

Addressing the COVID-19 pandemic in Italy: current approaches and next steps

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COVID-19 Webinar Series

27 May, 2020

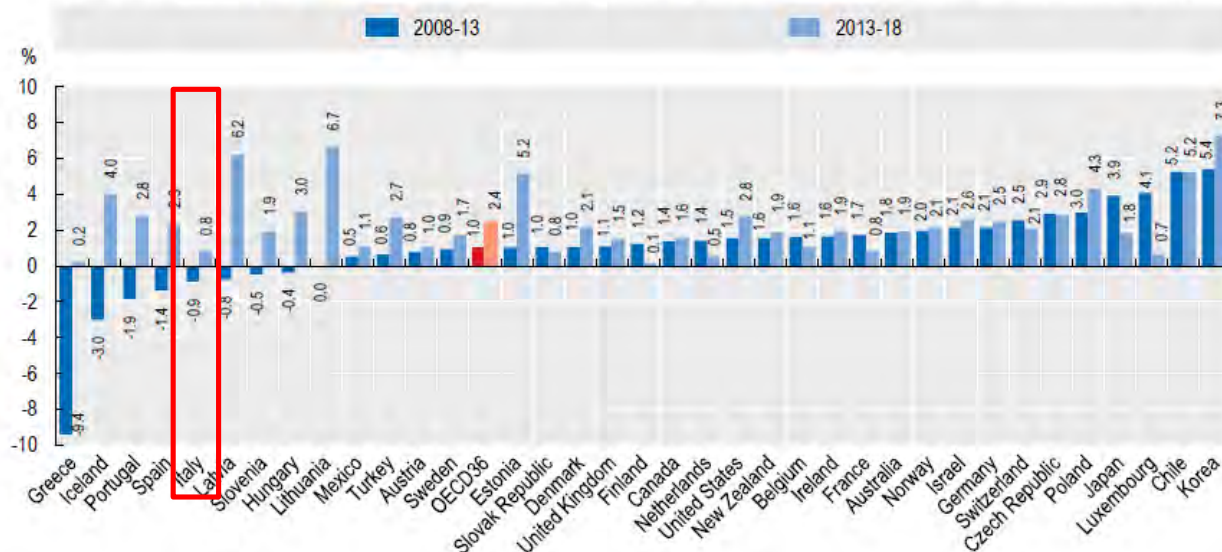
Outline

- Background Information
- Epidemiology of COVID-19
- The health system response
- Looking forward

The condition of the Italian healthcare system in January 2020

- Under-financed for 10 years
- Major regional differences (North/South) regarding governance, organizational models, resource availability (*e.g.* ICU beds), competencies and performance (clinical, financial)
- Facing demographic and epidemiological challenges

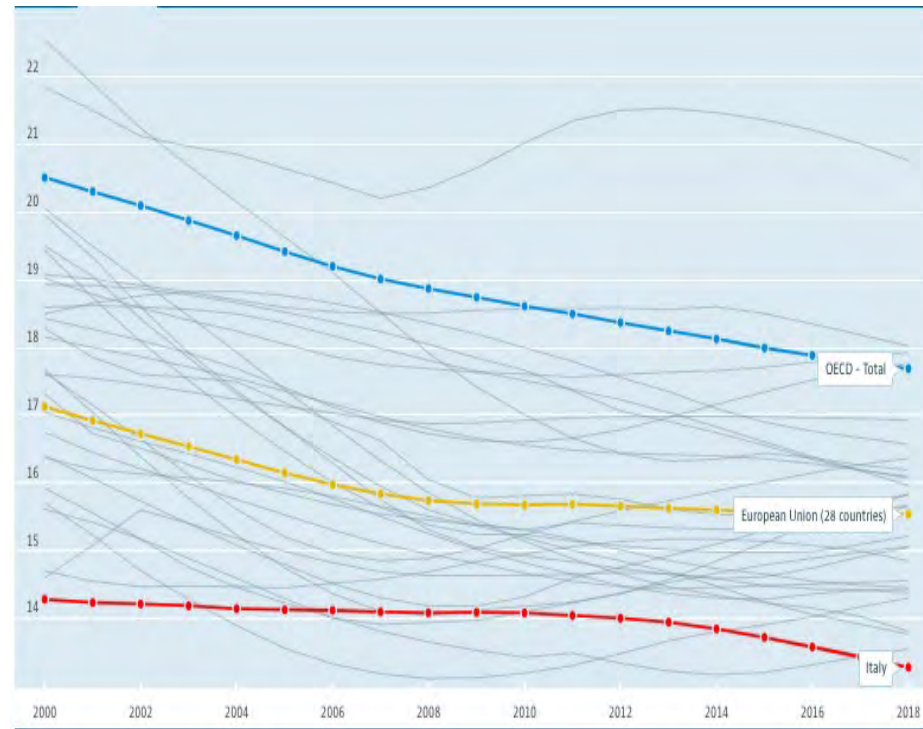
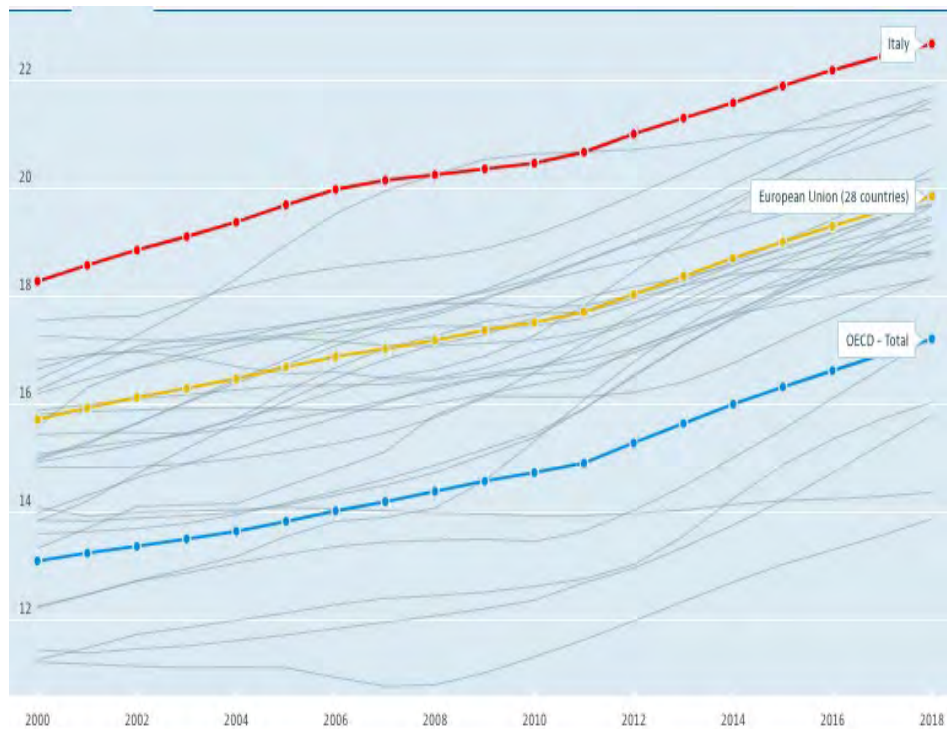
Figure 7.2. Annual growth in health expenditure per capita (real terms), 2008 to 2018 (or nearest year)



Italy is the «oldest» Country in EU


In 2018 Italy is the country with the highest proportion of people >65 years old in Europe (22%). On the contrary, the number of children <15 years is the lowest in Europe (15%). This means that there are only 100 children for every 168,9 adults >65.

In the period 2000-2018 the number of >65 increased by about 30%



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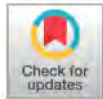
PHASE 1 (March
1st – May 3rd)

PHASE 2 (May
4th – Now)

The first local transmission, Feb 18th, 2020

BMJ 2020;368:bmj.m799 doi: 10.1136/bmj.m799 (Published 28 February 2020)

Page 1 of 2



EDITORIALS

Covid-19: preparedness, decentralisation, and the hunt for patient zero

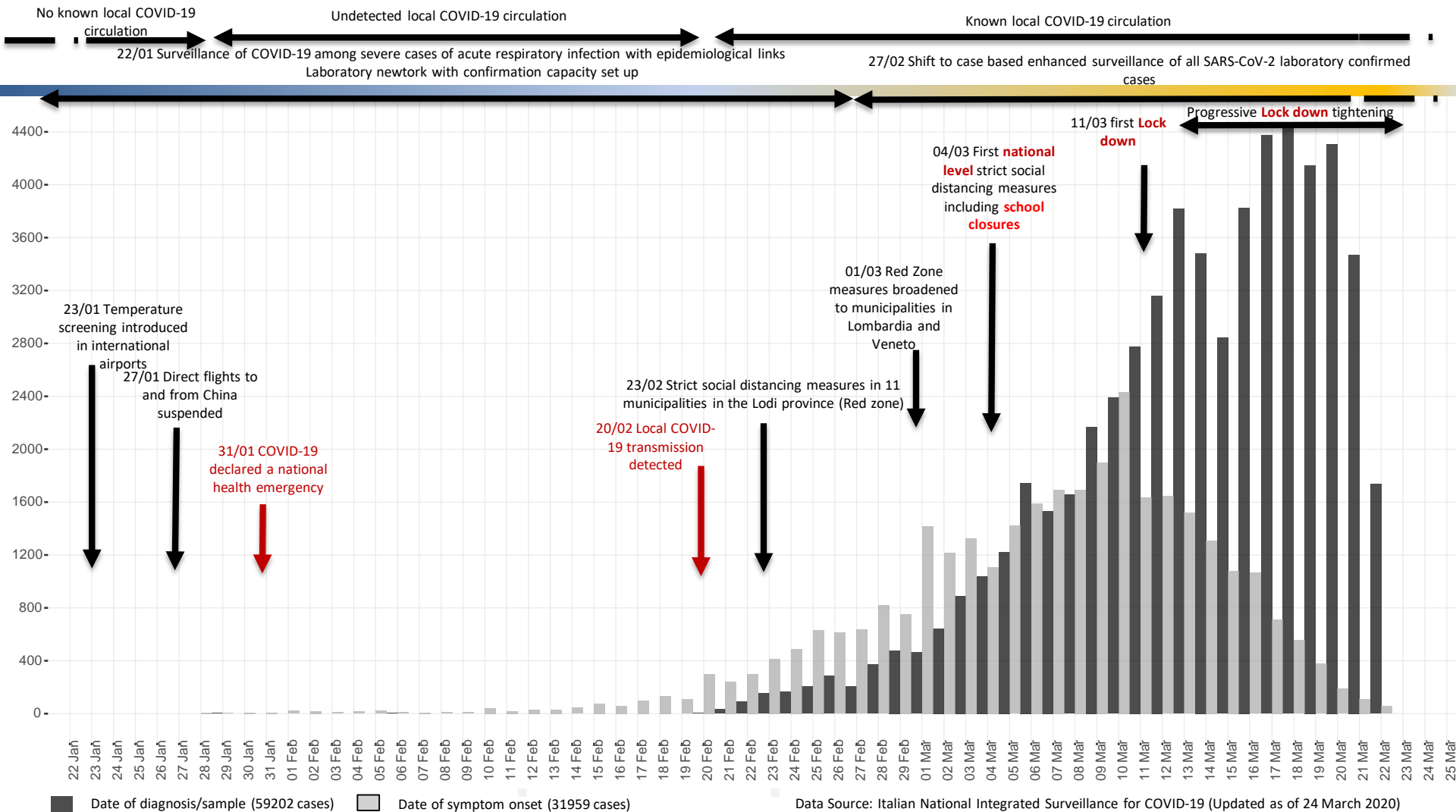
Lessons from the Italian outbreak

Fabrizio Carinci *adjunct professor of biostatistics*

Department of Statistical Sciences, University of Bologna, Italy

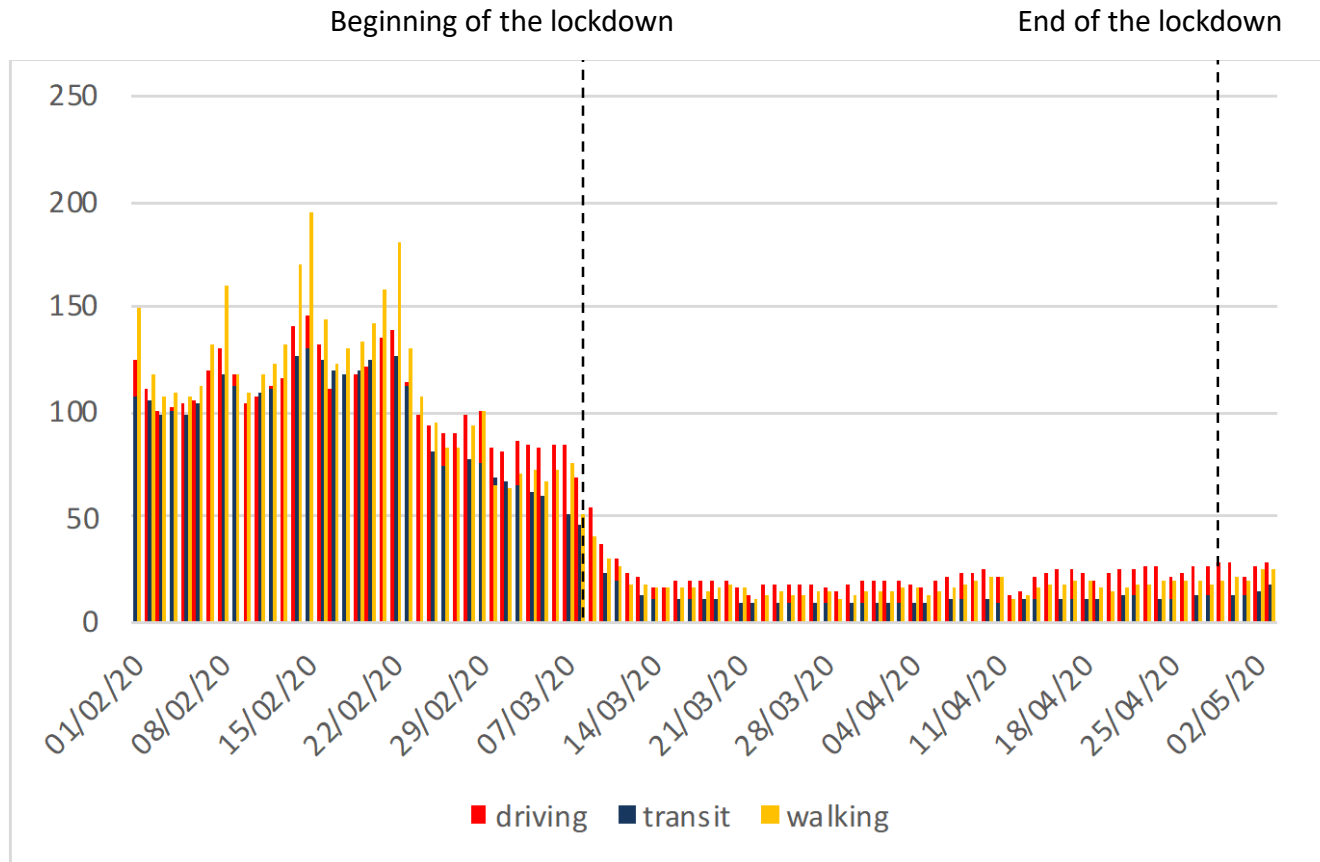


National decrees- Phase I



Italian Mobility during the lockdown (March 11th –May 4th)

Driving, public transport and walking reduced by about 30%, 50% and 70% respectively. In Lombardy the public transport reduction was about 90% and driving 80%.



