Sesión conjunta de SEC-SMC y SAC

Complicaciones Cardiovasculares de la COVID-19.¿depende del país?

Cardiología en la época post-COVID en España

Dr Carlos Macaya

Congreso Nacional de Cardiología,

Madrid, Octubre de 2020

Complicaciones Cardiovasculares de la COVID-19

1. Daño Cardiovascular de la Covid-19
    1. Disfunción Ventricular
        1. *Miocarditis (Biopsia)*
        2. *Miocardiopatia de estrés (Takotsubo)*
        3. *Otras causas (Hipoxia!...)*
    2. Trastornos de la Coagulación: *Trombosis!!*
    3. Otros: *arritmias, vasculitis, espasmo coronario, etc.*
2. Indirectas: *Derivadas del confinamiento y una peor atención cardiovascular durante el brote de la pandemia*

Congreso Nacional de Cardiología, *Madrid, Octubre de 2020*

Complicaciones Cardiovasculares de la COVID19 ¿Depende del País? Respuesta: SI

En función de variables

1. Epidemiológicas: Magnitud de la pandemia
2. Socioeconómicas
3. Sanitarias: *sistema sanitario y modelo asistencial*
4. Planificación de la Asistencia Cardiovascular
   Regionalización, Redes Asistenciales, Codigo Infarto

Congreso Nacional de Cardiología, *Madrid, Octubre de 2020*

Sesión conjunta de SEC, SMC y SAC

Complicaciones Cardiovasculares de la COVID-19.¿depende del país?

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Madrid, Octubre de 2020

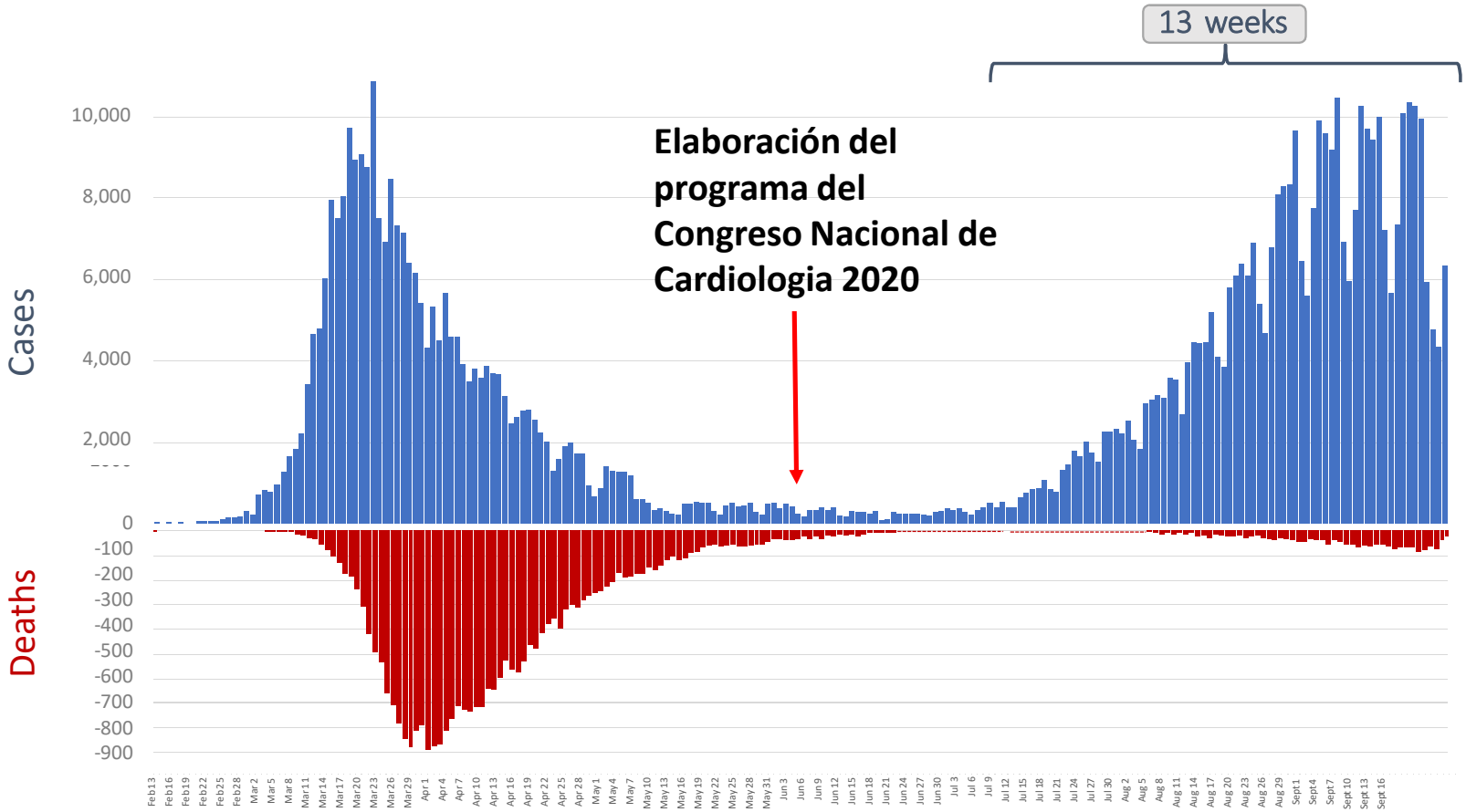
With official data only

Covid19 Second Wave Monitoring – Sept 18, 2020

Author: Jose Gefaell https://www.linkedin.com/in/josegefaell/

SPAIN

Cases vs. Deaths (as at Sept.17)



Very strong rebound in cases since late June. Deaths in August/Sept increased to a 14 days average of ~66/day.

But after 13 weeks since the rebound, deaths still do not follow the cases in the same proportion as in March.

Cribcs of this graph say that the series of cases cannot be compared with that of deaths because cases in March and April (the left part of the chart) should be adjusted very upwards.

Fair enough. See next page.

Data sources: Government of Spain: heps://cnecovid.isciii.es / heps://cnecovid.isciii.es/covid19/#ccaa / heps://www.mscbs.gob.es/profesionales/saludPublica/ccayes/alertasActual/nCov-China/documentos/Actualizacion_210_COVID-19.pdf
EXCELS with official data and own calculabons: heps://www.dropbox.com/s/6uns2jpa3pfi4gn/Daily%20Cases%20and%20Deaths%20Spain-18SEPT.xlsx?dl=0 / heps://www.dropbox.com/s/hlm8m1m5xau25gs/datos_ccaas-18SEPT2020.xlsx?dl=0

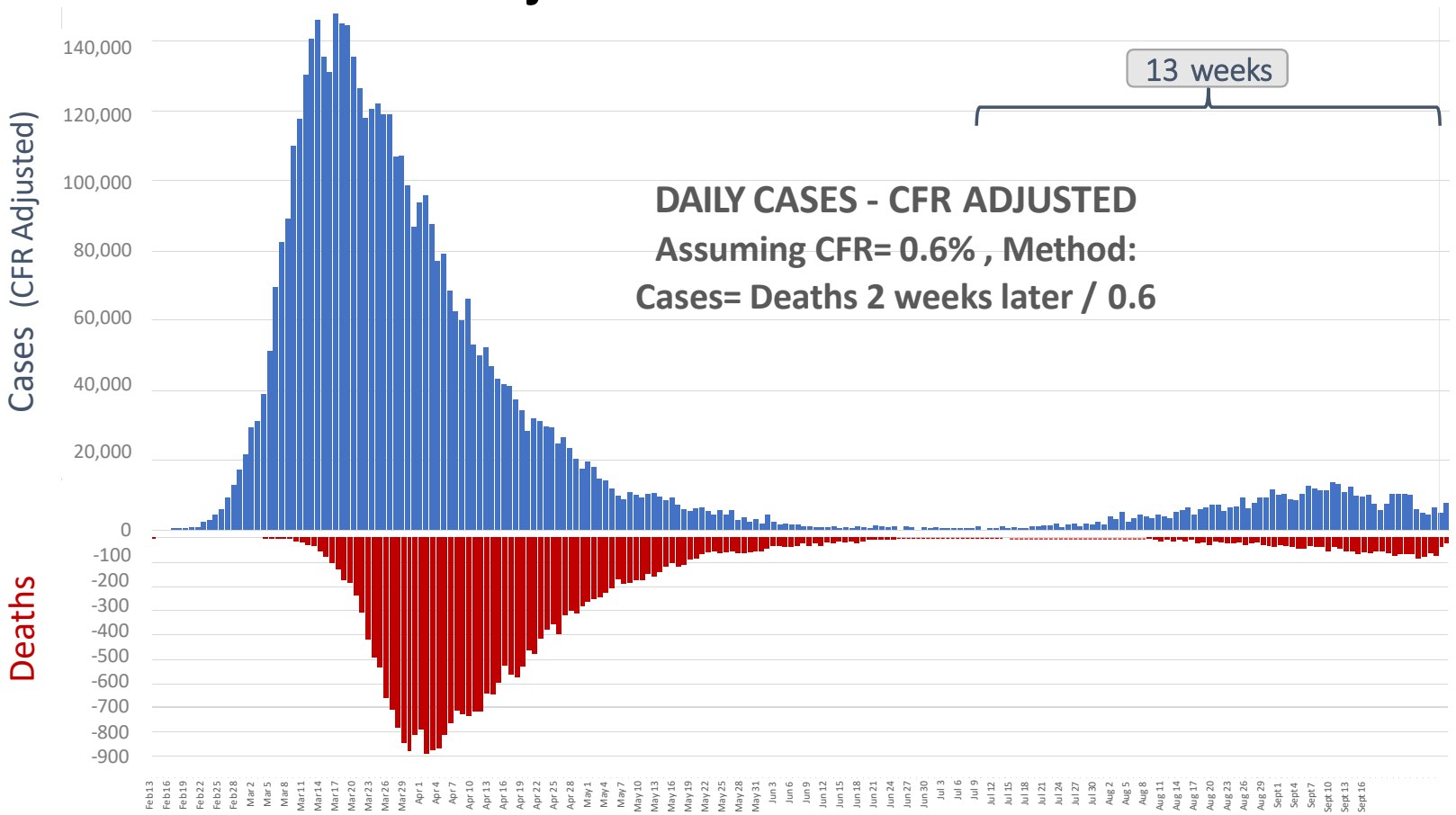
With official data only

Covid19 Second Wave Monitoring – Sept 18, 2020

Author: Jose Gefaell heps://www.linkedin.com/in/josegefaell/

SPAIN

CFR-Adjusted Cases vs. Real Deaths



Let's adjust the cases with a CFR of 0,6% for the whole period.

