## Session 5 - Adult Vaccination in Italy in specific population groups: older adults

## **7 December 2023**



#### Vaccine recommendations

 What are specific vaccine recommendations or schedules (if any) for this population in Italy? If applicable, how have these recommendations changed over time?





## • The National immunization plan 2017-2019 in Italy was particularly relevant because it engaged scientific leaders of a coalition of scientific societies (Hygiene & Public Health, Pediatrics, GPs, Infectious diseases) and they worked together to evaluate the evidence and create the calendar.

- This was a key element to obtain a political commitment and the key decision-makers were involved throughout the process (the Director of the Italian NIH and the Minister of Health): Political will and Department of Health endorsement of vaccine schedules were most important and the advocacy efforts by the coalition of scientific societies with legislators were essential to ensure that legislators made informed, evidence-based decisions.
- Generating data on vaccine effectiveness and safety and on the socio-economic impact of vaccines (required by Health and Finance Ministries) was also accomplished

Italy's national and **regional structures** are complex and critical for implementation, so to know the system is essential. Also essential is to engage the public and to create a public dialogue on the value of vaccines and lifelong immunization, involving scientists, doctors, politicians, industry, patients and others. The highest vaccination coverage was observed in regions where the active calls have been implemented.

What we need now is a paradigm shift towards seeing vaccinations as a pillar of healthy aging more than as preventive measures

The National Immunization Calendar (2017-2019) was included in the Livelli Essenziali di Assistenza (LEA) - a list of essential services that must be made available to all residents free of charge. Doing this:

#### Increased the number of vaccines included in the LEA from 4 to 13

Ensured that 19 Regions and two Autonomous Provinces stick to the new vaccination calendar (although at different times and with different vaccines coverage).

21-8-2023

- n. 194



	2 mesi	3 mesi	4 mesi	5 mesi	6 mesi	10 mesi	12 mesi	13/14 mesi	5 anni	6 anni	11 anni	12-18 anni	19-59 anni	50-64 anni	60 anni	65 an ni	66 an ni e più
Esavalente: Difterite, Fetano, Pertosse, Poliomielite, Epatite B, Haemophilus influenzae di tipo b (DTaP-IPV-HBV-Hib)																	
Rotaviirus (RV)			1														
Pneumococco coniugato (PCV)																2	
Meningococco B (MenB)		1	3														
Morbillo, Parotite, Rosolia, Varicella (MMRV o MMR+V)							4										
Meningococco ACWY MenACWY)							5										
Difteriite, Tetano, Pertosse, Poliomielite (DTap-IPV/dTap-IPV)									6			7					
Papillomavirus (HPV)											8						
Difteriite, Tetano, Pertosse adulto (dTaP)															9		
nfluenza (FLU)								10								11	
Herpes Zoster (HZV)																12	

Nota Bene: i mesi e gli anni di vita si intendono compiuti. Esempi: la prima dose DTaP-IPV-HBV-Hib può essere offerta a partire da 2 mesi compiuti, ovvero a partire dal 61° giorno di vita; la dose di richiamo DTaP-IPV-HBV-Hib a 10 mesi, ovvero a partire dal 301° giorno di vita, ecc.



## The Italian National Vaccination Prevention Programme (Piano Nazionale di Prevenzione Vaccinale – PNPV)

For adults over 65 years of age, the PNPV recommends the influenza, pneumococcal, herpes zoster and diphtheria-tetanus-pertussis vaccinations<sup>1,2</sup>

- Annual flu vaccination: free to people who are at least 60 years of age<sup>3</sup>
- Pneumococcal vaccination: free to the 65-year-old cohort<sup>3</sup>
- Herpes zoster vaccination: free to the 65-year-old cohort<sup>3</sup>; free RZV (recombinant adjuvanted vaccine) to subjects with specific risk factors<sup>4</sup>