MoH's guidelines to Regions to respond to COVID-19 outbreak (March 1, 2020)

- **Ministry of Health** supported by a **Scientific Task Force** provided Regions with guidelines regarding the re-organization of hospital and community care networks and related facilities
- The indications provided by the MoH for carrying out **diagnostic tests** provided for the priority execution of the test to symptomatic/paucisymptomatic clinical cases and to symptomatic family and/or residential risk contacts, and to health and similar operators at greater risk
- The re-organization of the **hospital network** is planned with the **increase of available ICU's beds (+ 50%)** and in the pneumology and infectious diseases through construction and retrieval of new hospitals (Covid Hospital) and expansion of beds in existing structures
- Active monitoring by **family doctors**, pediatricians and public health officers of Local Health Units
- Possibility of requisition of **hotels or other properties** with similar characteristics to accommodate people under medical surveillance (intermediate care)



Legislation milestones-Phase I

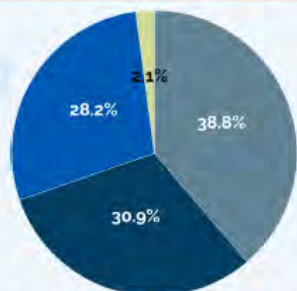
Phase 1	Jan 31st 2020	Declaration of National emergency
	Feb 23rd 2020	Lock down in specific areas (Lombardia, Veneto, Emilia Romagna, Marche)
	March 1st 2020	50% increase of ICU beds, 100% increase sub-ICU beds; identification of Covid-hospitals; Requisition of hotels as intermediate care; limitation of other NHS activities
	March 4th 2020	Schools and universities closed (Nation-wide)
	March 9th 2020	National lock-down, new resources for the NHS (more physicians and nurses), establishment of USCA (Special Units for Community Care)
	March 11st 2020	Suspension of all business activity
	March 17th 2020	Initial economic support measures
	March 22nd 2020	Harder lockdown measures, additional resources for NHS (physician and nurse mobility)
	March 25th 2020	Introduction of specific penalties to enforce lockdown
	April 10th 2020	New measures to ensure safety (Enhance and encourage smart working)
	April 14th 2020	Opening of bookshops and stationers for children
	April 27th 2020	Opening of construction industry and manufacturing (and services connected)

230,414 cases of COVID-19*

27,439 health-care workers \$

31,546 associated deaths

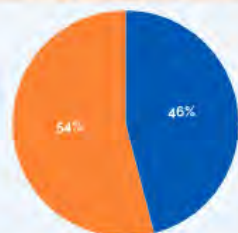
Age



0-18 19-50 51-70 >70

Median age of cases: **62 years**

Sex



Female
Male

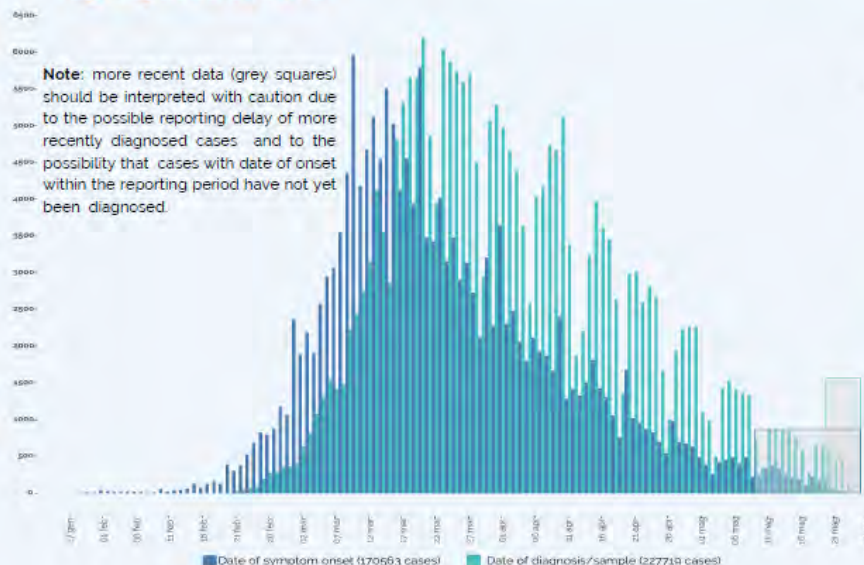
Age (years)	Deaths [n (%)]	CFR [§]
0-9	4 (0%)	0.2%
10-19	0 (0%)	0%
20-29	12 (0%)	0.1%
30-39	62 (0.2%)	0.3%
40-49	272 (0.9%)	0.9%
50-59	1103 (3.5%)	2.7%
60-69	3249 (10.3%)	10.5%
70-79	8536 (27.1%)	25.8%
80-89	12926 (41%)	31.9%
>=90	5382 (17.1%)	29%
Not reported	0 (0%)	0%
Total	31546 (100%)	13.7%

Integrated surveillance of COVID-19 in Italy

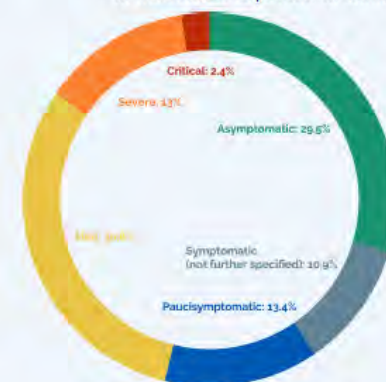
(Ordinanza n. 640 del 27/02/2020)

25 May 2020 UPDATE

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 have not yet been diagnosed.



99% of the clinical samples processed were confirmed by the National Reference Laboratory at the Istituto Superiore di Sanità



Data available for 28,541 cases

Total number of COVID-19 cases diagnosed by the Italian Regional Reference Laboratories



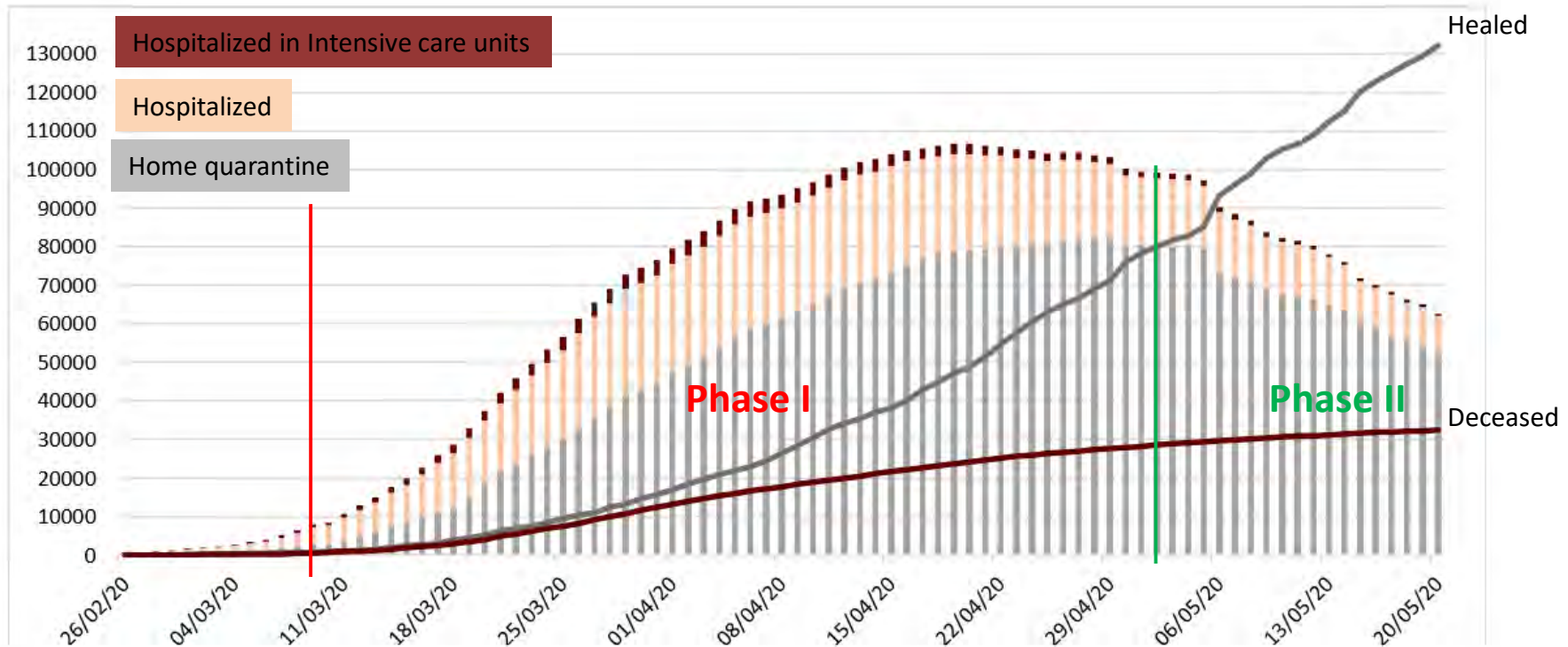
By Region/Autonomous Province of diagnosis



By province of residence

*The case definition considers as a confirmed case any person with laboratory confirmation of virus causing COVID-19 infection, irrespective of clinical signs and symptoms <https://www.ecdc.europa.eu/en/case-definition-and-european-surveillance-human-infection-novel-coronavirus-2019-ncov>

Trend in the proportion of COVID-19 cases according to the place of care



March 1s
NHS plan

March 22th
Mobiity restrictions

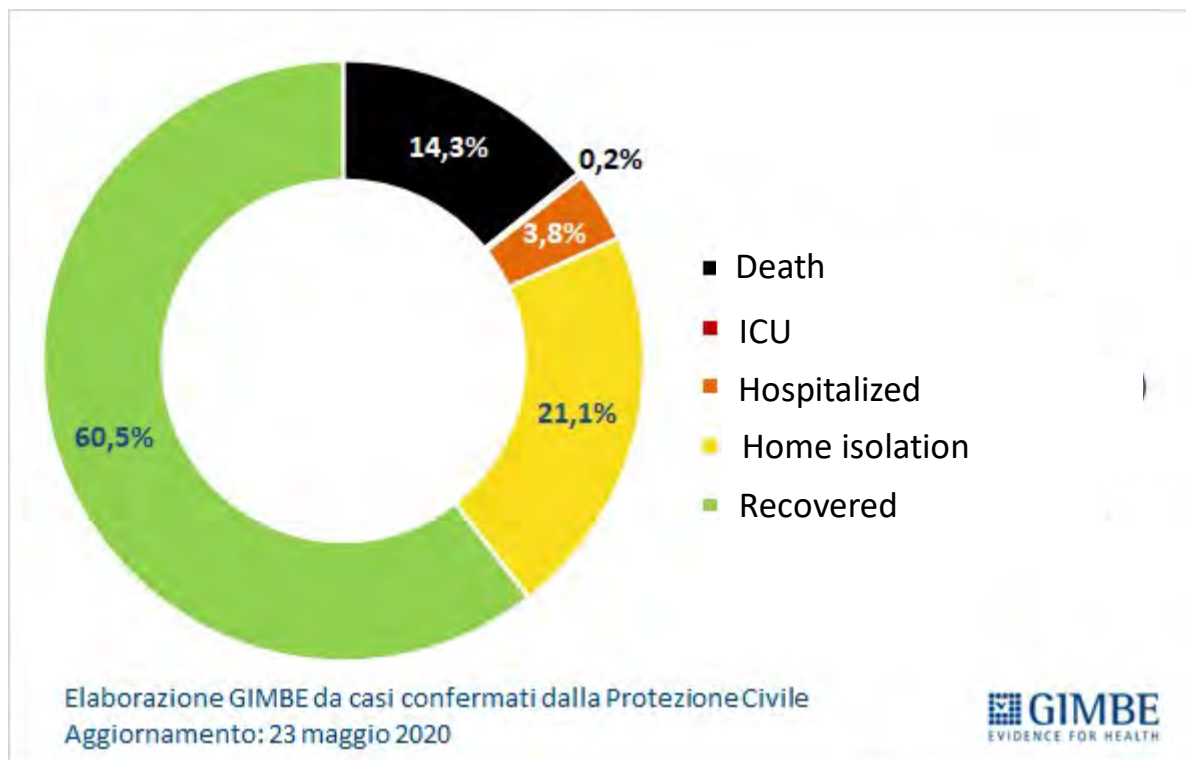
April 10th
Safety
measures to
restart some
businesses

