

## Vaccine hesitancy in COVID-19 times. An update from Italy before flu season starts

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**Summary.** The COVID-19 pandemic and response caused a worrying decline in vaccine uptake around the world. In Italy, the immunization coverage targets set in the 2017-19 National Immunization Prevention Plan (PNPV) have been met only partially. The current public health emergency is likely to have negatively impacted on immunization, with the risk of re-occurrence of Vaccine-Preventable Diseases (VPDs) outbreaks. As flu season approaches, both National Health Institutions and the scientific community in Italy have taken action. Well in advance as compared to previous years, the Ministry of Health released the Circular to launch the 2020-2021 influenza immunization campaign which this year is longer (starting on October 2020) and extends flu vaccine recommendations to more “at risk” subgroups, offered the vaccine free of charge. In addition, some Italian Regions have recently tried to make flu vaccination compulsory for all Healthcare Workers (HCWs). Since 2017, when the law on childhood vaccination in Italy was passed, compulsory vaccination has proved to be a successful strategy towards coverage increase. ([www.actabiomedica.it](http://www.actabiomedica.it)).

**Key words:** Influenza, COVID-19, coverage rates, mandatory, Italy

The COVID-19 pandemic (caused by the SARS-CoV-2 virus) has disrupted routine immunization services worldwide. This has contributed to decreased immunization uptake at all ages (1–4), making vaccine hesitancy relevant again.

In the period 2010-2014, alarming reductions in vaccine coverage were reported in Italy – a country with a strong tradition of public immunization policies (5,6). In more recent times, both national and regional authorities, jointly with the scientific community have tried to counter this phenomenon by deploying new strategies, such as approving a novel, evidence-based National Immunization Prevention Plan (PNPV) 2017–19, mobilizing key stakeholders and issuing a new Law (n. 119/2017) which extended the number of mandatory vaccinations from four to ten (7–9).

Reflecting on previous challenges, successes and lessons learned can be of great benefit when entering a new flu season in COVID-19 pandemic times.

When assessing the impact of the 2017-2019 PNPV in Italy, there are both positive and negative aspects: on the one hand, national-level trends in childhood immunization coverage reached (and in some cases exceeded) set coverage targets (10). In addition, since the law was approved, increased coverage has been also reported for some non-compulsory childhood vaccinations, including Meningococcal B (2016 coverage: 15%; 2018 coverage: 46%), and Pneumococcal Conjugate (2016 coverage: 88%; 2018 coverage: 92%) vaccines. On the other hand, we must acknowledge the failure in not reaching coverage targets for other

vaccines, including Rotavirus (11,12), Varicella-Zoster Virus and Pneumococcal vaccine in older adults. Even more worrying are declining coverage rates in adolescents (13): Human Papilloma Virus (HPV) vaccine coverage declined from 53% in 2016 to 40% in 2018 in 12-year old girls, and did not exceed 20% coverage in 12-year old boys (2016 data are not available). Similarly, 2018 Meningococcal ACWY vaccine coverage was less than 30% in 18-year old adolescents.

As for the influenza vaccine, coverage rates in the elderly (i.e.  $\geq 65$  years old) have not yet reached the pre-“Fluad episode” 2014 levels (15,16), while coverage in HCWs, despite all the efforts remains below 20% (14,17,18).

This was the pre-COVID picture in Italy. During the COVID-19 pandemic, both vaccine supply and demand decreased. Indeed, the provision of immunization services was discontinued, scheduled vaccinations were postponed due to the containment measures in place (19,20) and the fear of contagion within the general population decreased access to immunization clinics. On July 15th, 2020, the United Nations Children’s Fund (UNICEF) and the World Health Organization (WHO) warned of a decline in childhood vaccinations during COVID-19 (21). According to the preliminary results of a currently ongoing WHO-sponsored international survey, overall immunization coverage has declined in 85% of the 82 respondent countries. As for Italy, informal data released by Local Health Authorities (Aziende Sanitarie Locali, ASL) confirm a relevant drop in immunization coverage rates. For example, Rome’s main ASL reported a 16% decrease in the number of administered vaccine doses during the 10 weeks of strict lockdown (22). If, on one side, COVID-19 highlighted the instability related to infectious diseases spread, on the other hand the road to recovery will be an uphill one. The Italian Society of Pediatrics carried out a survey among 1500 parents, revealing that over 33% of them postponed scheduled vaccinations for their children due to fear of COVID-19. Despite the strong call coming from

the Scientific Board of the “Lifetime Immunization Schedule” (23) (jointly supported by the Italian Public Health, Pediatrics and General Medicine scientific societies, SItI, SIP, FIMMG, and FIMP) with the slogan: “let’s avoid adding epidemics to the pandemic”, the situation remains challenging.