The resulting CFR-adjusted Case curve doesn't show any second wave, neither the Deaths curve. What they show seems just a rebound. Rebounds are foreseeable when opening after a lockdown.

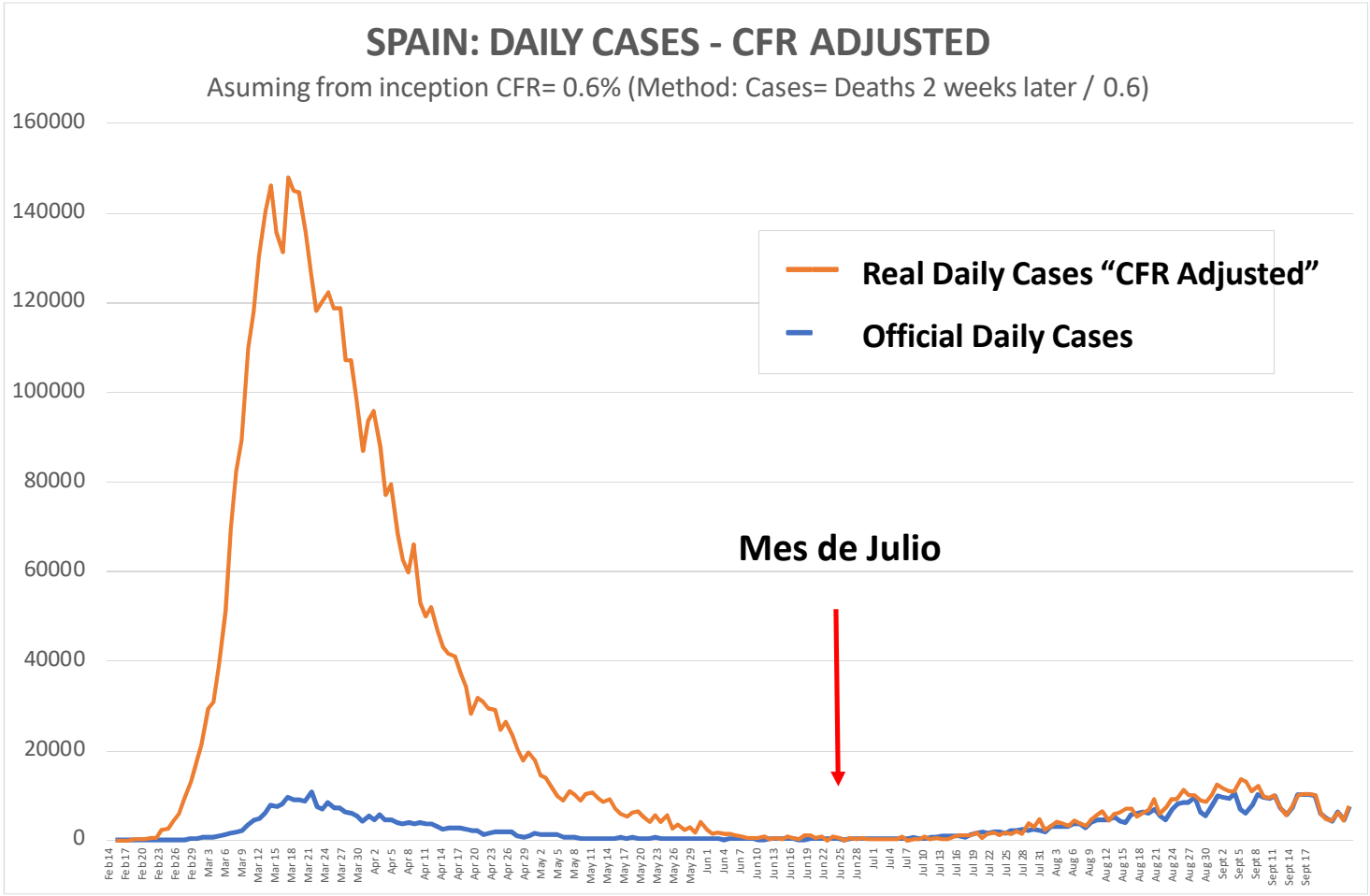
This graph could be adjusted even further, because if Deaths and CFR adjusted Cases were shown with the same scale, current Deaths spike would be barely seen.

We keep these different scales just for illustrative purposes.

Data sources: Government of Spain: heps://cnecovid.isciii.es / heps://cnecovid.isciii.es/covid19/#ccaa / heps://www.mscbs.gob.es/profesionales/saludPublica/ccayes/alertasActual/nCov-China/documentos/Actualizacion_210_COVID-19.pdf
EXCELS with official data and own calculabons: heps://www.dropbox.com/s/6uns2jpa3pfi4gn/Daily%20Cases%20and%20Deaths%20Spain-18SEPT.xlsx?dl=0 / heps://www.dropbox.com/s/hlm8m1m5xau25gs/datos_ccaas-18SEPT2020.xlsx?dl=0

Author: Jose Gefaell heps://www.linkedin.com/in/josegefaell/

Explanation of the "Cases CFR adjusted"

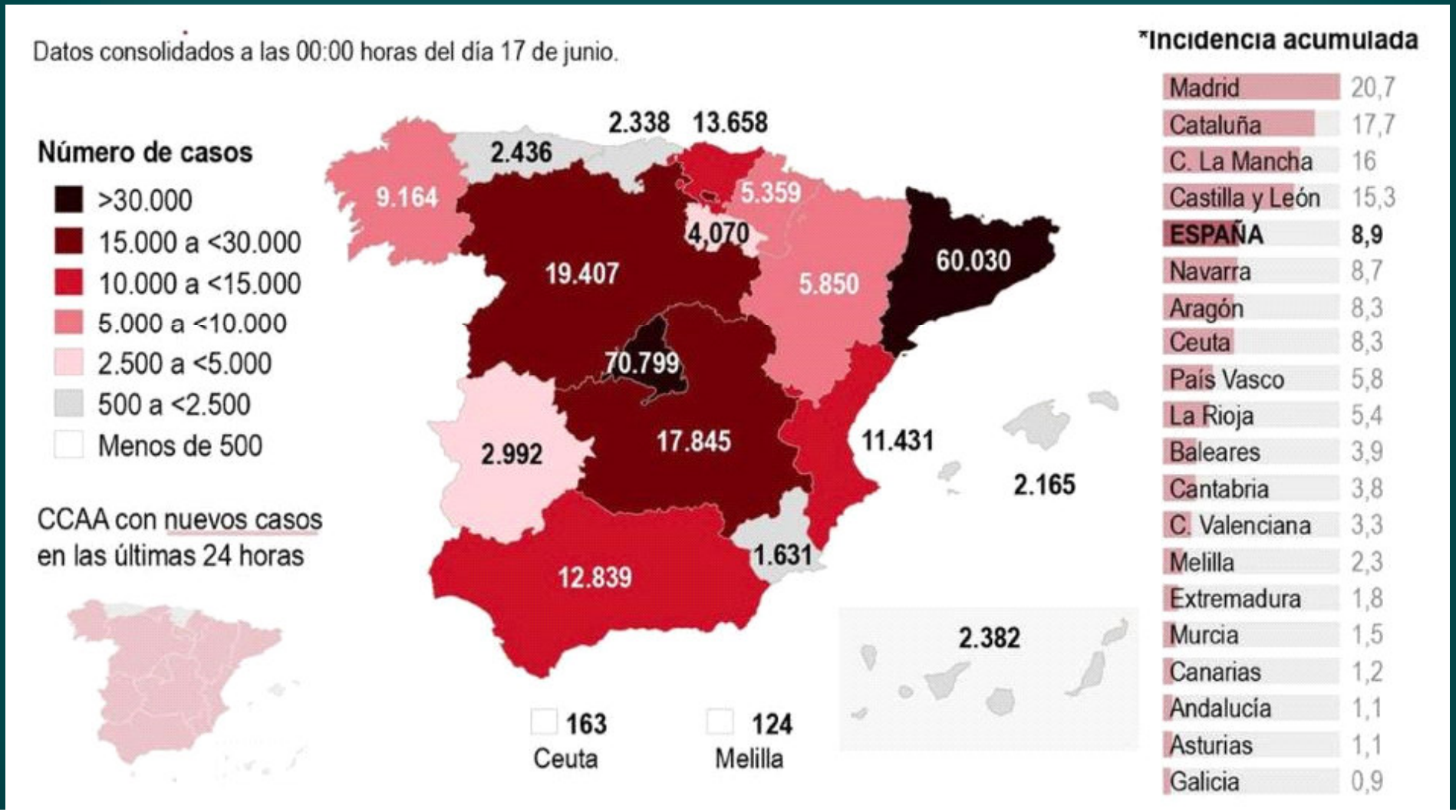


- Let's use a CFR of 0,6% for the whole period, with 2 weeks decalage between cases and deaths. If we divide the series of daily deaths by 0,6% we will obtain the theorebcal "real" curve of cases. Obviously, the shape of this curve is similar to the deaths' curve, but moved two weeks backwards.
- Real IFR will be lower than this CFR of 0,6%, so this chart would be much higher at the len if we use IFR. However, also medical therapies have improved substanbally, so this simplificabon of using a CFR of 0,6% can be valid for illustrabon purposes.
- Daily cases at the peak in March would be ~**150,000** instead of ~10,000. So, a mulbpleat least of 15x. This "Cases CFR adjusted" shows the strong spike in August, but we can not call it a "second wave" (at least, for now).
- Under this exercise**, total number of cases since February would be ~5 million, around 11% of the Spanish populabon.**

Data sources: Government of Spain: heps://cnecovid.isciii.es / heps://cnecovid.isciii.es/covid19/#ccaa / heps://www.mscbs.gob.es/profesionales/saludPublica/ccayes/alertasActual/nCov-China/documentos/Actualizacion_210_COVID-19.pdf
EXCELS with official data and own calculabons: heps://www.dropbox.com/s/6uns2jpa3pfi4gn/Daily%20Cases%20and%20Deaths%20Spain-18SEPT.xlsx?dl=0 / heps://www.dropbox.com/s/hlm8m1m5xau25gs/datos_ccaas-18SEPT2020.xlsx?dl=0