May 4th
Lock down ends

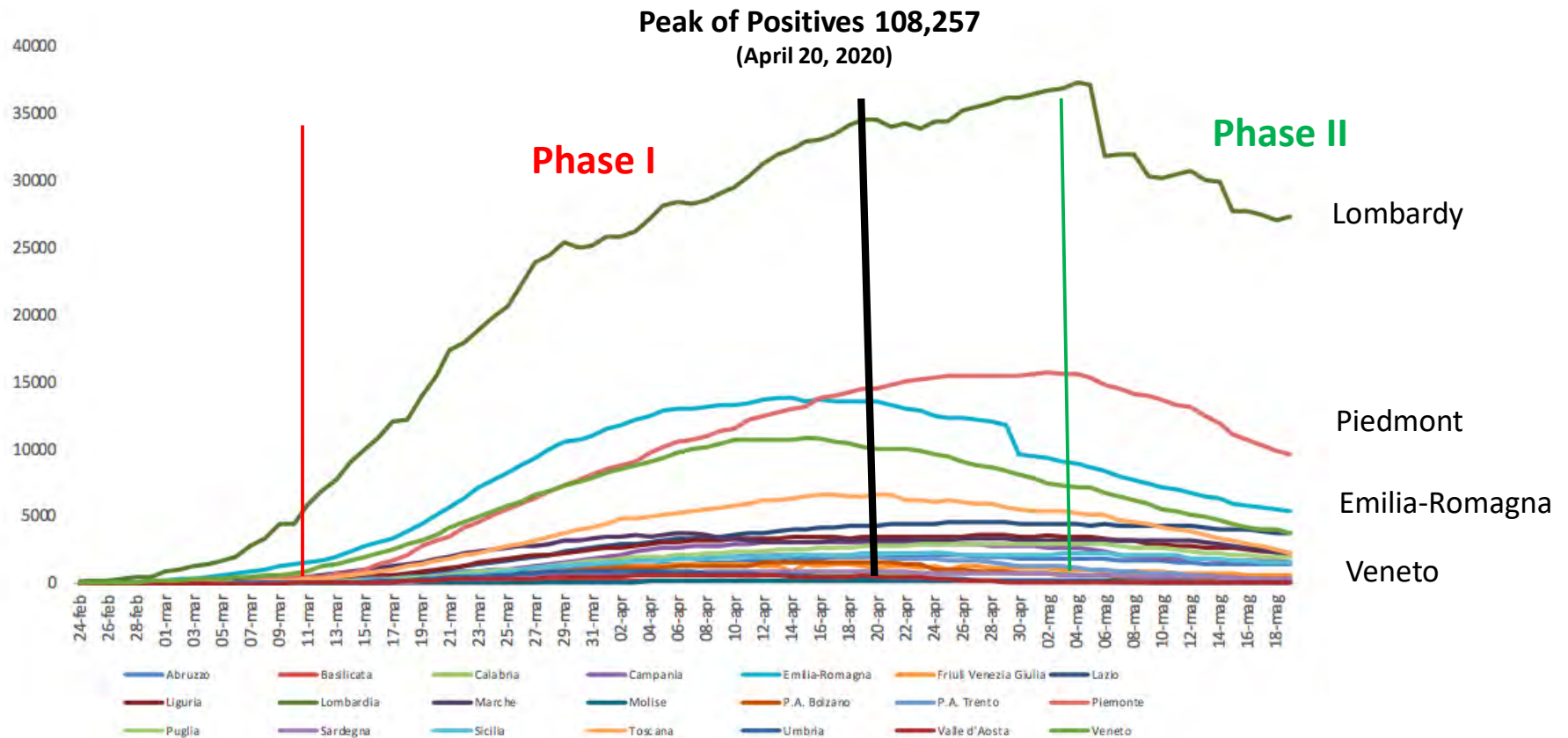
Feb 23rd
Regional Lock
down begins

March 9th
National Lock
down begins

Current proportion of COVID-19 cases according to setting (home isolation, hospital care, ICU), proportion of deaths and recovered

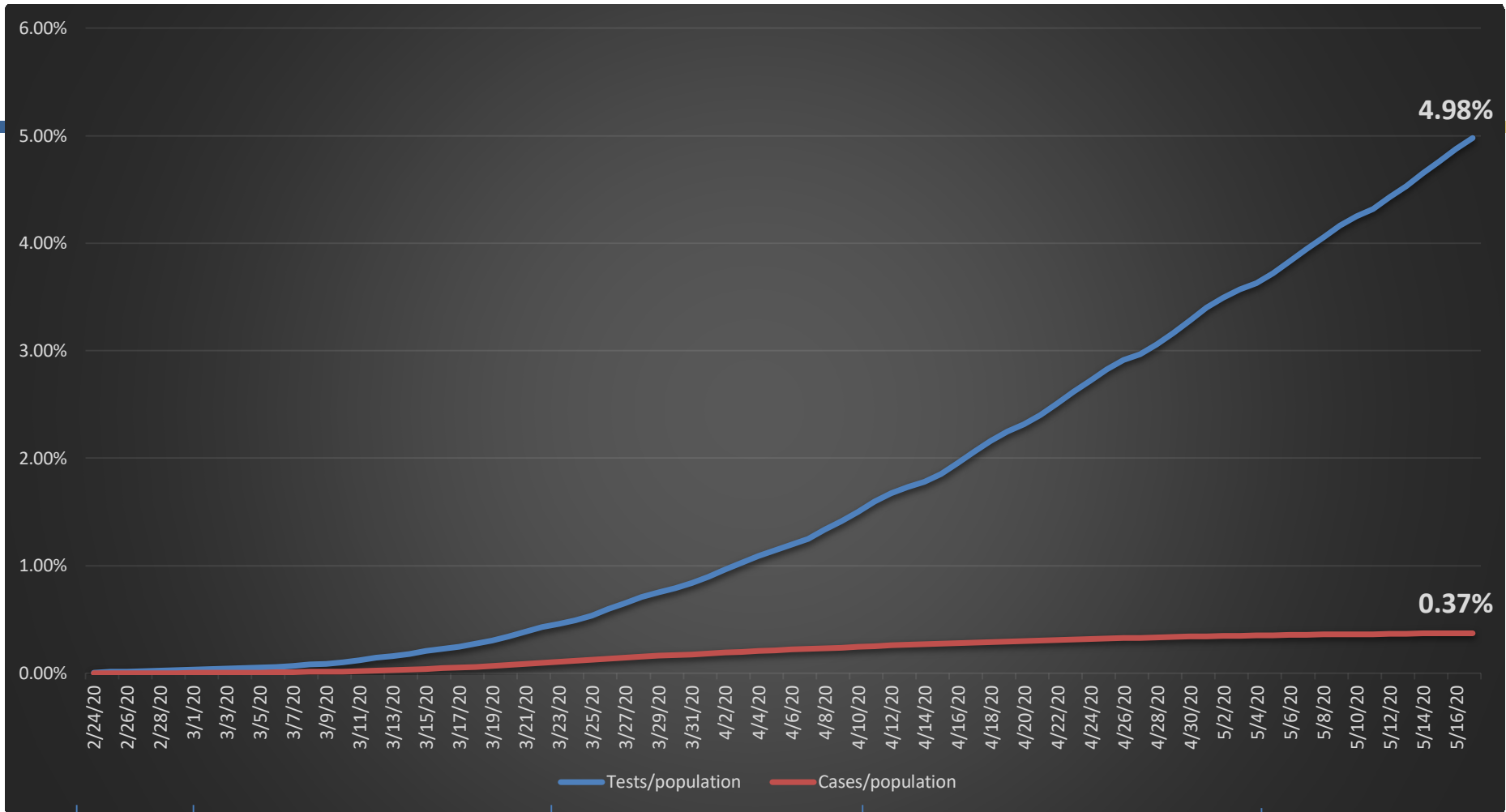


Trends in confirmed cases by region



Lombardy Region had the vast majority of cases in Italy (38%)