#### **Current vaccination context in Italy:**

- Regional public health system: local health district vaccination centre<sup>1</sup>
- GPs: according to specific rules with local public health system, flu vaccination for subjects who are ≥65 years of age or at high risk<sup>1,2</sup>
- Vaccination centres related to the COVID-19 emergency (ie hospital and pharmacy vaccination centres)<sup>1</sup>

COVID-19, coronavirus disease 2019

1. Ministero della Salute Italiano, 2023. National Prevention Vaccination Plan (PNPV) 2023–2025. <u>https://www.quotidianosanita.it/allegati/allegato1679488094.pdf</u>; 2. Minestero della Salute Italiano. Italian immunisation schedule. <u>https://www.epicentro.iss.it/en/vaccines/immunization-schedule-italy</u>; 3. Minestero della Salute Italiano. Vaccinations by age, category and condition: People ≥60 years of age. <u>https://www.salute.gov.it/portale/vaccinazioni/dettaglioContenutiVaccinazioni.jsp?lingua=italiano&id=4810&area=vaccinazioni&menu=fasce</u>; 4. Minestero della Salute Italiano. Vaccinations by age, category and condition: People at risk of pathology. <u>https://www.salute.gov.it/portale/vaccinazioni/dettaglioContenutiVaccinazioni.jsp?lingua=italiano&id=4811&area=vaccinazioni&menu=fasce</u> (all URLs accessed August 2023)

#### Specific recommendations for influenza vaccines in older adults: first time in winter season 2023/24



DIREZIONE GENERALE DELLA PREVENZIONE SANITARIA ifficio 5 Prevenzione delle Malattie Trasmissibili e Profilassi Internazionale OGGETTO: Prevenzione e controllo dell'influenza: raccomandazioni per la stagione 2023-2024

#### Vaccino inattivato quadrivalente adiuvato (VIQa)18

Uno dei prodotti quadrivalenti contiene l'adiuvante MF59, un'emulsione olio-in-acqua composta da squalene come fase oleosa. L'adiuvante ha lo scopo di facilitare l'adeguata risposta immunitaria partendo da una minore quantità di antigene. Gli altri prodotti inattivati non contengono un adiuvante. È indicato nei soggetti di età pari o superiore a 65 anni.

#### Vaccino ad alto dosaggio (VIQhd)

Il vaccino ad alto dosaggio è un vaccino split quadrivalente che contiene due virus di tipo A (H1N1 e H3N2) e due virus di tipo B contenente 60 mcg di emoagglutinina (HA) per ciascun ceppo virale per garantire una maggiore risposta immunitaria e quindi una maggiore efficacia, indicato nei soggetti di età pari o superiore a 60 anni<sup>19</sup>.

Influenza prevention and control recommendations - 2023/24 season: Type of vaccines available and indications for use on a free offer

Indicazioni regionali	Formulazione vaccinale	Sigla	Prodotto	
dai 6 mesi fino al compimento dei 2 anni	Quadrivalente split/sub unità	QIVe	Influvac S tetra (Mylan)	
2 - 6 anni	Vaccino quadrivalente vivo attenuato in formulazione spray	LAIV	Fluenz Tetra Spray (Astrazeneca)	
6 - 14 anni con condizioni di rischio*	Quadrivalente split/sub unità	QIVe	Influvac S tetra (Mylan)	
14 - 60 anni con condizioni di rischio*	Quadrivalente split/sub unità	QIVe	Influvac S tetra (Mylan)	
60 - 64 anni	Quadrivalente split/sub unità	QIVe	Influvac S tetra (Mylan)	
≥ 65 anni	Quadrivalente adiuvato MF59	MF59-QIV	Fluad Tetra (Segirus)	
Ospiti strutture socio-sanitarie e socio-assistenziali e soggetti fragili allettati (es. ADI)	Vaccino antinfluenzale quadrivalente (virione split, inattivato), 60 microgrammi HA/ceppo	QIV-HD	Efluelda (Sanofi)	
Persone con importante allergia alle proteine dell'uovo	Vaccino quadrivalente a subunità, coltivato su colture cellulari	QIVcc	Flucelvax Tetra (Seqirus	

**REGIONE** DEL VENETO

giunta regionale

\* Le condizioni di rischio sono riportate nella Circolare del Ministero della Salute n. 012781 del 21/04/2023 alla Tabella 2 "Elenco delle categorie per le quali la vaccinazione antinfluenzale stagionale è raccomandata e offerta attivamente e gratuitamente (senza uno specifico ordine di priorità)."

