

TOP 10 DE ERRORES EN EL ABORDAJE DEL PACIENTE CON COVID 19

**DIEGO FERNANDO SALINAS CORTES
MEDICO INTERNISTA INFECTÓLOGO
HOSPITAL UNIVERSITARIO DE NEIVA**

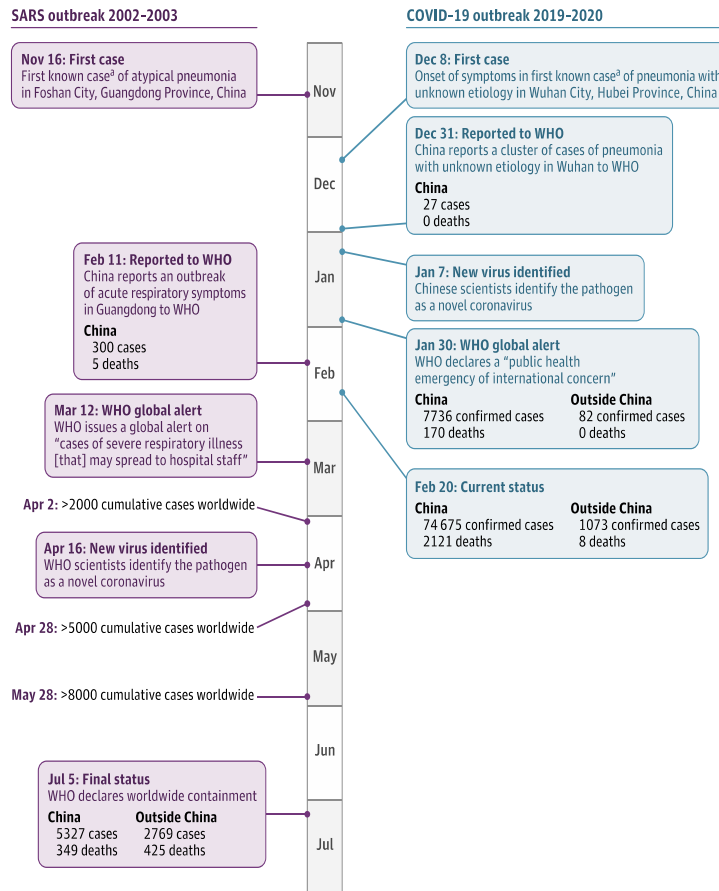
Characteristics of and Important Lessons From the Coronavirus Disease 2019 (COVID-19) Outbreak in China

Summary of a Report of 72 314 Cases From the Chinese Center for Disease Control and Prevention

Zunyou Wu, MD, PhD
Chinese Center for
Disease Control and
Prevention, Beijing,
China.

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McGoogan, PhD**
Chinese Center for
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China.

Figure 2. Timeline Comparing the Severe Acute Respiratory Syndrome (SARS) and Coronavirus Disease 2019 (COVID-19) Outbreaks



Box. Key Findings From the Chinese Center for Disease Control and Prevention Report

72 314 Cases (as of February 11, 2020)

- Confirmed cases: 44 672 (62%)
- Suspected cases: 16 186 (22%)
- Diagnosed cases: 10 567 (15%)
- Asymptomatic cases: 889 (1%)

Age distribution (N = 44 672)

- ≥80 years: 3% (1408 cases)
- 30-79 years: 87% (38 680 cases)
- 20-29 years: 8% (3619 cases)
- 10-19 years: 1% (549 cases)
- <10 years: 1% (416 cases)

Spectrum of disease (N = 44 415)

- Mild: 81% (36 160 cases)
- Severe: 14% (6168 cases)
- Critical: 5% (2087 cases)

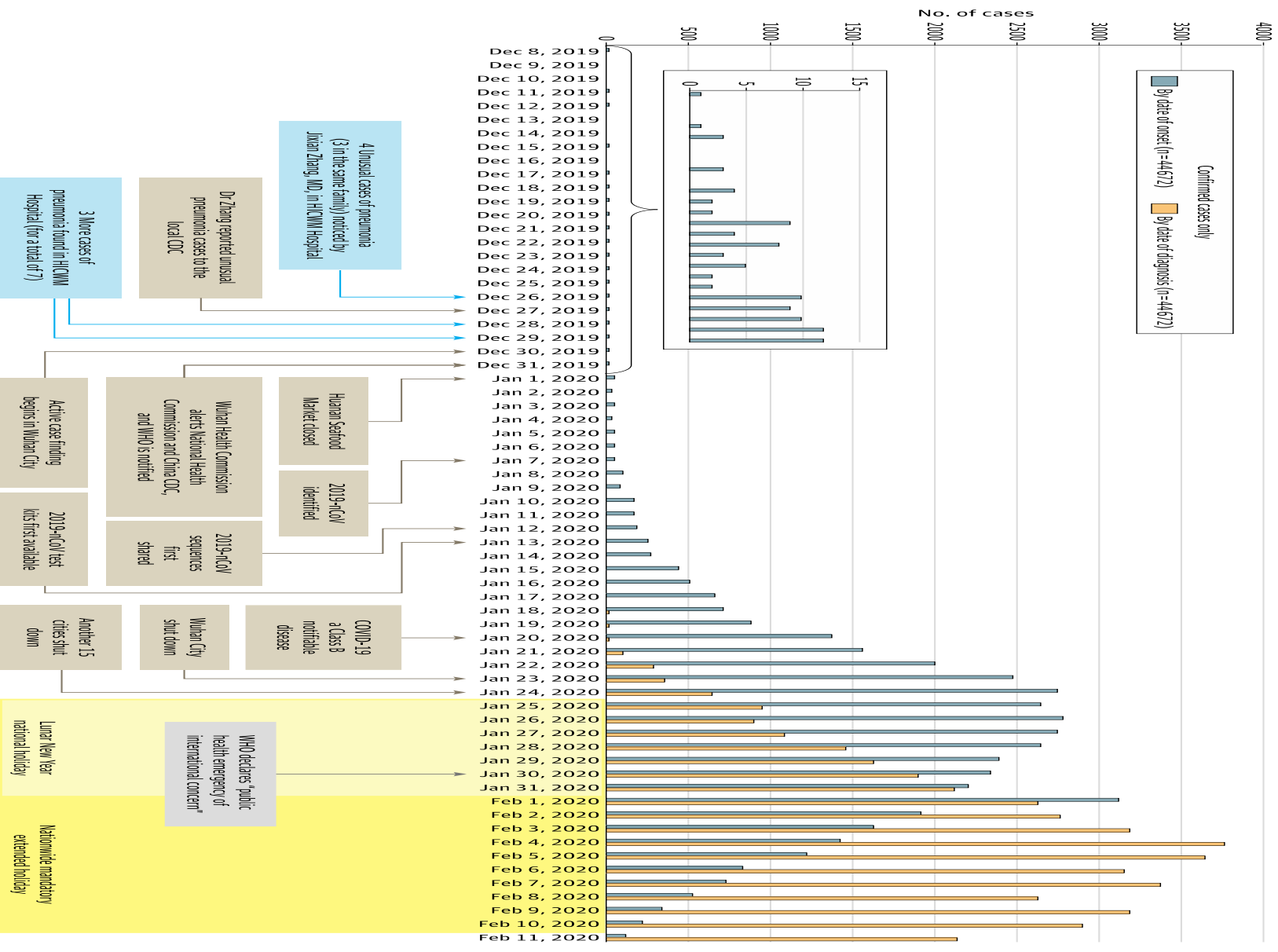
Case-fatality rate

- 2.3% (1023 of 44 672 confirmed cases)
- 14.8% in patients aged ≥80 years (208 of 1408)
- 8.0% in patients aged 70-79 years (312 of 3918)
- 49.0% in critical cases (1023 of 2087)

Health care personnel infected

- 3.8% (1716 of 44 672)
- 63% in Wuhan (1080 of 1716)
- 14.8% cases classified as severe or critical (247 of 1668)
- 5 deaths

Figure 1 Epidemic Curve of the Confirmed Cases of Coronavirus Disease 2019 (COVID-19)

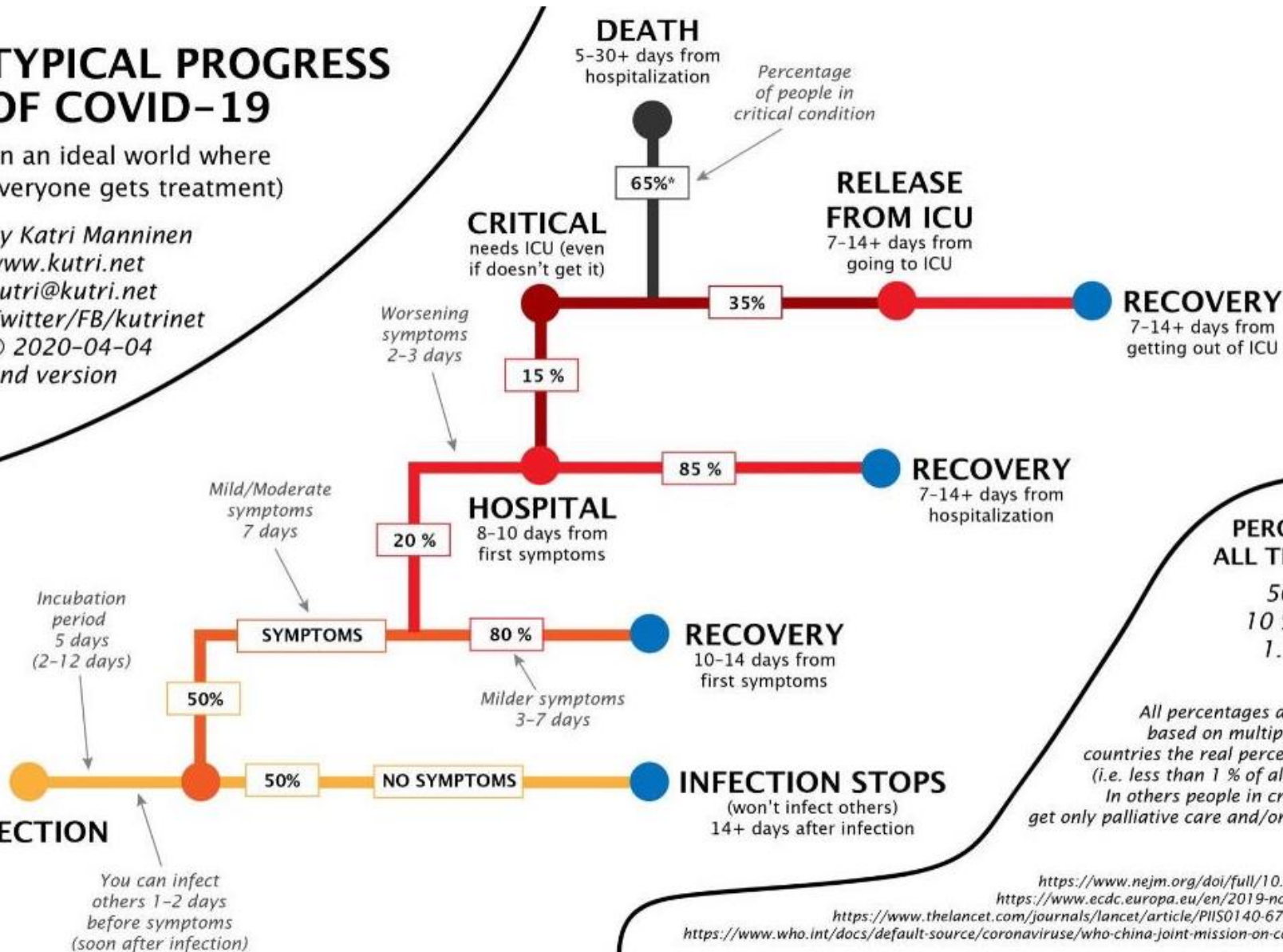


TYPICAL PROGRESS OF COVID-19

(in an ideal world where everyone gets treatment)

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2nd version

INFECTION



PERCENTAGES OF ALL THE PATIENTS:

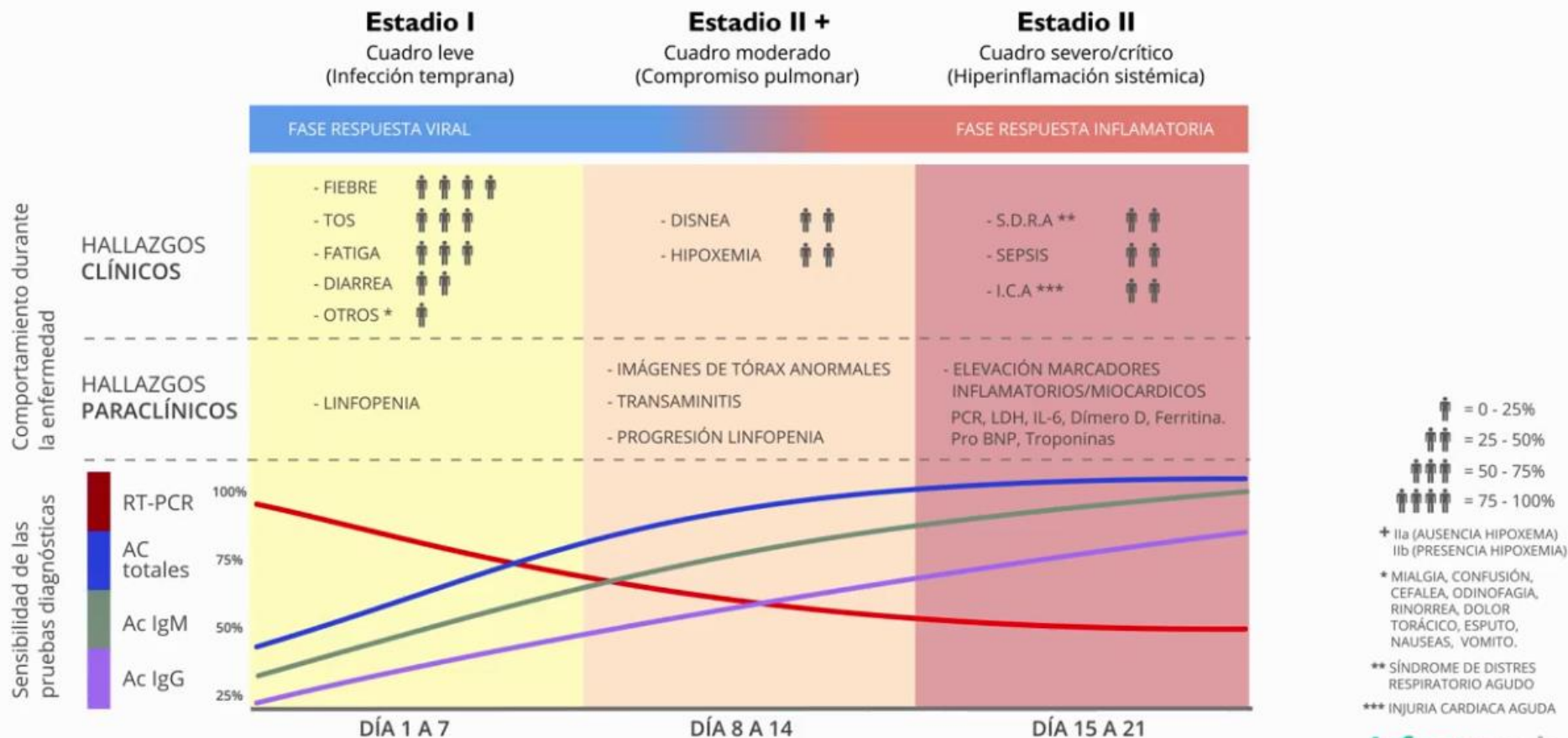
50 % Symptoms
10 % Hospitalized
1.5 % Needs ICU
1 % Dies

All percentages are crude estimates based on multiple sources. In some countries the real percentages are smaller (i.e. less than 1 % of all the infected dies). In others people in critical condition will get only palliative care and/or will die "at home".

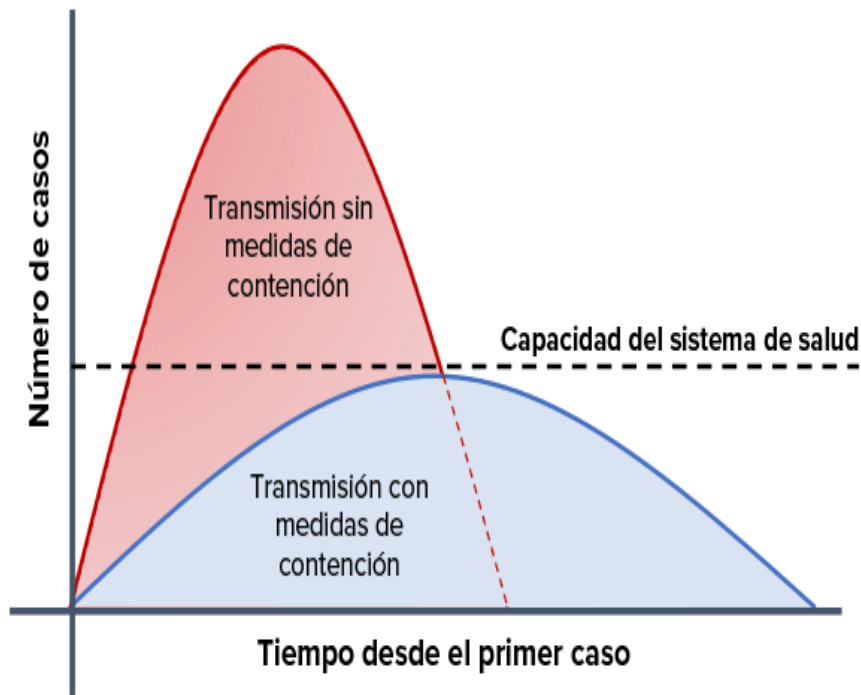
Sources:

<https://www.nejm.org/doi/full/10.1056/NEJMoa2004500>
<https://www.ecdc.europa.eu/en/2019-ncov-background-disease>
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30566-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30566-3/fulltext)
<https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf>

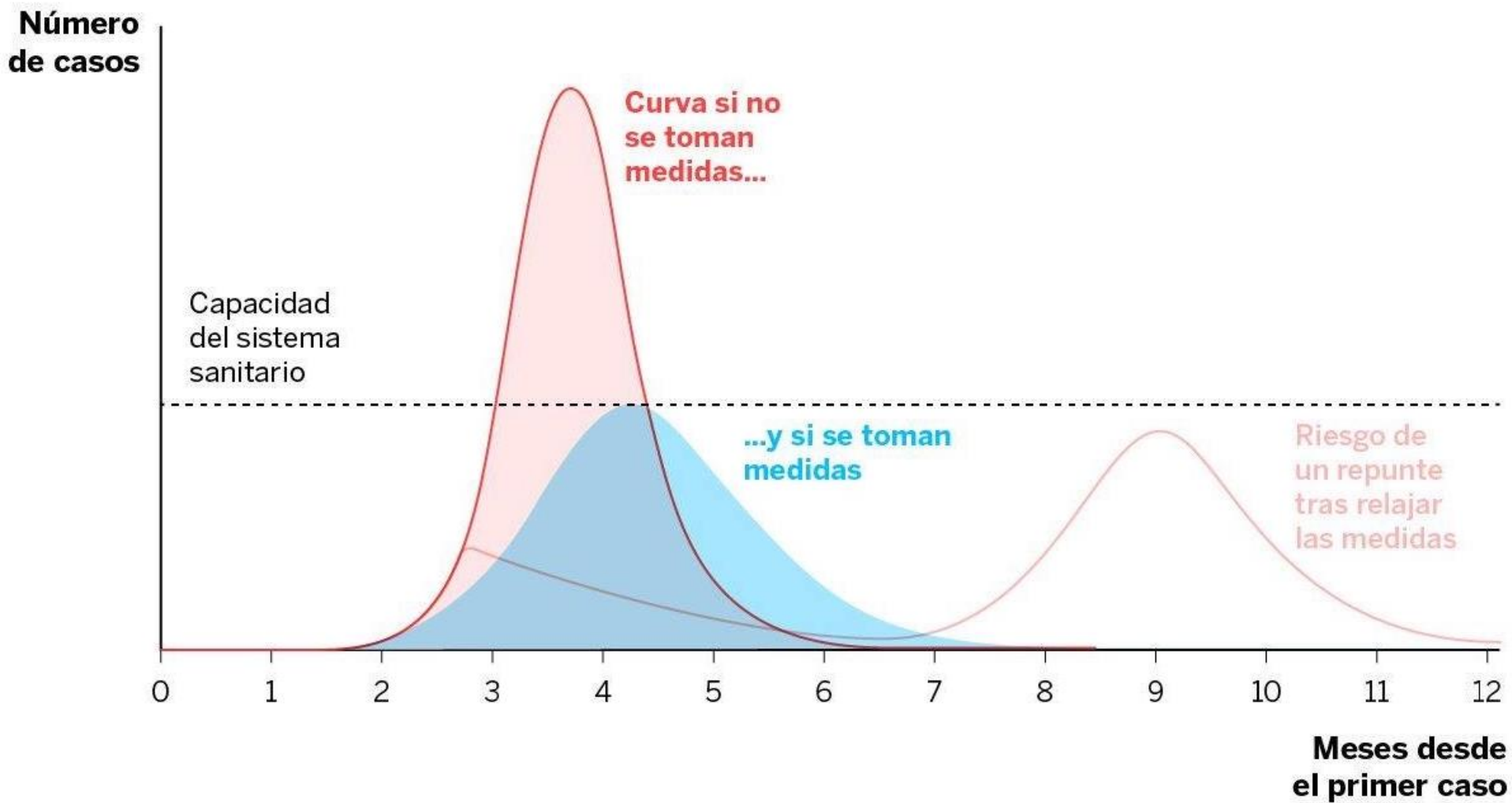
COMPORTAMIENTO CLÍNICO, PARACLÍNICO Y PRUEBAS DIAGNÓSTICAS EN COVID-19



Curva epidémica del COVID-19



- Objetivos de la mitigación
 - Retrasar el pico del brote
 - Reducir la carga de las instituciones de salud
 - Disminuir el número de casos





Datos proyectados al 18 de abril de 2020 en Colombia de acuerdo a las medidas tomadas

Muertes Casos que requerirán cuidado intensivo
Casos que requerirán manejo hospitalario



Critical Care Utilization for the COVID-19 Outbreak in Lombardy, Italy

Early Experience and Forecast During an Emergency Response

On February 20, 2020, a patient in his 30s admitted to the intensive care unit (ICU) in Codogno Hospital (Lodi, Lombardy, Italy) tested positive for a new coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease 2019 (COVID-19). He had a history of atypical pneumonia that was not responding to treatment, but he was not considered at risk for COVID-19 infection.¹ The positive result was immediately reported to the Lombardy health care system and governmental offices. During the next 24 hours, the number of reported positive cases increased to 36. This situation was considered a serious development for several reasons: the patient ("patient 1") was healthy and young; in less than 24 hours, 36 additional cases were identified, without links to patient 1 or previously identified positive cases already in the country; it was not possible to identify with certainty the source of transmission to patient 1 at the time; and, because patient 1 was in the ICU and there were already 36 cases by day 2, chances were that a cluster of unknown magnitude was present and additional spread was likely.

ICU Admissions Over the First 2 Weeks

There was an immediate sharp increase in ICU admissions from day 1 to day 14. The increase was steady and consistent. Publicly available data indicate that ICU admissions (n = 556) represented 16% of all patients

(n = 3420) who tested positive for COVID-19. As of March 7, the current total number of patients with COVID-19 occupying an ICU bed (n = 359) represents 16% of currently hospitalized patients with COVID-19 (n = 2217).



Daily COVID-19 deaths confirmed with a positive test (UK)

The numbers presented here from the Department for Health and Social Care relate to deaths where COVID-19 was confirmed with a positive test.