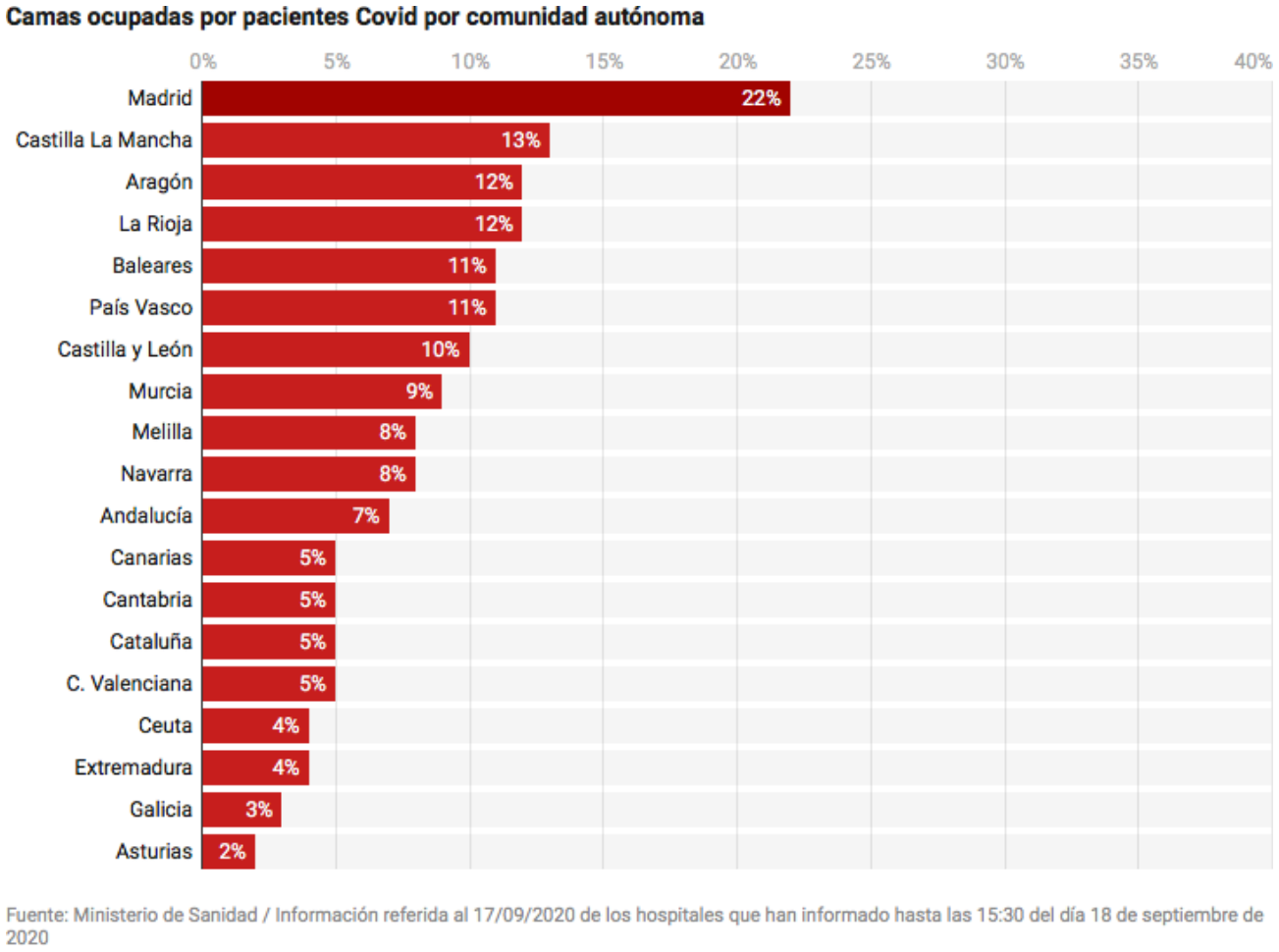
Covid19 y la Cardiología en la España de las 17 CCAA

Muy diferente incidencia con 17 Sistemas sanitarios parecidos pero no iguales



Author: Jose Gefaell https://www.linkedin.com/in/josegefaell/

SPAIN: Covid19 Hospital occupancy by Autonomous Regions



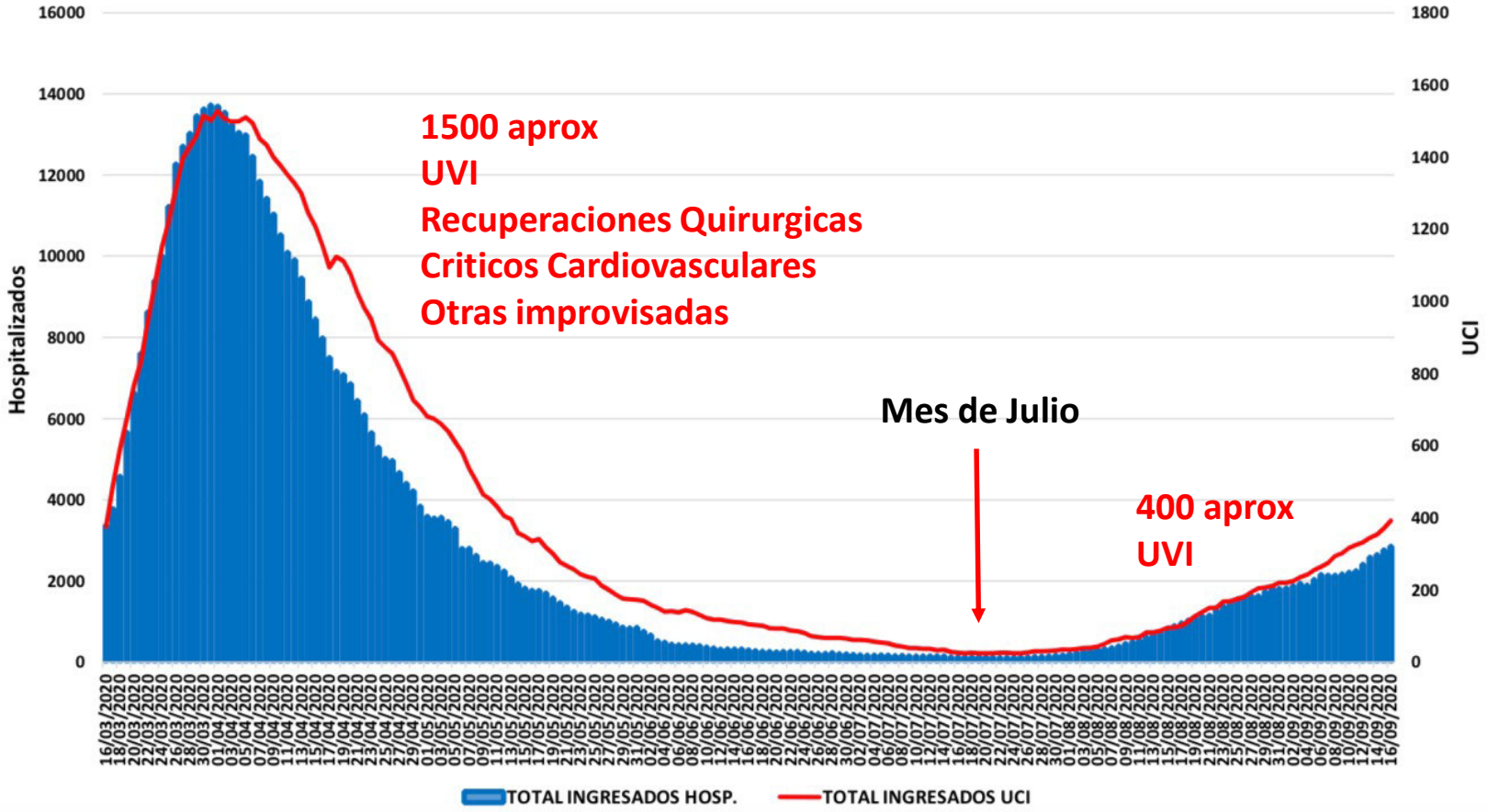
Data Source: Government of Spain **/ Chart:** El Correo heps://www.hoy.es/sociedad/salud/coronavirus-wuhan-amenaza-20200129164607-ntrc.html#incremento-diario

Author: Jose Gefaell heps://www.linkedin.com/in/josegefaell/

Madrid

Chart published by the Autonomous Government of Madrid

Hospitalizabons and ICU (UCI in Spanish)



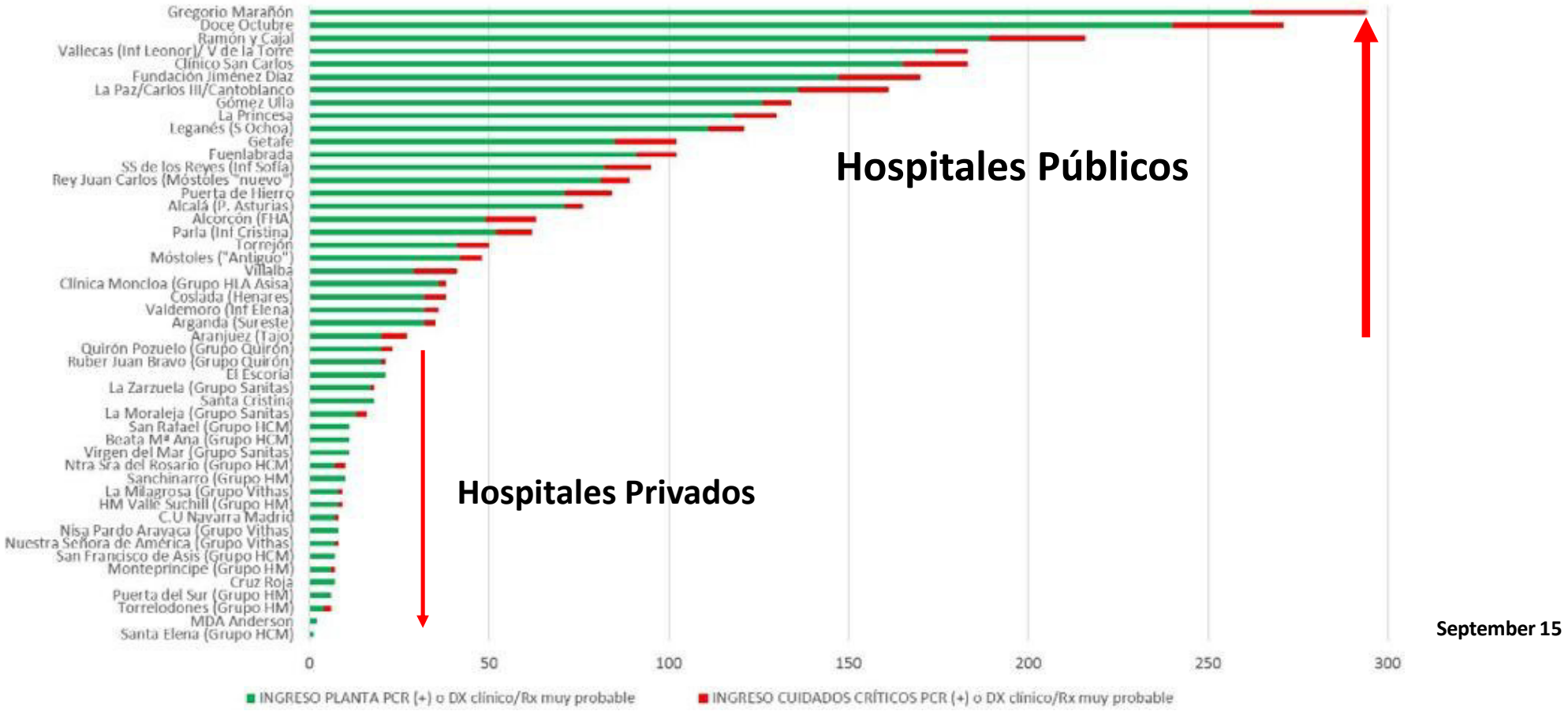
September 16

Source: https://www.comunidad.madrid/sites/default/files/doc/sanidad/200917_cam_covid19.pdf
https://www.comunidad.madrid/servicios/salud/2019-nuevo-coronavirus