Testing capacity in Italy



March 1°
NHS plan

Feb 23rd
Regional Lock
down begins

March 9th
National Lock
down begins

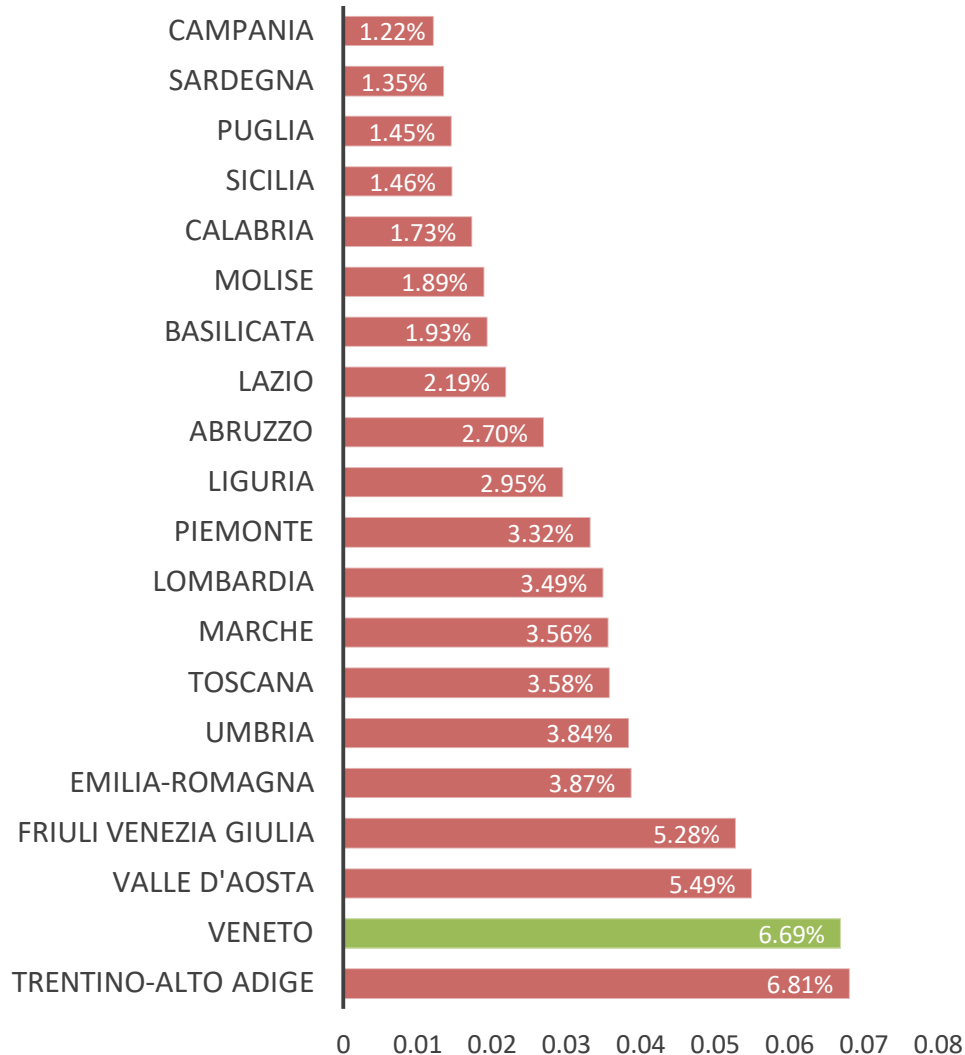
March 22th
Mobiiti
restrictions

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May 4th
Lock down
ends

Number of Swabs/Regional population, April 28th

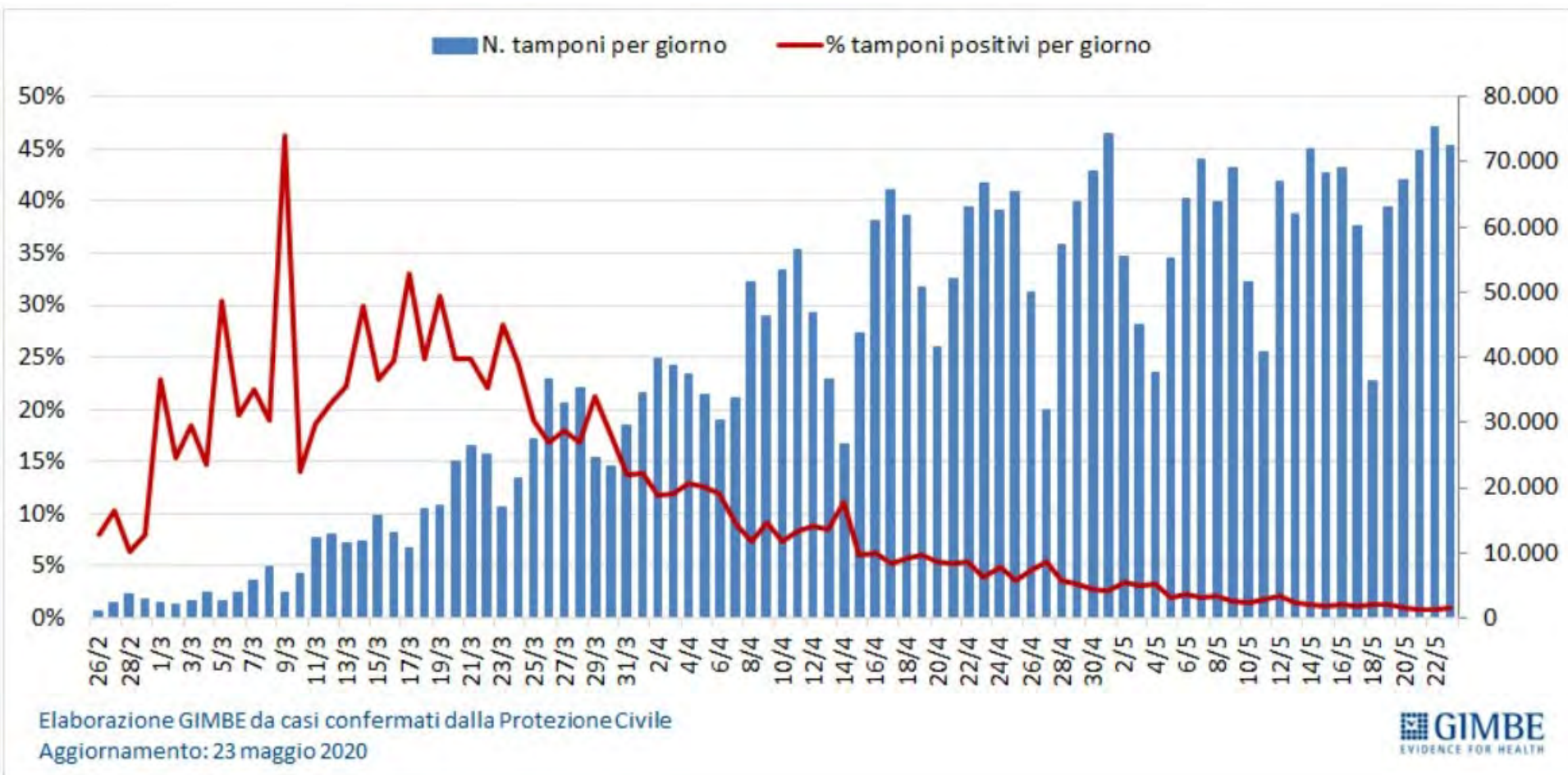
% subjects with at least one swab



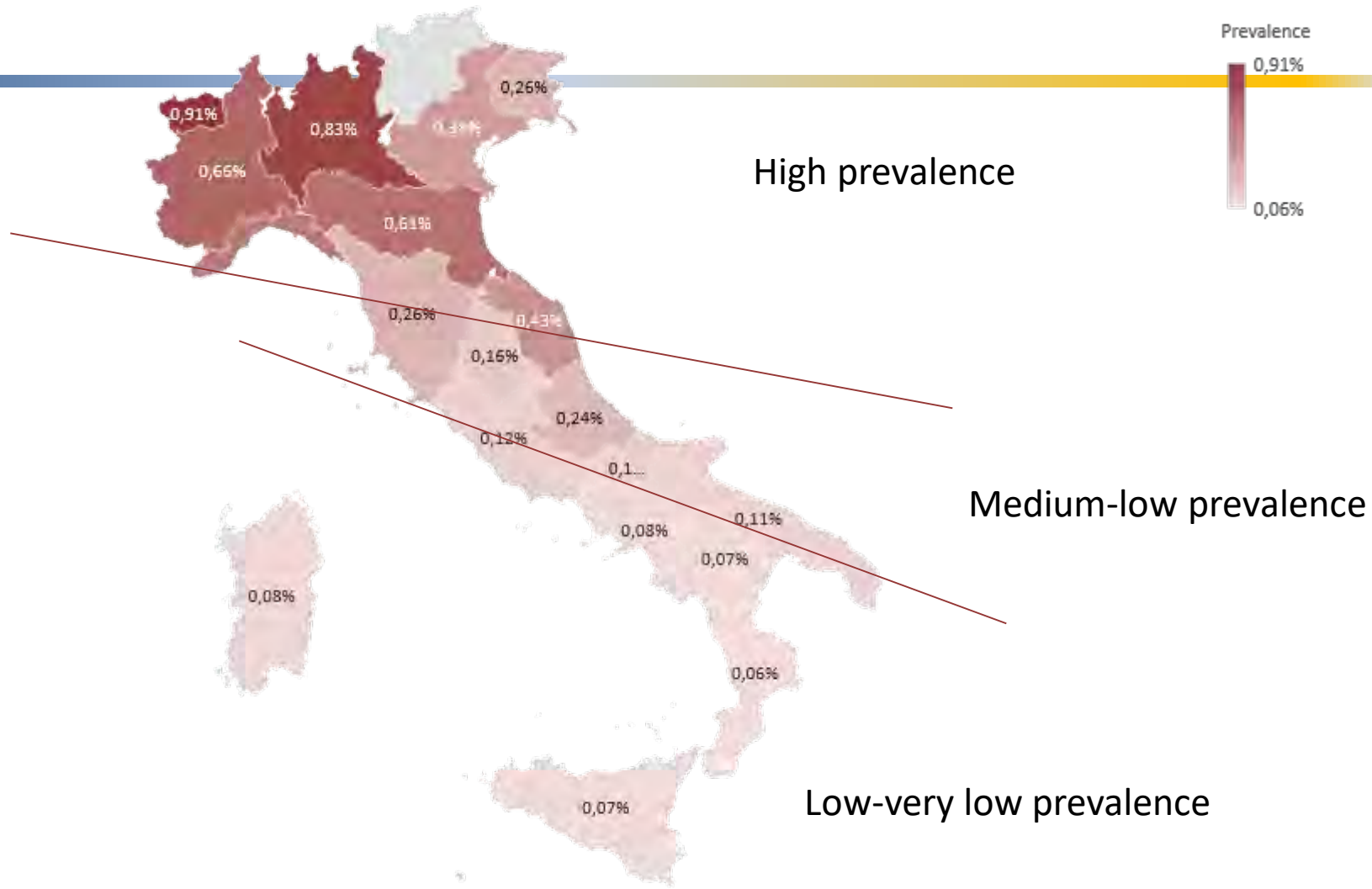
Regions	Tests
Abruzzo	35.356
Basilicata	10.889
Calabria	33.755
Campania	70.566
Emilia-Romagna	172.589
Friuli Venezia Giulia	64.151
Lazio	128.664
Liguria	45.719
Lombardia	351.423
Marche	54.313
Molise	5.776
Piemonte	144.531
Puglia	58.496
Sardegna	22.116
Sicilia	73.008
Toscana	133.617
Trentino-Alto Adige	72.969
Umbria	33.881
Valle d'Aosta	6.897
Veneto	328.218
ITALY	1.846.934

A significant difference emerges between the proportion of tests made by Veneto Region and in Trentino Alto Adige compared to the other Regions. In total, tests in Italy were 1,846,934 equal to 3.06% of the population

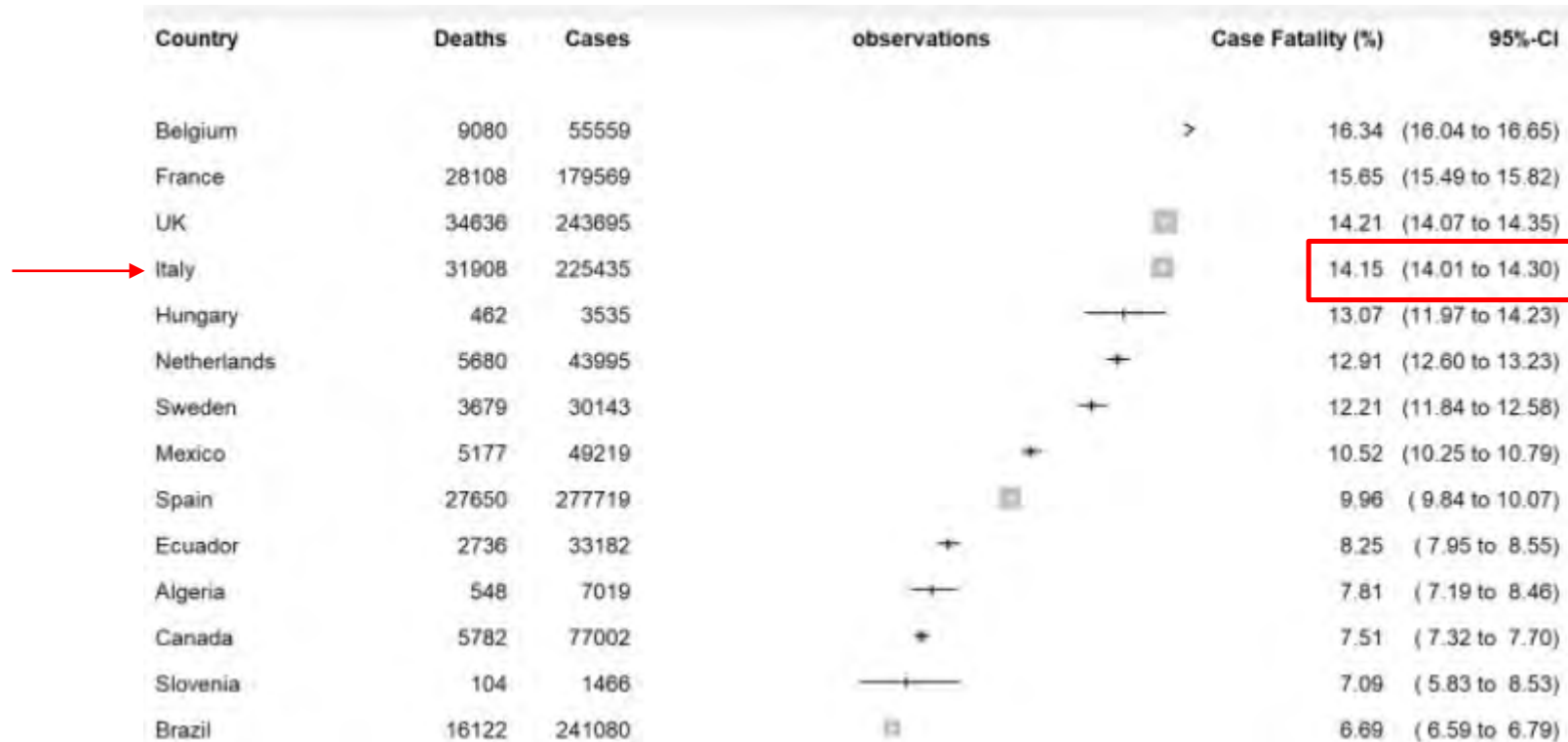
Daily Swabs - Trend



Covid-19 Prevalence (May 12nd, 2020)



Covid-19 Global Case Fatality Rates



<https://www.cebm.net/covid-19/global-covid-19-case-fatality-rates/>

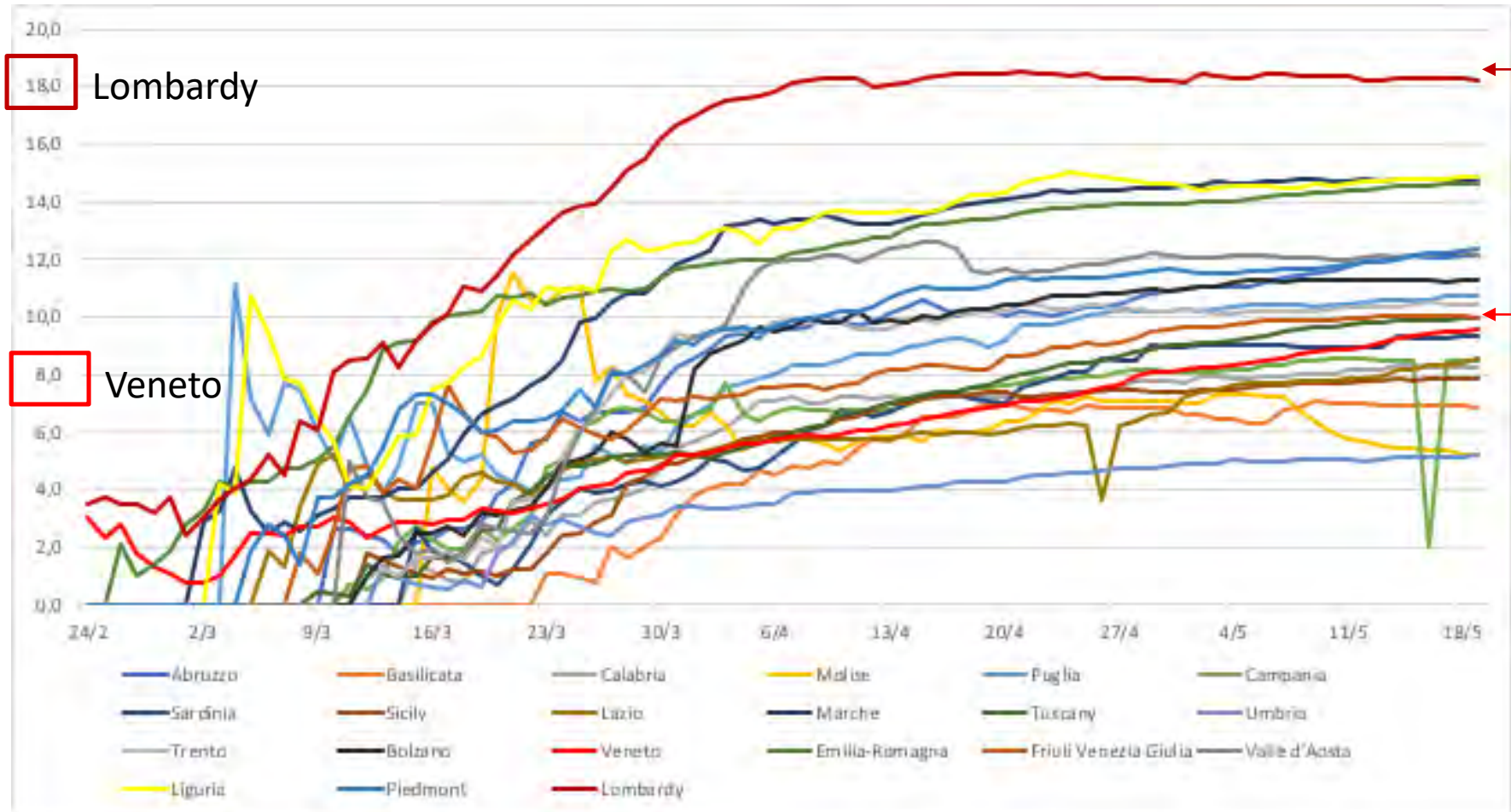


Characteristics of SARS-CoV-2 patients dying in Italy Report based on available data on May 21st, 2020

