



Les rencontres de Santé publique France 2022

Jeudi 16 juin

Session : « Covid-19 : quel vécu pour les populations des régions affectées par des vagues épidémiques de forte intensité ? »

« Covid-19: what experience for the populations of regions affected by high-intensity epidemic waves? »

14h00 – 16h45

SARS-CoV-2 pandemic and its impact on the Italian Health System

Silvio Brusaferro

Outline

- Few preliminary thoughts
- Italian Response to pandemic SARS-Co-2
- Health impact of pandemic in Italy
- ISS and SARS-CoV-2

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- Italian Response to pandemic SARS-Co-2
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COVID-19 : not just a pandemic but a 'Syndemic'..

“
The crisis initiated by the pandemic,
cascading through society



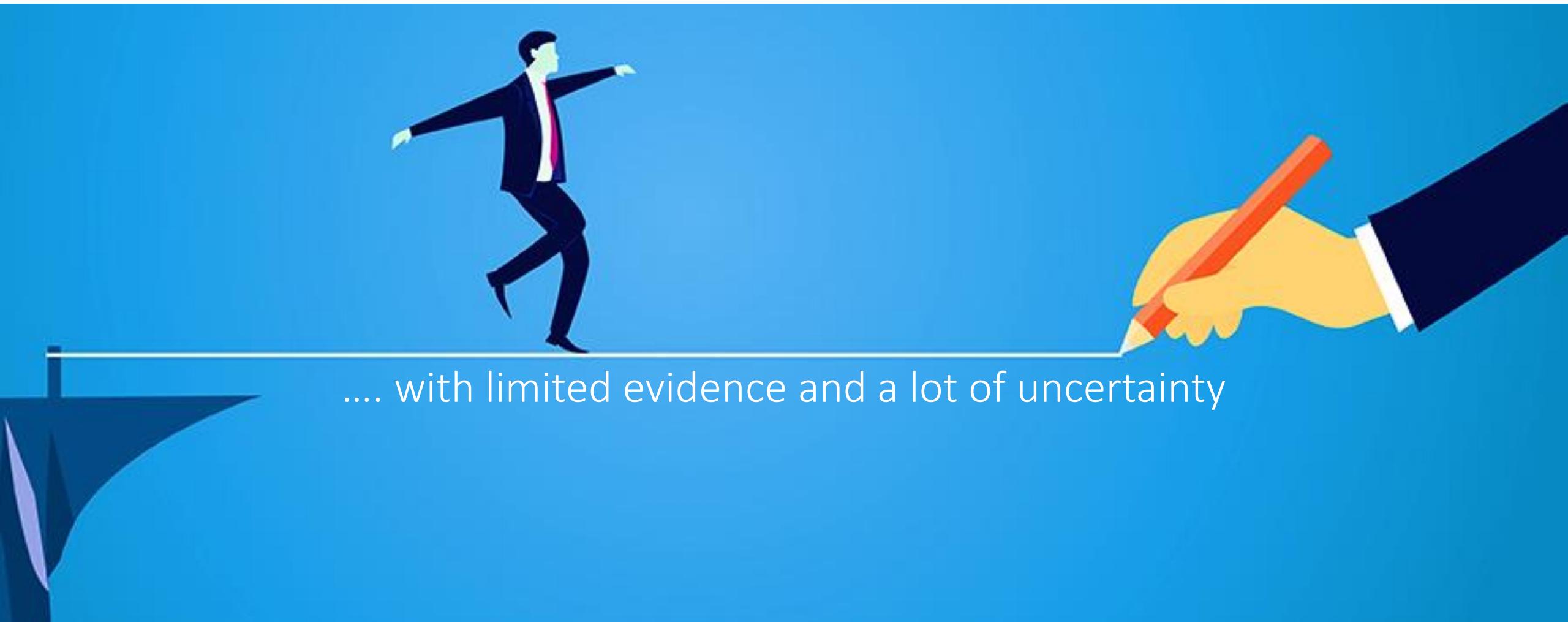
<https://journals.sagepub.com/doi/pdf/10.1177/1368431020970127>

Syndemics are characterised by biological and social interactions between conditions and states, interactions that increase a person's susceptibility to harm or worsen their health outcomes



..such as to impact the entire society

Taking decisions ...



The first pandemic with media and social media as protagonists

«infodemic»

Circulation of an excessive amount of information, sometimes not scrutinized with accuracy, which makes it difficult to orient oneself on a given topic due to the difficulty of identifying reliable sources(Treccani).

THE LANCET
Infectious Diseases

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EDITORIAL | VOLUME 20, ISSUE 8, P875, AUGUST 01, 2020

The COVID-19 infodemic

The Lancet Infectious Diseases

Published: July 17, 2020 • DOI: [https://doi.org/10.1016/S1473-3099\(20\)30565-X](https://doi.org/10.1016/S1473-3099(20)30565-X) • Check for updates

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"We're not just fighting a pandemic; we're fighting an infodemic," said Tedros Adhanom Ghebreyesus, WHO's director-general, at the 2020 Munich Security Conference. Fake news, misinformation, and conspiracy theories have become prevalent in the age of social



[https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(20\)30565-X/fulltext?dgcid=raven_jbs_etoc_email](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30565-X/fulltext?dgcid=raven_jbs_etoc_email)



www.iss.it/presidenza

Outline

- Few preliminary thoughts
- **Italian Response to pandemic SARS-Co-2**
- Health impact of pandemic in Italy
- ISS and SARS-CoV-2

Pandemic SARS-CoV-2 in Italy

17,762,812

Cases***

320,100

Cases among
healthcare workers*

41 years

Median age of cases

47.2% | 52.8%

Males (%) | Females (%)

164,777 (0.9%)

Deaths (Case-Fatality Rate)

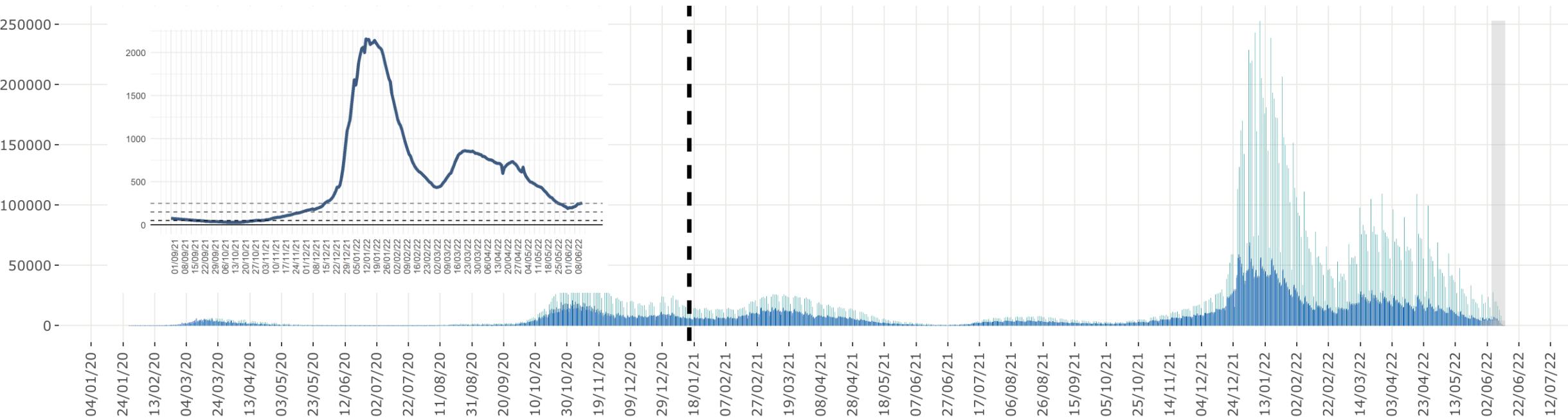
16,066,488

Recovered

Cases of confirmed SARS-CoV-2 infection reported in Italy, by date of sample/diagnosis (green) and by date of symptom onset (blue)

Note: more recent data (grey squares) should be interpreted with caution due to the possible reporting delay of more recently diagnosed cases and to the possibility that cases with date of onset within the reporting period may have not yet been diagnosed.

■ Date of sample/diagnosis (17.758.795) ■ Date of symptom onset (cases with symptoms**) (6.419.399) ■ Date of symptom onset (6.883.058)





COVID-19 National scientific advisory board

President of the National Institute of Health

First Acute Phase: Early transmission of COVID-19 in Italy in 2020

No known local SARS-CoV-2 circulation

Undetected local SARS-CoV-2 circulation

Known local SARS-CoV-2 circulation

**22/01 Surveillance of COVID-19 among severe cases of acute respiratory infection with epidemiological links
Laboratory network with confirmation capacity set up**

27/02 Shift to case based enhanced surveillance of all SARS-CoV-2 laboratory confirmed cases

11/03 first Lock down

Progressive Lock down
tightening

20-21/01
WHO mission to Wuhan suggest for the first time
human to human transmission of SARS-CoV-2

ECDC Risk Assessment : low risk of secondary
transmission in the EU/EEA

23/01
1st meeting of the COVID-19 IHR Emergency
Committee does NOT declare a Public Health
Emergency of International concern (PHEIC)

22/01 Italy nominated a national task
force to address SARS-CoV-2

27/01 Direct flights to and
from China suspended

30/01
2nd meeting of the COVID-19 IHR
Emergency Committee declares
a PHEIC

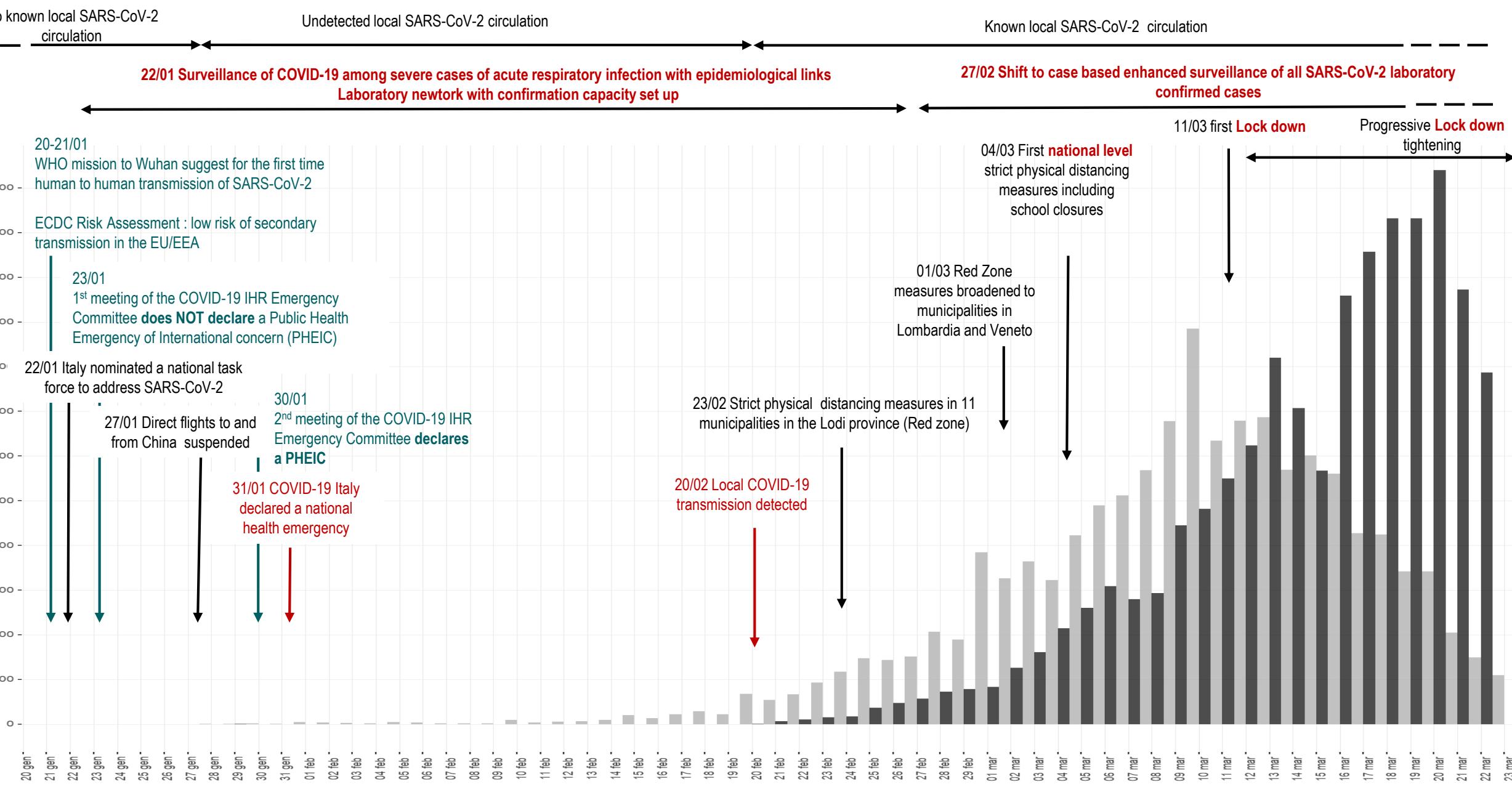
31/01 COVID-19 Italy
declared a national
health emergency

04/03 First national level
strict physical distancing
measures including
school closures

01/03 Red Zone
measures broadened to
municipalities in
Lombardia and Veneto

23/02 Strict physical distancing measures in 11
municipalities in the Lodi province (Red zone)

20/02 Local COVID-19
transmission detected

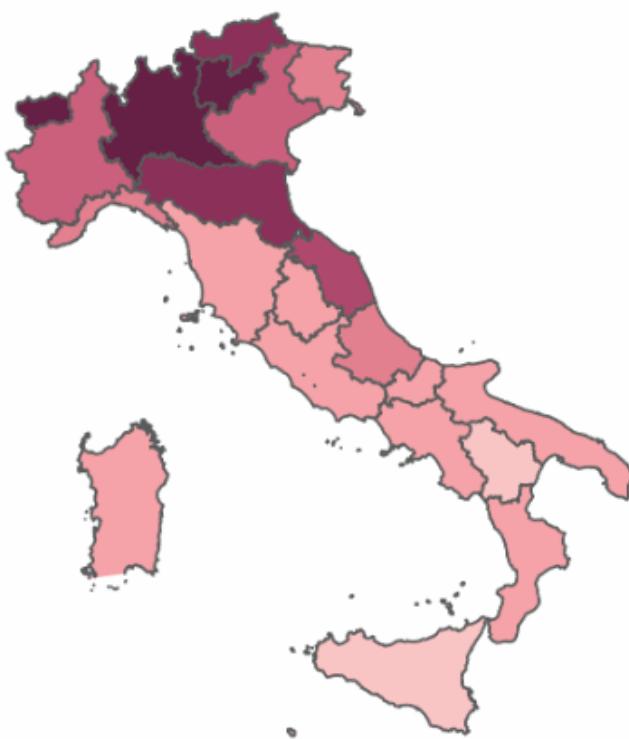


■ Date of diagnosis □ Date of symptom onset

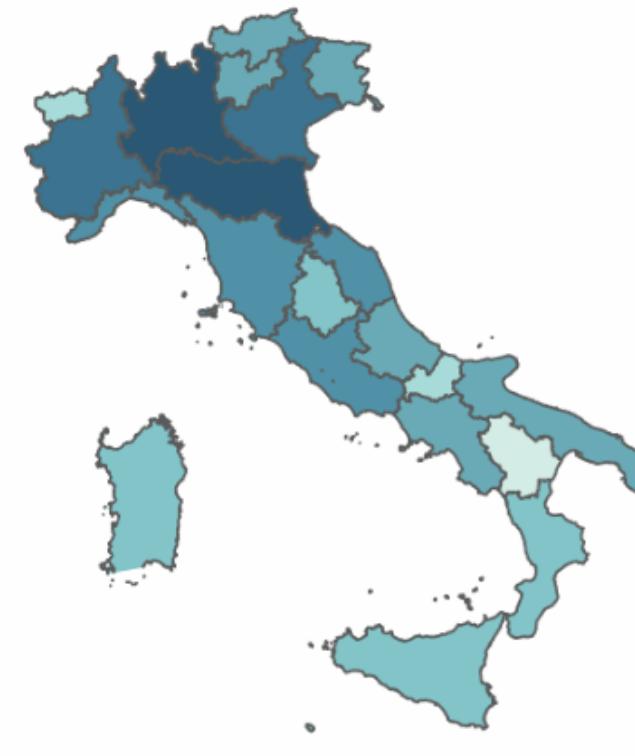
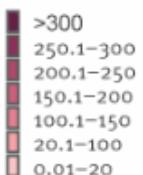
Data Source: Italian National Integrated Surveillance for COVID-19 (period 23 Jan- 23 Mar updated as of 19 May 2020)

