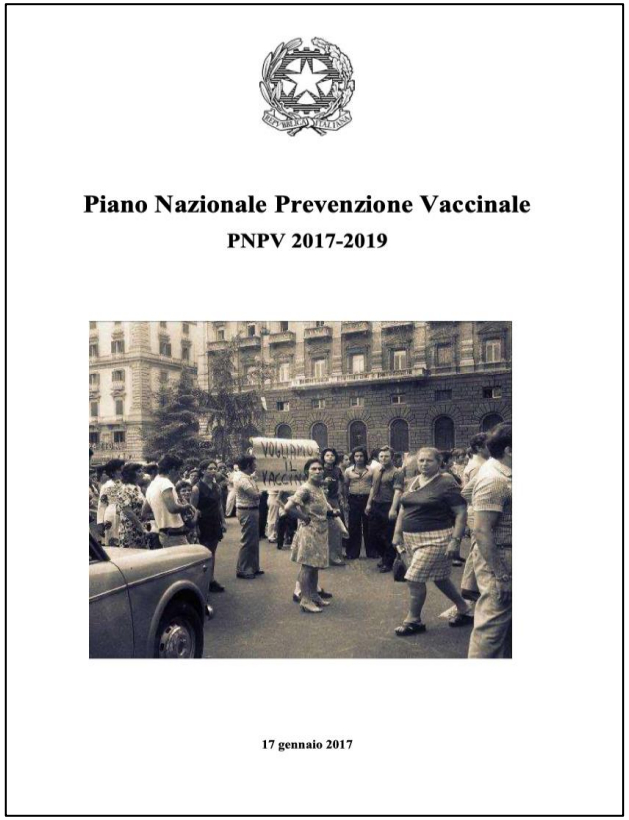
The law on compulsory vaccination in Italy: an update 2 years after the introduction

Dott. Fortunato D'Ancona

Italian National Institute of Health

2017: an important year in Italy for vaccination

- As planned into NIP :
  - Introduction of meningococcal B vaccination to newborns in the 2017 cohort
  - Introduction of ACWY tetravalent meningococcal vaccination (one dose)in the adolescent
  - Introduction of pneumococcal vaccination in individuals 65 years of age
  - Introduction of varicella vaccination to newborns starting with the 2016 cohort
  - Introduction of planned vaccinations for at-risk groups
  - Introduction of HPV vaccination for 11-year-old males with active call for the 2006 cohort



Before 2017 four vaccinations were already mandatory: diphtheria, polio, tetanus, hepatitis B for infants

- However, no consequences for who did not vaccinated the children
- **Veneto Region officially suspended the legal obligation, and more than one Region officially eliminated the penalties**
- People had different perception between mandatory vaccinations and the others included in the national immunization plan (NIP)

Some considerations pushed for a further decisive step

- Measles outbreak 2017: nearly 1300 cases at time of law's conception, about 8% healthcare, 40% hospitalizations
- Worrying vaccination coverages declining
- Strategies of "light" obligation (without penalties) and informed vaccination were showing a relative ineffectiveness.

In response to a critical decrease in vaccination coverage, the obligation is extended from 4 to 10 diseases

Law Decree no. 73 of 7 June 2017, amended and converted into Law no. 119 of 31 July 2017, concerning “Urgent measures on preventive vaccination, infectious diseases and drug administration issues”

The main objectives of the D.L.73-2017

- To enlarge the mandatory vaccination list including the diseases that potentially could give severe outbreak.
- To catch-up unvaccinated children (0-16 years).
- To reinforce the penalties.
- To use the educational system (school and pre-school) as filter to check again the vaccination status.
- Declare the mandatory vaccinations as requirement for attending the educational services (nursery schools, day care centers) in 0-6 age group.
- Setup of a new national National Immunisation Register.