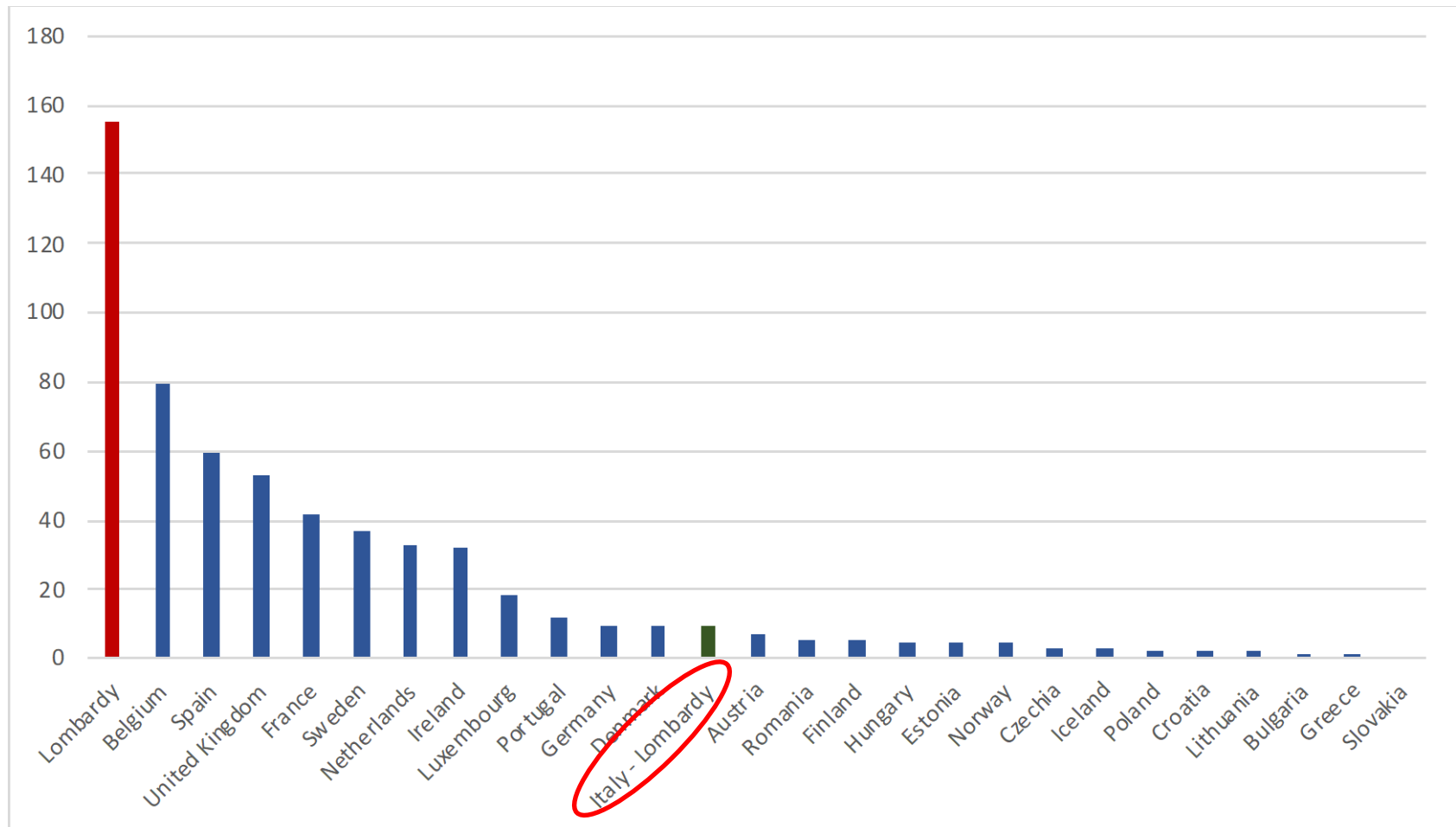
Tabel 1. Geographic distribution of deceased patients SARS-CoV-2 positive

REGION	N	%
Lombardia	15,662	50.4
Emilia Romagna	4,008	12.9
Piemonte	2,616	8.4
Veneto	1,842	5.9
Liguria	1,382	4.4
Toscana	991	3.2
Marche	907	2.9
Lazio	631	2.0
Puglia	478	1.5
Trento	459	1.5
Abruzzo	379	1.2
Campania	354	1.1
Friuli Venezia Giulia	327	1.1
Bolzano	291	0.9
Sicilia	281	0.9
Valle d'Aosta	145	0.5
Sardegna	128	0.4
Calabria	91	0.3
Umbria	74	0.2
Basilicata	28	0.1
Molise	22	0.1
Total	31.096	100.0

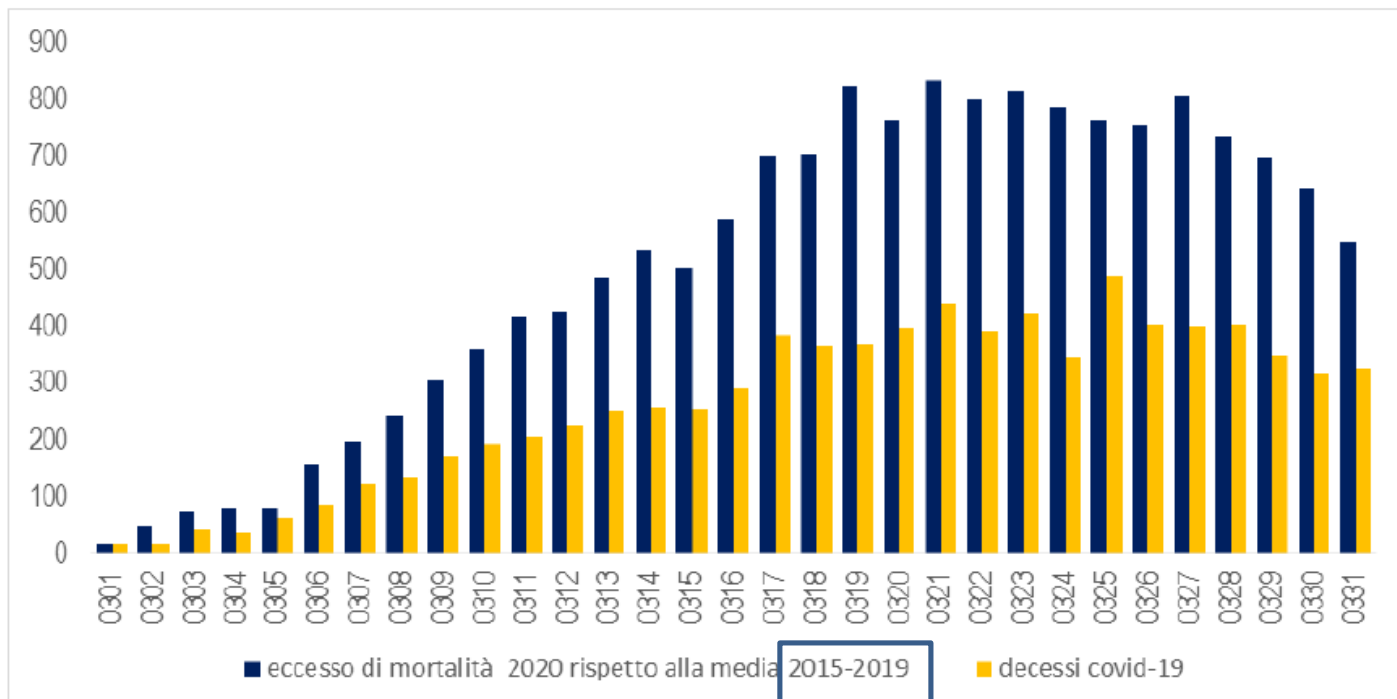
Trends in Covid-19 Case Fatality Rates per Italian region (x100)



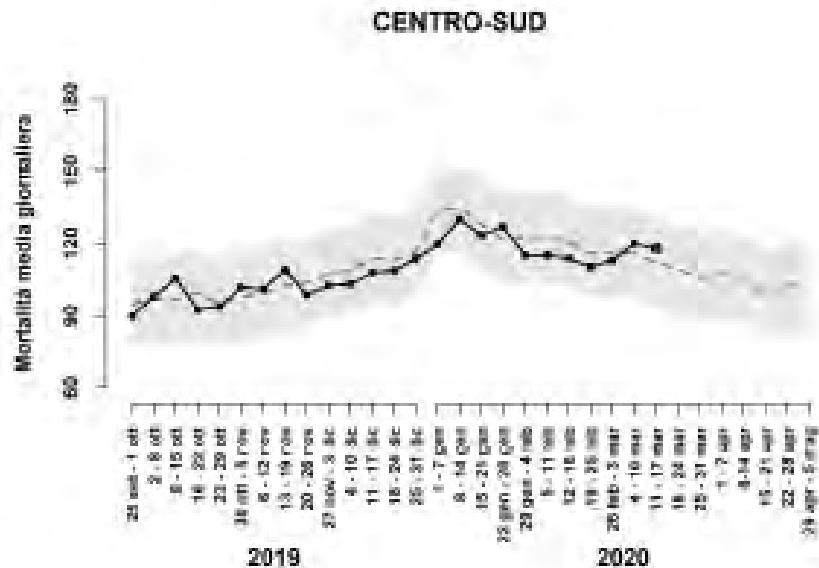
COVID-19 Mortality Rates in the EU (x10,000)



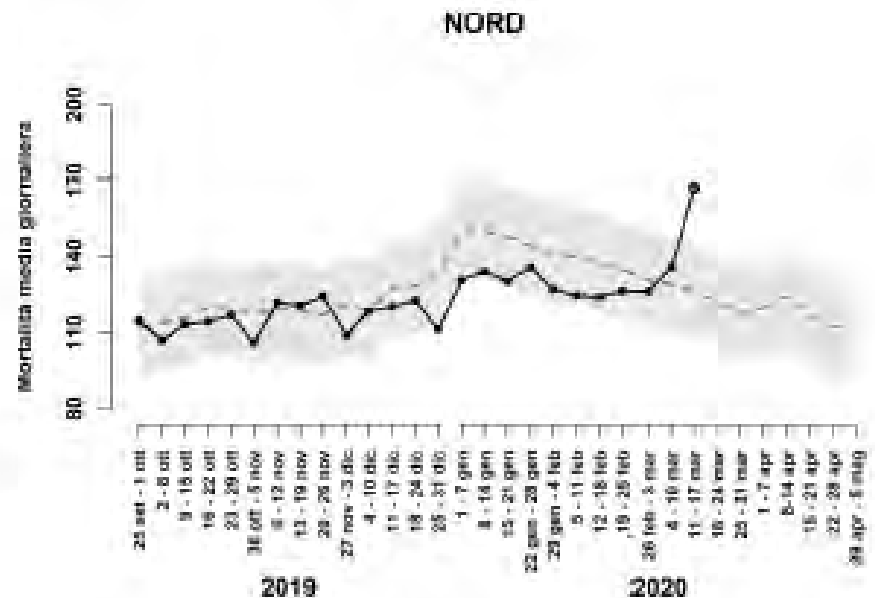
Excess mortality in Lombardy, March 2020



Mean overall mortality, September 2019- 17 March 2020

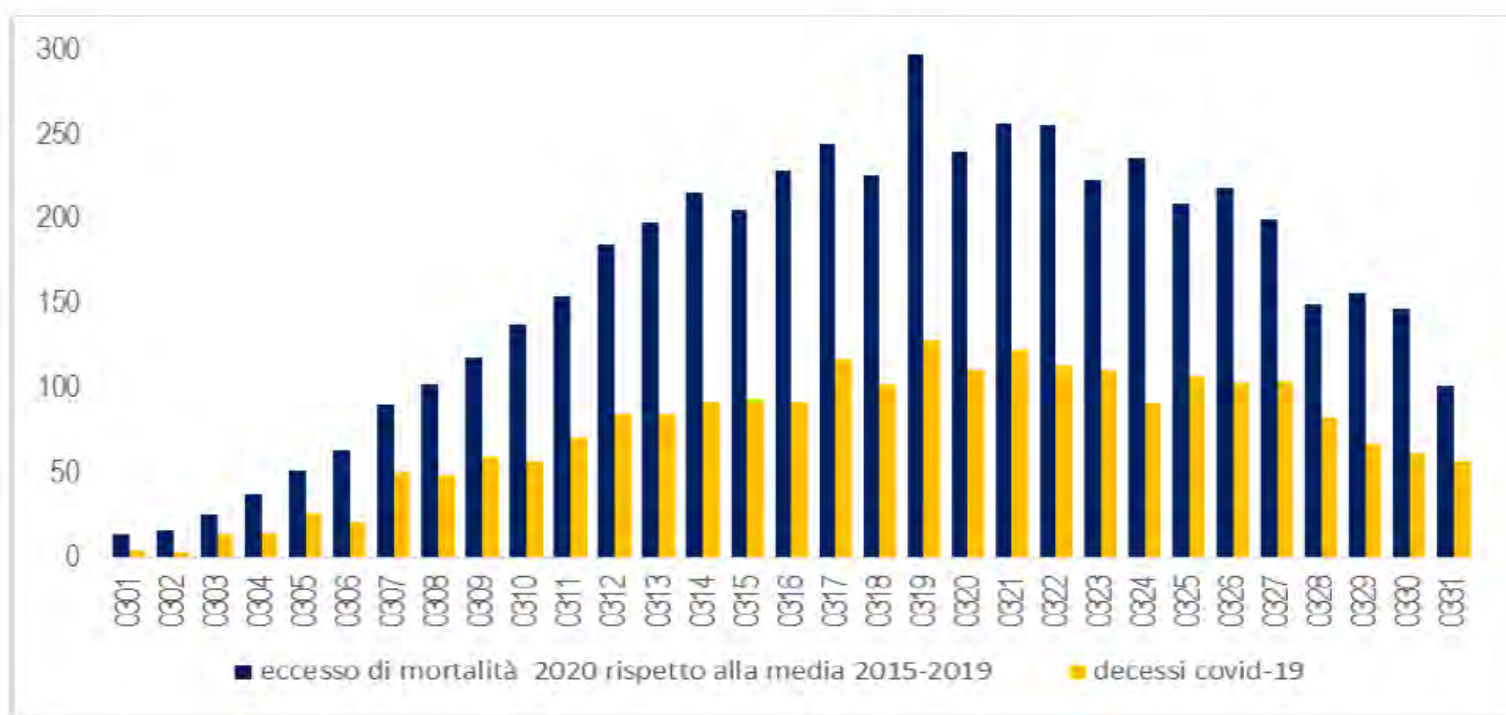


-3% mortality in the South



-6% mortality in the North

Excess mortality in Bergamo, March 2020



+567,6%



Transmission of Infections at Large Sports Gatherings: A Surprising Gap in Our Knowledge

Michele **Sassano**¹, Martin **McKee**², Walter **Ricciardi**^{1,3} and Stefania **Boccia**^{1,3*}

TABLE 1 | Number of cases and deaths due to Covid-19 in Italy, Lombardy, and province of Bergamo in the weeks after Atalanta—Valencia CF football match held on 19th February. (2–5).

