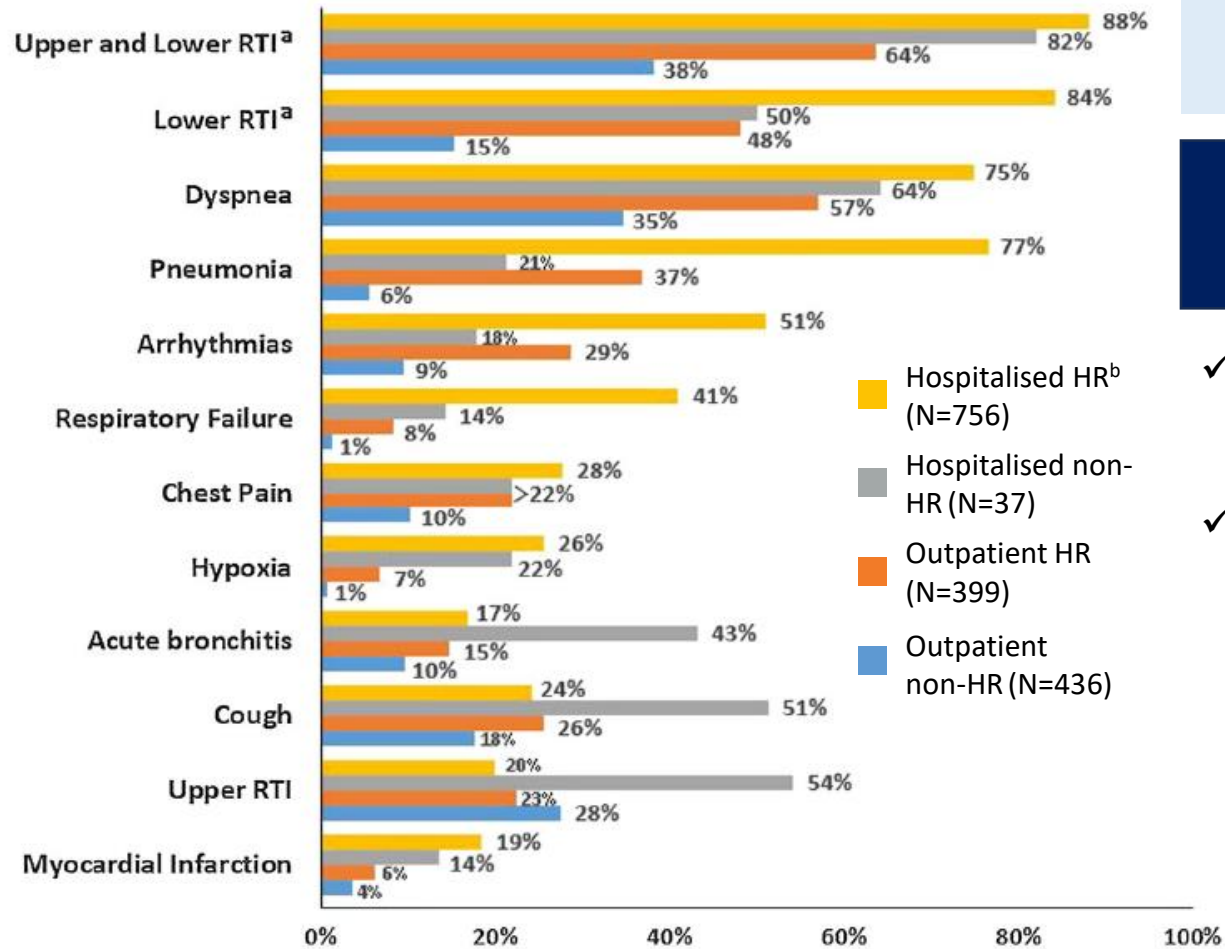
Symptoms can be similar to those of other respiratory pathogens^{2,3}

However, RSV can lead to serious conditions^{1,3}:



1. Centers for Disease Control and Prevention (CDC), 2023. RSV in older adults and adults with chronic medical conditions. <https://www.cdc.gov/rsv/high-risk/older-adults.html> (accessed June 2023); 2. Nam HH and Ison MG. *BMJ* 2019;366:l5021; 3. Branche AR, Falsey AR. *Drugs Aging* 2015;32:261–269

Complications during follow-up period in hospitalised patients with RSV¹



Real-world observational study conducted using the US Medicare database from Jan 2011–Dec 2015

High risk patients hospitalised with RSV diagnosis (N=756)

- ✓ Significant increase in healthcare utilisation following hospitalisation
- ✓ Healthcare cost increased by \$9,210 per patient post-RSV diagnosis, mainly due to the higher rates of hospitalisation and longer LOS due to the exacerbation of existing comorbidities

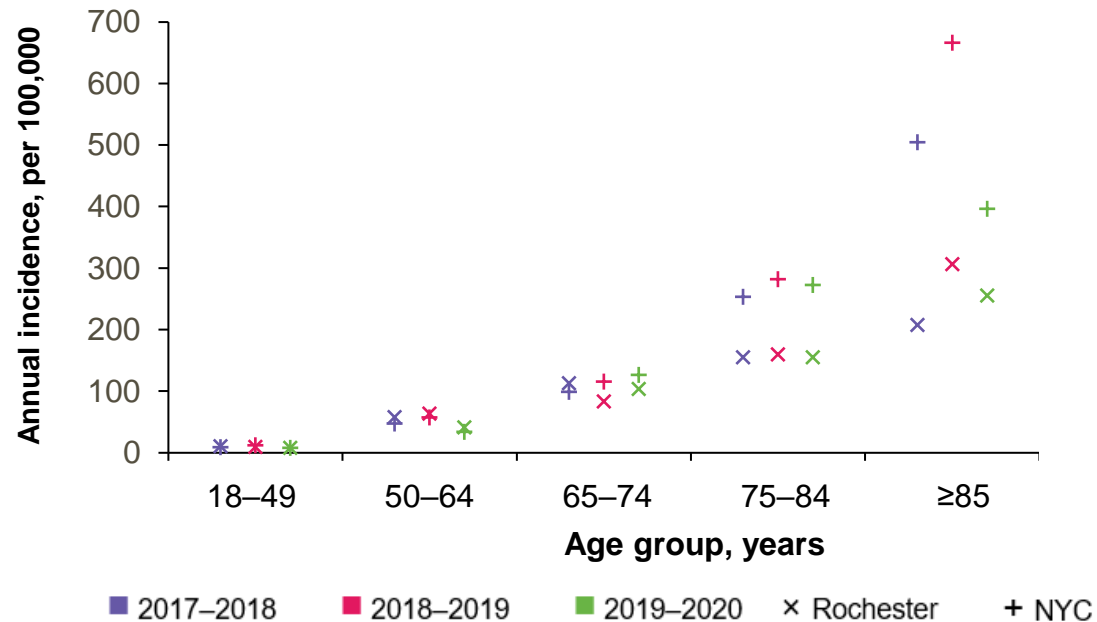
Country-specific information may not be transferable to other countries

^aExcluding influenza, RSV and human metapneumovirus; ^bHigh-risk defined as diagnosed with chronic lung disease, prior pneumonia, congestive heart failure, or immune compromise ≤180 days before RSV diagnosis
 Limitations: study utilised claims data that were primarily coded for administrative purposes rather than clinical accuracy (therefore susceptible to coding errors and diagnosis discrepancies)
 HR, high risk; LOS, length of stay; RSV, respiratory syncytial virus; RTI, respiratory tract infection
 Wyffels V et al. *Adv Ther* 2020;37:1203–1217

Risk of RSV-associated hospitalization increases with age and chronic medical conditions
 RSV hospitalization rate is high among older adults and those with certain chronic medical conditions

A large prospective study estimated incidence of RSV-associated hospitalization in two regions of New York State, USA, 2017–2020. N=1099 cases