Author: Jose Gefaell heps://www.linkedin.com/in/josegefaell/

Madrid

Hospitalizations COVID-19 by Madrid Hospitals, as at September 15



September 15

Source: Consejería de Sanidad CAM

La Cardiología en la era Covid-19 en España

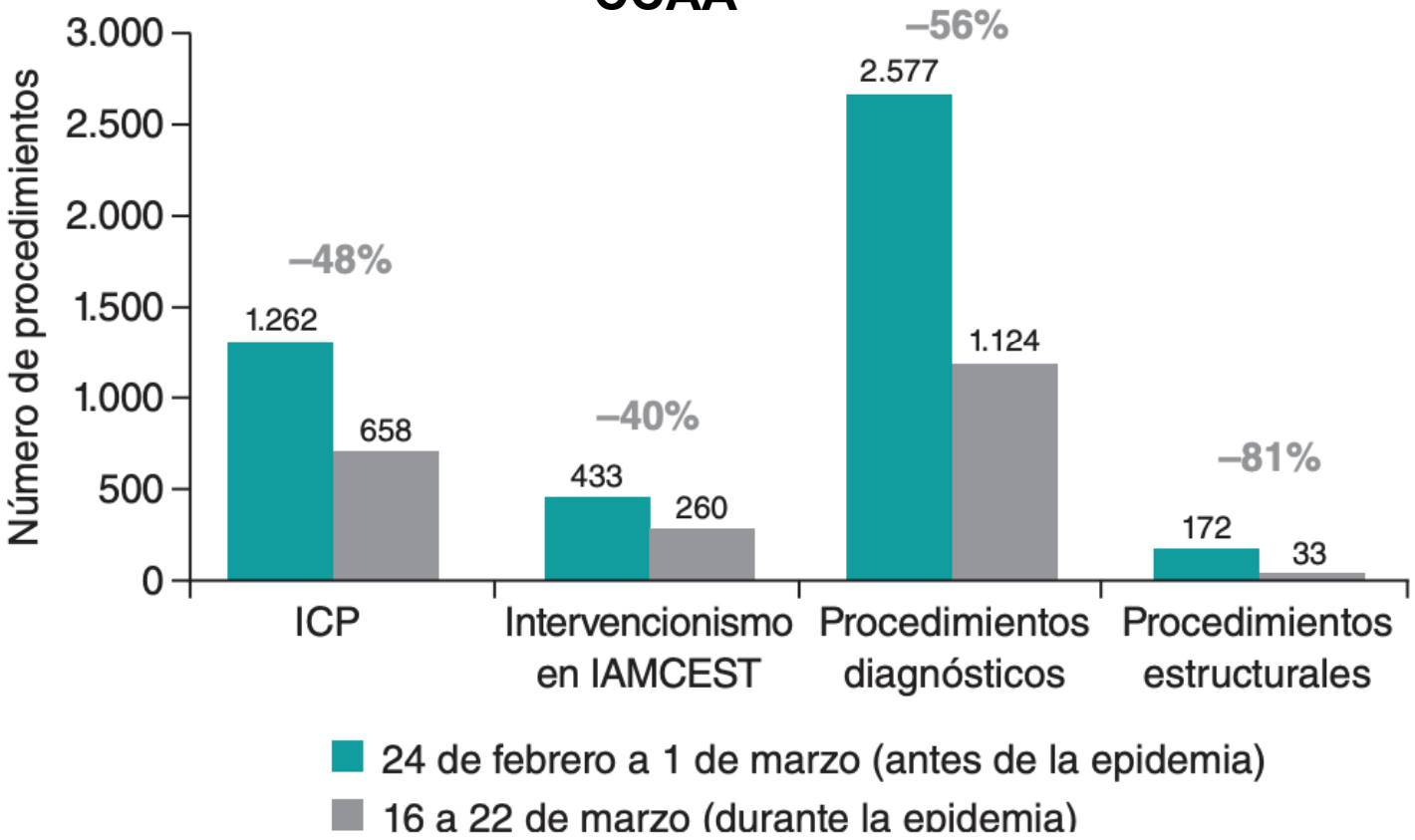
Algunos datos y recomendaciones

1. Impacto de la Covid-19 en el STEMI
2. Reorganización de los Hospitales
3. Procedimientos electivos vs urgentes
4. Medidas de protección en el CathLab y ETE

Congreso Nacional de Cardiología, *Madrid, Octubre de 2020*

La Cardiología en la era Covid-19 en España

Impacto de la pandemia de COVID-19 sobre la actividad asistencial en cardiología intervencionista en España. Registro de 81 centros de las 17 CCAA

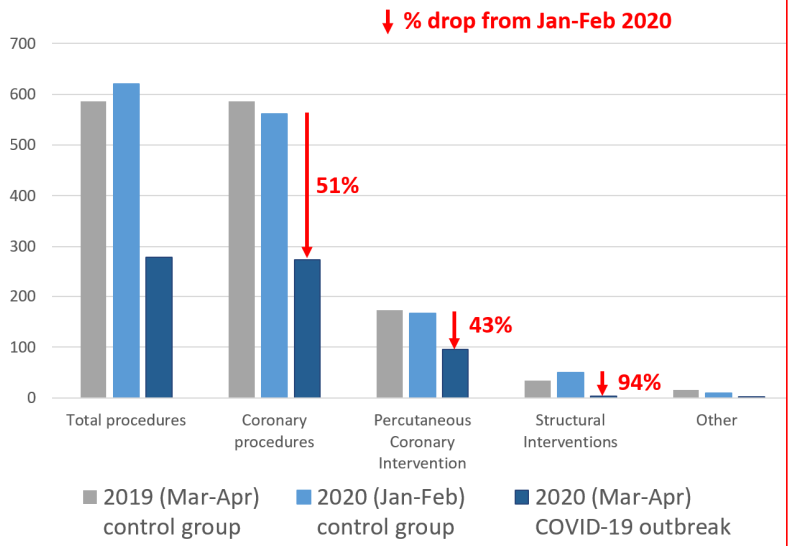


O. Rodríguez-Leor et al. ***REC Interv Cardiol. 2020;2(2):82-89, On line 2 de abril 2020***

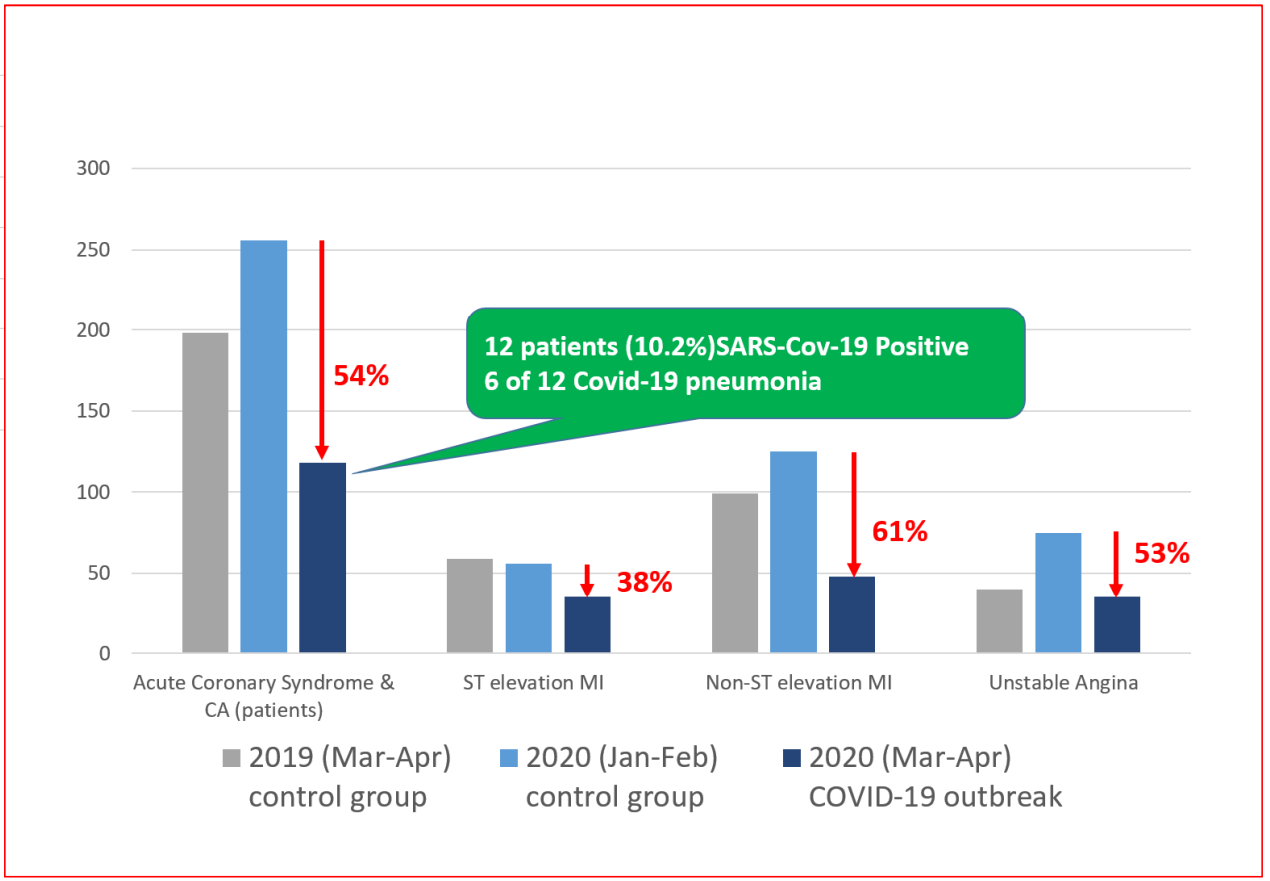
La Cardiología en la era Covid-19 en España