First acute phase - different impact in different parts of the country

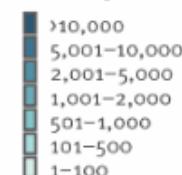
addressed with a national lockdown



Age-adjusted attack rates per 100,000
(28 Jan–31 Mar 2020)



Number of cases
(28 Jan–31 Mar 2020)



COVID-19 attack rates per 100,000 population (age-adjusted) by region/AP of diagnosis and number of cases by region/AP of diagnosis (n = 98,716), Italy, 28 January–31 March 2020

Other sites: ECDC European Antibiotic Awareness Day ESCAIDE - Scientific conference Eurosurveillance journal

Eurosurveillance
25 years of public health reporting

Europe's journal on infectious disease surveillance, epidemiology, prevention and control

Home / Eurosurveillance / Volume 25, Issue 49, 10/Dec/2020 / Article

Open Access

Research

Epidemiological characteristics of COVID-19 cases and estimates of the reproductive numbers 1 month into the epidemic, Italy, 28 January to 31 March 2020

Check for updates

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View Affiliations

View Investigators

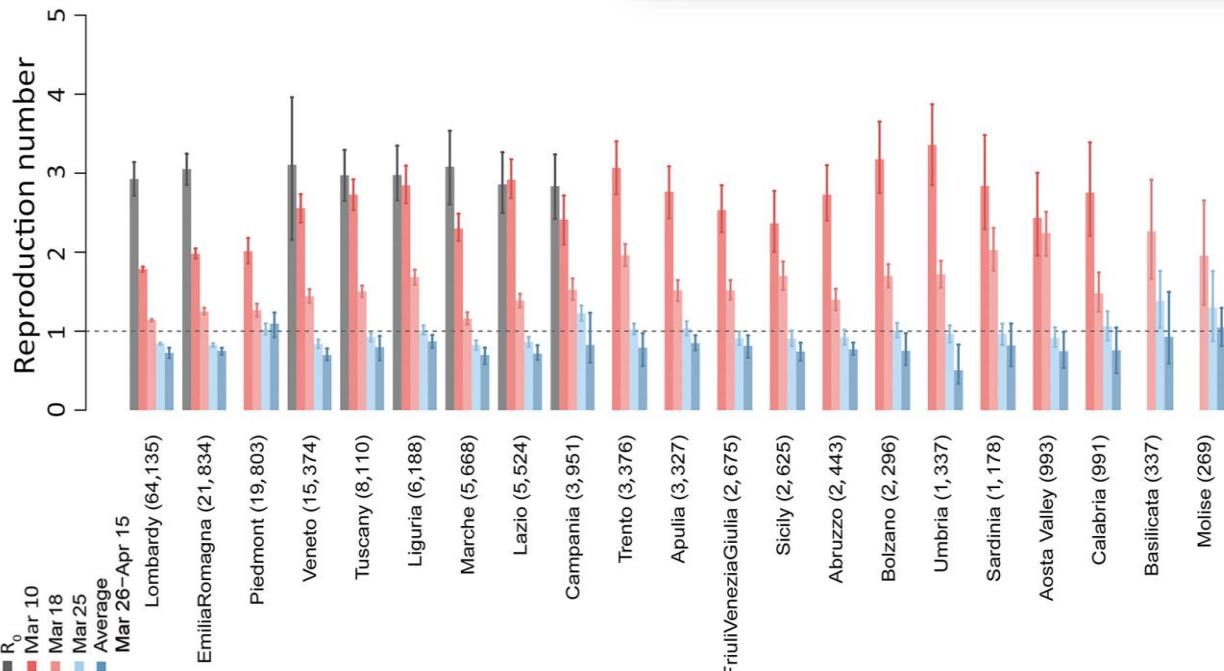
View Citation

Impact of early containment efforts on SARS-CoV-2 transmissibility

The national lockdown put in place as of March 11 to limit the spread of SARS-CoV-2 in Italy brought R_t below 1 in most regions and provinces within 2 weeks.

“

Lockdown was fundamental to prevent an explosion in the number of cases in other regions in which transmission had started weeks later compared with the outbreak epicenter (Lombardy, Veneto, Emilia Romagna).



Hospital Resilience



FINANCIAL TIMES

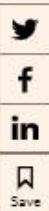
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Coronavirus pandemic

+ Add to myFT

Coronavirus 'tsunami' pushes Italy's hospitals to breaking point

Crisis highlights challenges other European countries could face if containment fails



A makeshift emergency ward set up to ease pressure on a hospital in Brescia, northern Italy © Claudio Furlan/LaPresse/AP

Miles Johnson and Davide Ghiglione in Rome MARCH 11 2020



After years of cuts, Italy is set to double the number of ICU beds in response to Covid-19

The Italian government has unlocked new resources for the healthcare system, increasing hospital capacity and medical staff



Field Hospital Opens, Receives Patients in Italy

MARCH 21, 2020 • ITALY



INTERNATIONAL CRISIS RESPONSE

Samaritan's Purse stands ready to respond at a moment's notice whenever and wherever disaster strikes. We specialize in meeting critical needs for victims of conflict, disaster, famine, and epidemics throughout the world, often working through ministry partners on the ground. We provide food, water, shelter, medicine, and other assistance in the Name of

Industry Resilience

Forbes

EDITORS' PICK | 81,111 views | Mar 19, 2020, 03:57pm EDT

Meet The Italian Engineers 3D-Printing Respirator Parts For Free To Help Keep Coronavirus Patients Alive



Amy Feldman
Forbes Staff
Manufacturing

MERGENZA CORONAVIRUS

In Italia, a 50 aziende incentivi alla riconversione per produrre mascherine

sono 102 le imprese in totale ammesse agli incentivi del piano Italia, la misura che con una dotazione di 50 milioni di euro favorisce la produzione di mascherine e altri dispositivi medici e di protezione individuale (ventilatori, camici e tute di sicurezza, disinfettanti e kit diagnostici): 65 progetti provengono da imprese che hanno deciso di riconvertire gli stabilimenti e 37 prevedono ampliamenti dei siti produttivi

i Andrea Gagliardi

ANSA



> CORONAVIRUS

SEGUICI

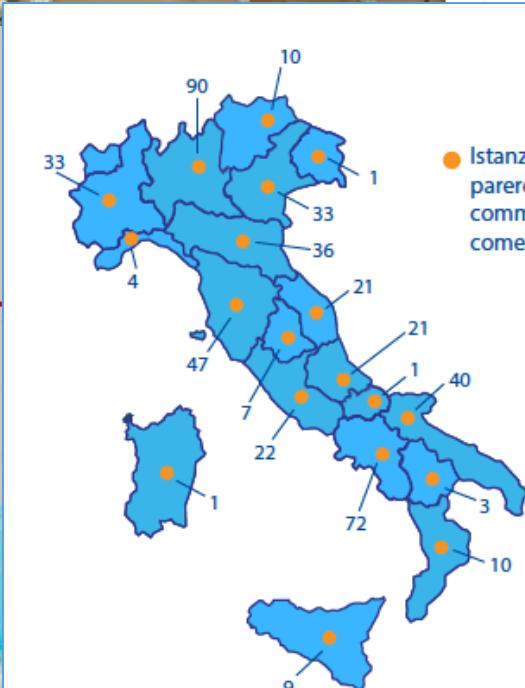
Coronavirus, la Rodrigo si converte: produrrà anche mascherine

ABRUZZO

Sabato 11 Aprile 2020

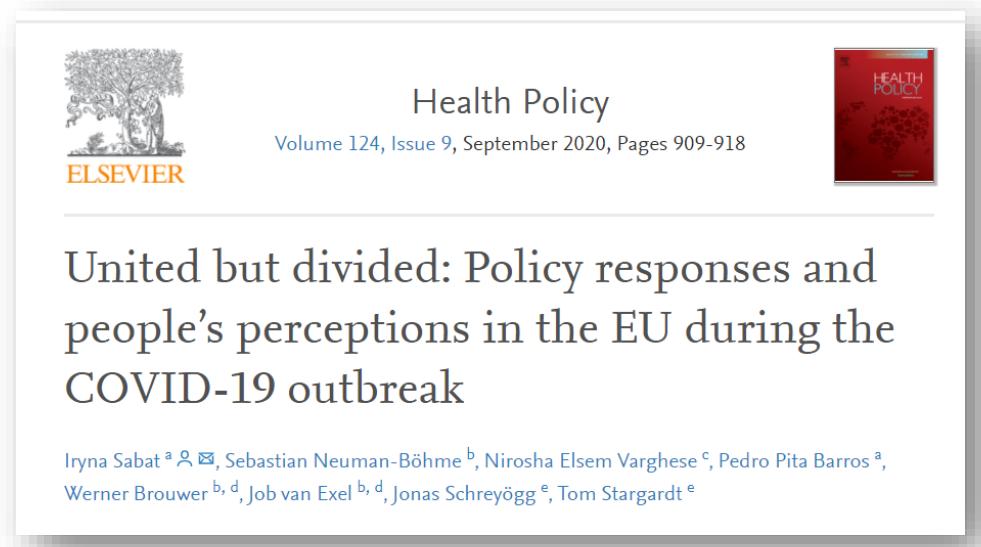


La Siac Fashion, azienda abruzzese nota sul mercato nazionale e internazionale per la produzione e commercializzazione dei marchi **Rodrigo, Piacemolto e Montaliani**, ha deciso di attuare un piano di riconversione che



● Istanze che hanno ottenuto parere favorevole per la produzione, commercializzazione e utilizzo come mascherine mediche (n. 462)*

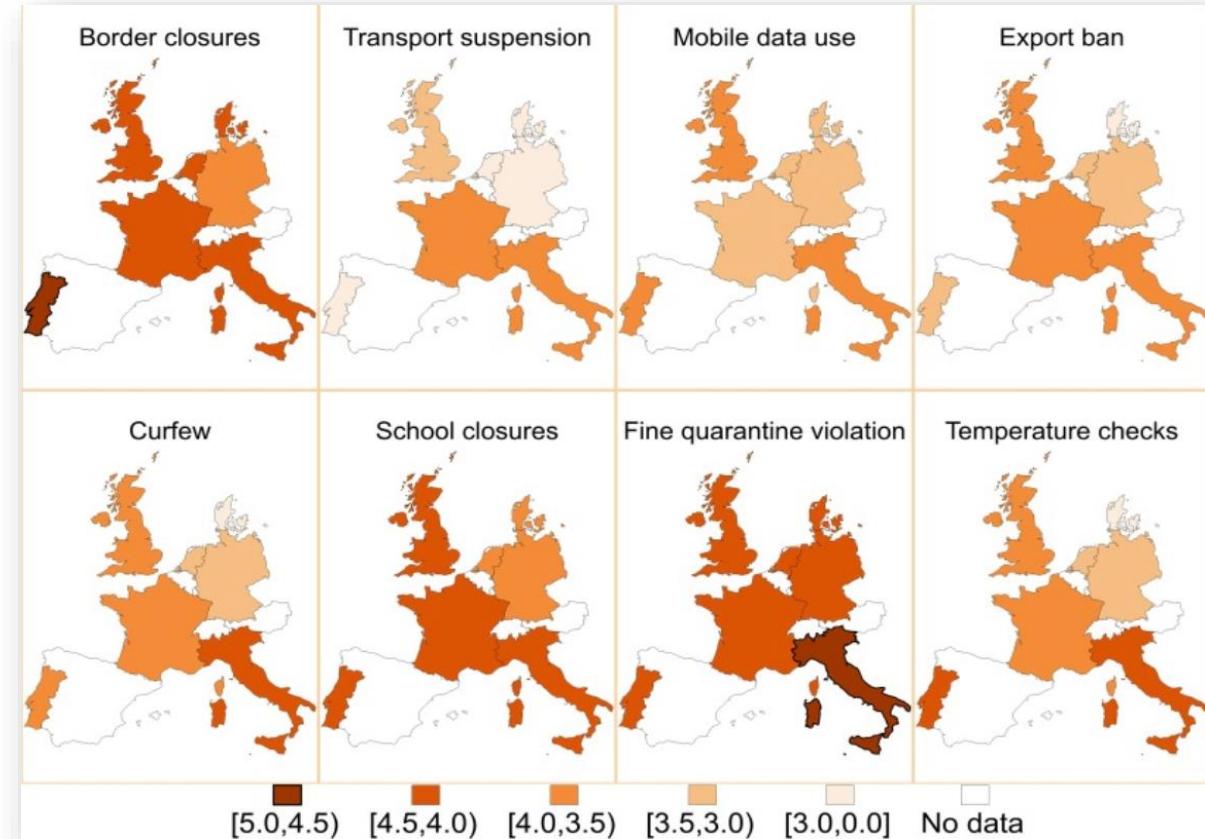
Impact of early containment efforts - acceptability



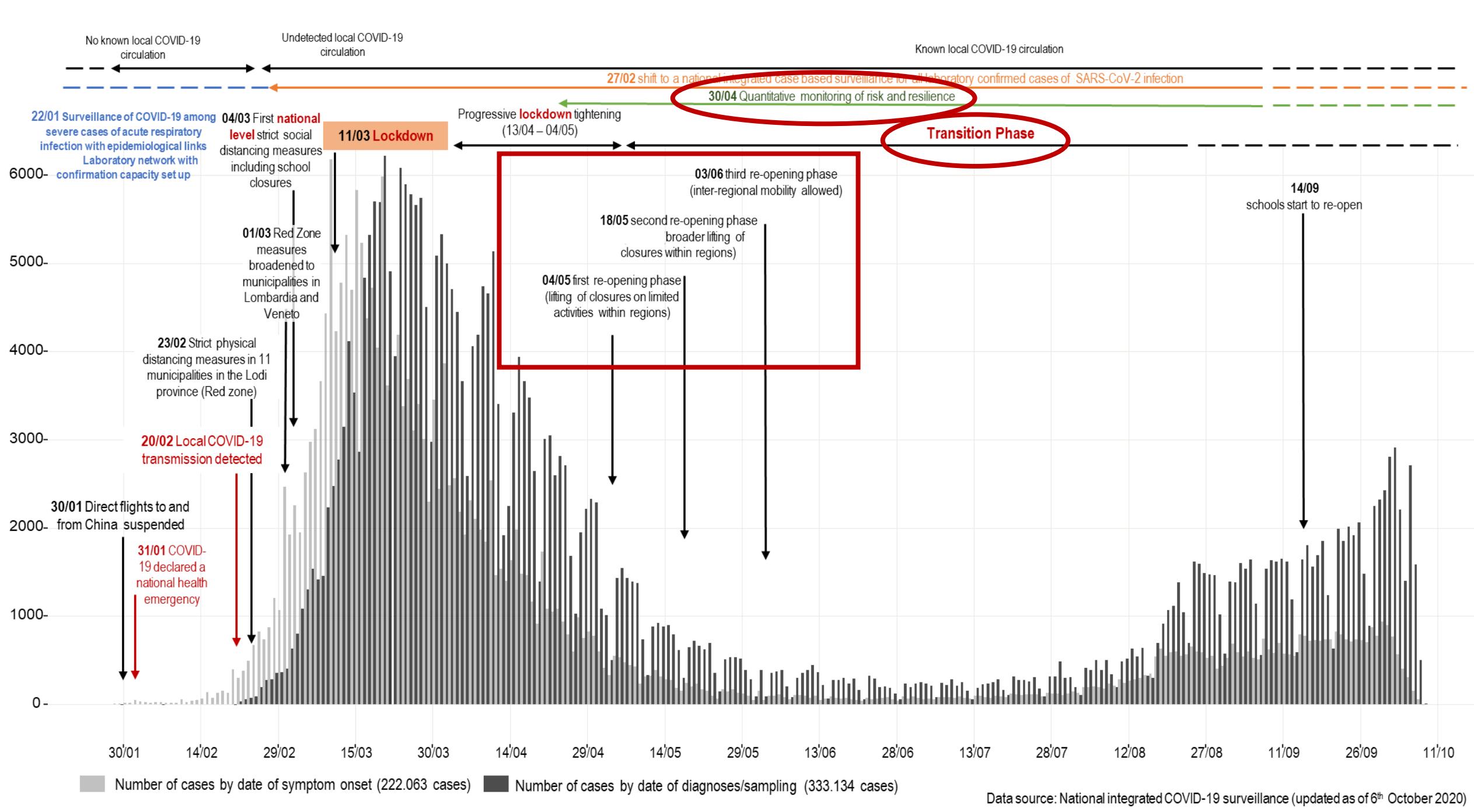
First two weeks of April 2020 (Italy was in full lock-down)

Grade of approval of specific measures in 7 EU countries (Likert scale from 1-strongly disagree to 5 strongly agree).