Incidence of RSV-associated hospitalization by age group and season



Hospitalization rates for RSV were higher in adults* with underlying conditions

Comorbidity	Incidence rate ratio [†]
Asthma	2.0–3.6
CAD	3.7–7.0
Diabetes	2.4–11.4
COPD	3.2–13.4
CHF	4.0–33.2

*Adults aged ≥18 years. †Ratio of rate among people with each comorbidity vs those without it, in the surveillance area population









Graph and table were independently created for GSK from the original data

CAD, coronary artery disease; CHF, congestive heart failure; COPD, chronic obstructive pulmonary disease; NYC, New York City
 Branche AR *et al. Clin Infect Dis* 2022;74:1004–1011

Annual burden of RSV estimates in older adults in industrialized countries

RSV is prevalent but under-recognized in older adults

Estimated cases, hospitalizations, and in-hospital deaths due to RSV-associated acute respiratory infections among adults aged 60 years and older per region, 2019 population.^a

	 RSV-ARI	 RSV hospitalizations	 RSV in-hospital deaths
Overall (point estimates, 95% CI)	Attack rate 1.62% (0.84–3.08)	Hospitalization rate 0.15% (0.09–0.22)	hCFR 7.13% (5.40–9.36)
	Number of cases (95% CI)	Number of hospitalizations (95% CI)	Number of in-hospital deaths (95% CI)
Population ≥60 years of age in 2019			
 Germany 23,738,453	383,376 (199,403–731,382)	34,421 (22,314–53,174)	2,455 (1,206–4,978)
 Italy 18,043,000	291,394 (151,561–555,905)	26,162 (16,960–40,416)	1,866 (917–3,783)
 France 17,510,000	282,787 (147,084–539,483)	25,390 (16,459–39,222)	1,811 (889–3,672)
 United Kingdom 16,569,000	267,589 (139,180–510,491)	24,025 (15,575–37,115)	1,714 (842–3,474)
 Spain 12,278,000	198,290 (103,135–378,285)	17,803 (11,541–27,503)	1,270 (624–2,575)

a. Population data obtained from the United Nations Department of Economic and Social Affairs. ARI, acute respiratory infection; CI, confidence interval; hCFR, in-hospital case fatality rate; RSV, respiratory syncytial virus.

Le nuove prospettive di vaccinazione nell'anziano



Introduzione: perché un geriatra deve occuparsi di vaccinazioni?

- Elevata suscettibilità alle infezioni (prevalenza)
- Mortalità
- Funzione
- Cognitività
- Uso dei servizi

Malattie prevenibili con la vaccinazione (Polmonite, COVID-19, HZ, Flu, RSV)

Benefici della vaccinazione

Cause di mancata vaccinazione: cosa si può fare (prospettive)

Conclusioni

Vaccination can provide benefits beyond acute disease prevention, contributing to better general health and healthy ageing

Infectious diseases can have health impacts **beyond the acute illness**, potentially with long-term damaging complications¹⁻³

Vaccination can help to maintain overall health by preventing not only initial infections but also the **associated downstream effects**⁴⁻⁷

As global life expectancy increases, vaccination is becoming more important in supporting the health and **quality of life** of the ageing population⁸

COVID-19 vaccines* were estimated to have saved nearly 20 million lives globally in the first year of vaccination (Dec 2020–Dec 2021)

Global impact of the first year of COVID-19 vaccination: a mathematical modelling study