Ten vaccinations for children aged 0-16 years and 365 days are mandatory and free of charge, according to the National Vaccination schedule for each birth cohort

Compulsory vaccines

- Polio
- Diphtheria
- Tetanus
- Pertussis
- Measles
- Rubella
- Mumps
- Chicken pox
- *Haemophilus influenzae* type B
- Hepatitis B

Strongly raccomended Vaccines

- Meningococcus B
- Meningococcus ACWY
- Pneumococcus
- Rotavirus

Ten mandatory vaccinations are a requirement for admission to kindergarten and infancy schools (for children ages 0-6)

Mandatory vaccines are SOME of those provided for by the PNPV under 18 years of age.

Several challenges

- **Disinformation** regarding the new law
- **Political discussion** overlapped the technical discussion. Discussion more focused on people inconveniences than on advantages to increase the vaccination coverage
- **Difficult to estimate the number of catch up** and related vaccines needed
- **Logistical problems** due to the different type of organization in the different regions
- At that time, **no IIS** available at national level for exchanging of data for people that moved from a region to another one (still not .
- Many children partially immunized, have to repeat some vaccination due **the lack of mono-component vaccination**
- In some less organized areas, inconvenience for the citizen were recorded due to **overload of vaccination centers**
- Application of the law was uneven among the regions
- **Many parents against the vaccination put obstacles to the vaccination system**

Penalties

- The vaccinations are mandatory
- The penalty is from 100 to 500 euro according to the number of vaccinations skipped
- A new penalty is applied just when it is time of a new vaccination (e.g. a new booster)
- Unvaccinated children (for choice of the parents) cannot attend nursery and DCC, unless the parents ask for vaccination. Important: there is no coercion!
- No vaccination is given without the parent's authorisation

The first months of 2018

- Vaccination Circular letter: 2018 scheme for the recovery of non-compliant minors 15 January 2018
- Circular letter: possibility of switching between different hexavalent products. 3 July 2018
- Circular letter: on Guidance on tetanus vaccination. 3 July 2018
- Circular letter: vaccination requirements relating to minors between the ages of zero and sixteen who attend school, training and educational institutions - new operational indications for the school year-annual calendar 2018/2019. 6 July 2018
- Circular Recommended vaccinations for women of childbearing age and pregnant women 7 August 2018

Positive results of the law on mandatory vaccination

- Everyone was talking about vaccines
- Health professionals focus their attention on the issue
- Healthcare workers and institutions spend more effort to information and communication with users
- Establishment of structured organizational processes
- Media finally take a clear position in favor of vaccinations
- More or less structured communication campaigns are initiated at all levels
- Increased public awareness of vaccination-preventable diseases

The importance of monitoring: vaccination coverages

- Vaccination coverages are the indicator for excellence of vaccination strategies, as they provide information regarding their actual implementation on the territory and the efficiency of the vaccination system
- They, therefore, correlate closely with the PNPV in the pursuit of its objectives
- The Ministry of Health is the institution in responsible for collecting vaccination coverage from the regions

- An encouraging increase in VC was observed following the decree-law 73/2017
- The increase in VC between 2016 and 2017 (ranging from 0.9% for vaccination against tetanus at 24 months to 4.4% for MMR vaccination at 24 months) was most likely a result of the decree-law being brought into force and supported by the related **communication campaign**, which was amplified by the media
- In 2017 the VC for polio and MMR at 24 months ranged from 85.9% to 97.7% and from 71.8% and 95.3%, respectively

Eurosurveillance
Europe's journal on infectious disease epidemiology, prevention and control since 1996
Publisher: European Centre for Disease Prevention and Control (ECDC), Stockholm, Sweden

Euro Surveill. 2018 May 31; 23(22): 1800238.
doi: 10.2807/1560-7917.ES.2018.23.22.1800238
PMCID: PMC6152175
PMID: 29871721

Introduction of new and reinforcement of existing compulsory vaccinations in Italy: first evaluation of the impact on vaccination coverage in 2017

Fortunato D'Ancona,[1] Claudio D'Amario,[2] Francesco Maraglino,[2] Giovanni Rezza,[1] Walter Ricciardi,[1] and Stefania Iannazzo[2]

Comparison of the vaccination coverage in 2016 and 2017 by birth cohort and vaccination, Italy