Area	Three weeks later (March 11, 2020)		Six weeks later (March 31, 2020)		March 2020
	Cases	Deaths (% of cases)	Cases	Deaths (% of cases)	Change in daily deaths compared with the average value on March 2015-2019
Italy	12,462	827 (6.6%)	105,792	12,428 (11.7%)	+49.4%
Lombardy	7,280	617 (8.5%)	43,208	7,199 (16.7%)	+186.5%
Bergamo	1,815	-	8,803	2,060* (23.4%)	+567.6%

*number reported by local media as recognized by authorities.

Sassano M, McKee M, Ricciardi W and Boccia S (2020) Transmission of Infections at Large Sports Gatherings: A Surprising Gap in Our Knowledge. *Front. Med.* 7:277. doi: 10.3389/fmed.2020.00277



VIEWPOINT

What Other Countries Can Learn From Italy During the COVID-19 Pandemic

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Stanford (METRICS),
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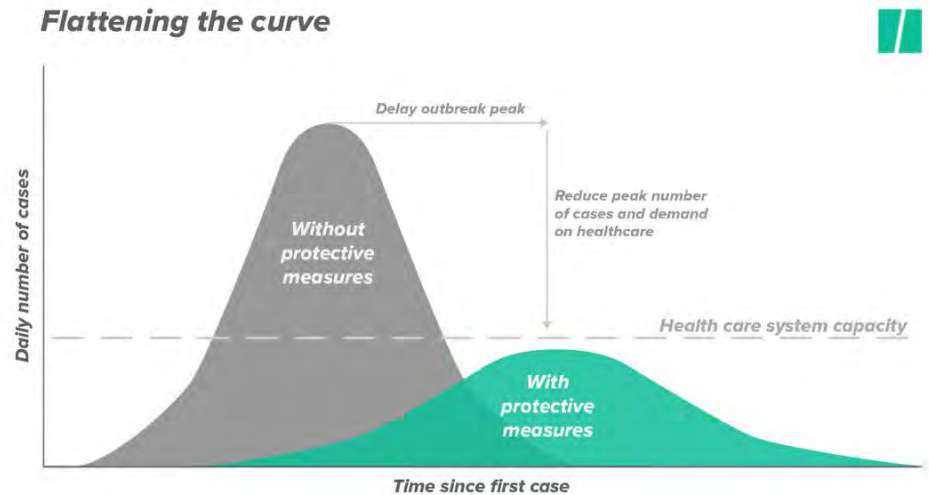
- Italy is a decentralized country; thus, preparedness and containment may have been hampered
- Factors pertaining to demographics and background disease in the population...

and

- **Increased burden of cases that presented themselves in the health care system**
- **Italy has a modest number of ICU beds and very few sub-intensive care beds**
- Hospital overcrowding may also explain the high infection rate among medical personnel
- Stochastic factors should also be considered

Phase I considerations

- Italian data confirm the impact of social distancing measures
- In phase 2: attention is focused on early diagnosis of cases and contact tracing (trace, test and treat)
- Intra-family and hospital transmission should be minimized
- Chains of transmission should be promptly identified in order to apply isolation and quarantine measures



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NHS financing during the Covid-9 pandemic

During the COVID-19 emergency the Italian Government allocated additional resources (€ 5.505.000.000) to the national healthcare system. In particular:

- **€ 845.000.000** to the recruitment of healthcare workers and the acquisition of medical devices and equipment **(10th March)- Phase I**
- **€ 1.410.000.000** to the recruitment of healthcare workers, acquisition of medical devices and equipment, implementation of community care, institution of special continuity of care units, assistance to people with disabilities, implementation of medical research **(24th April)- Phase II**
- **€ 3.250.000.000** to the recruitment of healthcare workers, acquisition of medical devices and equipment, implementation of community care, reorganization of hospital care, increase in the number of hospital beds (intensive care units), improving the digitalization of the Healthcare System **(20th May)- Phase II**

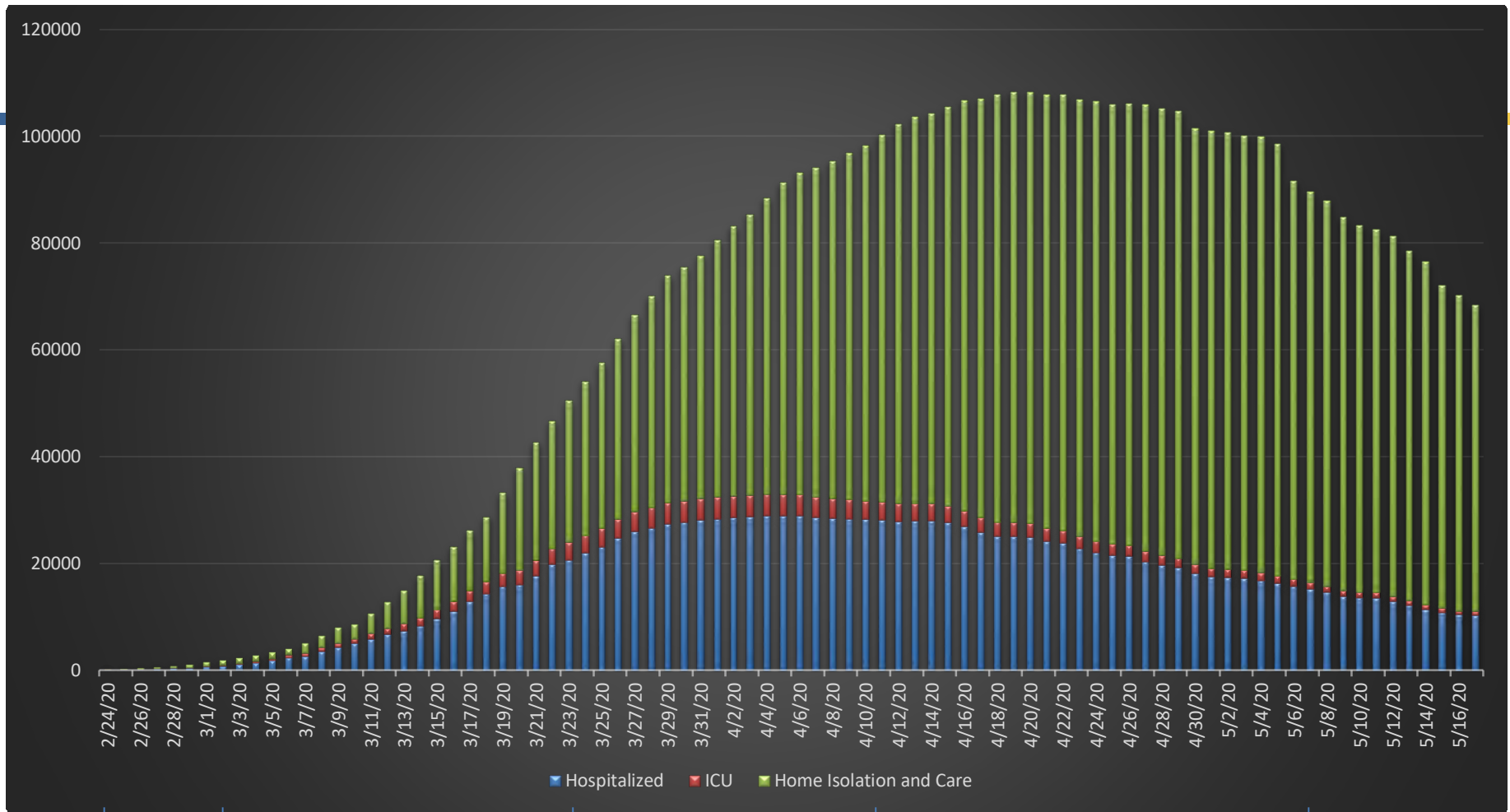
The High School of Health Economics and Management (ALTEMS) reports

- Weekly Reports from March 31st 2020 (#8 on May 22nd);
- Multidisciplinary working group (Healthcare manager, public health specialists, pharmacologist, biomedical engineers)
- Researcher and healthcare managers from 10 Italian Regions were involved in the analysis



<https://altems.unicatt.it/altems-covid-19>

Healthcare System Response



March 22th
Mobiity
restrictions

April 10th
Safety
measures to
restart some
businesses

May 4th
Lock down
ends

March 9th
National Lock
down begins

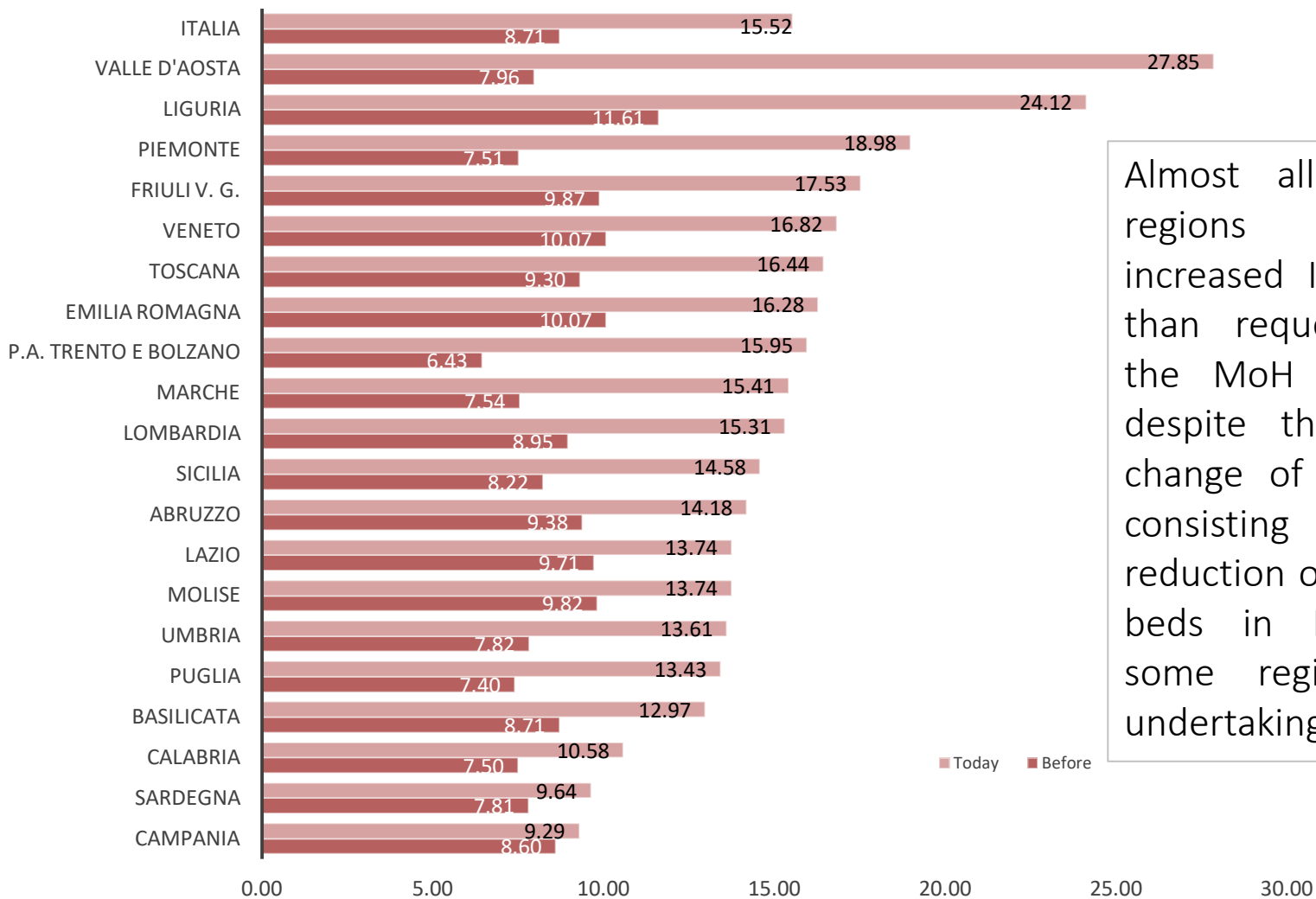
Feb 23rd
Regional Lock
down begins

March 1°
NHS plan

Regions and models of response

Dimension	Hospital Centered approach (eg. Lombardy)	Integrated Approach (eg. Emilia Romagna)	Community-Home Approach (eg, Veneto)
Testing	Testing used for hospitalized or symptomatic patients only	Diffused testing in specific territories (symptomatic and pauci-symptomatic patients)	Diffused testing in the whole regional territory (symptomatic and pauci-symptomatic patients)
Hospital use	Intensive use of hospitalization (>45%) and average use of ICUs (<13% of hospitalized)	Intermediate use of hospitalization (between 20 - 30%) and limited ICUs use (10%)	Limited use of hospitalization (lower than 20%) and high use of intensive ICUs (>20%)
Primary and community care involvement	GPs active on an individual basis	GPs active in structured mobile teams in collaboration with nurses with extensive use of personal protective equipment (PPE)	GPs active in structured mobile teams in collaboration with nurses with extensive use of personal protective equipment (PPE)
Digital solutions	Use of digital solution limited for contact tracing	Regional platforms to support Covid-19 patients at home (e.g. DoctorCovid, Lazio Region)	Local platforms to support Covid-19 patients at home (e.g. Trentino Region)

ICU beds x 100.000 inh.



Almost all of the regions have increased ICU more than requested by the MoH (+ 50%) despite the recent change of direction consisting in the reduction of hospital beds in ICU that some regions are undertaking.