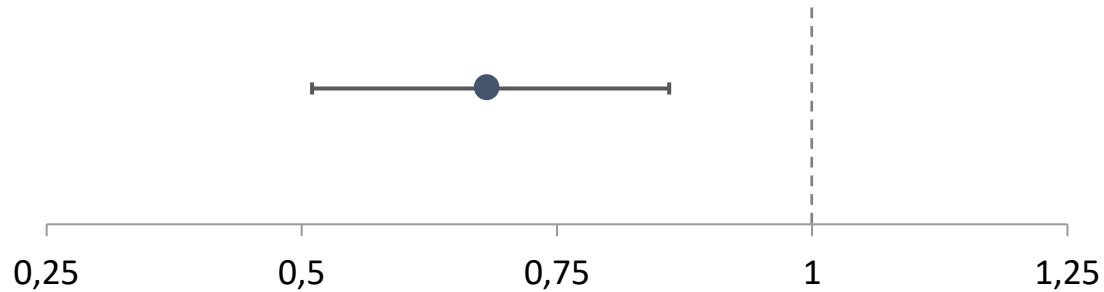
THE LANCET

Oliver J Watson, Gregory Barnsley*, Jaspreet Toor, Alexandra B Hogan, Peter Winskill, Azra C Ghani*

“ Based on official reported COVID-19 deaths, we estimated that **vaccinations prevented...14.4 million...deaths from COVID-19.** When considering excess death, the estimate rose to **19.8 million**, representing a **global reduction of 63% in total deaths[†]** during the first year of COVID-19 vaccination. ”

Downstream effects have been observed following vaccination

Risk of major adverse cardiovascular event in influenza-vaccinated subjects with acute coronary syndrome aged >50 years (n=221) vs unvaccinated (n=218)¹

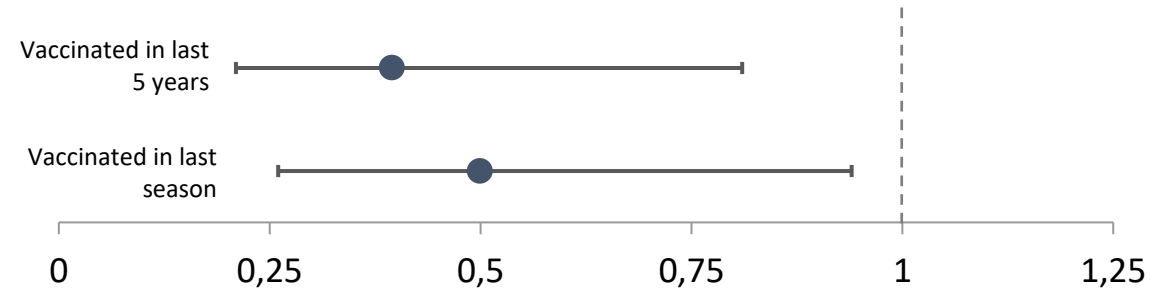


Adjusted hazard ratio (95% CI)[†]

Patients in the influenza vaccination group had **significantly lower rates of major adverse cardiovascular events** than the control group (9.5% vs 19.3%)

Adjusted HR 0.67 (95% CI 0.51–0.86); P=0.005^{†1}

Risk of brain infarction in influenza-vaccinated subjects aged ≥60 years vs unvaccinated*²



Odds ratio (95% CI)[‡]

Patients with **brain infarctions** were **less likely to be vaccinated against influenza infection** than controls²

