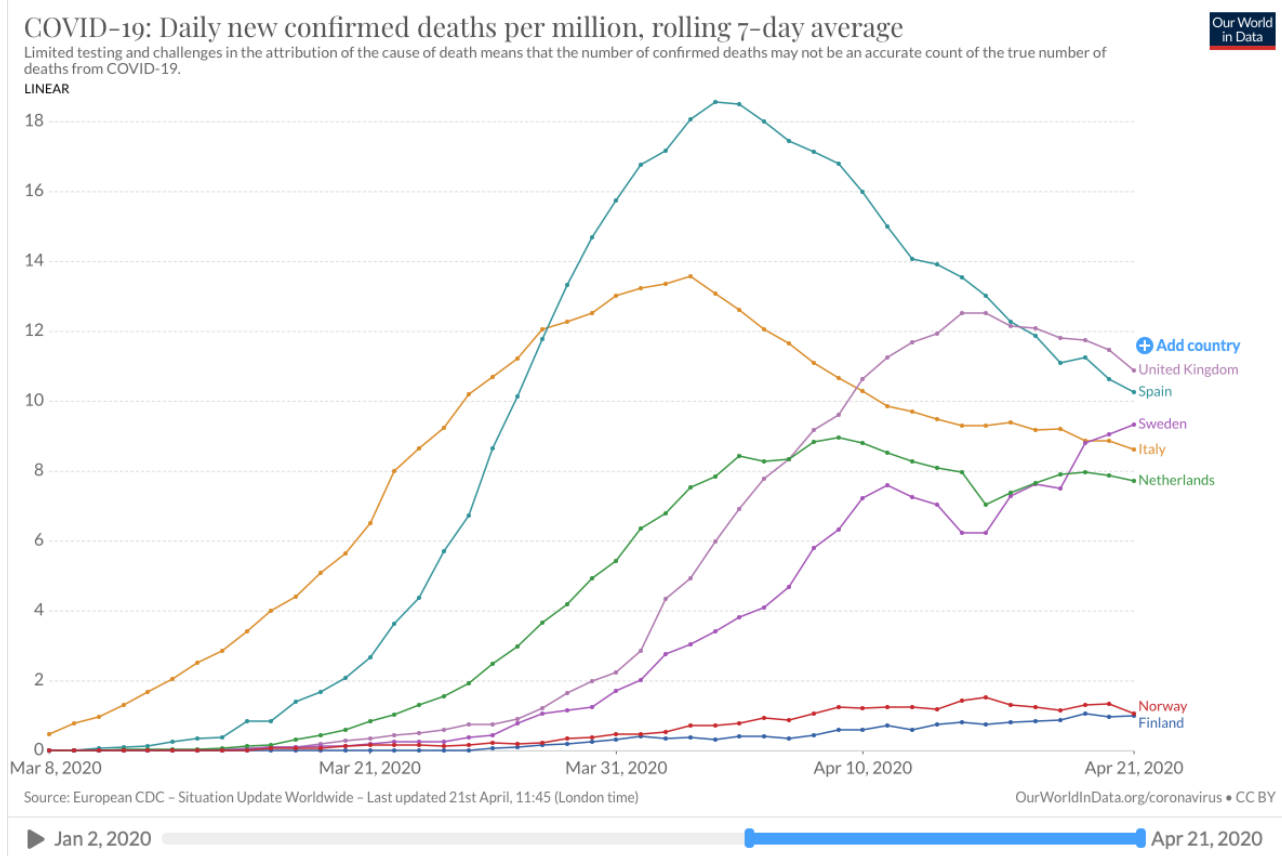


CENTENAS DE LINKS DE PESQUISA SOBRE COVID-19. CORONAVÍRUS É SIMILAR À GRIPE COMUM.



A imagem acima expõe um gráfico que mostra países que fizeram lockdown, com países que não fizeram lockdown, Reino Unido, Espanha, Suécia, Itália, Holanda, Noruega, Finlândia, na relação de óbitos com milhão de habitantes. No meio do gráfico, entre países que fizeram aparece a Suécia, que não fez lockdown. Ou seja, é empiricamente questionável a eficácia do lockdown. Abaixo 80 links diferentes que citam dados científicos, reportagens, opiniões diversas a fim de enriquecer o debate.