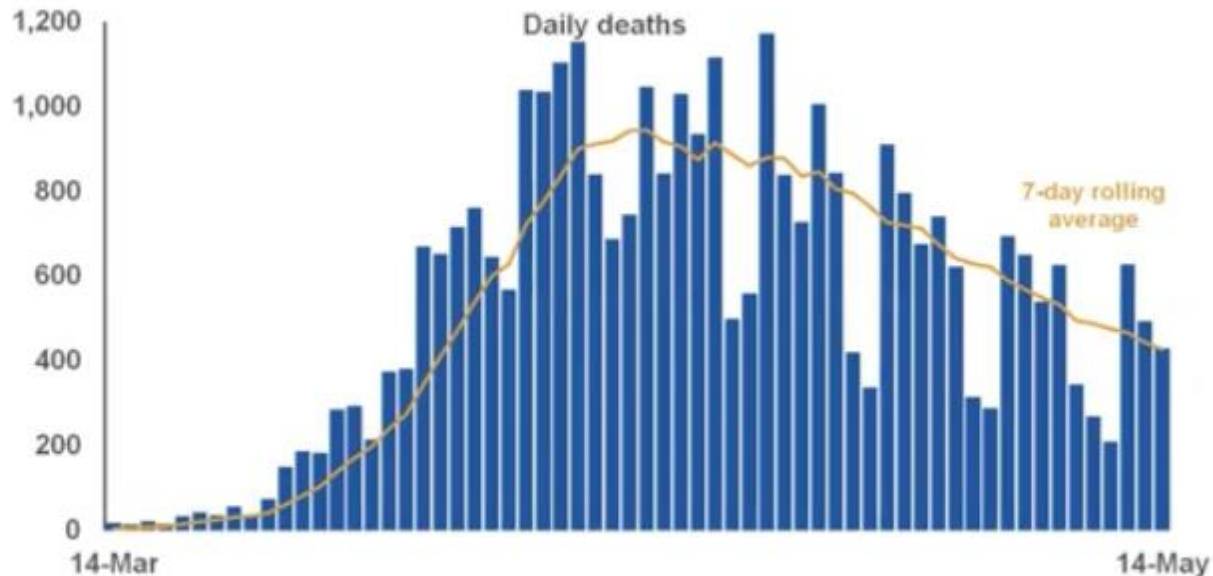
On 14 May DHSC reported

428

Daily COVID-19 deaths
confirmed with a positive test

33,614

Total COVID-19 deaths
confirmed with a positive test



Weekly registered deaths from the Office for National Statistics include cases where COVID-19 is mentioned on the death certificate but was not confirmed with a test. On 1st May, ONS reported 36,591 cumulative registered deaths from COVID-19. This was 9,082 more than the DHSC figure for the same date.

Source: (P157), figures from NHSE, PHE, devolved administrations. Further details on data sources can be found here: <https://www.gov.uk/government/collections/covid-19-deaths-and-datasets-to-accompany-coronavirus-press-conferences>

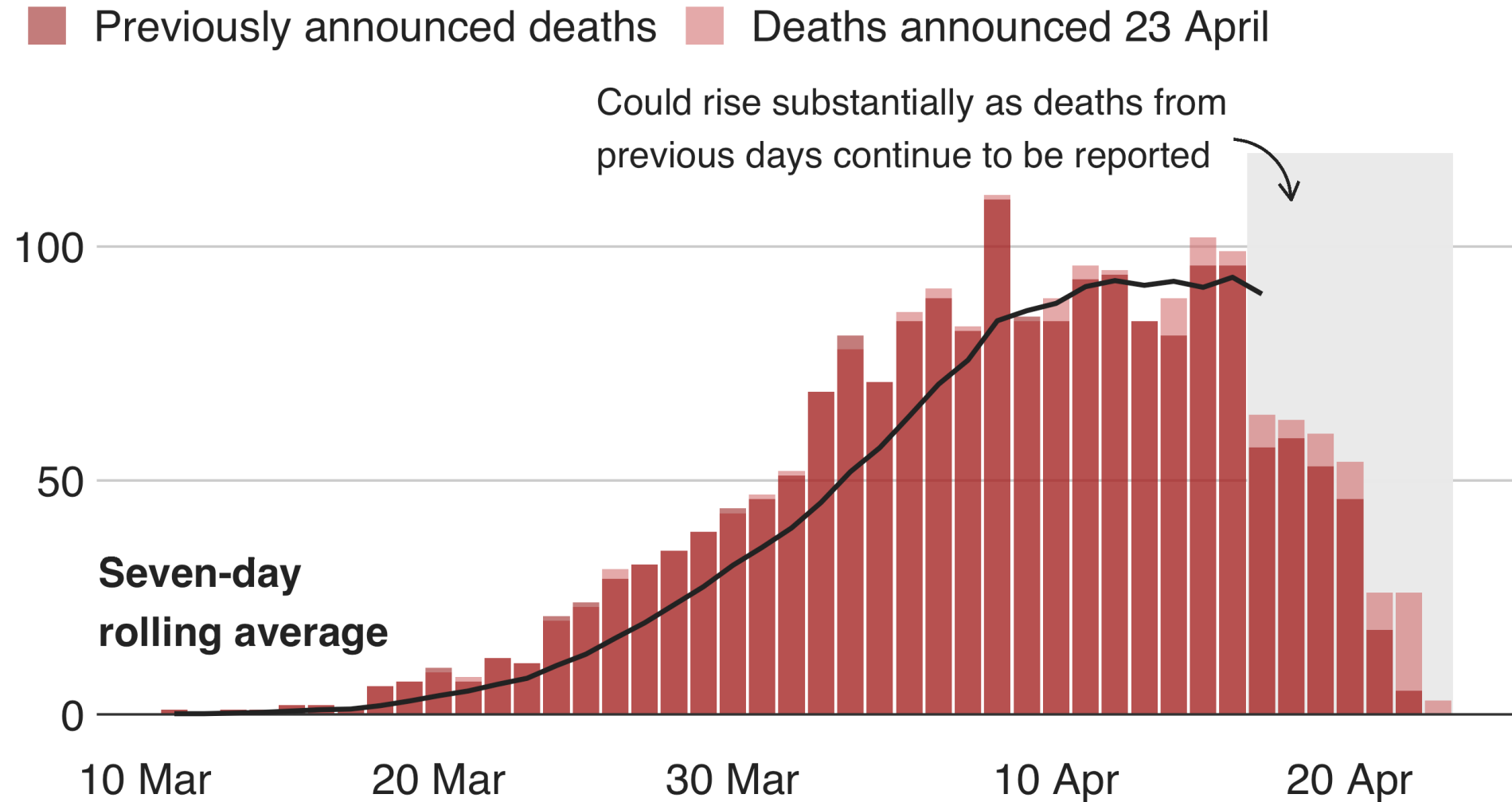
STAY ALERT CONTROL THE VIRUS SAVE LIVES

COBR
Cabinet Office Briefing Rooms

Daily coronavirus deaths in Sweden

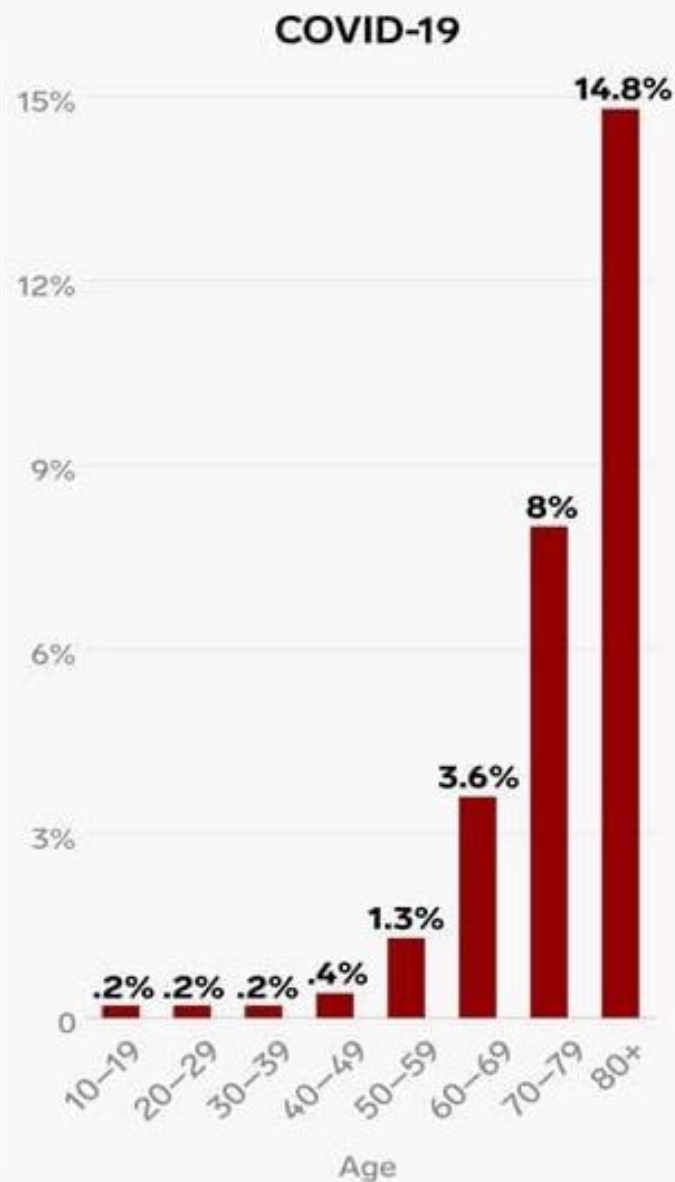
Number of people with Covid-19 who died each day

5875
muertes
26.05.20



Source: Sweden Public Health Authority, latest data from 23 April

Flu vs COVID-19 death rate, by age



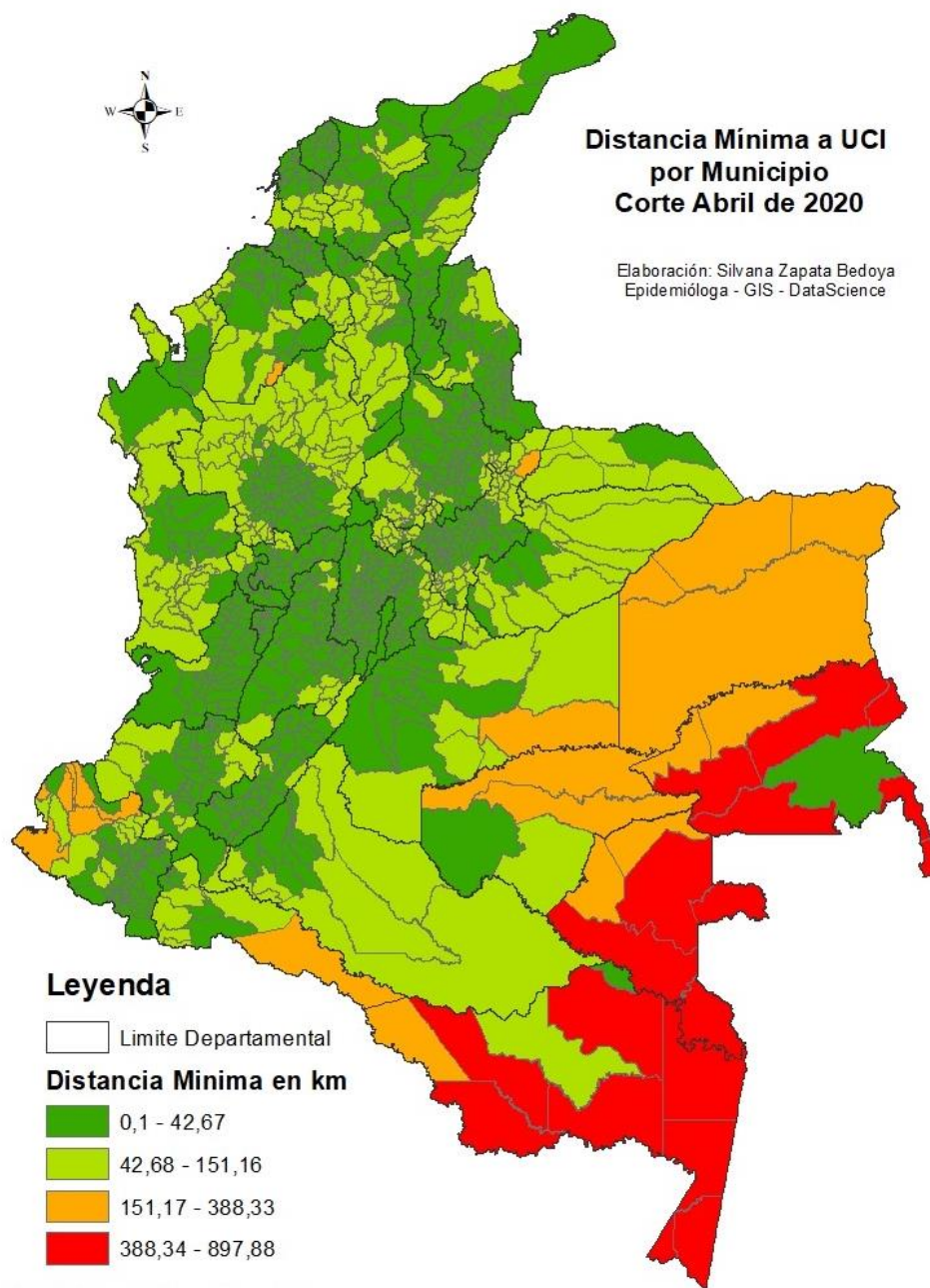
Source: Centers for Disease Control and Prevention (CDC),
Chinese Center for Disease Control and Prevention

BUSINESS INSIDER



Distancia Mínima a UCI por Municipio Corte Abril de 2020

Elaboración: Silvana Zapata Bedoya
Epidemióloga - GIS - DataScience



Leyenda

Limite Departamental

Distancia Minima en km

- 0,1 - 42,67
- 42,68 - 151,16
- 151,17 - 388,33
- 388,34 - 897,88

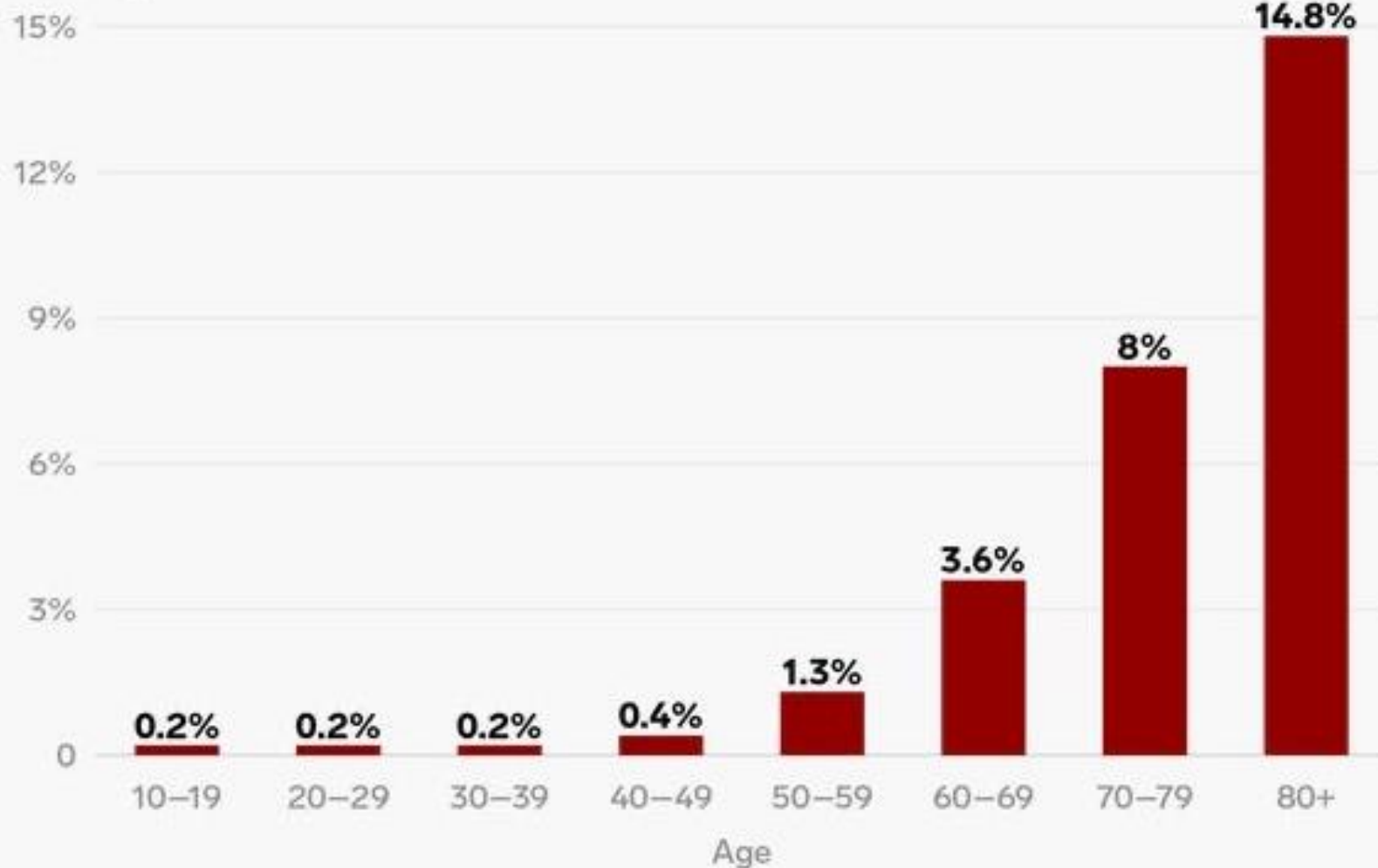
0 30 60 120 180 240 Miles

TOP 10

**HOSPITALIZAR PACIENTES QUE NO
LO REQUIEREN**

COVID-19 mortality rate by age

Mortality rate

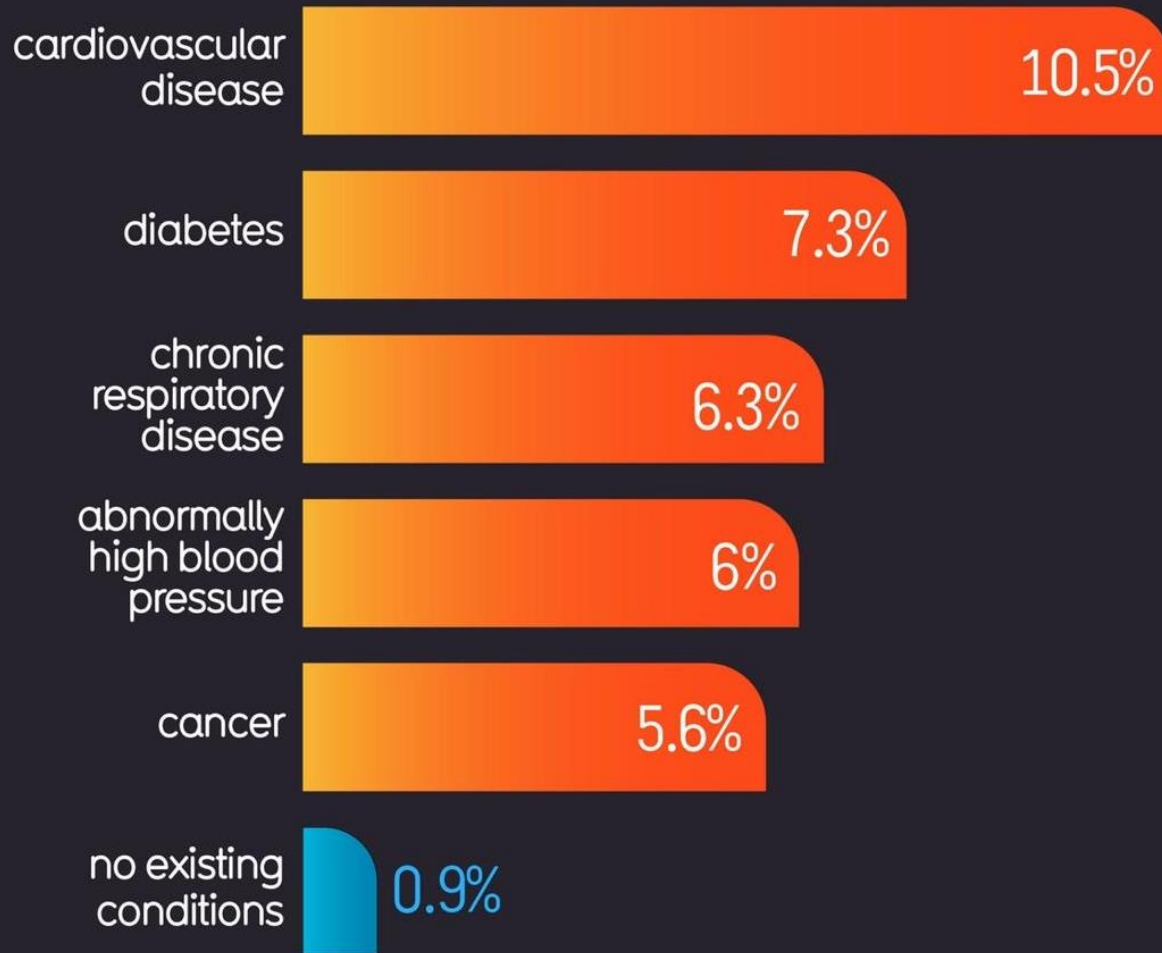


Source: Chinese Center for Disease Control and Prevention

BUSINESS INSIDER

Especially Those with Existing Conditions

% with other **serious ailments** who die





FAST TRACK

Prediction models for diagnosis and prognosis of covid-19 infection: systematic review and critical appraisal

Laure Wynants,^{1,2} Ben Van Calster,^{2,3} Marc M J Bonten,^{4,5} Gary S Collins,^{6,7} Thomas P A Debray,^{4,8} Maarten De Vos,^{2,9} Maria C Haller,^{10,11} Georg Heinze,¹⁰ Karel G M Moons,^{4,8} Richard D Riley,¹² Ewoud Schuit,^{4,8} Luc J M Smits,¹ Kym I E Snell,¹² Ewout W Steyerberg,³ Christine Wallisch,^{10,13,14} Maarten van Smeden⁴