#### Vaccine strategies and services

- What strategies and services are in place to ensure that this population receives the necessary vaccinations?
- How is Italy coordinating efforts with local health departments and community organizations to improve vaccination efforts for this group? What support is provided to address the unique needs of this population? What can be improved?





#### Table 1. Vaccination strategies identified by means of literature review.

Vaccination Strategy	Region	Setting	Target Population	Type of Strategy		
		Cona Hospital (Ferrara);				
	Emilia-	Vaccination clinic in "SS.ma Annunziata" hospital, Cento;	Prognant woman	Vay Day Haspital Provides: free access years - time-		
	Romagna	"Del Delta" Hospital (Lagosanto, Ferrara);	Pregnant women	Vax Day Hospital Presides: free access vaccinations		
		Argenta Hospital (Ferrara)				
	Liguria	Hygiene Unit clinics in "San Martino" hospital Pharmacies	≥65 years, adults with risk conditions	Campaign promoted by Liguria Region and A.Li.Sa., in collaboration with five Health Authorities and Ligurian Hospitals		
Influenza vaccination	Liguria	Vaccination clinic in "Villa Scassi" hospital (Genova)	Fragile hospitalized patients, pregnant women, and those who live with immunosuppressed subjects	"Ospivax, the vaccinating hospital" Project		
	Lombardy	Dedicated clinics of some specialist departments	$\ge$ 65 years, adults with risk conditions, and pregnant women	Influenza vaccination campaign		
	Lombardy	Accredited socio-health and hospital facilities	≥65 years, adults with risk conditions, pregnant women, those working on livestock farms, healthcare personnel, and public services personnel	Influenza vaccination campaign		
	Lombardy	"San Camillo" rest home and other social and health facilities	≥65 years, adults with risk conditions	Influenza vaccination campaign		
	Trentino- South Tyrol	Stand at the Autumn Fair	≥65 years, adults with risk conditions	Influenza vaccination campaign		
		Cona Hospital (Ferrara);				
	Emilia-	Vaccination clinic in "SS.ma Annunziata" hospital, Cento;	Deeple aged 65 and 66	Vev Dev Lleonitel Presideo: free access vessionitions		
Pneumococcal and	Romagna	"Del Delta" Hospital (Lagosanto, Ferrara);	People aged 65 and 66	Vax Day Hospital Presides: free access vaccinations		
HZV vaccinations		Argenta Hospital (Ferrara)				
	Liguria	Vaccination clinic in "Villa Scassi" hospital (Genova)	Fragile hospitalized patients and those who live with immunosuppressed subjects	"Ospivax, the vaccinating hospital" Project		
	Lombardy	Accredited socio-health and hospital facilities	≥65 years	Free pneumococcal and HZV vaccination		

Note: HZV: Herpes Zoster Virus; A.Li.Sa: Azienda Ligure Sanitaria della Regione Liguria.