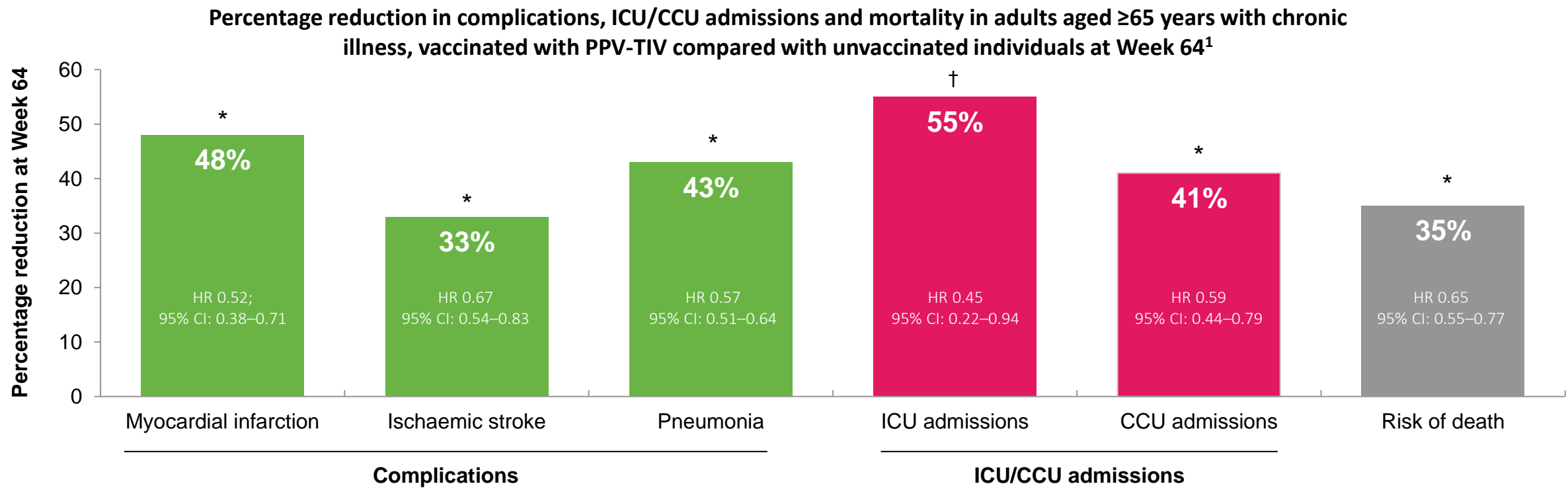
*Vaccinated in last season: controls n=107/180, cases n=42/90. Vaccinated in last 5 years: controls n=101/180, cases 37/90. [†]Adjusted for age, sex, serum creatinine, medication and coronary revascularisation;

[‡]Adjusted for age, sex, diabetes, hypertension, body mass index, current smoking, cholesterol and use of antibiotics in the last 3 months

CI, confidence interval

1. Phrommintikul A *et al. Eur Heart J* 2011;32:1730–1735; 2. Lavallée P *et al. Stroke* 2002;33:513–518

Vaccination against respiratory diseases can help protect elderly persons with chronic illness against cardiovascular and cerebrovascular events, reducing overall healthcare burden¹