=====

“A melhor alternativa provavelmente implicará em deixar aqueles com baixo risco de doenças graves continuar trabalhando, manter os negócios e a manufatura em operação e "administrar" a sociedade, ao mesmo tempo em que aconselha indivíduos de alto risco a se proteger através do distanciamento físico e do aumentar nossa capacidade de assistência à saúde da forma mais agressiva possível. Com esse plano de batalha, poderíamos gradualmente criar imunidade sem destruir a estrutura financeira na qual nossas vidas se baseiam.”

MICHAEL T. OSTERHOLM, DIRECTOR OF THE CENTER FOR INFECTIOUS DISEASE RESEARCH AND POLICY AT THE UNIVERSITY OF MINNESOTA

No caso brasileiro, na contenção da epidemia do coronavírus, a quarentena (lockdown) parece uma péssima escolha. Algumas conclusões dos papers, estudos, artigos, reportagens cujos links estão expostos a seguir:

- (1) Covid-19 é similar à gripe comum em letalidade e em infecção, algo entre 0,01 e 0,4%. Em 2019 a gripe comum foi responsável por aproximadamente 400.000 óbitos no mundo todo.
- (2) A carga viral no indivíduo importa para o tempo de incubação. Quanto maior a carga, menor o tempo de incubação. Quanto menor a carga, maior o tempo de incubação
- (3) Há uma carga mínima necessária para iniciar uma infecção com sequelas clínicas ou subclínicas. Sem ultrapassar a dose viral mínima a infecção não se instala.
- (4) A longa exposição próxima entre grupos afeta e aumenta a quantidade de infectados.
- (5) A curta exposição próxima não parece afetar significativamente a quantidade de infectados.
- (6) Os lockdowns (quarentena) podem ter efeito perverso do aumento da dose de infecção da média, através de mais infecções pela família e menos por uso de bens comuns ao público, como corrimão, maçanetas etc.
- (7) O clima afeta a dispersão do vírus. Quanto quente e úmido sua dispersão é menor. Quanto mais frio e seco sua dispersão é maior.
- (8) Pode haver fatores responsáveis pelo aumento das taxas de mortalidade, como coinfeção, cuidados de saúde mais inadequados, dados demográficos dos pacientes. Ou seja, pacientes mais velhos podem ser mais prevalentes em países como a Itália.
- (9) Pode haver um aumento nas taxas de mortos à conta de tabagismo, hipertensão, diabetes, distúrbios cardíacos ou outras comorbidades;
- (10) Há diferenças na maneira como as mortes são atribuídas ao coronavírus, morrer **com** a doença (associação) não é o mesmo que morrer **da** doença (causa).
- (11) As medidas mais adequadas parecem ser distanciamento social, isolamento de vulneráveis e apoio ao sistema de saúde para que tenha aparato médico para atendimento dos enfermos.

A .ARTIGOS SELECIONADOS.

(A.1) Sobre similaridades com gripe comum, percentual de fatalidade próximo a 0,1%.

THE NEW ENGLAND JOURNAL OF MEDICINE. Covid-19 — Navigating the Uncharted. List of authors. Anthony S. Fauci, M.D., H. Clifford Lane, M.D., and Robert R. Redfield, M.D.:

“If one assumes that the number of asymptomatic or minimally symptomatic cases is several times as high as the number of reported cases, the case fatality rate may be considerably less than 1%.”

<https://www.nejm.org/doi/full/10.1056/NEJMe2002387>

“[T]he case fatality rate may be considerably less than 1%,” Fauci wrote in an article published in the New England Journal of Medicine on March 26. “This suggests that the overall clinical consequences of COVID-19 may ultimately be more akin to those of a severe seasonal influenza (which has a case fatality rate of approximately 0.1%) or a pandemic influenza (similar to those in 1957 and 1968) rather than a disease similar to SARS or MERS, which have had case fatality rates of 9 to 10% and 36%, respectively.”

