

# COVID-19 OUTBREAK IN HEALTHCARE WORKERS: THE ROLE OF SURVEILLANCE AND UNIVERSAL MASKING IN TRIESTE HOSPITALS (NORTH-EASTERN ITALY)



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# Background

- ❖ On January 30, 2020, WHO declared the outbreak of the severe acute respiratory syndrome (SARS-CoV-2) a public health emergency of international concern.
- ❖ On January 31, 2020, the Italian Government declared state of emergency.
- ❖ On February 20, 2020, the first Italian autochthonous case of COVID-19 occurred in the Lombardy region (North Italy).
- ❖ Italy was among the first-and-worst hit countries by COVID-19.
- ❖ A nationwide lockdown was imposed from March 9 to May 4, 2020.

By the end of May 2020, the surveillance system from the **Italian National Institute of Health (ISS)** notified **232269 cases of COVID-19** and **31936 associated deaths**.

→ **12%** of all cases occurred in **healthcare workers (HCWs)**, with 27952 cases registered.

# COVID-19 surveillance of healthcare workers in Trieste Hospitals

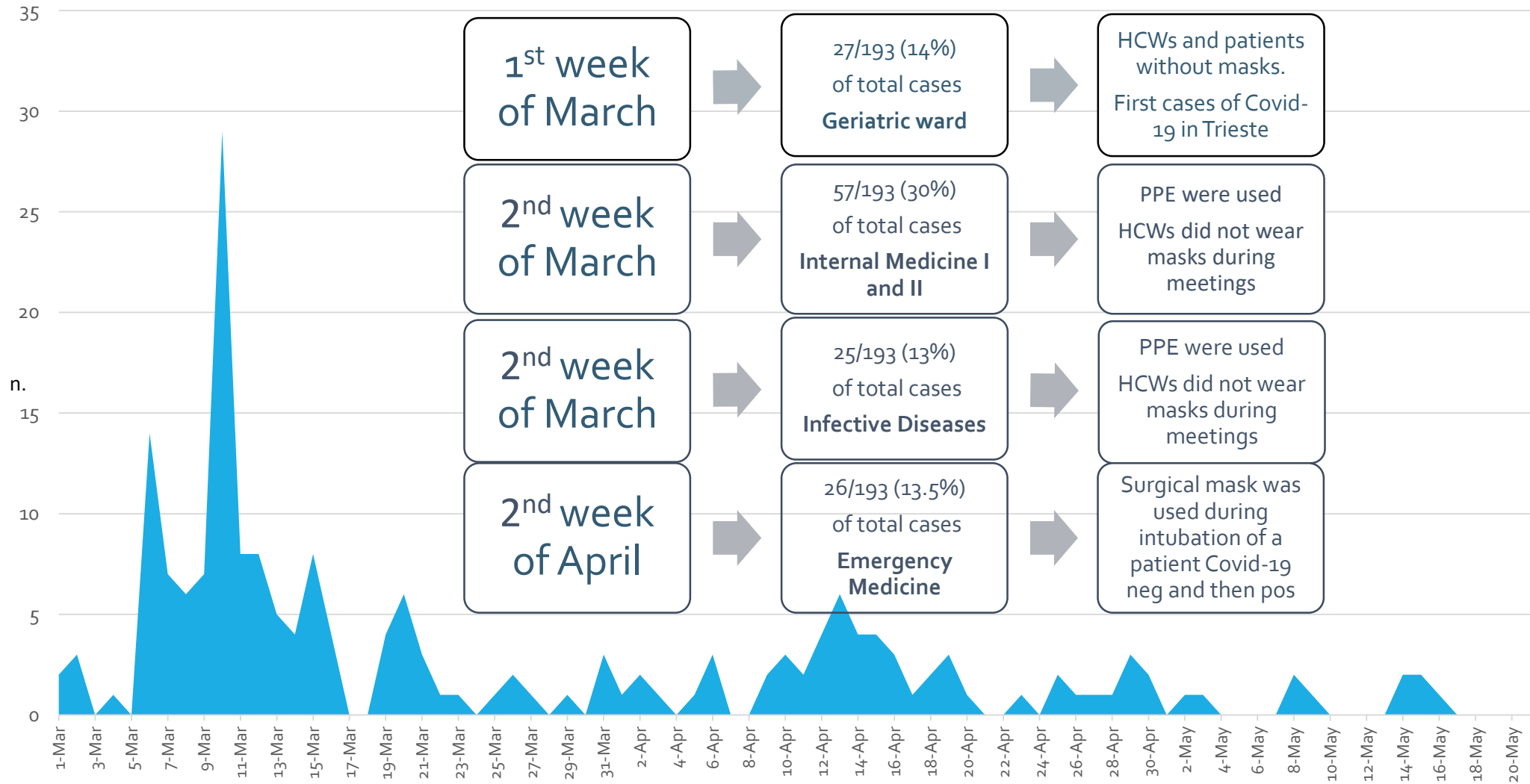
- ❖ Email notification of workplace exposure to the Unit of Occupational Medicine.
- ❖ Phone interview to investigate exposure histories and infection chains.
- ❖ Daily follow up phone call to monitor for any symptoms of COVID-19, temperature measurement twice a day, and swab test every 3 days if close contacts or after 13 days from exposure if casual contacts.
- ❖ Symptomatic or positive healthcare workers were immediately restricted from work.
- ❖ Nasopharyngeal and oropharyngeal specimens were collected with the swab technique, and RNA was extracted and determined by rRT-PCR targeting the E, N and RdRp gene of SARS-CoV-2. A cycle threshold value less than 40 was interpreted as positive for SARS-CoV-2 RNA.