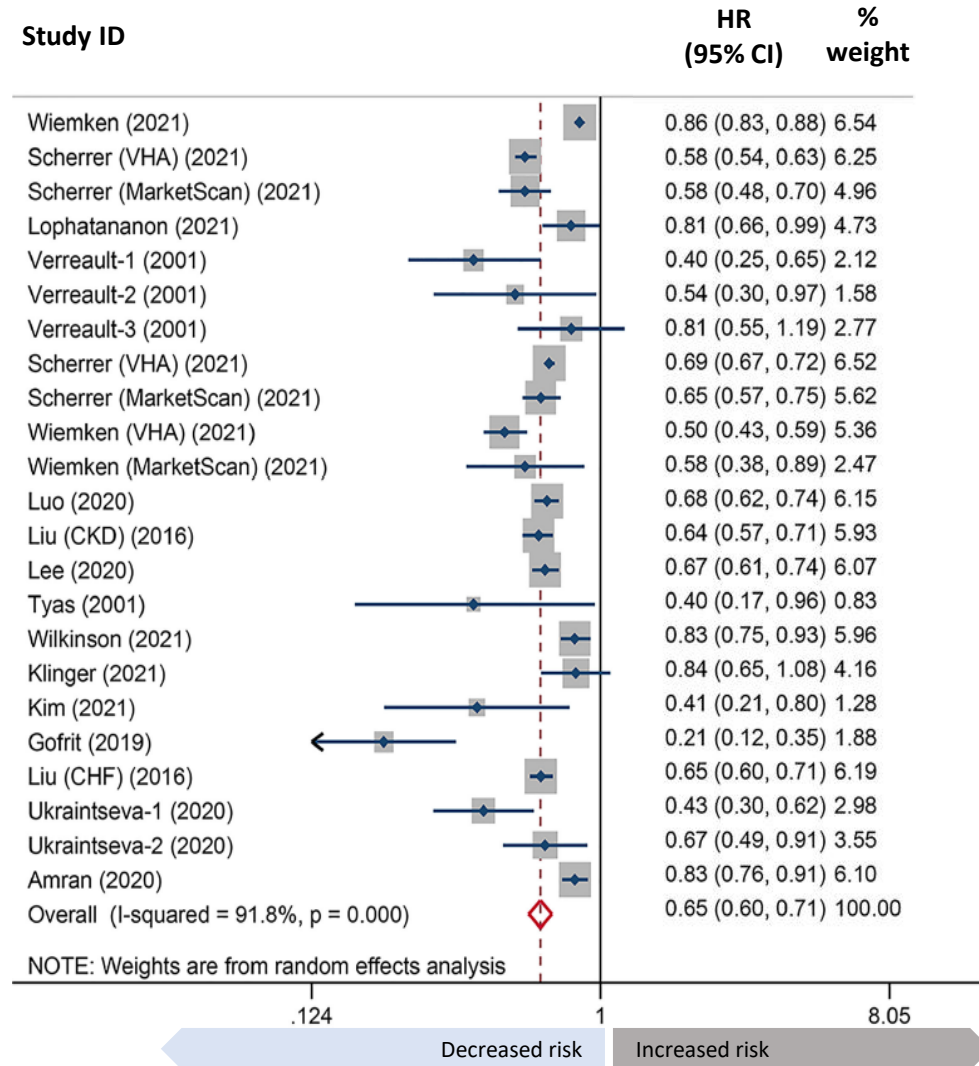
*P<0.001; †P=0.03

CCU, coronary care unit; CI, confidence interval; HR, hazard ratio; ICU, intensive care unit; PPV, 23-valent pneumococcal vaccine; TIV, trivalent influenza vaccine

1. Hung IFN et al. *Clin Infect Dis* 2010;51:1007–1016; 2. Doherty TM et al. *Eur Geriatr Med* 2018;9:289–300

Adult vaccinations and dementia risk

Overall association between adult vaccinations and subsequent dementia risk



Vaccination can help combat AMR

- AMR is one of the top 10 global public health threats, leading to serious and life-threatening infections and death^{1,2}
- By decreasing the number of infectious disease cases, vaccines can reduce the use of antibiotics and the emergence and spread of AMR²



Vaccination against bacteria:²

- Reduces prevalence of pathogen and circulation of antimicrobial-resistant strains
- Potential to eradicate pathogens (eg smallpox)