(A.2) Letalidade próxima a 0,1%

Diamond Princess Mysteries. Willis Eschenbach / March 16, 2020. Guest Post by Willis Eschenbach

https://wattsupwiththat.com/2020/03/16/diamond-princess-mysteries/?fbclid=IwAR3fnXwtP_egzJPDr8XMyRysk2G3tGLo9C12d1FjfpY3ZyLWKT CJu8qPEL4

Estimating the infection and case fatality ratio for COVID-19 using age-adjusted data from the outbreak on the Diamond Princess cruise ship. Timothy W Russell^{1*}, Joel Hellewell^{1†}, Christopher I Jarvis^{1†}, Kevin Van Zandvoort^{1†}, Sam Abbott¹, Ruwan Ratnayake^{1,2}, CMMID COVID-19 working group, Stefan Flasche¹, Rosalind M Eggo¹, W John Edmunds¹, Adam J Kucharski¹. * corresponding author: timothy.russell@lshtm.ac.uk. 1 Centre for the Mathematical Modelling of Infectious Diseases, Department of Infectious Disease Epidemiology, London School of Hygiene and Tropical Medicine, London, United Kingdom. 2 Department of Infectious Disease Epidemiology, London School of Hygiene and Tropical Medicine, London, United Kingdom.

3 The members of the Centre for the Mathematical Modelling of Infectious Diseases (CMMID) COVID-19 working group are listed at the end of the article. † authors contributed equally

<https://www.medrxiv.org/content/10.1101/2020.03.05.20031773v2.full.pdf>

(A.3) Letalidade na Islândia entre 0,01% e 0,19%.

CEBM - The Centre for Evidence-Based Medicine develops, promotes and disseminates better evidence for healthcare. Global Covid-19 Case Fatality Rates. March 17, 2020. Jason Oke, Carl Heneghan. UPDATED 15th April 2020.

“Iceland’s higher rates of testing, the smaller population, and their ability to ascertain all those with Sars-CoV-2 means they can obtain an accurate estimate of the CFR and the IFR during the pandemic (most countries will only be able to do this after the pandemic). Current data from Iceland suggests their IFR is somewhere between 0.01% and 0.19%.”

https://www.cebm.net/covid-19/global-covid-19-case-fatality-rates/?fbclid=IwAR1gw5vwSfGb4KaQmpzdDd-9hzOuaBf_ZanmuxajeQu4jqKFdpLiP3n3kUc

(A.4) OMS. Estima assintomáticos e sintomáticos leves em 80%.

“While the range of symptoms for the two viruses is similar, the fraction with severe disease appears to be different. For COVID-19, data to date suggest that 80% of infections are mild or asymptomatic, 15% are severe infection, requiring oxygen and 5% are critical infections, requiring ventilation. These fractions of severe and critical infection would be higher than what is observed for influenza infection.”

<https://www.who.int/news-room/q-a-detail/q-a-similarities-and-differences-covid-19-and-influenza>

(A.5) Sobre limitações dos lockdowns

Modelling transmission and control of the COVID-19 pandemic in Australia. Sheryl L. Chang¹, Nathan Harding¹, Cameron Zachreson¹, Oliver M. Cliff¹, and Mikhail Prokopenko^{1,2,*}. Centre for Complex Systems, Faculty of Engineering, University of Sydney, Sydney, NSW 2006, Australia Marie Bashir Institute for Infectious Diseases and Biosecurity, University of Sydney, Westmead, NSW 2145, Australia. Corresponding author: mikhail.prokopenko@sydney.edu.au