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Table 2.	Vaccination strategies identified by consulting experts.
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Vaccination Strategy	Region	Province	Target Population	Setting	Access to Vaccination	Invitation to Vaccination Initiative	Counseling (Supporting Information Material)		Strategy Assessment	Evaluation Parameters of the Strategy	Are the Results Public?
	Calabria	Crotone	≥65 years, adults with risk conditions	Hospital clinic, health care residence, pharmacy, prison house, rest home	Paper booking	Invitation letter	No	No	No	N.A.	N.A.
Calab	Calabria	Cosenza	≥65 years, adults with risk conditions	Hospital clinic, health care residence, pharmacy, prison house, rest home, parish Mobile vaccination station,	Paper, telephone, and online booking	Invitation letter, text message	Yes (yes)	Yes	Yes	% uptake, vaccination coverage, customer satisfaction	Yes
	Calabria	Cosenza	≥65 years, adults with risk conditions	hospital clinic, health care residence, pharmacy, prison house, rest home	Paper, telephone, and online booking	Invitation letter, text message	Yes (yes)	Yes	Yes	% uptake, vaccination coverage, costs, customer satisfaction	Yes
Influenza vaccination	Friuli Venezia Giulia	Pordenone	≥65 years, adults with risk conditions	Hospital clinic, health care residence, pharmacy, rest home	Telephone and online booking	By telephone contact, by email	Yes (yes)	Yes	Yes	% uptake, vaccination coverage, costs	Yes
Lombardy Milan	≥65 years, adults with risk conditions	Hospital ward, hospital clinic, health care residence, rest home	N.R.	Media, posters, website	Yes (yes)	Yes	Yes	% uptake, vaccination coverage, costs	No		
	Lombardy	Sondrio	≥65 years, adults with risk conditions	Hospital clinic, health care residence, rest home	Telephone booking	Invitation letter	Yes (no)	Yes	N.R.	N.A.	N.A.
	Marche	Ancona	Adults with risk conditions	Mobile vaccination station, center for diabetes	N.R.	N.R.	Yes (yes)	No	No	N.A.	N.A.
	Apulia	Foggia	Adults with risk conditions	Hospital ward, hospital clinic, health care residence, rest home	Telephone and online booking	Invitation letter, by email	Yes (no)	Yes	Yes	% uptake, vaccination coverage, customer satisfaction, costs	Yes
	Apulia	Bari	Pregnant women	Hospital clinic	Telephone booking	By telephone contact	Yes (yes)	Yes	Yes	% uptake, customer satisfaction, adverse event with call after 48/72 h	No
	Trentino-South Tyrol	Bolzano	≥65 years, adults with risk conditions	Hospital ward, hospital clinic, rest home	Paper, telephone, and online booking	N.R.	No	Yes	Yes	% uptake, vaccination coverage	Yes
	Lombardy	Milan	Adults with risk conditions	Hospital ward, hospital clinic	N.R.	N.R.	Yes (yes)	Yes	Yes	Vaccination coverage, costs	No
Pneumococcal vaccination	Lombardy	Sondrio	≥65 years, adults with risk conditions	Hospital clinic, health care residence, rest home	Telephone booking	Invitation letter, by telephone contact	Yes (no)	Yes	N.R	N.A	N.A
	Apulia	Foggia	Adults with risk conditions	Hospital ward, hospital clinic, health care residence, rest home	Telephone and online booking	Invitation letter, by e-mail	Yes (yes)	Yes	Yes	% uptake, vaccination coverage, costs	Yes
	Trentino-South Tyrol	Bolzano	≥65 years	Hospital clinic, rest home	Paper, telephone, and online booking	Invitation letter	No	Yes	Yes	% uptake, vaccination coverage	Yes
HZV vaccination	Lombardy	Sondrio	≥65 years, adults with risk conditions	Hospital clinic	Paper and telephone booking	By telephone contact	Yes (no)	Yes	N.R.	N.A.	N.A.

Note: N.R.: not reported; N.A.: not applicable; HZV: Herpes Zoster Virus.