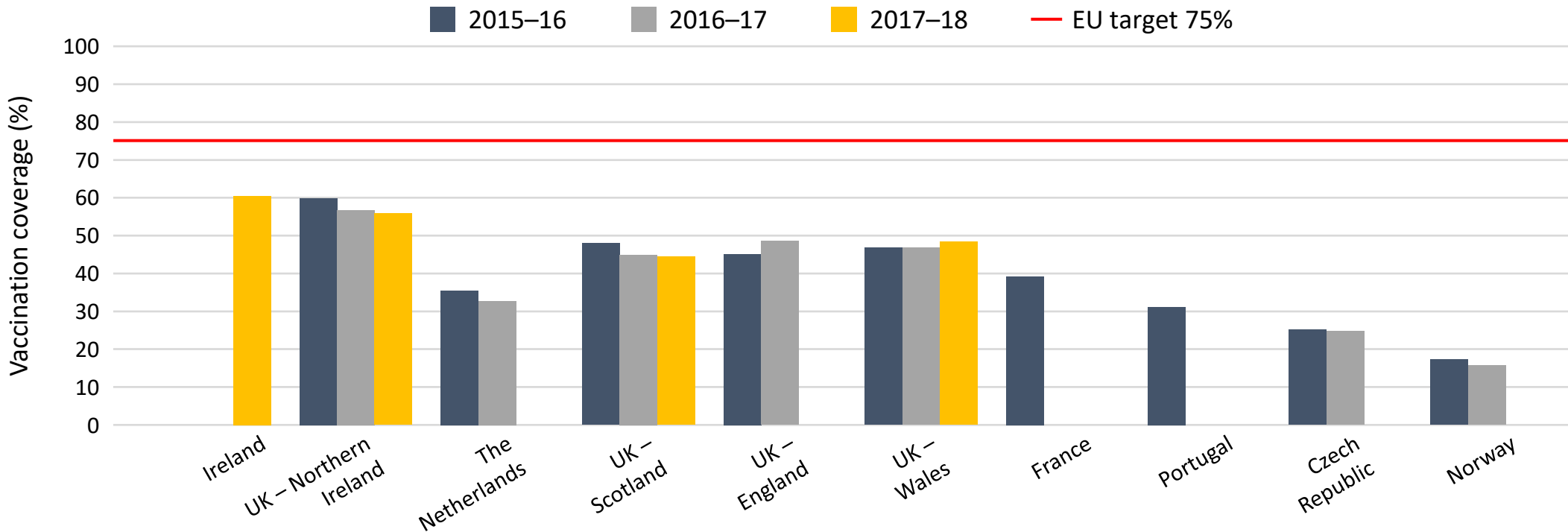


Vaccination against viral infections:²

- Can reduce inappropriate use of antibiotics
- Can prevent secondary bacterial superinfections

Patients with chronic conditions: a sub-optimally vaccinated population

Seasonal influenza vaccination coverage rates among individuals with chronic medical conditions



EEA, European Economic Area; EU, European Union
European Centre for Disease Prevention and Control, 2018 . Seasonal influenza vaccination and antiviral use in EU/EEA Member States. <https://www.ecdc.europa.eu/en/publications-data/seasonal-influenza-vaccination-antiviral-use-eu-eea-member-states> (accessed October 2023)

Le nuove prospettive di vaccinazione nell'anziano



Introduzione: perché un geriatra deve occuparsi di vaccinazioni?

- Elevata suscettibilità alle infezioni (prevalenza)
- Mortalità
- Funzione
- Cognitività
- Uso dei servizi

Malattie prevenibili con la vaccinazione (Polmonite, COVID-19, HZ, Flu, RSV)

Benefici della vaccinazione

Cause di mancata vaccinazione: cosa si può fare (prospettive)

Conclusioni

Reasons for under-vaccination in populations with chronic conditions

Lack of awareness of VPDs

**Uncertainty about vaccine safety and efficacy
(patients, parents and HCP)**

Cost/reimbursement

Access and implementation issues

Le nuove prospettive di vaccinazione nell'anziano



Introduzione: perché un geriatra deve occuparsi di vaccinazioni?

- Elevata suscettibilità alle infezioni (prevalenza)
- Mortalità
- Funzione
- Cognitività
- Uso dei servizi

Malattie prevenibili con la vaccinazione (Polmonite, COVID-19, HZ, Flu, RSV)

Benefici della vaccinazione

Cause di mancata vaccinazione: cosa si può fare (prospettive)

Conclusioni

-Gli anziani e i pazienti con comorbidità pagano il tributo più pesante alle VPD

-La prevenzione delle VPD può contribuire a un invecchiamento in buona salute, prolungando la vita senza disabilità e riducendo l'uso delle risorse sanitarie

-L'adesione alla vaccinazione rimane subottimale negli adulti

-Interventi per aumentare il tasso di vaccinazioni:

- Migliorare le conoscenze, l'organizzazione e la formazione degli operatori sanitari
- Utilizzare ogni forma di tecnologia comunicativa per rivolgersi a segmenti più ampi della popolazione
- Ricerca di modalità organizzative più efficaci (e loro monitoraggio)

-È necessaria la politica per stimolare la domanda, sostenere la ricerca e mantenere la vaccinazione come priorità nell'agenda pubblica