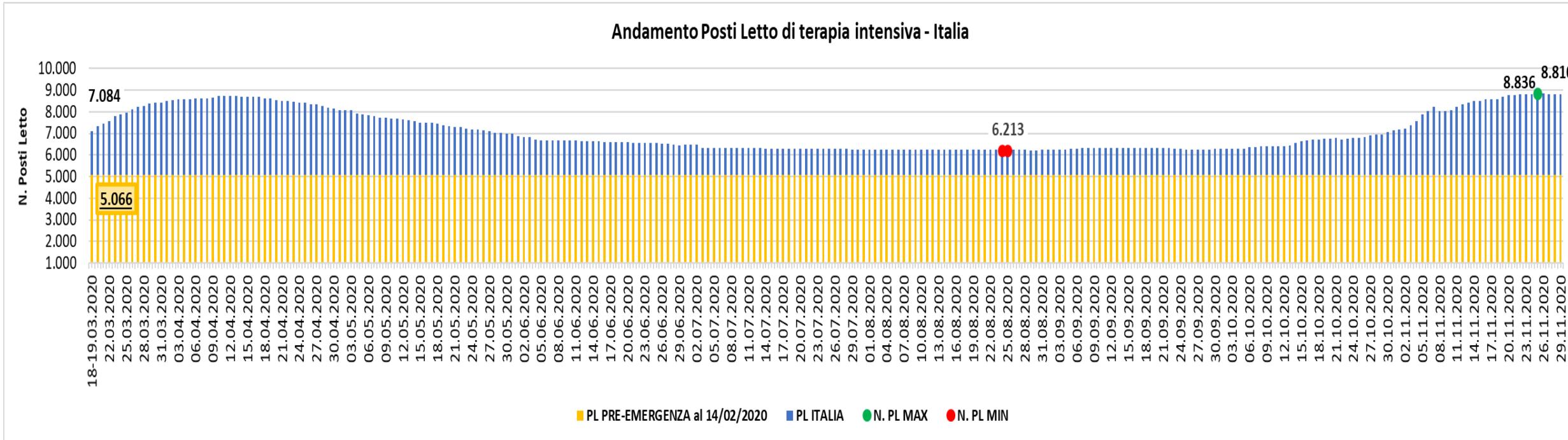
Darker colours show higher consensus



The study team did not find significant differences in policy support between Lombardy and the rest of Italy.



Flexible emergency increase hospital bed availability - ICU



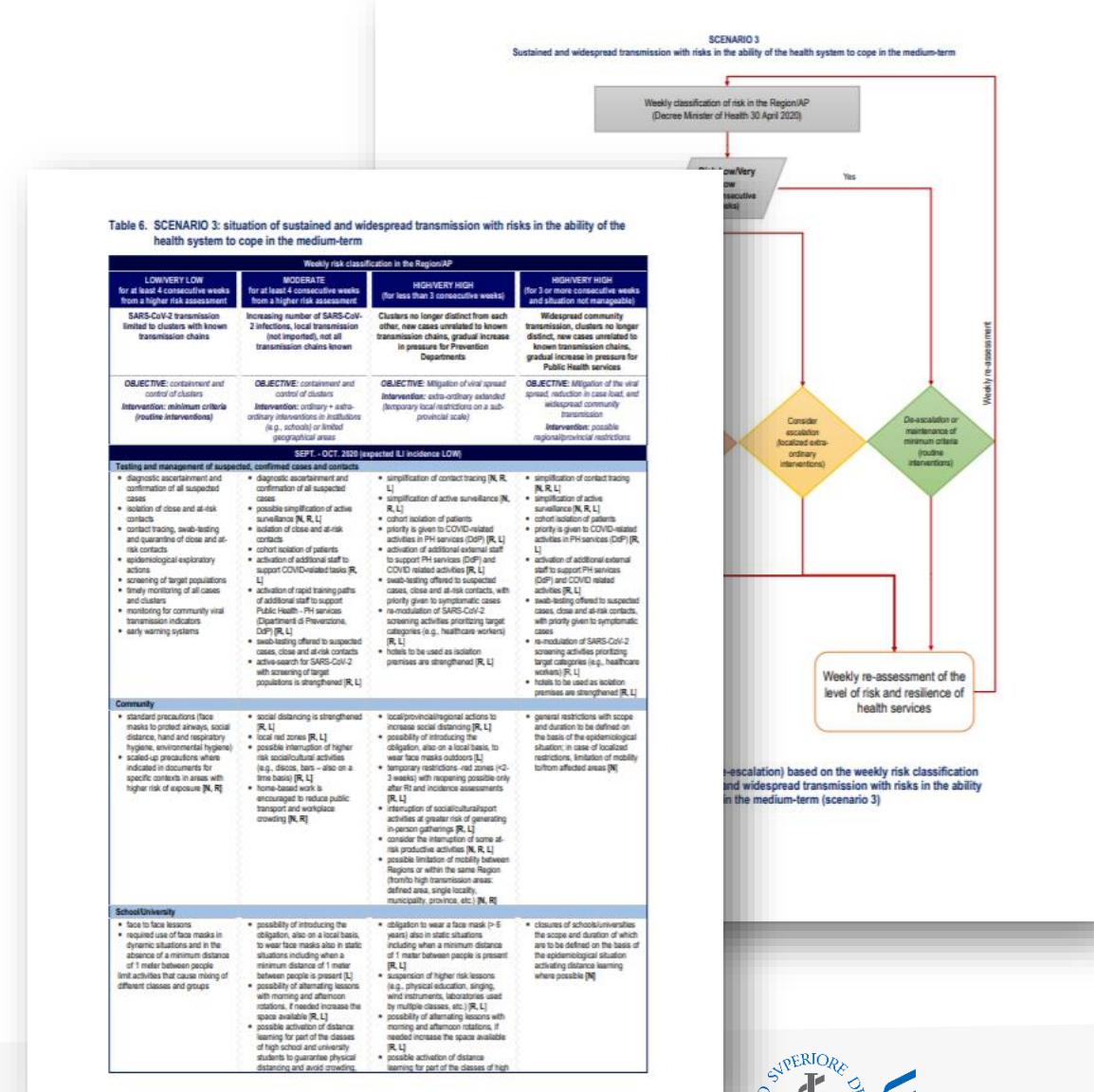
Source: MoH "COVID-19 Rilevazione giornaliera posti letto attivati"

Readiness (early October 2020) (legal endorsement)

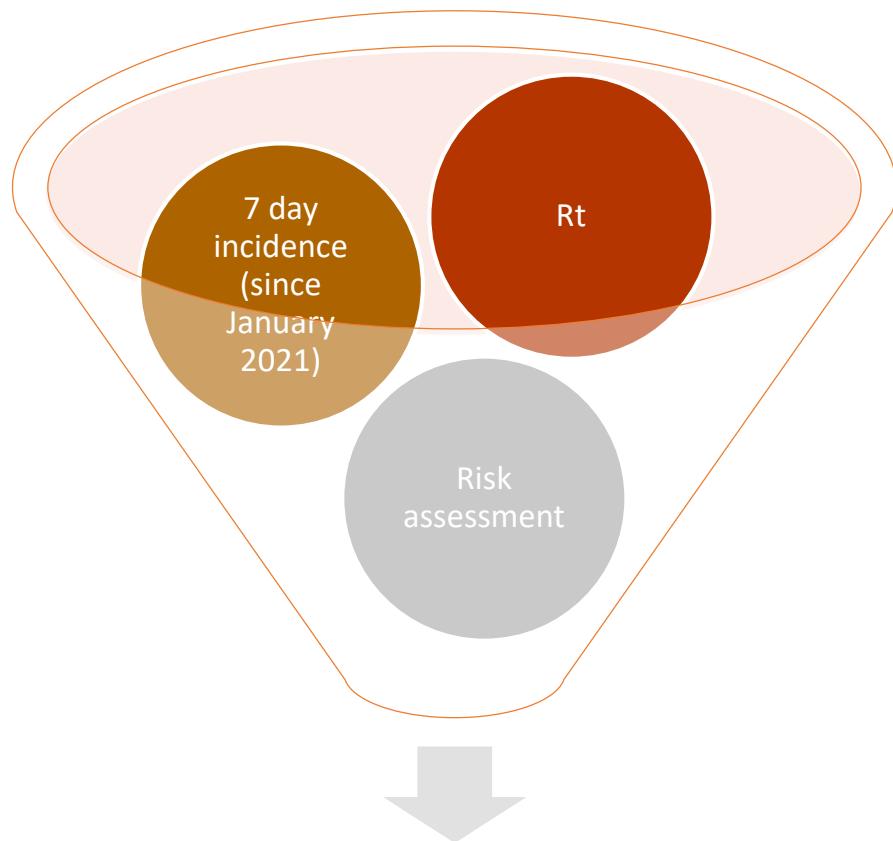


Actions identified
depending on ILI
expected prevalence
by COVID-19
scenario and regional
risk level

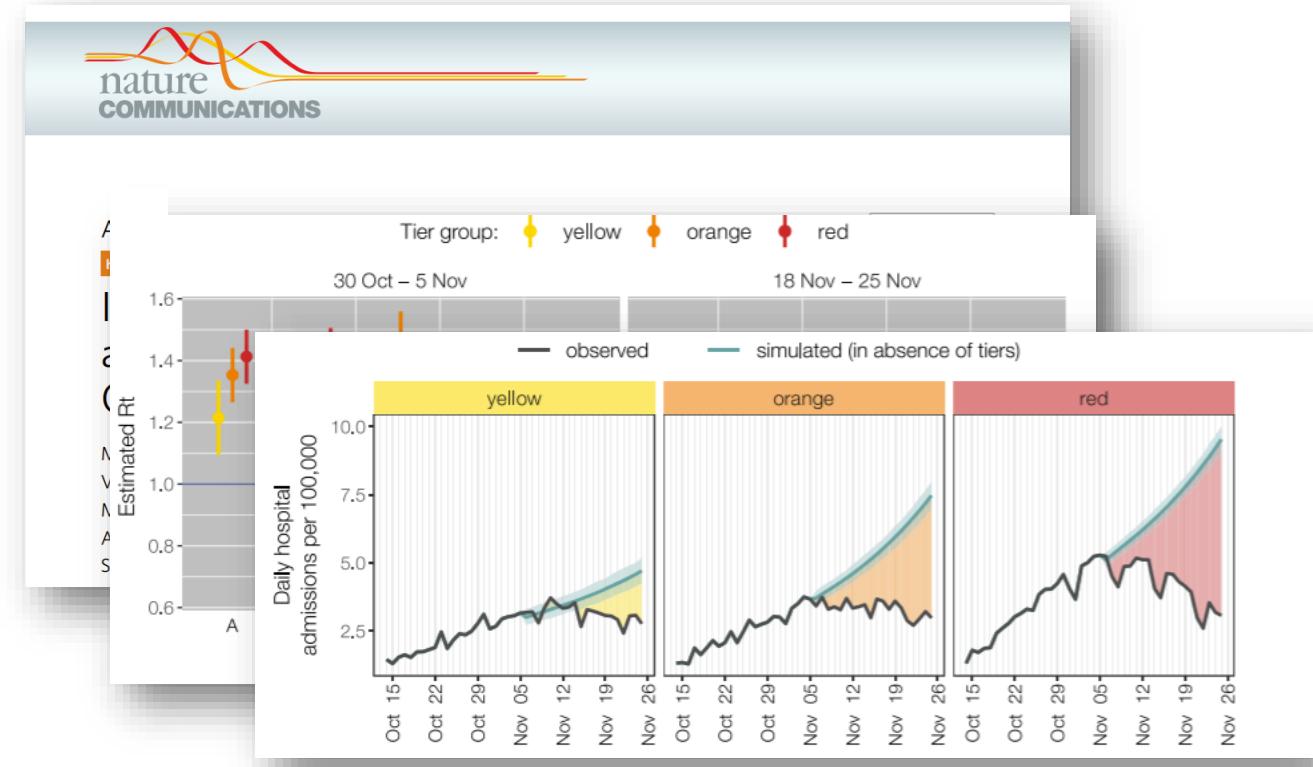
Available online



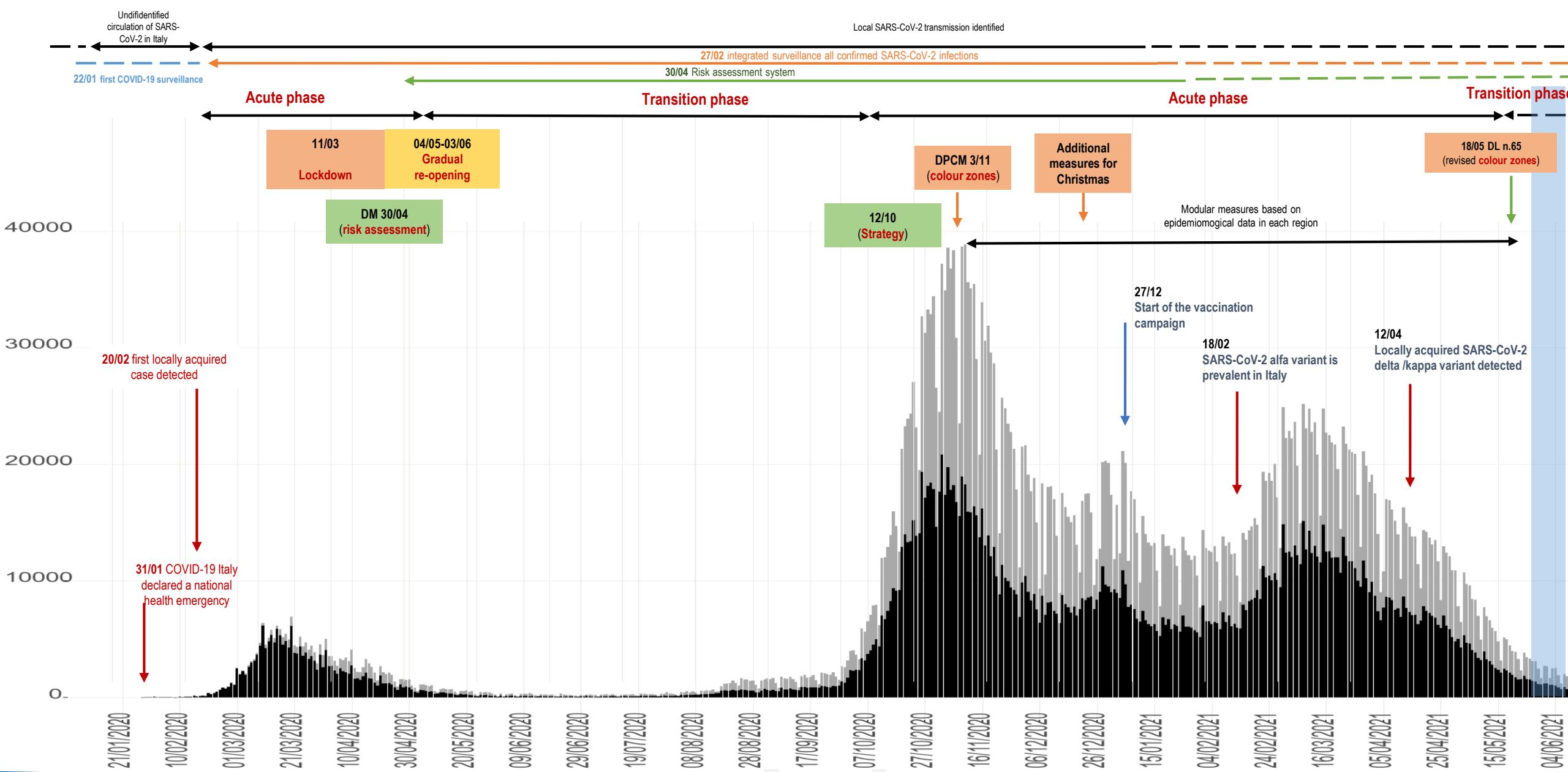
Change in strategy → the «colour zone» system