#### Calabrò et al, Vaccines, 2020

#### Example Veneto Region:

The access to the vaccine clinics has become easier after the pandemia in some regions (eg, Veneto) where there is also an **active call** for individuals 65 years of age, so that people receive a letter with specific date and time for receiving the vaccines (co-administration is often offered, for example of HZ 1° dose and PCV20, followed 5 weeks later by the  $2^{\circ}$  dose of HZ and DTPa vaccine). Influenza (yearly, usually administered by the GPs) and Covid-19 vaccines have been also largely recommended. Data input in the fascicolo sanitario (health registry)



### Parliamentary intergroup on Healthy Aging (established in March 2023)



#### HappyAgeing Association

Table 1. Calls to action for each group of stakeholders involved in the process of vaccination.

#### Health Authorities and Health Institutions

- Increase investment in research and new technologies.
- Improve epidemiological reporting systems for infectious diseases.
- Implement and harmonize immunization registers to collect reliable coverage data.
- Provide HCPs and the public with access to immunization registers.
- Provide HCPs and the public with simple tools to inform them of their vaccination needs, such as a vulnerability index and algorithms that help HCPs to identify vaccination needs among their patients.
- Establish systems for tracking adults, to enable follow-up and issue reminders about necessary vaccinations.
- Improve access to vaccination.
- Establish education and training programs for physicians and other HCPs; patients' associations should also be involved.

#### HCPs

- Increase HCPs' awareness and education around infectious diseases.
- Add immunization as a regular topic in the educational programs of relevant scientific societies.
- Ensure a minimum level of training for HCPs on the benefits and availability of vaccines to the general population.
- Encourage networking among specialists and general practitioners to improve patient follow-up (a multidisciplinary approach to guide patients).
- Ensure that discussions about vaccination are part of a routine visit to the doctor and are included in Diagnostic Therapeutic Assistance Pathways.

#### Public

- Increase awareness of the benefits of vaccination, both among the general population and high-risk patients.
- Provide, in lay terms, accurate information from trustworthy, comprehensive, and accessible sources.
- Involve patients' associations in discussing patient needs and in creating appropriate content to communicate information about vaccination.
- Improve the health and scientific literacy of the population, e.g., through educational programs for the lay public.
- Include both scientific and lay testimonials to effectively engage the public with a unique message.
- Develop specific disease awareness campaigns aimed at the general public.

#### Pharmaceutical Industry

- Better and more timely communication of scientific data on the efficacy and safety of vaccines.
- Improve the communication around vaccine development and manufacturing to increase public trust in vaccines.
- Support independent research, educational initiatives, and disease awareness campaigns.

Abbreviations: HCP, healthcare provider.

#### Antonelli Incalzi et al, Vaccines, 2021<sup>12</sup>



#### Vaccine strategies and services

- What is the current vaccination rate among the target group? Are vaccination rates increasing or decreasing?
- **What are the key challenges in vaccinating this population in Italy?**





## Influenza vaccination rates 2000-2023. Italy





#### Obiettivi di copertura vaccinale

Si riporta l'obiettivo di copertura vaccinale per i vaccini previsti dal Calendario Vaccinale che saranno oggetto di costante rivalutazione e aggiornamento da parte della Cabina di Regia di monitoraggio del PNPV e sulla base delle esigenze di Sanità Pubblica.

Fascia di età*	Vaccinazione	Obiettivo di copertura vaccinale
A 12 mesi	Ciclo completo di rotavirus	≥90%
	3° dose di difterite, tetano, pertosse, poliomielite, epatite B, Hib	≥95%
	Ciclo completo di meningococco B	≥90%
A 24 mesi	1° dose di meningococco ACWY	≥90%
A 24 mesi	1° dose di varicella	≥95%
	1° dose di morbillo, parotite, e rosolia	≥95%
	Ciclo completo di pneumococco coniugato (PCV)	≥95%
	4° dose difterite, tetano, pertosse, poliomielite	≥95%
A 6 anni	2° dose di morbillo, parotite e rosolia	≥95%
	2° dose di varicella	≥95%
	Richiamo meningococco ACWY	≥95%
	Ciclo completo di HPV	≥95%
A 15 anni	5° dose di Difterite, Tetano, Pertosse, Poliomielite	≥90%
	2° dose di Morbillo Parotite Rosolia (recuperi)	≥95%
	2° dose di Varicella (recuperi)	≥95%
A 65 anni	Herpes Zoster	≥50%
A 05 anni	Pneumococco	≥75%
>= 65 anni	Influenza	≥75%**