Information on contact tracing for healthcare professionals

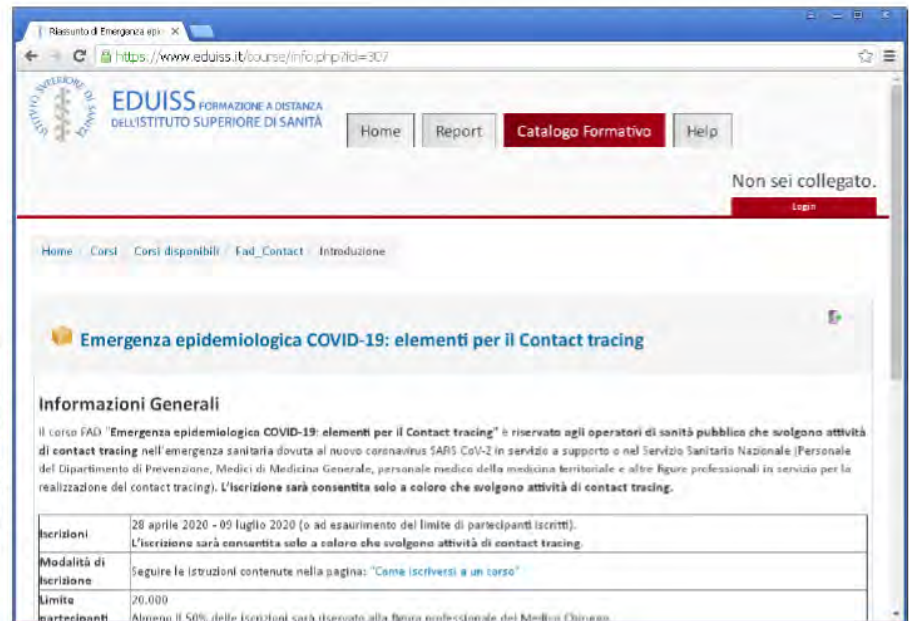
Problematiche: Iniziative ISS

Corsi FAD

«Emergenza epidemiologica COVID-19: elementi per il Contact tracing»

Un secondo aspetto importante è quello della **formazione**.

L'ISS ha organizzato un primo corso di formazione a distanza sulla tematica del contact tracing che contiene anche gli aspetti relativo alle tecnologie a supporto del rilevamento della prossimità utilizzate nel contact tracing digitale



The screenshot shows a web browser window displaying the EDUISS (Educazione a Distanza dell'Istituto Superiore di Sanità) website. The page is titled "Emergenza epidemiologica COVID-19: elementi per il Contact tracing". It includes a navigation bar with links for Home, Report, Catalogo Formativo, and Help. A login status message "Non sei collegato." is visible. The main content area provides general information about the course, including its duration (28 aprile 2020 - 09 luglio 2020) and the number of participants (20.000). A table at the bottom lists the course details.

Informazioni Generali	
Iscrizioni	28 aprile 2020 - 09 luglio 2020 (o ad esaurimento del limite di partecipanti iscritti). L'iscrizione sarà consentita solo a coloro che svolgono attività di contact tracing.
Modalità di Iscrizione	Seguire le istruzioni contenute nella pagina: "Come iscriversi a un corso"
Limite	20.000
Partecipanti	Almeno il 50% delle iscrizioni sarà riservato alla figura professionale del Medico Chirurgo

A plethora of Apps!

Nome App	Società produttrice	Tipo di contact	Chi deve scaricarla	Servizio	Tecnologia	Accessibilità dati:	In formato:
LAZIOdrCOVID	LAZIOcrea S.P.A.	-	Su base volontaria	Mettere in contatto il cittadino con il proprio medico di base, in maniera veloce e affidabile	Chiamate, Messaggi	Medico di base	Non anonimo
STOPCovid19	Webtek S.P.A.	Tracking	Su base volontaria (e si può disinstallare, cancellando quindi i propri dati in qualunque momento)	Previo consenso da parte dell'utente, l'App utilizza il segnale GPS per localizzare il dispositivo su cui è installata e memorizzare i dati relativi agli spostamenti per individuare i soggetti che sono venuti a contatto con l'individuo risultato positivo	GPS	Autorità sanitarie (l'utente non può vedere i propri dati)	Non anonimo
allertaLOM	Regione Lombardia	-	Su base volontaria (cittadini Lombardi)	- Cercare di quantificare il livello di diffusione del contagio e la distribuzione territoriale della positività, sulla base dei dati segnalati dagli utenti - Inviare notifiche sull'emergenza coronavirus in Lombardia.	Questionario	Autorità sanitarie Lombarde	Anonimo
SM – Covid19	Soft mining	Tracing (+ Tracking)	Su base volontaria	Gli ospedali possono leggere i dati di rischio e aggiornare lo stato di una persona (negativo o positivo). Il rischio calcolato per il singolo utilizzatore è funzione dei dati degli altri utilizzatori (sulla base del numero, della durata e del tipo di contatti avuti). Se una persona risulta positiva, il rischio di ogni altra persona con la quale questa sia venuta in contatto viene aggiornato automaticamente. Se il rischio di contagio risulta alto, l'utente viene invitato a contattare volontariamente le autorità sanitarie perché possa essere monitorato anche tramite GPS	- Bluetooth - WiFi P2P - GPS (se abilitato dall'utente)	Autorità sanitarie	Anonimo
Covid Anonymous Tracker	Team internazionale	Tracing	Su base volontaria	L'App esegue una scansione continua dei dintorni e raccoglie l'ID anonimo del dispositivo vicino al proprio, memorizzandolo in un database centralizzato e sicuro in modalità cloud. La rete di medici certificati "Covid Anonymous Tracker" aggiorna ogni giorno i dati con l'ID dei dispositivi appartenenti a individui infetti (confermati) da Covid-19. Un utente che risulta essere entrato in contatto con una persona infetta negli ultimi 14 giorni, verrà informato e riceverà un'istruzione chiara sui passi da seguire	Bluetooth	Autorità Sanitarie certificate	Anonimo
Centro Medico Sant'Agostino	Centro Medico Sant'Agostino	Tracing (+ Tracking)	Su base volontaria	- L'app è in grado di monitorare gli spostamenti effettuati dalla persona che risulterà positiva al Covid-19 e di rintracciare e avvertire tempestivamente coloro che gli sono stati vicini nei giorni prima del contagio, invitandoli a mettersi in quarantena - L'App è in grado di rilevare su base statistica (e quindi anonima) assembramenti a rischio	- GPS - Altri sensori	Protezione Civile	Anonimo
AlxIA	AlxIA	Tracking	Su base volontaria	I cittadini non sono tracciati con l'app, ma con un qualunque dispositivo mobile dotato di Bluetooth, ("nodo passivo") in loro possesso. Il tracciamento, senza scambio di dati personali, avviene ogni volta che il suo nodo passivo entra in contatto con un nodo attivo (luoghi pubblici, locali e aziende, mezzi pubblici, ma anche i cittadini che hanno scaricato l'App).	Bluetooth	Tutti gli utenti	Anonimo

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- **Looking forward**

The economic crisis

In 2020 the Italian public debt is expected to increase by 10,4% (+190 billions from 2019). It will be **equal to 158,9% of GDP**). France and German public debt instead will be 116,5% and 75,6% of GDP, respectively



Legislative milestones - Phase II

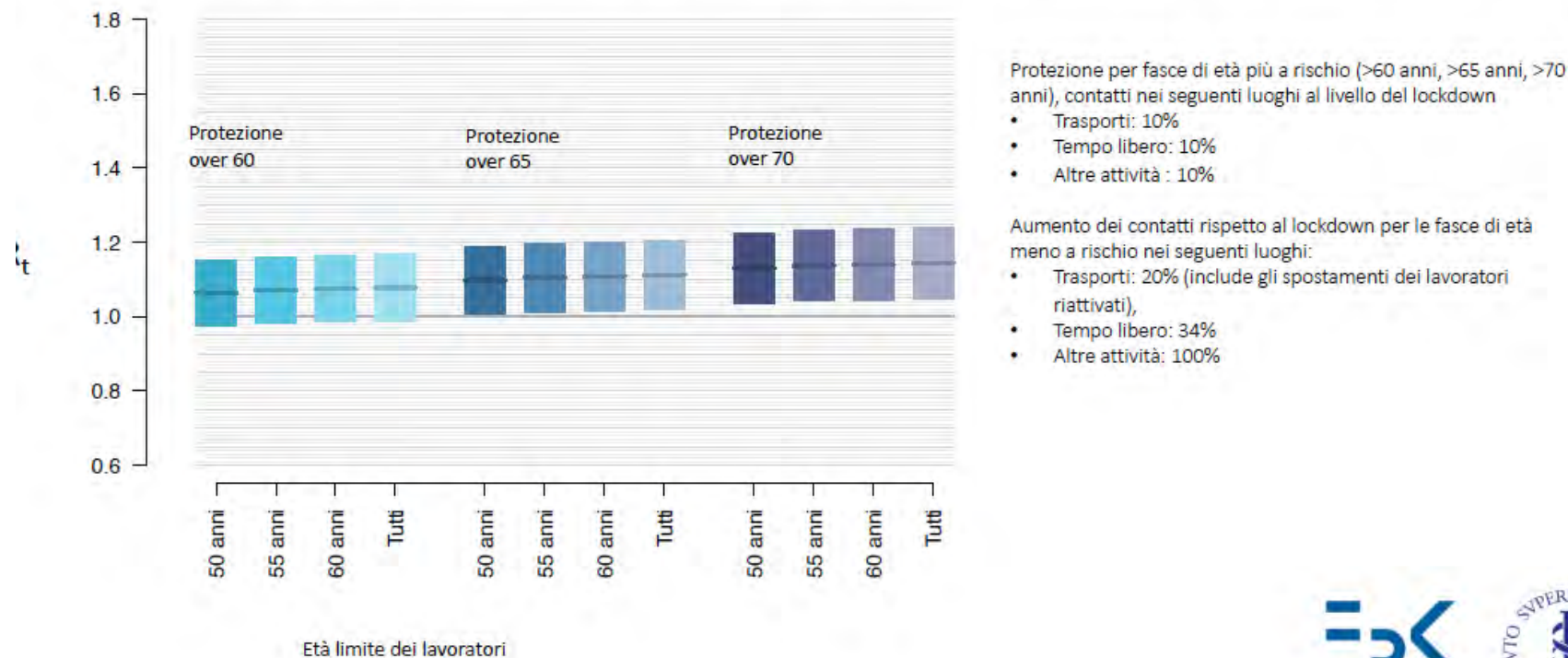
Phase 2	May 4th	Reduction of limitations to peoples mobility within same municipality, new measures to support the national economy
	May 18th	Reduction of limitations to peoples mobility within the same Region. Major commercial business, pub and restaurants to be re-opened . Authorization to celebrate religious functions
	May 25th	Opening of gyms, swimming pools and team sports (with special measures: distancing, masks, frequent hand hygiene, special enter/exit route)
	June 3rd	<u>Opening of inter-regional mobility (based on Rt index, intensive care unit saturation)</u> . Opening of air-mobility in Italy and from Italy to EU countries and vice-versa (possibility of quarantine and special measures in each EU country)
	June 15th	Opening of cinemas, theatres and summer sport camps for children

Strong advice to stay at home to >65 people,
until the end of Phase II

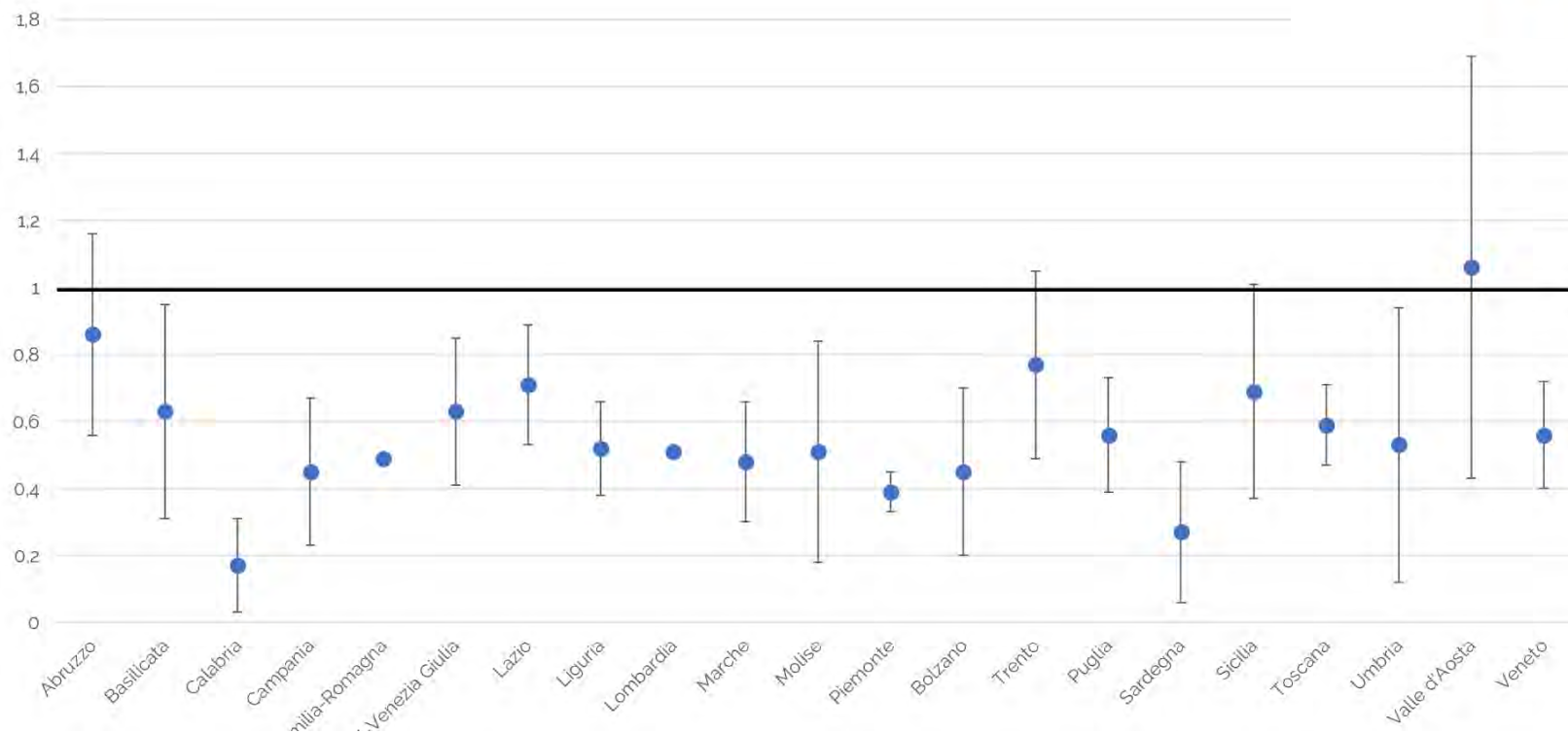
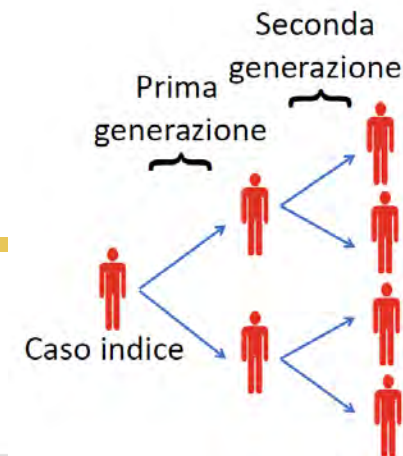