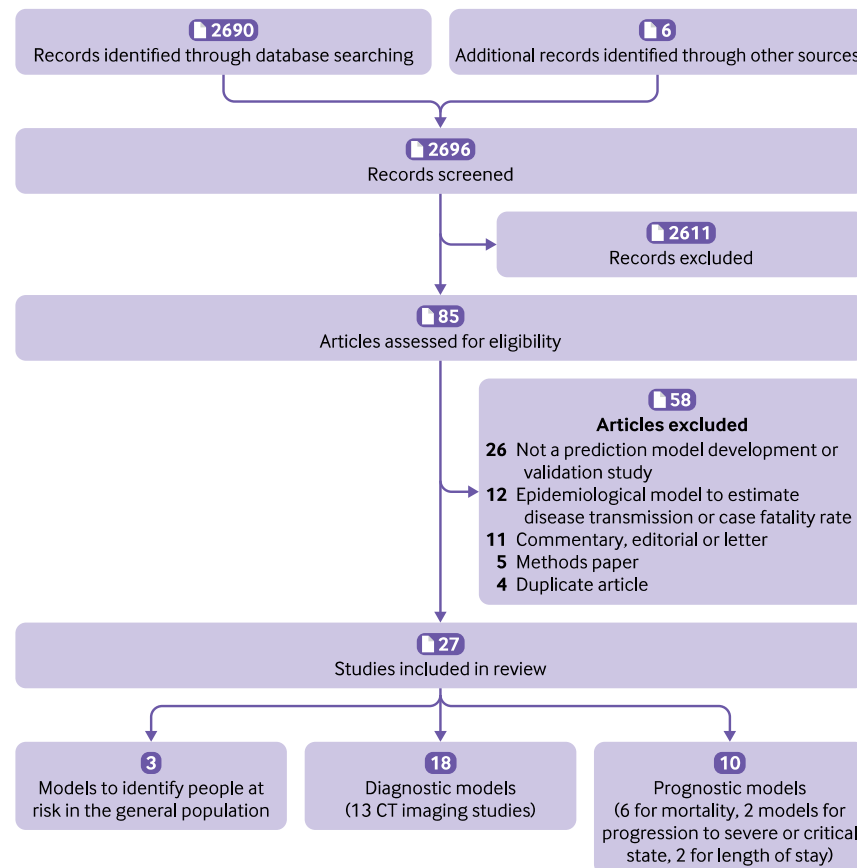
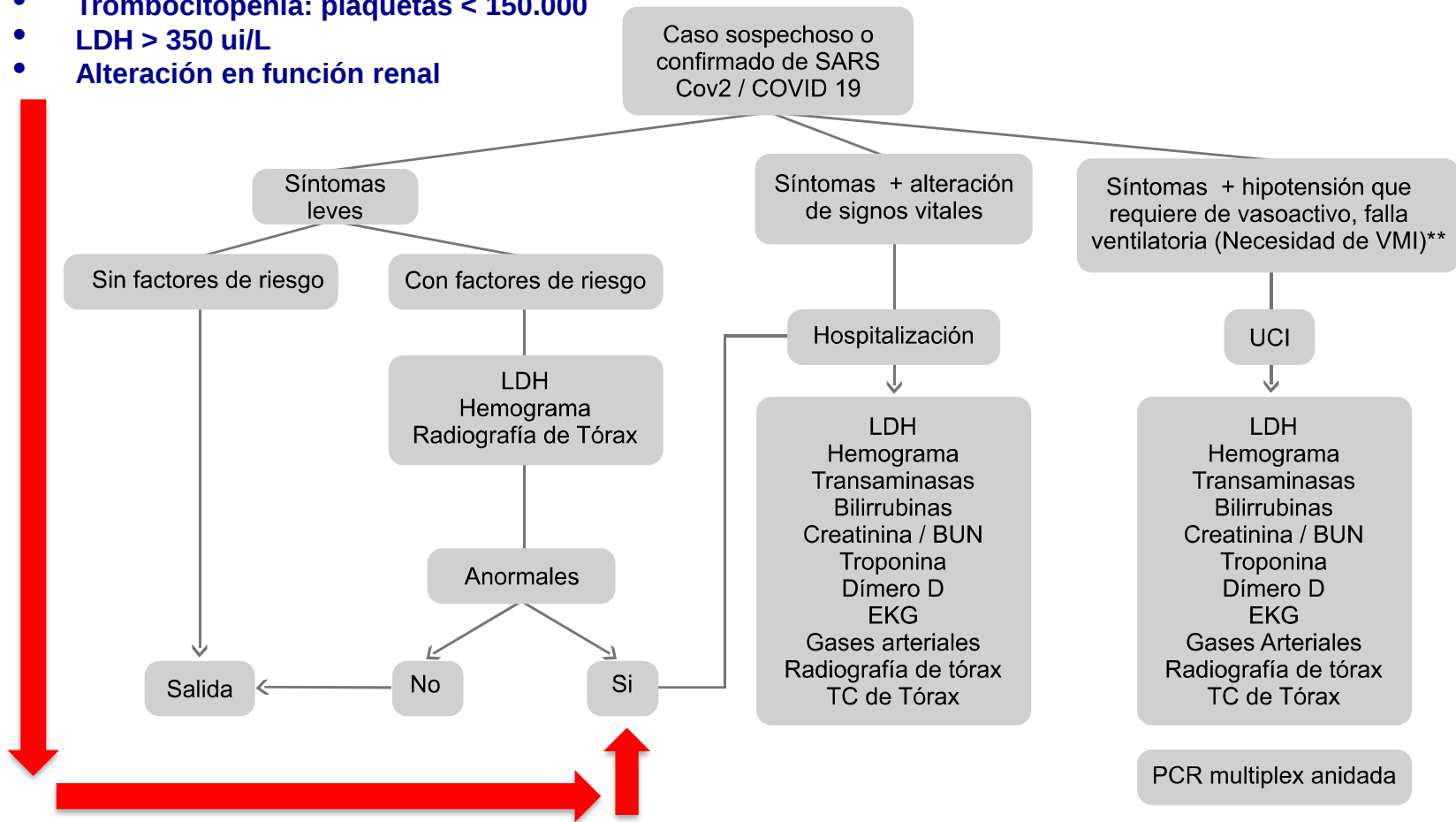


Table 1 | Overview of prediction models for diagnosis and prognosis of covid-19 infection

Study; setting; and outcome	Predictors in final model	Sample size: total No of participants for model development set (No with outcome)	Predictive performance on validation			Overall risk of bias using PROBAST
			Type of validation*	Sample size: total No of participants for model validation (No with outcome)	Performance*(C index, sensitivity (%), specificity (%), PPV/NPV (%), calibration slope, other (95% CI, if reported))	
Hospital admission in general population						
Decaprio et al ⁸ ; data from US general population; hospital admission for covid-19 pneumonia (proxy events)†	Age, sex, number of previous hospital admissions, 11 diagnostic features, interactions between age and diagnostic features	1.5 million (unknown)	Training test split	369 865 (unknown)	C index 0.73	High
Decaprio et al ⁸ ; data from US general population; hospital admission for covid-19 pneumonia (proxy events)†	Age and ≥500 features related to diagnosis history	1.5 million (unknown)	Training test split	369 865 (unknown)	C index 0.81	High
Decaprio et al ⁸ ; data from US general population; hospital admission for covid-19 pneumonia (proxy events)†	≥500 undisclosed features, including age, diagnostic history, social determinants of health, Charlson comorbidity index	1.5 million (unknown)	Training test split	369 865 (unknown)	C index 0.81	High
Diagnosis						
Feng et al ¹⁰ ; data from China, patients presenting at fever clinic; suspected covid-19 pneumonia	Age, temperature, heart rate, diastolic blood pressure, systolic blood pressure, basophil count, platelet count, mean corpuscular haemoglobin content, eosinophil count, monocyte count, fever, shiver, shortness of breath, headache, fatigue, sore throat, fever classification, interleukin 6	132 (26)	Temporal validation	32 (unclear)	C index 0.94	High
Lopez-Rincon et al ³⁵ ; data from international genome sequencing data repository, target population unclear; covid-19 diagnosis	Specific sequences of base pairs	553 (66)	10-fold cross validation	Not applicable	C index 0.98, sensitivity 100, specificity 99	High
Meng et al ¹² ; data from China, asymptomatic patients with suspected covid-19; covid-19 diagnosis	Age, activated partial thromboplastin time, red blood cell distribution width SD, uric acid, triglyceride, serum potassium, albumin/globulin, 3-hydroxybutyrate, serum calcium	620 (302)	External validation	145 (80)	C index 0.87‡	High
Song et al ³⁰ ; data from China, inpatients with suspected covid-19; covid-19 diagnosis	Fever, history of close contact, signs of pneumonia on CT, neutrophil to lymphocyte ratio, highest body temperature, sex (age, meaningful respiratory syndromes)	304 (73)	Training test split	95 (18)	C index 0.97 (0.93 to 1.00)	High
Yu et al ²⁴ ; data from China, paediatric inpatients with confirmed covid-19; severe disease (yes/no) defined based on clinical symptoms	Direct bilirubin; alanine transaminase	105 (8)	Apparent performance only	Not applicable	F1 score 1.00	High
Diagnostic imaging						
Barstugan et al ³¹ ; data from Italy, patients with suspected covid-19; covid-19 diagnosis	Not applicable	53 (not applicable)	Cross validation	Not applicable	Sensitivity 93, specificity 100	High
Chen et al ²⁶ ; data from China, people with suspected covid-19 pneumonia; covid-19 pneumonia	Not applicable	106 (51)	Training test split	27 (11)	Sensitivity 100, specificity 82	High
Gozes et al ²⁵ ; data from China and US,§ patients with suspected covid-19; covid-19 diagnosis	Not applicable	50 (unknown)	External validation with Chinese cases and US controls	Unclear	C index 0.996 (0.989 to 1.000)	High
Jin et al ¹¹ ; data from China, US, and Switzerland,¶ patients with suspected covid-19; covid-19 diagnosis	Not applicable	416 (196)	Training test split	1255 (183)	C index 0.98, sensitivity 94, specificity 95	High
Jin et al ³³ ; data from China, patients with suspected covid-19; covid-19 pneumonia	Not applicable	1136 (723)	Training test split	282 (154)	C index: 0.99, sensitivity 97, specificity 92	High
Li et al ³⁴ ; data from China, patients with suspected covid-19; covid-19 diagnosis	Not applicable	2969 (400)	Training test split	353 (68)	C index 0.96 (0.94 to 0.99), sensitivity 90 (83 to 94), specificity 96 (93 to 98)	High
Shan et al ²⁸ ; data from China, people with confirmed covid-19; segmentation and quantification of infection regions in lung from chest CT scans	Not applicable	249 (not applicable)	Training test split	300 (not applicable)	Dice similarity coefficient 91.6%**	High
Shi et al ³⁶ ; data from China, target population unclear; covid-19 pneumonia	5 categories of location features from imaging: volume, number, histogram, surface, radiomics	2685 (1658)	5-fold cross validation	Not applicable	C index 0.94	High

- Linfopenia: Linfocitos < 800
- Neutrofilia: Neutrófilos >10.000
- Trombocitopenia: plaquetas < 150.000
- LDH > 350 ui/L
- Alteración en función renal

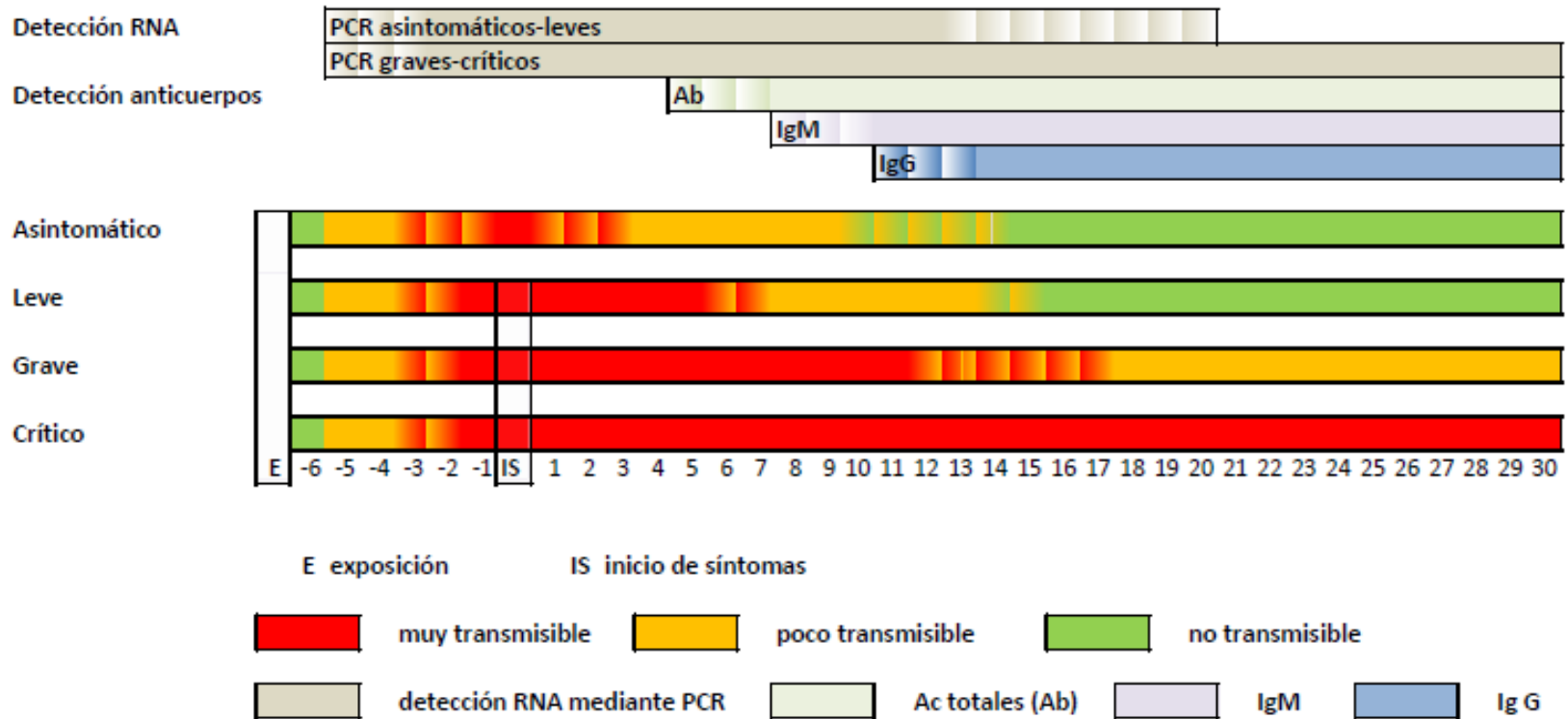


infección por SARS-CoV-2/COVID-19 en establecimientos de atención de la salud

TOP 9:

**DESCONOCER EL RENDIMIENTO DX
DE LA RT PCR, SOLICITAR PCR DE
SEGUIMIENTO EN PACIENTES CON
BAJA PROBABILIDAD DE COVID 19**

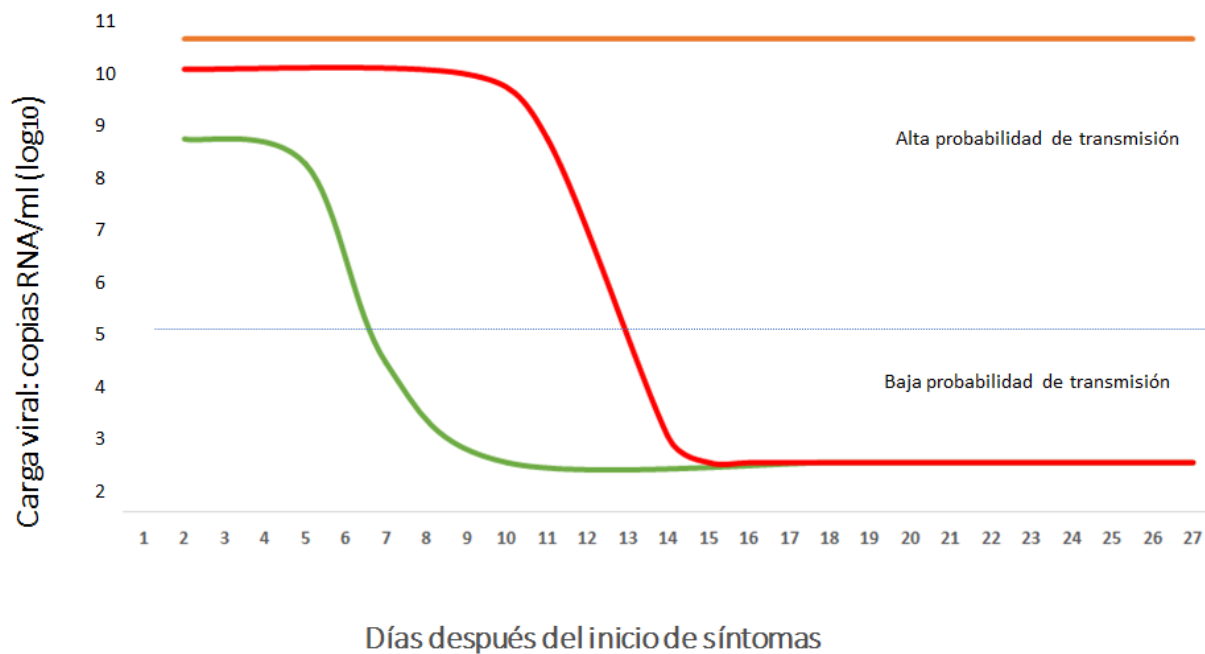
TRANSMISIBILIDAD, RELACION CON GRAVEDAD Y TITULOS DE Ac



INTERPRETACIÓN DE LAS PRUEBAS DIAGNÓSTICAS FRENTE A SARS-CoV-2

24 de abril de 2020. versión 2

Figura 3. Dinámica de la carga viral de RNA de SARS-CoV-2, en casos leves-asintomáticos (línea verde), graves (línea roja) y críticos (línea naranja)



Corona testing positivity rates- Journal of American Medical Association (JAMA)

Sl No	Type of specimen	Positive %
1	Bronchoalveolar lavage fluid	93 %
2	Fibrobronchoscope brush biopsy	46 %
3	Sputum	72 %
4	Nasal swabs	63 %
5	Pharyngeal swabs	32 %
6	Feces	29 %
7	Blood	1 %
8	Urine	0 %

Note: Nasal swab will detect only 2/3rd of cases and pharyngeal swabs will detect only 1/3rd of cases and Nasal swab testing is better of two for unadmitted patients

Ref: Detection of SARS-CoV-2 in Different Types of Clinical Specimens

Wenling Wang, Yanli Xu, Ruqin Gao, Roujian Lu, Kai Han, Guizhen Wu, Wenjie Tan

JAMA. 2020 Mar 11 : e203786. Published online 2020 Mar

ORIGINAL RESEARCH

Laboratory Parameters in Detection of COVID-19 Patients with Positive RT-PCR; a Diagnostic Accuracy Study

Rajab Mardani¹, Abbas Ahmadi Vasmehjani², Fatemeh Zali³, Alireza Gholami⁴, Seyed Dawood Mousavi Nasab^{5*}, Hooman Kaghazian⁵, Mehdi Kaviani⁶, Nayebali Ahmadi^{7†}

Table 2: The area under the receiver operating characteristic (ROC) curve (AUC) of the studied parameters in predicting cases with positive RT-PCR for COVID-19

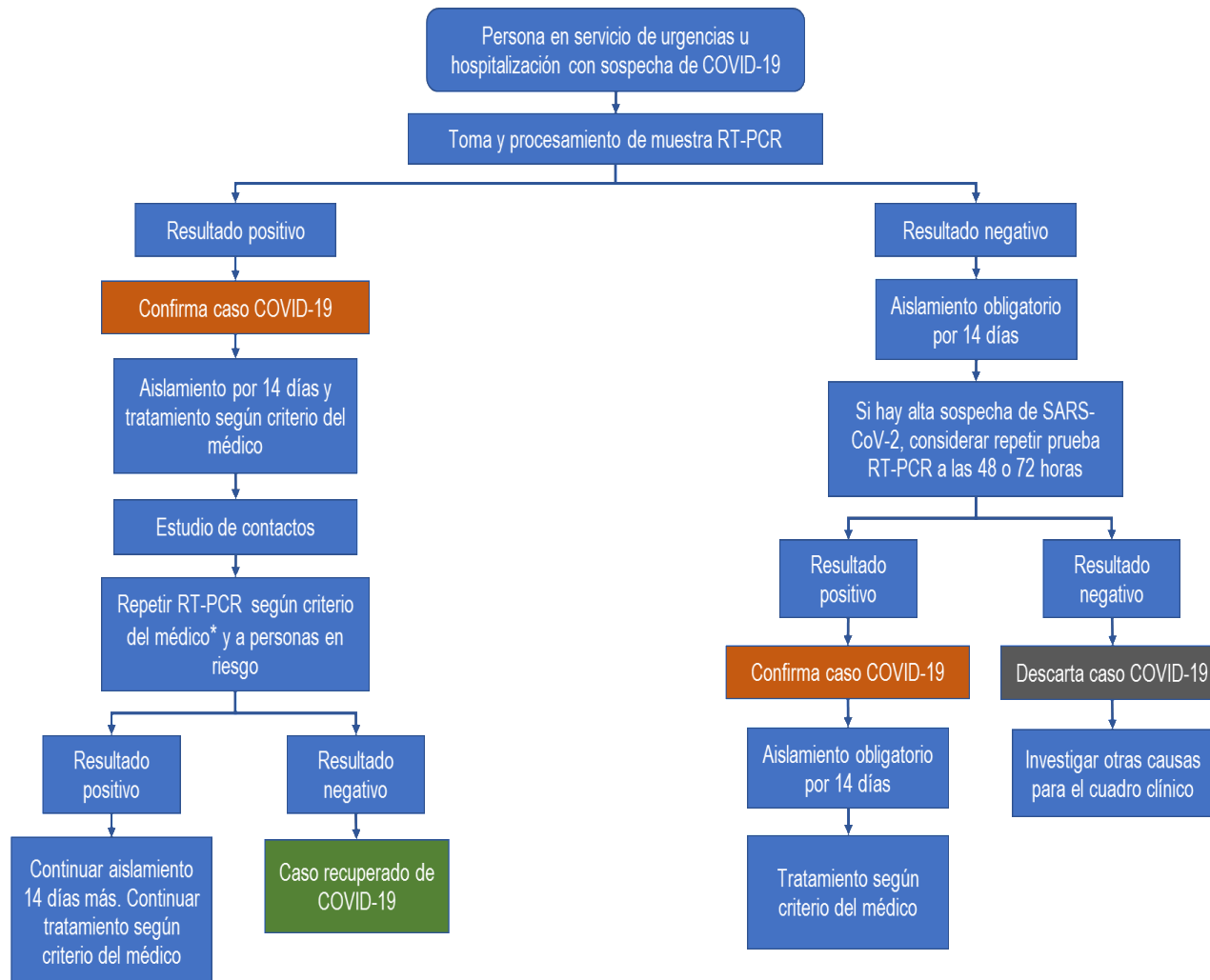
Variables	Cut-off	AUC	95% CI	P
White blood cell (cells/mm ³)	0.6	0.075	0.03-0.11	0.09
Neutrophils (%)	0.70	0.858	0.79-0.92	<0.0001
Lymphocyte (%)	0.6	0.112	0.05-0.16	0.12
Positive C-reactive protein (%)	0.70	0.870	0.72-0.88	0.002
Aspartate aminotransferase (IU/L)	0.40	0.716	0.63-0.8	<0.0001
Alanine aminotransferase (IU/L)	0.40	0.879	0.82-0.93	<0.0001
lactate dehydrogenase (U/L)	0.70	0.835	0.76-0.9	<0.0001
Urea (mg/dl)	0.70	0.831	0.76-0.9	<0.0001
Albumin (g/dl)	0.6	0.242	0.15-0.32	0.04

CI: confidence interval.

