



# EUSEM

EUROPEAN SOCIETY FOR EMERGENCY MEDICINE

**WEBINAR COVID-19:**  
Sharing experiences of high COVID-19 impact countries.

Name: Luis Castrillo  
Position: EUSEM President  
Country: Spain

# Coronavirus disease (COVID-19) outbreak situation

**2 034 802**

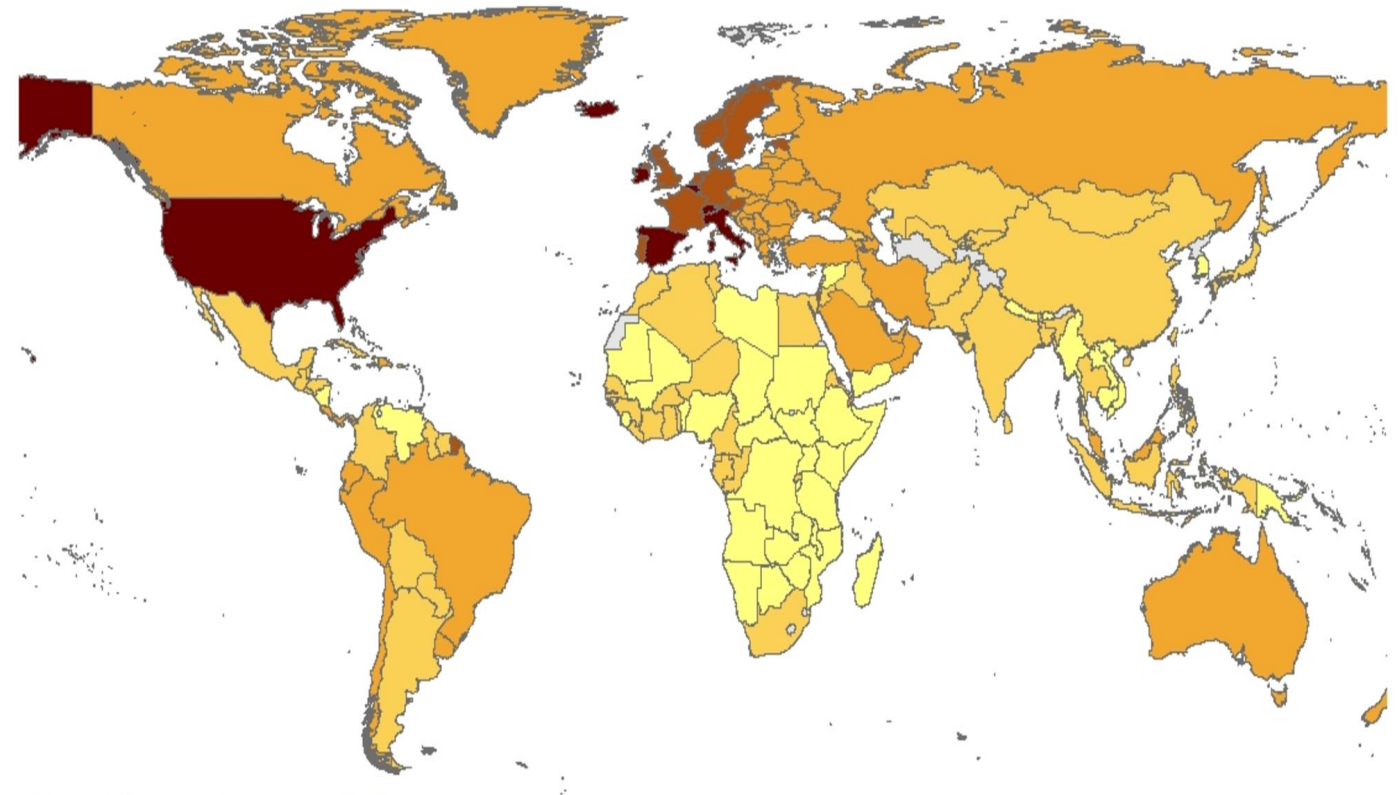
**Confirmed cases**

**135 163**

**Confirmed deaths**

**213**

**Countries, areas or territories with cases**



Cumulative number of reported  
COVID-19 cases per 100 000

0.0 - 0.9

1.0 - 9.9

10.0 - 99.9

100.0 - 199.9

$\geq 200.0$

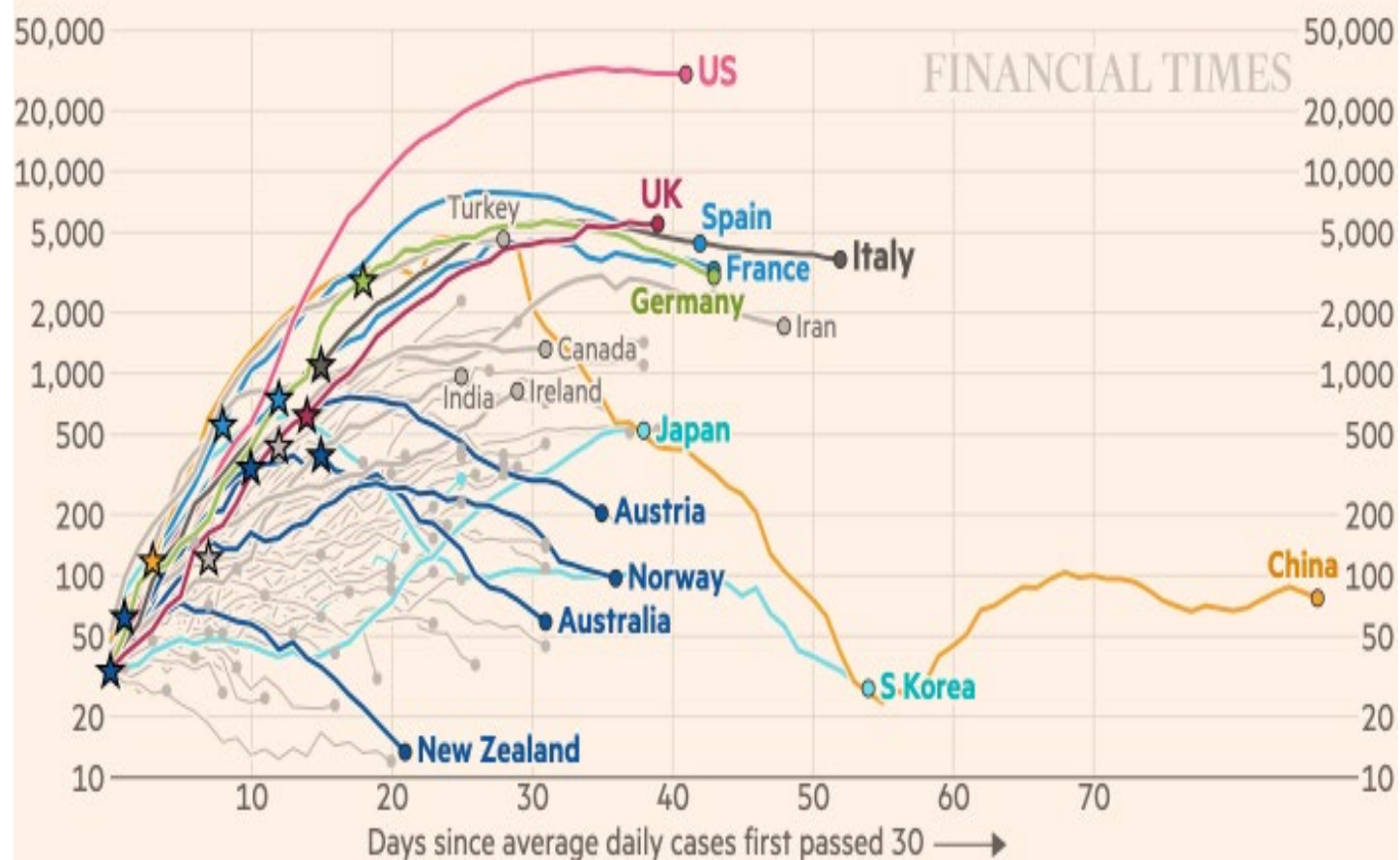
Countries and territories without cases reported

# Evolution

Several countries have turned the corner, with numbers of new cases now in decline

Daily confirmed cases (7-day rolling avg.), by number of days since 30 daily cases first recorded

Stars represent national lockdowns ★

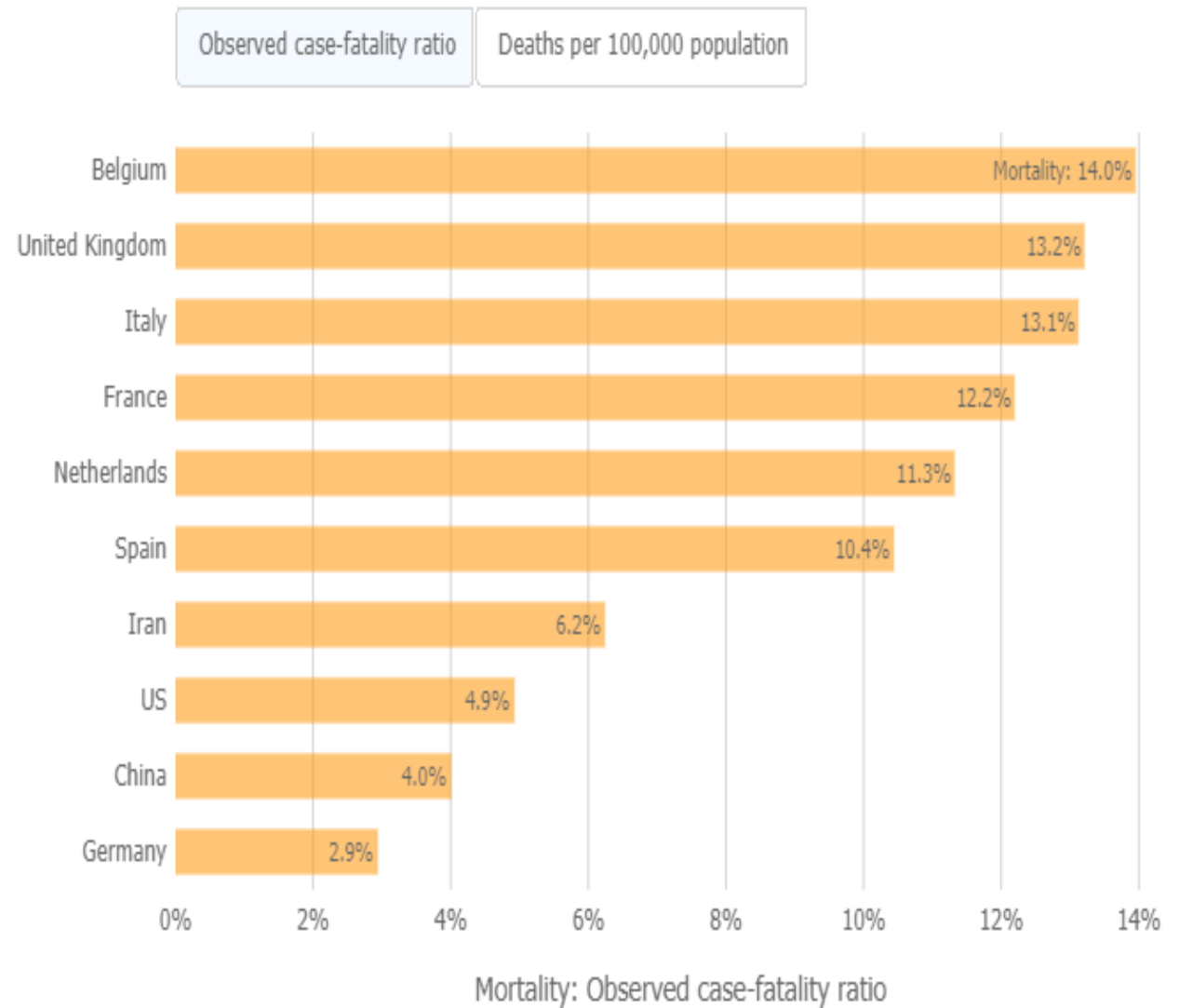


FT graphic: John Burn-Murdoch / @jburnmurdoch

Source: FT analysis of European Centre for Disease Prevention and Control; FT research. Data updated April 16, 19:00 GMT

© FT

# Differences in outcome







# EUSEM

EUROPEAN SOCIETY FOR EMERGENCY MEDICINE

## WEBINAR COVID-19:

Sharing experiences of high COVID-19 impact countries.

Name: José Luis Ruiz  
Position: SEMES Council  
Country: Spain



Sociedad Española de  
Medicina de Urgencias  
y Emergencias

# Covid Actual Country Situation



  <span>GOBIERNO DE ESPAÑA</span> <span>MINISTERIO DE SANIDAD</span>	
<b>CASOS TOTALES</b>	<b>182816</b>
<b>Casos últimas 24h</b>	<b>5183</b>
<b>Recuperados</b>	<b>74797</b>
<b>Fallecidos</b>	<b>19130</b>

Source Health ministry, 17 april 2020

# Covid Actual Country Situation

CCAA	Confirmados		Confirmados		IA (14 d.)
	Total	Nuevos	PCR	Test rápidos de anticuerpos	
Andalucía	10.807	212	10592	215	45,58
Aragón	4.566	228	4411	155	141,44
Asturias	2.170	74	2081	89*	76,85
Baleares	1.637	31			37,67
Canarias	1.988	13	1988		25,26
Cantabria	1.845	22			99,30
Castilla La Mancha	15.151	471			367,41
Castilla y León	14.380	683			292,76
Cataluña	37.354	849			202,60
Ceuta	100	2	98	2	53,08
C. Valenciana	9.615	191			66,09
Extremadura	2.881	119	2581	300	97,78
Galicia	7.873	165			112,28
Madrid	50.694	1.168			278,22
Melilla	103	1	103		47,41
Murcia	1.598	78	1424	174	34,41
Navarra	4.348	102			254,66
País Vasco	11.790	315			202,60
La Rioja	3.916	459	3539	377	578,60
<b>ESPAÑA</b>	<b>182.816</b>	<b>5.183</b>			<b>154,34</b>

## Daily new confirmed COVID-19 cases

The number of confirmed cases is lower than the number of total cases. The main reason for this is limited testing.

Our World  
in Data



Source: European CDC – Situation Update Worldwide – Last updated 16th April, 11:30 (London time) OurWorldInData.org/coronavirus • CC BY

# Covid Actual Country Situation

**Tabla 2.** Casos de COVID-19 que han precisado hospitalización, ingreso en UCI, fallecidos por Comunidades Autónomas en España, 16.04.2020 (datos consolidados a las 21:00 horas del 15.04.2020).

CCAA	Casos que han precisado hospitalización		Casos que han ingresado en UCI		Fallecidos		Curados	
	Total	Nuevos	Total	Nuevos	Total	Nuevos	Total	Nuevos
Andalucía	5.226	79	671	6	912	47	2.634	410
Aragón	2.108	102	291	9	543	29	1.087	75
Asturias	1.432	45	116	2	168	2	522	35
Baleares	872	15	152	3	131	6	918	37
Canarias	802	21	156	4	107	3	673	51
Cantabria	890	17	77	1	137	5	442	79
Castilla La Mancha	7.987	91	503	8	1.796	41	3.378	380
Castilla y León	6.449	143	307 <sup>x</sup>		1.372	35	4.725	204
Cataluña	23.680	308	2.798	9	3.855	99	17.297	646
Ceuta	9	0	4	0	4	0	41	11
C. Valenciana	4.524	59	625	37	972	27	3.702	342
Extremadura	1.186	31	110	1	359	17	649	34
Galicia	2.494	23	123 <sup>x</sup>		310	11	1.383	85
Madrid	9.653 <sup>x</sup>		1.206 <sup>x</sup>		6.877	153	28.491	1058
Melilla	43	0	3	0	2	0	27	3
Murcia	575	1	97	0	111	2	516	3
Navarra	1.752	21	124	0	261	9	845	37
País Vasco	5.863	113	478	7	956	54	5.813	385
La Rioja	1.207	25	75	0	257	11	1.654	72
<b>ESPAÑA</b>					<b>19.130</b>	<b>551</b>	<b>74.797</b>	<b>3.947</b>

**Aclaraciones de las Tablas 1 y 2:**

IA (14 d.): Incidencia acumulada (casos acumulados por 100.000 habitantes notificados en los últimos 14 días.

Los datos de las CCAA están en continua revisión y ciertas oscilaciones diarias pueden deberse a procesos de depuración de datos y no a variaciones reales acontecidas de un día a otro.

# Covid Actual Country Situation

**Tabla 3.** Distribución de casos hospitalizados, ingresados en UCI y fallecidos por grupos de edad y sexo información disponible\*. (datos consolidados a las 21:00 horas del 16.04.2020).

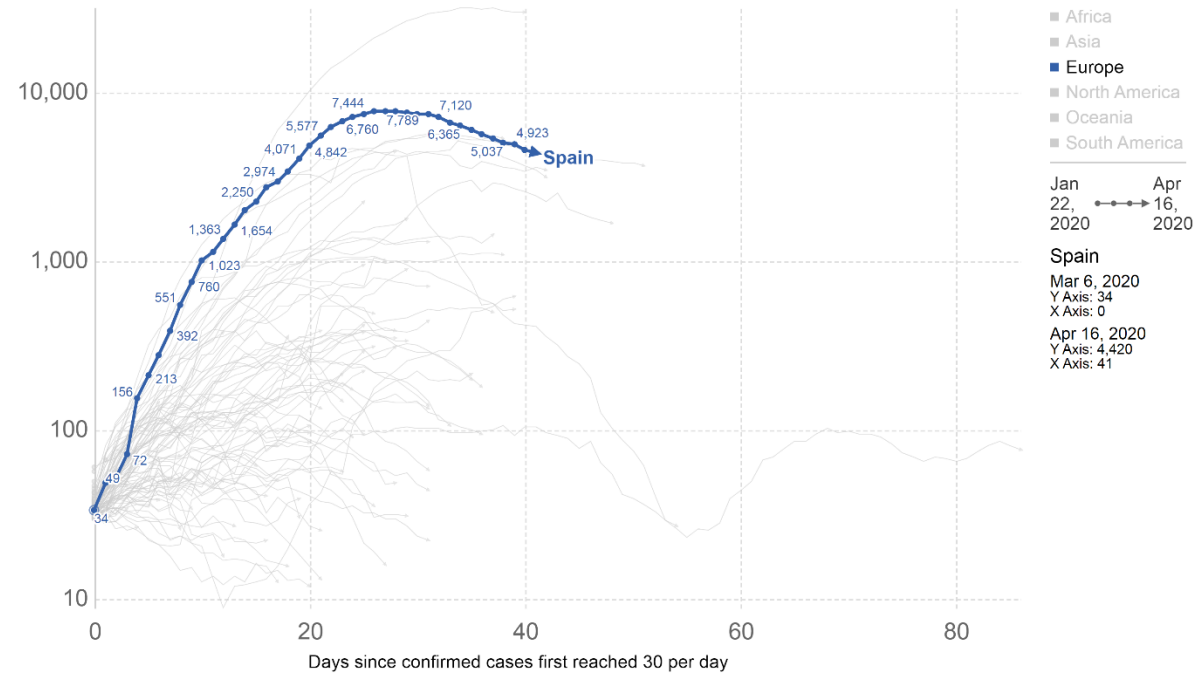
Grupo de edad (años)	Total							
	Confirmados	Hospitalizados totales		UCI		Fallecidos		
	n	n	%	n	%	n	%	Letalidad(%)
0-9	433	159	0,3	19	0,4	1	0,0	0,2
10-19	738	150	0,2	8	0,2	2	0,0	0,3
20-29	6.864	972	1,6	54	1,0	20	0,2	0,3
30-39	12.671	2.532	4,1	178	3,5	37	0,3	0,3
40-49	19.877	5.822	9,5	459	8,9	118	1,1	0,6
50-59	24.875	9.540	15,5	1.004	19,5	319	2,9	1,3
60-69	21.601	12.214	19,9	1.673	32,5	972	8,8	4,5
70-79	20.669	14.629	23,8	1.567	30,4	2.926	26,4	14,2
80-89	19.931	11.954	19,5	173	3,4	4.659	42,1	23,4
90 y +	8.130	3.405	5,5	17	0,3	2.012	18,2	24,7
Total	135.789	61.377	100%	5.152	100%	11.066	100%	



# Covid Actual Country Situation

## Daily confirmed COVID-19 cases

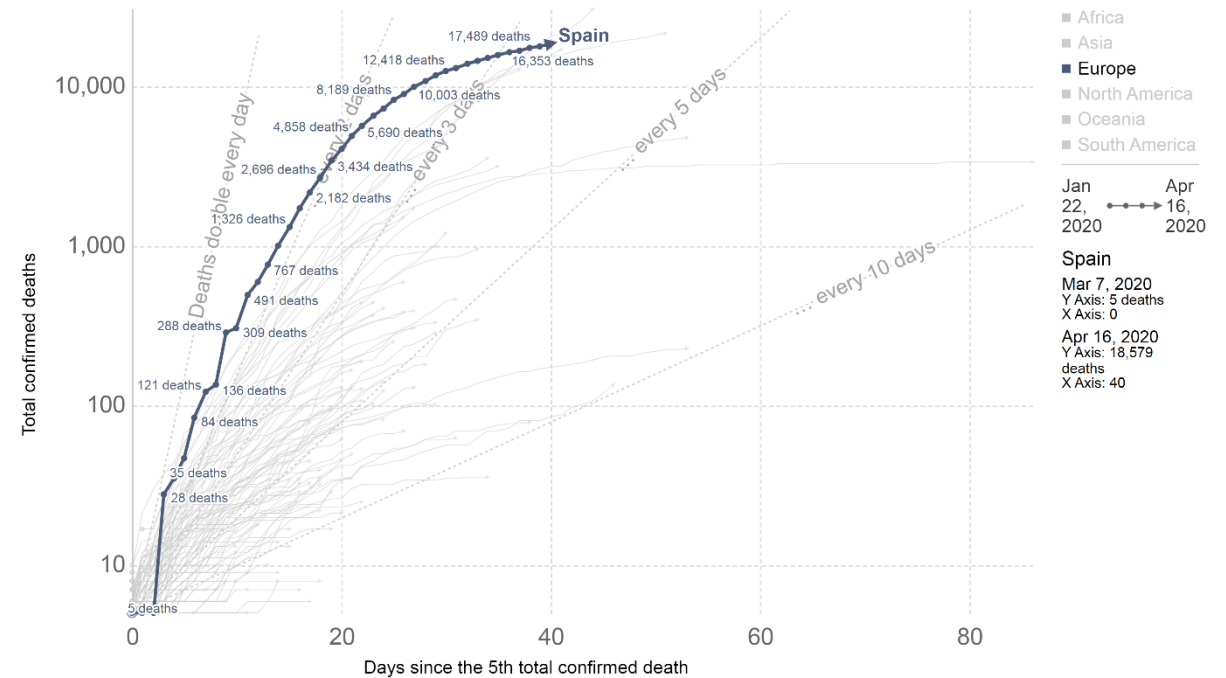
Because not everyone is tested the total number of cases is not known. Shown is the 7-day rolling average of confirmed cases.



Source: European CDC – Situation Update Worldwide – Last updated 16th April, 11:30 (London time) OurWorldInData.org/coronavirus • CC BY

## Confirmed COVID-19 deaths

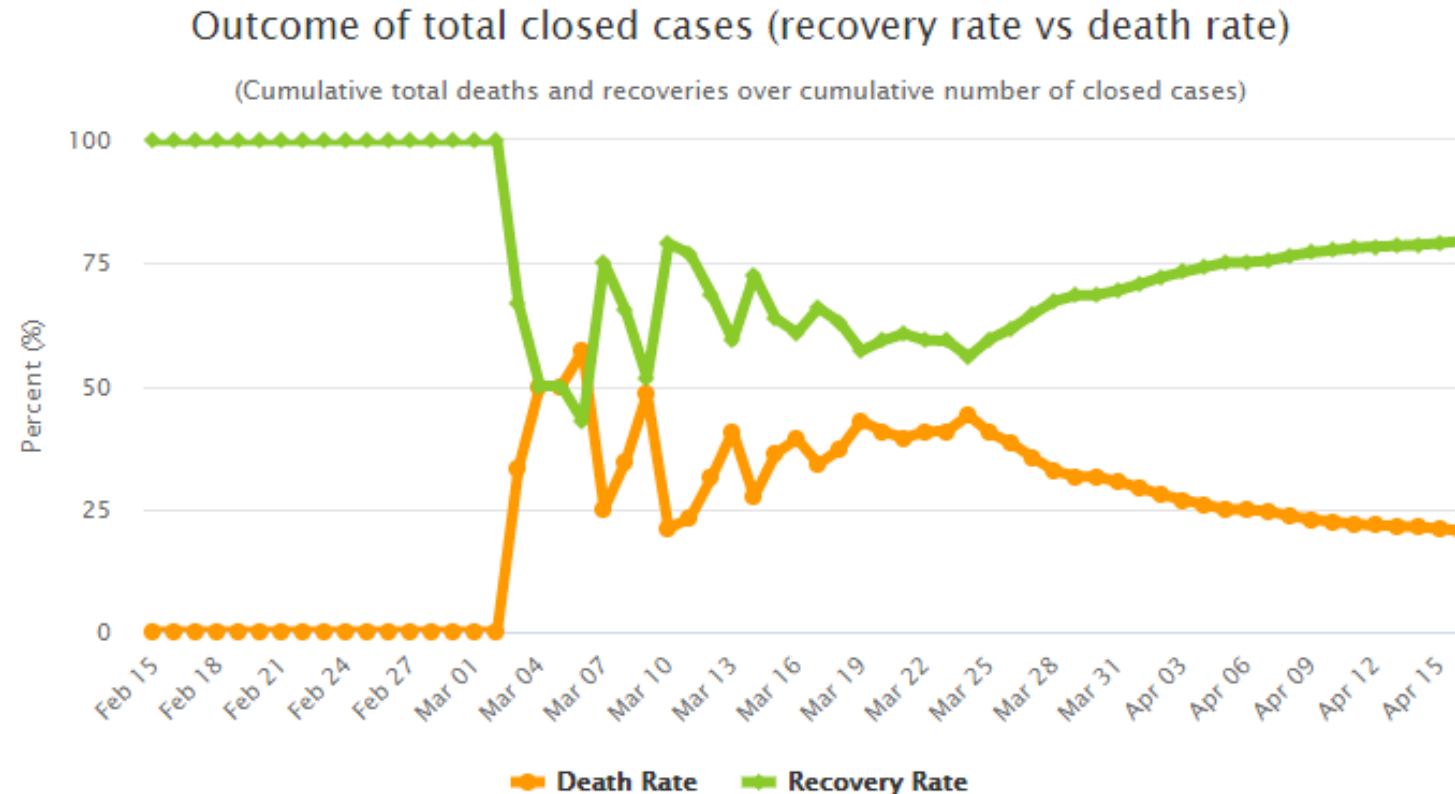
Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.



Source: European CDC – Situation Update Worldwide – Last updated 16th April, 11:30 (London time) OurWorldInData.org/coronavirus • CC BY

# Covid Actual Country Situation

## Outcome of Cases (Recovery or Death) in Spain



# Covid Country Situation      Test Used

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Indications for carrying out the diagnostic test to detect the new coronavirus (SARS-CoV-2).