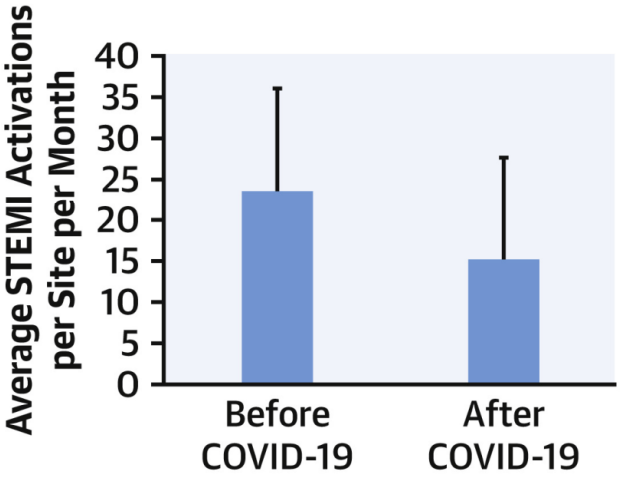
Impacto del Covid19 en un área de 1 millón en Madrid

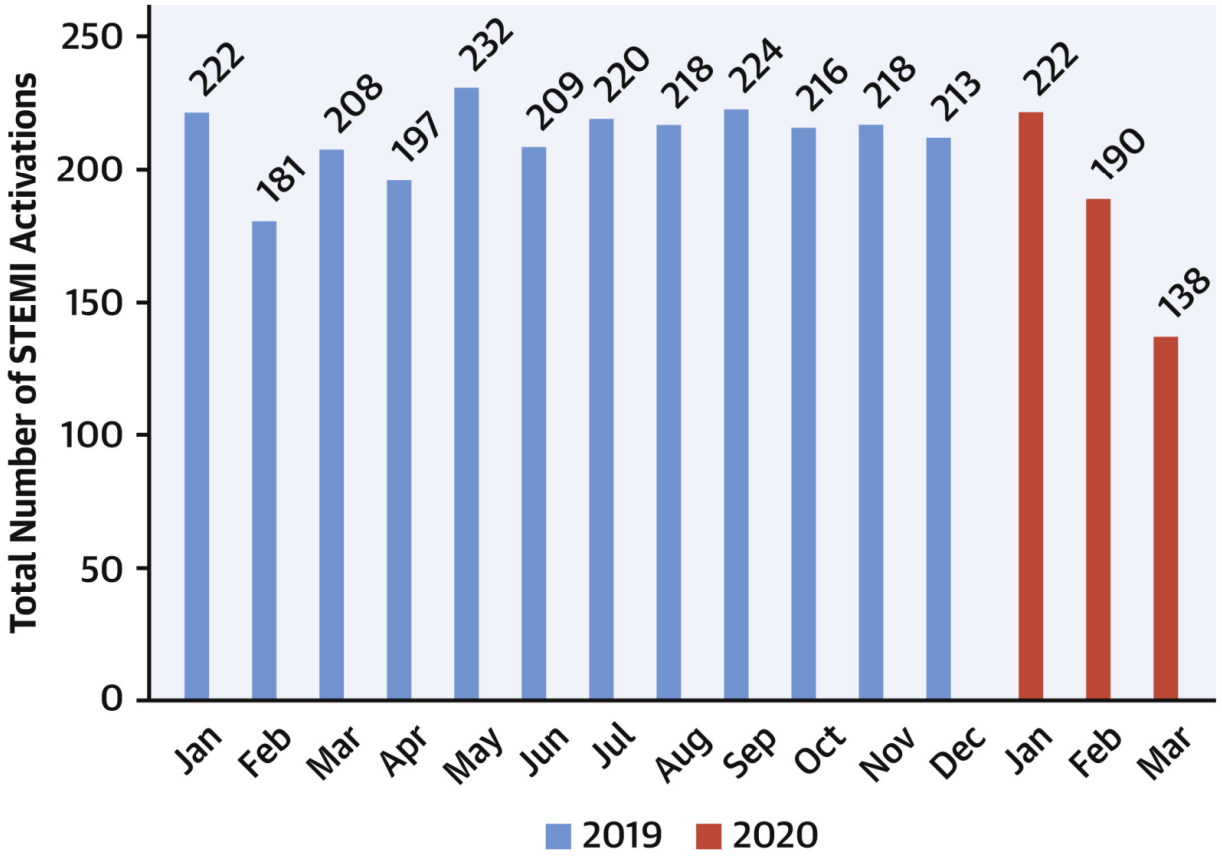
CardioRed invasive procedures



CardioRed1
Clínico- Fuenlabrada - Alcalá - Leganés







Garcia S, Albaghdadi MS, Mejran PM, et al. Reduction in ST-segment elevation cardiac catheterization laboratory activations in the United States during COVID-19 pandemic. J Am Coll Cardiol. 2020;75:2871–2872.

La Cardiología en la era Covid-19 en España

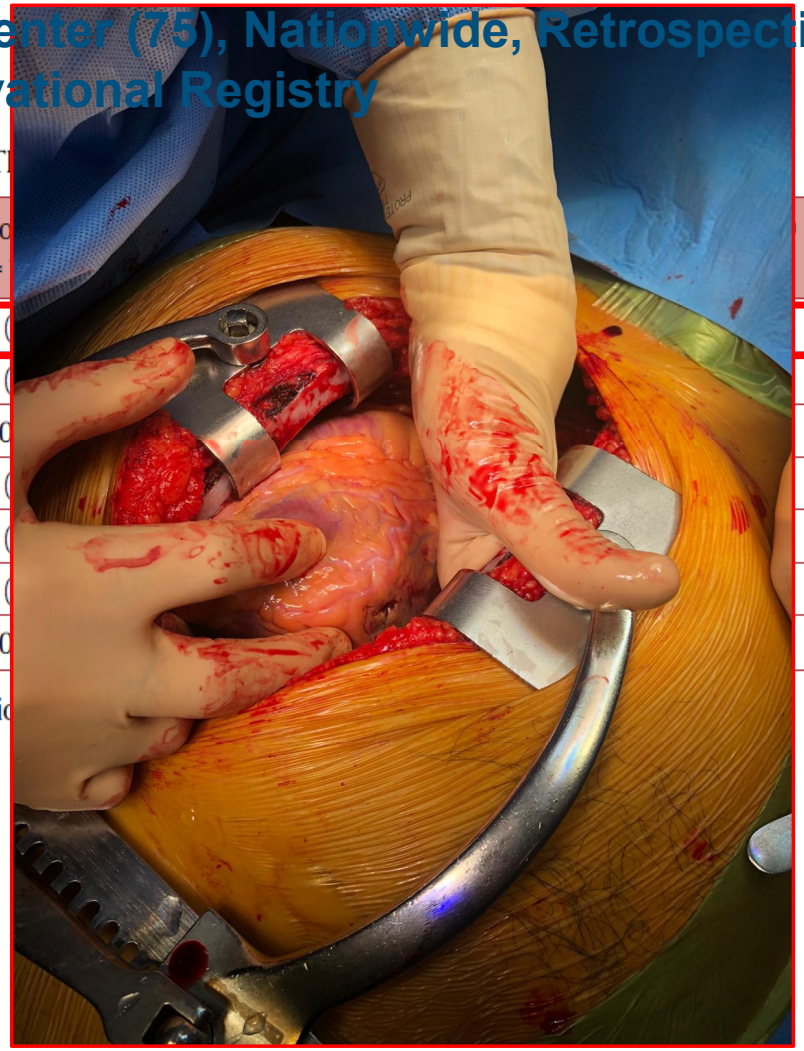
Impact of Covid-19 on ST-Segment Elevation Myocardial Infarction Care. The Spanish Experience. Multicenter (75), Nationwide, Retrospective, Observational Registry

Table 4

In-hospital outcomes of patients with confirmed diagnosis of STI

	Prio N =		P
Mortality	67 (		.019
Acute stent thrombosis	11 (		.54
Major bleeding	8 (0		.21
Cardiogenic shock after PCI	75 (		.29
Pulmonary edema after PCI	30 (		.30
Mechanical ventilation after PCI	31 (		.42
Mechanical complication	5 (0		.12

PCI, percutaneous coronary intervention; STEMI, ST-segment elevatio
Values are reported as No. (%).

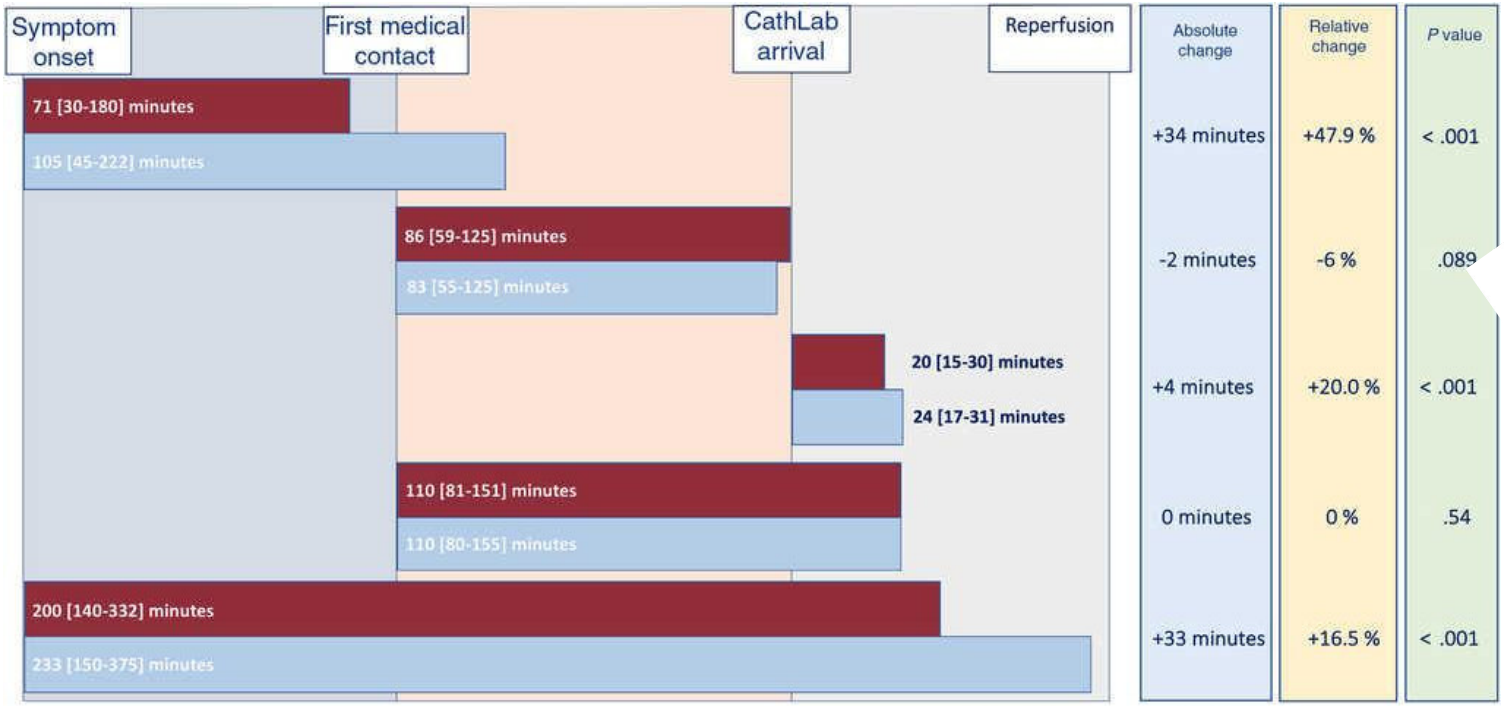


Rodriguez-Leor O, et al. Impact of COVID-19 on ST-segment elevation myocardial infarction care. The Spanish experience. Rev Esp Cardiol. 2020. https://doi.org/10.1016/j.rec.2020.08.002