Vaccine	Number doses	Birth cohort	VC as 31 December 2016	VC as 31 December 2017
Polio	3	2014	93.3% at 24 months	95.0% at 36 months
MMR	1	2014	87.2% at 24 months	92.2% at 36 months
Polio	3	2013	94.1% at 36 months	94.7% at 48 months
MMR	1	2013	87.9% at 36 months	90.3% at 48 months
Polio	4	2010	85.7% in their 7th year of life	90.2% in their 8th year of life
MMR	2	2010	82.0% in their 7th year of life	86.8% in their 8th year of life

D'Ancona F, D'Amario C, Maraglino F, Rezza G, Ricciardi W, Iannazzo S. Introduction of new and reinforcement of existing compulsory vaccinations in Italy: first evaluation of the impact on vaccination coverage in 2017. Euro Surveill. 2018;23(22):pii=1800238. https://doi.org/10.2807/1560-7917.ES.2018.23.22.1800238

Ann Ig 2018; 30 (Suppl. 1): 1-10 doi:10.7416/ai.2018.2227

Childhood vaccine coverage in Italy after the new law on mandatory immunization

C. Signorelli[1,2], A. Odone[2], P. Cella[1], S. Iannazzo[3]

Key words: Vaccine coverage, health indicators, immunization programs and policies, National Immunization Prevention Plan, Italy

Parole chiave: Coperture vaccinali, indicatori di salute, programmi e politiche vaccinali, Piano Nazionale di Prevenzione Vaccinale, Italia

Table 4 - National level* 36 months of age Childhood immunization coverage rates and 24-36months of age coverage percentage differences, by birth cohort

	2010 Birth cohort		2011 Birth cohort		2012 Birth cohort		2013 Birth cohort		2014 Birth cohort	
ANTIGEN	36 months	% change 24-36	36 months	% change 24-36	36 months	% change 24-36	36 months	% change 24-36	36 months	% change 24-36
Polio	96.3%	+0.2%	95.7%	0.0%	95.4%	+0.7%	94.1%	+0.7%	95.1%	+1.8%
Tetanus	96.4%	+0.2%	95.8%	0.0%	95.4%	+0.6%	94.3%	+0.7%	95.2%	+1.5%
Diphtheria	96.3%	+0.1%	95.7%	0.0**	95.3%	+0.6%	94.0%	+0.6%	95.0%	+1.4%
Pertussis	96.2%	+0.2%	95.6%	0.0**	95.3%	+0.7%	94.0%	+0.7%	95.0%	+1.4%
Hepatitis B	96.2%	+0.2%	95.5%	0.0**	95.2%	+0.6%	93.8%	+0.6%	94.7%	+1.7%
Hib	95.8%	+1%	95.3%	+0.4%	95.0%	+0.7%	93.5%	+0.5%	94.4%	+1.3%
Measles	92.3%	+2.3%	90.7%	+0.3%	89.2%	+2.5%	88.0%	+2.7%	92.4%	+5.1%
Mumps	92.2%	+3.0%	90.6%	+0.3%	89.1%	+2.4%	87.9%	+2.7%	92.2%	+5.0%
Rubella	92.2%	+3.0%	90.6%	+0.3%	89.1%	+2.4%	88.0%	+2.8%	92.3%	+5.1%
Pneumo	82.9%	n.a.	88.1%	+1.2%	88.3%	+0.8%	88.7%	0.0%	90.4%	+2%
Men C	70.4%	n.a.	74.7%	0.0**	79.0%	+5.1%	81.3%	+4.7%	85.6%	+4.9%

Notes: Hib: *Haemophilus influenzae* type b; Men C: Meningococcal C Conjugate; * weighted average; **negative value, assumed to be 0.

Signorelli C, Odone A, Cella P, Iannazzo S. Childhood vaccine coverage in Italy after the new law on mandatory immunization. Ann Ig. 2018 Jul-Aug;30(4 Supple 1):1-10. doi: 10.7416/ai.2018.2227. PMID: 30062373.