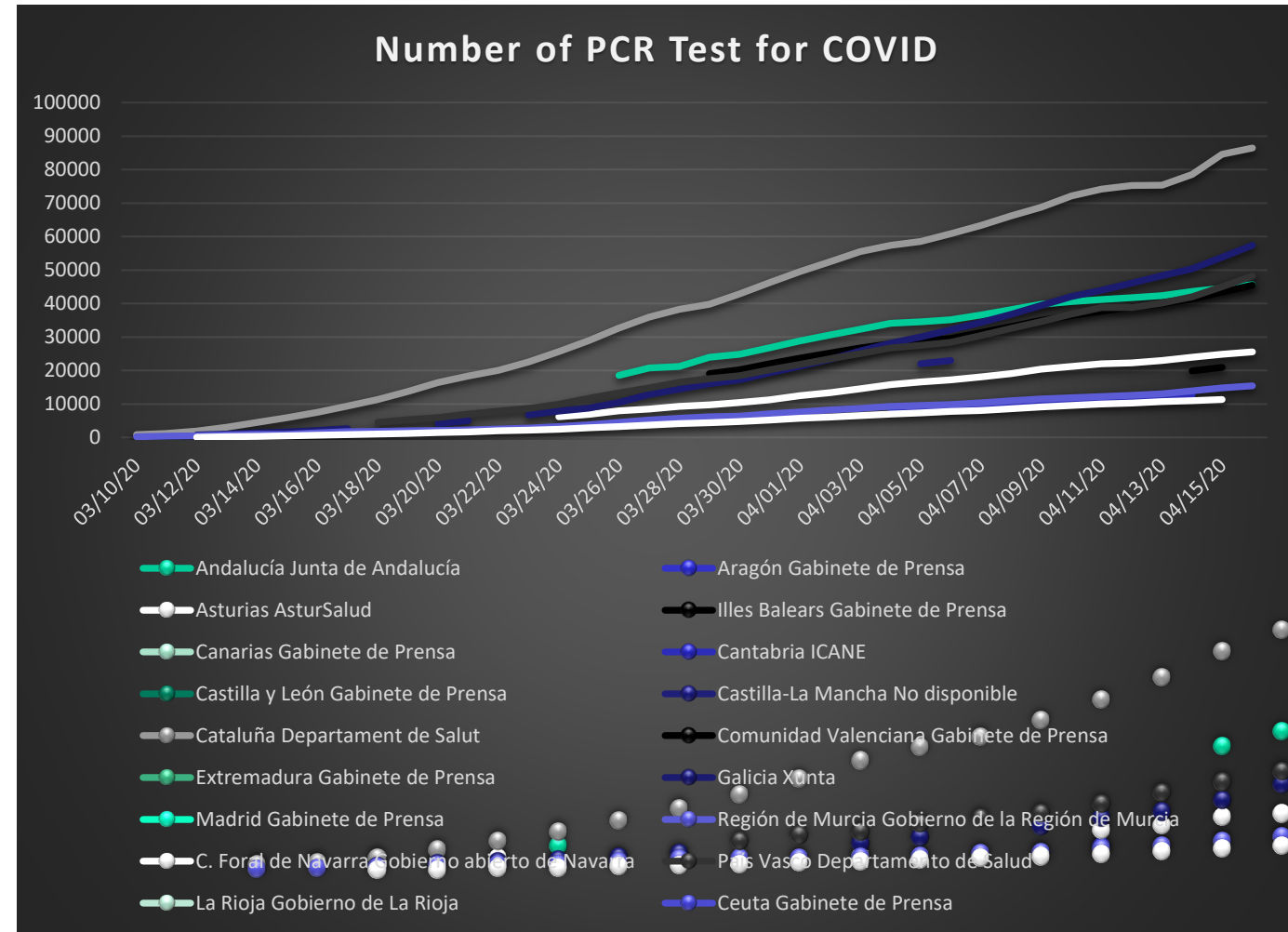
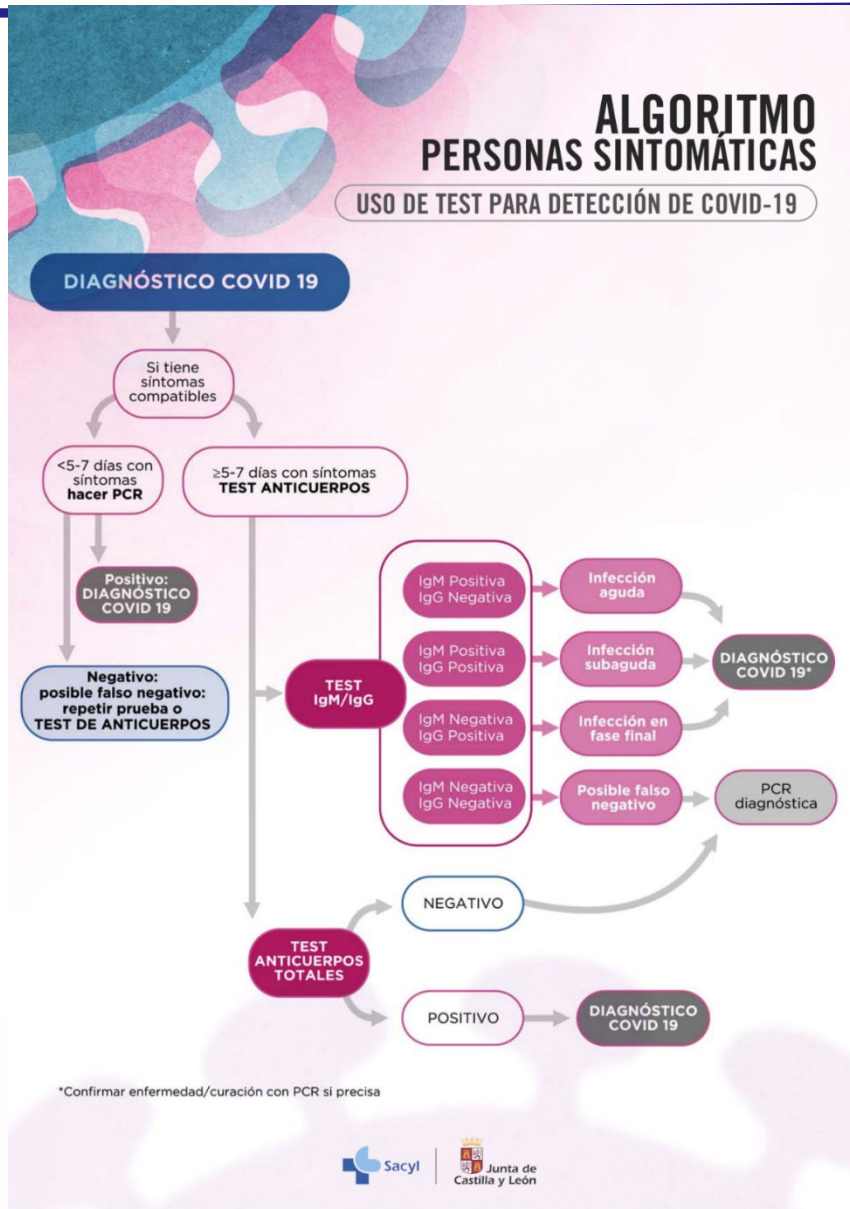
A. Person with a clinical of acute respiratory infection who is hospitalized or who meets hospital admission criteria.

B. Person with a clinical of acute respiratory infection of any severity belonging to any of the following groups: (a) health and socio-health personnel, (b) other essential services.

The carrying out of the diagnostic test may be considered in particularly vulnerable people or residents of closed institutions that present a clinical of acute respiratory infection regardless of its severity, after an individualized clinical evaluation.

Source: Ministry of Health.

# Covid Country Situation      Test Used



Source: <https://civio.es/coronavirus/>

# Covid Country Situation      Test Used

Viernes, 17 Abril 2020

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MÉDICA COLEGIAL  
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DE  
DE



Coronavirus

## Sanidad informa de que se han realizado un total de 930.230 PCR para detectar el Covid-19

El ministro de Sanidad, Salvador Illa, ha informado de que se han realizado un total de 930.230 pruebas diagnósticas PCR para detectar el Covid-19 en España entre el inicio de la epidemia y este 13 de abril, según las cifras aportadas por las comunidades autónomas



# Pre-hospital Emergency Medical Services

- 17 Differents prehospital Emergency Medical Services
- Different Teams:
  - Advanced: Physician, Nurse, Tecnician
  - Nurse , technician
  - Basic: 2 Tecnicos
- Cordination Center. 112



# Pre-hospital Emergency Medical Services

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- Demand: Important increase on the demand.
  - Cities with a great incidence, Madrid, PreH EMS, translated 8.000 pts in 2 weeks
  - Galicia received more than 200.000 calls y march
- Consider all the patients as COVID.
- Patient care times are higher, because of the PPE
- A policy is needed for the use of PPE
- Field Hospital: IFEMA , 1300 beds,



# Pre-hospital Emergency Medical Services

- Specific protocols
- <https://www.semes.org/wp-content/uploads/2020/04/TIH-COVID19-V1.pdf>



## Traslado Interhospitalario ante la pandemia de COVID-19



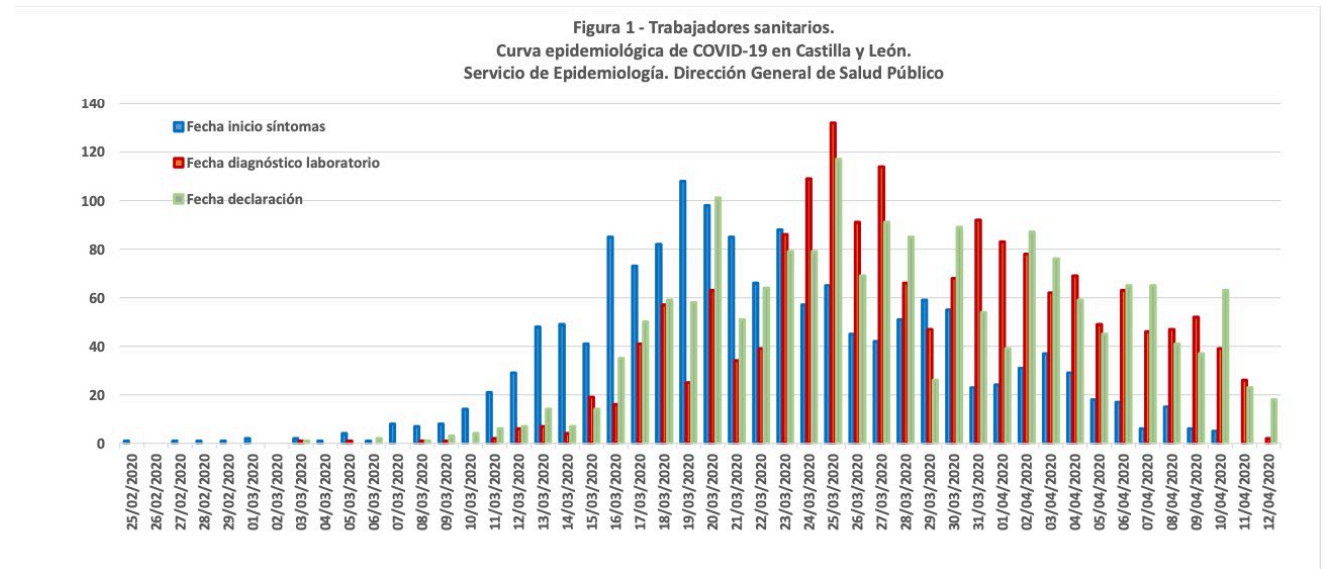
# Health Professionals Infected with Covid

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- It is estimated that more than 25,000 healthcare professionals have been infected with the coronavirus, more than 19,6% of Covid Infections. Data from plataforma SiViES (12:00 h del 16 de abril de 2020): 122.487 cases.
- Source Ministry of Health

# Health Professionals Infected with Covid

- In castilla y Leon : (data from Local government, 12 april until 20h):
- Health Profesional cases: 1784
- Admitted to hospital: 128 (7%)
- Admitted to ICU: 10 (7,8%)
- Death: 5
- Isollatted: 1.100 HP





# Final lessons learned

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We need to be prepared, which means training: Emergency Medicine Speciality.

Protection of health professionals is a must: PPE, Protocols,

Pre-hospital Emergency Medical Services are essentials in these crisis

Everyone must follow the same protocols,

Information and decision-making must be centralized

# Special Thanks to:

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Dra. Carmen Camacho



Dr. Fernando Ayuso

Dr. Jose Ramón Casal





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WEBINAR COVID-19:  
Sharing experiences of high COVID-19 impact countries.

Name: Annemarie van der Velden  
Position: President NVSHA (DSEP)  
Country: the Netherlands



# Covid Actual Country Situation

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Actual situation

## Actuele cijfers COVID-19: 17 april 2020

tested positive

Positief geteste personen	30.449*	(+1.235)
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hospital admissions

Ziekenhuisopnames	9.465	(+156)
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deaths

Overleden personen	3.459**	(+144)
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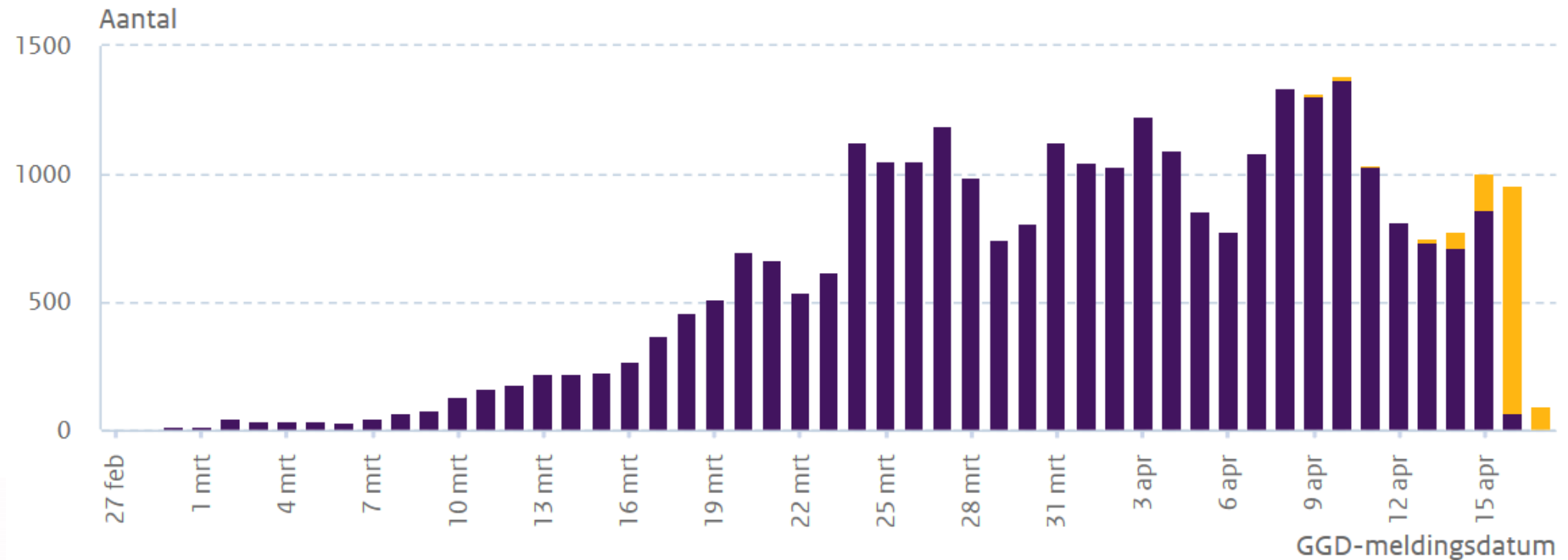


# Covid Actual Country Situation

## Covid positive patients

### Bij de GGD gemelde patiënten

Bron: RIVM





# Covid Actual Country Situation

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- Level of national lockdown: intelligent lockdown (until June 1st)
  - no meetings / gatherings
  - working at home as much as possible
  - if a family member develops a fever, the whole family stays home
  - schools, restaurants, pubs, hairdressers are closed
  - 1,5 m distance

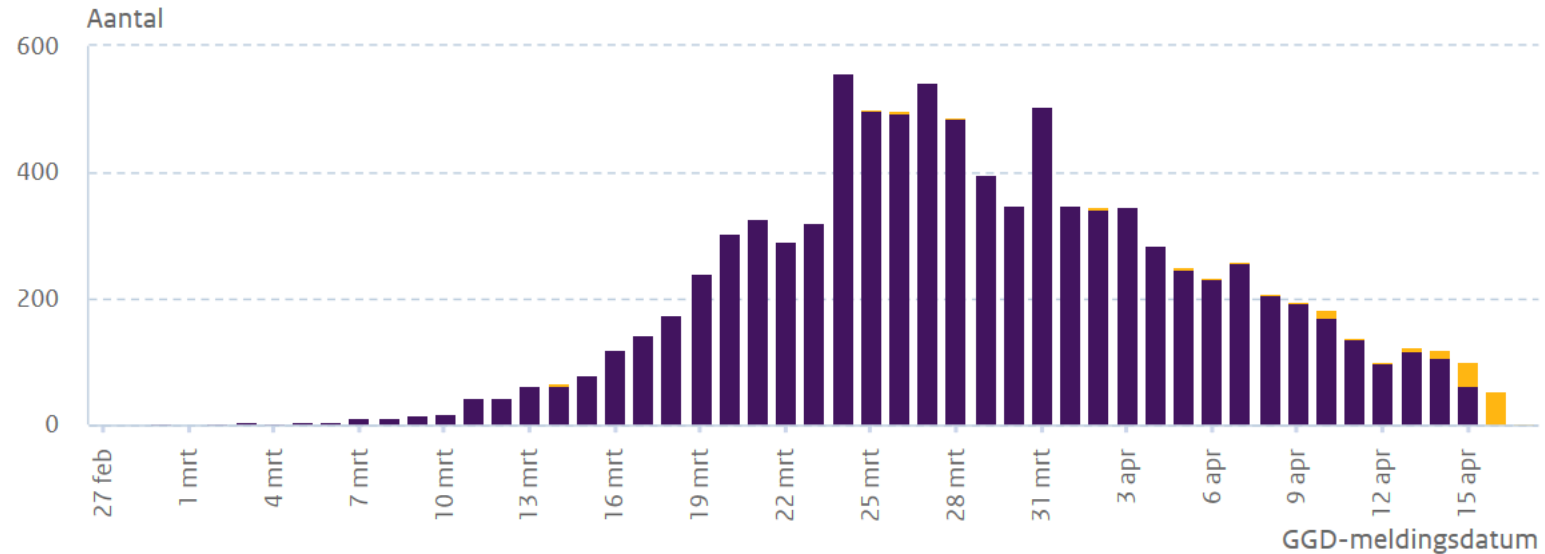
# Covid Actual Country Situation

newly hospitalized patients

In ziekenhuis opgenomen patiënten



Bron: RIVM



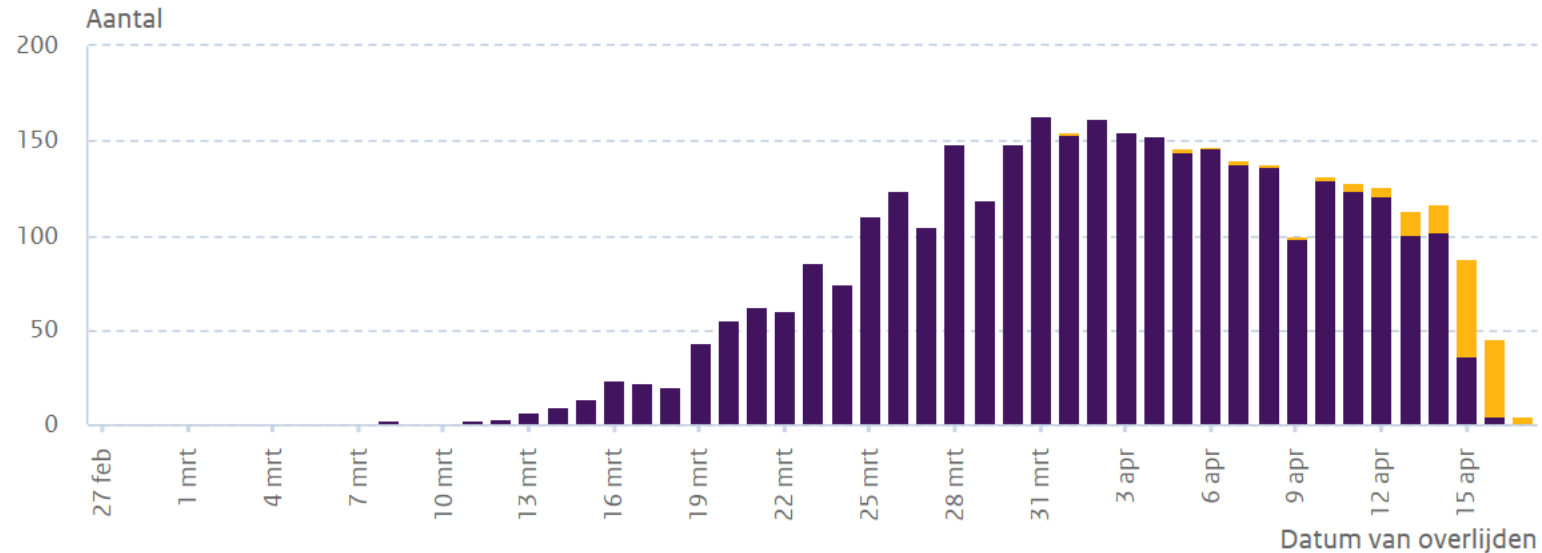
# Covid Actual Country Situation

number of deaths per day

Overledenen per dag

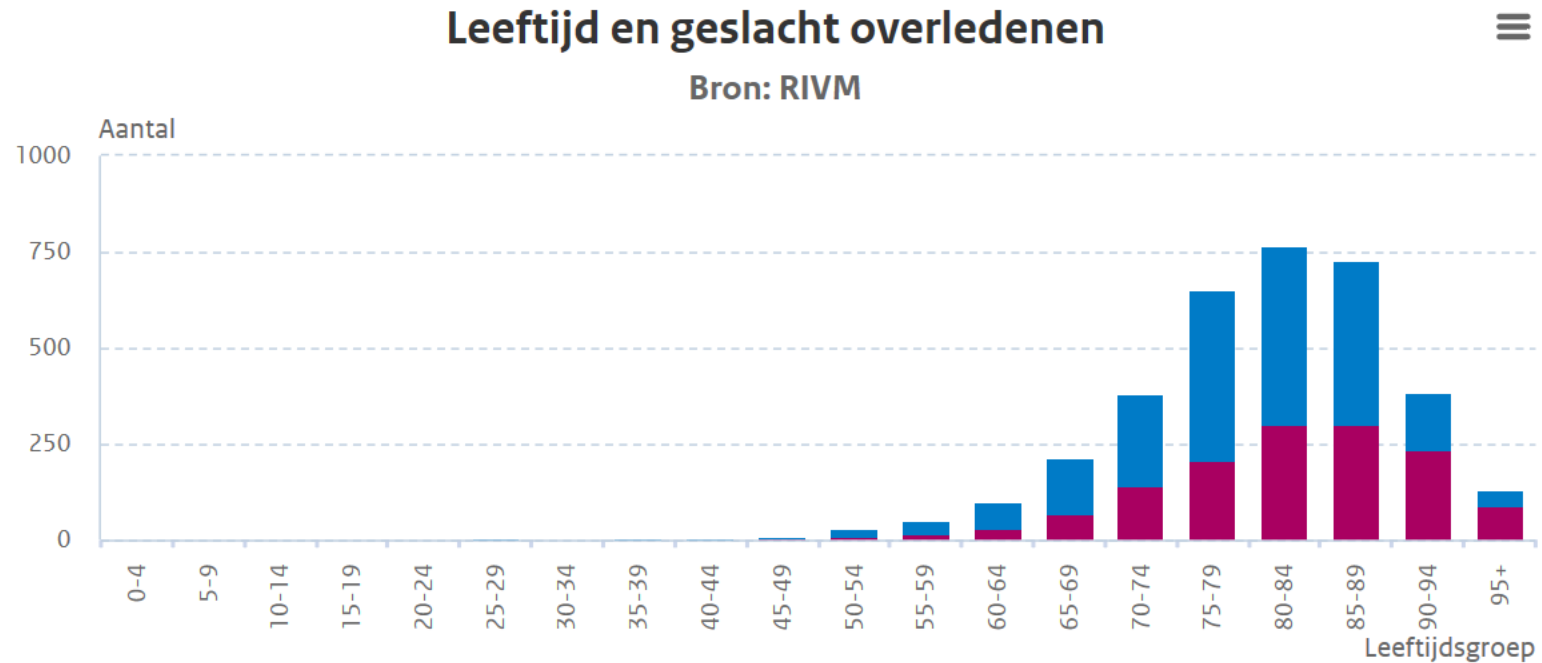


Bron: RIVM



# Covid Actual Country Situation

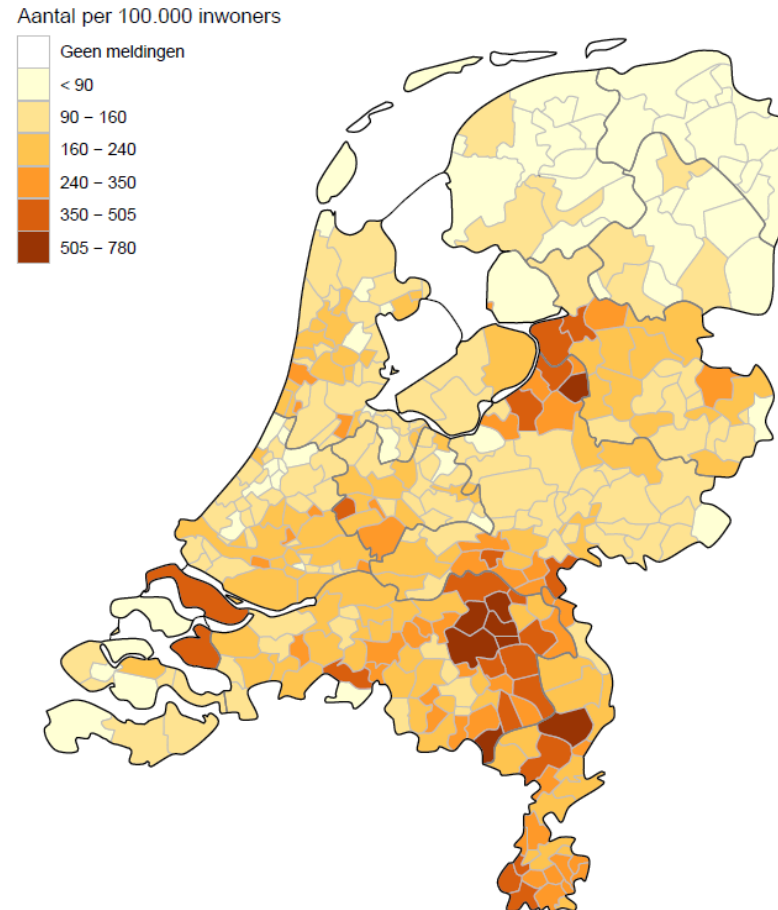
age & gender of deaths



# Covid Actual Country Situation

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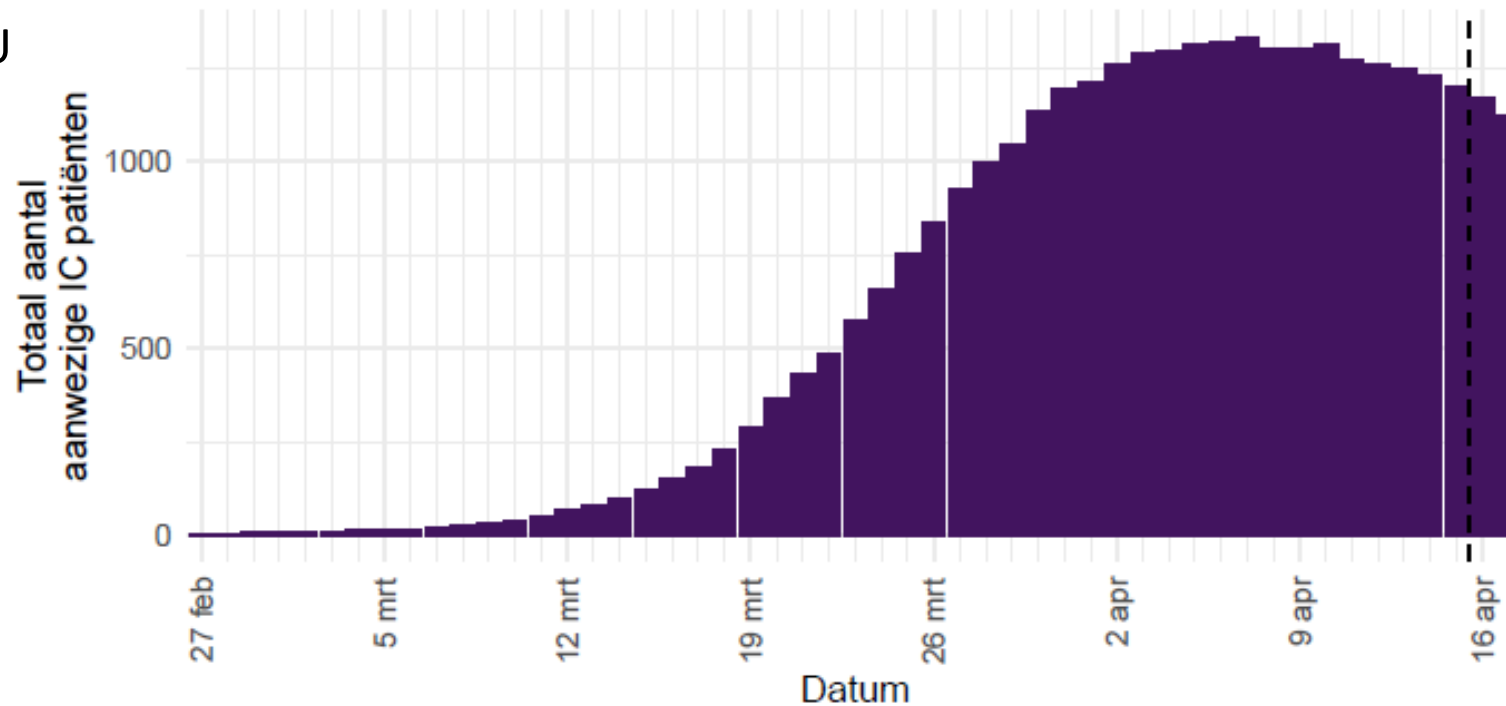
distribution of cases