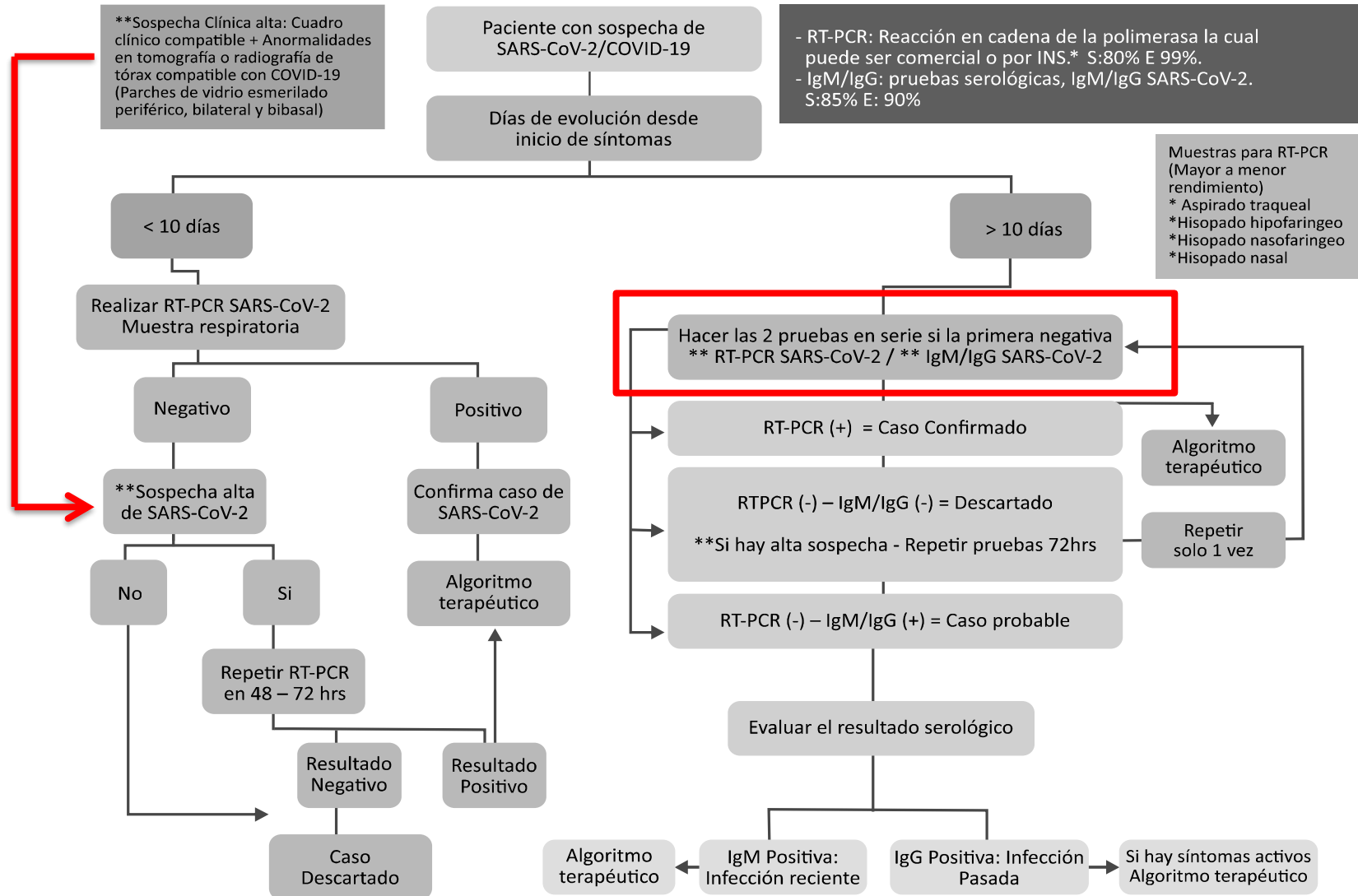
Ausencia de leucopenia-linfopenia, Ldh normal, pcr negativa, ast y alt normal, bun normal: baja probabilidad de rt pct positiva

DX PRIMEROS 10 DIAS DE SX: RT PCR

URGENCIAS-MEDIO HOSPITALARIO

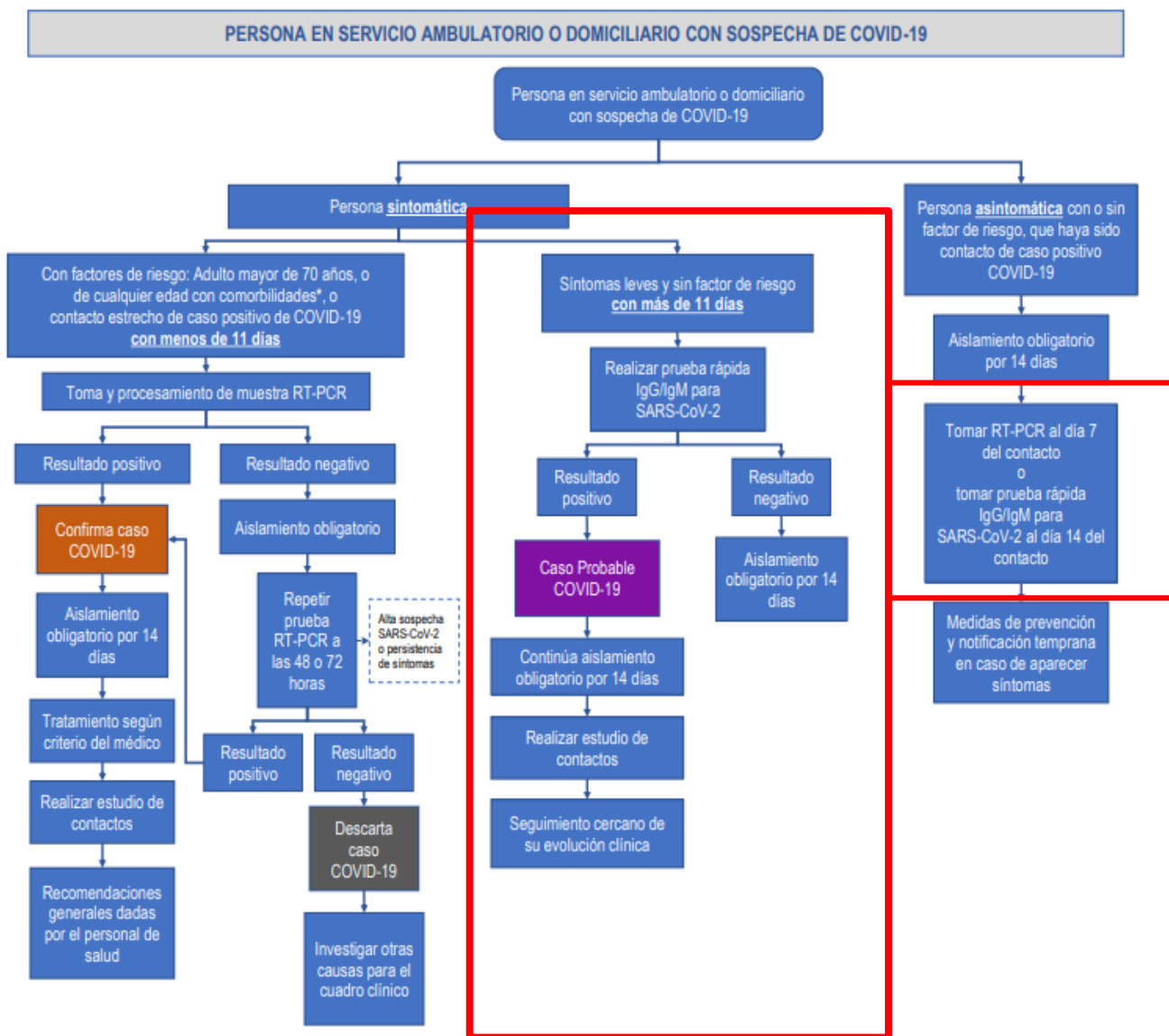


ENFOQUE DX CON <10 días vs >10 DIAS HOSPITALARIO

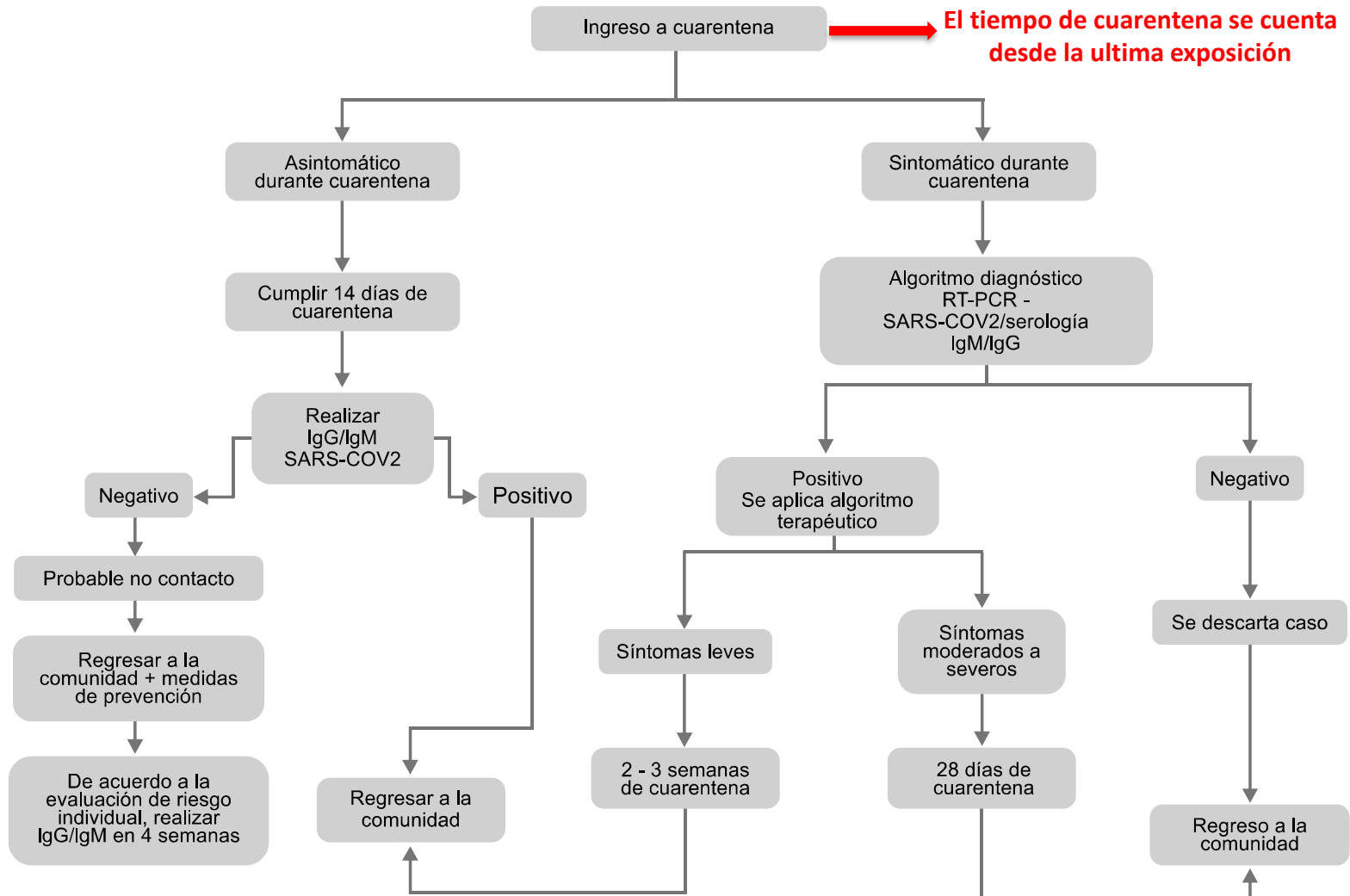


Consenso colombiano de atención, diagnóstico y manejo de la infección por SARS-CoV-2/COVID-19 en establecimientos de atención de la salud

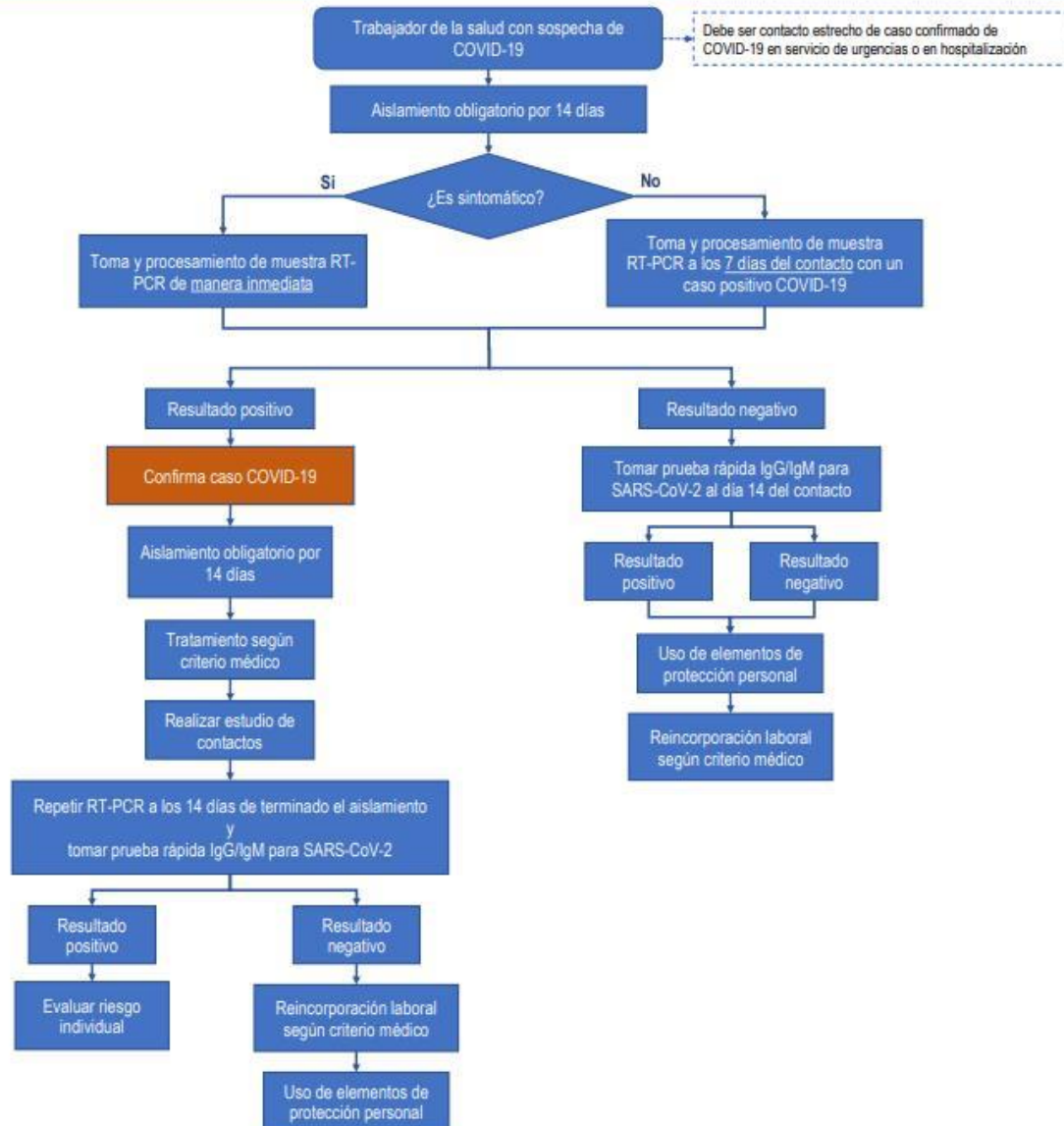
Flujograma 2. Proceso diagnóstico en personas atendidas en servicios ambulatorios y en domicilio.



Personas con exposición a SARS-COV-2/COVID 019



TRABAJADOR DE LA SALUD CON SOSPECHA DE COVID-19



TOP 8:

**HACER USO DE ANTIMICROBIANOS
DE MUY AMPLIO ESPECTRO,
ESPECTRO ANTIPSEUDOMONAS, NO
RETIRAR AL NO EVIDENCIAR NINGUN
MICROORGANISMO**

Burden and Risk Factors for *Pseudomonas aeruginosa* Community-acquired Pneumonia: a Multinational Point Prevalence Study of Hospitalised Patients

Marcos I. Restrepo, Bettina L. Babu, Luis F. Reyes, James D. Chalmers, Nilam J. Soni, Oriol Sibila, Paola Faverio, Catia Cilloniz, William Rodriguez-Cintron, Stefano Aliberti

Prevalence of *Pseudomonas aeruginosa*-CAP

P. aeruginosa-CAP was identified in 133 (4.2%) patients, representing 11.3 % (133/1,173) of all patients that had a positive culture for bacterial pathogens. The continental prevalence of *P. aeruginosa*-CAP was, 3.8% in Europe, 4.3% in North America, 5.2% in Asia, 4.9% in South America, 5.5% in Africa and 3.1% in Oceania, respectively (Figure 1). The prevalence of *P. aeruginosa*-CAP in each country, and a comparison between continents and countries is shown in Table 2 and e1. No statistically significant difference was found in the prevalence of *P. aeruginosa*-CAP among different continents. Croatia was the only country with statistically significant higher prevalence of *P. aeruginosa*-CAP (Table e1).

Burden and Risk Factors for *Pseudomonas aeruginosa* Community-acquired Pneumonia: a Multinational Point Prevalence Study of Hospitalised Patients

Marcos I. Restrepo, Bettina L. Babu, Luis F. Reyes, James D. Chalmers, Nilam J. Soni, Oriol Sibila, Paola Faverio, Catia Cilloniz, William Rodriguez-Cintron, Stefano Aliberti

Table 3. Multivariate analysis of risk factors for *Pseudomonas aeruginosa*-Community-acquired pneumonia (CAP), antibiotic resistant (AR) *P. aeruginosa*-CAP, multidrug-resistant (MDR) *P. aeruginosa*-CAP, and specific antibiotic resistance patterns.

	Prior <i>P. aeruginosa</i>	IRVS	Tracheostomy	Bronchiectasis	COPD	Very severe COPD
<i>P. aeruginosa</i> -CAP, n=133	16.10 (9.48-27.35)	2.33 (1.44-3.78)	6.50 (2.61-16.19)	2.88 (1.65-5.05)	.	2.76 (1.25-6.06)
AR <i>P. aeruginosa</i> -CAP, n=64	17.29 (9.95-33.42)	3.12 (1.63-5.97)	5.55 (1.73-17.80)	.	.	.
Anti-pseudomonal cephalosporins, n=38	17.79 (7.32-43.22)	.	.	.	2.58 (1.07-6.19)	.
Piperacillin/ Tazobactam, n=30	9.72 (3.88-24.36)	4.14 (1.75-9.81)	.	3.33 (1.21-9.19)	.	.
Carbapenems, n=34	10.62 (4.26-26.45)	2.70 (1.14-6.34)	10.77 (3.09-37.52)	.	.	.
Aminoglycosides, n=31	17.32 (7.21-41.61)	3.02 (1.24-7.31)	.	.	.	.
Quinolones, n=50	17.35 (8.28-36.38)	2.84 (1.39-5.78)	4.35 (1.21-15.60)	.	.	.
MDR <i>P. aeruginosa</i> - CAP, n=33	12.34 (5.05-30.14)	3.42 (1.47-7.97)	.	.	2.69 (1.10-6.55)	.

IRVS, invasive respiratory or vasopressor support; MDR, multidrug resistant, COPD, chronic obstructive pulmonary disease.

AMERICAN THORACIC SOCIETY DOCUMENTS

Diagnosis and Treatment of Adults with Community-acquired Pneumonia

An Official Clinical Practice Guideline of the American Thoracic Society and Infectious Diseases Society of America

Joshua P. Metlay*, Grant W. Waterer*, Ann C. Long, Antonio Anzueto, Jan Brozek, Kristina Crothers, Laura A. Cooley, Nathan C. Dean, Michael J. Fine, Scott A. Flanders, Marie R. Griffin, Mark L. Metersky, Daniel M. Musher, Marcos I. Restrepo, and Cynthia G. Whitney; on behalf of the American Thoracic Society and Infectious Diseases Society of America

THIS OFFICIAL CLINICAL PRACTICE GUIDELINE WAS APPROVED BY THE AMERICAN THORACIC SOCIETY MAY 2019 AND THE INFECTIOUS DISEASES SOCIETY OF AMERICA AUGUST 2019

Table 4. Initial Treatment Strategies for Inpatients with Community-acquired Pneumonia by Level of Severity and Risk for Drug Resistance

	Standard Regimen	Prior Respiratory Isolation of MRSA	Prior Respiratory Isolation of <i>Pseudomonas aeruginosa</i>	Recent Hospitalization and Parenteral Antibiotics and Locally Validated Risk Factors for MRSA	Recent Hospitalization and Parenteral Antibiotics and Locally Validated Risk Factors for <i>P. aeruginosa</i>
Nonsevere inpatient pneumonia*	β-Lactam + macrolide [†] or respiratory fluoroquinolone [‡]	Add MRSA coverage [§] and obtain cultures/nasal PCR to allow deescalation or confirmation of need for continued therapy	Add coverage for <i>P. aeruginosa</i> and obtain cultures to allow deescalation or confirmation of need for continued therapy	Obtain cultures but withhold MRSA coverage unless culture results are positive. If rapid nasal PCR is available, withhold additional empiric therapy against MRSA if rapid testing is negative or add coverage if PCR is positive and obtain cultures	Obtain cultures but initiate coverage for <i>P. aeruginosa</i> only if culture results are positive
Severe inpatient pneumonia*	β-Lactam + macrolide [†] or β-lactam + fluoroquinolone [‡]	Add MRSA coverage [§] and obtain cultures/nasal PCR to allow deescalation or confirmation of need for continued therapy	Add coverage for <i>P. aeruginosa</i> and obtain cultures to allow deescalation or confirmation of need for continued therapy	Add MRSA coverage [§] and obtain nasal PCR and cultures to allow deescalation or confirmation of need for continued therapy	Add coverage for <i>P. aeruginosa</i> and obtain cultures to allow deescalation or confirmation of need for continued therapy



Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges

Chih-Cheng Lai^a, Tzu-Ping Shih^b, Wen-Chien Ko^c, Hung-Jen Tang^d, Po-Ren Hsueh^{e,f,*}

^a Department of Internal Medicine, Kaohsiung Veterans General Hospital, Tainan Branch, Tainan, Taiwan

^b Department of Family Medicine, Kaohsiung Veterans General Hospital, Tainan Branch, Tainan, Taiwan

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^e Department of Laboratory Medicine, National Taiwan University Hospital, National Taiwan University College of Medicine, Taipei, Taiwan

^f Department of Internal Medicine, National Taiwan University Hospital, National Taiwan University College of Medicine, Taipei, Taiwan

5.1% COINFECCION BACTERIANA 9.8% COMPLICACIONES BACTERIANAS SECUNDARIAS

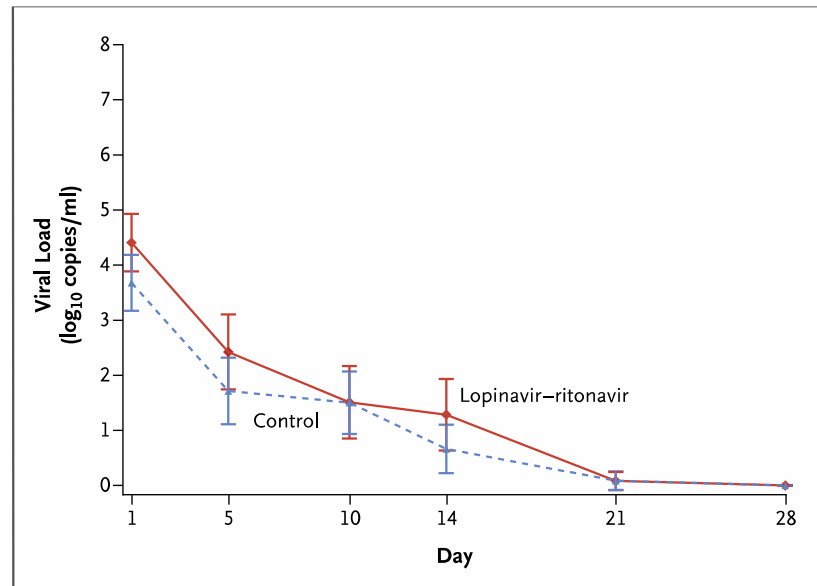
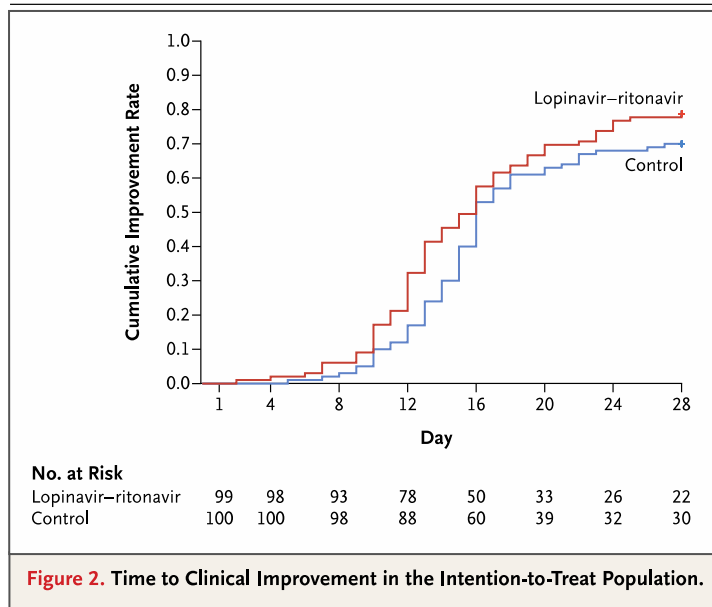
Lai CC, Shih TP, Ko WC, Tang HJ, Hsueh PR. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges. Int J Antimicrob Agents. 2020;55(3):105924

TOP 7:

**USO INAPROPIADO DE LA TERAPIA
ANTIVIRAL: LOPINAVIR/RITONAVIR**

ORIGINAL ARTICLE

A Trial of Lopinavir–Ritonavir in Adults Hospitalized with Severe Covid-19



Cao B, Wang Y, Wen D, et al. A Trial of Lopinavir-Ritonavir in Adults Hospitalized with Severe Covid-19. N Engl J Med.