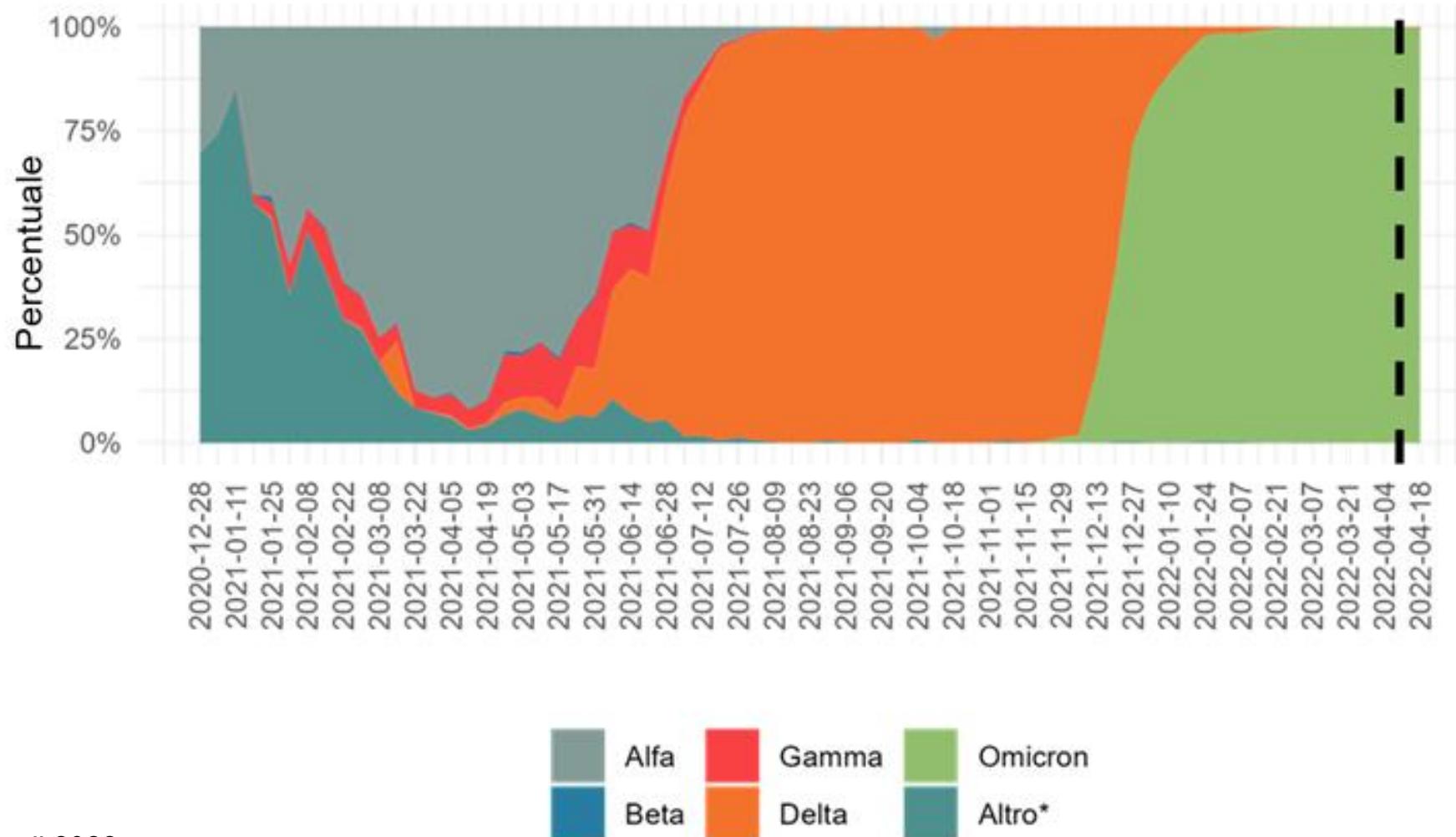
«colour code» of measures (yellow, orange red) from 5 November 2020 – 17 May 2021



«...the activity reduction in all locations outside of the home was far from that observed during the nationwide lockdown imposed to counter the first wave, even in the strictest tier where a stay-home mandate was in place.

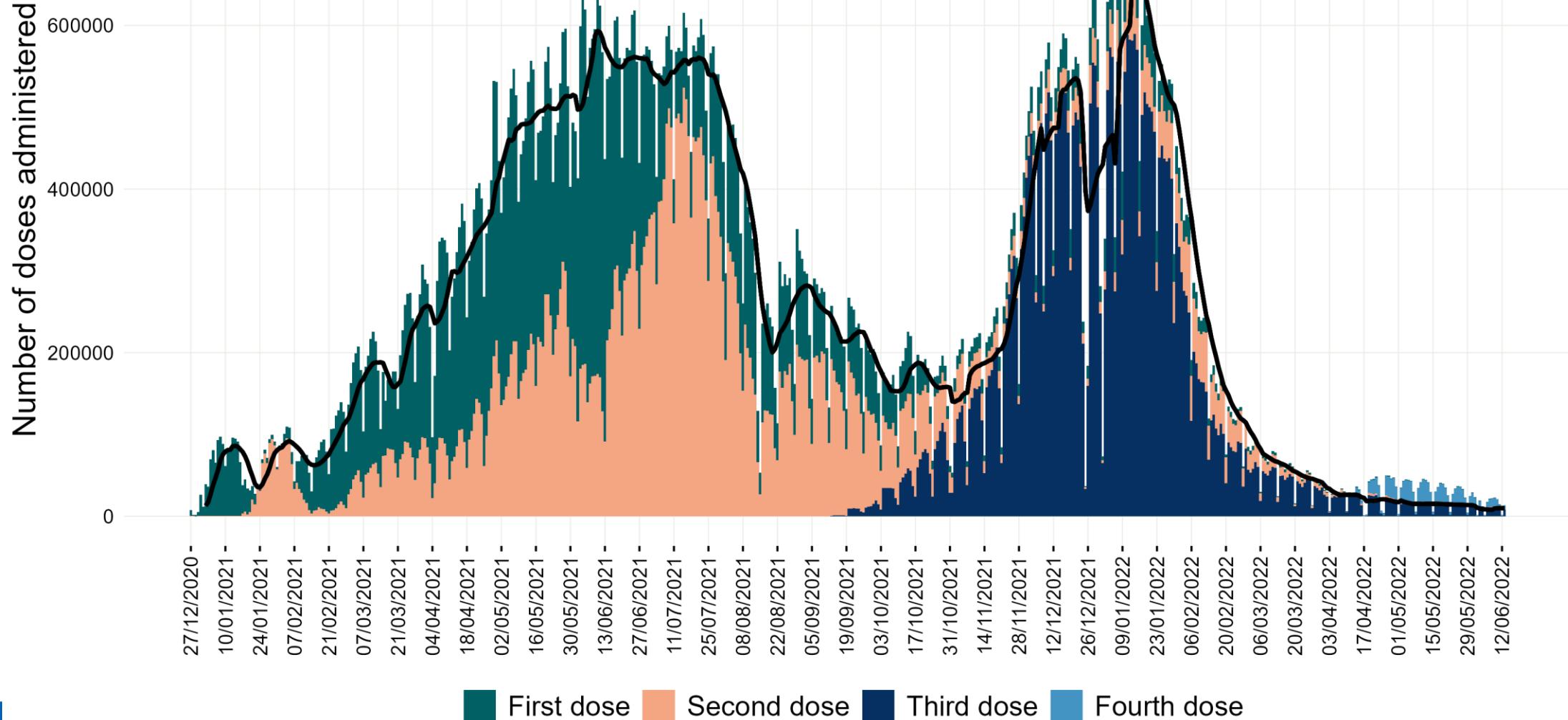


From 29 April 2021: Establishment of a national genomic surveillance for SARS-CoV-2