Vaccination coverage in >65 a.:

**Influenza: 56%** (government data)

Pneumococcus: <30% Herpes Zoster: 5-12% (estimated by different sources)

\*si intendono mesi e anni di vita, compiuti (quindi al compimento dei mesi e anni indicati)

\*\* e comunque secondo quanto indicato dalla circolare del Ministero della Salute



Figura 29. A sinistra: Copertura vaccinale per la quarta dose del vaccino anti-COVID-19 per over-60 e fragili (%), ottobre 2023. A destra; Copertura vaccinale per la quinta dose del vaccino anti-COVID-19 per over-60 e fragili (%), ottobre 2023

Fonte: The European House - Ambrosetti su dati Ministero della Salute, 20232





#### Article Multidimensional Frailty and Vaccinations in Older People: A Cross-Sectional Study

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#### N=319 outpatients

Table 2. Frequency of vaccinations in the participants included.

Type of Vaccination	Yes	No	Don't Remember/Don't Know
Influenza	70.5	27.9	1.5
Pneumococcus	37.6	58.0	4.4
Herpes zoster	2.5	91.2	6.3
Diphtheria-tetanus-pertussis	1.3	82.8	15.9







18 Veronese et al, Vaccines, 2022

%

## Key challenges to older adults immunization

- lack of training for geriatricians and nurses about the benefits of a life-course approach to vaccination in the medical schools and during the residency
- lack of awareness among professional and the general population about the burden of VPDs and scanty epidemiological data about the magnitude of the VPDs' burden
- still safety concerns in the population
- lack of coordination in the access to the digital vaccination records for different HCPs, including geriatricians and other specialists
- large disparities between regions in the adherence to the national guidelines, underlying the need for national registries



### Succes stories / projects

 Are there notable successes or best practices in this population that have improved vaccination rates or delivery? What are the future goals and initiatives to improve vaccination in this target group.





## 1. The PROVAX programme: methods



CGA-based MPI, comprehensive geriatric assessment-based Multidimensional Prognostic Index; PNPV, Piano Nazionale di Prevenzione Vaccinale Ongoing, results unpublished, peer-review submission planned in 2023

#### **Courtesy of A. Pilotto**

## **Results: efficacy and secondary outcomes**

## A total of 109/121 older subjects: 90% adhered to the PROVAX programme

- 58% (33/57) had moderate—severe multidimensional frailty (MPI 2–3)
- 84% (48/57) had polypharmacy (number of drugs ≥4)
- 38% (22/57) had cognitive impairment (SPMSQ ≥4)
- 89% had malnutrition or overweight/obesity



**Courtesy of A. Pilotto** 

## **PROVAX programme: conclusions**

- **1. Reduced vaccination hesitancy:** 90% of screened patients agreed to participate in PROVAX (with improved vaccination rates)
- 2. CGA-based approach identified high-risk older people who would not have been vaccinated; among older patients who underwent the vaccinations:
  - 58% were older subjects with moderate/severe frailty (MPI 2–3)
  - 84% were older subjects with **polypharmacy** (≥4 drugs)
- **3.** Counselling approach: 38% of our sample had a cognitive impairment (SPMSQ ≥4)
- 4. Hospital was an innovative and safe setting for vaccine administration
- 5. No significant ADRs to vaccinations were observed

Ongoing, results unpublished, peer-review submission planned in 2023 ADR, adverse drug reactions; CGA, comprehensive geriatric assessment; MPI, Multidimensional Prognostic Index; SPMSQ, Short Portable Mental Status Questionnaire Pilotto A *et al.* Data are currently unpublished.