Systematic review of the efficacy and safety of antiretroviral drugs against SARS, MERS, or COVID-19: initial assessment

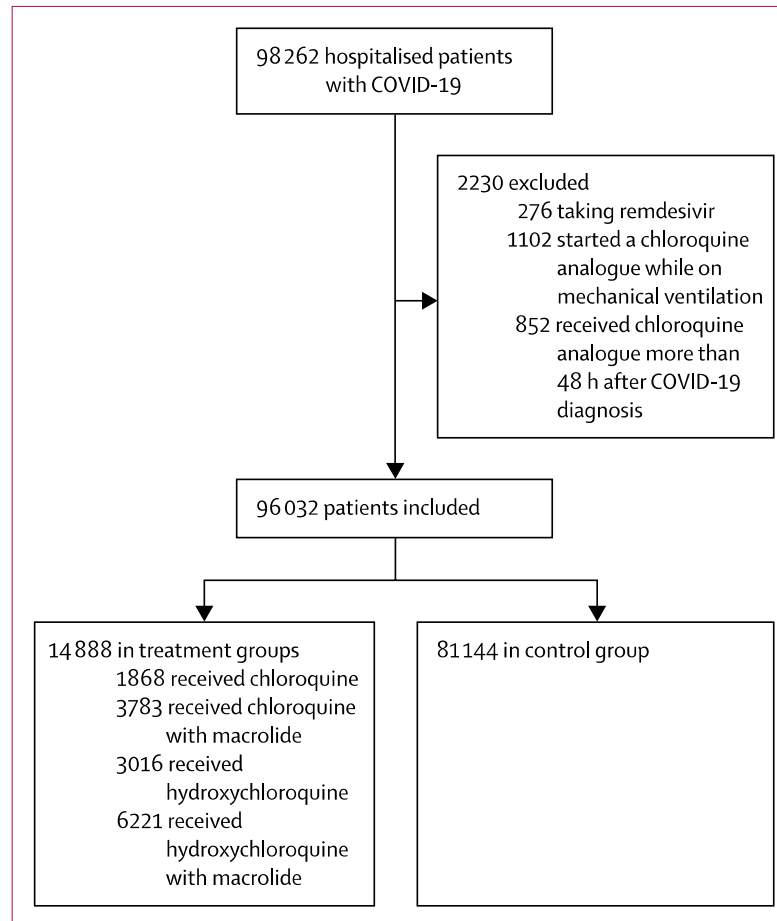
than Ford^{1§}, Marco Vitoria¹, Ajay Rangaraj¹, Susan L Norris² Alexandra Calmy,^{3*} Meg Doherty^{1*}

- LPV/r was not associated with a statistically significant difference in time to clinical improvement
- 28 day mortality was numerically lower in the LPV/r group (14/99) compared to the control group (25/100) but this difference was not statistically significant in the intention-to-treat analysis.
- Accelerated clinical recovery and reduced mortality were observed in those treated within 12 days of symptom onset, but not in those treated later.
- Almost half of patients in the LPV/r group (46 patients, 48.4%) and control group (49 patients, 46.7%) reported one or more adverse events: gastrointestinal-related complaints including nausea, vomiting, and diarrhea were more common in lopinavir/ritonavir group.

Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis



Mandeep R Mehra, Sapan S Desai, Frank Ruschitzka, Amit N Patel



Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis



Mandeep R Mehra, Sapan S Desai, Frank Ruschitzka, Amit N Patel

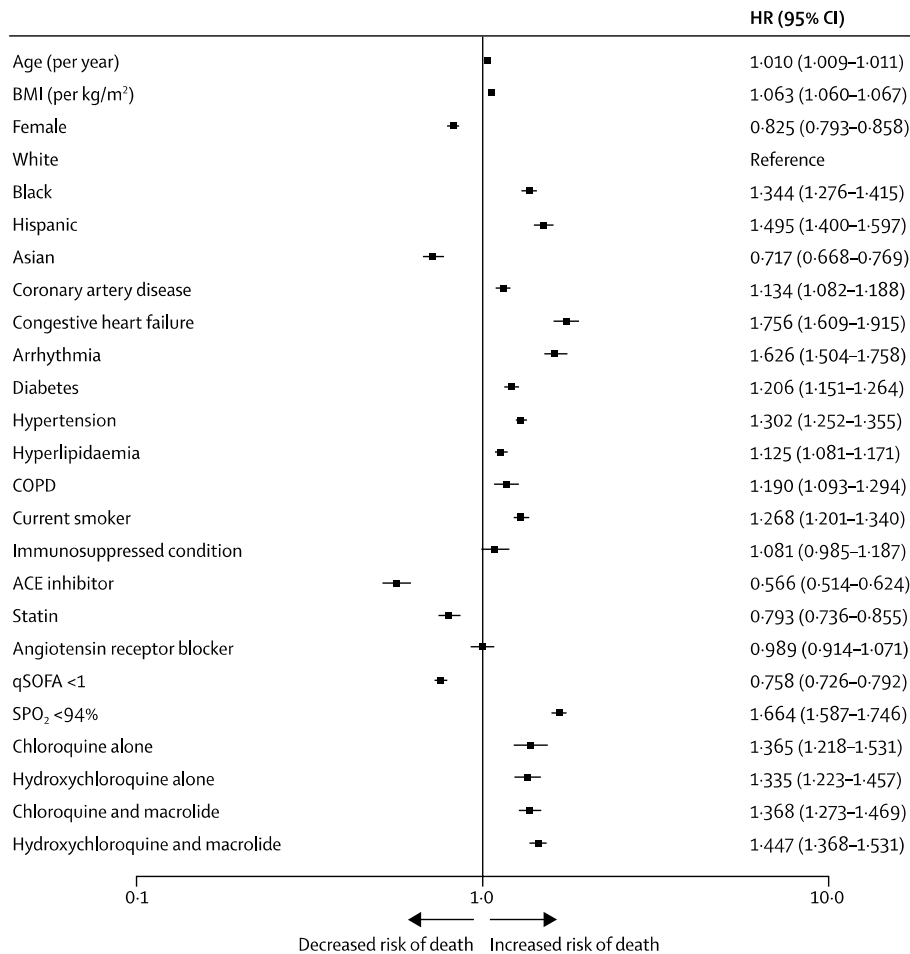


Figure 2: Independent predictors of in-hospital mortality

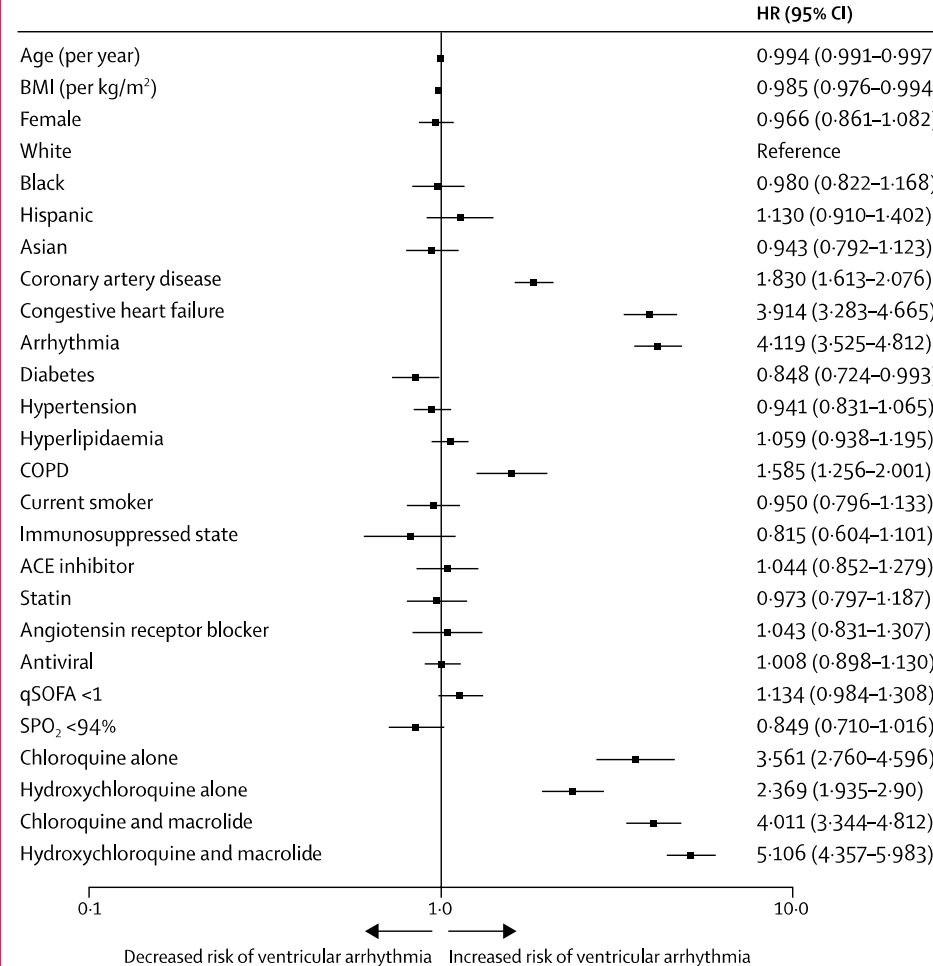


Figure 3: Independent predictors of ventricular arrhythmias during hospitalisation



Asociación Colombiana de Infectología-ACIN

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Bogotá 24 de mayo de 2020

RECOMENDACIONES PARA EL MANEJO DE INFECCIÓN POR SARS CoV-2-COVID-19

Deseamos informar a la opinión pública que en la última reunión de expertos del Consenso colombiano de atención, diagnóstico y manejo de la infección por SARS-CoV-2/COVID-19 en establecimientos de atención de la salud realizada el día 23 de mayo de 2020 se llevó a cabo la revisión detallada de los nuevos datos y estudios clínicos y se actualizaron las siguientes recomendaciones basadas en consenso de expertos e informadas en la evidencia:

¿Cuáles son los medicamentos utilizados para infección SARS-CoV-2/COVID-19?

- Se sugiere no usar en la práctica clínica Hidroxicloroquina o Cloroquina en el manejo de pacientes con infección por SARS-CoV-2/COVID-19.
Débil en contra
Punto de buena práctica
El uso de Hidroxicloroquina o Cloroquina solo se considerará en el escenario de un experimento clínico aprobado
- No se emite recomendación a favor o en contra para el uso de Lopinavir/Ritonavir en pacientes con infección por SARS-CoV-2/COVID-19.
Punto de buena práctica
El uso de Lopinavir/ritonavir solo se considerará en el escenario de un experimento clínico aprobado
- No hay consenso para emitir una recomendación ni a favor ni en contra para el uso de Tocilizumab en pacientes con infección por SARS-CoV-2/COVID-19.
- Se recomienda no usar Azitromicina como antiviral sola o en combinación en pacientes con infección por SARS-CoV-2/COVID-19.
Fuerte en contra
- Se sugiere que la terapia con interferón B como antiviral en infección por SARS-CoV-2/COVID-19 se considere solo en escenarios de experimentos clínicos aprobados.
Débil a favor



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- Se sugiere que el uso de Remdesivir como antiviral en infección por SARS-CoV-2/COVID-19 se considere solo en escenarios de experimentos clínicos aprobados.
Débil a favor
- Se sugiere que el uso de Ivermectina como antiviral en infección por SARS-CoV-2/COVID-19 se considere solo en escenarios de experimentos clínicos aprobados.
Débil a favor
- No se emite recomendación a favor o en contra para el uso de corticoesteroides en casos de infección por SARS-CoV-2/COVID-19.

Punto de buena práctica

Considerar el uso de corticoides con otras indicaciones diferentes a COVID-19 en las cuales se considere eficaz (exacerbación de EPOC, crisis asmática, shock séptico con uso de dosis altas de vasopresores, insuficiencia adrenal)

- Se recomienda no usar inhibidores de neuroaminidasa (oseltamivir) en infección por SARS CoV2 ya que no tiene actividad frente a SARS-CoV-2/COVID-19.
Fuerte en contra

Punto de buena práctica clínica

Si se sospecha infección por Influenza, o se tiene evidencia de la misma está indicado el uso de oseltamivir.

Estas recomendaciones estarán incluidas en la próxima actualización del Consenso.

Cordialmente,

Consenso colombiano de atención, diagnóstico y manejo de la infección por SARS-CoV-2/COVID-19 en establecimientos de atención de la salud.

TOP 6:

**HACER USO INAPROPIADO DE LOS
CRITERIOS DE NOTIFICACIÓN DEL
INSTITUTO NACIONAL DE SALUD.**

Definición 3

Basado en la definición nacional para el evento **Infección Respiratoria Aguda Grave (Cód. 345)**, se especifica para la vigilancia intensificada la siguiente definición:

Persona con infección respiratoria aguda con antecedentes de fiebre y tos no mayor a 10 días de evolución, que requiera manejo intrahospitalario.

Como un mecanismo **permanente** para la detección de posible circulación de COVID -19, las entidades territoriales deben **asegurar la notificación** de los casos de IRAG que sean atendidos en UCI o servicios de hospitalización. **Esto aplica para todas las IPS, incluidas las unidades centinelas**

Los casos hacen parte de la vigilancia por laboratorio, de acuerdo con la circular externa conjunta 031 de 2018. Los casos graves deben ser valorados inicialmente en las IPS con panel viral y serán evaluados para **COVID-19**

Debe hacerse énfasis en la **notificación** de los casos de IRAG en adultos mayores de 60 años o en las personas con comorbilidad o condiciones, tales como:

- ☐ Diabetes
- ☐ Enfermedad cardiovascular (incluye HTA y ACV)
- ☐ **Falla renal**
- ☐ VIH u otra inmunodeficiencia
- ☐ Cáncer
- ☐ **Enfermedades autoinmunes**
- ☐ **Hipotiroidismo**
- ☐ Uso de corticoides o inmunosupresores
- ☐ EPOC y **asma**
- ☐ Mal nutrición (obesidad y desnutrición)
- ☐ Fumadores

Los casos de esta estrategia deben ser notificados **en la ficha** "IRAG-345".

Anexo. Instructivo para la vigilancia en salud pública intensificada de infección respiratoria aguda asociada al nuevo coronavirus 2019 (COVID-19).

Este instructivo podrá ser modificado teniendo en cuenta la dinámica de la situación en el mundo y en Colombia; recomendamos revisar semanalmente la página web del INS: www.ins.gov.co

Fecha de actualización: sábado 04 de abril 2020

Versión: 9

Tabla de contenido

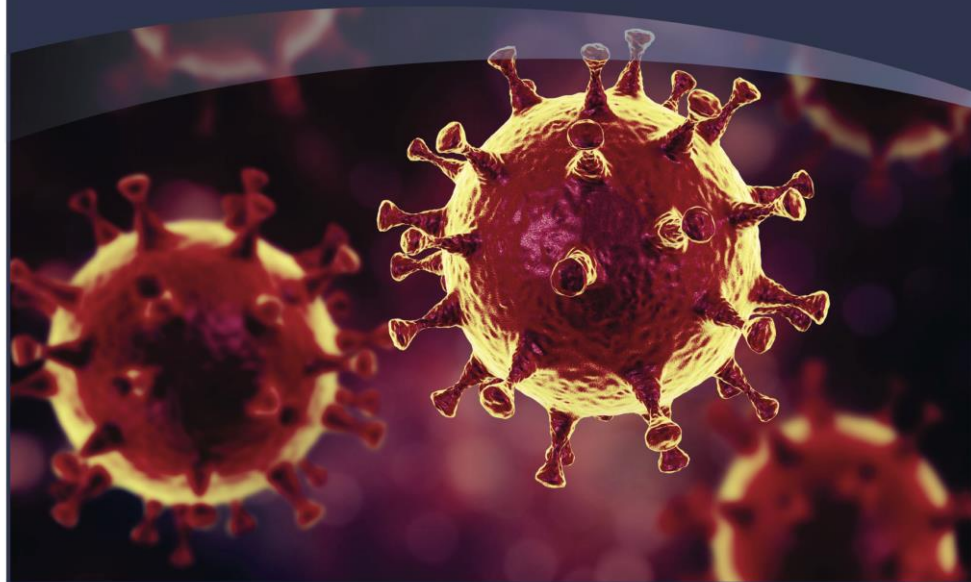
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2. Objetivos específicos	3
3. Definiciones operativas de caso	4
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2. Objetivos específicos

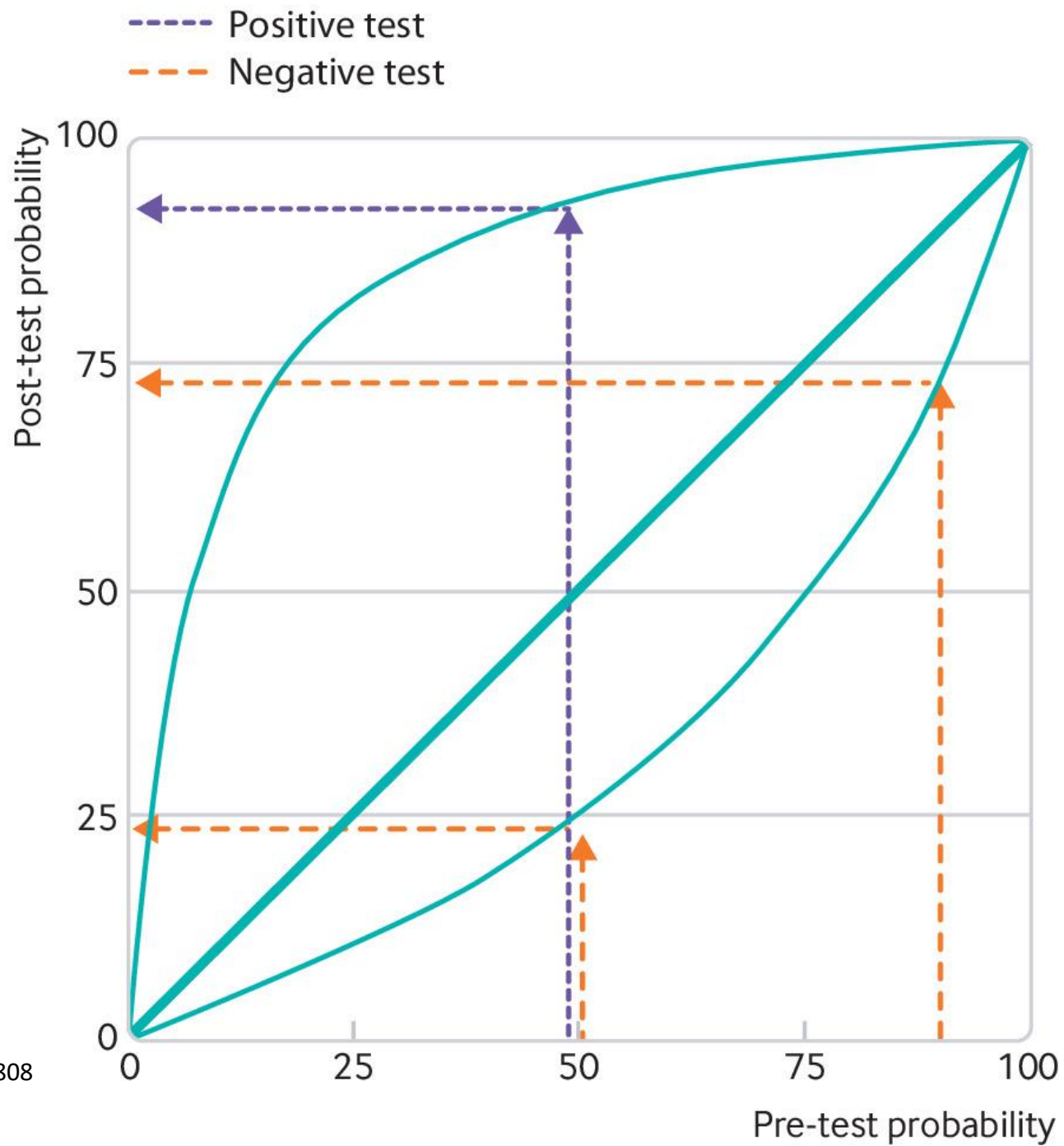
- a) Detectar de manera oportuna los casos probables del virus COVID-19.
- b) Caracterizar en persona, tiempo y espacio los casos probables de COVID-19 notificados en el territorio nacional.
- c) Describir las características sociales, demográficas, clínicas y antecedentes epidemiológicos de los casos probables del COVID-19 notificados en el territorio nacional.
- d) Fortalecer la vigilancia por laboratorio de la Infección Respiratoria Aguda Grave en unidades centinela y en Instituciones Prestadoras de Salud con servicio de hospitalización y Unidad de Cuidado Intensivo.