<https://arxiv.org/abs/2003.10218v1>

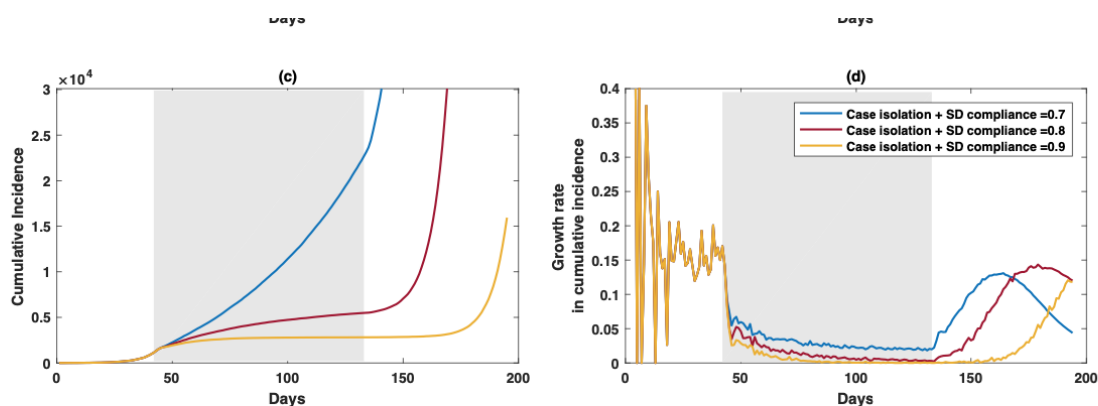


Figure 6: Strong compliance with social distancing (at 80% and above) effectively controls the disease during the suppression period, while lower levels of compliance (at 70% or less) do not succeed for any duration of the suppression. A comparison of social distancing strategies, coupled with case isolation, across different compliance levels (70%, 80% and 90%). Duration of each SD strategy is set to 91 days (13 weeks), shown as a shaded area. Case isolation and restrictions on international arrivals are set to last until the end of each scenario. Traces show incidence (a), prevalence (b), cumulative incidence (c), and the growth rate of cumulative incidence \dot{C} (d).

(A.6) Sobre eficácia de transmissão do vírus em reuniões em grupo.

What is the evidence for mass gatherings during global pandemics? On behalf of the Oxford COVID-19 Evidence Service Team. Centre for Evidence-Based Medicine, Nuffield Department of Primary Care Health Sciences. University of Oxford. Trip Database. Correspondence to david.nunan@phx.ox.ac.uk. David Nunan, John Brassey. 20/03/2020

<https://www.cebm.net/covid-19/what-is-the-evidence-for-mass-gatherings-during-global-pandemics/>

PDF: https://www.cebm.net/wp-content/uploads/2020/03/Mass-gatherings-and-sporting-events-during-a-pandemic_PDF-template-4.pdf

(A.7) Temperatura do ambiente e sua influência perante o covid.

Do weather conditions influence the transmission of the coronavirus (SARS-CoV-2)? March 23, 2020. Jon Brassey, Carl Heneghan, Kamal R. Mahtani, Jeffrey K. Aronson. On behalf of the Oxford COVID-19 Evidence Service Team. Centre for Evidence-Based Medicine, Nuffield Department of Primary Care Health Sciences. University of Oxford. Correspondence to jon.brassey@tripdatabase.com. 22nd March 2020.

<https://www.cebm.net/covid-19/do-weather-conditions-influence-the-transmission-of-the-coronavirus-sars-cov-2/>

PDF: https://www.cebm.net/wp-content/uploads/2020/03/Do-weather-conditions-influence-the-transmission-of-the-novel-coronavirus-2019-nCoV_.pdf

<https://www.medrxiv.org/content/10.1101/2020.04.12.20059618v1.full.pdf>

(A.8) Modelo matemático para projeção de epidemia. Corrige erros do Imperial College. Mathematical Modeling of Epidemic Diseases; A Case Study of the COVID-19

Coronavirus. Reza Sameni* Grenoble, France Revision: 10 April 2020

<https://arxiv.org/pdf/2003.11371.pdf>

(A.10) Pesquisa em Boston

COVID-19 outbreak at a large homeless shelter in Boston: Implications for universal testing. Authors: Travis P. Baggett, MD, MPH (1) Harrison Keyes, MPAS, PA-C (1) Nora Sporn, MA, MPH (2). Jessie M. Gaeta, MD (1). Affiliations: 1. Institute for Research, Quality, and Policy in Homeless Health Care, Boston Health Care for the Homeless Program, Boston, MA. 2. Division of General Internal Medicine, Massachusetts General Hospital, Boston, MA. Corresponding Author: Travis P. Baggett, MD, MPH. 100 Cambridge Street, 16th Floor Boston, MA 02114. Phone: 617-643-9314. Fax: 617-726-4120 tbaggett@mgh.harvard.edu.

<https://www.medrxiv.org/content/10.1101/2020.04.12.20059618v1.full.pdf>

(A.11) Perspectives on the Pandemic | Dr John Ioannidis of Stanford University | Episode 1

<https://youtu.be/d6MZy-2fcBw>

(A.12) Perspectives on the Pandemic | Professor Knut Wittkowski | Episode 2

<https://youtu.be/lGC5sGdz4kg>

(A.12) Morte por milhões de habitantes. Comparação de países europeus.