Italy: vaccination coverage for 3 doses of polio

World Health Organization

Health Topics | Countries | Newsroom

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Immunization dashboard Global

Data source	2022	2021	2020	2019	2018	2017	2016	2015	2014
ADMIN	95.15%	93.9%	93.75%	96.05%	95.09%	95%	93%	93.32%	95%
OFFICIAL	95.15%	93.9%	93.75%					93%	95%
WUENIC	95%	94%	94%	96%	95%	95%	93%	93%	95%

Italy: vaccination coverage for first dose of measles

World Health Organization

Health Topics | Countries | Newsroom

All data | Dashboard | Compare

Immunization dashboard Global

Data source	2022	2021	2020	2019	2018	2017	2016	2015	2014
ADMIN	94.4%	93.84%	91.85%	94.49%	93.22%	91.62%	87%	85.23%	87%
OFFICIAL	94.4%	93.84%	91.85%					85%	87%
WUENIC	94%	94%	92%	94%	93%	92%	87%	85%	87%

Italy: vaccination coverage for pneumococcus (final dose)

World Health Organization

Health Topics | Countries | Newsroom

All data | Dashboard | Compare

Immunization dashboard Global

Data source	2022	2021	2020	2019	2018	2017	2016	2015	2014
ADMIN	91.73%	91.25%	90.32%	92%	91.89%	90.57%	88%	88.57%	87%
OFFICIAL	91.73%	91.25%	90.32%					89%	87%
WUENIC	92%	91%	91%	92%	92%	91%	88%	89%	87%

Italy: vaccination coverage for HPV

Antigen	Data source	2022	2021	2020	2019	2018	2017	2016	2015	2014
HPV Female, final dose	ADMIN	38.78%	32.22%	31.02%		40.17%				
	OFFICIAL	38.78%	32.22%	31.02%						
HPV Male, final dose	ADMIN	31.81%	26.75%	25.55%		21.25%				
	OFFICIAL	31.81%	26.75%	25.55%						
HPV Vaccination coverage by age 15, last dose, males	HPV	56%	53%	20%	18%					
HPV Vaccination coverage by age 15, first dose, females	HPV	77%	77%	66%	67%	74%	73%	73%	75%	71%
HPV Vaccination coverage by age 15, first dose, males	HPV	64%	61%	24%	21%					
HPV Vaccination coverage by age 15, last dose, females	HPV	61%	69%	61%	62%	68%	66%	68%	72%	68%
HPV Vaccination program coverage, first dose, females	HPV	58%	53%	45%	62%	62%	64%	65%	66%	65%

Measles vaccination in medicine student

Observational Study > Hum Vaccin Immunother. 2023 Aug 1;19(2):2252681.
doi: 10.1080/21645515.2023.2252681.

Measles vaccine uptake among Italian medical students compared to the pre-COVID-19 era

Cristiana Ferrari [1], Giuseppina Somma [1], Ole Olesen [2], Ersilia Buonomo [1], Matteo Pasanisi Zingarello [1], Andrea Mazza [1], Stefano Rizza [3], Luca Di Giampaolo [4], Andrea Magrini [1], Francesca Ponzani [5], Luca Coppeta [1]

Abstract

The COVID-19 pandemic has severely affected health systems worldwide and raised the issue of vaccine hesitancy. In 2022, the World Health Organization reported an outbreak of measles infection among people over 20 years of age in the European Region. Previous studies found low rates of measles immunization among Italian healthcare workers (HCWs) and medical students. Vaccine hesitancy is a relevant cause of low immunization rate among HCWs and the general population. We aim to evaluate the measles vaccine uptake among medical students of a large teaching hospital, compared to the pre-pandemic period. This is a retrospective observational study, that evaluated the immune status and the vaccine acceptance rate for measles in medical students at the University of Tor Vergata, Rome, who underwent occupational health surveillance from 1 January to 1 December 2022. We also compared the data with the results of a pre-pandemic survey conducted in 2018. Vaccine uptake among unprotected medical students was 59.5%. The data showed no significant difference in vaccine uptake compared with the pre-COVID-19 period. Conversely, the rate of serologically immune subjects to measles increased from 89.66% in 2018 to 97.45% in 2022 as a result of the recent mandatory vaccination policy. Despite efforts to tackle vaccine hesitancy during the COVID-19 pandemic, measles vaccine uptake is still low among young adults starting their medical training, and their compliance with free workplace vaccination offers is suboptimal. Occupational health services should raise awareness among workers and work together to implement strategies to achieve comprehensive measles vaccination coverage among occupational health workers.