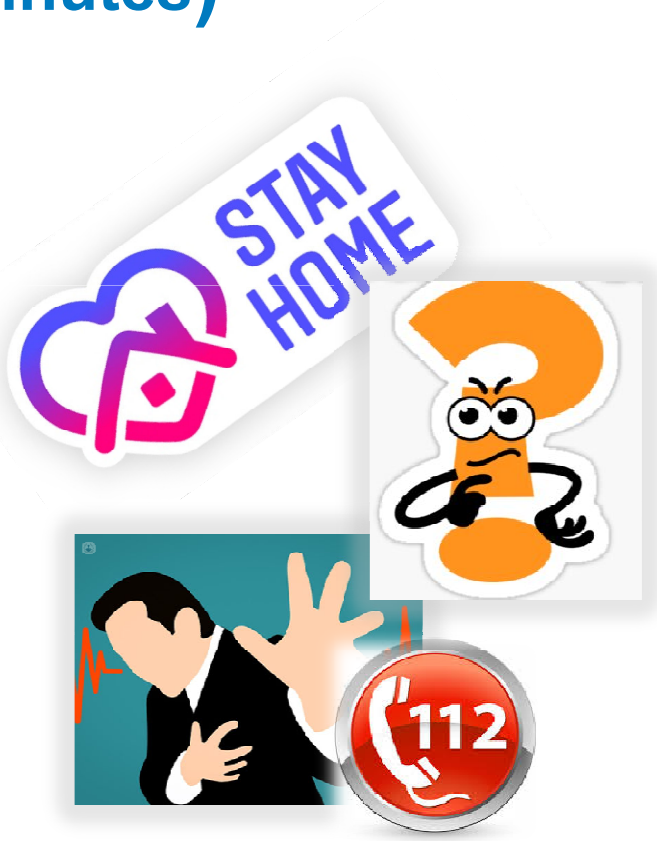
La Cardiología en la era Covid-19 en España

Impact of Covid-19 on ST-Segment Elevation Myocardial Infarction Care. The Spanish Experience. Multicenter (75), Nationwide, Retrospective, Observational Registry

Longer ischemic time (patient related delay 34 minutes)



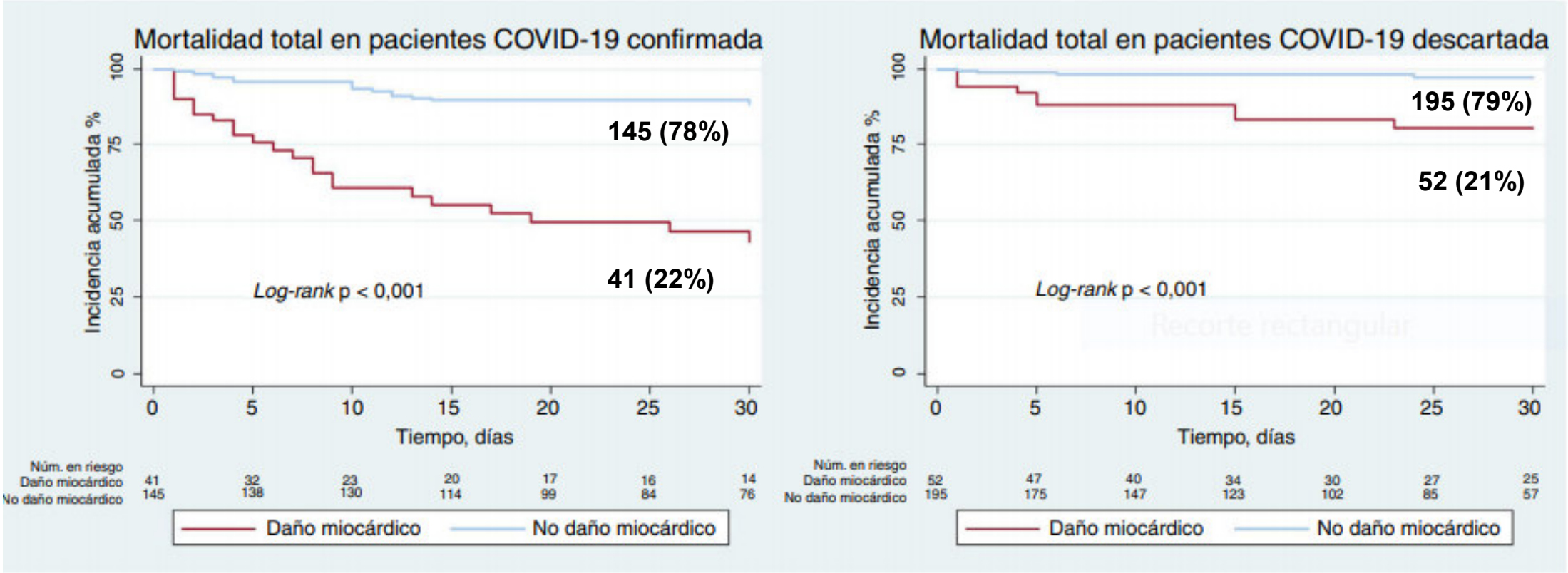
Rev Esp Cardiol 10.1016/j.rec.2020.08.002



Rodriguez-Leor O, et al. Impact of COVID-19 on ST-segment elevation myocardial infarction care. The Spanish experience. Rev Esp Cardiol. 2020.
https://doi.org/10.1016/j.rec.2020.08.002

La Cardiología en la era Covid-19 en España

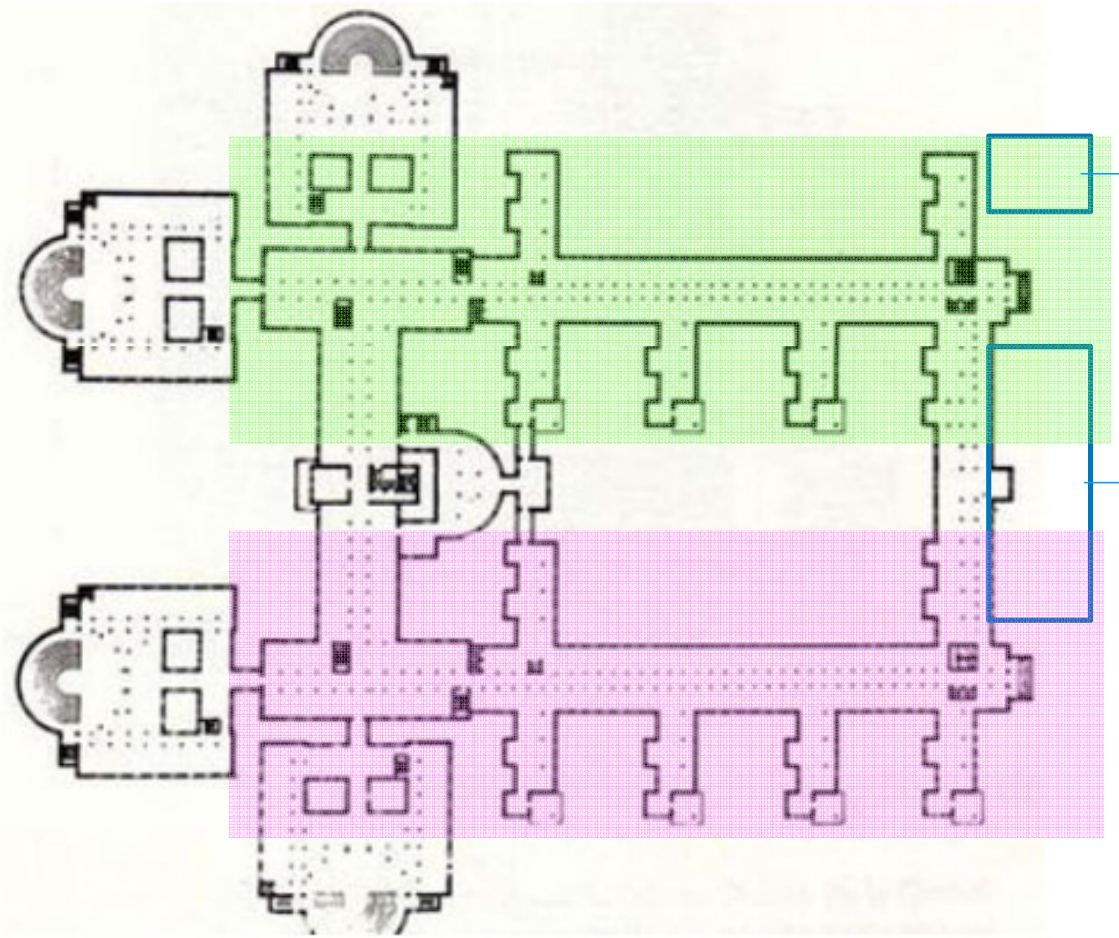
Implicaciones pronósticas del daño miocárdico (Tnc I) en 433 pacientes consecutivos con (186 pts) y sin (247 pts) diagnóstico confirmado (PCR) de COVID-19 atendidos en un hospital universitario de Tarragona