The first testing ground will be the upcoming 2020-21 flu season. The Ministry of Health yearly Circular document (24) was released in June 2020, well in advance as compared to previous seasons. The Circular introduced substantial changes and updated vaccine indications (Table 2). It extended the window period of the campaign starting from the beginning of October, recommended free seasonal flu vaccination to all subjects aged 60 through 64 (adding to the over-65 target population), and also to children from 6 months to 6 years of age, as well as to HCWs. The scientific rationale behind these new measures lies in the fact that influenza and SARS-CoV-2 infections will likely co-circulate in winter. Therefore, reaching high flu vaccine coverage will not only mitigate the disease-specific burden, but also ease the differential diagnosis of suspect COVID-19 cases.

In this scenario, two regions (Lazio and Campania) introduced flu mandatory vaccination for HCWs and for those aged  $\geq 65$  years. Despite some criticisms and opposition, this has paved the way for a “conscious obligation”, supported by a renewed trust in public health action. Still, if one side, there is public consensus on the need to promote responsible and informed adoption of preventive behaviors, including immunization, on the other hand it is equally true that in recent years the only effective intervention to increase vaccine uptake and population coverage has been the Law on compulsory vaccinations in children. The scientific public health community has to acknowledge this evidence and to start building its future mission from there.

**Table 1.** Italian national-level immunization coverage rates, by target and year. Source, Italian Ministry of Health (24–30) and WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) (31)

Antigen	2019 PNPV coverage target	2016 (%)	2019 (%)*	Coverage observed at
Polio °	Infancy (< 1y)	>95%	93,3	● 95,0 24 m
Tetanus °	Infancy (< 1y)	≥95%	93,7	● 95,0 24 m
Diphtheria °	Infancy (< 1y)	≥95%	93,6	● 95,0 24 m
Pertussis °	Infancy (< 1y)	≥95%	93,6	● 95,0 24 m
Hep B °	Infancy (< 1y)	≥95%	93,0	● 95,0 24 m
Hib °	Infancy (< 1y)	≥95%	93,1	● 95,0 24 m
Pneumococcus	Infancy (< 1y)	≥95%	88,4	● 92,0 24 m
Rotavirus	Infancy (< 1y)	≥95%	10,6	● 61,0 24 m
Meningococcus B	Infancy (< 1y)	≥95%	14,7	● 46,1 24 m
Measles °	Post-infancy (12-15 m)	≥95%	87,3	● 94,0 24 m
Mumps °	Post-infancy (12-15 m)	≥95%	87,2	● 94,0 24 m
Rubella °	Post-infancy (12-15 m)	≥95%	87,2	● 94,0 24 m
Varicella °	Post-infancy (12-15 m)	≥95%	46,1	● 74,2 24 m
Meningococcus C	Post-infancy (12-15 m)	≥95%	80,7	● 84,9 24 m
Meningococcus ACYW	Adolescence	≥95%	7,6	● 29,2 18 y
HPV (f)	Adolescence	≥95%	53,1	● 40,3 12 y
HPV (m)	Adolescence	≥95%	n/a	● 20,8 12 y
Influenza	Adult-Elderly (> 65 y)	≥75%	49,9	● 53,1 ≥ 65 y
H. Zoster **	Adult-Elderly (> 65 y)	≥50%	N.A.	● <30 ≥ 65 y
Pneumococcus °	Adult-Elderly (> 65 y)	≥75%	N.A.	● < 50 ≥ 65 y

Notes:

\* Data reporting Polio, Tetanus, Diphtheria, Pertussis, Hep B, Hib, Measles, Rubella, Pneumococcal (infancy) and Rotavirus coverage are collected by the WHO/UNICEF Estimates of National Immunization Coverage (WUENIC), 2019 update. Data reporting Influenza coverage are collected by the Italian Ministry of Health, 2019 update. Data reporting Mumps, Varicella, Meningococcus (B, C, ACYW). HPV coverage are collected by the Italian Ministry of Health, 2018 update

° Mandatory vaccinations in Italy (after the the approval of law n. 119/2017)

\*\* National validated data not yet available. The coverage rates refer to local data and researches carried out in one Italian regions.

° National validated data not yet available. The coverage rates refer to local data and researches carried out in two Italian regions (Lazio and Friuli Venezia Giulia)

N.A. = Not available

**Table 2.** Changes introduced in the Ministerial Circular Letter for the Flu Vaccination Campaign 2020-21  
Source: Directorate General of Health Prevention, Italian Ministry of Health

Italian Ministry of Health, Circular Letter for the Flu Vaccination Campaign 2020-21
• Extending the campaign: from October through the end of the season
• Offering free vaccination to all subjects over 60
• Offering free vaccination to all children from 6 months to 6 years old
• For health care workers (HCWs), social workers and institutionalized individuals, vaccination against influenza is “strongly

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