# Covid Actual Country Situation

total number of  
admitted Covid ICU  
patients



# Covid Country Situation      Test Used

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- Only suspected patients and health care workers are tested; no testing in general population
- Health care workers and patients are swab tested; patients with high probability and a negative PCR are CT confirmed
- Time to PCR result = 4 hours

# PPE

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- . PPE when in contact with suspected Covid patients : gown, face shield, surgical mask, gloves
- . Use of PPE in aerosol generating procedures: +FFP2
- . Use of PPE when in the non-covid track: none
- . PPE shortages: no general shortage, nationwide distribution

# Final lessons learned

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- Most hospitals in the Netherlands have a disaster plan and a pandemic plan, this bought time in preparing
- The existing pandemic plans did not cover a scenario for multiple days or weeks
- The Netherlands have a relatively low number of ICU and hospital beds due to great efficiency; this can backfire in a pandemic; so far we have been lucky
- The end of life conversation that is conducted in every adult hospital admission in the Netherlands in non-Covid setting makes for a good starting point regarding the conversation about Covid ICU admission; the Dutch public is used to conversations about end of life derivatives and the older patients are inclined to decide on a no ICU derivative

tables and content provided by RIVM (Rijksinstituut voor Volksgezondheid en Milieu)



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Name: Said LARIBI

Position: Chair EUSEM Research network  
and Head of the EM Department

Country: University hospital, Tours, France

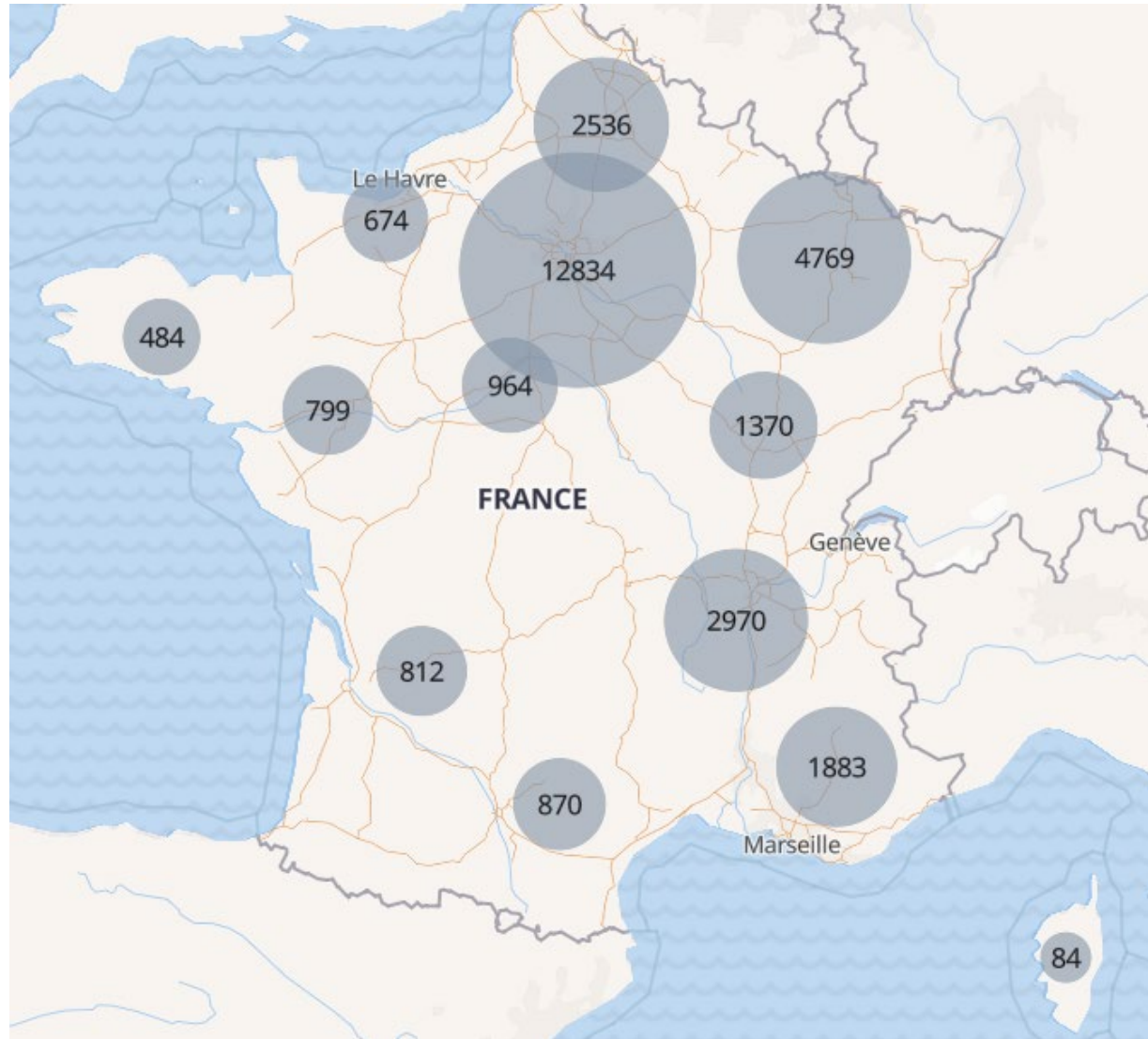
# Covid Actual Situation: France

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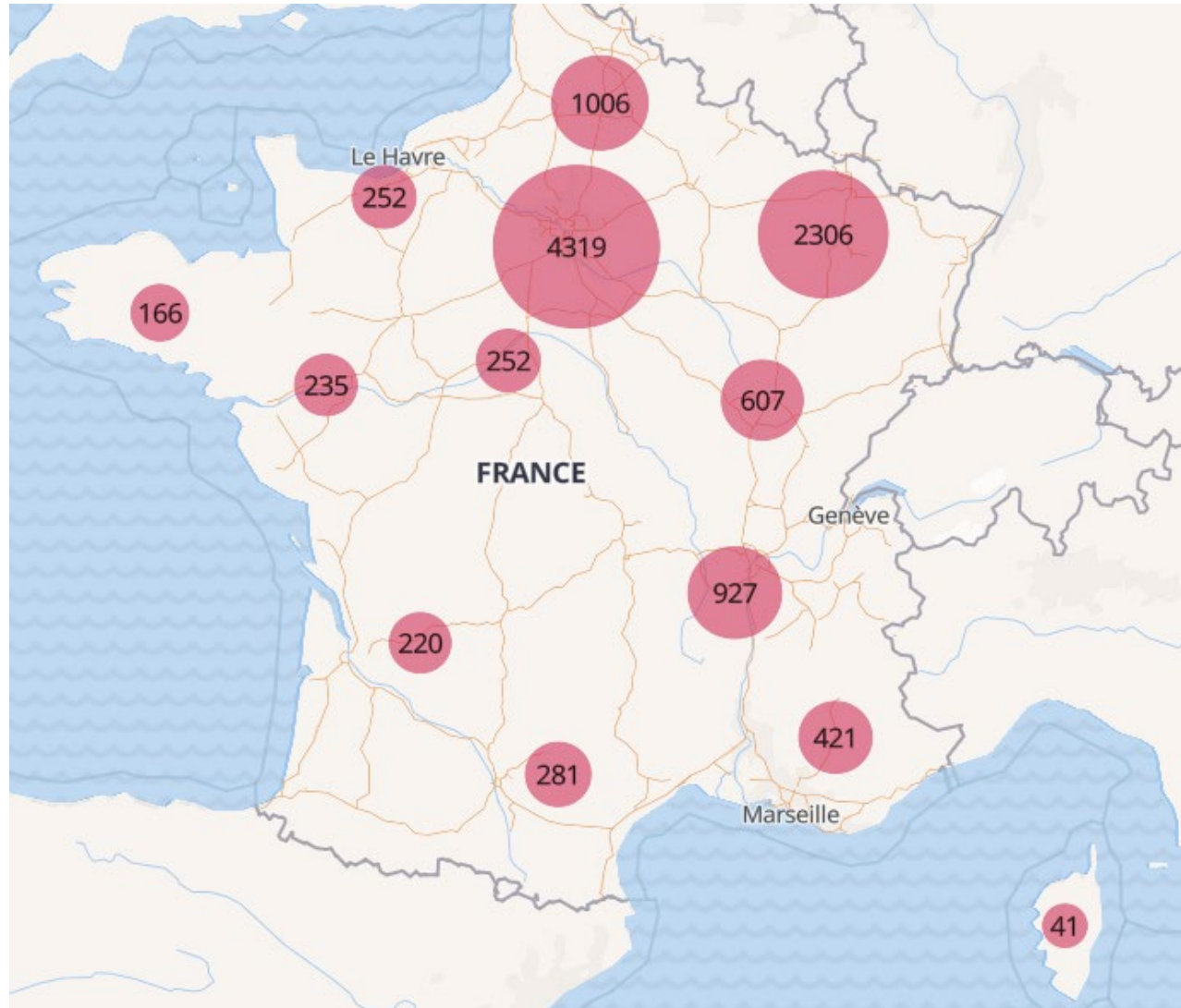
- Actual situation on **April 16th 2020**
  - Confirmed cases: **108 847**
  - Hospitalizations for Covid: **31 305**
  - ICU patients: **6 248**
  - Case Fatality Rate (CFR): **17 920** (6 860 from nursing home)
  - **Trend** : less hospitalisation and less patients admitted to ICU
- Level of national lockdown: **Total** since March 16th 2020



## France: Hospitalisations for Covid-19



## France: CFR for Covid-19



# Covid Country Situation: Test Used

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- Avenues for testing (home / community / hospital)
  - Over the last weeks only hospitals were able to do the RT-PCR test
  - Since few days: community laboratories are allow to do RT-PCR
- Tests Used: Swab for RT-PCR and CT
- Time to result: 6 hours
- Number of Tests per population: 15 tests/10 000 population (Mostly hospitalized patients)
- Presumptive diagnoses (without testing) : based on clinical signs and imaging

# Pre-hospital Emergency Medical Services

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- Demand: Calls to the dispatch centers tripled in every SAMU in France
- Management: Increased numbers of persons on call, GPS, medical students, nurses...
- Ex: SAMU 37, usual number of calls : 700/24h, mid March activity was: 1 646 calls/24h with 1/3 of calls related to Covid-19
- Health Professionals impact: depending on regions
- Use of PPE in the pre-hospital: Yes, PPE provided to medical teams and also to private ambulances. In my county, 3 private ambulances dedicated to Covid-19 transferts

# Triage

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- Telephone: advice to patients with suspected Covid-19 to first call their GPs, unless they have signs for an emergency situation then call to SAMU (Medical emergencies: 15)
- Pre-triage has been implemented in some hospitals
- In most of Emergency Departments (Eds) in France a dual track (Covid and non-Covid pathways) has been implemented

# PPE

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- . Use of PPE when in contact with suspected Covid patients track: Yes, complete PPE
- . Use of PPE in aerosol generating procedures: yes only in suspected Covid patients.
- . Use of PEE when in the non-covid track: Only a surgical mask
- . Post PPE use strategy: disposal
- . PPE workarounds: overcoat in tissue are provided to hospitals, can be reused after cleaning
- . Use of negative pressure rooms / HEPA room filters: Not anymore at the current stage



# Health Professionals Infected with Covid

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- Estimation of the HP affected: up to 30% of HP in some Eds, not available for all the country
- Criteria for testing HP: being symptomatic with cough, fever...
- Strategy for HP who are positive and asymptomatic: they continue to work wearing PPE

# Clinical trajectories

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Admission to ICU mostly based on clinical parameters

- Criteria: RR, Oxygen saturation, need for high level of oxygen
- Ventilation support strategies or algorithms in use: at the beginning NIV was not recommended, it has changed recently and now NIV is possible to avoid intubation.

# Final lessons learned: France

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- Happy to see a decrease in ICU admissions and hospital admissions over the last days
- Number of suspected Covid patients in EDs begins to decrease
- At the same time: number of Non-Covid patients is increasing the GPs offices and in EDs
- Ministry of health doing their best to increase available tests all over the country, mainly in increasing the university hospitals lab capacity.
- One issue currently discussed in France is how to organize the end of the national lockdown
- EuroCOV study through the EUSEM research network,
- Don't hesitate to send me an email: [researchnetwork@eusem.org](mailto:researchnetwork@eusem.org)



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Name: Ian Higginson

Position: RCEM Vice President

Country:UK

# Covid Actual Country Situation

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- Actual situation
  - Trend: Admissions flattening out. Only hospital cases reported.
- Level of national lockdown: High
- Cases: Hospital admissions, admitted severe and ICU cases
  - Ventilated: Not known but surge ICU capacity exceeds requirement currently
- Case Fatality Rate (CFR): true rate not known
- Case Recovery Rate (CRR): true rate not known

# Covid Country Situation      Test Used

---

- Avenues for testing (home / community / hospital)
  - Health care worker testing improving, care home testing now high on national agenda
- Tests Used: Swab (mostly)
- Time to result: Variable but down to hours in most cases



# Pre-hospital Emergency Medical Services

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- Demand: Down except in major centres
- Management: Increased use of Treatment Escalation Plans reported. Non-conveyancing guidance under consideration
- Use of PPE in the pre-hospital: new guidance issued

# Triage

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- Telephone: Through NHS 111 system. Patients directed to stay at home, assessment in "hot hub" or ambulance
- At the GP level: Telephone triage
- At the Pre-triage in Hospital: Prealert and entrance screening
- Use dual track (covid and non-covid) pathways: now standard

# PPE

---

- . Use of PPE when in contact with suspected covid patients track: Goggles / visor, surgical mask, gloves, apron
- . Use of PPE in aerosol generating procedures: Visor, FFP3, gown, long gloves
- . Use of PEE when in the non-covid track: As for suspected COVID
- . Post PPE use strategy (disposal, repeat-use, cleaning); Eye-pro cleaned, rest disposable
- . PPE shortages: Reported in wider system (e.g. care homes). Shortage of gowns.

# Health Professionals Infected with Covid

---

- Estimation of the HP affected: not known
- Criteria for testing HP: Symptomatic or family with symptoms (family tested)
- Strategy for HP who are positive and asymptomatic: Isolate
- Mortality: not known

# Clinical trajectories

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Discharge / Admission / ICU

- Criteria, algorithms, or decision support tools: Increasing but standard: Current focus on proning, role of thrombosis
- Ventilation support strategies or algorithms in use: Standard
- Medicinal support strategies or algorithms in use: Standard with trials taking place

# Final lessons learned

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- Strong alignment with other European experiences around systems, processes, clinical care, PPE, testing etc. although we seem to be behind in some areas (e.g. testing)
  - Benefits from networking
- NHS has not been overwhelmed so far and operating within surge capacity
- Social distancing appears to be working but we don't know what to expect next
- Some systems have seen relatively low levels of activity so far: future concern?
- Benefits realisation from national system
- Lots of lessons about local and systems leadership
- Importance of protecting / valuing staff
- Continued support for NHS from public
- Reduced emergency demand and crowding
- Improved relationships within and between organisations
- How can we take what we have learned already and use it to improve care in the future
- Concerns over the next phases ...



# EUSEM

EUROPEAN SOCIETY FOR EMERGENCY MEDICINE

## WEBINAR COVID-19: Sharing experiences of high COVID-19 impact

**Name: Wilhelm Behringer**

**Position: Chair Department of Emergency Medicine**

**Country: Germany**





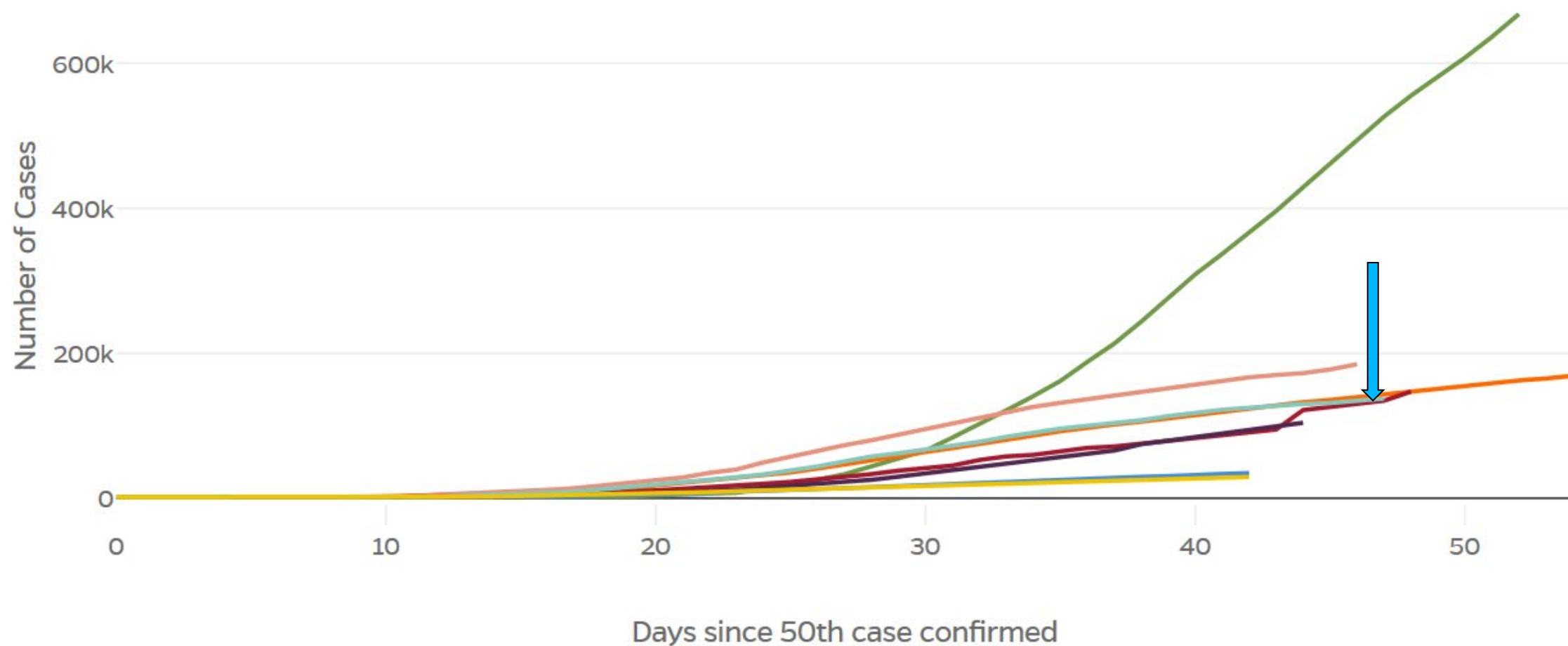
**If you don't take a temperature, you can't find a fever .....**



**The meaning of numbers?**

Confirmed ▼

Linear ▼



Click any country below to hide/show from the graph:

US

Italy

Spain

France

United Kingdom

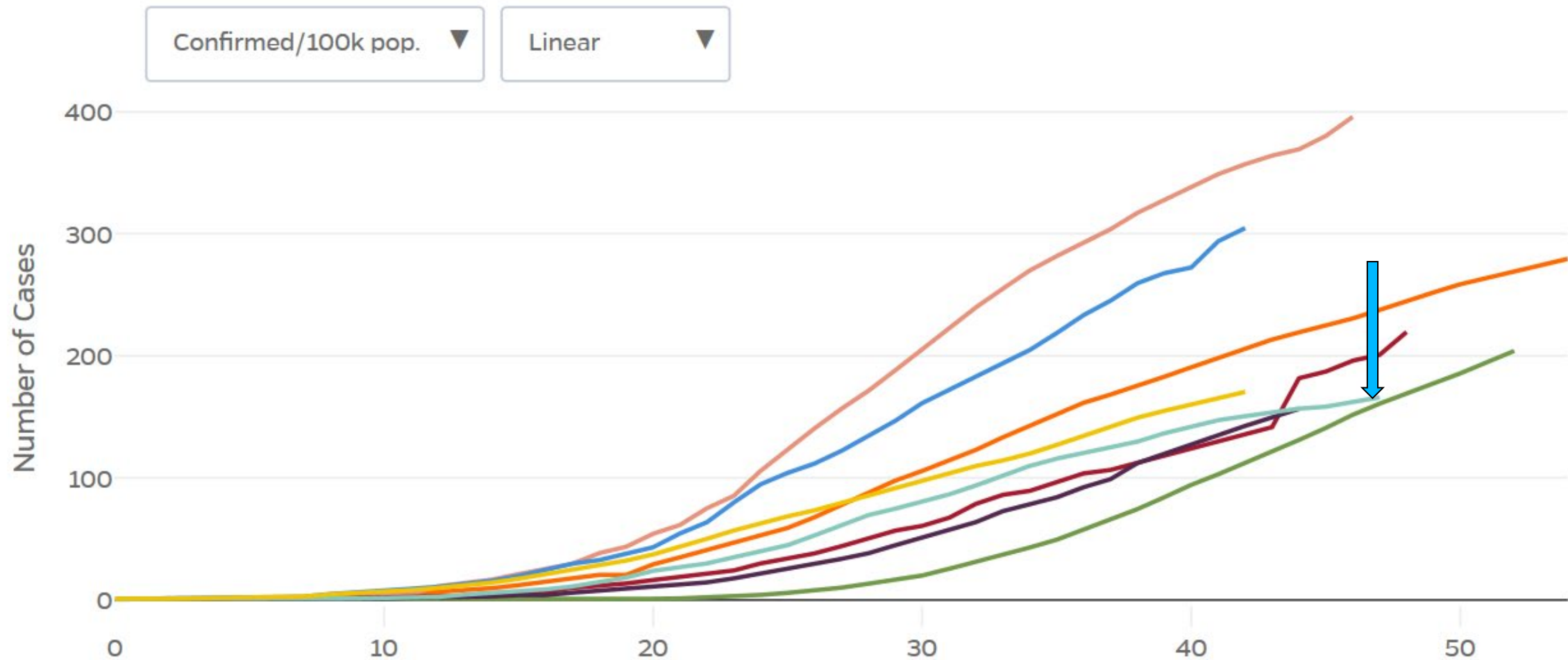
Iran

Belgium

Germany

China

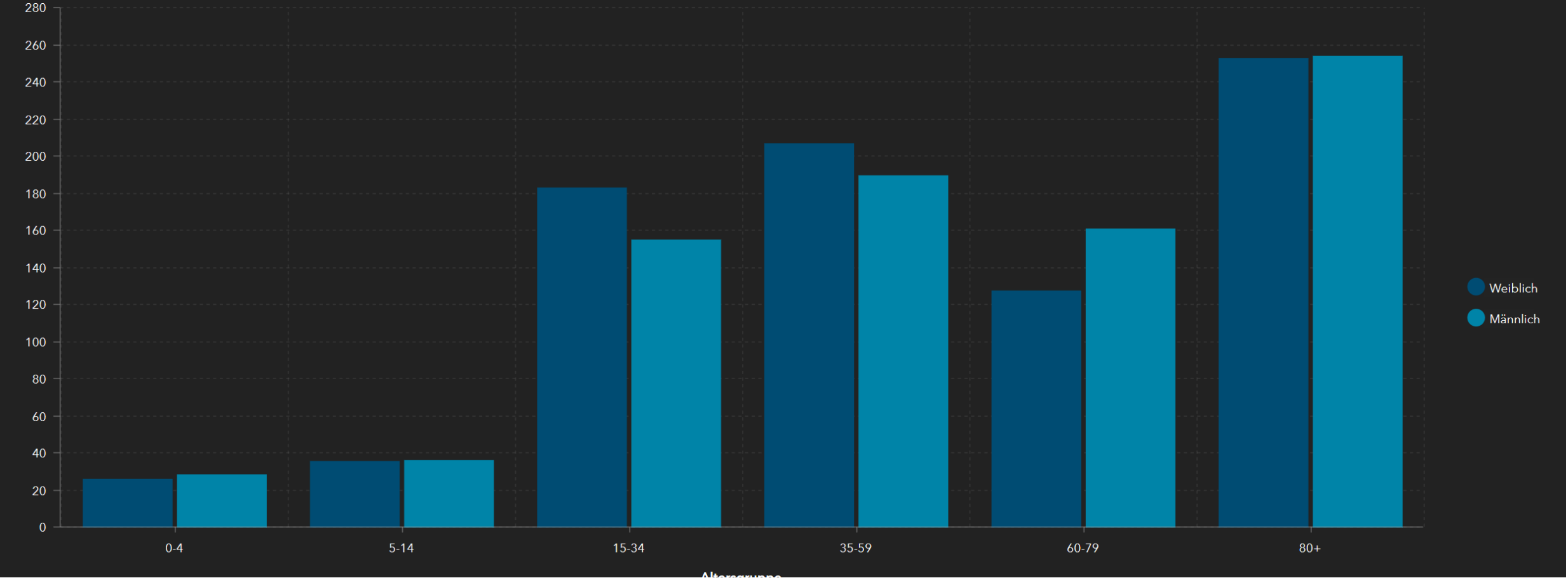
Netherlands

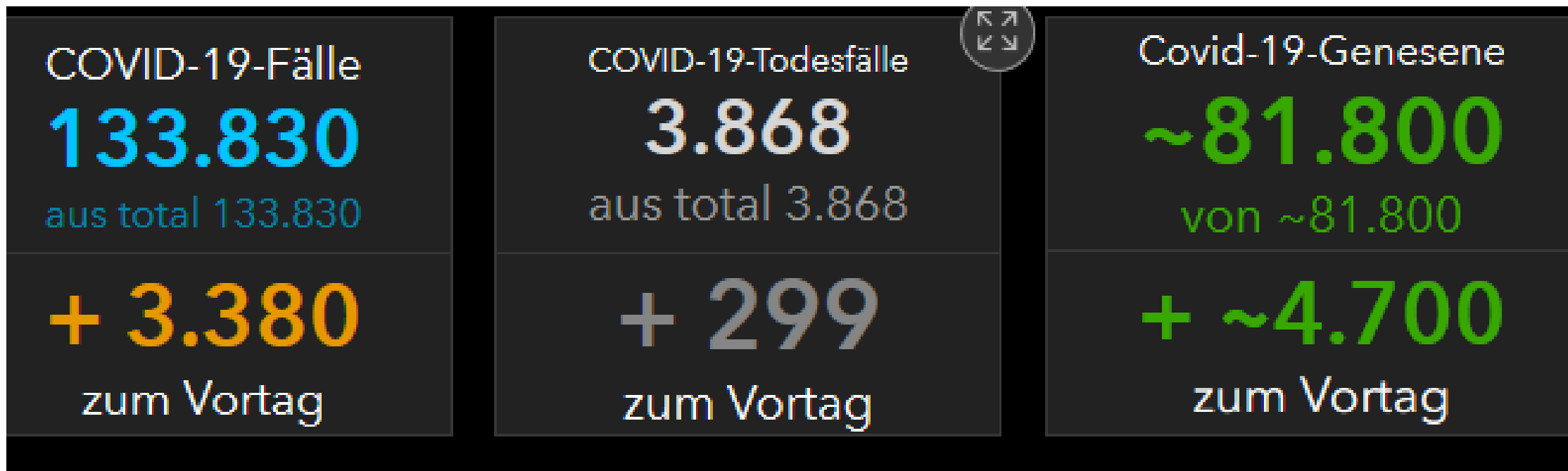


Click any country below to hide/show from the graph:

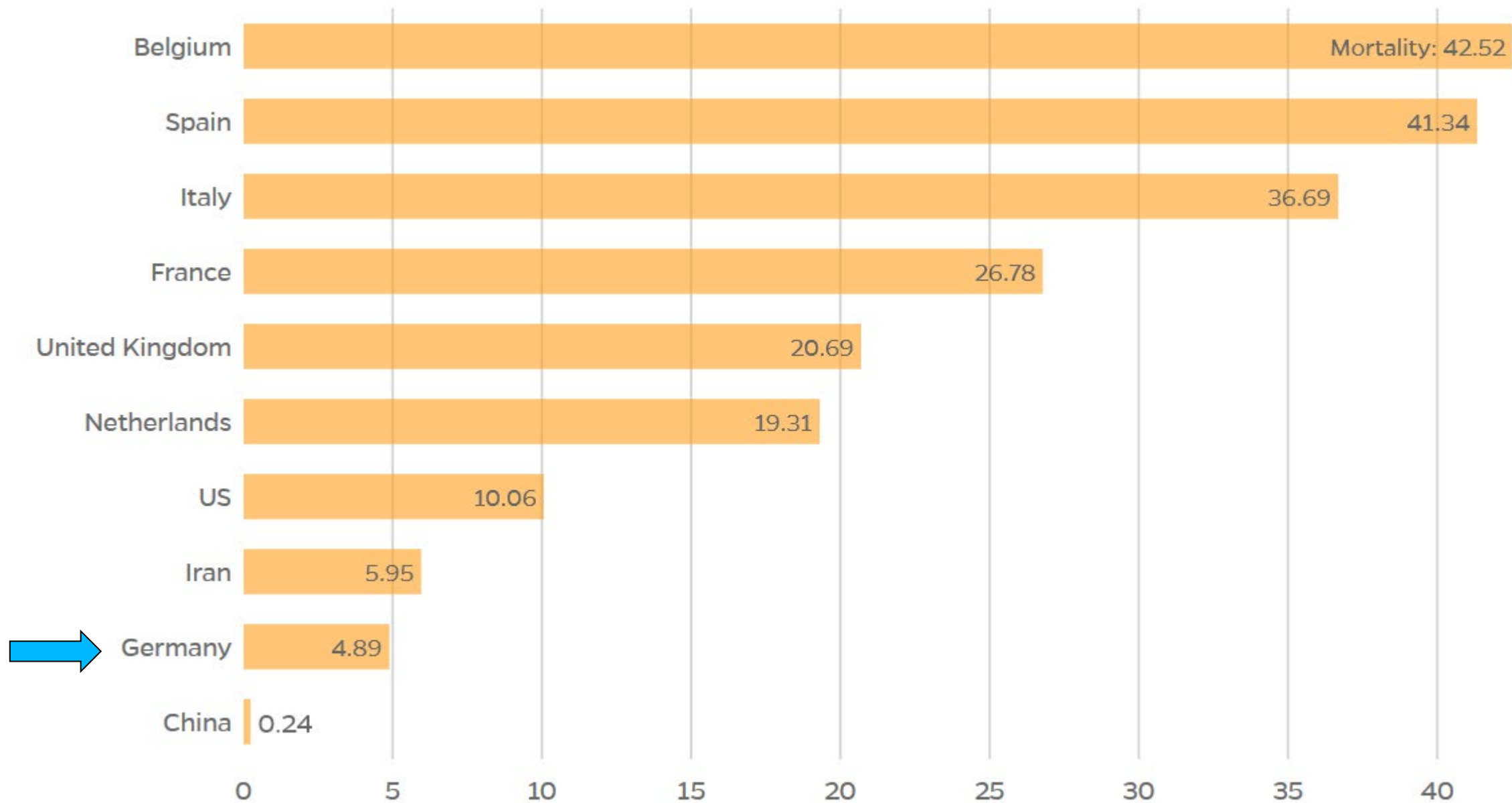
- |      |         |         |        |                |
|------|---------|---------|--------|----------------|
| US   | Italy   | Spain   | France | United Kingdom |
| Iran | Belgium | Germany | China  | Netherlands    |

COVID-19-Fälle nach Altersgruppe und Geschlecht/100.000 Einwohner





**Case fatality rate 3%**



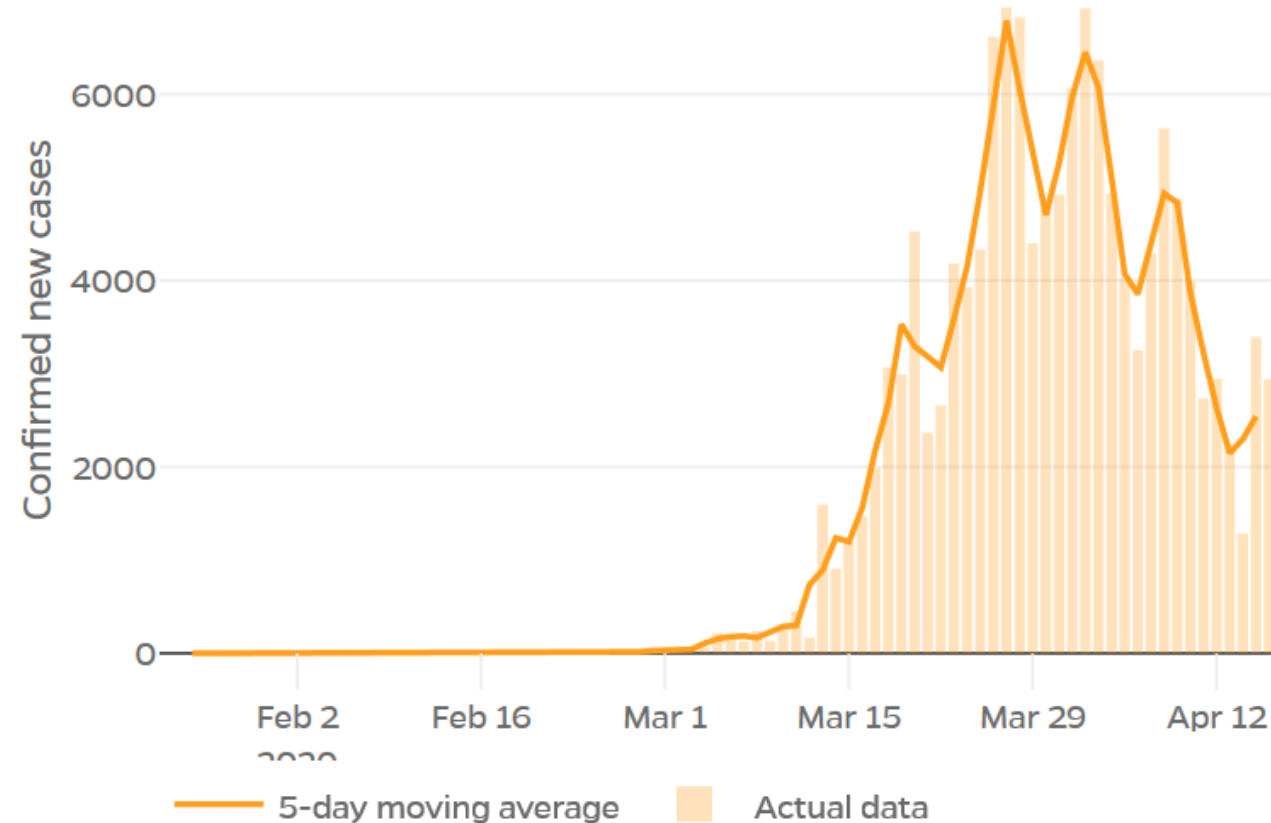
Mortality: Deaths per 100,000 population

# GERMANY

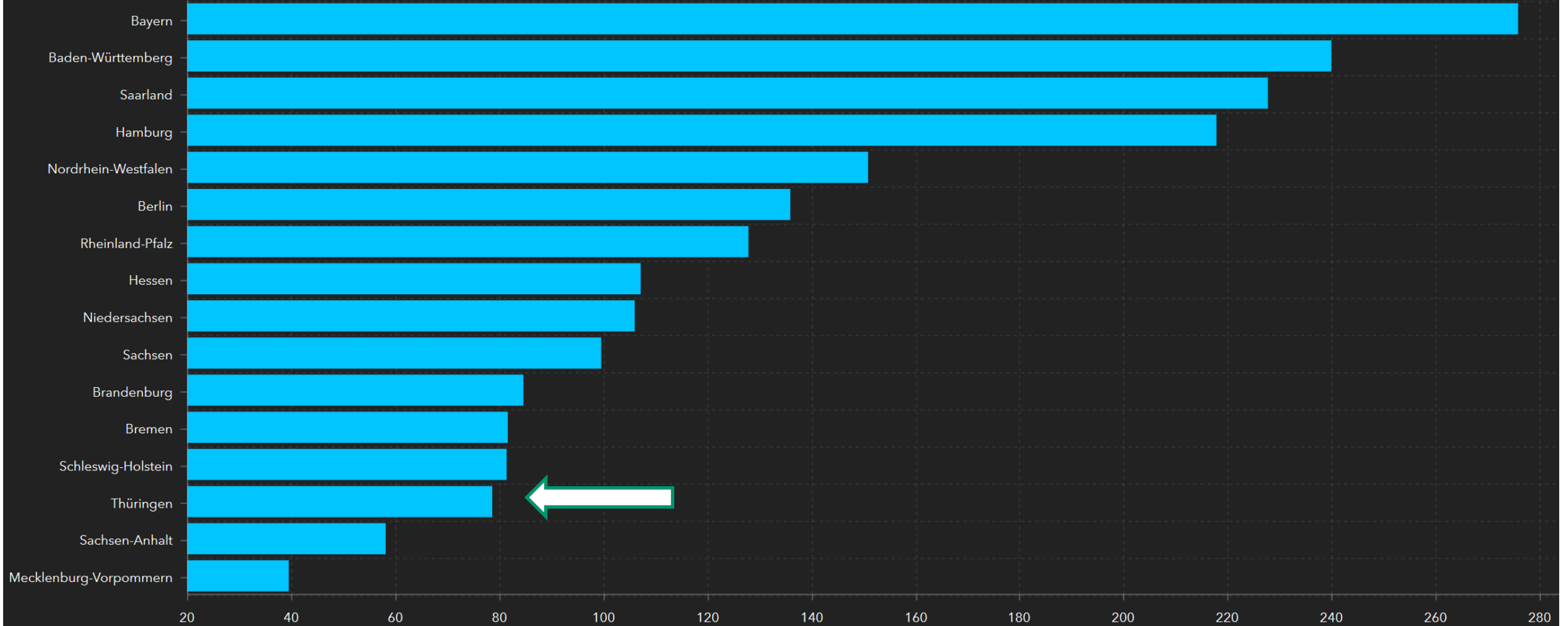
New cases confirmed each day (5-day-average)



The first case of COVID-19 in Germany was reported 80 days ago on 27.1.2020. Since then, the country has reported 137,698 cases, and 4,052 deaths.



COVID-19-Fälle/100.000 Einwohner



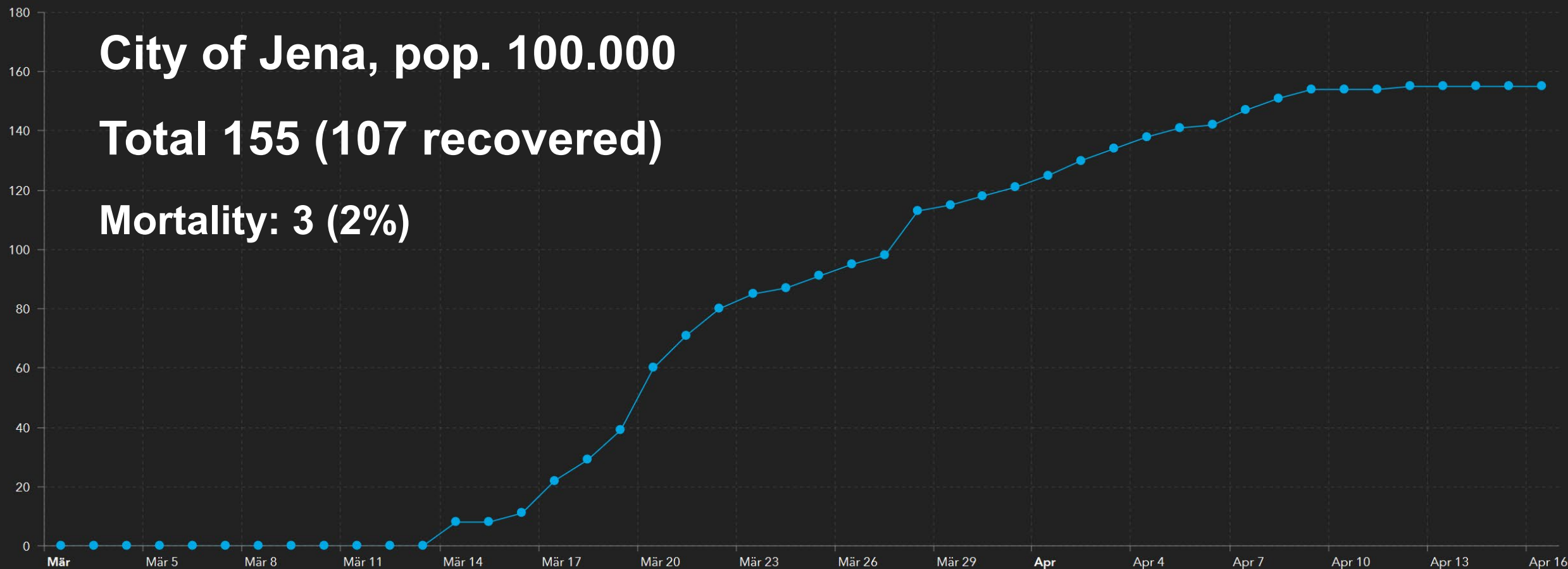


COVID-19-Fälle kumuliert \*

**City of Jena, pop. 100.000**

**Total 155 (107 recovered)**

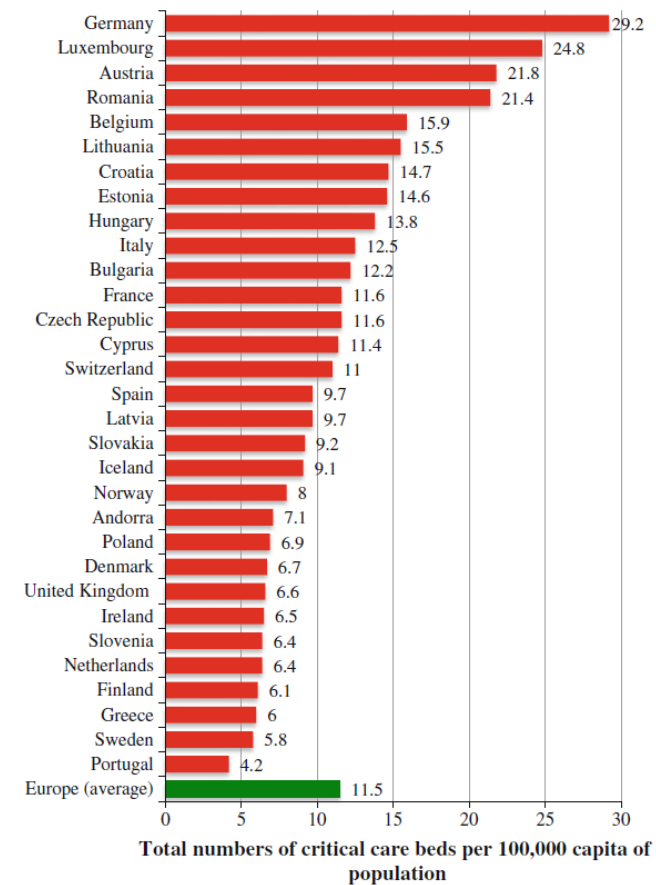
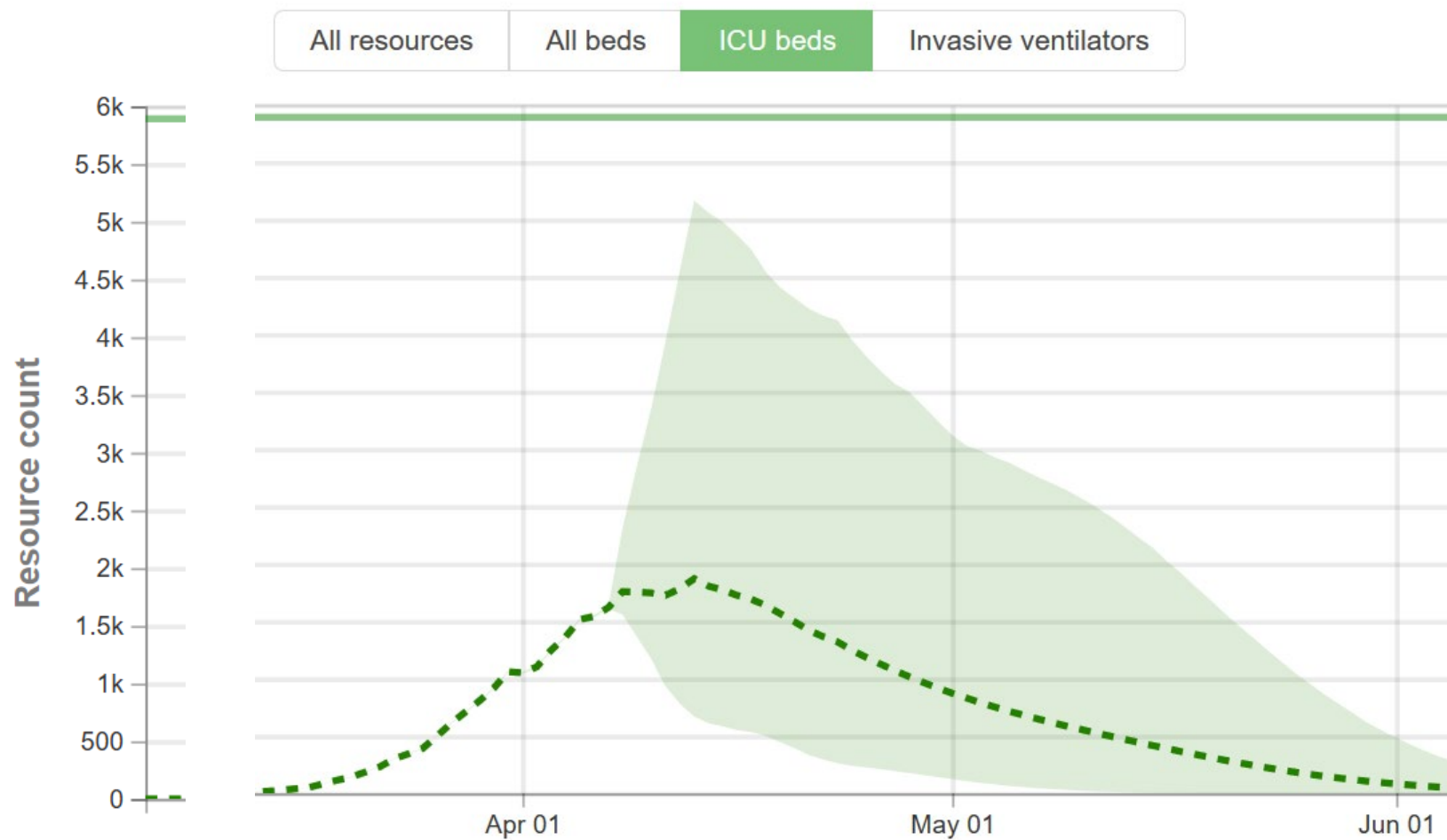
**Mortality: 3 (2%)**





**17.4.2020: 4 patients confirmed CoV (2 ICU)**

<https://covid19.healthdata.org>



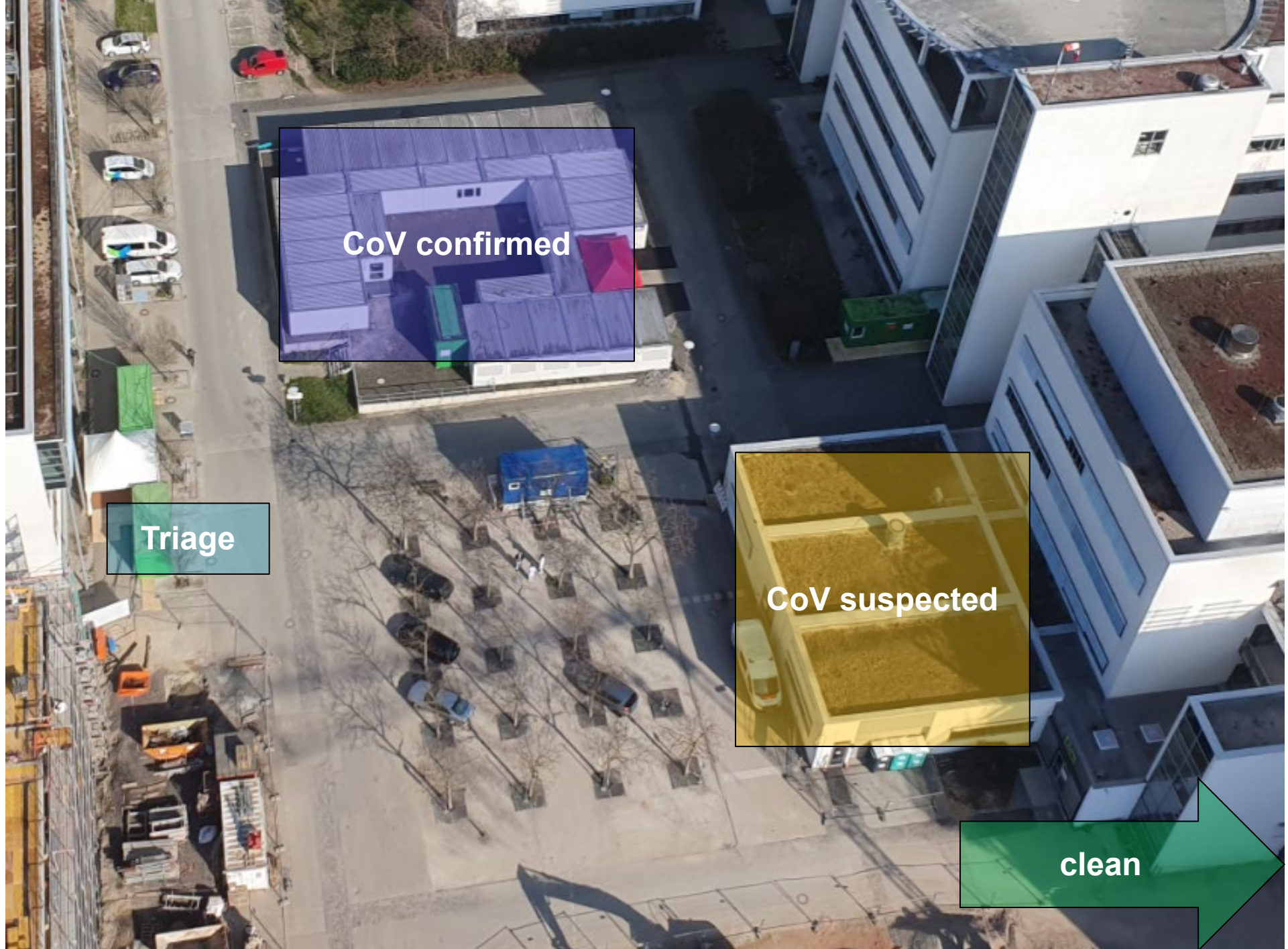
**Fig. 1** Numbers of critical care beds corrected for size of population (per 100,000 inhabitants) for European countries

**Rhodes 2012**









CoV confirmed

Triage

CoV suspected

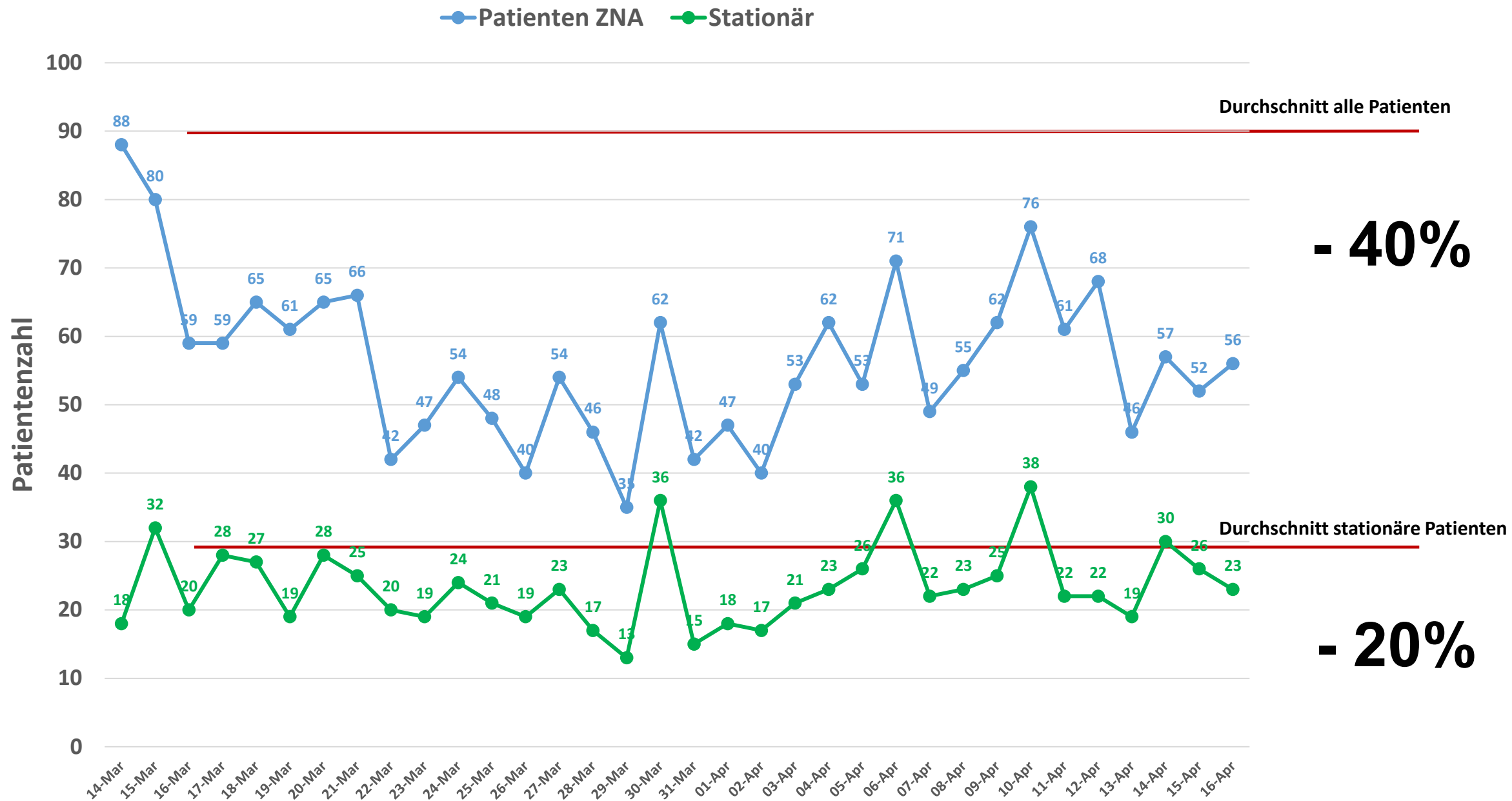
clean











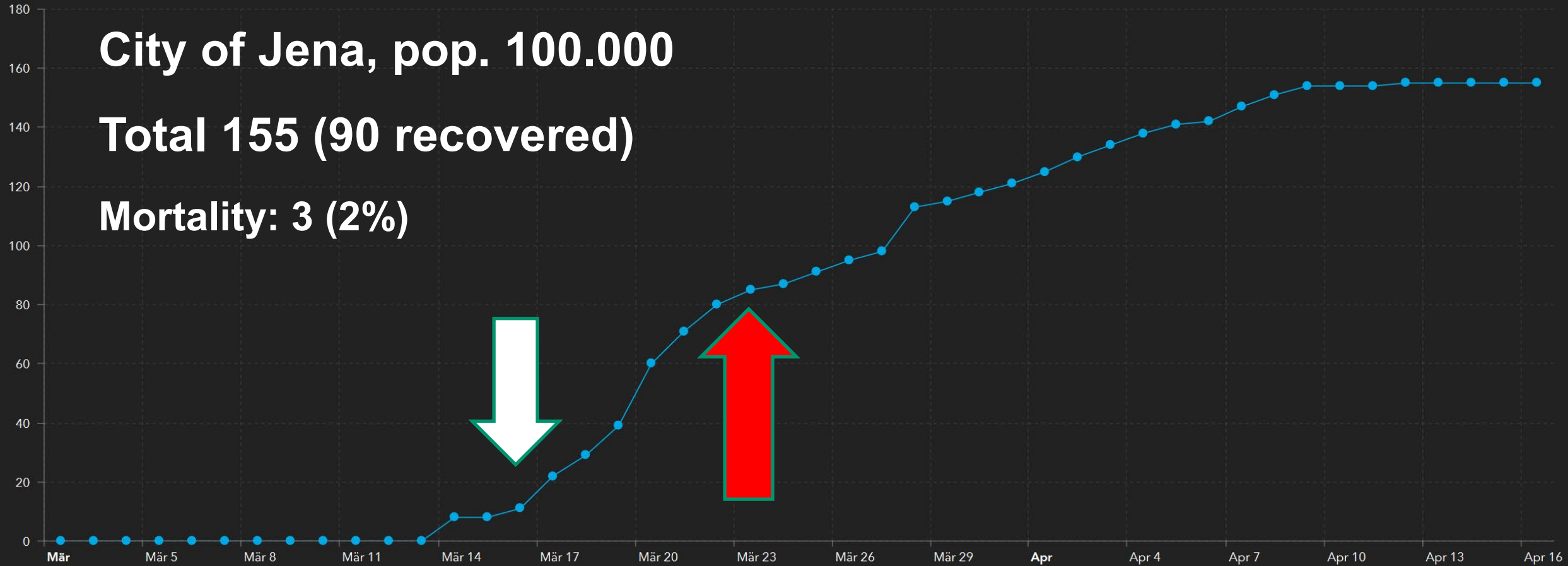


COVID-19-Fälle kumuliert \*

**City of Jena, pop. 100.000**

**Total 155 (90 recovered)**

**Mortality: 3 (2%)**





# EUSEM

EUROPEAN SOCIETY FOR EMERGENCY MEDICINE

## WEBINAR COVID-19:

Sharing experiences of high COVID-19 impact countries.