NIH modelling Rt estimates before launching phase II

Riapertura di manifattura, edile, commercio e alloggi/ristorazione con parziale rilascio delle restrizioni sulla popolazione generale

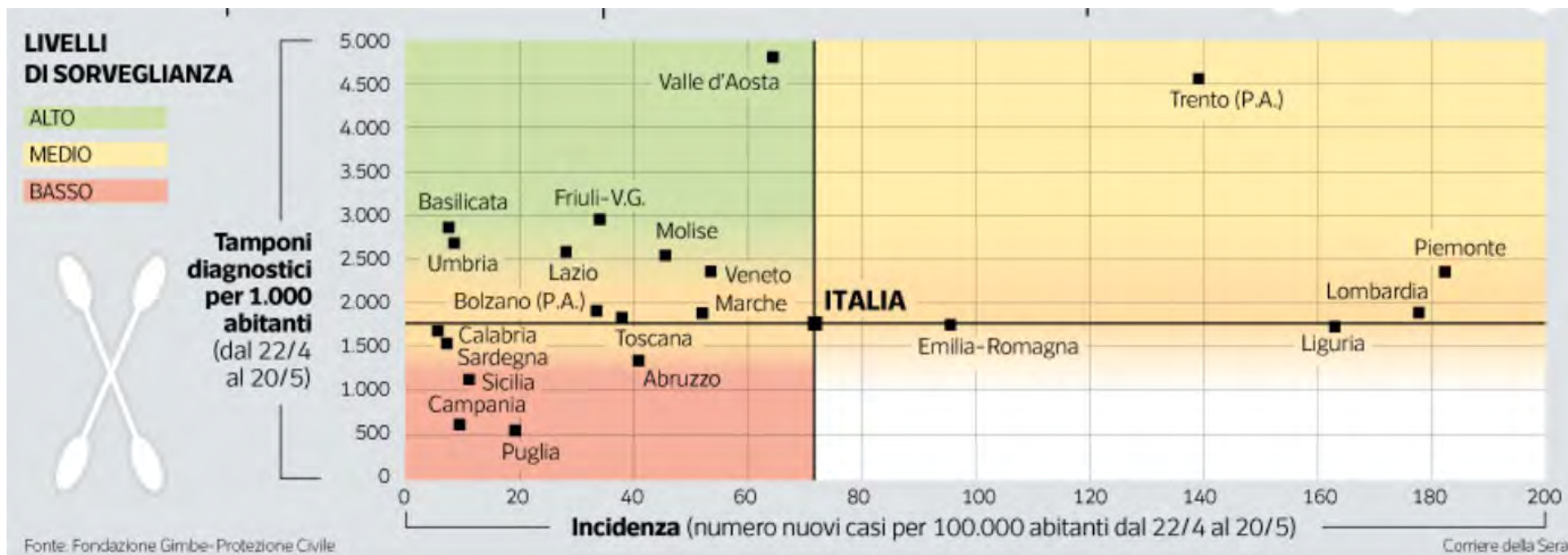


NIH regional Rt estimates, May, 22nd

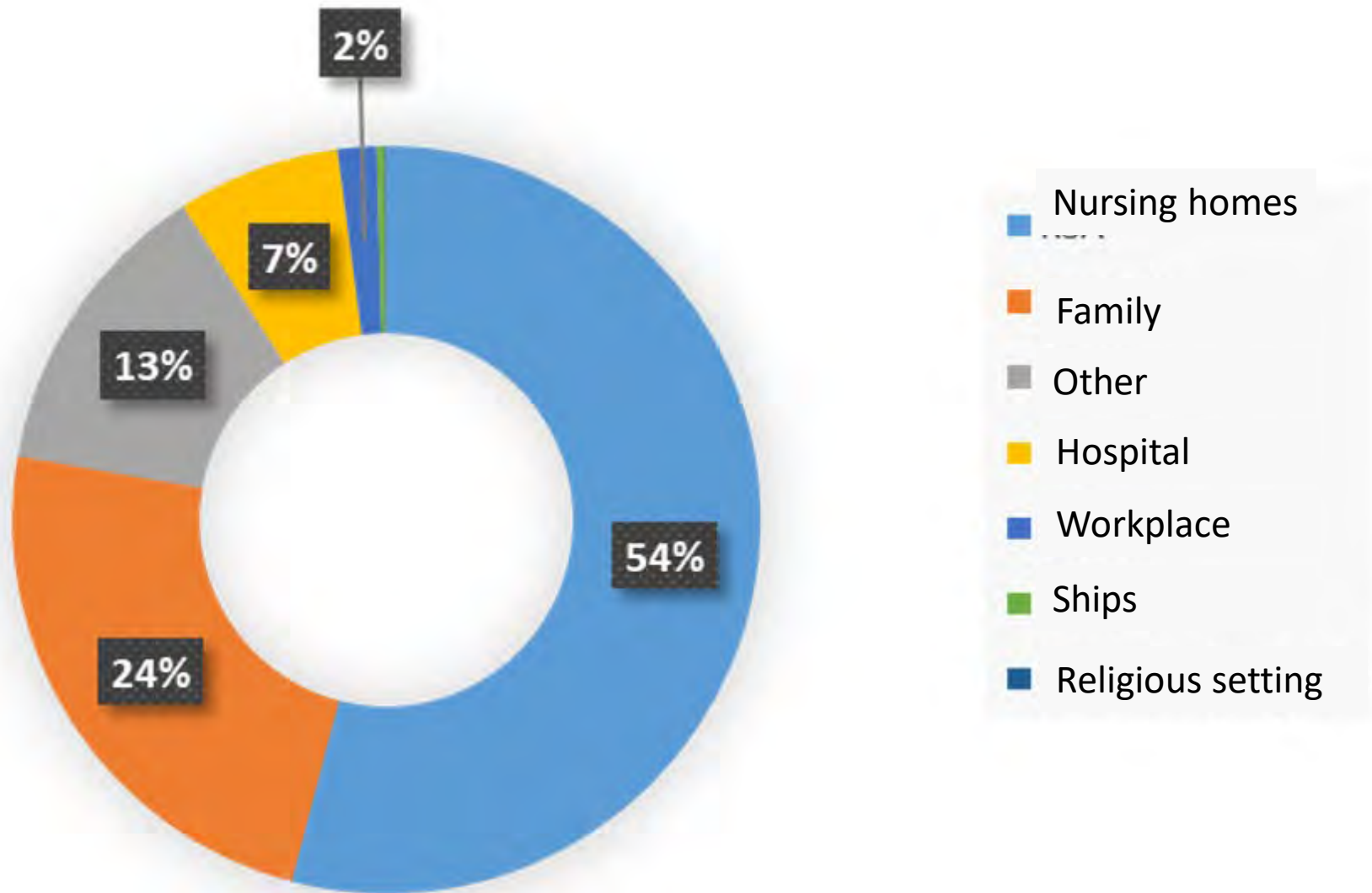


<https://www.iss.it/coronavirus>

Phase II data: federalism in swab execution



Potential Sources of Exposure (May, 1-14, 2020)





Survey nazionale sul contagio COVID-19 nelle strutture residenziali e socio-sanitarie

TERZO REPORT *

Aggiornamento 14 aprile ore 20.00

- 33% response rate
- 40,2% (2724/6773) of deaths in nursing homes were symptomatic/positive
- The mortality rate for COVID-19 in nursing homes in the past 2 months in Italy was 3,3% (6.7% in Lombardy)

Figura 11. Principali difficoltà riscontrate



Contact tracing during phase II – App «IMMUNI»

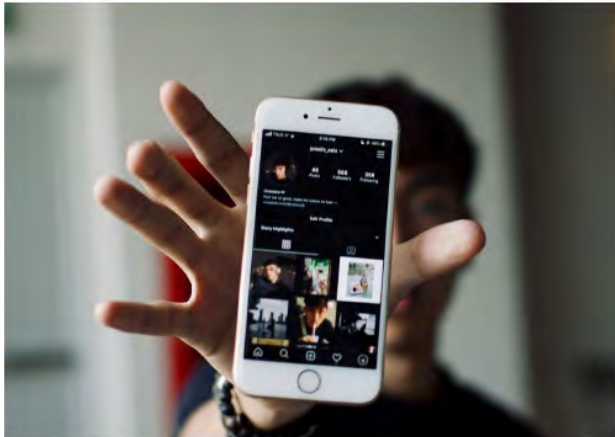


Photo by Psk Slayer on Unsplash



Different solutions at workplace

«You can't fight a virus if you don't know where it is» Mike Ryan (WHO)

Launched large-scale survey with serological tests for COVID-19

On 11th May 2020, the Italian Ministry of Health and the National Institute of Statistics (ISTAT) started a large-scale serological survey on COVID-19, involving 150,000 citizens at the national level. The aim of the investigation is to understand how many people have developed Sars-Cov-2 antibodies, even if they are asymptomatic.

- € 4.500.000 was allocated to conduct the study
- CLIA and / or ELISA kits will be used to detect specific IgG
- The sampling carried out by ISTAT will be representative of each Region, by age group, gender and work activity

Guidance on routine immunization services during COVID-19 pandemic in the WHO European Region

20 aprile 2020



REGIONE
LAZIO

HOME

NEWS

ATERIALI

LE INIZIATIVE DELLA REGIONE LAZIO

ORDINANZA PER VACCINAZIONE ANTINFLUENZALE E ANTI PNEUMOCOCCICA OBBLIGATORIA

Firmata l'ordinanza dal Presidente della Regione Lazio, Nicola Zingaretti su proposta dell'Assessore alla Sanità, Alessio D'Amato per rendere obbligatoria la vaccinazione antinfluenzale e anti pneumococcica per tutti i cittadini over 65 anni e tutto il personale sanitario. L'obbligo sarà a decorrere dal 15 settembre 2020 in concomitanza con l'inizio della campagna di vaccinazione regionale

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L'obbligo sarà a decorrere dal 15 settembre 2020 in concomitanza con l'inizio della campagna di vaccinazione regionale. La mancata vaccinazione per il personale sanitario comporterà l'inefficienza temporanea allo svolgimento della mansione lavorativa ai sensi del Dg. 81. La mancata vaccinazione per le persone ultra 65 anni comporterà l'impossibilità di accedere a centri anziani o altri luoghi di aggregazione che non consentano di garantire il distanziamento sociale, inoltre vi è una forte raccomandazione per effettuare il vaccino antinfluenzale per tutti i bambini di età compresa tra i 6 mesi e i 6 anni attraverso il pieno coinvolgimento dei pediatri di libera scelta.

"Con questa ordinanza il Lazio raccoglie l'appello lanciato dall'Organizzazione Mondiale della Sanità (OMS) per ridurre i fattori confondenti per il COVID-19 in presenza di sintomi analoghi" commenta **Zingaretti**.

"Una grande operazione di tutela della salute pubblica. Ricordiamo inoltre che ogni anno sono numerosi i decessi per complicanze soprattutto nelle persone più fragili e croniche" conclude **D'Amato**.

- Compulsory flu and anti pneumococcal vaccination >65 years old
- Recommended flu vaccination for children up to 6 years old

Critical Issues I- The «Movida»



Milan, May, 18th, 2020



Rome, May, 18th, 2020

Critical Issues: Children partly left behind



- Schools used to close in Italy on June 6th for the long summer break
- Kindergartens usually close in late July (no plans so far to re-open)
- Two bonuses for baby-sitting provided so far for families with at least one parent worker (even from home)
- Parks closed (strict regional protocols for sanification are difficult to apply)
- Summer Center for children re-opens on June 15th (6 years upward)



Conclusion

- Italy was the first EU Country facing the epidemic that was “brave” enough to immediately apply strong containment measures
- Phase 1 of the Covid-19 outbreak was characterized by an uneven response to the emergency between the Italian Regions
- Regions has adjusted their response based on their own assets and traditional approach to healthcare (more or less ‘hospital-centric’)
- The post lock-down phase has been just started. New models of analysis are needed to monitor the evolution of the contagion and the regional adaptive response

Lessons learned

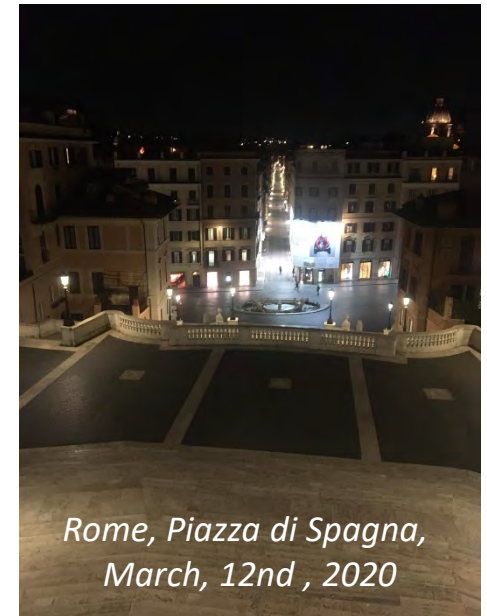
- **The health sector deserves to be at the heart of recovery post-COVID-19:** health systems need to use the current circumstances to learn lessons from COVID-19 and to strengthen health systems going forward
- COVID-19 has served to **highlight the burden of non-communicable diseases** since people with chronic conditions are more likely to suffer disability or die from COVID-19
- **Priority of mental health and digital health**, as the health sector will be revolutionized through the impact of technology in the coming years (we need to ensure that the elderly and those with lower levels of digital literacy are not excluded)
- **Evidence-based science when making decisions**, and investment in research is needed on an ongoing basis, in order to enable us to tackle some of the pervasive problems affecting health and wellbeing.

Thank you for your attention

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*Rome, Piazza di Spagna,
March, 12nd , 2020*