**CONSENSO COLOMBIANO DE ATENCIÓN, DIAGNÓSTICO Y MANEJO
DE LA INFECCIÓN POR SARS-CoV-2/COVID-19 EN ESTABLECIMIENTOS
DE ATENCIÓN DE LA SALUD**

**RECOMENDACIONES BASADAS EN CONSENSO DE EXPERTOS
E INFORMADAS EN LA EVIDENCIA**



Nivel de gravedad	Tratamiento
Enfermedad no complicada	• Manejo sintomático • Signos de alarma
Neumonía leve	• Vigilancia clínica • Si sospecha de coinfección bacteriana, inicio antibiótico acorde a grupo de riesgo (Guías Neumonía de la comunidad vigentes)
Neumonía grave	• Terapia combinada: Hidroxicloroquina (400 mg cada 12 horas el primer día, continuar 200 g cada 12 horas de 5 a 10 días acorde a severidad) ó Cloroquina (300 mg base cada 12 horas por de 5 a 10 días acorde a severidad + Lopinavir/ritonavir 400/100 mg cada 12 horas por 7-10 días) • Si sospecha coinfección bacteriana iniciar antibiótico acorde al grupo de riesgo (Guías Neumonía de la comunidad vigentes) • Intubación orotraqueal si criterios de falla ventilatoria
SDRA	• Terapia combinada: Hidroxicloroquina (400 mg cada 12 horas el primer día, continuar 200 mg cada 12 horas de 5 a 10 días acorde a severidad), ó Cloroquina (300 mg base cada 12 horas de 5 a 10 días acorde a severidad) + Lopinavir/ritonavir 400/100 mg cada 12 horas por 7-14 días) • Si sospecha coinfección bacteriana iniciar antibiótico acorde a grupo de riesgo (Guías Neumonía de la comunidad vigentes) • Ventilación protectora
Sépsis	• Terapia combinada: Hidroxicloroquina (400 mg cada 12 horas el primer día, continuar 200 mg cada 12 horas de 5 a 10 días acorde a severidad), ó Cloroquina (300 mg base cada 12 horas de 5 a 10 días acorde a severidad) + Lopinavir/ritonavir 400/100mg cada 12 horas por 7-14 días) • Antibiótico acorde a grupo de riesgo (Guías Neumonía de la comunidad vigentes)
Choque séptico	• Terapia combinada: Hidroxicloroquina (400 mg cada 12 horas el primer día, continuar 200 mg cada 12 horas de 5 a 10 días acorde a severidad), ó Cloroquina (300 mg base cada 12 horas por 10 días) + Lopinavir/ritonavir 400/100 mg cada 12 horas por 7-14 días) • Antibiótico acorde a grupo de riesgo (Guías Neumonía de la comunidad vigentes) • Soporte inotrópico/Vasopresor



Interpreting a covid-19 test result

Jessica Watson *GP and National Institute for Health Research doctoral research fellow*¹, Penny F Whiting *associate professor in clinical epidemiology*¹, John E Brush *professor of internal medicine*²

¹Centre for Academic Primary Care, Bristol Medical School, University of Bristol, Bristol, UK; ²Sentara Healthcare and Eastern Virginia Medical School, Norfolk, VA, USA

Table 1| Pre- and post- test probabilities for covid-19 RT-PCR tests, calculations based on a sensitivity of 70% and specificity of 95%

Pre-test probability	Post-test probability, negative test	Post-test probability, two independently negative tests	Post-test probability positive test
5	1.6	0.5	42
15	5	2	71
25	10	3	82
50	24	9	93
75	49	23	98
90	74	47	99

100 people at risk of covid-19
Pre-test probability 80%



 80 people have covid-19
 20 people do not have covid-19

They are tested for covid-19
using the RT-PCR test:



 57 people have a test result suggesting that
they have covid-19 (test positive)
 43 people have a test result suggesting that
they do not have covid-19 (test negative)

100 people at risk of covid-19
Pre-test probability 80%



 80 people have covid-19
 20 people do not have covid-19

They are tested for covid-19
using the RT-PCR test:



 57 people have a test result suggesting that
they have covid-19 (test positive)

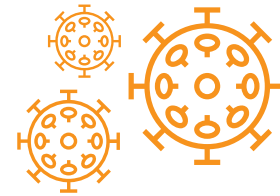
Número necesario de pruebas (NNP) para detectar un caso de acuerdo a la prevalencia.

Prevalencia	RT-PCR (NNP)	Anticuerpos (NNP)
1%	180	329
5%	45	83
20%	11	20
30%	7	14
50%	5	8

Cortesía Dr Edwin Silva.

TOP 5:

**INTERPRETACION INAPROPIADA DE
LAS IMAGENES**



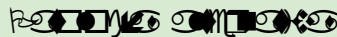
Guía básica de indicaciones de pruebas de imagen en la infección COVID-19 (V1. 21/3/2020)



- Opacidades
- Patrón intersticial
- (Cualquiera de estos hallazgos en uno o más lóbulos, con distribución periférica o difusa, son diagnósticos de COVID-19)



- Derrame pleural
- Adenopatías
- Fibrosis
- (Si se ven, no se puede excluir el diagnóstico de COVID-19)



- Nódulo / masa
- Edema agudo de pulmón
- Neumonía lobar

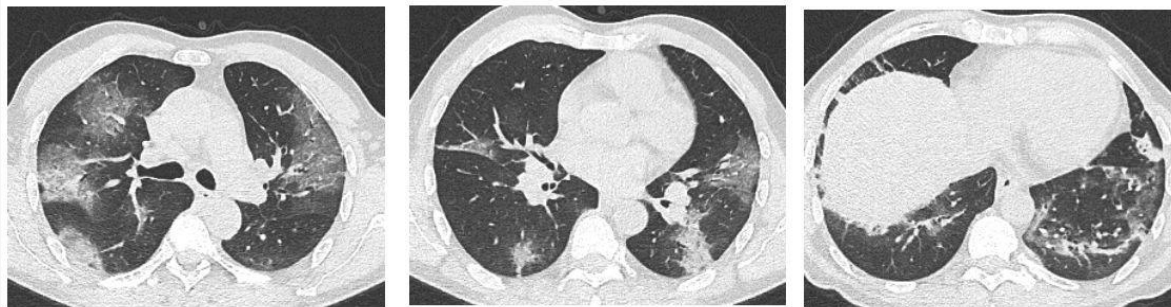
(Si se ven, no se puede excluir concomitancia)



- Hallazgos sugerentes de COVID-19
- Hallazgos no típicos; no se puede excluir COVID-19
- No se puede excluir concomitancia
- Tórax normal

Recordar que una radiografía normal no excluye infección COVID-19

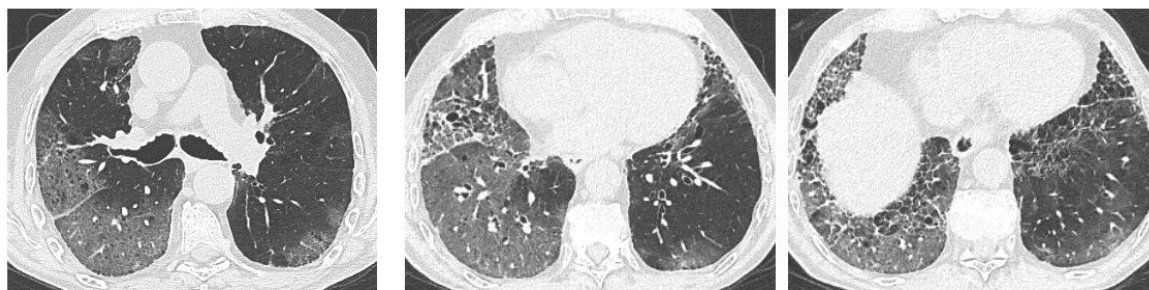
Hallazgos sugerentes de COVID-19



Cualquiera de los siguientes en 1 o más lóbulos y con distribución periférica.

- Opacidades periféricas en vidrio deslustrado
- Patrón alveolar difuso
- Patrón en empedrado
- Neumonía organizativa

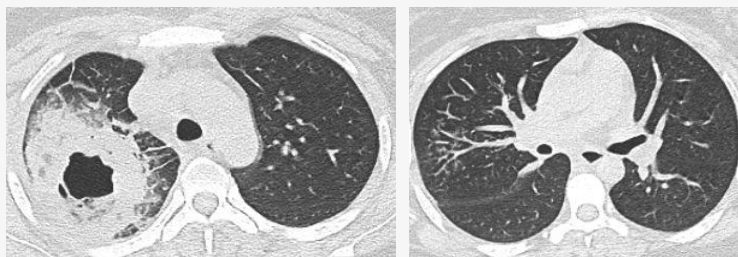
Hallazgos indeterminados de COVID-19



Cualquiera de los siguientes en 1 o más lóbulos y con distribución periférica.

- Opacidades en vidrio deslustrado / parcheadas / no periféricas
- Derrame pleural
- Fibrosis con vidrio deslustrado

Hallazgos poco probables de COVID-19



Buscar diagnóstico alternativo.

- Neumonía lobar
- Infecciones cavitadas
- Patrón “tree in bud”

Tórax normal

Correlation of Chest CT and RT-PCR Testing in Coronavirus Disease 2019 (COVID-19) in China: A Report of 1014 Cases

Tao Ai MD, PhD^{1*}, Zhenlu Yang MD, PhD^{1*}, Hongyan Hou, MD², Chenao Zhan MD¹,
Chong Chen MD¹, Wenzhi Lv³, Qian Tao, PhD⁴, Ziyong Sun MD², Liming Xia MD, PhD¹

Key Points

1. The positive rates of RT-PCR assay and chest CT imaging in our cohort were 59% (601/1014), and 88% (888/1014) for the diagnosis of suspected patients with COVID-19, respectively.
2. With RT-PCR as a reference, the sensitivity of chest CT imaging for COVID-19 was 97% (580/601). In patients with negative RT-PCR results but positive chest CT scans (n=308 patients), 48% (147/308) of patients were re-considered as highly likely cases with 33% (103/308) as probable cases by a comprehensive evaluation.
3. With analysis of serial RT-PCR assays and CT scans, 60% to 83% of patients with initial positive chest CT consistent with COVID-19 before the initial positive RT-PCR results. 42% of patients showed improvement of follow-up chest CT scans before the RT-PCR results turning negative.

Tabla. Hallazgos radiológicos en la TAC de tórax de pacientes con estados tempranos de infección por SARS-CoV-2.

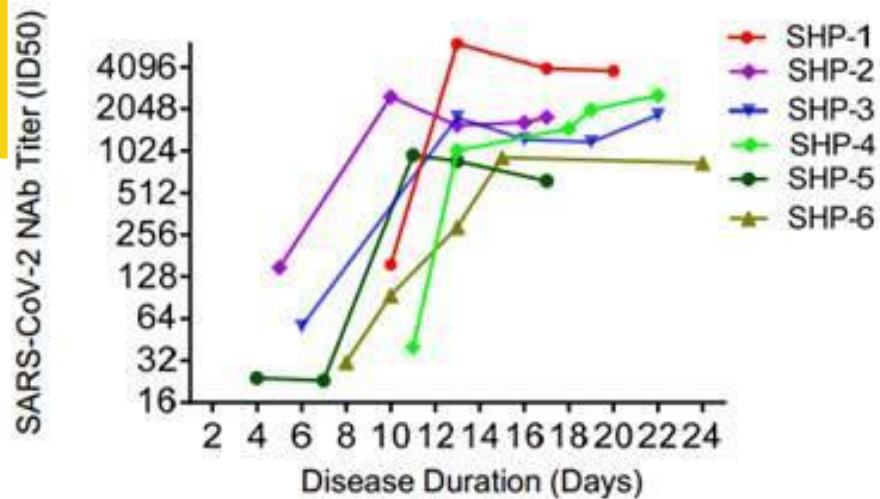
Autor	Escenario	n	Sensibilidad de la TAC	Probabilidad de sesgo de selección de casos.
Bernheim A, <i>et al.</i>	Casos sintomáticos <48 horas.	36	44%	Baja
Wu J, <i>et al.</i>	Vigilancia epidemiológica de contactos asintomáticos.	15	27%	Baja
Luo Y, <i>et al.</i>	Vigilancia epidemiológica de contactos asintomáticos.	5	40%	Baja
Pan Y, <i>et al.</i>	Serie de casos, descripción de hallazgos clínicos, epidemiológicos, virológicos y radiológicos.	26	65%	Moderada
Hu Z, <i>et al.</i>	Vigilancia epidemiológica de contactos asintomáticos.	24	71%	Baja
Wang Y, <i>et al.</i>	Serie de casos, descripción de hallazgos clínicos, paraclínicos y radiológicos.	55	67%	Alta

TOP 4:

**HACER USO E INTERPRETACION
INAPROPIADA DE PBAS
SEROLOGICAS**

INTERPRETACIÓN DE LAS PRUEBAS DIAGNÓSTICAS FRENTE A SARS-CoV-2

24 de abril de 2020. versión 2



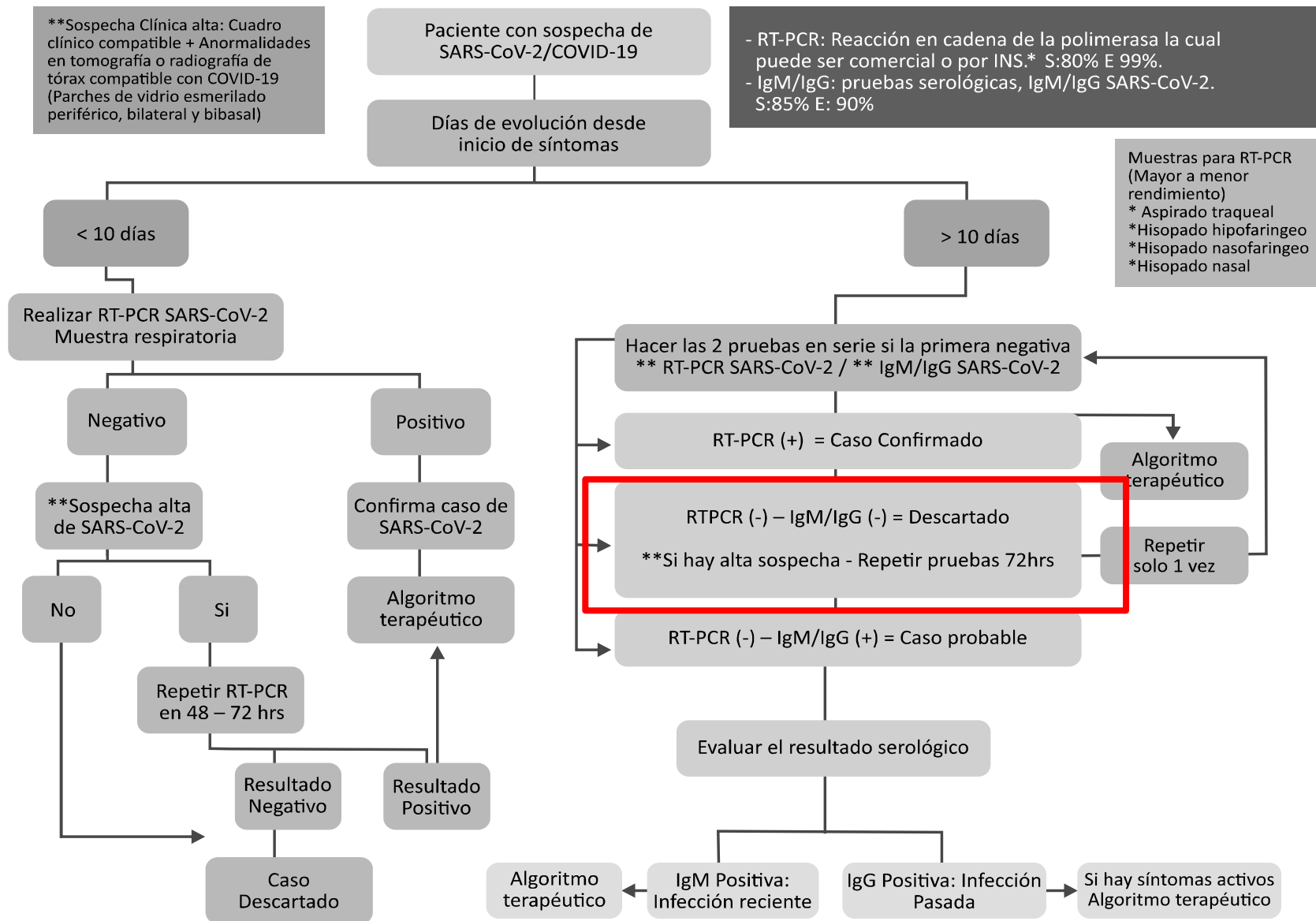
SHP1-6: sueros de casos de COVID-19 numerados del 1-6

Fuente: Wu et al (11).

INTERPRETACIÓN DE LAS PRUEBAS DIAGNÓSTICAS FRENTE A SARS-CoV-2

24 de abril de 2020. versión 2

PCR	Ag	IgM	IgG	Interpretación
+	-	-	-	Fase presintomática
+	+/-	+/-	+/-	Fase inicial (aprox. 1-7 días)
+/-	-	+	+/-	2ª Fase (8-14 días)
+/-	-	++	++	3ª Fase > 15 días
-	-	+/-	++	Infección pasada (inmune)



Consenso colombiano de atención, diagnóstico y manejo de la infección por SARS-COV-2/COVID-19 en establecimientos de atención de la salud

TOP 3:

**CREER QUE EL TRAJE DE MONO ES
MEJOR QUE LOS EPP
RECOMENDADOS**



CARACTERISTICA	OVEROL	BATA
PROTECCIÓN 360 GRADOS	+++	++
FACILIDAD DE RETIRO	+	+++
CONTAMINACIÓN (AL RETIRO)	+++	+
ESTRÉS POR CALOR	+++	++

Considerations for Selecting Protective Clothing used in Healthcare for Protection against Microorganisms in Blood and Body Fluids. CDC

Personal protective equipment for preventing highly infectious diseases due to exposure to contaminated body fluids in healthcare staff (Review)

Verbeek JH, Rajamaki B, Ijaz S, Sauni R, Toomey E, Blackwood B, Tikka C, Ruotsalainen JH, Kilinc Balci FS

Summary of findings 4. Personal protective equipment (PPE) types: different types of PPE attire

One type of full-body PPE compared to another type for preventing highly infectious diseases due to exposure to contaminated body fluids in healthcare workers

Patient or population: healthcare workers

Setting: simulation study

Intervention: one type of full-body PPE

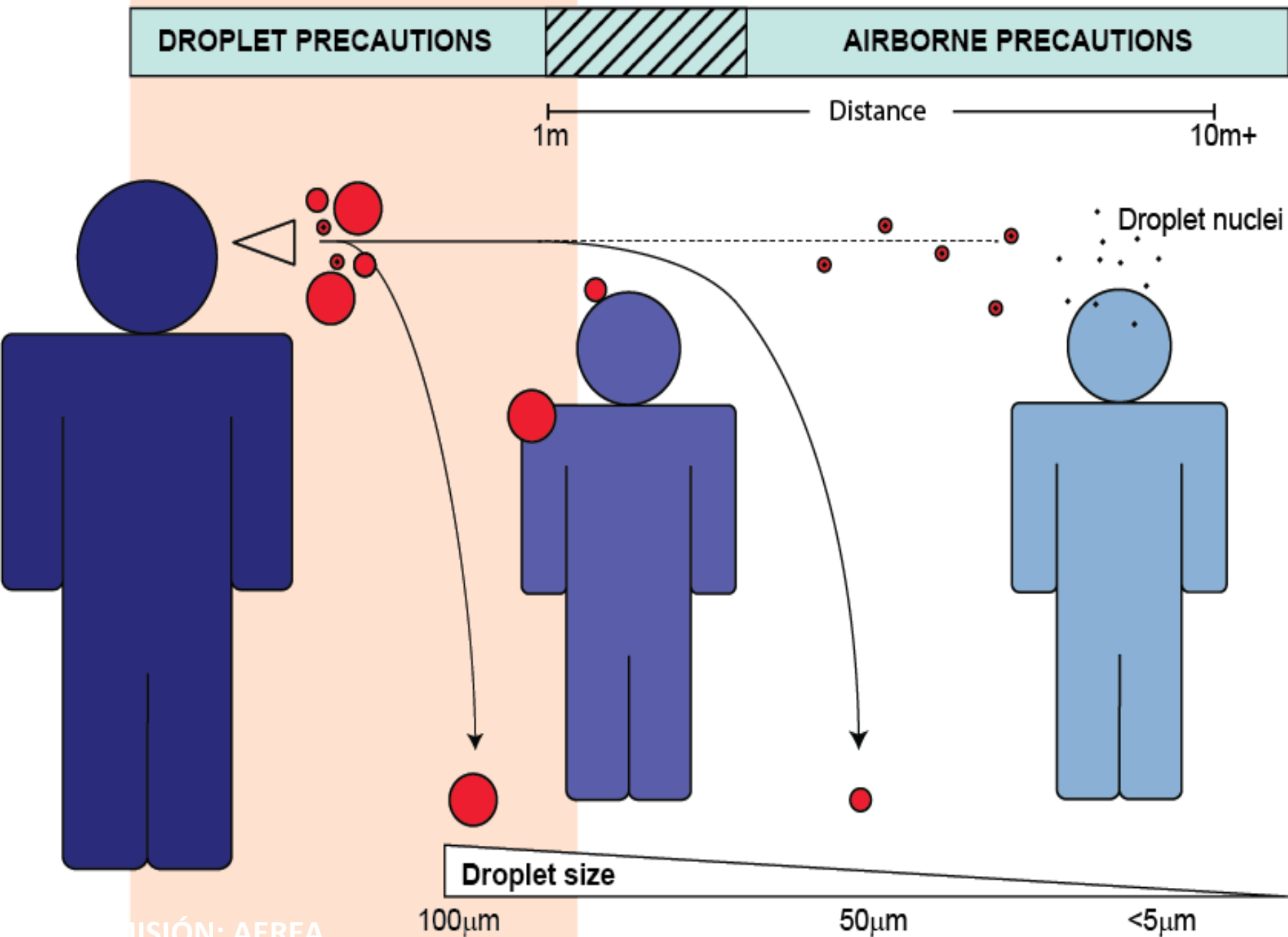
Comparison: another type

Outcomes	Impact	Number of participants (studies)	Certainty of the evidence (GRADE)	Comments
Any contamination	In 1 RCT (59 participants) people with a long gown had less contamination than those with a coverall and those with a coverall less than those with an isolation gown. In 1 observational study (11 participants) there were too few events to enable comparison of contamination rates between 5 types of PPE In 1 observational study (10 participants), out of 10 different ensembles there were contaminations in only 4, of these 3 used coveralls	59 participants (1 RCT) 21 participants (2 observational studies)	⊕⊕## Low^{1,2} ⊕### Very low³	
Compliance	Isolation gown was easiest to don and doff, coverall was more difficult to doff	59 participants (1 RCT)	⊕### Very low ^{1,2}	

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

TOP 2:

**CREER QUE AL USAR UNA
MASCARILLA QUIRURGICA ESTA
DESPROTEGIDO Y TIENE ALTO RIESGO
DE INFECCIÓN**



TRANSMISIÓN: AEREA

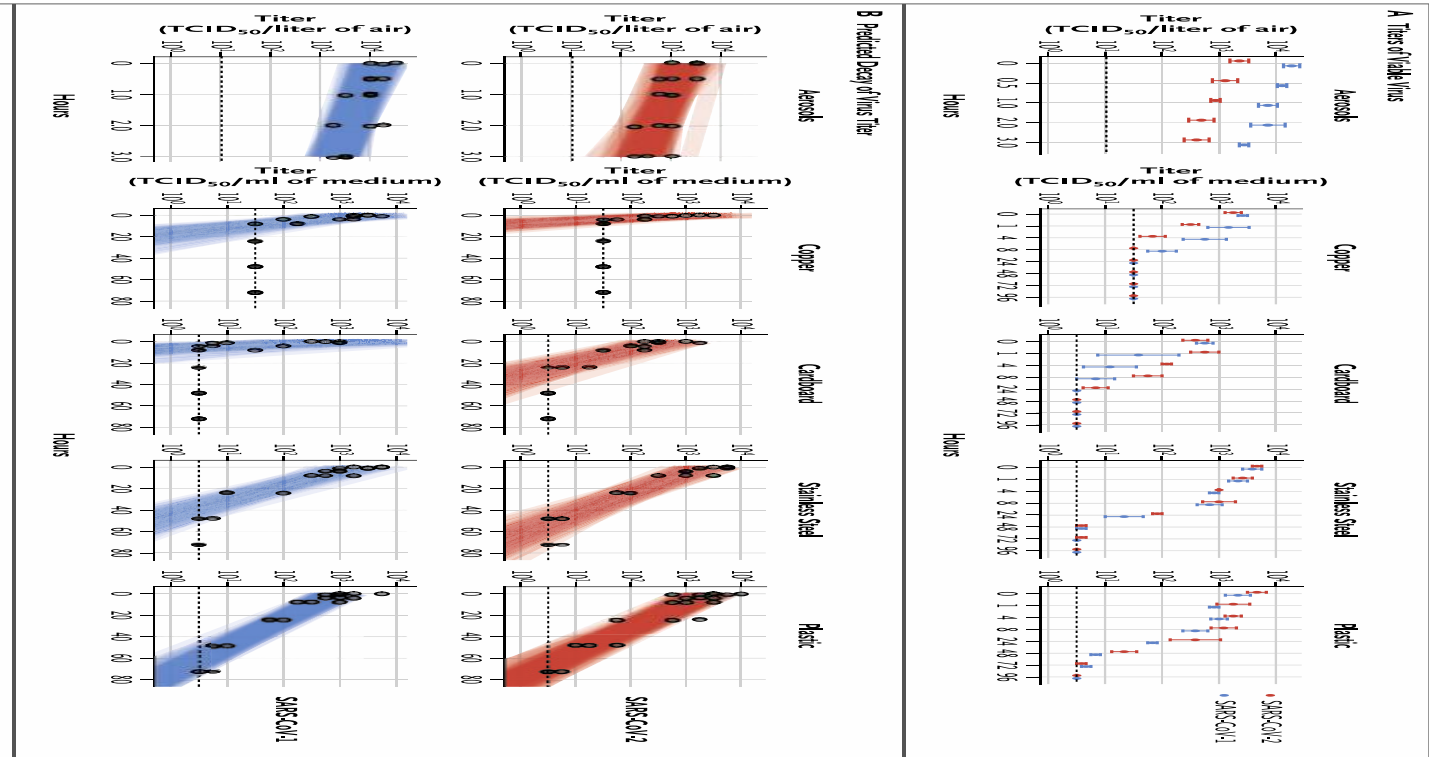


Protecting healthcare workers from SARS-CoV-2 infection: practical indications

Martina Ferioli^{1,2,3}, Cecilia Cisternino^{4,5}, Valentina Leo^{4,5}, Lara Pisani^{1,2,3}, Paolo Palange^{4,5} and Stefano Nava^{1,2,3}