A Bardaji et al. Rev Esp Cardiol 2020, on line

La Cardiología en la era Covid-19 en España

Reorganizar los hospitales



Programados Triage-Test

Ala Norte No-Covid

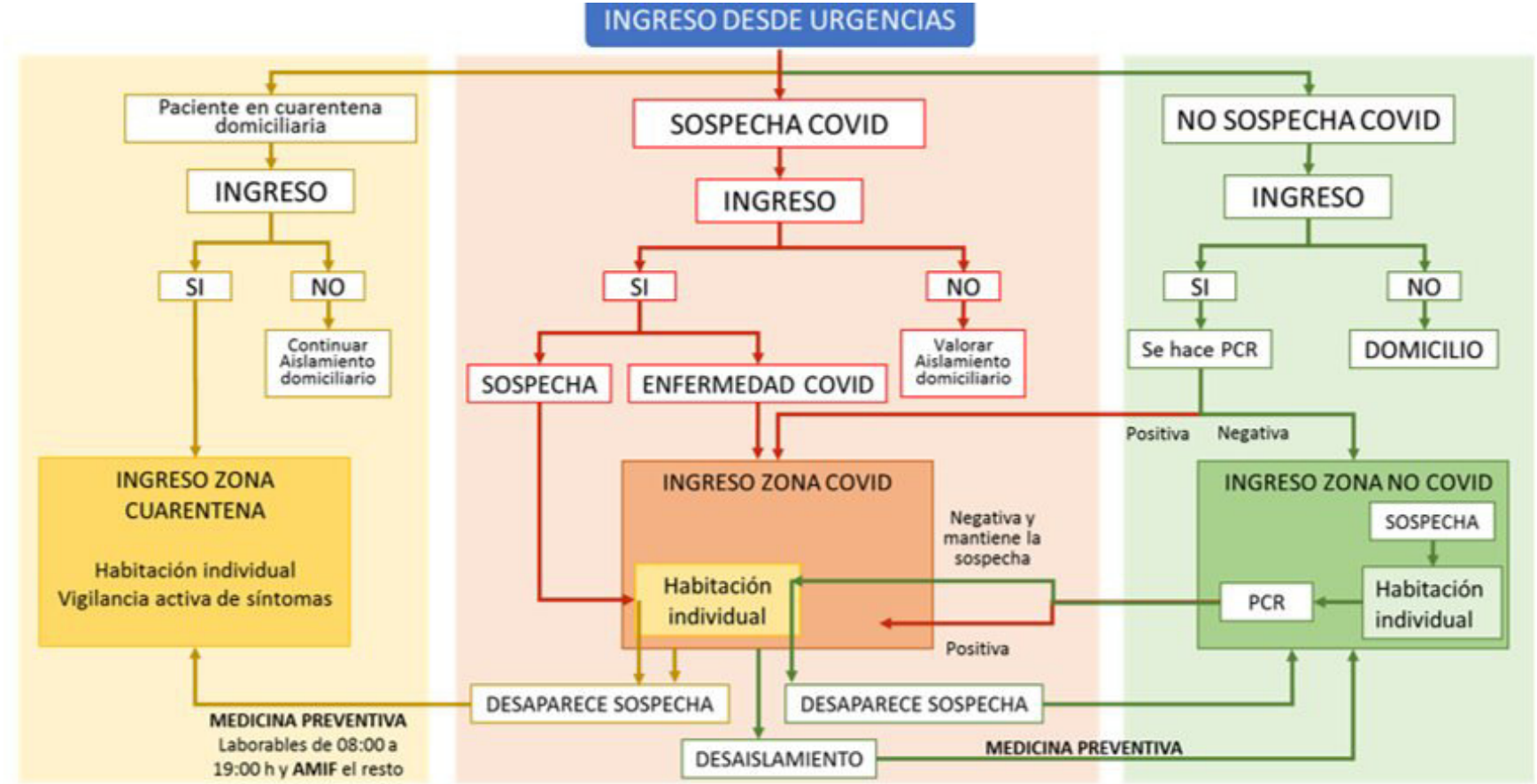
Urgencias Triage-Test

Ala Sur Covid

Hospital Clínico San Carlos

SaludMadrid

La Cardiología en la era Covid-19 en España



Zona cuarentena: pacientes que son CONTACTOS (expuestos a casos COVID)

Zona COVID: para pacientes que son casos COVID (PCR +), sospecha COVID (hab. individual), enfermedad clínica COVID o pacientes desaislados COVID

Zona NO COVID: para pacientes sin COVID (PCR -), pueden estar sospechas que surjan en esta zona hasta descartarse o pacientes desaislados COVID

La Cardiología en la era Covid-19 en España

Procedimientos electivos:

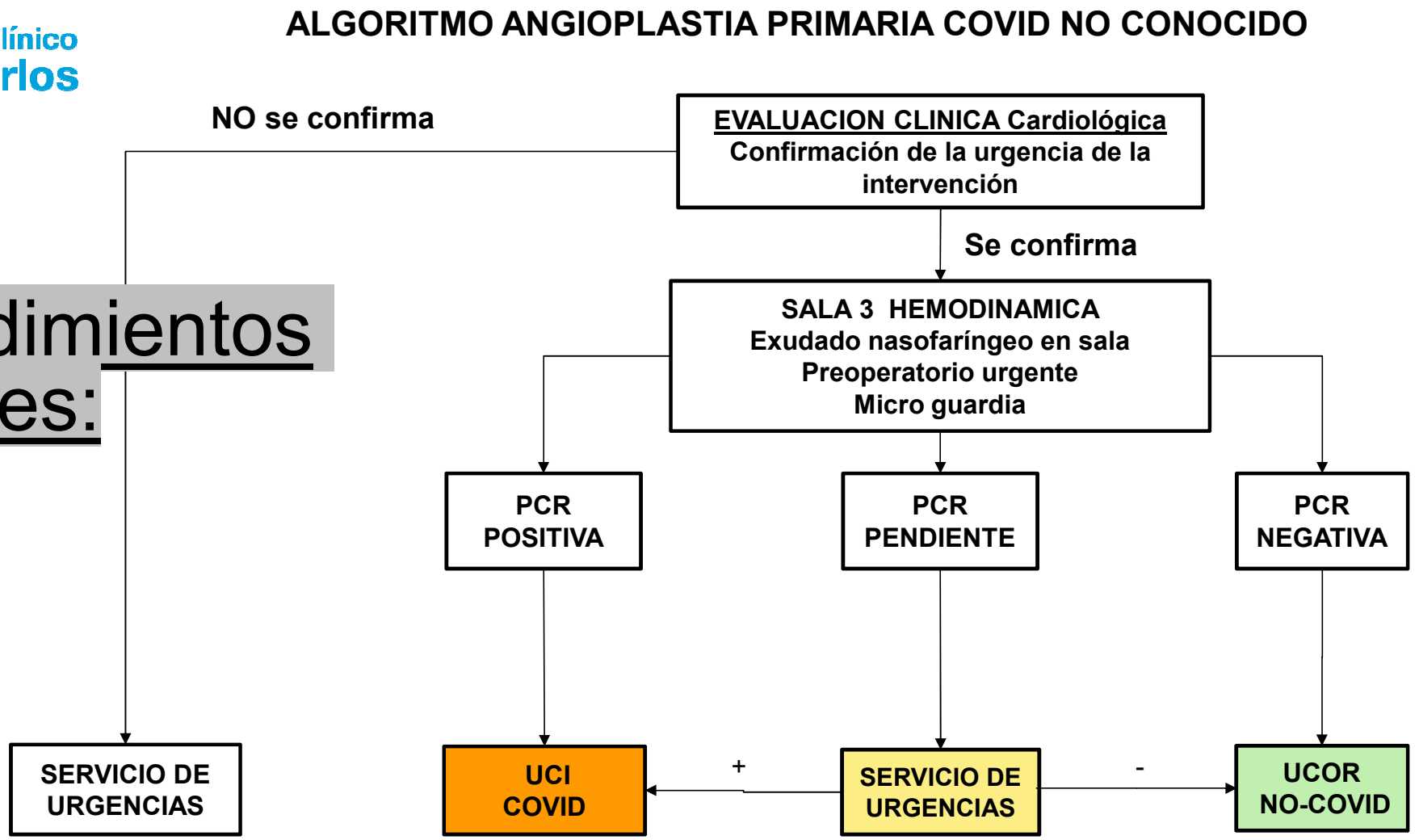
- Valorar riesgo exposición vs retraso
- Evitar ingresos prolongados
- Screening Covid en <48 horas
- Información hospital seguro
- Circuito limpio garantizado
- Medidas de protección extras
- Acompañamiento restringido
- Coordinación con dirección

INFORMAR
"Mi hospital es seguro"

La Cardiología en la era Covid-19 en España

Hospital Clínico San Carlos
SaludMadrid

Procedimientos urgentes:



La Cardiología en la era Covid-19 en España

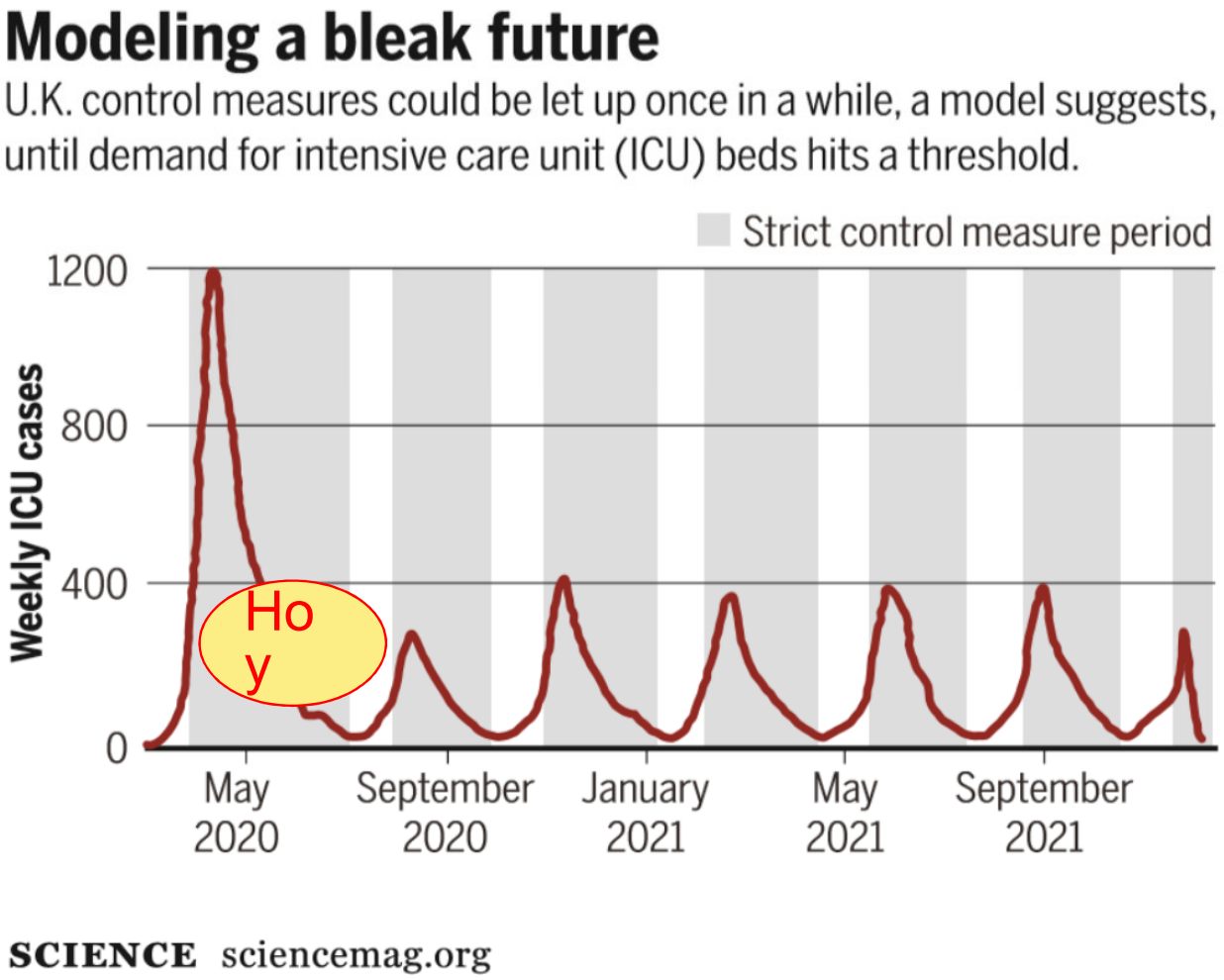
Protección Covid-19

Cambio de prioridades en el cath-lab

PACIENTE	PERSONAL CIRCULANTE	PERSONAL LAVADO
MASCARILLA QUIRÚRGICA	MASCARILLA FFP2*	MASCARILLA FFP2*
	GUANTES NITRILO	2X GUANTES ESTÉRILES
	GORRO	GORRO
	BATA IMPERMEABLE	BATA ESTÉRIL IMPERMEABLE
	GAFAS ANTISALPICADURA	GAFAS ANTISALPICADURA

R. Romaguera et al. REC Interv Cardiol. 2020

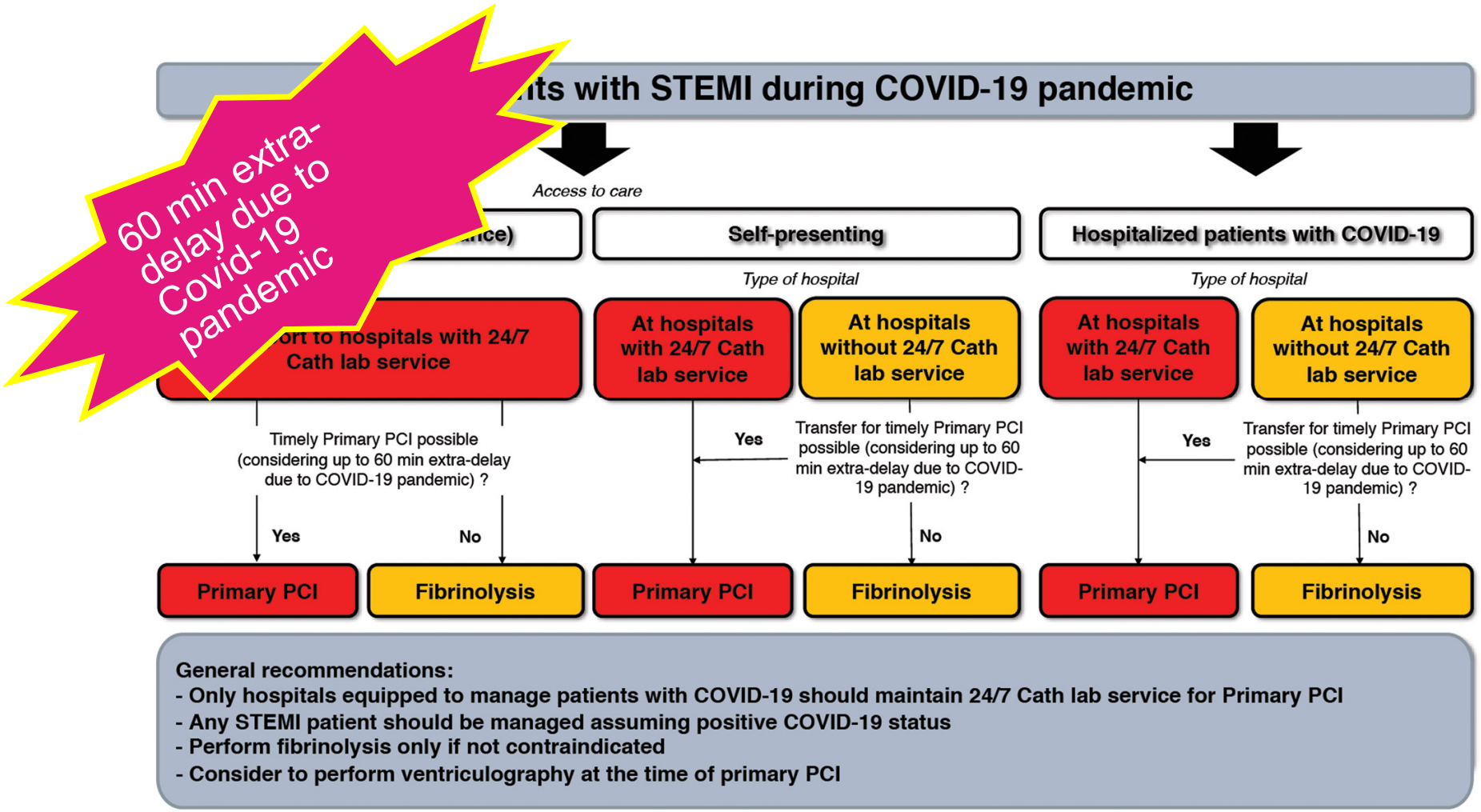
La Cardiología en la era Covid-19 en España



It is likely that we will be managing patients with COVID-19 at least the next 12-18 months

Desescalada
Reorganización
Reescalamiento

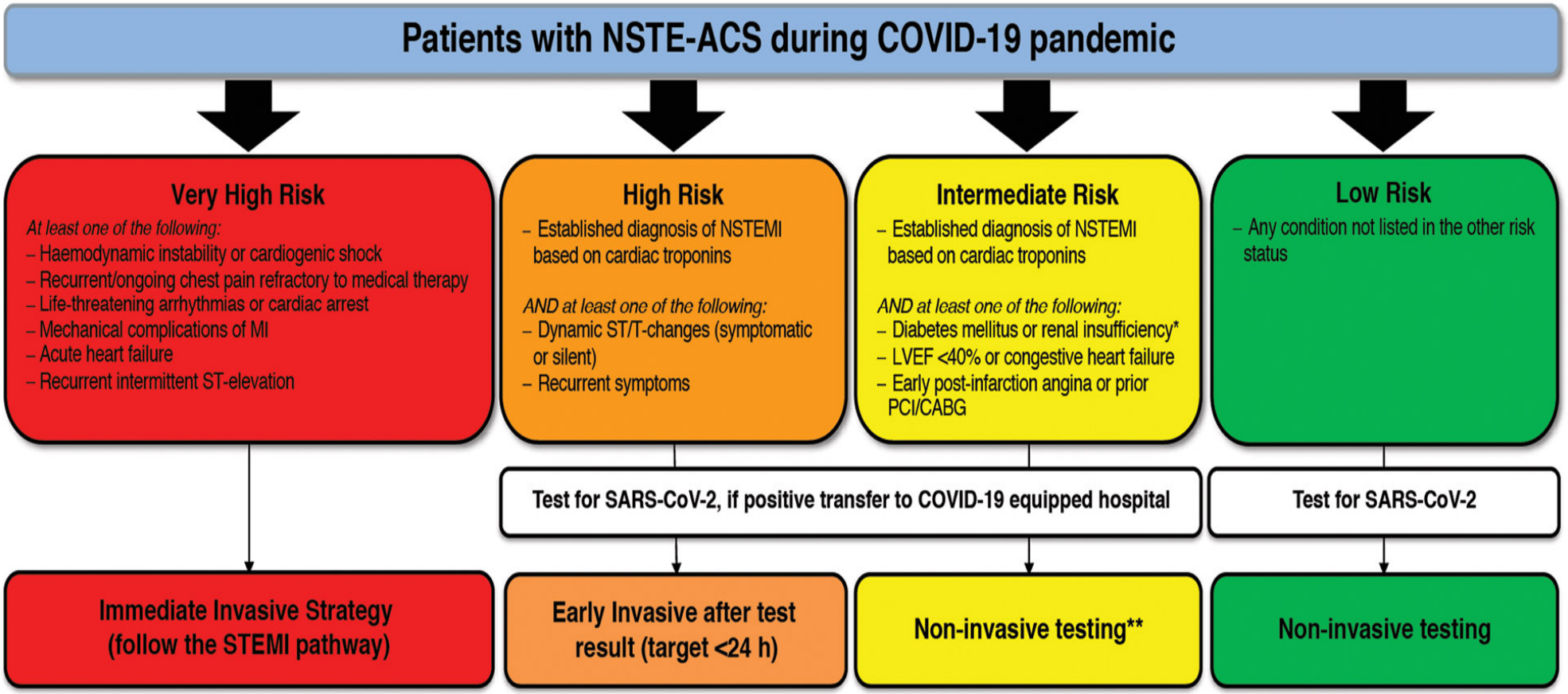
La Cardiología en la era Covid-19 en España



Eur Heart J, Volume 41, Issue 19, 14 May 2020, Pages 1839–1851

ESC European Society of Cardiology

La Cardiología en la era Covid-19 en España



Eur Heart J, Volume 41, Issue 19, 14 May 2020

ESC European Society of Cardiology

Algunos Mensajes para el Manejo de Pacientes con Enfermedad Cardiovascular en la era COVID-19 (I)

1. Valoración y estratificar riesgo de Covid-19 a todos los pacientes
2. Sistemático screening (PCR) pacientes en :
    1. *Preingreso hospitalario*
    2. *Previo a procedimientos invasivos (diagnósticos y terapéuticos) y Ecocardiografía Trans-Esofágica (ETE)*

Algunos Mensajes para el Manejo de Pacientes con Enfermedad Cardiovascular en la era COVID-19 (II)

1. Screening selectivo (PCR) de pacientes y/o nivel de Protección Individual en función del riesgo de Covid-19
2. Hospitales “seguros” : circuitos “libres” de Covid
3. Menos pacientes pero mayor morbimortalidad
4. Alerta con los tratamientos ante posibles interacciones de fármacos en pacientes con Covid19
5. Medidas para largo plazo ante un escenario, de no menos de 18 meses de Covid19