**Table 1.**

**Main characteristics of 963 healthcare workers reporting contacts with COVID-19 patients and/or colleagues at Trieste Hospitals from March 1 to the end of May, 2020.**

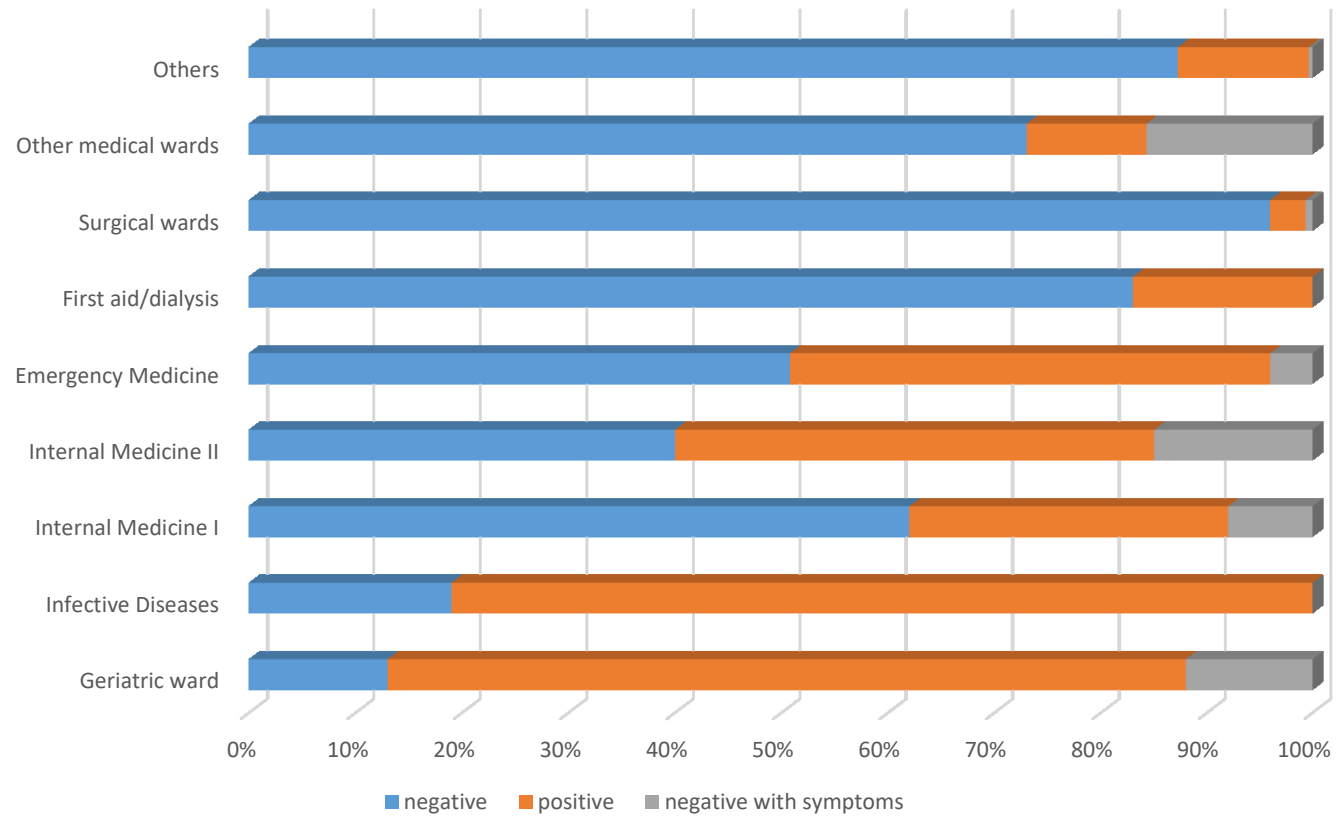
	SARS-CoV-2 negative		SARS-CoV-2 positive		Total	p
	Asymptomatic	Symptomatic	Asymptomatic	Symptomatic		
No. (%)	665 (69.1)	105 (10.9)	28 (2.9)	165 (17.1)	963	
Age, mean (SD) - years	44.3 (11.8)	45.7 (10.4)	39.5 (11.8)*	43 (11.2)	44 (11.6)	0.04
Women, no. (%)	467 (70.2)	82 (78.1)	17 (60.7)	114 (69.1)	680 (70.6)	ns
Characteristics of contact, no. (%)						
With patients	240 (61.9)	45 (11.6)	16 (4.1)	87 (22.4)	388 (40.3)	0.000
With colleagues	113 (64.6)	30 (17.1)	5 (2.9)	27 (15.4)	175 (18.2)	
With both	11 (13.9)	17 (21.5)	5 (6.3)	46 (58.2)	79 (8.2)	
Contact of contact	301 (93.8)	13 (4.1)	2 (0.6)	5 (1.6)	321 (33.3)	
Use of PPE, no. (%)	642 (96.5)	78 (74.3)	27 (96.4)	145 (87.9)	892 (92.6)	0.000
Surgical mask	634 (99.7)	73 (96.3)	15 (55.6)	86 (59.3)	808 (90.6)	
FFP2/FFP3 mask	8 (1.3)	5 (6.4)	12 (44.4)	59 (40.7)	84 (9.4)	
Start of symptoms after contact, median (IQR) - days	-	4 (1-9)	-	4 (2-8)	4 (2-8)	ns
Symptoms, no. (%)	-		-		270	
Upper respiratory tract		82 (78.1)		128 (77.6)	210 (77.8)	ns
Cough		52 (49.5)		70 (42.7)	122 (45.4)	ns
Loss of smell and taste		7 (6.7)		67 (40.8)	74 (27.5)	0.000
Lower respiratory tract		1 (0.95)		14 (8.5)	15 (5.6)	0.008
Fever >37.5°C		36 (34.3)		85 (51.5)	121 (44.8)	0.006
Diarrhea		19 (18.1)		13 (7.9)	32 (11.9)	0.001

PPE, personal protective equipment. \*Kruskal-wallis test.



**Figure 1.** Time trends in hospital contacts among positive HCWs from March 1 to the end of May, 2020.

### Covid-19 spread in hospital wards among contacts



**Figure 2.** COVID-19 spread in different hospital wards among HCWs with exposure to positive patients and/or colleagues.



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**Thank you for your attention**