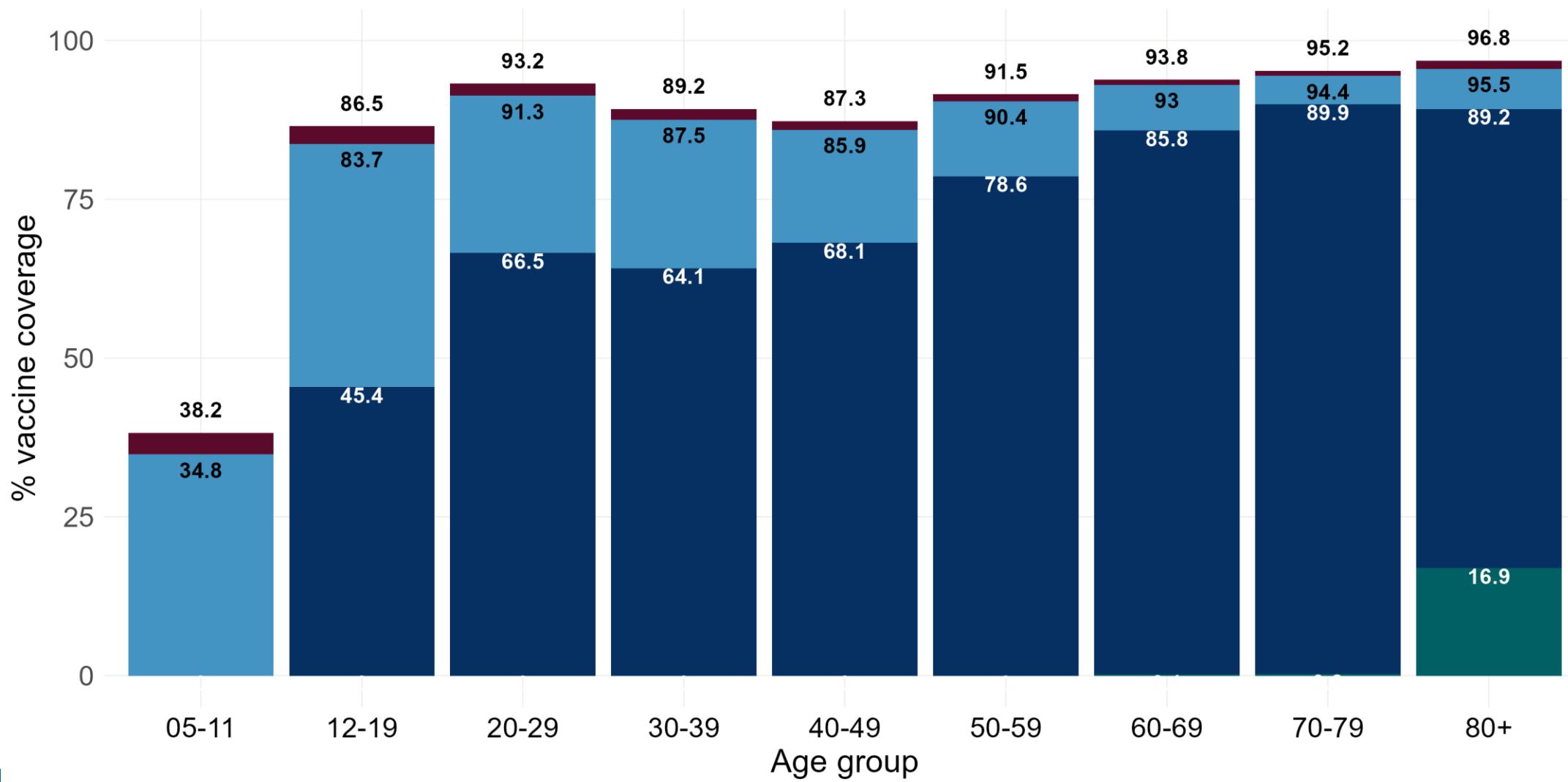
Data updated as of 26th April 2022

SARS-CoV-2 Vaccination campaign in Italy



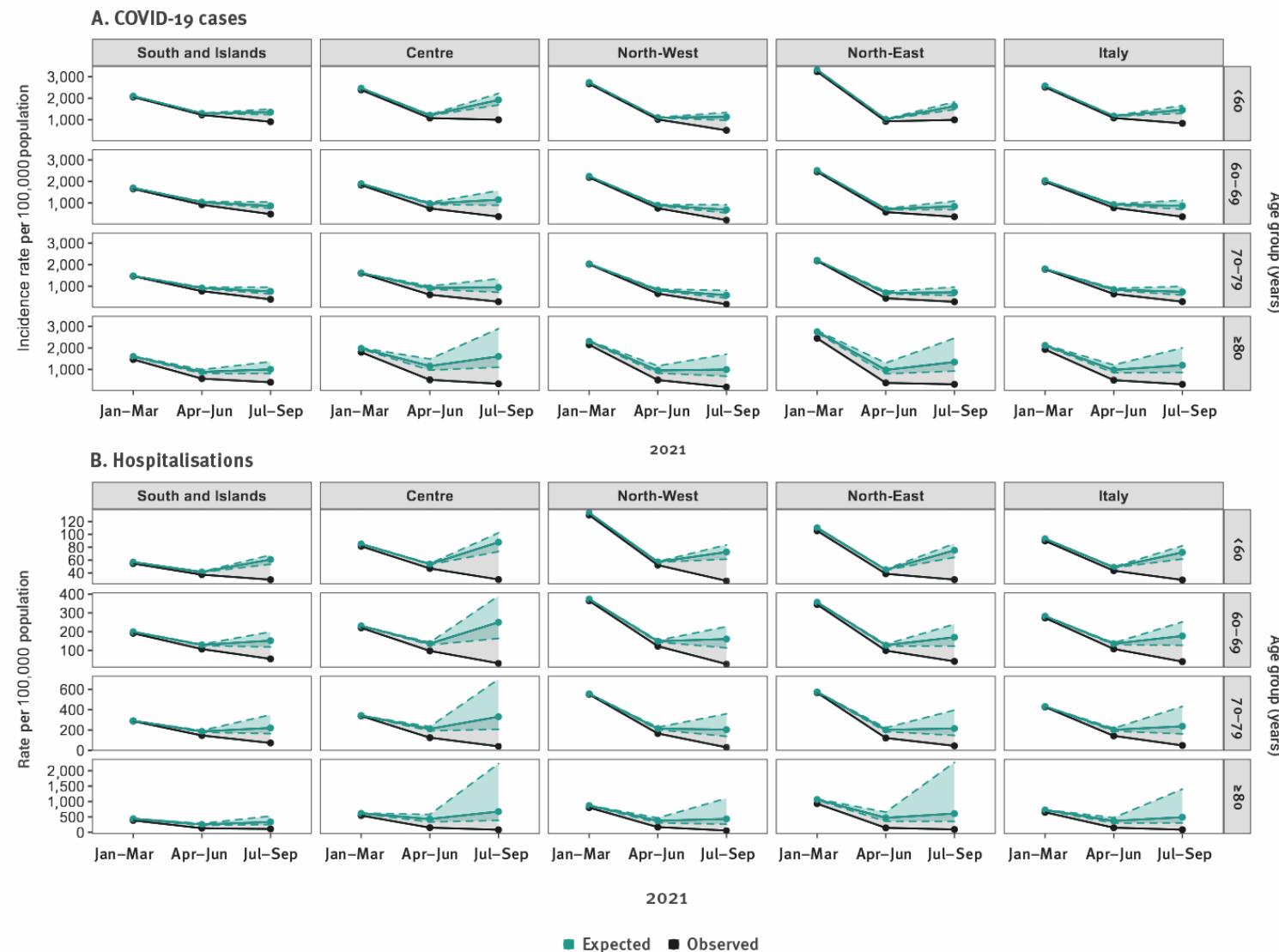
Vaccination coverage (%) by age

Italy 12 06 22



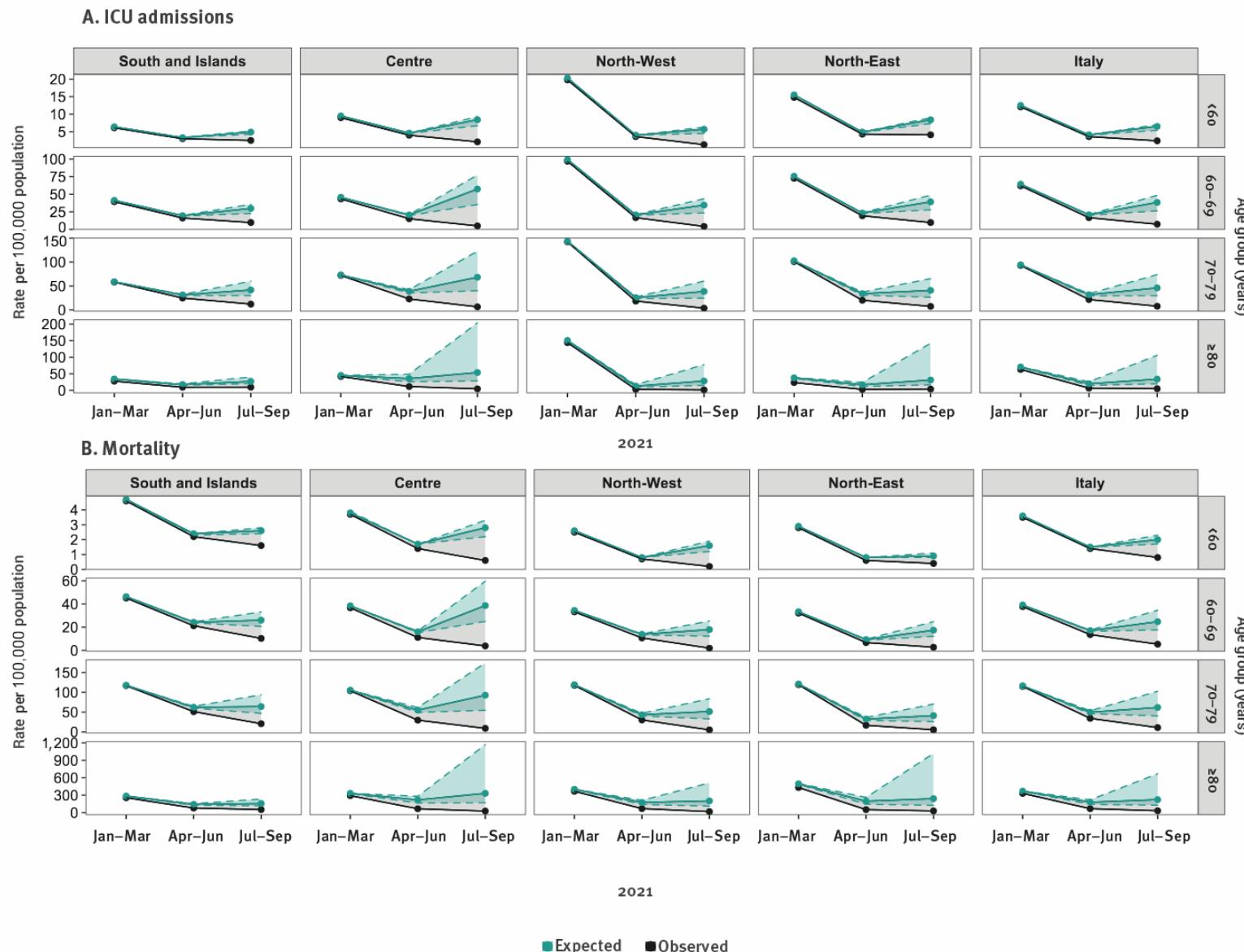
Cases and hospitalisations averted from January 2021 to January 2022

- Between January and December 2021, in Italy, it is estimated that **2,828,366 infections** (43% of those expected) and **290,044 hospitalisations** (58% of the expected) were averted.
- In January 2022, in Italy, it is estimated that **5,211,713 infections** (55% of the expected) and **227,763 hospitalisations** (83% of the expected) were averted



ICU admissions and deaths averted from January 2021 to January 2022

- Between January and December 2021, in Italy, a total of **37,706 ICU admissions** (57% of the expected) and **77,671 deaths** (64% of the expected) were averted.
- In January 2022, in Italy, a total of **19,166 ICU admissions** (86% of the expected) and **73,861 deaths** (86% of the expected) were averted.



Gradual reduction of NPIs and in access-requirements using digital certificates

Green Pass: l'addio a maggio, è ufficiale



<https://www.punto-informatico.it/green-pass-addio-maggio-ufficiale/>

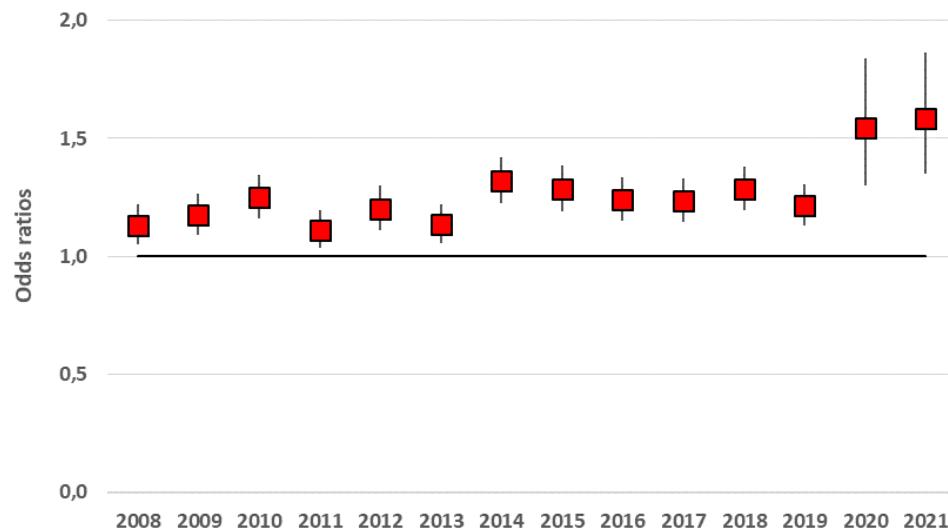
- End of the national health emergency (31 March 2022)
- From May 2022:
 - Lifting of the use of vaccination/testing certification in most contexts
 - Facial masks from compulsory to recommended (except limited contexts like public transport, healthcare settings, schools until the end of the school year)

Outline

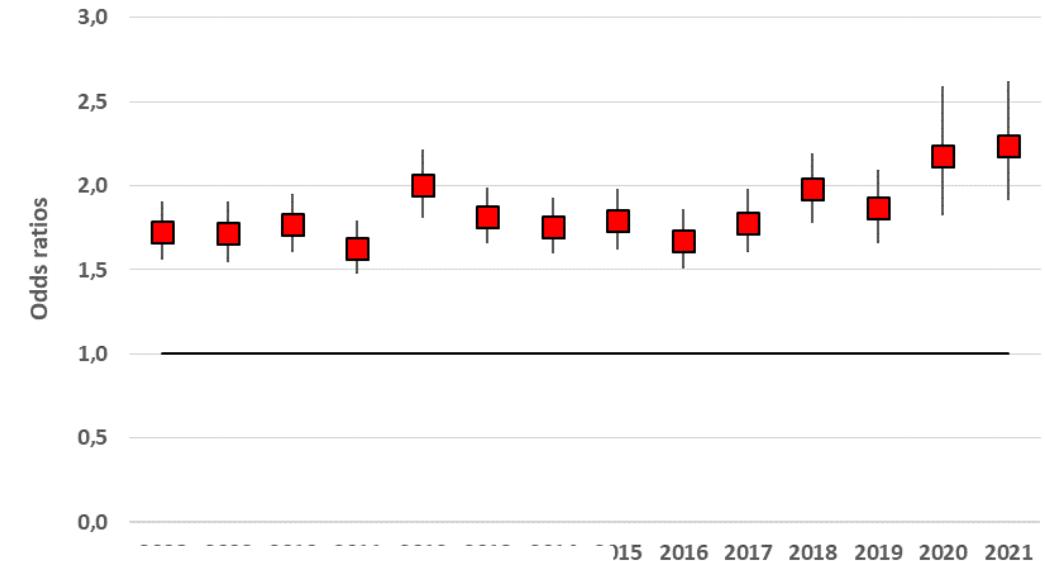
- Few preliminary thoughts
- Italian Response to pandemic SARS-Co-2
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Association between behavioural risk factors and economic frailty (adults 18-69 years in Italy) Odds ratios smocking, sedentary lifestile, obesity and Alchool consumption

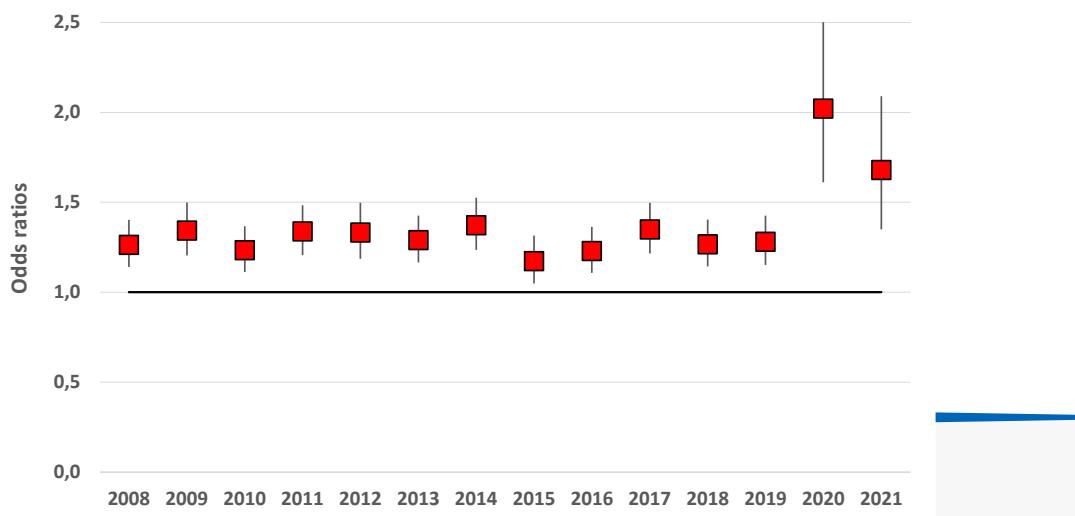
Sedentarietà e Difficoltà economiche



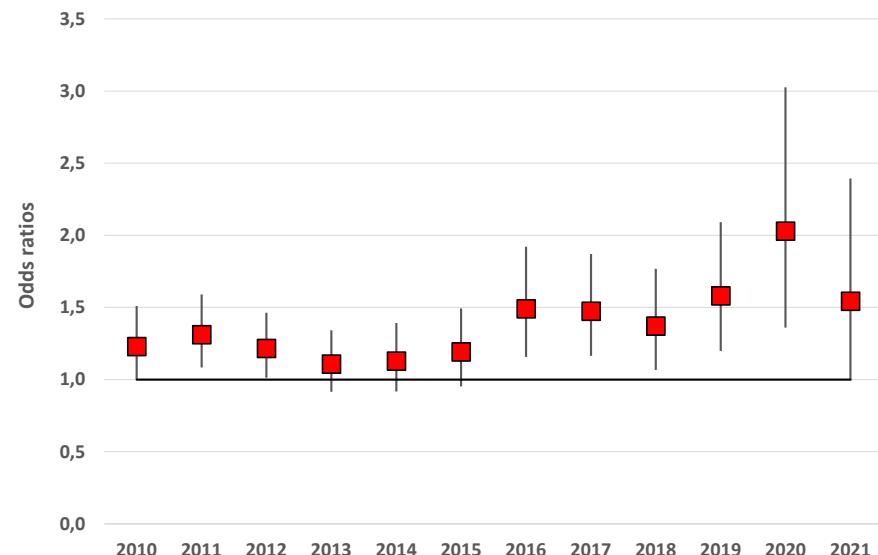
Fumo e Difficoltà economiche



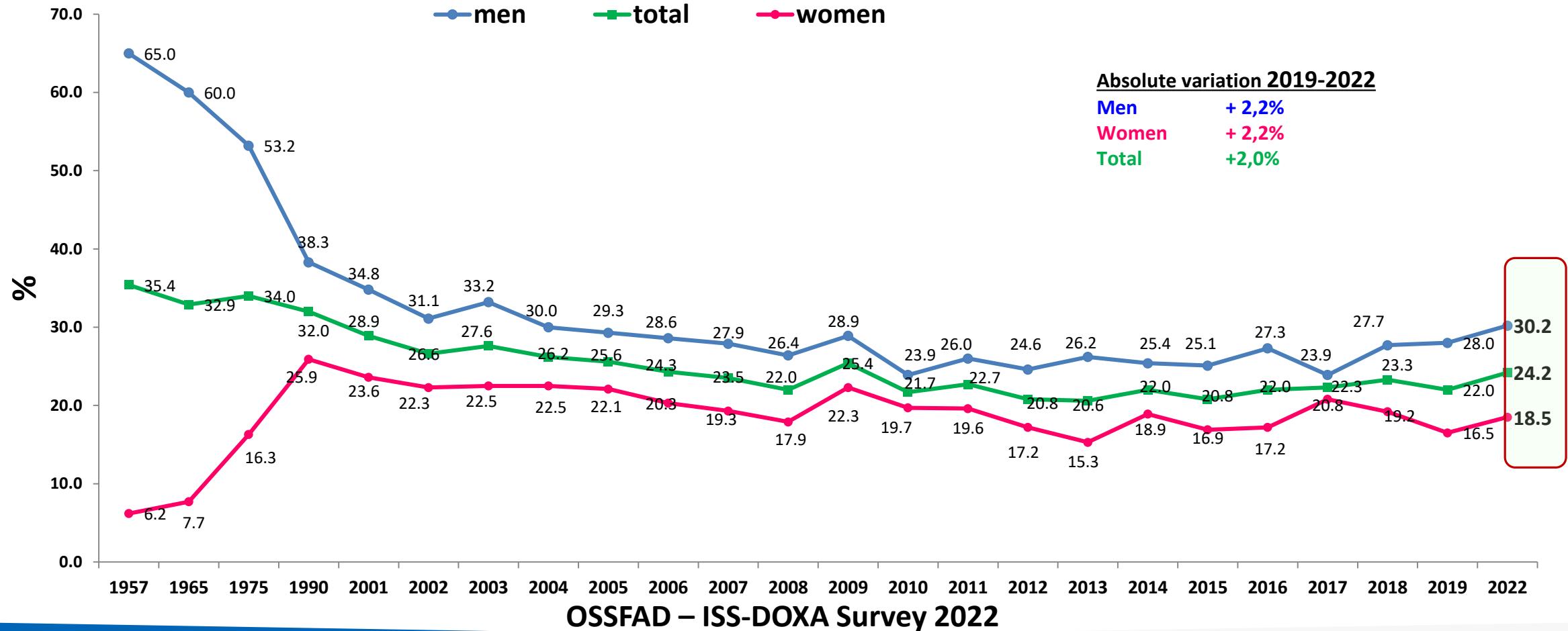
Obesità e Difficoltà economiche



Alcol abituale elevato e Difficoltà economiche



Prevalence of cigarette smoking – time series



HABIT OF GAMBLING BEFORE AND DURING LOCKDOWN

Cross-sectional web-based study on a sample of Italians aged between 18 and 74, enrolled from April 27 to May 3, 2020, who were asked to report gambling activity before the lockdown and at the time of interview

	Before lockdown	During lockdown
Any gambling activity	16.3%	9,7% 
Land-based gambling	9.9%	2.4% 
Online gambling	9.9%	8.0%
Average gambling time	4.5 hours/month	5.1 hours/month

No gamblers before the lockdown: 1.1% started gambling



Gamblers before the lockdown: 19.7% increased gaming activity

Monitoring the mental health effects in at risk populations



Covid-19 Recovery Public Health Share

Global Study Launches on Mental Health of Frontline Healthcare Workers

Columbia University Mailman School of Public Health researchers, with colleagues at the University of Chile, started in early May a year-long study of the mental health impacts of the COVID-19 pandemic on frontline healthcare workers in more than 20 countries around the world.