<https://ourworldindata.org/grapher/daily-covid-deaths-per-million-7-day-average?country=ITA+ESP+GBR+KOR+SWE+FIN+NLD+DNK+NOR>

(A.13) Oito razões para acabar com lockdown:

<http://demchuk.com.br/2020/04/12/oito-razoes-para-acabar-com-os-lockdowns-agora/>

(A.14) Especialistas médicos contra medidas draconianas por conta do covid-19

<https://www.aier.org/article/800-medical-specialists-caution-against-draconian-measures/>

(A.15) Entrevista do Dr Shiva Ayyadurai:

[#CORONAVIRUS](#) UPDATE: Dr. Shiva Ayyadurai and Stefan Molyneux

<https://www.youtube.com/watch?v=5I46oExp5L0&feature=youtu.be>

(A.15) Entrevista do Dr Wong na CNN:

<https://www.facebook.com/Paulo.Demchuk/videos/2552821285046014/>

(A.16) Entrevista com Dra Birx, White House:

<https://www.facebook.com/Paulo.Demchuk/videos/2553764594951683/>

(A.17) Demonstração da pouca confiabilidade dos dados disponíveis:

<https://www.nationalreview.com/corner/coronavirus-pandemic-projection-models-proving-unreliable/>

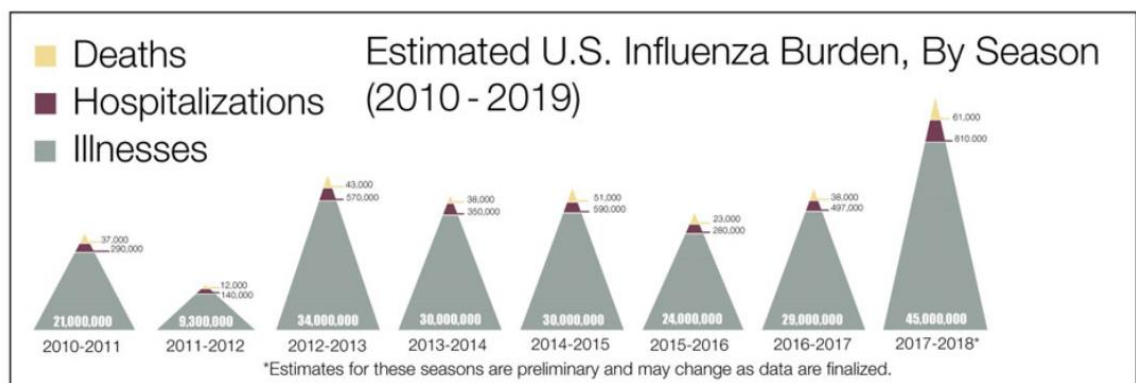
To compare, the CDC estimates that **61,000 people died from the flu** in the extraordinarily bad 2017–2018 period. It has become fashionable to ridicule flu comparisons, but they are surely relevant, even if it is true that coronavirus is more readily transmissible and has a higher fatality rate. For this year, the CDC projects that flu deaths will range between 24,000 and 63,000, and that hospitalizations could surge as high as 730,000 (out of the 18 to 26 million people who are treated for flu, out of as many as 55 million Americans who experience flu-related illnesses). We don't shut the country down for that.

157

(A.18) Dados sobre epidemia de gripe, mais mortais que covid. Nos EUA, 60.000 pessoas morreram de gripe comum na temporada 2017-2018 de gripe comum.