Name: Diana Cimpoesu







Position: Secretary of SMUCR, Chair of Pre-hospital Section

Country: Romania

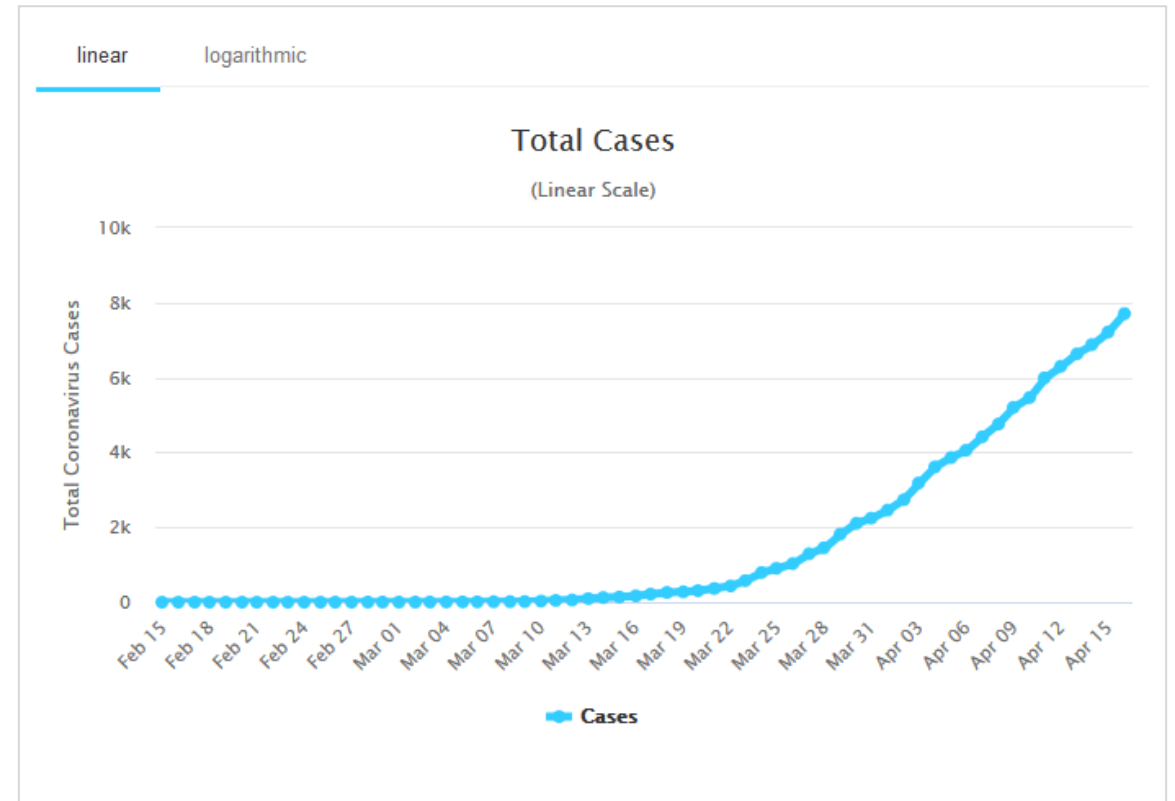
# Covid Actual Country Situation

- Actual situation
  - Trend
- Level of national lockdown

Quarantined	22.129
Isolated	50.712

ZONA ROSIE (carantina in zone desemnate 14 zile)		
China		Provincia Hubei (inclusiv orasul Wuhan)
Coreea de Sud		Daegu (oras) Cheongdo (judet)
Italia		Intreaga tara
Franta		Regiunea Hauts de France Regiunea Ile de France Regiunea Grand Est Regiunea Bourgogne France Comte Regiunea Auvergne Rhones Alpes
Germania		Regiunea Baden Wurttemberg Regiunea Bayern Regiunea Nordrhein Westfalen
Spania		Regiunea Madrid

Total Coronavirus Cases in Romania



Population :19,41 mil



 Romania

Coronavirus Cases:

**8,067**

Deaths:

**411**

Recovered:

**1,508**

. 1-st case: the 26 –th February  
(contact with Italy)

.Cases: Hospital admissions :

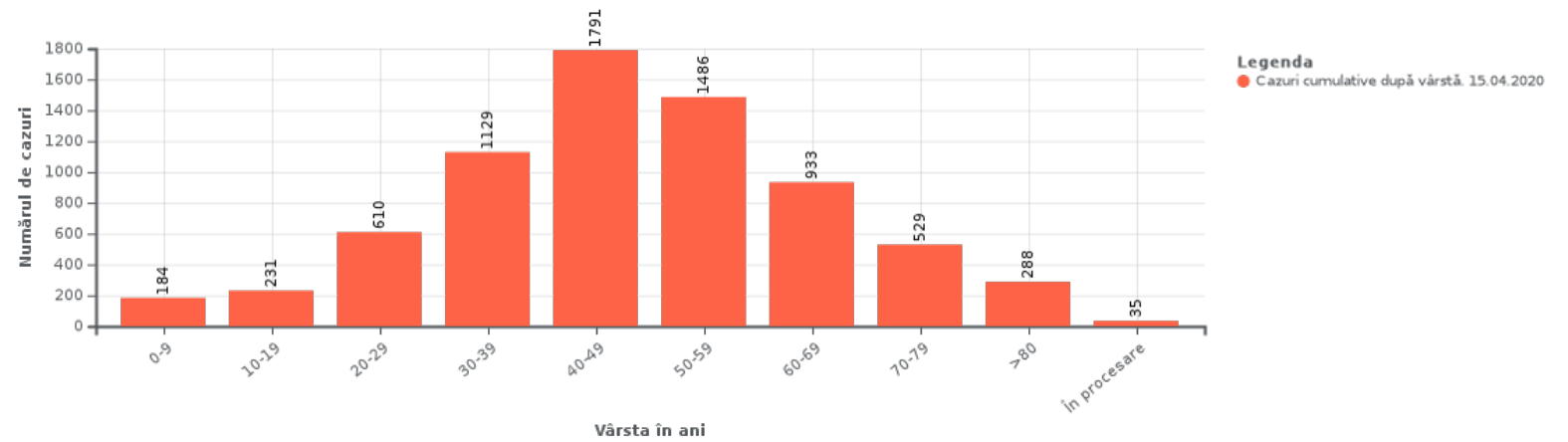
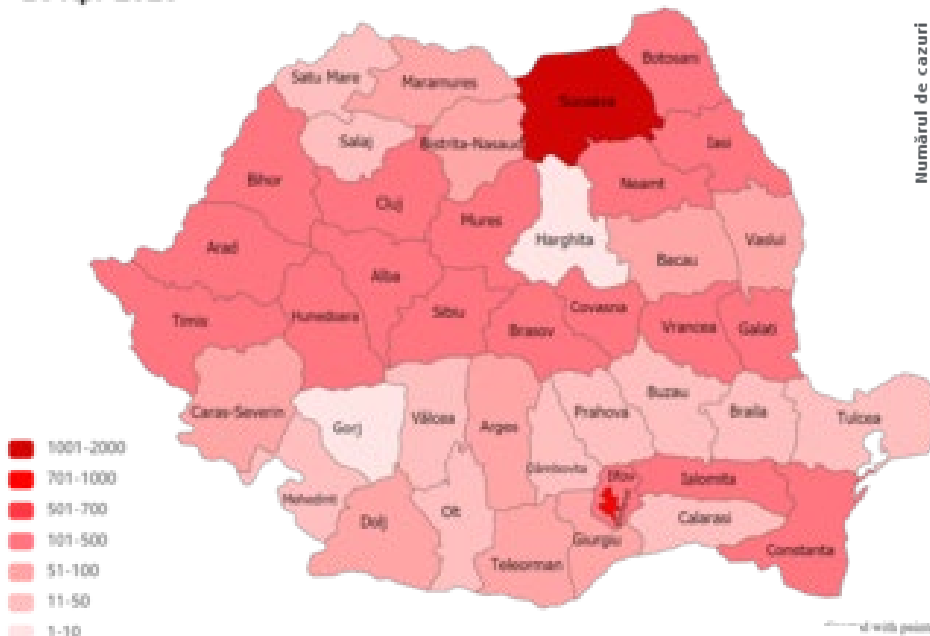
**6148 pts**

admitted severe and ICU cases

- Ventilated- **262 pts**

.Case Recovery Rate (CRR): **19%**

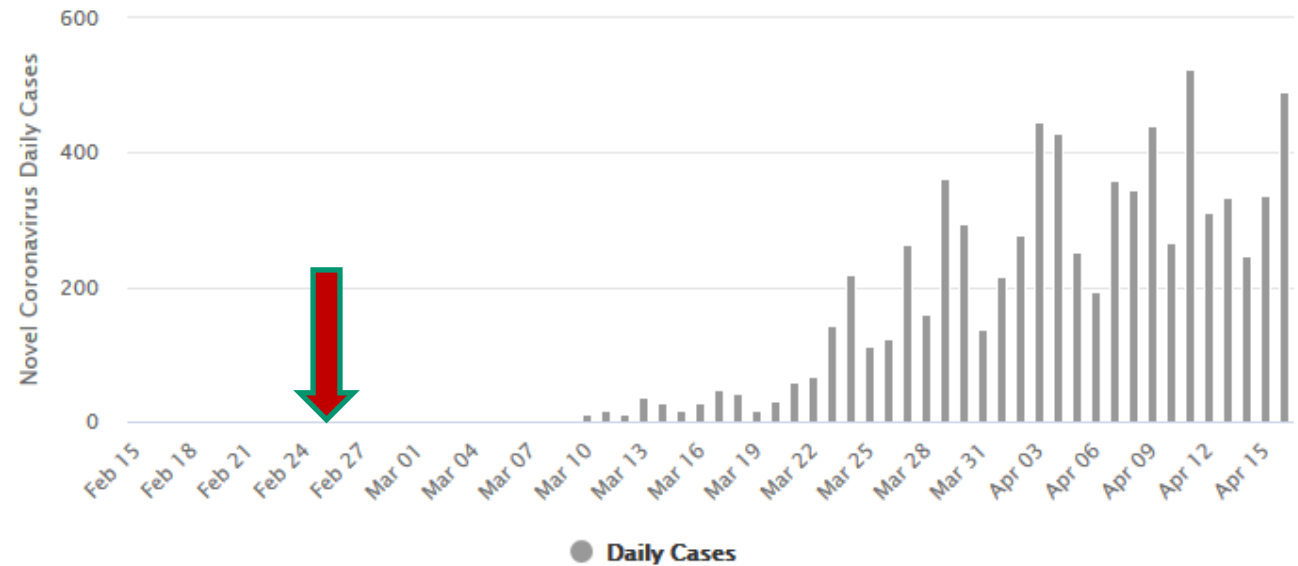
16 Apr 2020



## Daily New Cases in Romania

### Daily New Cases

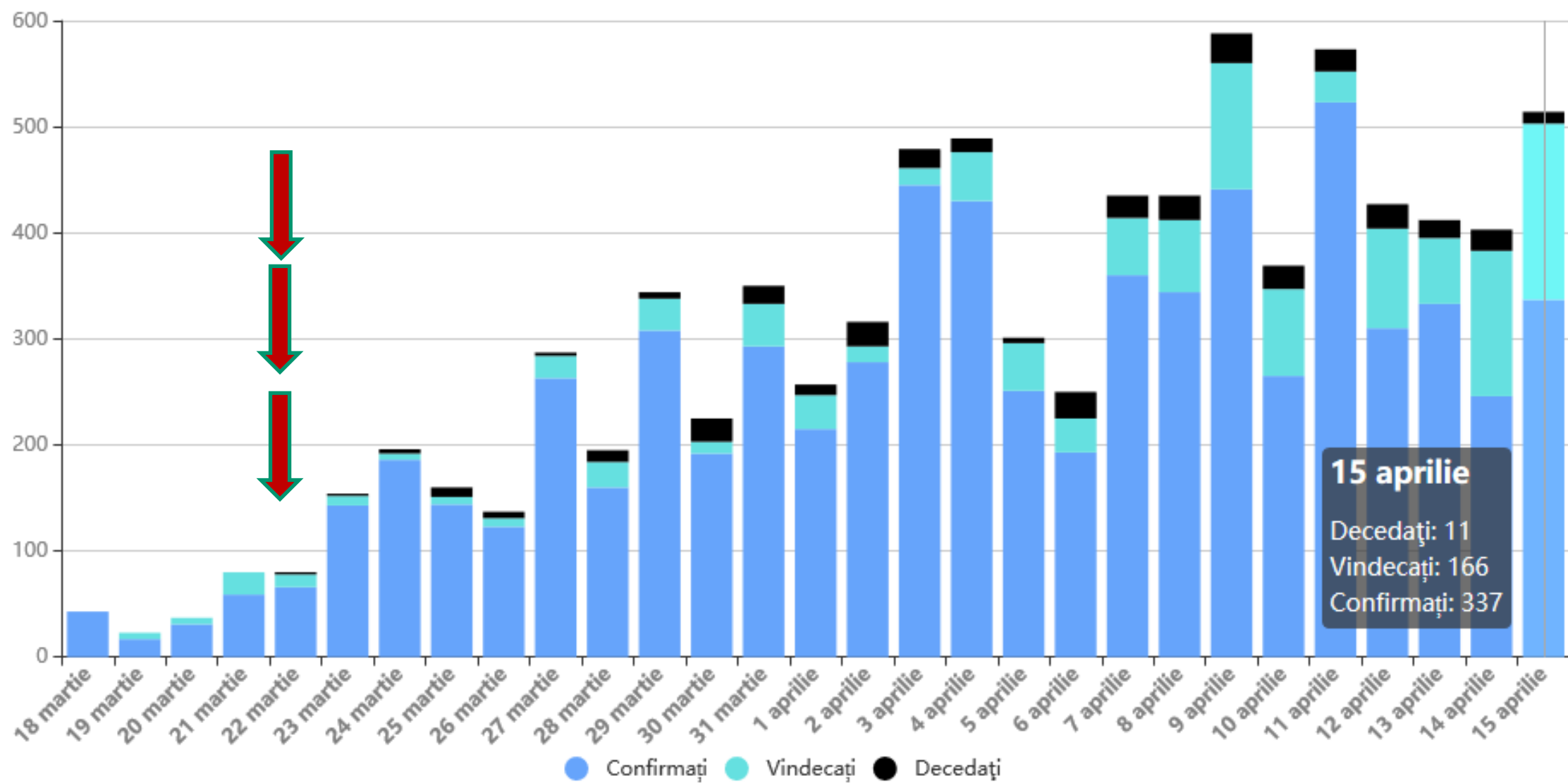
Cases per Day  
Data as of 0:00 GMT+0



#### Cazuri confirmate pe județ

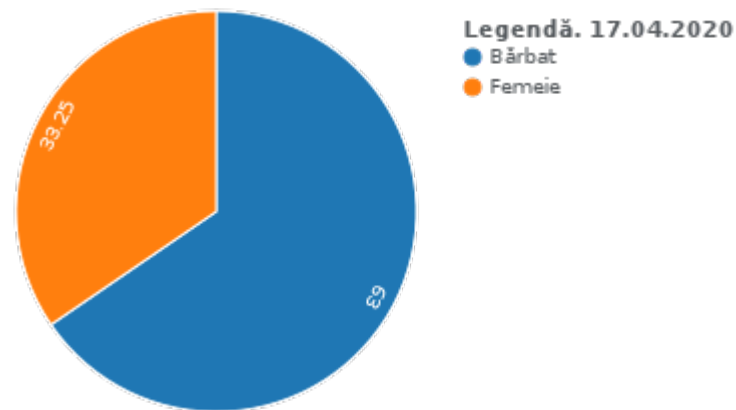
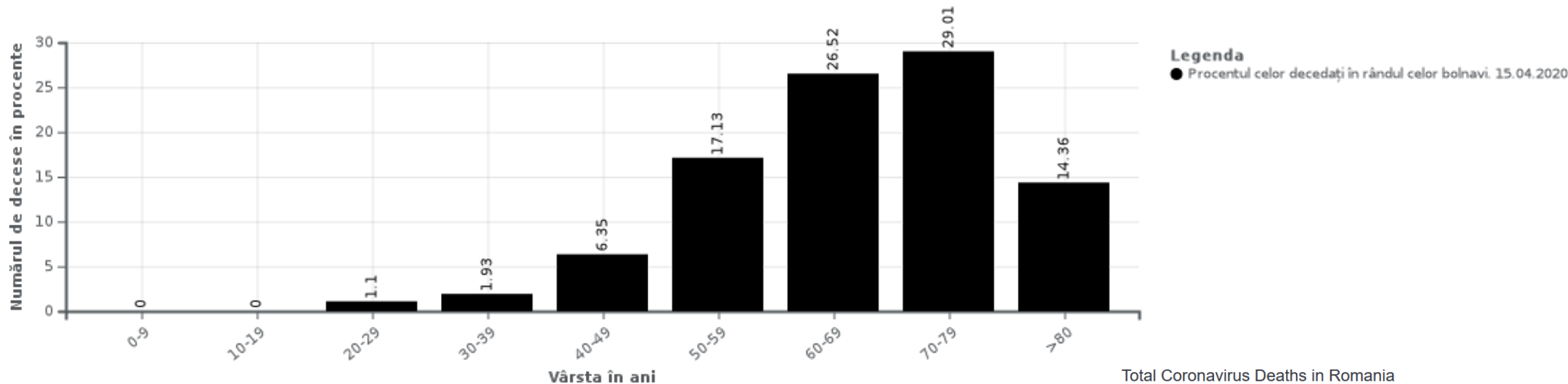
Ultima actualizare: vineri, 17 aprilie 2020

Județ	Cazuri per județ	Cazuri la mia de locuitori
Suceava	1924	3.03
Hunedoara	372	0.89
Arad	360	0.84
Botoșani	310	0.75
Neamț	350	0.74
Covasna	123	0.59
Vrancea	186	0.55
Brașov	299	0.54
Timiș	354	0.52
București	942	0.50

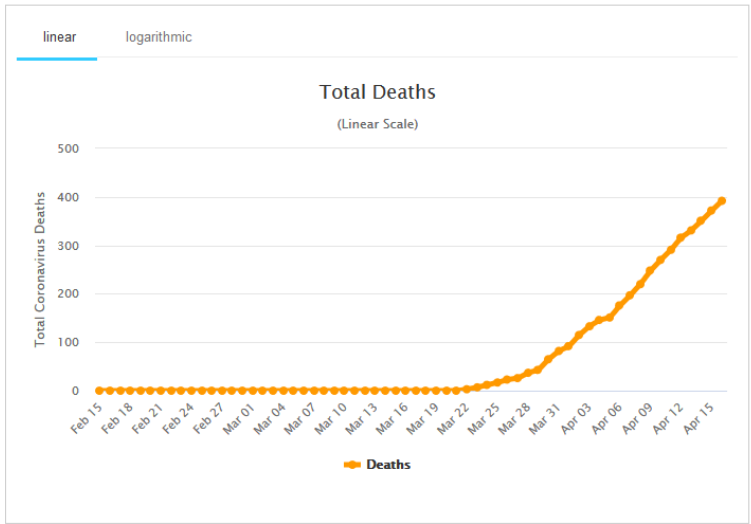


# Case Fatality Rate (CFR): 5%

## Age Stratify



Total Coronavirus Deaths in Romania



# Covid Country Situation    Test Used

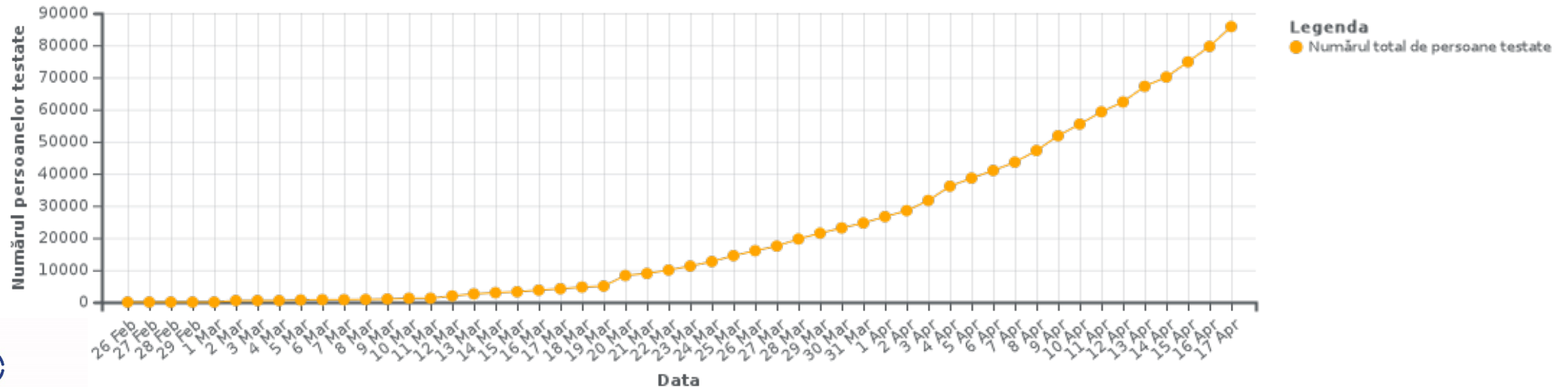
- Avenues for testing (quarantine/ community / hospital)

- Tests in nursing homes , Tests of healthcare workers

- Tests Used:swab – RT-PCR

Rapid tests: IgM, IgG

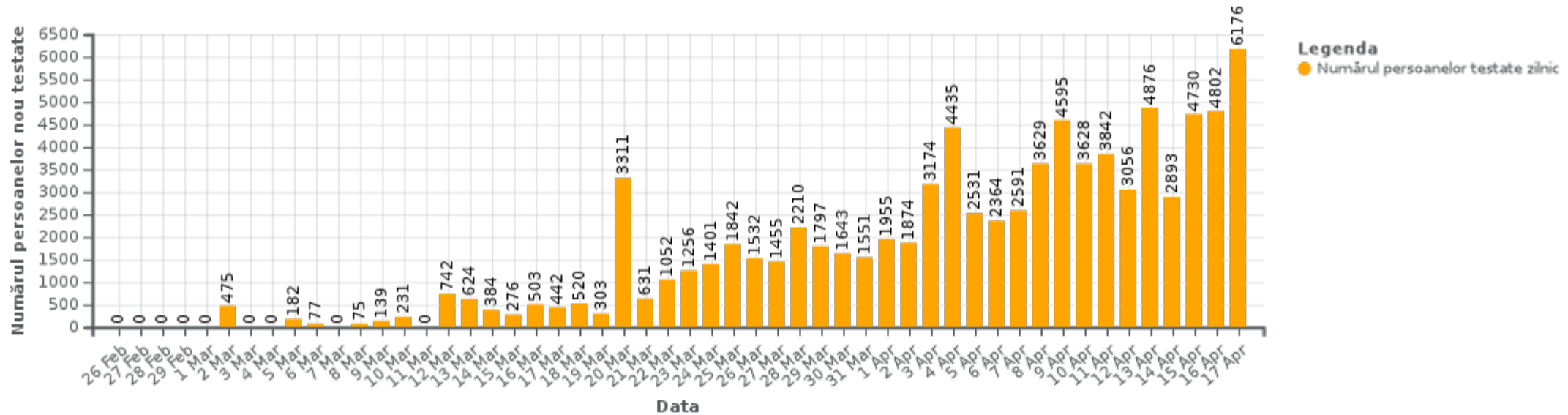
- Time to result: 6d-12h





# Covid Country Situation      Test Used

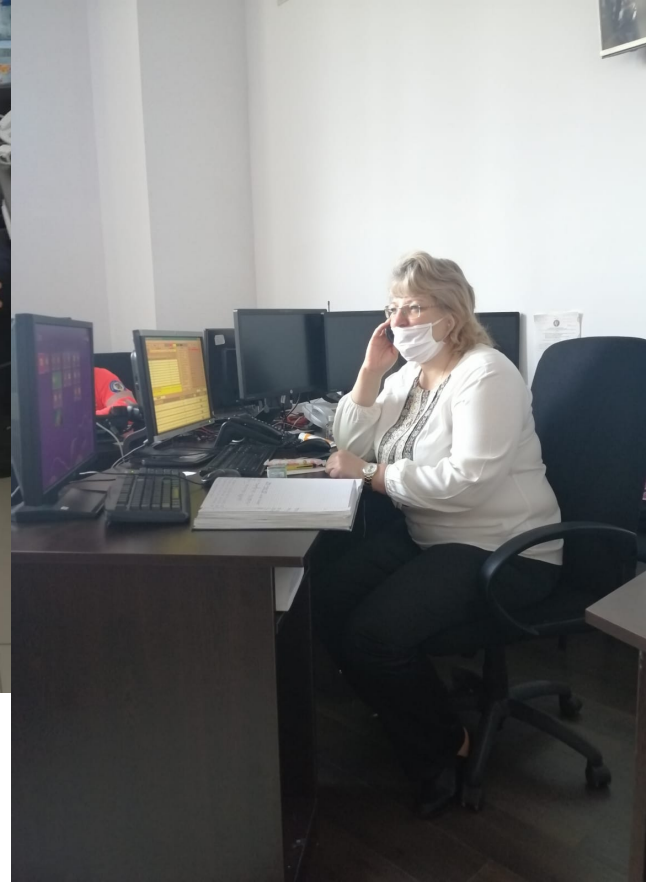
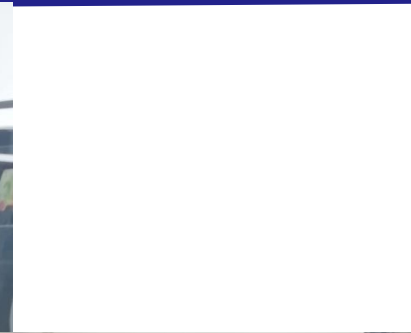
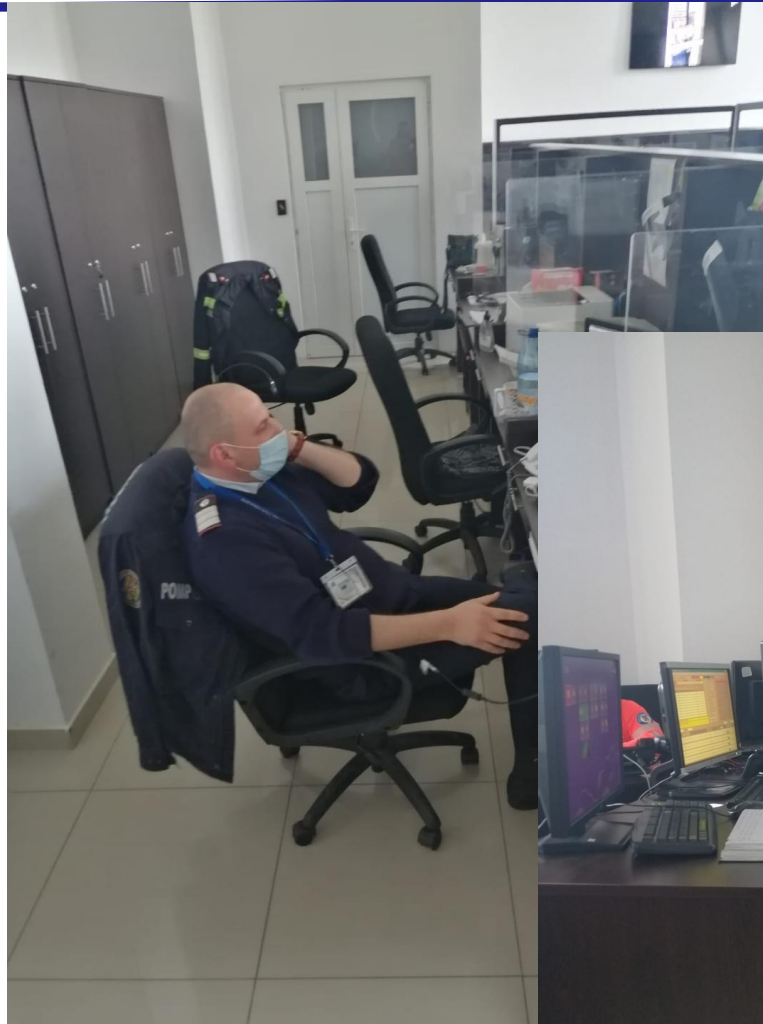
- Avenues for testing (quarantine/ community / hospital)
  - Tests in nursing homes , Tests of healthcare workers
- Number of Tests per population)-0,5%