The study—called the COVID-19 Health Care wOrkErS study (HEROES)—will survey thousands of clinicians and support staff over time to generate insights into the experience of healthcare workers in different countries, with different

International multicentric study on mental health of healthcare workers

The COVID-19 HEalth caRe wOrkErS study (HEROES)

HEROES Italy: 5.502 health workers interviewed by online questionnaire from april-july 2020 through validated tests

22.31% reported symptoms of moderate depression (PHQ-9>9)

37.78% reported significant psychological distress (GHQ-12 clinically significant)

1.62% (suicidal ideation in the two weeks preceding the interview)



frontiers | Frontiers in Psychiatry

ORIGINAL RESEARCH
published: 02 June 2022
doi: 10.3389/fpsyg.2022.867030



The Impact of the COVID-19 Pandemic on the Mental Health of Healthcare Workers in Italy: Analyzing the Role of Individual and Workplace-Level Factors in the Reopening Phase After Lockdown

OPEN ACCESS

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Specialty section:
This article was submitted to
Public Mental Health,
a section of the journal
Frontiers in Psychiatry

Introduction: Italy is one of the high-income countries hit hardest by Covid-19. During the first months of the pandemic, Italian healthcare workers were praised by media and the public for their efforts to face the emergency, although with limited knowledge and resources. However, healthcare workers soon had to face new challenges at a time when the national health system was working hard to recover. This study focuses on this difficult period to assess the impact of the COVID-19 pandemic on the mental health of Italian healthcare workers.

Monitoring the mental health effects in general population

PASSI Surveillance System:

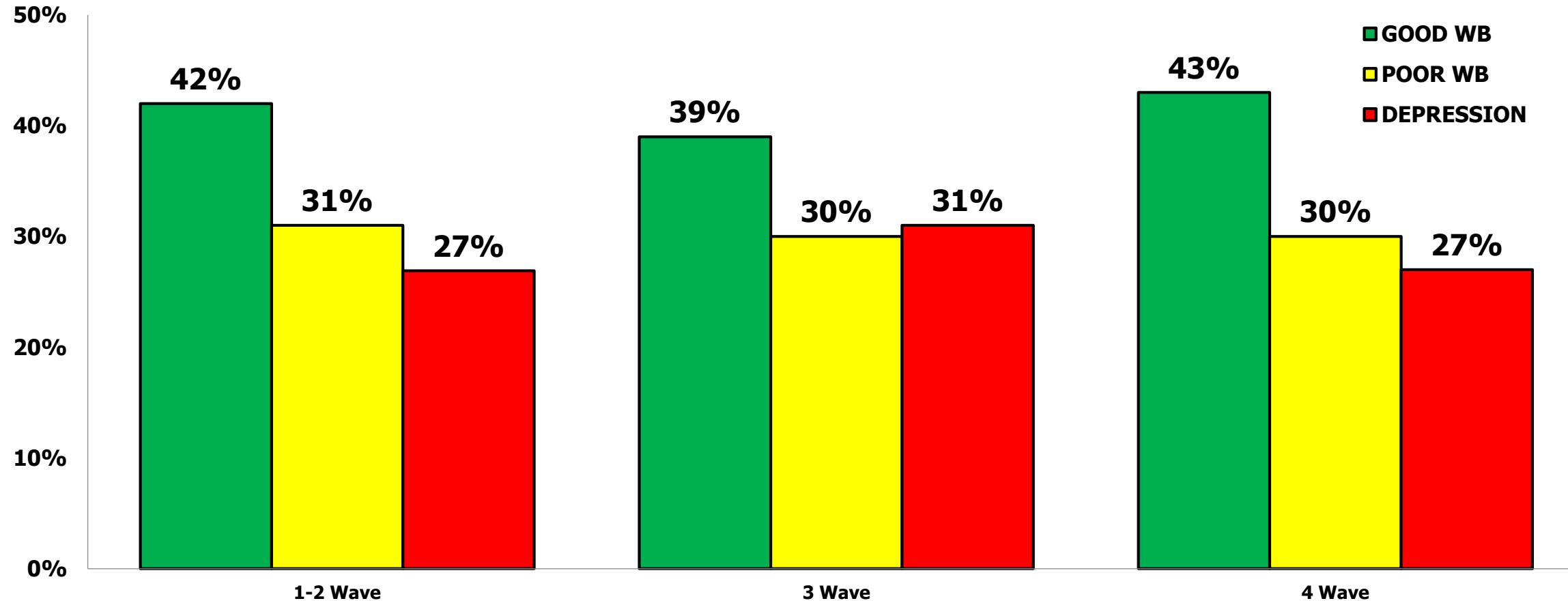
- Depressive symptoms were assessed in a sample of 41,362 18–64-year-old adults surveyed in 2018–2019 and in a sample of 14,612 adults surveyed in 2020.



- The prevalence of depressive symptoms increased from
- 6.1% (95% CI 5.8%–6.4%) in 2018–2019
- 7.1% (95% CI 5.6%–8.6%) in March–April 2020. I
- 4.4% (95% CI 3.2%–5.5%) May–June 2020
- 8.2% (95% CI 6.0%–10.4%) in July–August 2020
- 5.9%; 95% CI 4.7%–7.1% November–December 2020
- Compared to before the health crisis, during the pandemic,
 - women and individuals with financial difficulties were found to have a significantly higher risk of depressive symptoms
 - while younger, individuals with
 - a higher education
 - those living in South Italy became increasingly vulnerable.

% WHO-5 SCORE OF SUBJECTS IN THE 4 WAVES OF THE ITALIAN SURVEY

(N=10,013)



1-2 wave, January–February 2021; 3 wave, March–April 2021; 4 wave, May 2021

Monitoring the mental health effects in general population

First Twin study – Symptoms of depression before and after lockdown in Italy

- ► 1911 twin couples
- ► Mean age: 45.05 years
- ► DS: 15 years
- ► Range : 18-93 years

In June 2020, the Italian Twin Registry (ITR) carried out a study to investigate the physical and mental health impact of Covid-19 pandemic on Italian adults.

Symptoms of depression were investigated by the Patient Health Questionnaire (PHQ-2) immediately after the Italian lockdown (June 2020). Depressive symptoms had already been investigated on the same twins just before the outbreak (February 2020).

Mean of PHQ-2 score and prevalence of depression symptoms

	Total score (PHQ-2) Mean (SD)	Prevalence of depression
Symptoms of depression immediately before lockdown February 2020	1.11 (1.29)	33.55%
Symptoms of depression immediately after lockdown June 2020	1.20 (1.19)	38.93%

Second Twin study – Symptoms of depression, anxiety and stress after lockdown and in December 2020

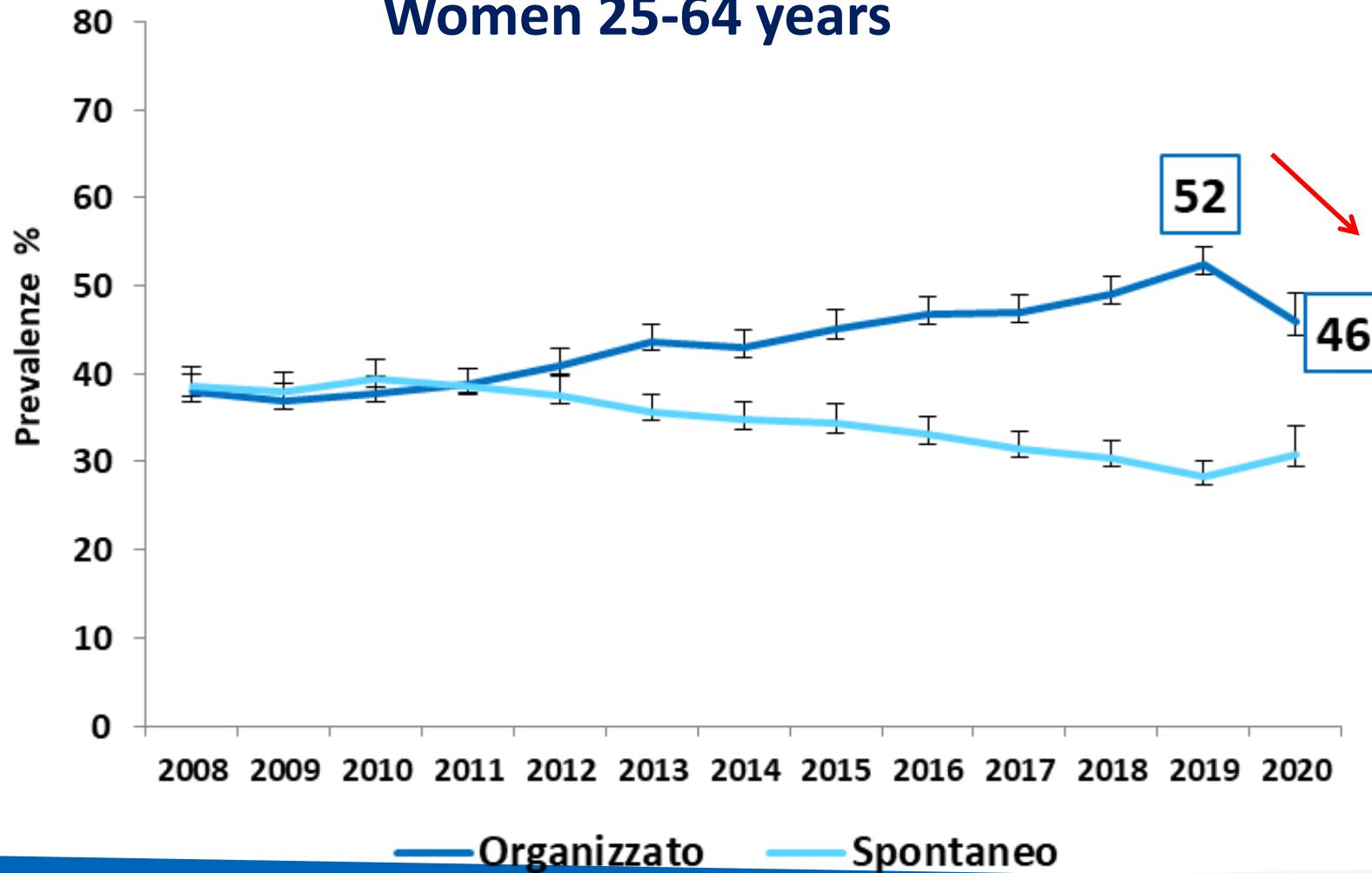
Table 1. Socio-demographic characteristics of the participants and symptom scores by study period.

	June 2020		December 2020		p^
	Mean ± SD	%	Mean ± SD	%	
Age	45.8 ± 15.2				
Gender (Female)		72.9			
Zygosity					
MZ		64.7			
DZ		35.3			
Education					
– Diploma or below		44.17			
– Bachelor's degree		10.29			
– Master's degree		45.54			
Depression	4.86 ± 4.21		5.16 ± 4.51		0.01
Anxiety	41.18 ± 11.31		45.34 ± 12.71		<0.001
Stress	16.09 ± 11.75		19.58 ± 13.16		<0.001

Levels of depression, anxiety, and stress showed an increase from June 2020 and December 2020

^ Longitudinal comparison of Total scores observed at Wave 1 and Wave 2.