**Courtesy of A. Pilotto** 

## The PROVAX programme aligned with 7 key points of the recently approved National Prevention Vaccination Programme

- 1. Improve vaccination counselling in older people
- 2. Promote vaccination interventions in high-risk population groups by increasing an **integrated approach**
- 3. Older subjects with comorbidity/polypharmacy may benefit from vaccination during the **follow-up outpatient clinic visits,** improving outpatient time and compliance
- 4. Tackle disparity between vaccination procedures and current vaccination efforts
- 5. **Develop new vaccination centres** (ie hospital setting and outpatient clinics), after the COVID-19 emergency
- 6. Need to activate new pathways by providing protocols that **involve specialist physicians** (network pathway for vaccinations)
- 7. Facilitating the booking and referral of patients to existing vaccination centres when the provision of specific vaccinations is not possible



# 2. In Emilia-Romagna region it is mandatory to include specific recommendations for vaccinations in all hospitals' discharge letters



#### Alla cortese attenzione del medico curante

Dimettiamo oggi Il Signor. ricoverato presso il nostro reparto dal 02/10/2012 per Sindrome coronarica acuta ( cartella clinica nro 41562.).

Diagnosi di dimissione: Infarto acuto del miocardio in sede inferiore trattato mediante PTCA e stenting della coronaria destra. Pervietà dello stent precedentemente impiantato su a. circonflessa.

Anamnesi: CAD già rivascolarizzato

Tra gli esami di laboratorio e le procedure praticate segnaliamo: Il valore massimo della Troponina : 2.46 ng/ml L'elettrocardiogramma, praticato alla dimissione, presenta : allegato L'ecocardiogramma : allegato

La coronarografia è stata praticata il 02/10/2012 presso il nostro laboratorio di emodinamica. . L'esame ha messo in evidenza aterasclerosi monovasale con indicazione a PTCA. Si allega il referto. L'angioplastica è stata eseguita subito dopo l'esame diagnostico su Destra prossimale con "Bare stent". Si allega copia del referto. Suogerimenti:

Visita cardiciogica+ECG ambulatorio emodinamica, circa uno-due mesi ECG da sforzo tel: ecocolordoppler TSA. Tra una settimana esami ematochimici.

#### Si raccomandano le seguenti vaccinazioni:



### Future goals and initiatives to improve vaccination in this target group

1) Insert vaccination into specialist guidelines

2) Expand access to vaccination by involving NHS professionals and facilities

3) Involve hospital and nursing homes specialists in offering vaccinations to vulnerable subjects (creation of interdepartmental protocols) to support Prevention Departments and GPs in the provision of vaccines

4) Involve the community pharmacy network

5) Give access to the regional registry to all actors involved in the vaccination process

6) Registration of vaccination and the simultaneous issuing of certification

The new Italian National Immunization Technical Advisory Group (NITAG) and its commitment to endorse a new efficient National Immunization Plan in COVID-19 times

Andrea Silenzi<sup>1</sup>, Andrea Siddu<sup>1</sup>, Anna Carole D'Amelio<sup>2</sup>, Sarah Cataldi<sup>2</sup>, Camilla Fasano<sup>2</sup>, Francesco Maraglino<sup>1</sup>, Giovanni Rezza<sup>1</sup> and Carlo Signorelli<sup>2</sup>

<sup>1</sup>Direzione Generale della Prevenzione Sanitaria, Ministero della Salute, Rome, Italy <sup>2</sup>Università Vita-Salute San Raffaele, Milan, Italy Currently, the new Italian NITAG includes different core members as follows: 10 public health physicians, 1 epidemiologist, 1 immunologist, 1 infectious diseases specialist, 1 communication expert, 1 psychologist and behavioural science expert, 1 forensic medicine expert, 1 expert in ethics, 3 paediatricians, 2 public health nurses and 1 general practitioner. Among non-core members, we can distinguish 3 ex-officio members and 2 liaison members.