- Presumptive diagnoses (without testing): CT, clinic+epidemiology

# Pre-hospital Emergency Medical Services

- Demand
- 112 calls
- March ↓ 25%
- April ↓ 37%
- Dispatch: Ph
- Management





# Pre-hospital Emergency Medical Services

- Health Professionals impact
- Use of PPE in the pre-hospital





# Triage

- Telephone
- At the GP level
- At the Pre-triage in Hospital
- Use dual track:  
covid and non-covid pathways



# PPE

---

- Use of PPE when in contact with suspected covid patients track
- Use of PPE in aerosol generating procedures
- Use of PEE when in the non-covid track
- Post PPE use strategy  
(disposal, repeat-use, cleaning)
- PPE workarounds : 6 h /12h
- Use of negative pressure rooms  
/ HEPA room filters: only 1



ZONA	PERSONAL	ACTIVITATE	NORME DE PROTECȚIE OBLIGATORII
Zonă Administrativă	Tot personalul	Orice	A se vedea NOTA
Zonă de triaj	Personal medical	Primul triaj (măsurarea temperaturii) fără contact direct	Păstrarea distanței de siguranță de minimum 1 m, a se vedea <b>NOTA</b>
	Personal medical	Al doilea triaj (ex. interviuarea pasagerilor cu febră, cu simptome specifice Covid 19, istoric boli și istoric călătorie)	maskă chirurgicală, mănuși
	Personal curățenie	Curățarea zonei unde pacienții cu febră sunt primiți la triaj	maskă chirurgicală, mănuși, combinezon, ochelari de protecție (dacă există riscul de stropire cu substanțele folosite pentru curățare), încălțăminte adecvată cu protecție
Zonă de izolare temporară	Personal medical	Activitate în zona de izolare, însă nu oferă asistență directă pacientului	Păstrarea distanței de siguranță de minimum 1 m, maskă chirurgicală și mănuși
	Personal medical și auxiliar	Asistarea pacientului care este transportat în interiorul unei unități medicale	maskă chirurgicală, mănuși, combinezon, ochelari de protecție
	Personal curățenie	Curățarea zonei de izolare	maskă chirurgicală, mănuși, combinezon, ochelari de protecție (dacă există riscul de stropire cu substanțele folosite pentru curățare), încălțăminte adecvată cu protecție
Ambulanță sau vehicul de transfer	Personal medical și paramedici	Transportarea pacienților suspecți de Covid 19, la centrele medicale stabilite	maskă chirurgicală, mănuși, combinezon, ochelari de protecție
	Șofer	Implicare doar în conducerea autovehiculului în care se află pacientul suspectat de Covid 19, fiind în cabină separată	Păstrarea distanței de siguranță de minimum 1 m, a se vedea <b>NOTA</b>
		Asistarea pentru urcarea/coborârea din vehicul a pacientului suspect de Covid 19	maskă chirurgicală, mănuși, combinezon, ochelari de protecție
		Implicare doar în conducerea autovehiculului în care se află pacientul suspectat de Covid 19, fără a fi în cabină separată	maskă chirurgicală
	Pacient suspect de Covid 19	Transport la centrele medicale atribuite	maskă chirurgicală, dacă se poate tolera
	Personal curățenie	Curățarea înainte și după transportul pacienților suspecți de Covid 19 la centrele medicale atribuite	maskă chirurgicală, mănuși, combinezon, ochelari de protecție (dacă există riscul de stropire cu substanțele folosite pentru curățare), încălțăminte adecvată cu protecție

NOTA: Se recomandă purtarea măștii chirurgicale în toate locurile în care personalul își desfășoară activitatea, precum și respectarea integrală a regulilor de igienă a mâinilor (dezinfecția, spălarea cu apă și săpun).



# Health Professionals Infected with Covid

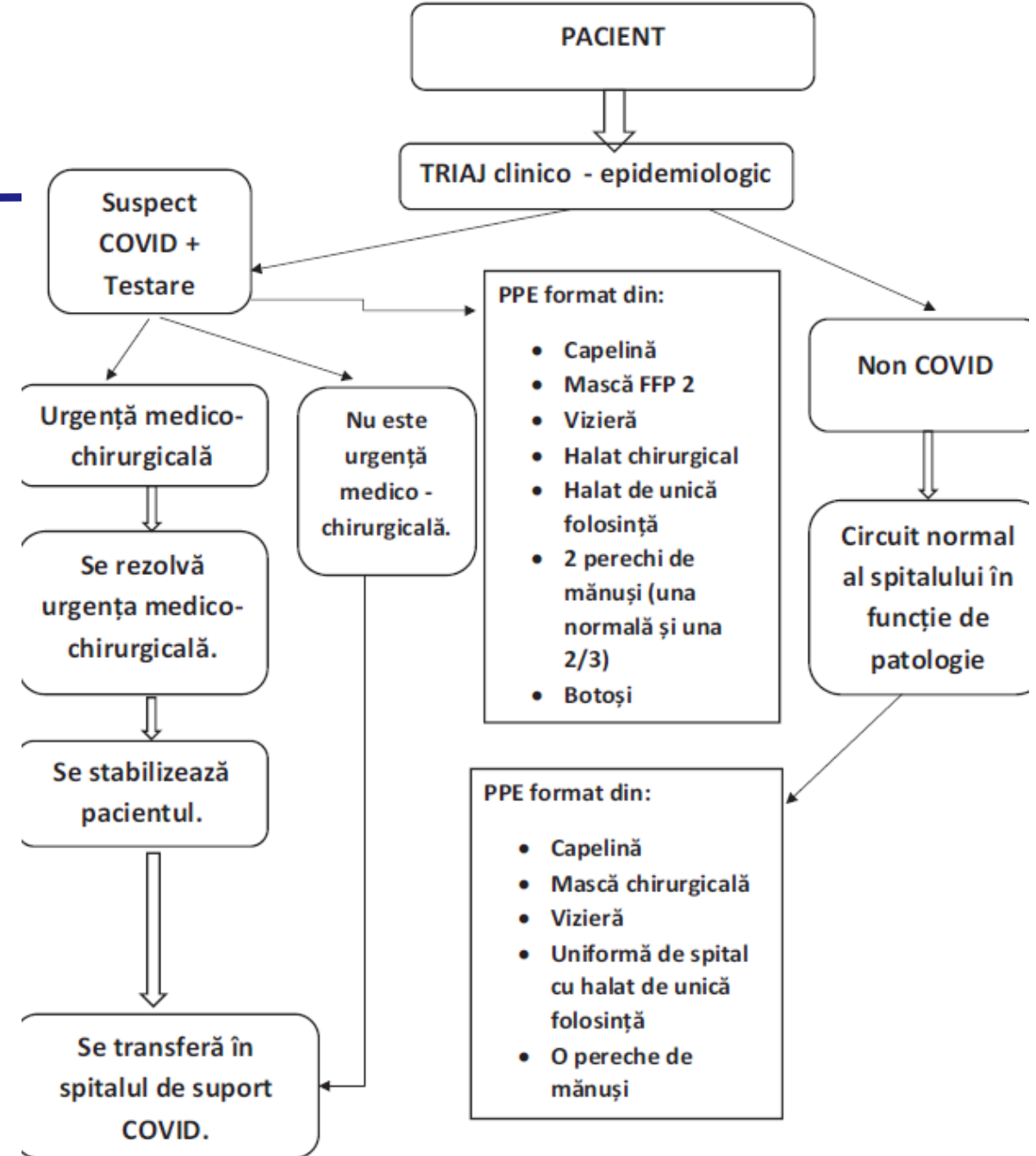
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- Estimation of the HP affected
- 981
- Criteria for testing HP
- Strategy for HP who are positive and asymptomatic- hospitalised
- Mortality:4

1. Persoane **simptomice** cu istoric de călătorie internațională;
2. Conacți apropiati **simptomici** ai cazurilor confirmate;
3. Personal medico-sanitar **simptomatic**;
4. Cazuri de **pneumonie fara altă etiologie**, din **TOATE** categoriile de varstă și din **TOATE** spitalele;
5. Cazuri de **SARI fara altă etiologie**, din **TOATE** categoriile de varstă și din **TOATE** spitalele;
6. Persoane instituționalizate **simptomice**
7. Pacienti înainte de procedura de transplant (asimptomatici) și donatorii de celule stem hematopoietice înainte de donare; pacienti cu transplant de celule stem hematopoietice aflați în tratament imunosupresor, înainte de fiecare internare din perioada de monitorizare post-transplant

# Clinical trajectories

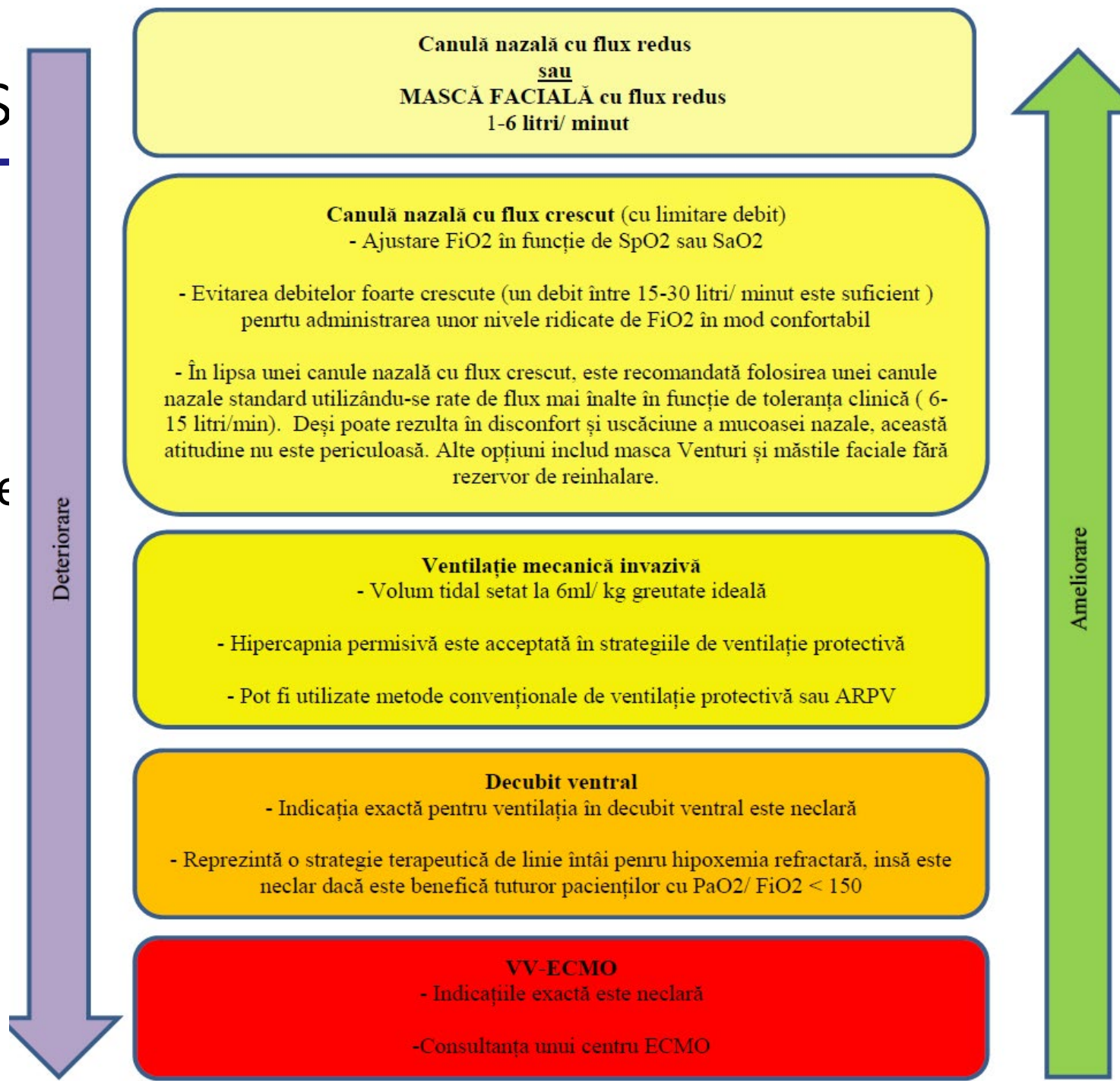
Discharge / Admission / ICU  
– Criteria, algorithms,  
or decision support tools





# Clinical trajectories

Discharge / Admission / ICU  
– Ventilation support  
strategies or algorithms in use



# Clinical trajectories

---

Discharge- 2 - / Admission-all + / ICU

– Medicinal support strategies or algorithms in use

- Lopinavir/ritonavir- Kaletra
- Cloroquina
- *Tocilizumab*
- *Anticoagulation and thromboprophylaxis*
- *Plasma therapy*

*Hospital classification : Covid, non-Covid, transfers*

# Final lessons learned

- Large scale simulation
- Departament of Emergency Situations- Ministry of Internal Affairs
- Training
- Flexibility to change the functionality
- How to re-open an ED without hospital and local team
- How to keep the team ( safe and positive)
- How to keep the doors “open”
- Give direction to your team by exemple







# EUSEM

EUROPEAN SOCIETY FOR EMERGENCY MEDICINE

**WEBINAR COVID-19:**  
Sharing experiences of high COVID-19 impact countries.

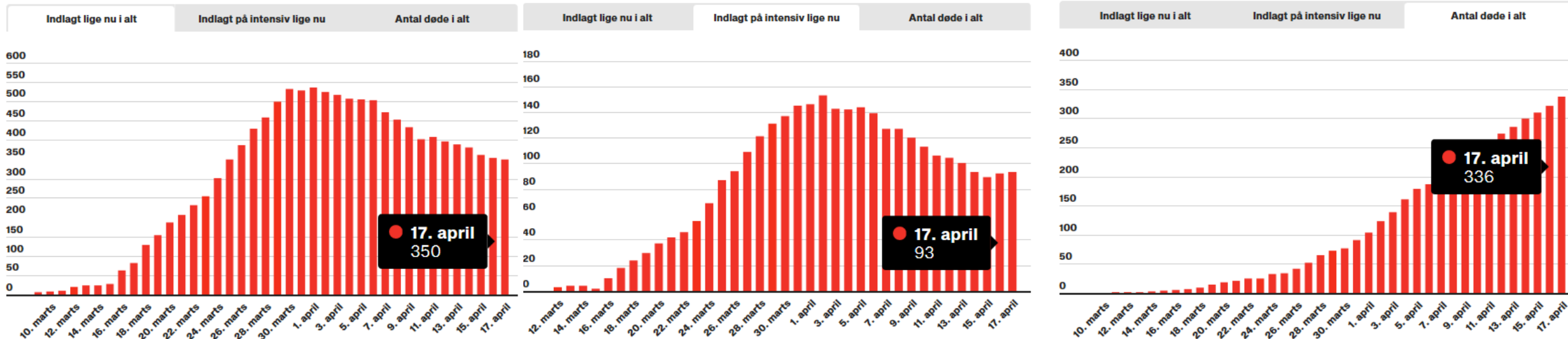
Name: Christian Skjærbæk

Position: Head of Emergency Dept. Randers

Country: Denmark

[csk@dadlnet.dk](mailto:csk@dadlnet.dk)

# Covid Actual Country Situation



- February 27, first danish case. National Health Authority: "general spreading of COVID in DK unlikely"
- March 6, first official advice on social distancing, no events >1000 participants
- March 11, schools closed , no events >100 participants
- March 13, borders closed. Hospitals emergency care only. Prepare for 3000 beds for COVID, 1000 ICU
- March 14, first COVID related death
- March 17, lock-down, public transport, small businesses, no gathering >10 persons. No visitors at hospitals and care centers.
- April 14, gradual reopening. Downscaling preparedness to 1000 beds, 300 ICU, planned hospital activity partially resumed. Concern of a 30% fall in pts referred for CVD, cancer and other time critical last 4 weeks
- April 15, first COVID related death of health personal
- $R_0$  0.6, expected to rise to 0.8 with reopening

# Covid Country Situation      Test Strategy

- Initially containment strategy. Only test with known exposure. Testing also with mild symptoms
- From March 13, testing only if admission is indicated. No test with mild symptoms, no test of health personel
- From April 1, testing also with mild symptoms.

## 1.1 COVID-19: Testede og smittede personer, overståede infektioner og dødsfald

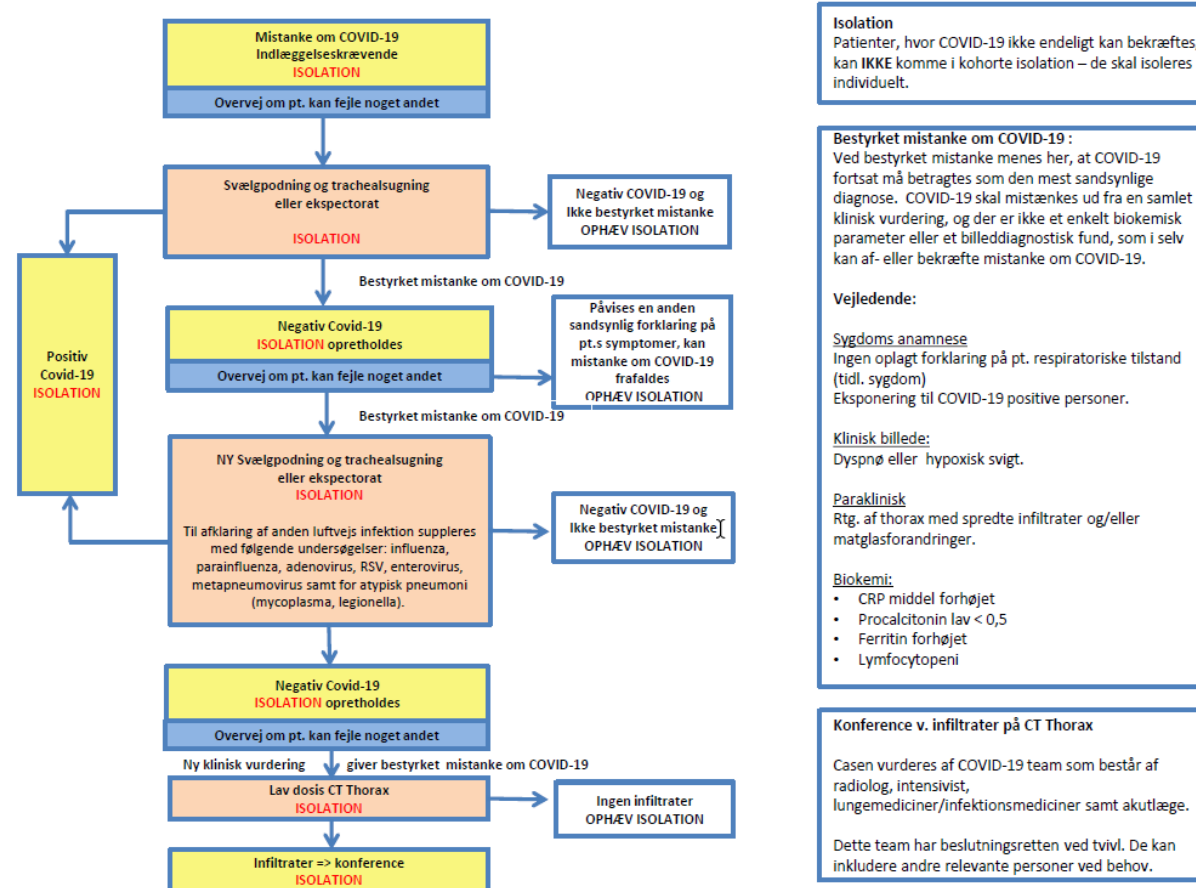
April 14

	Testede personer	Smittede personer *	Overståede infektioner	Dødsfald	Dødsfald i % af smittede
Danmark	87.024 **	7.073	3.389 ***	336 ****	4,8
Færøerne	5.846	184	171	0	0,0
Grønland	1019	11	11	0	0,0

# Covid Country Situation      Test Used

- Throat swab and/or suction. Concern on false negative answers. Concern of extended isolation

Flowchart RH Randers - udredning og isolation af patienter mistænkt for COVID 19



# Triage / PPE

---

- Primary assessment by GP on phone. Mild cases tested at testing center and adviced on self-care
- COVID suspects with moderate to severe symptoms seen in COVID clinic at the ED.
- 30 % admitted from clinics. Single room isolation until diagnosed
- Local clusters
- PPE big issue initially. No longer. Concern on procedures, nebulization



# Final lessons learned

---

1. Social distancing is extremely effective

2. Not everything is COVID

- 40 yo woman, cardiac arrest in ED. Massive PE
- Seen twice in COVID clinic and sent home

[csk@dadlnet.dk](mailto:csk@dadlnet.dk)



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WEBINAR COVID-19:

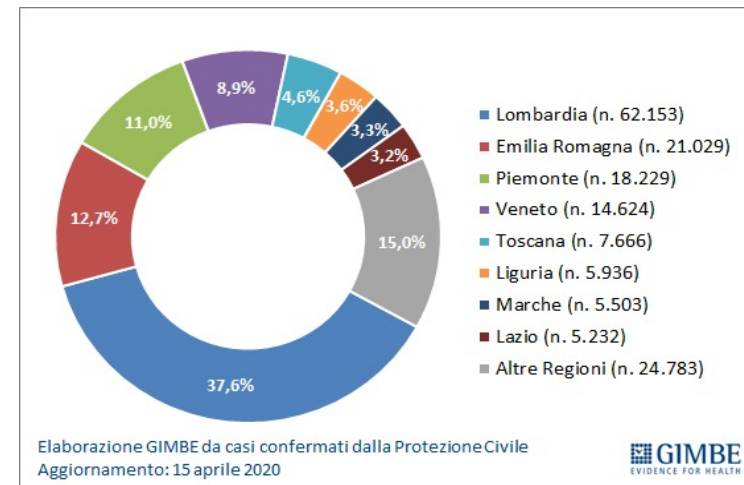
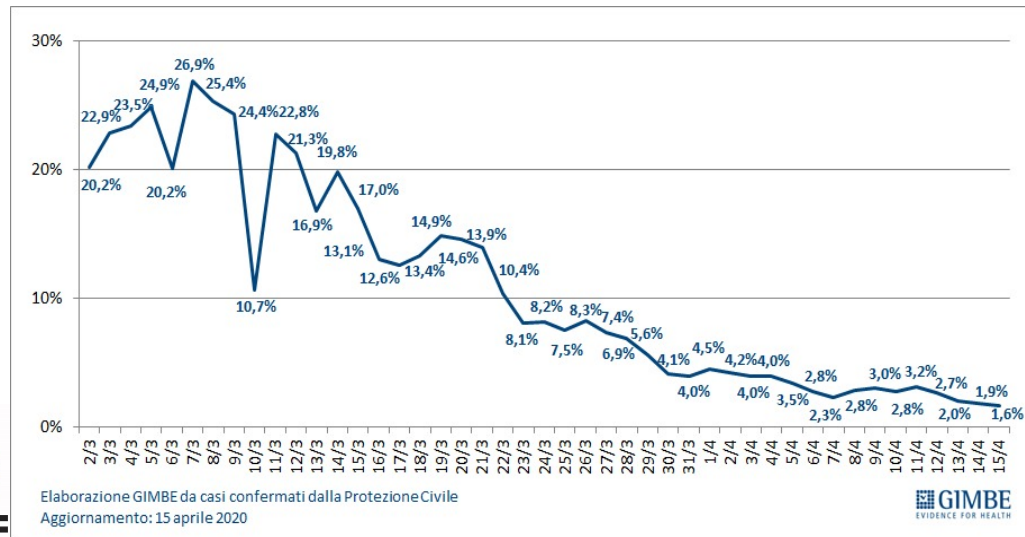
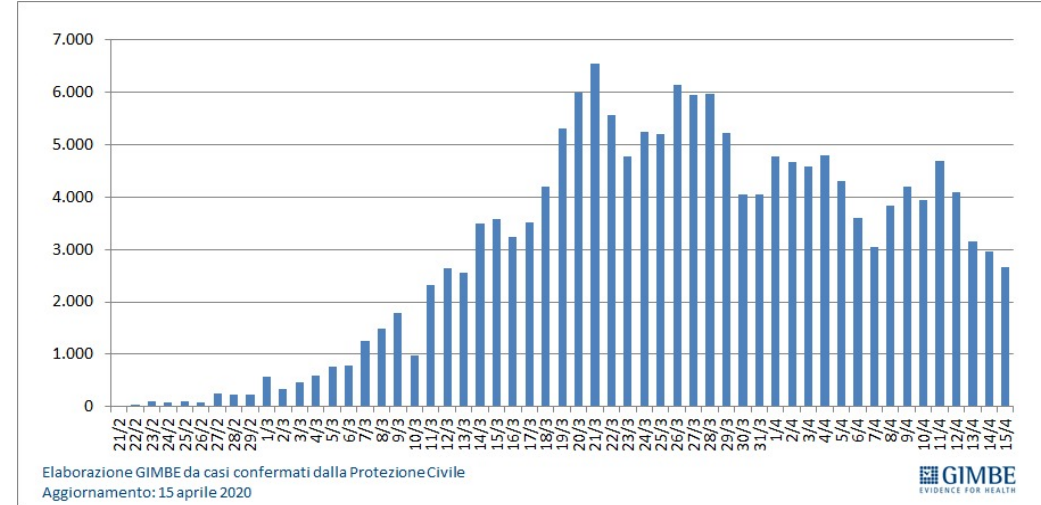
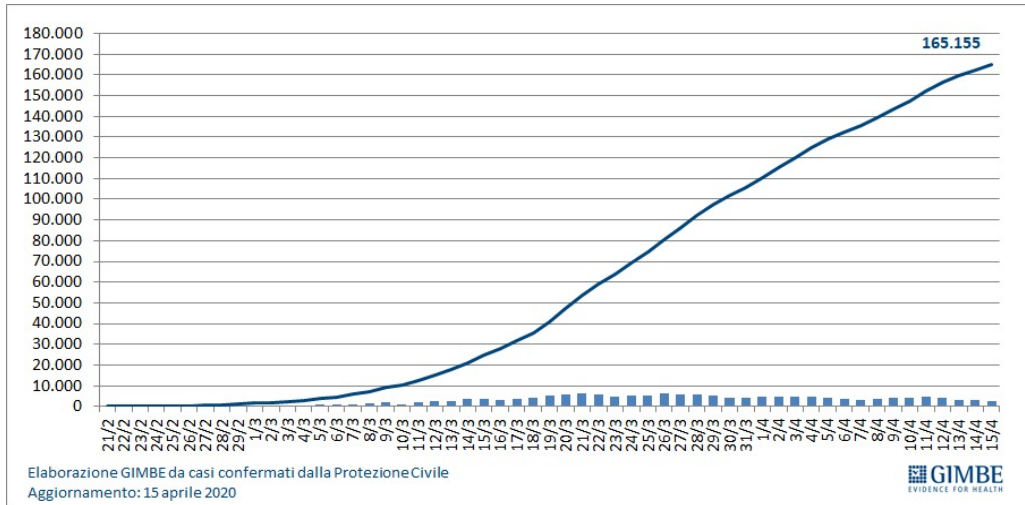
Sharing experiences of high COVID-19 impact countries.