TABLE 1 Maximum exhaled air dispersion distance *via* different oxygen administration and ventilatory support strategies

Method	Maximum exhaled air dispersion distance
Oxygen <i>via</i> nasal cannula 5 L·min ⁻¹	100 cm
Oxygen <i>via</i> oronasal mask 4 L·min ⁻¹	40 cm
Oxygen <i>via</i> Venturi mask $F_{I_{O_2}}$ 40%	33 cm
Oxygen <i>via</i> non-rebreathing mask 12 L·min ⁻¹	<10 cm
CPAP <i>via</i> oronasal mask 20 cmH ₂ O	Negligible air dispersion
CPAP <i>via</i> nasal pillows	33 cm
HFNC 60 L·min ⁻¹	17 cm (62 cm sideways leakage if not tightly fixed)
NIV <i>via</i> full face mask: IPAP 18 cmH ₂ O, EPAP 5 cmH ₂ O	92 cm
NIV <i>via</i> helmet without tight air cushion: IPAP 20 cmH ₂ O, EPAP 10 cmH ₂ O	27 cm
NIV <i>via</i> helmet with tight air cushion: IPAP 20 cmH ₂ O, EPAP 10 cmH ₂ O	Negligible air dispersion

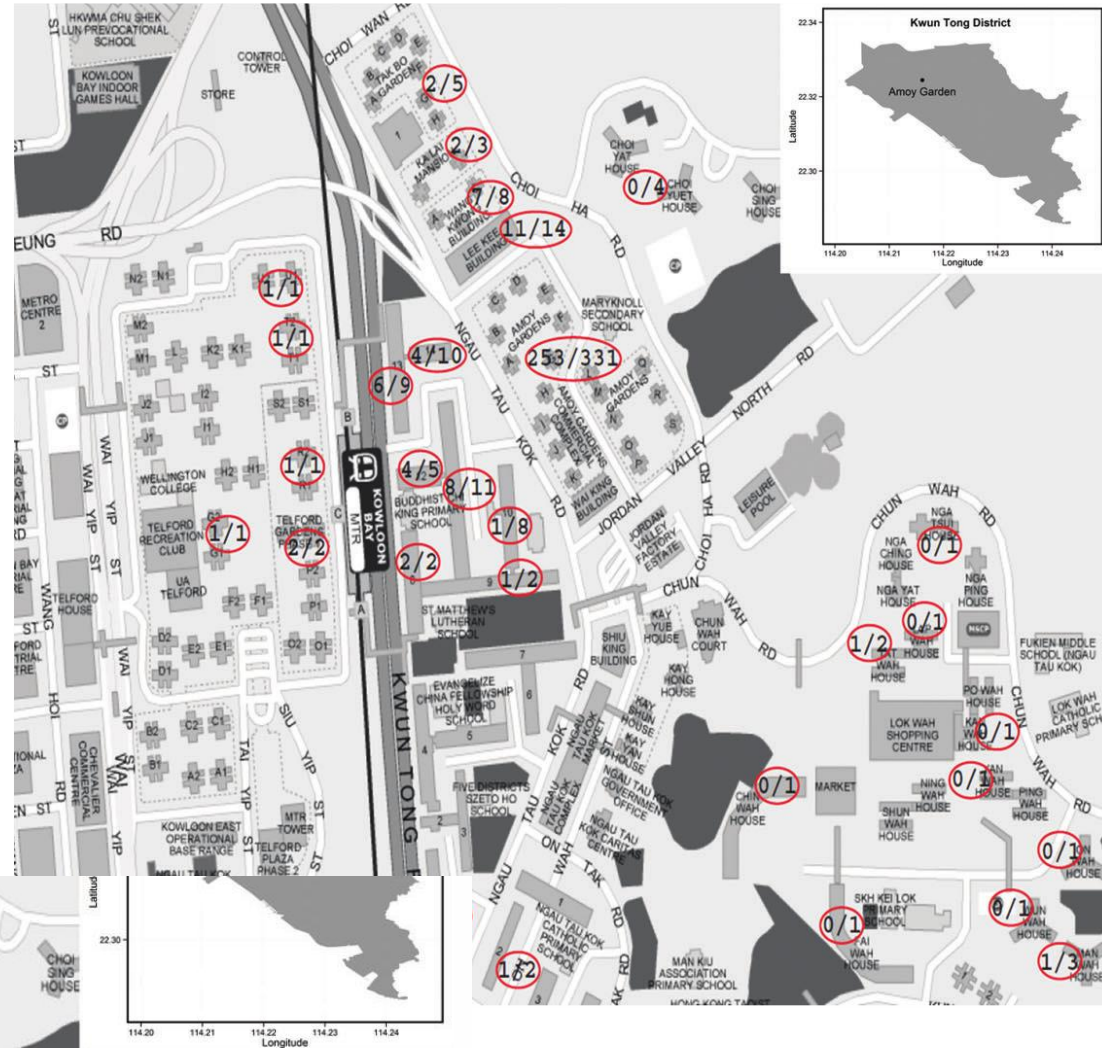


Severe Acute Respiratory Syndrome Beyond Amoy Gardens: Completing the Incomplete Legacy

Ignatius Tak-Sun Yu, Hong Qiu, Lap Ah Tse, and Tze Wai Wong

Division of Occupational and Environmental Health, JC School of Public Health and Primary Care, The Chinese University of Hong Kong, Hong Kong Special Administrative Region, China

CID 2014:58 (1 March) • BRIEF REPORT



After choir practice with one symptomatic person, 87% of group developed COVID-19



● index case

● 32 confirmed and 20 probable cases

● unaffected person

COVID-19 spreads easily

- Avoid groups
- Stay at least 6 feet apart
- Wear face coverings

CDC.GOV

bit.ly/MMWR51220

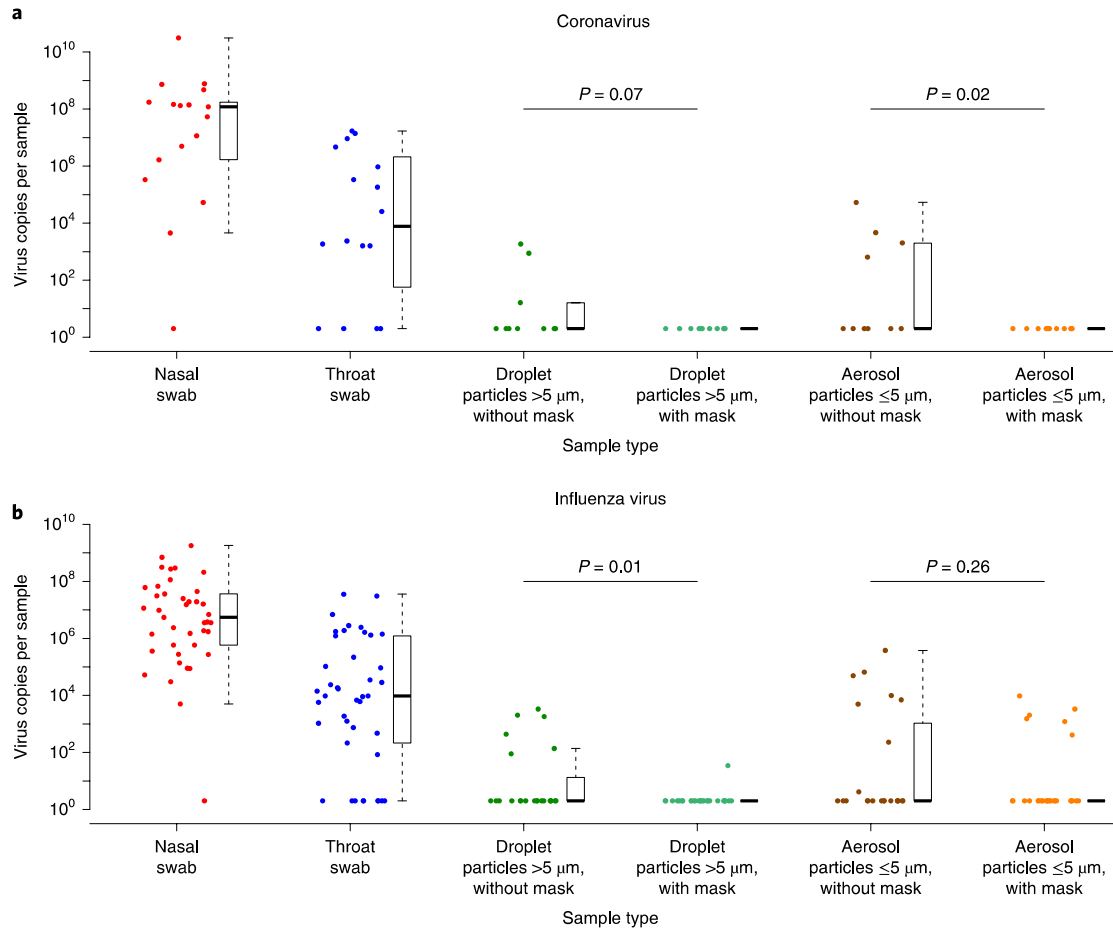
MMWR

Attack rates of 53.3% and 86.7%



Respiratory virus shedding in exhaled breath and efficacy of face masks

Nancy H. L. Leung¹, Daniel K. W. Chu¹, Eunice Y. C. Shiu¹, Kwok-Hung Chan², James J. McDevitt³, Benien J. P. Hau^{1,4}, Hui-Ling Yen¹, Yuguo Li⁵, Dennis K. M. Ip¹, J. S. Malik Peiris¹, Wing-Hong Seto^{1,6}, Gabriel M. Leung¹, Donald K. Milton^{7,8} and Benjamin J. Cowling^{1,8}✉





Respiratory virus shedding in exhaled breath and efficacy of face masks

Nancy H. L. Leung¹, Daniel K. W. Chu¹, Eunice Y. C. Shiu¹, Kwok-Hung Chan², James J. McDevitt³, Benien J. P. Hau^{1,4}, Hui-Ling Yen¹, Yuguo Li⁵, Dennis K. M. Ip¹, J. S. Malik Peiris¹, Wing-Hong Seto^{1,6}, Gabriel M. Leung¹, Donald K. Milton^{7,8} and Benjamin J. Cowling^{1,8}✉

Table 1b | Efficacy of surgical face masks in reducing respiratory virus frequency of detection and viral shedding in respiratory droplets and aerosols of symptomatic individuals with coronavirus, influenza virus or rhinovirus infection

Virus type	Droplet particles >5 µm			Aerosol particles ≤5 µm		
	Without surgical face mask	With surgical face mask	<i>P</i>	Without surgical face mask	With surgical face mask	<i>P</i>
Detection of virus						
	No. positive/no. total (%)	No. positive/no. total (%)		No. positive/no. total (%)	No. positive/no. total (%)	
Coronavirus	3 of 10 (30)	0 of 11 (0)	0.09	4 of 10 (40)	0 of 11 (0)	0.04
Influenza virus	6 of 23 (26)	1 of 27 (4)	0.04	8 of 23 (35)	6 of 27 (22)	0.36
Rhinovirus	9 of 32 (28)	6 of 27 (22)	0.77	19 of 34 (56)	12 of 32 (38)	0.15
Viral load (log ₁₀ virus copies per sample)						
	Median (IQR)	Median (IQR)		Median (IQR)	Median (IQR)	
Coronavirus	0.3 (0.3, 1.2)	0.3 (0.3, 0.3)	0.07	0.3 (0.3, 3.3)	0.3 (0.3, 0.3)	0.02
Influenza virus	0.3 (0.3, 1.1)	0.3 (0.3, 0.3)	0.01	0.3 (0.3, 3.0)	0.3 (0.3, 0.3)	0.26
Rhinovirus	0.3 (0.3, 1.3)	0.3 (0.3, 0.3)	0.44	1.8 (0.3, 2.8)	0.3 (0.3, 2.4)	0.12

N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel

A Randomized Clinical Trial

Lewis J. Radonovich Jr, MD; Michael S. Simberkoff, MD; Mary T. Bessesen, MD; Alexandria C. Brown, PhD; Derek A. T. Cummings, PhD; Charlotte A. Gaydos, MD; Jenna G. Los, MLA; Amanda E. Krosche, BS; Cynthia L. Gibert, MD; Geoffrey J. Gorse, MD; Ann-Christine Nyquist, MD; Nicholas G. Reich, PhD; Maria C. Rodriguez-Barradas, MD; Connie Savor Price, MD; Trish M. Perl, MD; for the ResPECT investigators

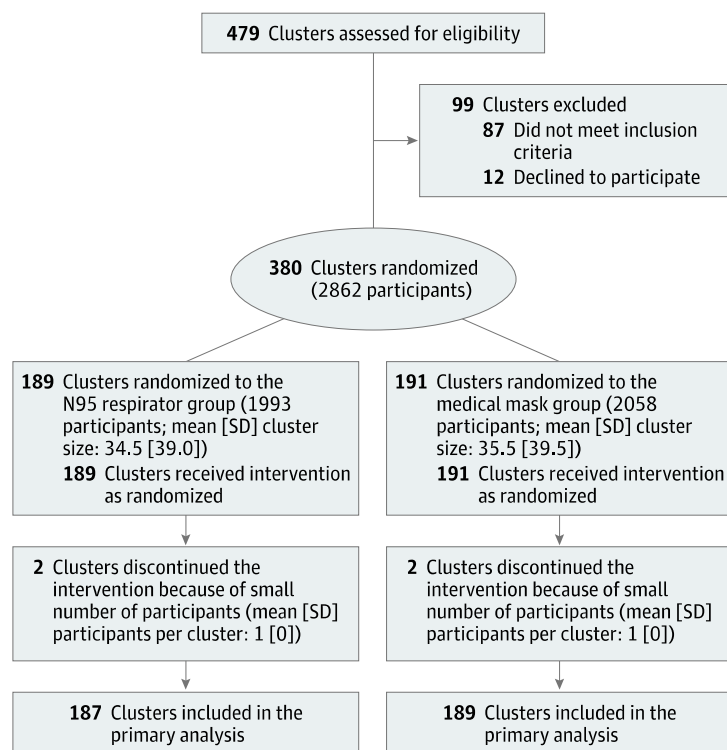
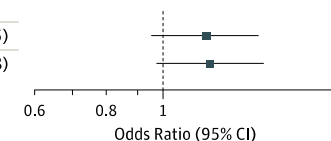


Figure 2. Primary and Secondary Outcomes of Influenza and Respiratory Illnesses and Adjusted Risk Estimates Among Health Care Personnel in the N95 Respirator Group vs the Medical Mask Group

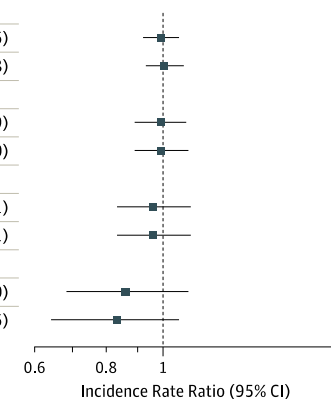
A Primary outcome

	N95 Respirator Events/Seasons	Medical Mask Events/Seasons	Incidence Rate Ratio (95% CI)
Laboratory-confirmed influenza			
ITT cohort	207/2512	193/2668	1.18 (0.95-1.45)
PP cohort	204/2243	190/2446	1.20 (0.97-1.48)



B All secondary outcomes

	N95 Respirator Events/Seasons	Medical Mask Events/Seasons	Incidence Rate Ratio (95% CI)
Acute respiratory illness			
ITT cohort	1556/2512	1711/2668	0.99 (0.92-1.06)
PP cohort	1512/2243	1656/2446	1.00 (0.93-1.08)
Laboratory-detected respiratory infection			
ITT cohort	679/2512	745/2668	0.99 (0.89-1.09)
PP cohort	664/2243	733/2446	0.99 (0.89-1.10)
Laboratory-confirmed respiratory illness			
ITT cohort	371/2512	417/2668	0.96 (0.83-1.11)
PP cohort	361/2243	406/2446	0.96 (0.83-1.11)
Influenza-like illness			
ITT cohort	128/2512	166/2668	0.86 (0.68-1.10)
PP cohort	121/2243	161/2446	0.83 (0.64-1.06)



CONCLUSIONES Y RESERVAS Entre el personal de atención médica ambulatoria, los respiradores N95 máscaras médicas usadas por los participantes en este ensayo no produjeron diferencias significativas en la incidencia de influenza confirmada por laboratorio.



The NEW ENGLAND JOURNAL *of* MEDICINE

- Una máscara no protegerá si no se acompaña de una higiene meticulosa de las manos, protección para los ojos, guantes y una bata.
- Una máscara sola no evitará que los trabajadores de la salud con Covid-19 temprano contaminen sus manos y propaguen el virus a pacientes y colegas. Centrarse solo en el enmascaramiento universal sin higiene de manos es inadecuado

Perspective

Universal Masking in Hospitals in the Covid-19 Era

Michael Klompas, M.D., M.P.H., Charles A. Morris, M.D., M.P.H., Julia Sinclair, M.B.A.,
Madelyn Pearson, D.N.P., R.N., and Erica S. Shenoy, M.D., Ph.D.

CORRESPONDENCE



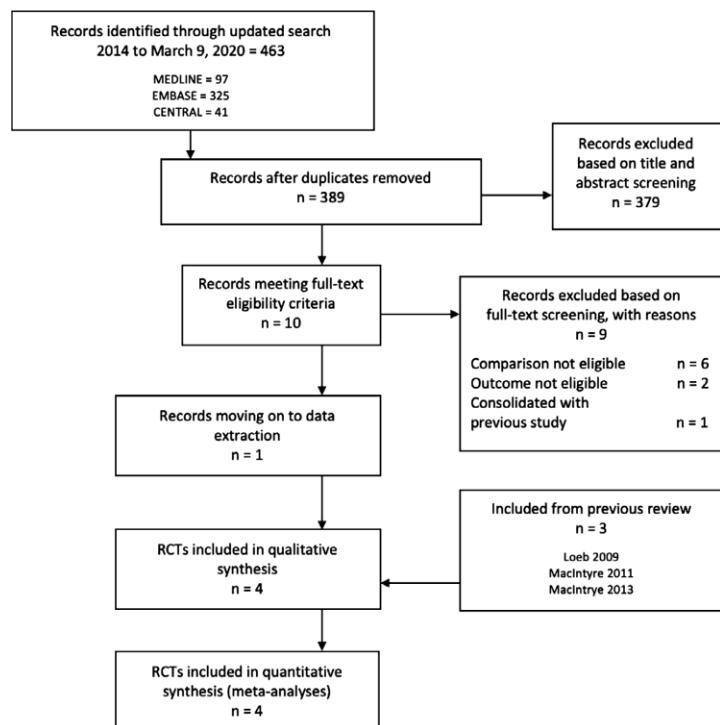
Maintenance of ophthalmic specialist out-patient service during the COVID-19 outbreak: The University of Hong Kong experience

C. Kendrick Shih¹ · Jonathan C. H. Chan ¹ · Jimmy S. M. Lai¹

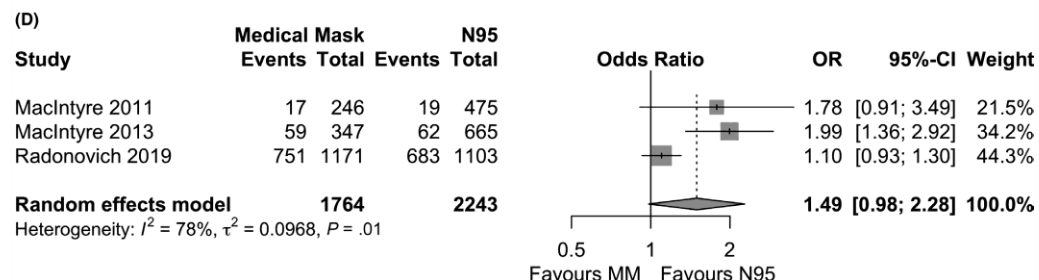
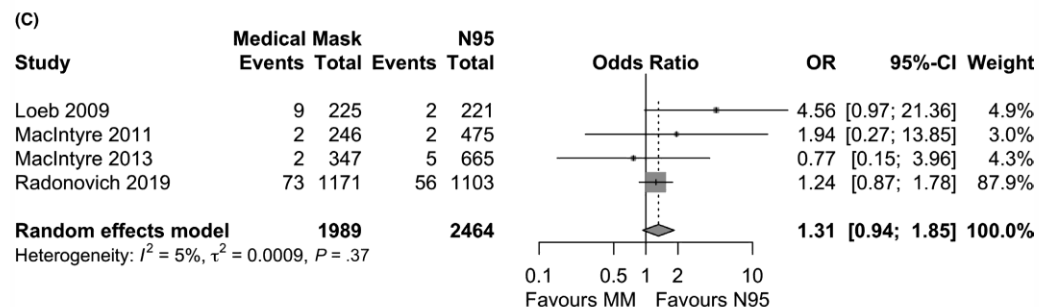
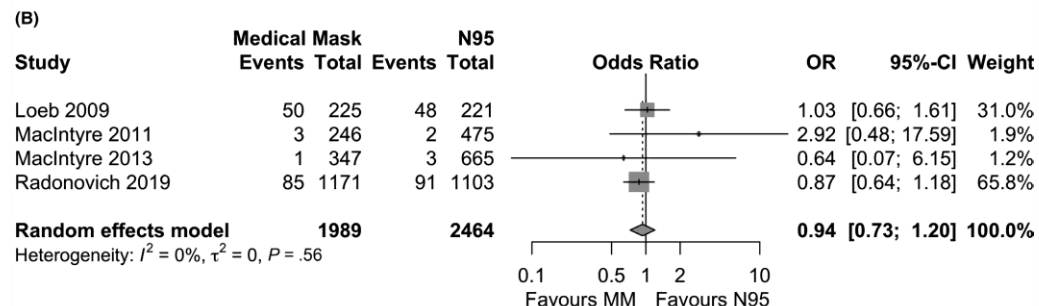
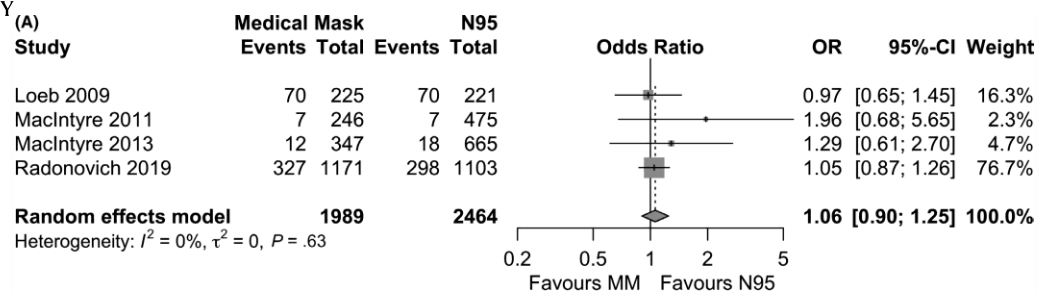
Between January 29 and March 21, 2020, the total number of out-patient clinic attendance was 8254, intravitreal injection 348 and ophthalmic laser treatment 191. A 100% compliance rate to wearing surgical masks was observed among clinical staff and patients. There was no reported COVID-19 infection in any of the clinical staff or patients who attended our clinic in this period

Medical masks vs N95 respirators for preventing COVID-19 in healthcare workers: A systematic review and meta-analysis of randomized trials

Jessica J. Bartoszko¹ | Mohammed Abdul Malik Farooqi² | Waleed Alhazzani^{1,3} | Mark Loeb^{1,4}



Resultados: did not increase laboratory-confirmed viral (including coronaviruses) respiratory infection (OR 1.06; 95% CI 0.90-1.25; $I^2 = 0\%$; low certainty in the evidence) or clinical respiratory illness (OR 1.49; 95% CI: 0.98-2.28; $I^2 = 78\%$; very low certainty in the evidence). Only one trial evaluated coronaviruses separately and found no difference between the two groups ($P = .49$).