CERVICAL CANCER Women 25-64 years



Riduzione statisticamente significativa
del ricorso ai programmi organizzati

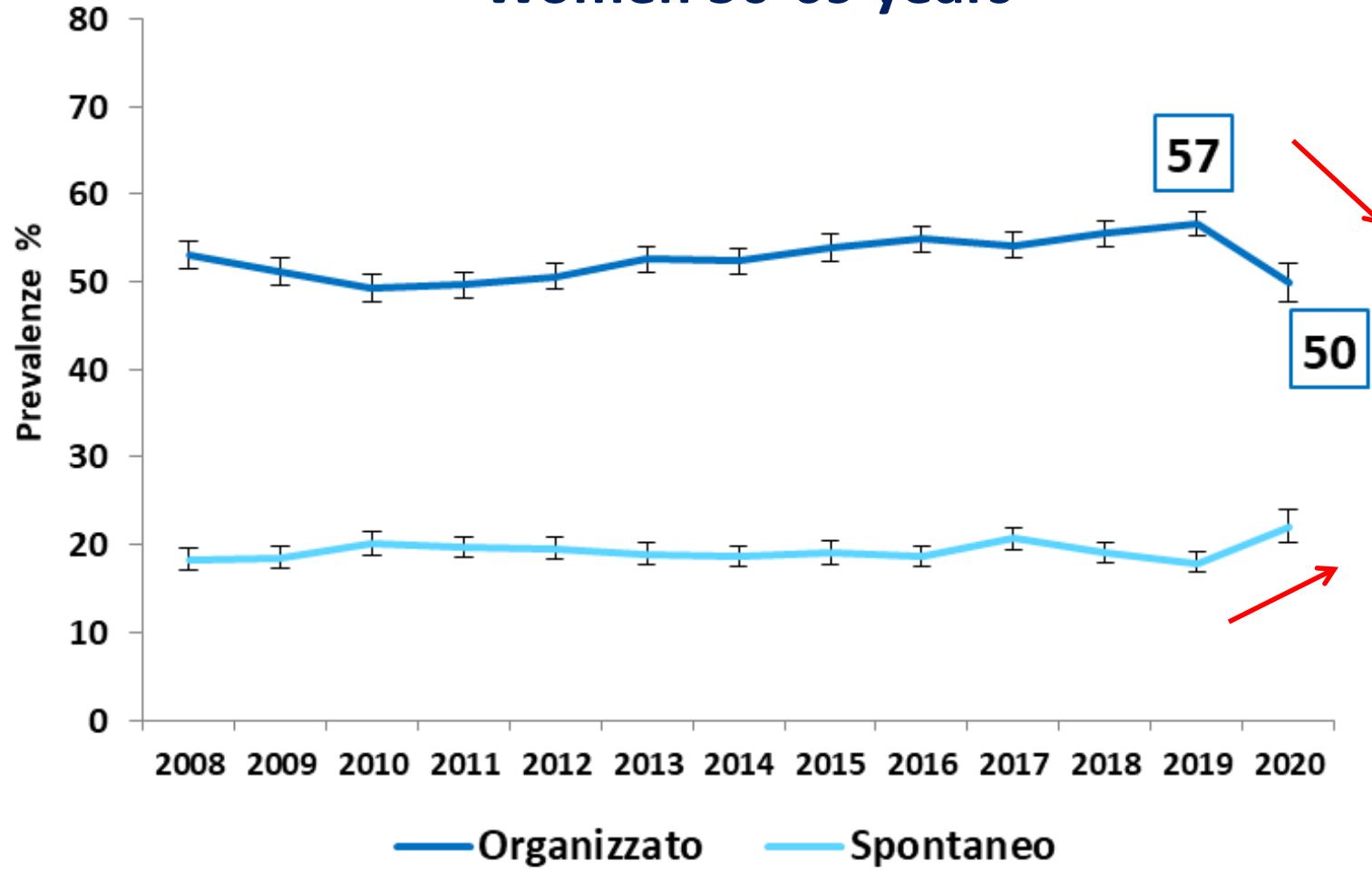
Cancer screening during pandemia

PASSI 2008-2020



PASSI
Progetto per il Accesso alle cure e la Salute

MAMMOGRAPHY Women 50-69 years

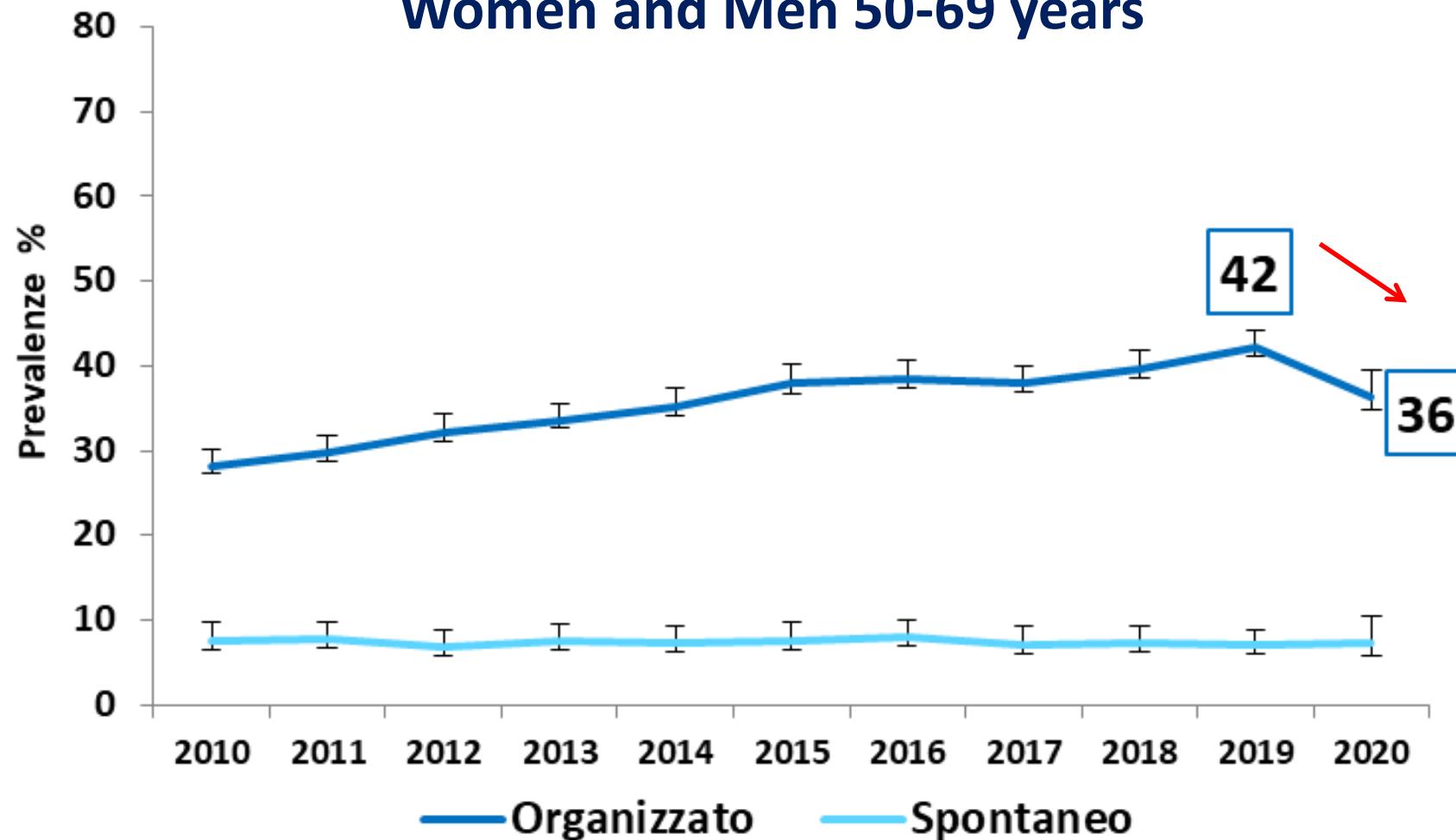


Riduzione statisticamente significativa
del ricorso ai programmi organizzati

Aumento statisticamente significativo
del ricorso allo screening spontaneo

COLORECTAL CANCER

Women and Men 50-69 years



Riduzione statisticamente significativa
del ricorso ai programmi organizzati

Medications use in older persons in Italy 2020 vs. 2019

Drug classes	DDD/1000 persons per day	
	2020	Delta % (20-19)
Antipertensives	1.074,9	-4,7
Statins	292,5	-0,2
Proton Pump Inhibitors	230,0	-2,5
Antiaggregants	229,6	-3,9
Antidiabetics	169,9	-4,6
Antidepressants	91,1	-2,9
Osteoporosis meds	78,3	-16,7
COPD	75,1	-5,6
Anticoagulants	73,6	5,0
NSAIDs	36,9	-13,2
Steroids (systemic)	26,9	-5,1
Pain meds	18,5	-5,8
Antibiotics	18,4	-22,9

Drug classes	DDD/1000 persons per day			
	65-69		≥85	
	2020	D % 20-19	2020	D % 20-19
Antipertensives	824,7	2,4	1.167,2	-16,2
Statins	266,2	7,6	202,4	-14,7
PPI	159,5	6,9	279,7	-14,7
Antiaggregants	152,3	6,7	276,5	-17,2
Antidiabetics	156,1	3,1	122,0	-18,4
Antidepressants	69,0	3,3	108,7	-15,0
Osteoporosis meds	60,8	-12,4	77,6	-25,6
COPD	54,1	3,0	86,1	-18,7
Anticoagulants	35,6	15,8	109,3	-7,4
NSAIDs	34,5	-5,8	30,3	-25,3
Steroids (systemic use)	21,8	1,2	29,6	-16,0
Pain meds	11,6	2,0	24,9	-17,2
Antibiotics	17,0	-20,0	20,7	-27,7

RESULTS

Time: 23 March 2020 – 5 April 2020; 1174 participants
321 single rare diseases; 156 multiple RD; 7 undiagnosed

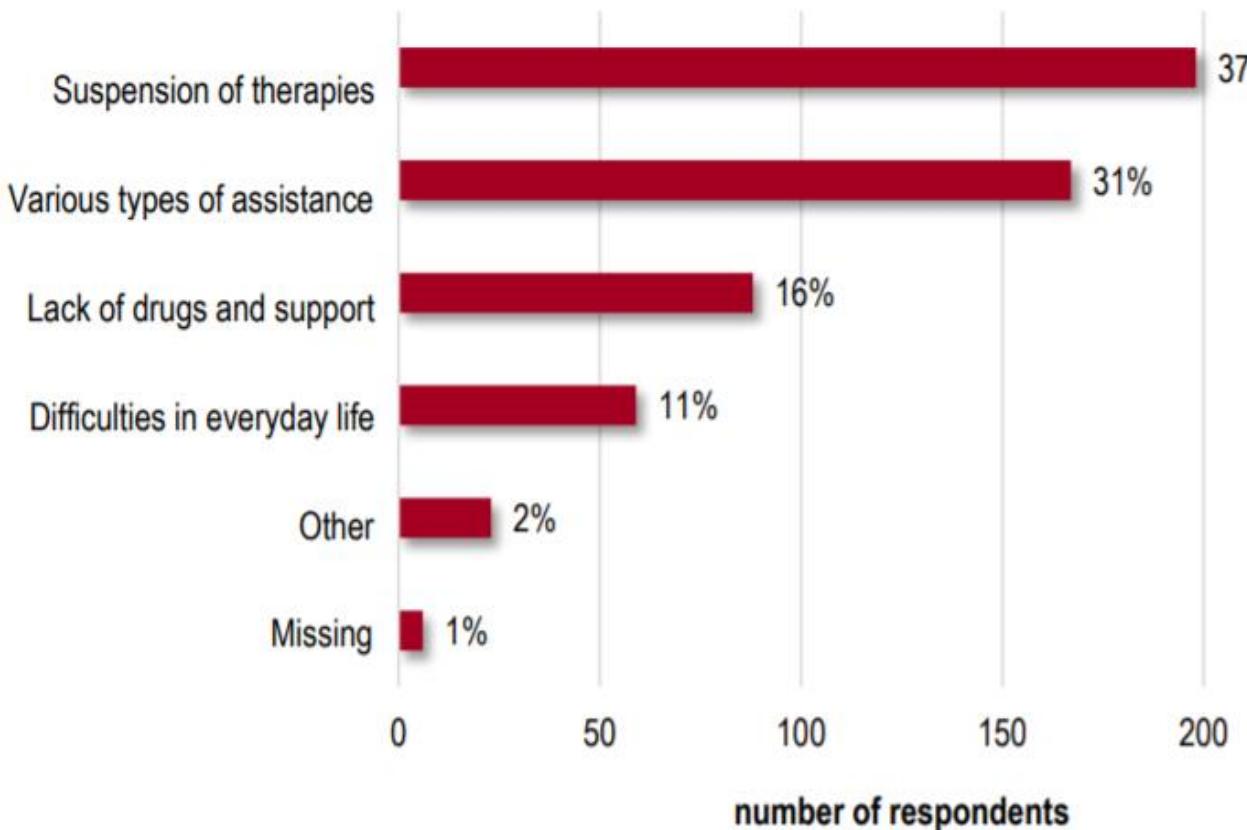
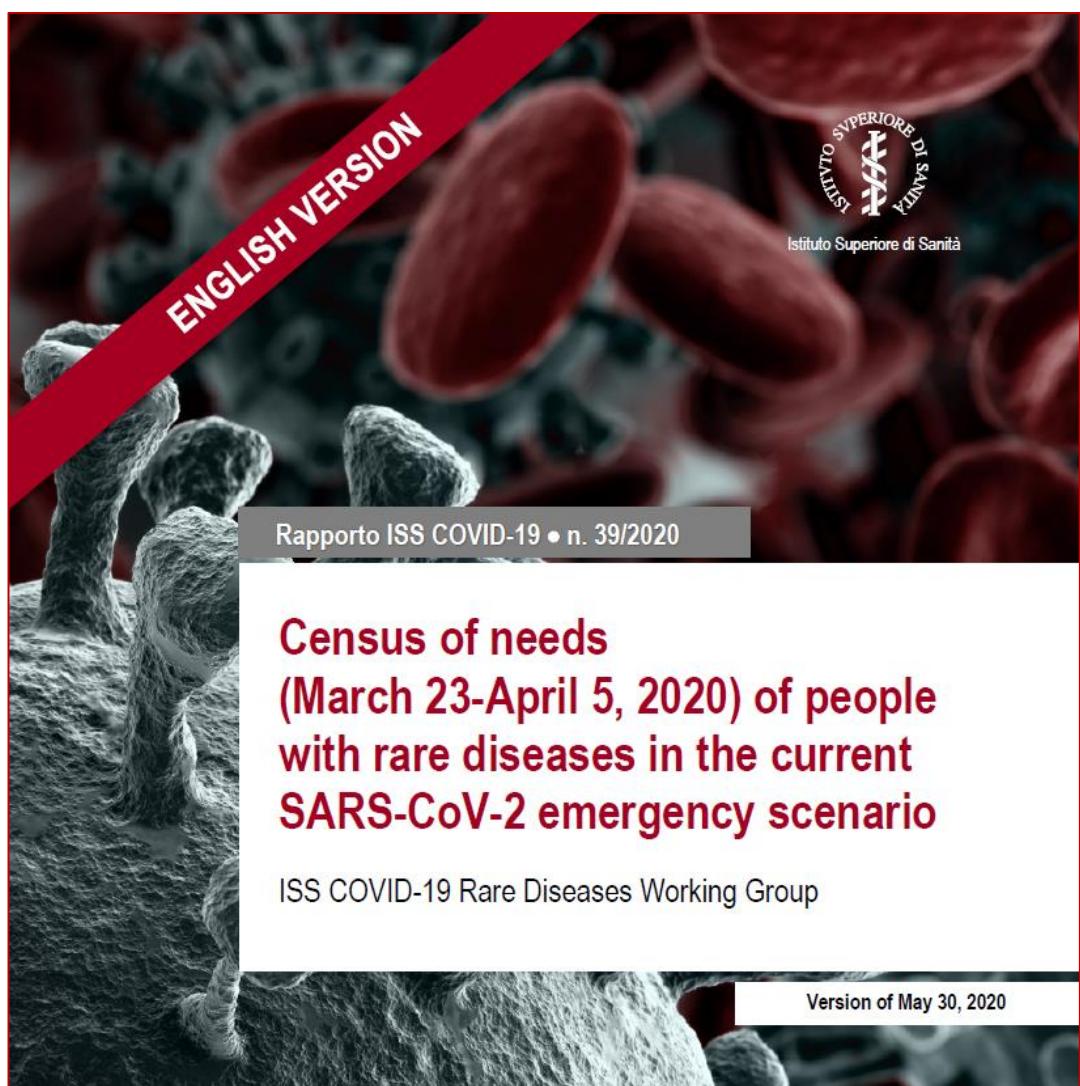