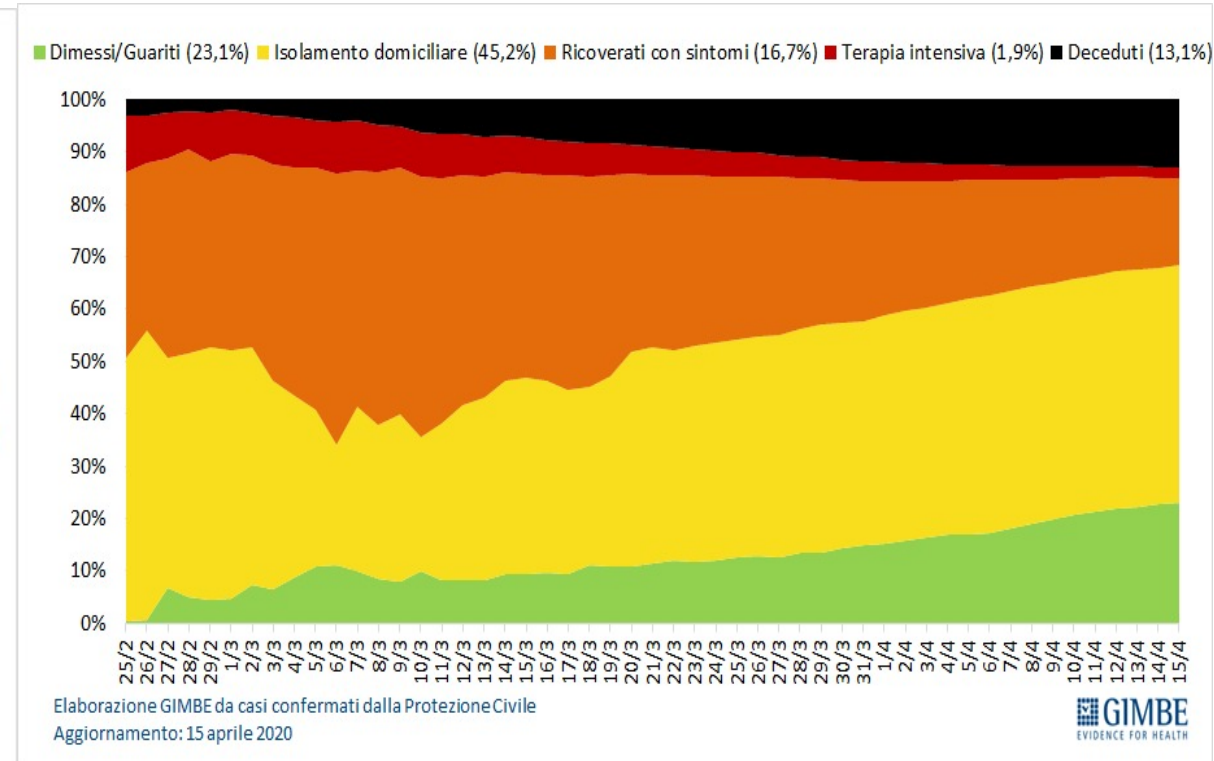
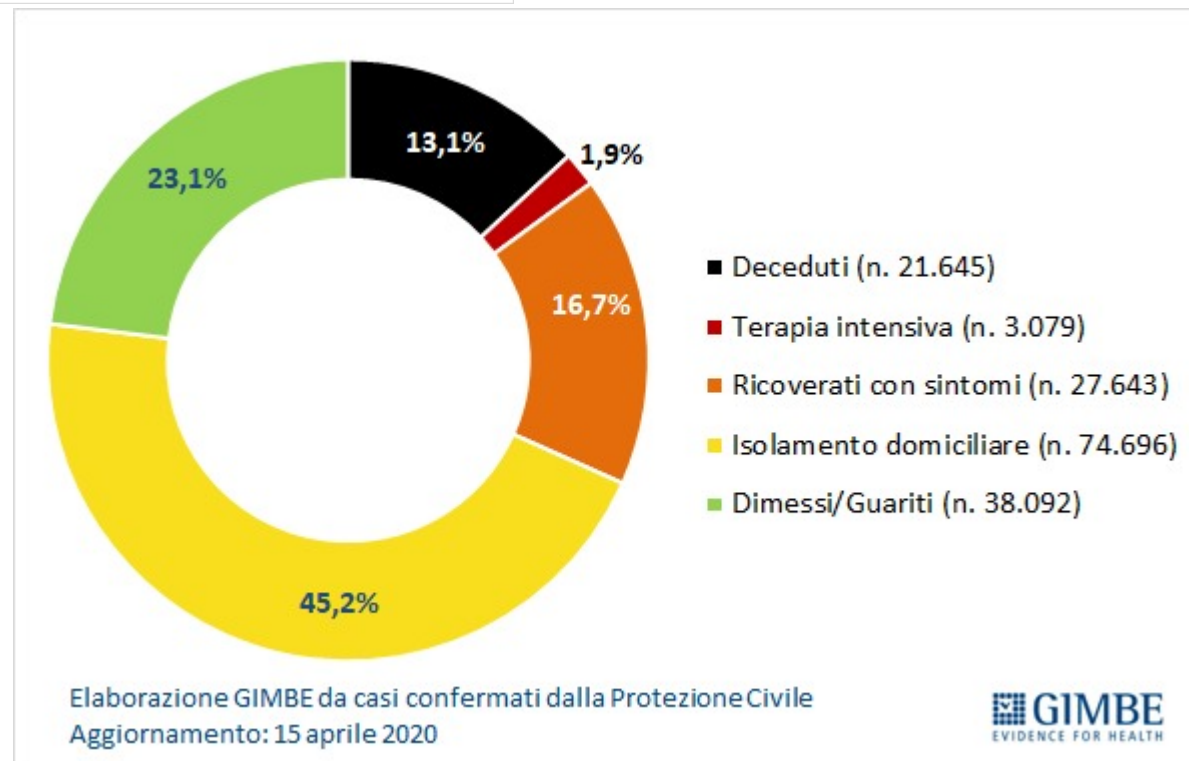
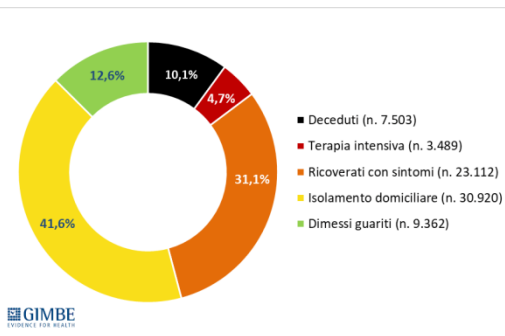
Name: Paolo Groff

Position: Director ED, Perugia H; SIMEU  
representative in EUSEM

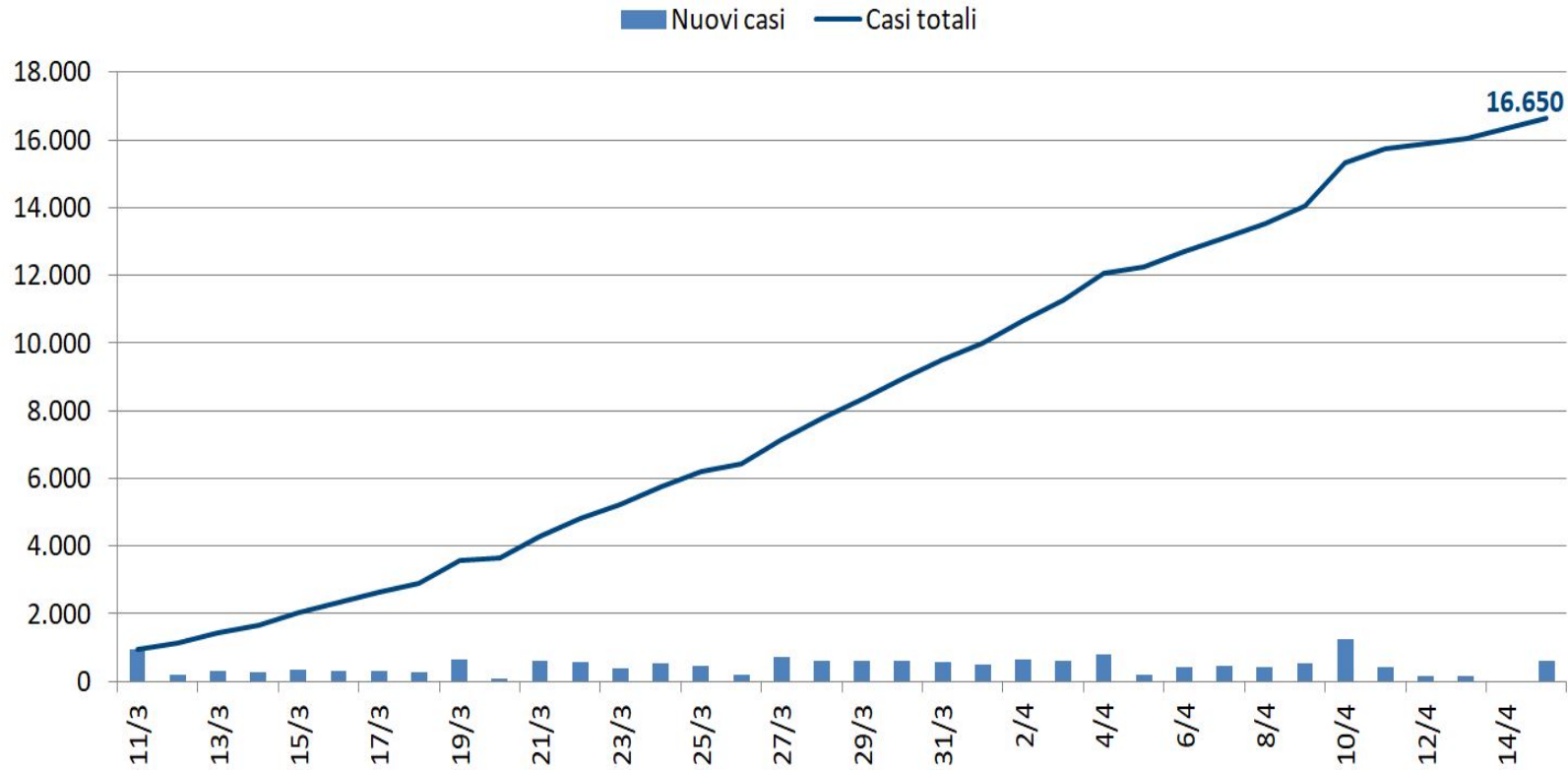
Country: Italy

# Covid-19 in Italy, epidemiology at april 15





## Covid-19 infection in HCW



Elaborazione GIMBE da infografica pubblicata dall'Istituto Superiore di Sanità  
Last update: 15 April 2020

**GIMBE**  
EVIDENCE FOR HEALTH

### Deaths:

- 120 Physicians  
(40% family doctors)
- 30 nurses

# Distribuzione geografica dei decessi

pazienti deceduti e positivi all'infezione da SARS-CoV-2



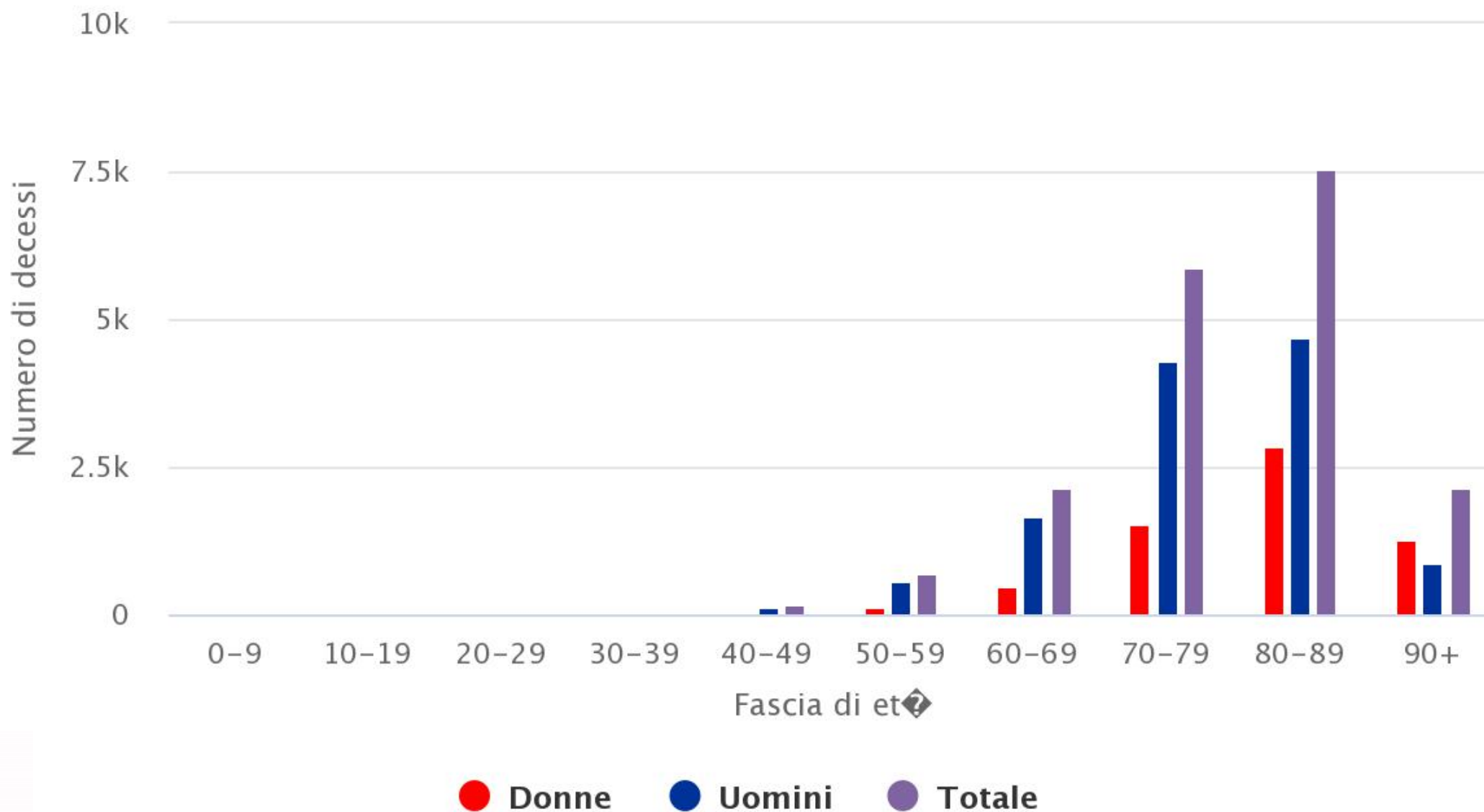
18.641 fatalities  
With available medical Charts  
(ISS data at april 13 2020)

**Percentuale (%)**



# Numero di decessi per fascia di et 

pazienti deceduti e positivi all'infezione da SARS-CoV-2

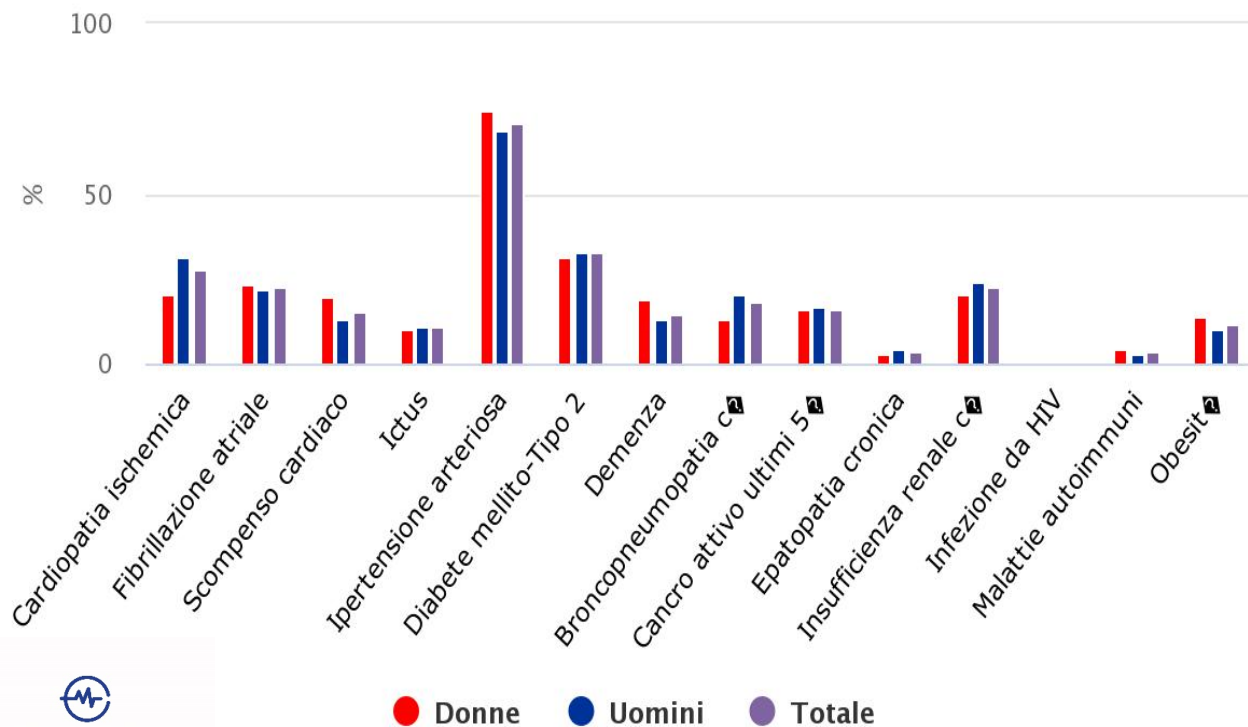




# Prevalence and type of comorbidities among dead patients

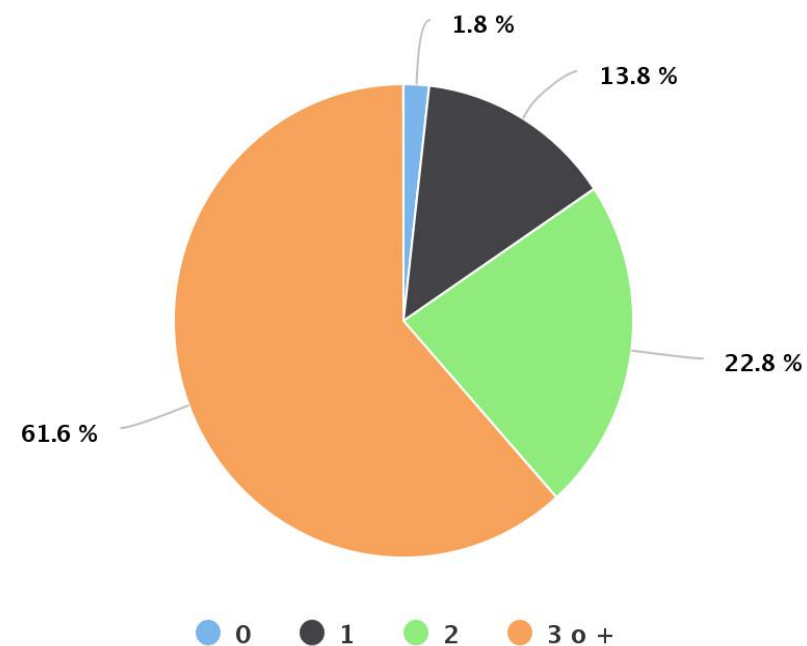
Patologie preesistenti osservate più frequentemente per sesso

pazienti deceduti e positivi all'infezione da SARS-CoV-2



Numero di patologie

pazienti deceduti e positivi all'infezione da SARS-CoV-2

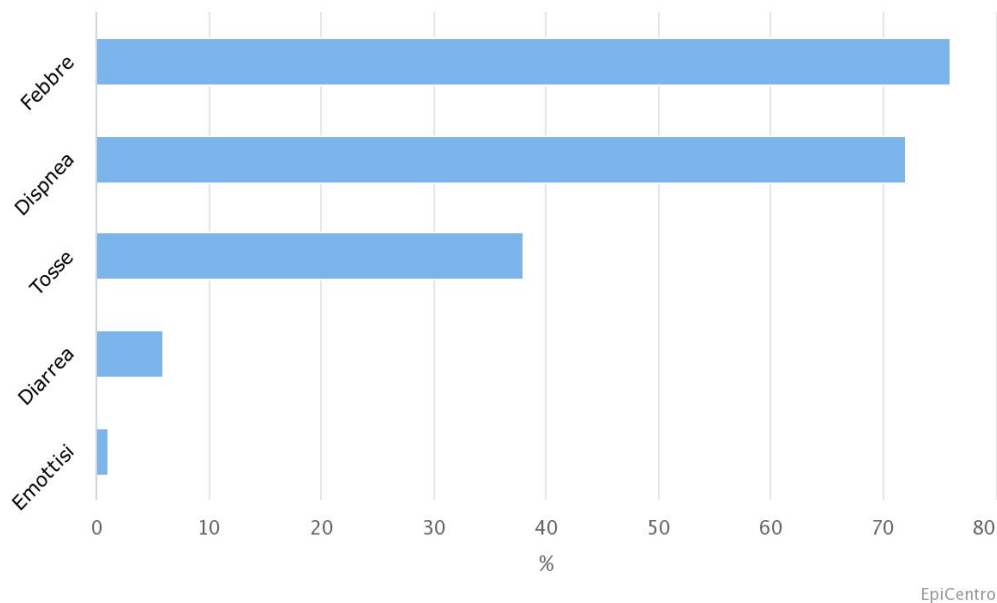




# Simptoms, Complications, Diagnosis at admission of dead pts.

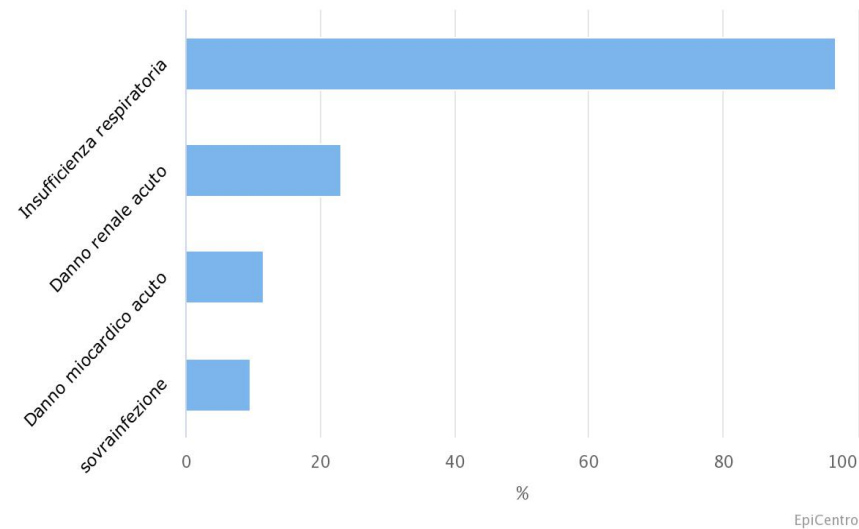
## Sintomi più comuni

pazienti deceduti e positivi all'infezione da SARS-CoV-2



## Complicanza più comunemente osservata

pazienti deceduti e positivi all'infezione da SARS-CoV-2

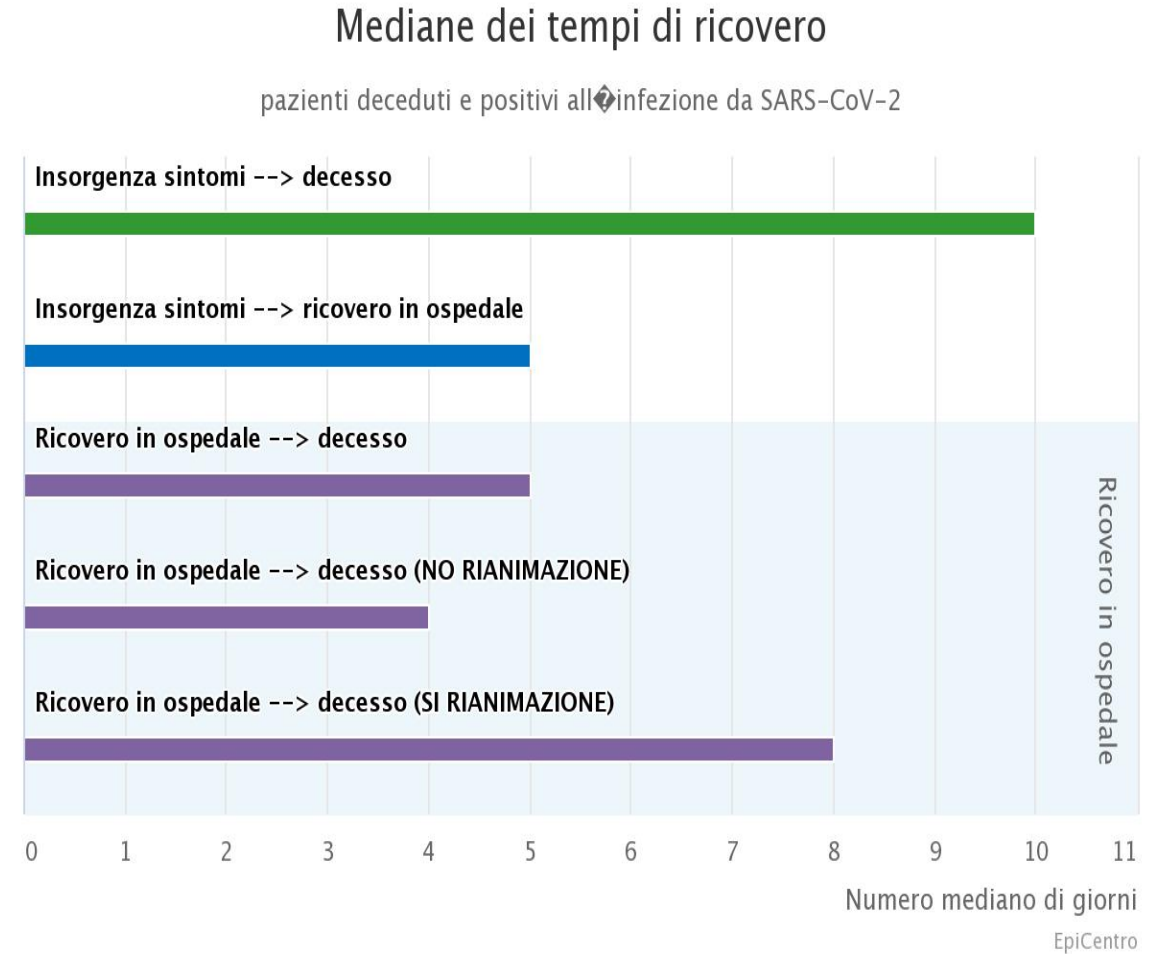


## Admission Diagnosis

- 93% Respiratory
- 7% unrelated to C-19
- 9 cases Cancer
- 49 cases CV disease
- 14 cases g.intestinal
- 35 cases «other»