Influenza Other Respi Viruses. 2020;00:1–9.

BMJ Open A cluster randomised trial of cloth masks compared with medical masks in healthcare workers

C Raina MacIntyre,¹ Holly Seale,¹ Tham Chi Dung,² Nguyen Tran Hien,² Phan Thi Nga,² Abrar Ahmad Chughtai,¹ Bayzidur Rahman,¹ Dominic E Dwyer,³ Quanyi Wang⁴

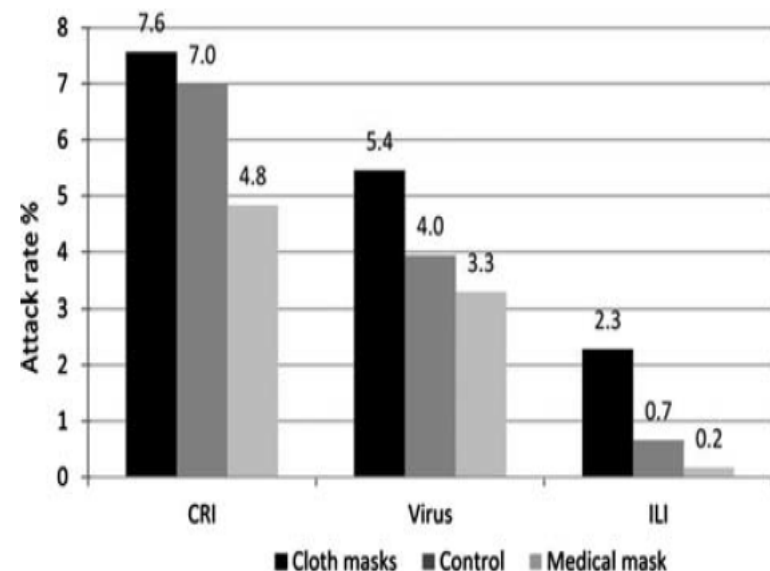
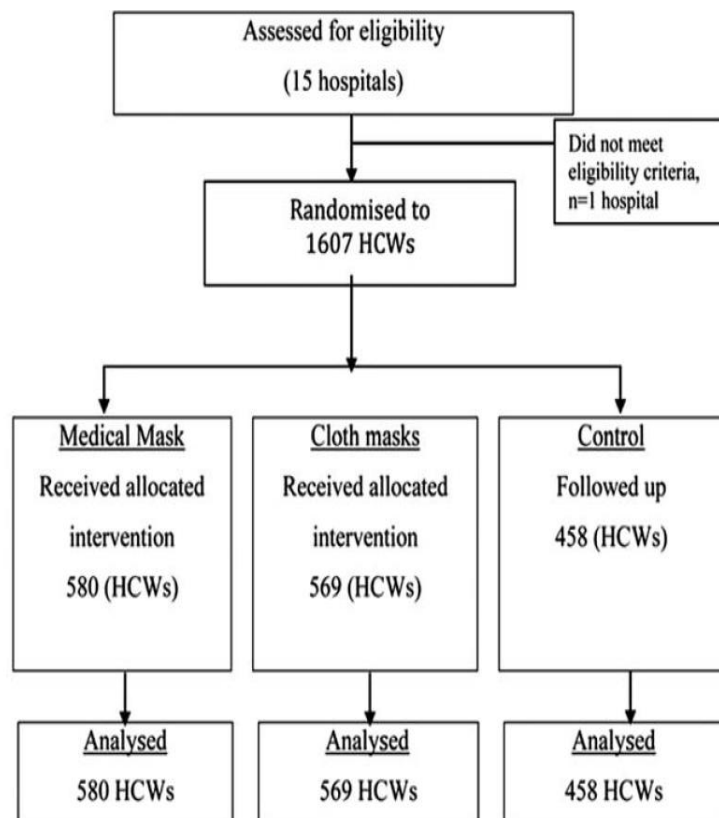


Figure 2 Outcomes in trial arms (CRI, clinical respiratory illness; ILI, influenza-like illness; Virus, laboratory-confirmed viruses).

TOP 1:

**CLASIFICAR TODO TIPO DE
PATOLOGÍA COMO COVID 19**

DEFINICIONES OPERATIVAS DE CASO

El contacto estrecho de un caso probable o confirmado de SARS-CoV-2/COVID-19 se define como:

- La persona que se encuentra a menos de 2 metros de un caso confirmado de SARS-CoV-2/COVID-19. Este contacto puede ocurrir mientras cuida, viva, visite, comparta un área de espera, se encuentra en el lugar de trabajo o en reuniones con un caso de SARS-CoV-2/COVID-19.
 - o
- Una persona que tenga contacto directo, sin protección, con secreciones infecciosas de un caso de SARS-CoV-2/COVID-19 (por ejemplo, con la tos o la manipulación de los pañuelos utilizados).
 - o
- Un trabajador del ámbito hospitalario que tenga contacto con caso probable o confirmado o con secreciones infecciosas de un caso de SARS-CoV-2/COVID-19 de SARS-CoV-2/COVID-19, sin EPP.
 - o
- Una persona que viaje en cualquier tipo de transporte y se siente a distancia de dos asientos o menos, en cualquier dirección, del caso de SARS-CoV-2/COVID-19. Los contactos incluyen compañeros de viaje y personal de la tripulación que brinde atención al caso durante el viaje.

Clinical Features		Epidemiologic Risk (within 14 days of symptom onset)
Pyrexia OR Respiratory symptoms (cough, dyspnea, sore throat, and nasal congestion)	AND	Close contact with RT-PCR confirmed COVID-19 patient
Pyrexia AND Respiratory symptoms (cough, dyspnea, sore throat, and nasal congestion) requiring hospitalization	AND	History of travel to CDC flagged areas
Pyrexia AND Severe Respiratory illness (pneumonia, ARDS) requiring hospitalization AND without any alternative diagnosis	AND	No discernment of exposure history

TABLE 4: Summary of CDC COVID-19 screening criteria.

Evaluating and testing persons for coronavirus disease 2019 (COVID-19) .
(2020). Accessed: March 21, 2020: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html>

Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study



Nanshan Chen*, Min Zhou*, Xuan Dong*, Jieming Qu*, Fengyun Gong, Yang Han, Yang Qiu, Jingli Wang, Ying Liu, Yuan Wei, Jia'an Xia, Ting Yu, Xinxin Zhang, Li Zhang

Patients (n=99)	
Age, years	
Mean (SD)	55.5 (13.1)
Range	21–82
≤39	10 (10%)
40–49	22 (22%)
50–59	30 (30%)
60–69	22 (22%)
≥70	15 (15%)
Sex	
Female	32 (32%)
Male	67 (68%)
Occupation	
Agricultural worker	2 (2%)
Self-employed	63 (64%)
Employee	15 (15%)
Retired	19 (19%)
Exposure to Huanan seafood market*	49 (49%)
Long-term exposure history	47 (47%)
Short-term exposure history	2 (2%)
Chronic medical illness	50 (51%)
Cardiovascular and cerebrovascular diseases	40 (40%)
Digestive system disease	11 (11%)
Endocrine system disease†	13 (13%)
Malignant tumour	1 (1%)
Nervous system disease	1 (1%)
Respiratory system disease	1 (1%)
Admission to intensive care unit	23 (23%)
Clinical outcome	
Remained in hospital	57 (58%)
Discharged	31 (31%)
Died	11 (11%)

Data are n (%) unless specified otherwise. 2019-nCoV=2019 novel coronavirus.
 *Long-term exposure is having worked at or lived in or around Huanan seafood market, whereas short-term exposure is having been to Huanan seafood market occasionally. †12 were diabetic.

Patients (n=99)	
Signs and symptoms at admission	
Fever	82 (83%)
Cough	81 (82%)
Shortness of breath	31 (31%)
Muscle ache	11 (11%)
Confusion	9 (9%)
Headache	8 (8%)
Sore throat	5 (5%)
Rhinorrhoea	4 (4%)
Chest pain	2 (2%)
Diarrhoea	2 (2%)
Nausea and vomiting	1 (1%)
More than one sign or symptom	89 (90%)
Fever, cough, and shortness of breath	15 (15%)

COMPORTAMIENTO CLÍNICO DEL SARS COV 2/COVID 19

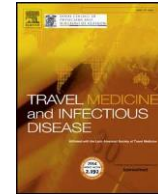




Contents lists available at ScienceDirect

Travel Medicine and Infectious Disease

journal homepage: www.elsevier.com/locate/tmaid



Clinical, laboratory and imaging features of COVID-19: A systematic review and meta-analysis



<i>Clinical manifestations</i>								
Fever	15	88.7	84.5-92.9	784	128.73	89.12	0.04	< 0.001
Adult	13	92.8	89.4-96.2	735	68.25	82.42	0.002	< 0.001
Children	2	43.9	28.2-59.6	49	1.25	20.2	0.003	0.263
Cough	15	57.6	40.8-74.4	784	657.76	97.87	0.102	< 0.001
Adult	13	63.4	48.0-78.8	735	413.05	97.09	0.072	< 0.001
Children	2	22.0	0.0-52.9	49	8.983	88.87	0.044	0.003
Dyspnea	8	45.6	10.9-80.4	656	1346.86	99.48	0.248	< 0.001
Myalgia or fatigue	11	29.4	19.8-39.0	446	46.53	80.66	0.017	< 0.001
Sputum production	6	28.5	10.8-46.3	379	94.94	94.73	0.044	< 0.001
Sore throat	5	11.0	2.8-19.2	308	28.24	85.39	0.006	< 0.001
Headache	9	8.0	5.7-10.2	554	5.048	0.00	0.00	0.752
Diarrhea	6	6.1	2.4-9.7	457	13.19	62.11	0.001	0.022

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ST-Segment Elevation in Patients with Covid-19 — A Case Series

Characteristic	Total (N=18)	Myocardial Infarction (N=8)	Noncoronary Myocardial Injury (N=10)
Electrocardiographic findings — no. (%)			
Diffuse ST elevations	4 (22)	0	4 (40)
Focal elevations	14 (78)	8 (100)	6 (60)
Anterior	3 (17)	1 (12)	2 (20)
Inferior	8 (44)	4 (50)	4 (40)
Lateral	9 (50)	8 (100)	1 (10)
Echocardiographic findings — no. (%)¶			
Normal ejection fraction	8/17 (47)	1/8 (12)	7/9 (78)
Low ejection fraction	9/17 (53)	7/8 (88)	2/9 (22)
Regional wall-motion abnormality	6/17 (35)	6/8 (75)	0/9
Coronary angiography — no. (%)			
Obstructive coronary artery disease — no./total no. (%)	6/9 (67)	6/6 (100)	0/3
Percutaneous coronary intervention — no./total no. (%)	5/9 (56)	5/6 (83)	0/3
Findings on radiography of the chest — no. (%)			
Opacities in both lungs	14 (78)	6 (75)	8 (80)
Focal opacity	1 (6)	0	1 (10)
Normal	3 (17)	2 (25)	1 (10)



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Journal of the Neurological Sciences

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Review Article

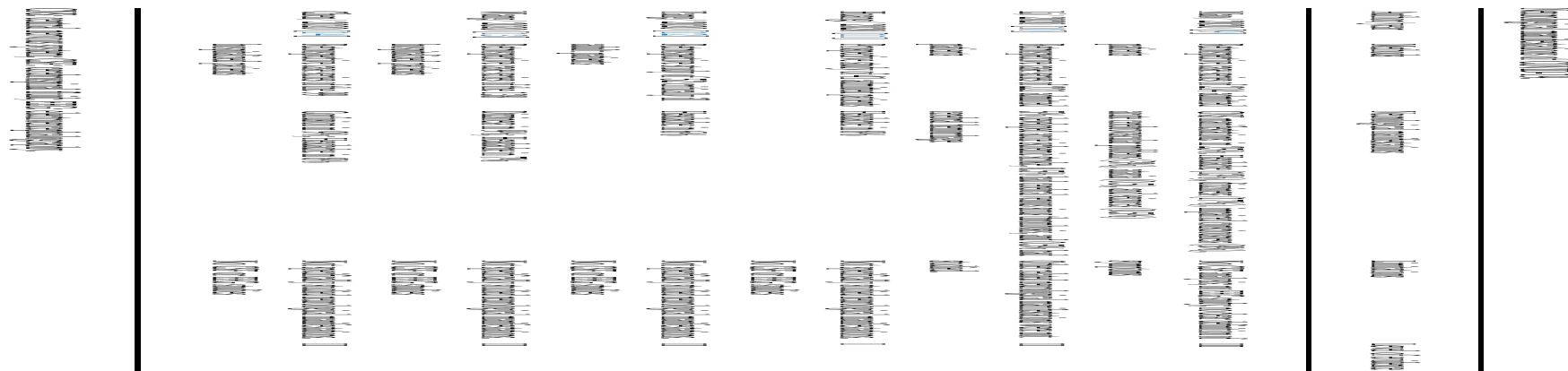
Central nervous system manifestations of COVID-19: A systematic review

Ali A. Asadi-Pooya^{a,b,*}, Leila Simani^c

^a Epilepsy Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

^b Jefferson Comprehensive Epilepsy Center, Department of Neurology, Thomas Jefferson University, Philadelphia, USA

^c Skull Base Research Center, Lohman Hakim Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran



CORRESPONDENCE

COVID-19 CASES

To rapidly communicate information on the global clinical effort against Covid-19, the Journal has initiated a series of case reports that offer important teaching points or novel findings. The case reports should be viewed as observations rather than as recommendations for evaluation or treatment. In the interest of timeliness, these reports are evaluated by in-house editors, with peer review reserved for key points as needed.

Large-Vessel Stroke as a Presenting Feature of Covid-19 in the Young

“The case reports should be viewed as observations rather than as recommendations for evaluation or treatment”

n engl j med 382;20

Table 1. Clinical Characteristics of Five Young Patients Presenting with Large-Vessel Stroke.*

Variable	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
Age — yr	33	37	39	44	49
Sex	Female	Male	Male	Male	Male
Medical history and risk factors for stroke†	None	None	Hyperlipidemia, hypertension	Undiagnosed diabetes	Mild stroke, diabetes
Medications	None	None	None	None	Aspirin (81 mg), atorvastatin (80 mg)
NIHSS score‡					
On admission	19	13	16	23	13
At 24 hr	17	11	4	19	11
At last follow-up	13 (on day 14)	5 (on day 10)	NA; intubated and sedated, with multiorgan failure	19 (on day 12)	7 (on day 4)
Outcome status	Discharged to rehabilitation facility	Discharged home	Intensive care unit	Stroke unit	Discharged to rehabilitation facility
Time to presentation — hr	28	16	8	2	8
Signs and symptoms of stroke	Hemiplegia on left side, facial droop, gaze preference, homonymous hemianopia, dysarthria, sensory deficit	Reduced level of consciousness, dysphasia, hemiplegia on right side, dysarthria, sensory deficit	Reduced level of consciousness, gaze preference to the right, left homonymous hemianopia, hemiplegia on left side, ataxia	Reduced level of consciousness, global dysphasia, hemiplegia on right side, gaze preference	Reduced level of consciousness, hemiplegia on left side, dysarthria, facial weakness
Vascular territory	Right internal carotid artery	Left middle cerebral artery	Right posterior cerebral artery	Left middle cerebral artery	Right middle cerebral artery
Imaging for diagnosis	CT, CTA, CTP, MRI	CT, CTA, MRI	CT, CTA, CTP, MRI	CT, CTA, MRI	CT, CTA, CTP
Treatment for stroke	Apixaban (5 mg twice daily)	Clot retrieval, apixaban (5 mg twice daily)	Clot retrieval, aspirin (81 mg daily)	Intravenous t-PA, clot retrieval, hemicraniectomy, aspirin (81 mg daily)	Clot retrieval, stent, aspirin (325 mg daily), clopidogrel (75 mg daily)
Covid-19 symptoms	Cough, headache, chills	No symptoms; recently exposed to family member with PCR-positive Covid-19	None	Lethargy	Fever, cough, lethargy
White-cell count — per mm ³	7800	9900	5500	9000	4900

Algunos ejemplos (experiencia de colegas fuera de Neiva) de pacientes pésimamente clasificados... TODOS RT PCR NEGATIVOS.

- **Caso 1:** 3d, fiebre, dolor en el hipocondrio derecho, ictericia, al ingreso inestable: DX: hepatitis por Covid 19, dx final: Piocolecisto-sdom (retraso de 5d para llevar a cx).
- **Caso 2:** dolor torácico súbito opresivo retroesternal, rx: edema pulmonar, supradesnivel del segmento ST DX: Covid 19 con manifestaciones cardiacas: Retraso del cateterismo cardiaco.
- **Caso 3:** (cosecha regional): 2 meses de fiebre, tos productiva y disnea. Rx torax cavitación apical derecha. Dx COVID 19: dx: tb pulmonar/ gasto innecesario de recursos epp por más de 5 días.

Delayed access or provision of care in Italy resulting from fear of COVID-19

Of this small series of 12 cases, half of the children were admitted to an ICU and four died. In all cases, parents reported avoiding accessing hospital because of fear of infection with SARS-CoV-2. Furthermore, in five cases, the family had contacted health services before accessing care, but their health provider was unavailable because of the COVID-19 epidemic, or hospital access was discouraged because of the possible risk of infection. All cases were either negative for SARS-CoV-2 or had a clinical

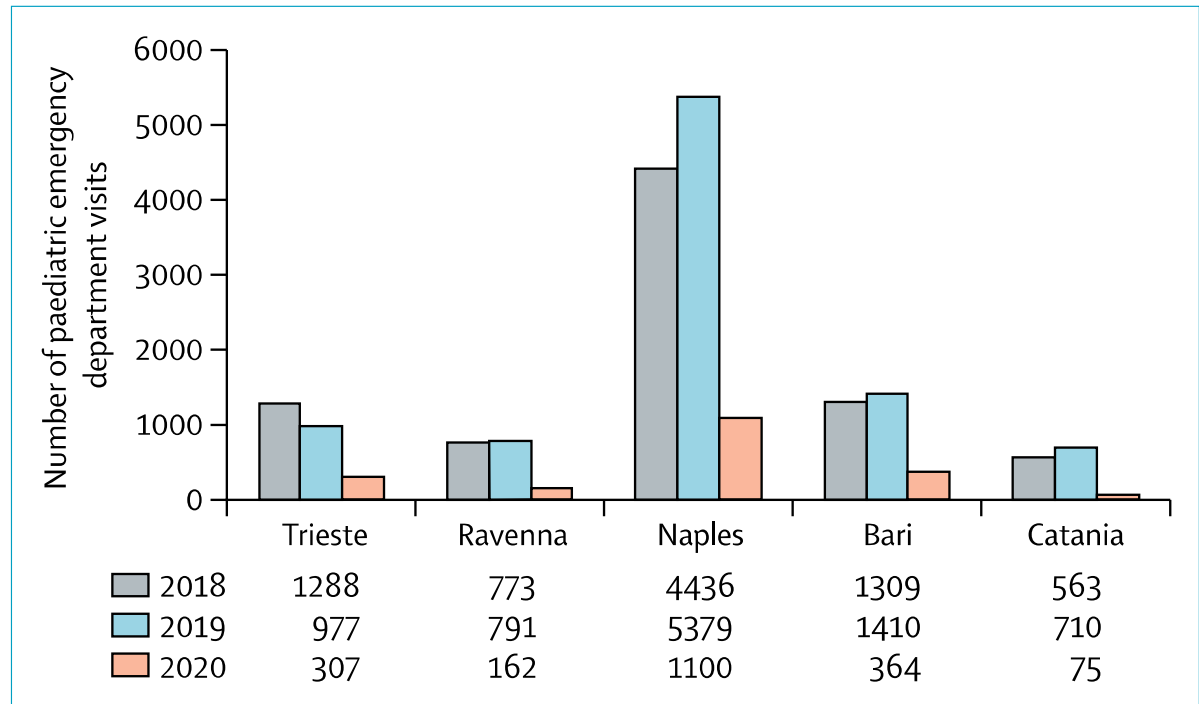


Figure: Visits to paediatric emergency departments across five hospitals in Italy, March 1–27, 2020, compared with the same period in 2018 and 2019

Data are official hospital statistics (courtesy of the authors).

M. Lazzerini. Delayed access or provision of care in Italy resulting from fear of COVID-19. *The Lancet* [Volume 4, ISSUE 5](#), e10-e11, May 01, 2020

Reduction in ST-Segment Elevation Cardiac Catheterization Laboratory Activations in the United States during COVID-19 Pandemic

Santiago Garcia, MD, Mazen S. Albaghdadi, MD, Perwaiz M. Meraj, MD, Christian Schmidt, MS, Ross Garberich, MS, MBA, Farouc A. Jaffer, MD, PhD, Simon Dixon, MBChB, Jeffrey J. Rade, MD, Mark Tannenbaum, MD, Jenny Chambers, MBA, Paul P. Huang, MD, MSc, Timothy D. Henry, MD



**Reducción en un
38% de
cateterismos
cardiacos en
IAMCEST**



PACIENTES NO COVID 19 TAMBIEN REQUIEREN USO DE EPP!!

ELEMENTOS DE PROTECCION PERSONAL								
ESCENARIO	MASCARILLA QUIRURGICA	N95	GUANTES NO ESTERILES	UNIFORME MAYO	BATA MANGA LARGA	PROTECCION OCULAR	GORRO	POLAINAS
COVID 19 SIN PGA*	SI	NO	SI	SI	SI	SI	OPCIONAL	OPCIONAL
COVID 19 CON PGA	NO	SI	SI	SI	SI	SI	OPCIONAL	OPCIONAL
COVID NO CONFIRMADO								
No Contacto, > 2 metros SIN PGA	SI	NO	NO	SI	NO	NO	NO	NO
No Contacto, > 2 metros CON PGA	NO	SI	NO	SI	NO	SI	NO	NO
Contacto < 2 metros CON o SIN clínica sospechosa Sin PGA	SI	NO	NO**	SI	NO	SI	NO	NO
Contacto < 2 metros CON o SIN clínica sospechosa con PGA	NO	SI	NO**	SI	NO	SI	OPCIONAL	OPCIONAL

*PGA: Procedimientos generador de aerosoles

**Valorar el riesgo de exposición a fluidos antes de iniciar proceso de atención

GRACIAS