Figure 3. Main problems (%) encountered during the lock down

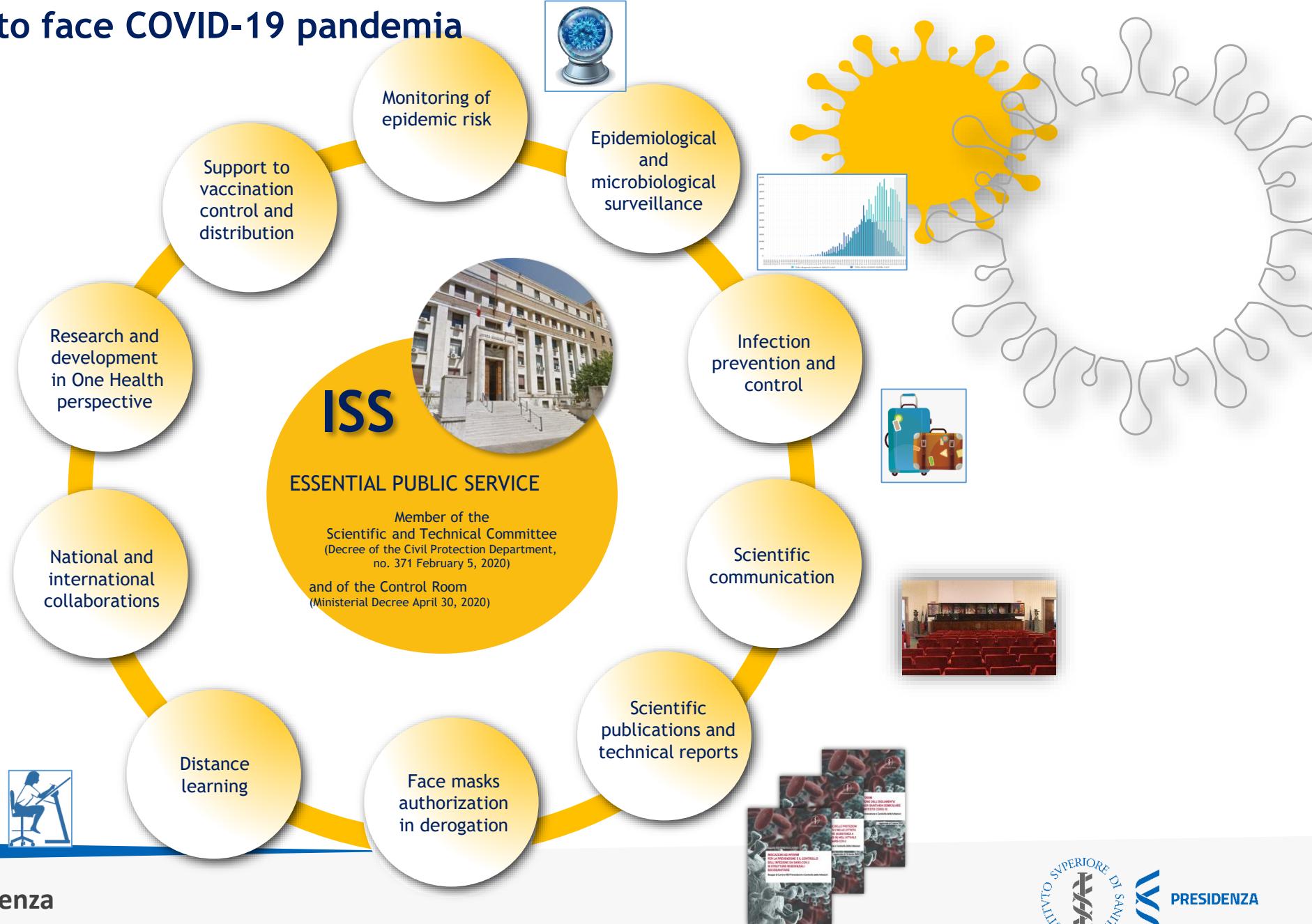


<https://www.iss.it/rapporti-iss-covid-19-in-english>

XXIII Congresso Nazionale AIOM 2021

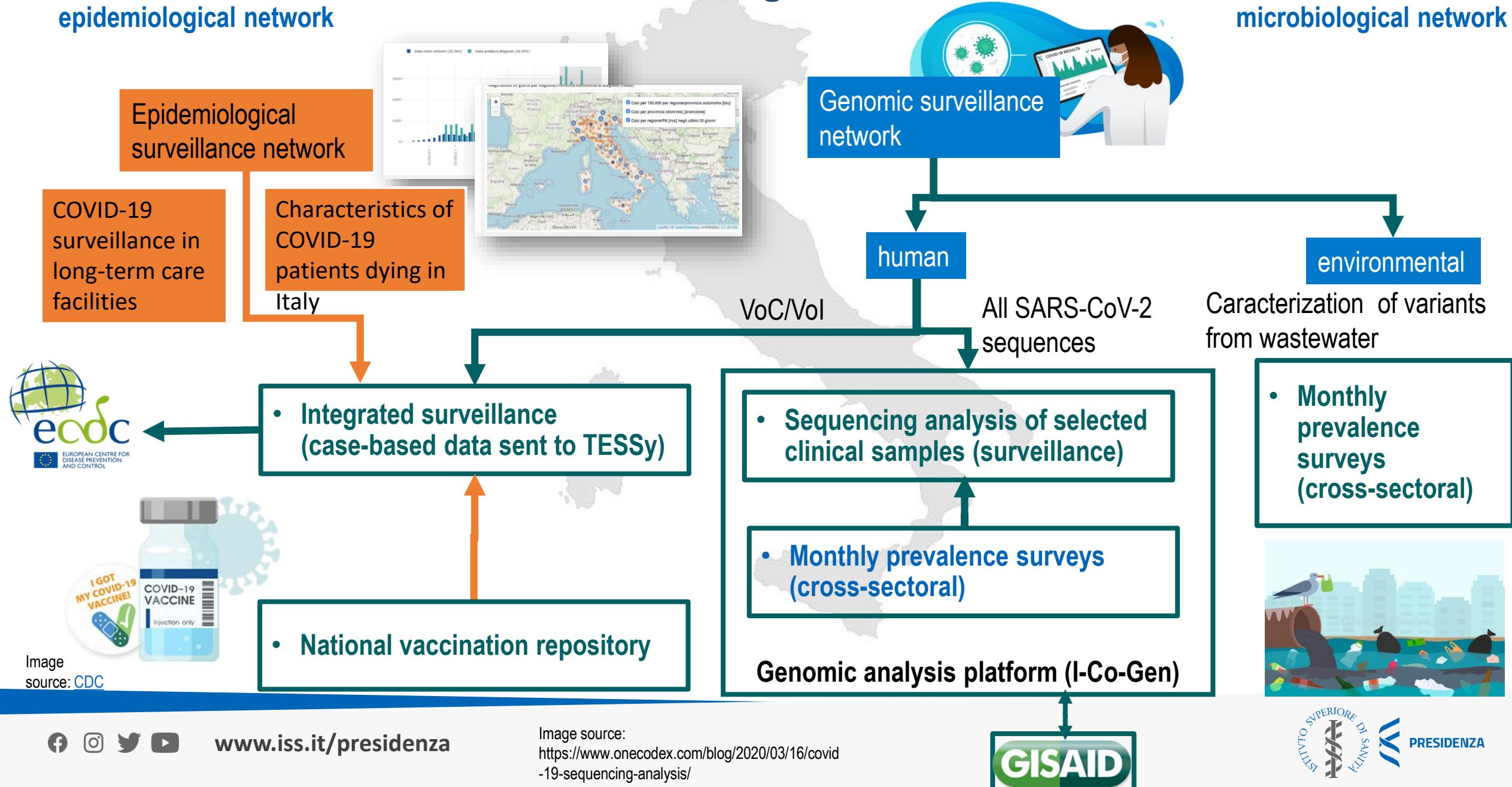
Outline

- Few preliminary thoughts
- Italian Response to pandemic SARS-Co-2
- Health impact of pandemic in Italy
- ISS and SARS-CoV-2



SARS-CoV-2 integrated surveillance

epidemiological network

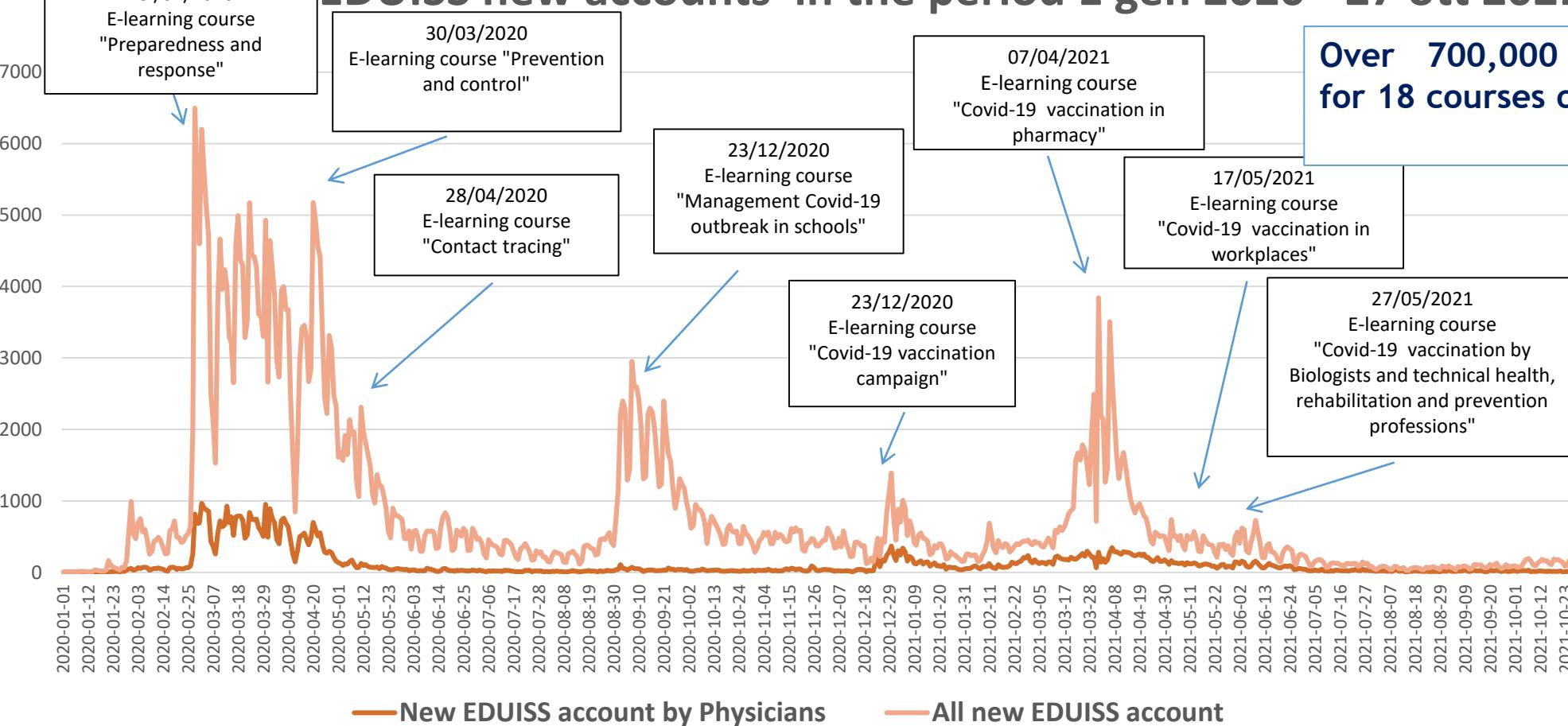


ISS Distance learning courses

Health professions and physicians

EDUISS new accounts in the period 1 gen 2020 - 27 ott 2021

**Over 700,000 registrations
for 18 courses on the EDUISS platform**



'traditional' press office

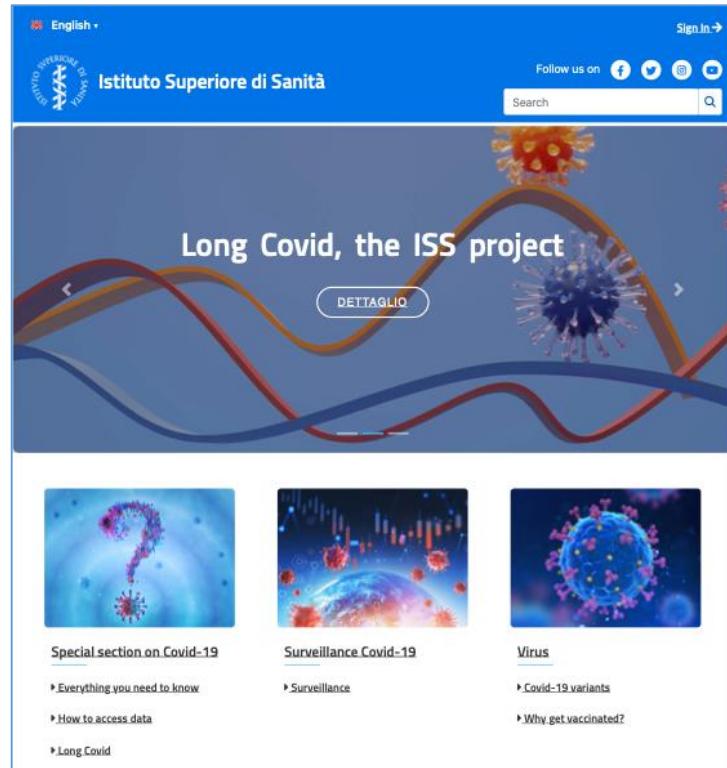
During the pandemia

- over 400 press releases
- Over 200K citations on the press
- over 500 interviews
- Weekly press conferences and videos stampa settimanali



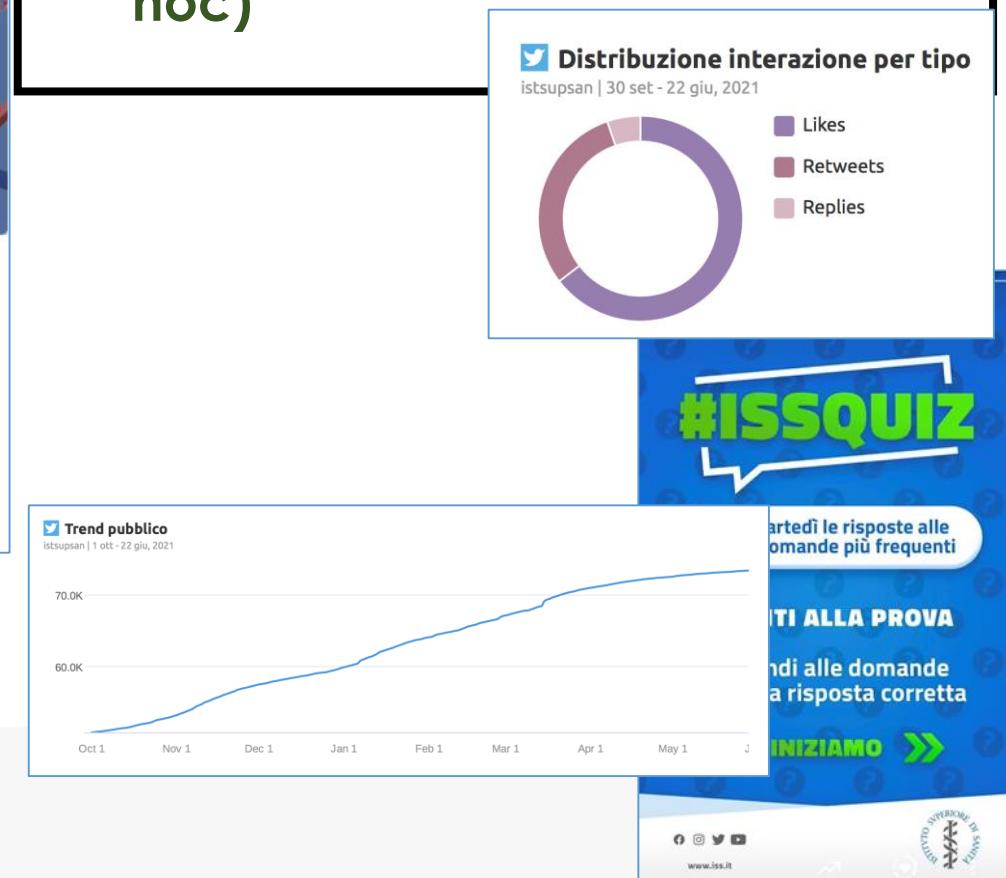
www.iss.it/presidenza

WEB SITE WWW.ISS.IT



Social media

- 95K followers su Twitter (5K before pandemia)
- 35K on Facebook
- 13K on Instagram (creati ad hoc)



Fake news- how we counter act

Sections dedicated on the website, continuously updated by ISS experts



Speciale COVID-19

- Varianti del virus
- FAQ Varianti
- Varianti: Cosa fa l'ISS
- Omicron: cosa sappiamo
- Vaccini
- FAQ Vaccini
- Fake news
- Cosa fa l'ISS

relaunched on social media ...

Istituto Superiore di Sanità @istsupsan · 22 feb
Il #booster non serve sotto i 39 anni. Protegge meno rispetto a due sole somministrazioni. Mette a rischio il sistema immunitario dei giovani.

✗ FALSO. I ricercatori ISS spiegano perché
bit.ly/FalsiMitiVacci...
#vaccini #Covid19



...and on traditional media



ISS



www.iss.it/presidenza

www.iss.it

Thank you