# Therapies applied and times to death

- Antibiotics: 84%
- Antivirals: 56%
- Corticosteroids: 34%
- All the above: 19.3%
- Tocilizumab: 3.1%



# Covid Country Situation    Test Used in Italy

---

- Avenues for testing (home / community / hospital)
  - Different indications in different regions. Mainly “suspect cases” tested. Actually no clear indications to extensively test HCW, nursing home residents, general population
  - Hypothesis made to test all patients admitted to the ED
- Tests Used : Swab; Immunoessay (IgG, IgM)
- Time to result: 2h (swab); 15-30 min. (immunoassay)
- Number of Tests per population: 1.117.404/60.36 millions (1,85%)
- Presumptive diagnoses (without testing) : Influenza-like sd, SARI, RDS, US, TC

# PPE

---

- . Use of PPE when in suspected covid patients track: FFP2/FFP3 mask, Hydrorepellent gown, gloves (2pairs); glasses/mask; boots; heads
- . Use of PEE when in the non-covid track: surgical mask; disposable, non-hydrorepellent gown, gloves, glasses.
- . Post PPE use strategy: disposal after “per-area and per-shift” use
- . PPE shortages: present. Different situation in different regions
- . Use of negative pressure rooms: present in some EDs; always in infectious diseases wards

# Final lessons learned

---

- Necessity to prepare for the «next phase»: reduced number of Covid + patients with typical symptoms; increased number of pts. In the «grey area», increased number of patients with covid-unrelated symptoms «and» Covid positivity
- Necessity to prepare for a wider use of tests in all the patients admitted to the ED with the consequent different organization of the Areas within the ED and the entire Hospital (increase of the «grey areas», maintenance of the covid-areas)
- Necessity to furtherly enforce the cooperation between units in an everchanging «per intensity» organization of the hospital
- Worries about the next end of the lockdown with possible rebounds of new cases in the absence of an adequate PPE supply



# EUSEM

EUROPEAN SOCIETY FOR EMERGENCY MEDICINE

**WEBINAR COVID-19:**  
Sharing experiences of high COVID-19 impact countries.

**Juliusz Jakubaszko**

Immediate past-President of Polish Society for Emergency Medicine  
**Poland**

# Covid Actual Country Situation

---

- **Actual situation** ( as for April 17th '20): **8 214 cases confirmed** ( 216/ mln )

- **Quarantine -138 004**

infections curve going up ( ca. 300 new cases/day),  
it's top expected middle of May

- **From March 15th - national epidemic state**
- **Hospital admissions: 2762**, 20% admitted to ICU – from which 10% ventilated
- **CFR - 218 deaths** ( 8 / mln )
- **CRR - 866 recovered** ( 22 /mln)



- Avenues for testing - hospitals
  - Tests in nursing homes , Tests of healthcare workers  
only if confirmed contacts or clinical symptoms appeared
- Tests Used - swab
- Time to result - from 12 h up to 2 days
- Number of Tests per population - 4000/mln
- Presumptive diagnoses based on clinical symptoms or susp.contacts

# Pre-hospital Emergency Medical Services

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- EMS Ambulances activated via dispatcher stations:
- „clear type” – with face masks and gloves only
- „dirty or covid type „ – full PPE

# Triage

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- At the **Pre-triage** in Hospital
  - – usually in front of ED , with additional tent or container systems
  - Use **dual track** (covid and non-covid) pathways -
  - recommended, but not everywhere available

# PPE

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- . Use of PPE when in contact with suspected covid patients track only
- . PPE shortages
- . PPE workarounds - uncomfortable

# Health Professionals Infected with Covid

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- Estimation of the HP affected – 20% of all cases
- Criteria for testing HP – if symptoms manifestation or suspicious contacts
- Strategy for HP who are positive and asymptomatic - quarantine
- Only 1 death ( yesterday )

# Clinical trajectories

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## Discharge / Admission / ICU

- If symptomatic or test positive – admission to Infection Hospital or Inf.Dept.

- If organ failure or respiratory insufficiency – transfer to ICU

  - Ventilation support – following ICU strategy

  - ( *SSC Guidelines* )

  - Medicinal support strategies

  - (*INTERIM CLINICAL GUIDANCE FOR PATIENTS SUSPECTED OF/CONFIRMED WITH COVID-19 IN BELGIUM*)



more international cooperation needed

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# EUSEM

EUROPEAN SOCIETY FOR EMERGENCY MEDICINE

**WEBINAR COVID-19:**  
Sharing experiences of high COVID-19 impact countries.

Name:	James Binchy
Position:	Consultant in Emergency Medicine
Country:	Ireland

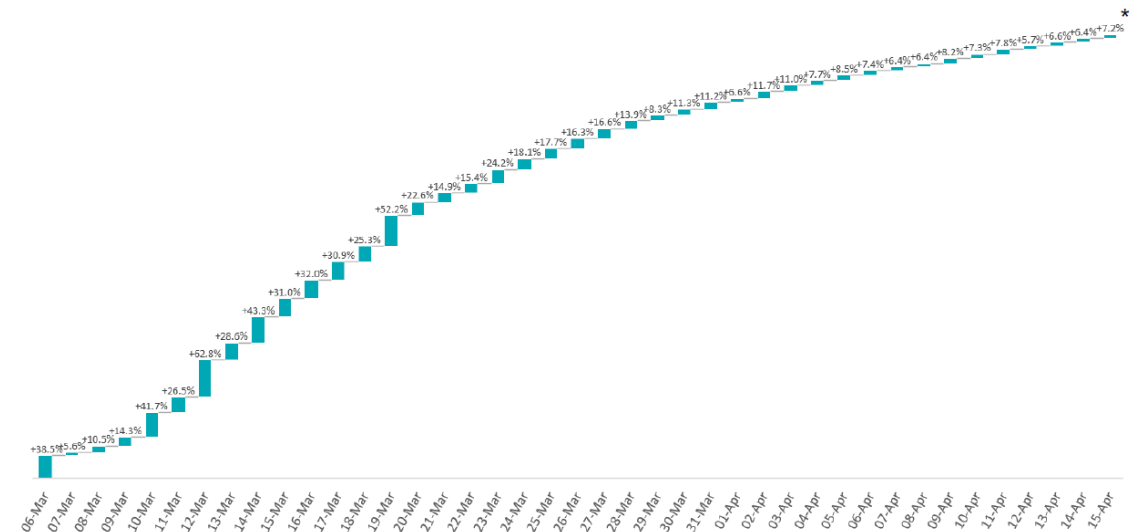
# Current status in Ireland (population 4.9m)

Total number of cases	12527
Total number hospitalised	1968 (16%)
Total number admitted to ICU	280 (2%)
Total number of deaths	435
Total number of healthcare workers	2872 (23%)
Number of clusters notified	413
Median age	48
Case fatality rate	3.5%

## Percentage Increase compared to previous day since 06.03.2020

% Increase in total confirmed cases compared to the previous day since 06 March

\* Baseline is 13 cases at 05-March-2020



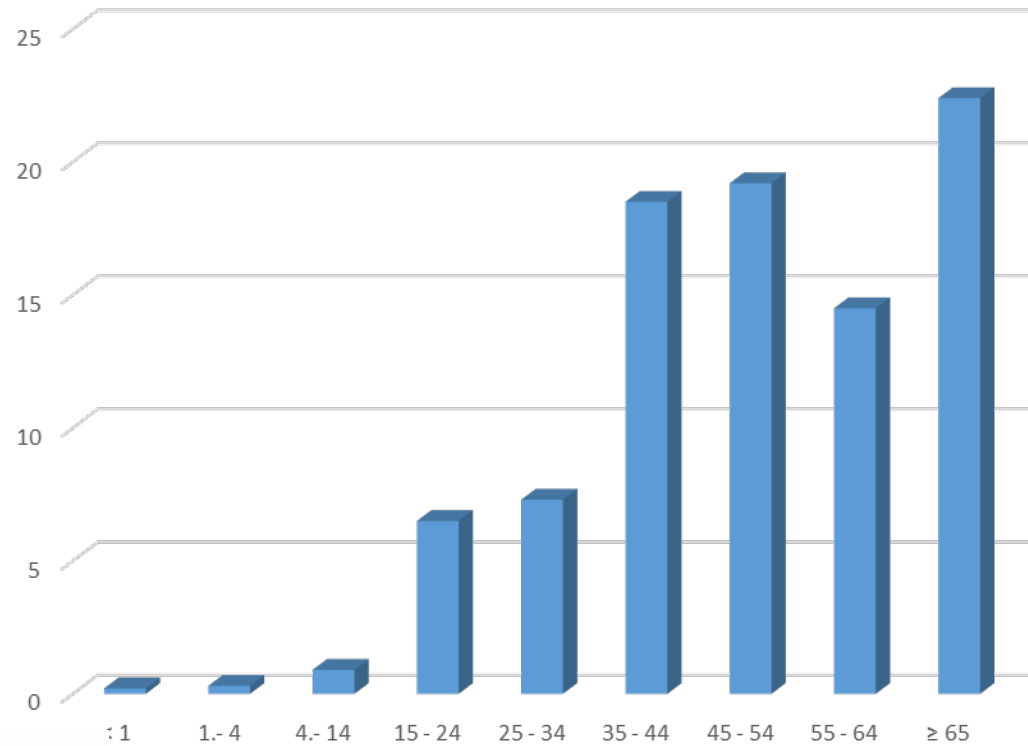
\*Note: The above chart does not yet include confirmed cases tested in Germany. These tests bring the total of confirmed cases to 12,547. Once the chronology of each of these tests has been established they will be applied to the timeline above.

Source: Department of Health 2020, < <https://www.gov.ie/en/news/7e0924-latest-updates-on-covid-19-coronavirus/> >

Emergency Department attendances down 40 %

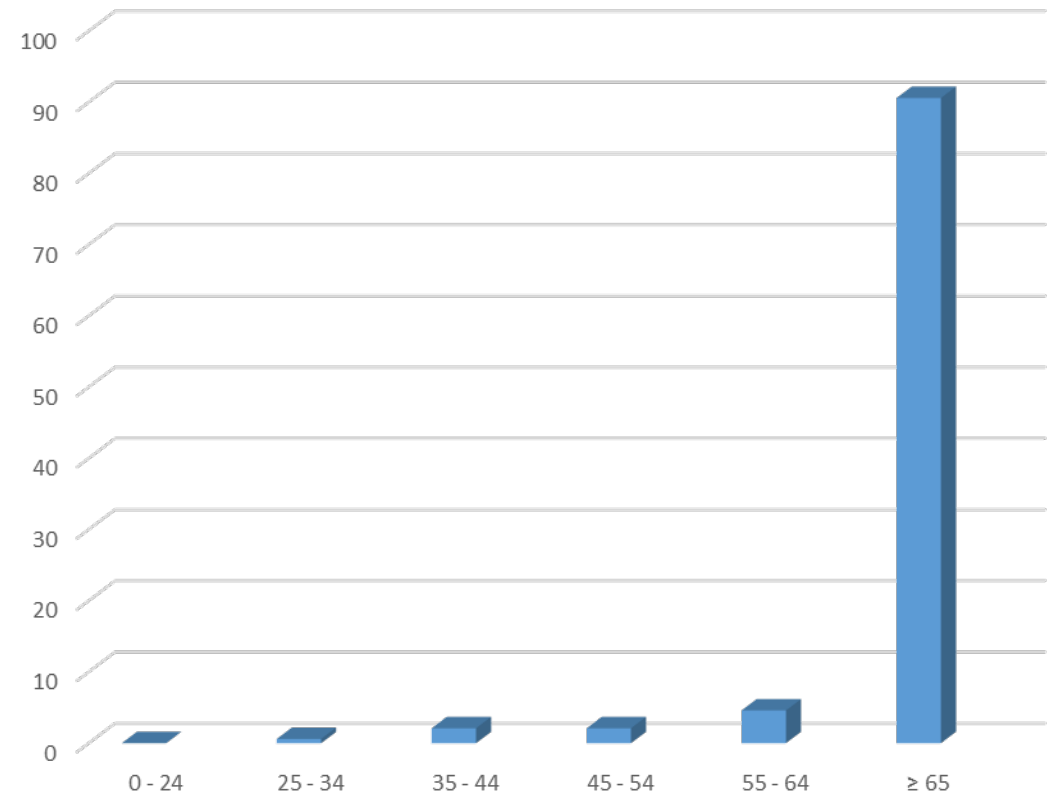
# Age distribution of cases Ireland

Percent of cases by age



Median age 48

Percent of deaths by age



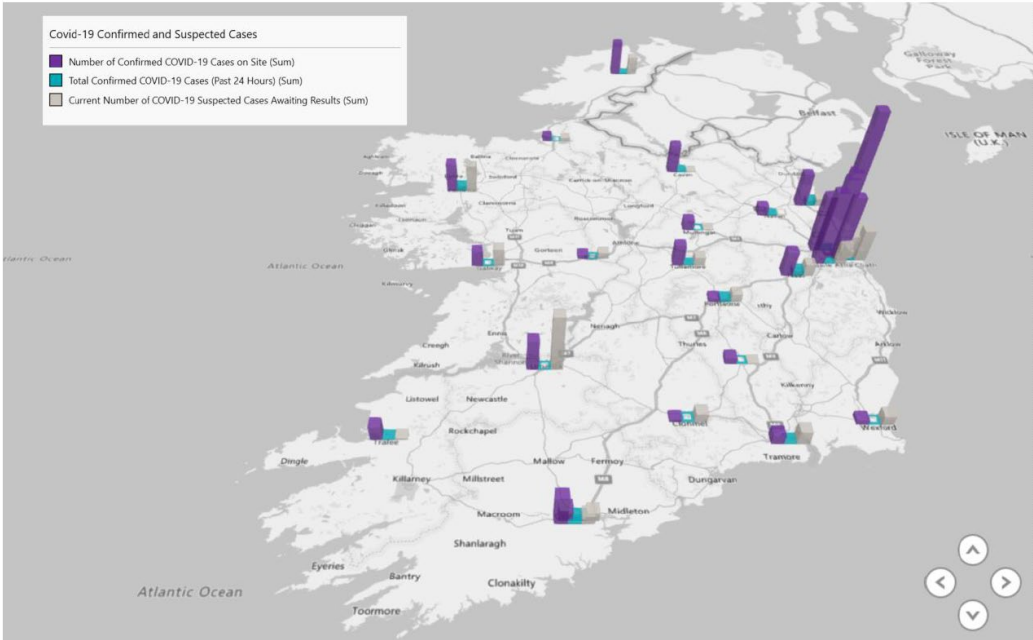
Median age 82

# Breakdown of deaths

Total Covid 19 deaths	435
In hospital	61%
Nursing home residents	60%
ICU	9%
Co-morbidities	83%
Median age	82
Mean age (range)	69 (23-105)

# Geographical distribution

2000hrs, 15<sup>th</sup> April 2020: Geographical Spread of COVID-19 Confirmed Cases and Suspected Cases across Acute Hospital Sites



# Lockdown

- Schools and universities closed since 13<sup>th</sup> March
- Pubs and restaurants closed since 16<sup>th</sup> March
- Lockdown started from 28<sup>th</sup> March and to continue till 5<sup>th</sup> May

All non essential businesses closed

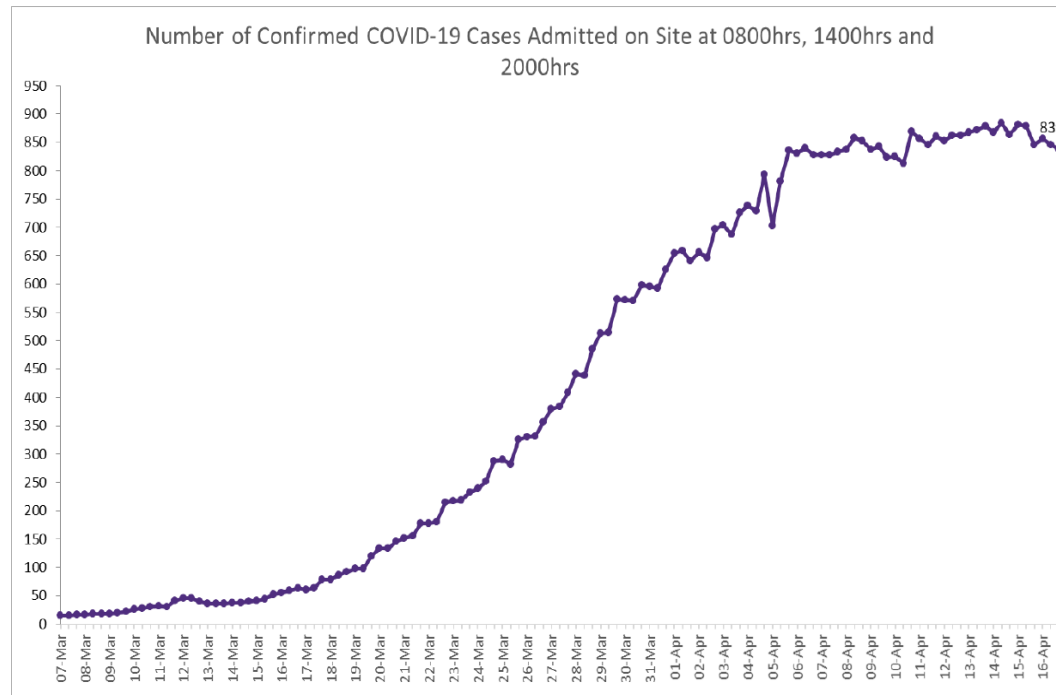
Confined to house

Leave for supermarket or health reasons

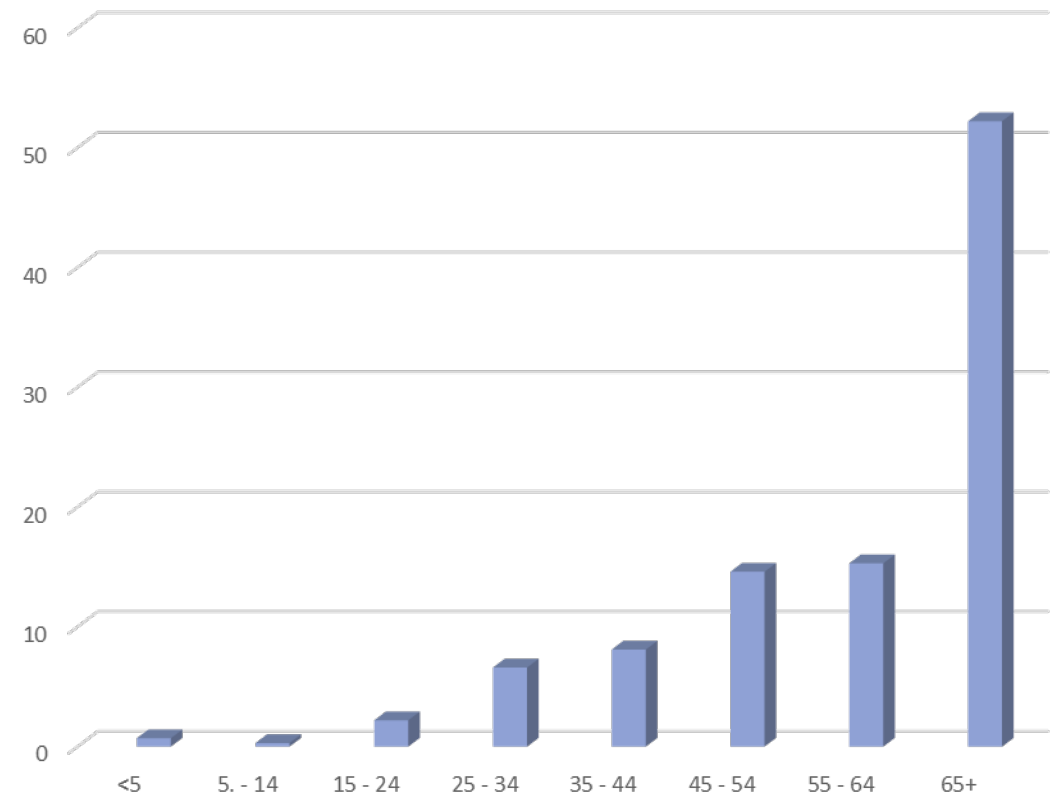
Out to exercise within 2 km of your home

# Hospital admissions

Number of Confirmed COVID-19 cases admitted across 29 acute sites  
(including CHI)



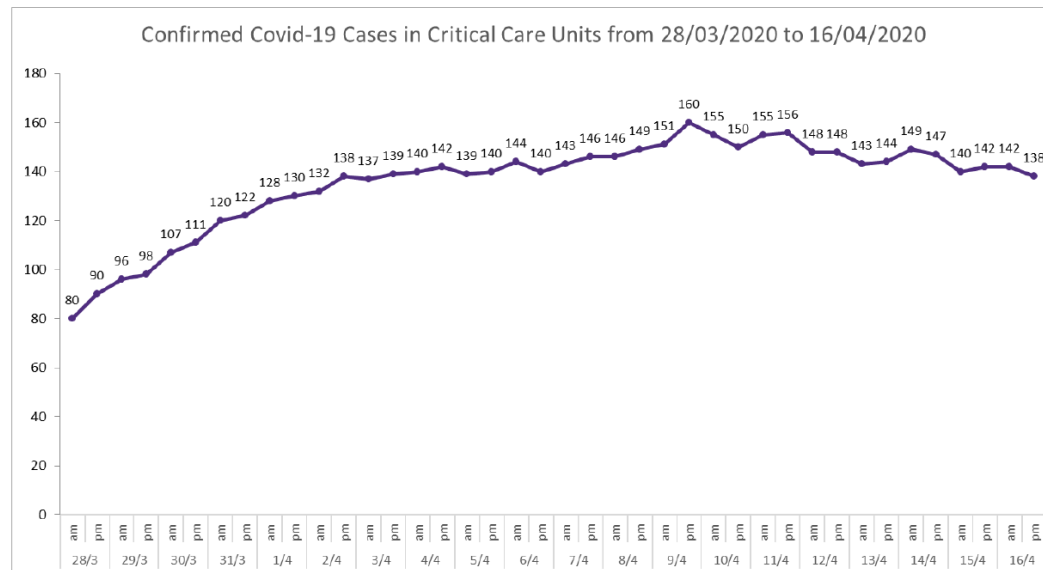
Percentage of total admissions by age





# ICU cases

## Confirmed COVID-19 Cases in Critical Care Units



Source: ICU Bed Information System (National Office of Clinical Audit (NOCA))

## • ICU occupancy

Total no of ICU beds	519	Occupancy
Total no open and staffed	413	
Total occupied	287	69%
Total occupied by Covid	135	32%
Total Covid pts ventilated	90	
Beds available	115	

# Testing

- Symptomatic patients only
- Test used : nasopharynx swab, RNA PCR
- Community via GPs at 46 centres nationally; some drive through.  
24 to 48 hr wait for test  
result in 4 to 5 days
- Some home testing
- Hospital testing only for admitted patients  
turnaround time 24 to 48 hours
- ≈100,000 tested  
2% population

# Pre-hospital Emergency Medical Services

- Ambulance service
  - decreased 999 calls
  - Terminate resuscitation at scene
  - introduced 12/ 7 GP screening of low acuity calls; 40% less hospital transfers

Emergency department doctors in Dublin are now making house calls for elderly patients

The service is running seven days a week, from 8am to 6pm.



# Triage

- Telephone triage                      mostly via GPs
- Community Assessment hubs opening this week staffed by GPs 12/7
  - Assessment of GP referrals of known or ? Covid cases

- Hospital

Pre-triage streaming into Covid and non-Covid

In some units occurs outside ED

Triage based on symptoms and SpO<sub>2</sub>



# PPE

- Covid stream  
+ risk of aerosolizing procedure
- Non Covid stream
- Shortages
- Recycling

PPE with surgical face mask

PPE with FFP2 respirator

Standard infection control

*Surgical masks patients and staff  
gloves and plastic aprons*

Most EDs not yet experiencing

Some for eye protection

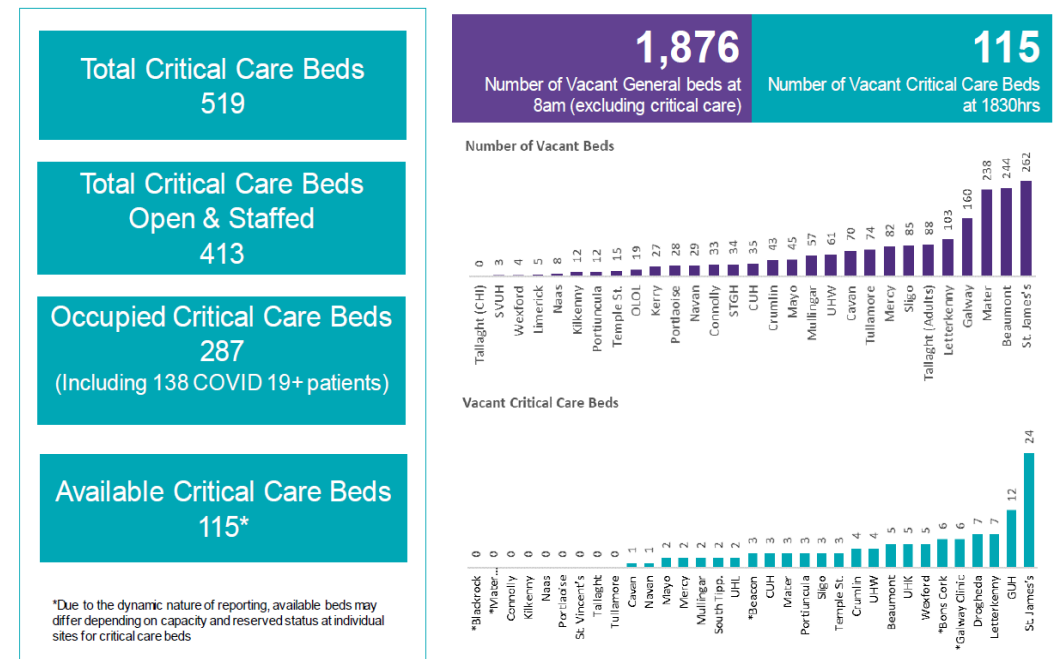
# Health Care Professionals infected with Covid

- Estimation of the HP affected 23% of cases
- Criteria for testing HP Symptomatic
- Strategy for HP who are positive and asymptomatic 2 weeks self isolation and symptom free for 5 days
- Mortality 3 deaths

# Final lessons learned

- Prepare
- Create capacity
- Protect your staff
- Test and isolate
- Contact tracing
- Support for nursing homes

**Number of Vacant Beds and Critical Beds Available on 16/04/2020**  
(Note HSE COVID-19 Surge plan includes significant additional Critical Care Beds in addition to those indicated below)



Sources: (Critical Care Bed Vacancies) - ICU Bed Information System (National Office of Clinical Audit (NOCA)) | (General Bed Vacancies) - SBAR Portal