Review > Hum Vaccin Immunother. 2023 Dec 15;19(3):2265587.
doi: 10.1080/21645515.2023.2265587. Epub 2023 Oct 17.

Attitudes toward influenza vaccination in healthcare workers in Italy: A systematic review and meta-analysis

Francesco Paolo Bianchi [1 2], Pasquale Stefanizzi [1], Antonio Di Lorenzo [1], Chiara De Waure [3], Stefania Boccia [4 5], Antonio Daleno [2], Giovanni Migliore [2], Silvio Tafuri [1 2]

Abstract

Healthcare workers (HCWs) are among the at-risk groups for whom influenza vaccination is strongly recommended. To assess the proportion of Italian HCWs with positive attitudes toward influenza vaccination, we conducted a systematic review of relevant literature and a meta-analysis. Our focus was on the influenza seasons from 2017/18 to 2021/22. The prevalence of favorable attitudes toward vaccination varied, ranging from 12% during the 2017/18 influenza season to 59% in the 2020/21 season. The significant increase in the 2020/21 season can be attributed to adaptations necessitated by the COVID-19 pandemic. During the 2021/22 influenza season, there was a decline in vaccination coverage (37%), likely due to the absence of a robust preventive culture. Various strategies have been employed to enhance HCWs' attitudes to achieve higher vaccination rates, but none of them have demonstrated satisfactory results. Policymakers should consider implementing a policy of mandatory vaccination to ensure elevated vaccination coverage among HCWs.

Next step

Vaccine. 2018 Feb 1;36(6):779-787. doi: 10.1016/j.vaccine.2017.12.074. Epub 2018 Jan 8.

Parental vaccine hesitancy in Italy – Results from a national survey

Cristina Giambi [1], Massimo Fabiani [2], Fortunato D'Ancona [3], Lorenza Ferrara [4], Daniel Fiacchini [5], Tolinda Gallo [6], Domenico Martinelli [7], Maria Grazia Pascucci [8], Rosa Prato [9], Antonietta Filia [10], Antonino Bella [11], Martina Del Manso [12], Caterina Rizzo [13], Maria Cristina Rota [14]

Affiliations + expand

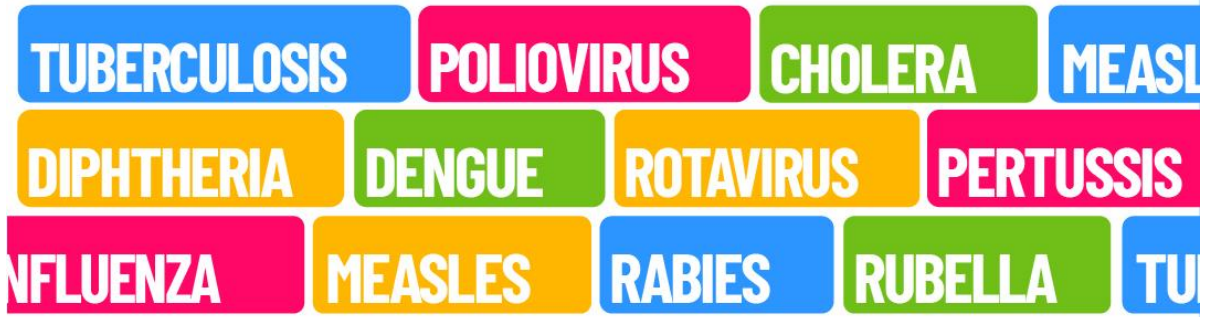
PMID: 29325822 DOI: 10.1016/j.vaccine.2017.12.074

- A national survey was made and published before the law on mandatory vaccination
- Another one unpublished after the law
- We need another one after COVID-19

- But it is time to make all more structered

Grazie per l'attenzione!

dancona@iss.it



Today, vaccines help prevent more than **20 life-threatening diseases.**

#LongLifeForAll