<https://www.cdc.gov/flu/about/burden/index.html>

Figure 2: Estimated U.S. Influenza Burden, By Season



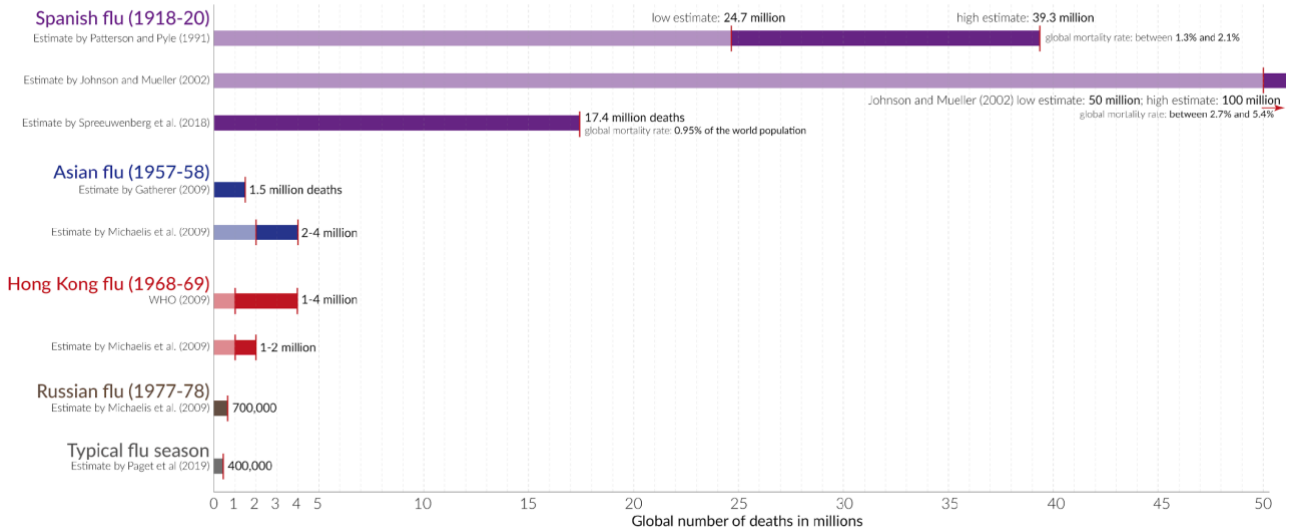
(A.19) Dados sobre morte por gripe (influenza). Morrem 400.000 pessoas ao ano de gripe comum.

[Influenza-pandemics-in-comparison-1.png 3.000x1.474 pixels](#)

Global number of deaths from influenza pandemics

Estimates from different research publications for 4 pandemics.

Our World
in Data



OurWorldinData.org - Research and data to make progress against the world's largest problems.

Licensed under CC-BY by the author Max Roser

(A.20) Lockdown não funciona e quebrar a economia não é bom. CEBM, o maior centro de estudos empíricos em medicina do planeta.

CEBM The Centre for Evidence-Based Medicine develops, promotes and disseminates better evidence for healthcare.

<https://www.cebm.net/2020/03/covid-19-the-tipping-point/>

(A.21) Crianças não transmitem infecção

CHILDREN ARE UNLIKELY TO HAVE BEEN THE PRIMARY SOURCE OF HOUSEHOLD SARS-COV-2 INFECTIONS

<https://www.medrxiv.org/content/10.1101/2020.03.26.20044826v1>

(A.22) Coronavírus: Médicos defendem 'abordagem cirúrgica' em vez de lockdown indefinido Geraldo Samor e Pedro Arbex. 22/03/2020 às 18h24

<https://braziljournal.com/coronavirus-medicos-defendem-abordagem-cirurgica-em-vez-de-lockdown-indefinido>

(A.23) Reportagem sobre a queda nas projeções de mortos.

<https://www.foxnews.com/politics/trump-says-country-near-the-peak-of-coronavirus-outbreak-death-toll-should-be-under-100000>

Trump went on to say that “if you have 60,000 deaths, you can never be happy, but that’s a lot fewer than we were originally thinking.”

The “60,000” figure comes from updates to modeling, and a projection by Dr. Anthony Fauci, the director of the National Institute of Allergy and Infectious Diseases.

(A.24) Ventiladores podem estar aumentando o número de mortos.

AP Top News. Understanding the Outbreak. Some doctors moving away from ventilators for virus patients. By MIKE STOBBE. April 8, 2020

<https://apnews.com/8ccd325c2be9bf454c2128dcb7bd616d>

B. MEDICINA

(B.1) ARTIGO. Michael T. Osterholm, director of the Center for Infectious Disease Research and Policy at the University of Minnesota: Estamos em território desconhecido. Mas a melhor alternativa provavelmente implicará em deixar aqueles com baixo risco de doenças graves continuar trabalhando, manter os negócios e a manufatura em operação e "administrar" a sociedade, ao mesmo tempo em que aconselha indivíduos de alto risco a se proteger através do distanciamento físico e do aumentar nossa capacidade de assistência à saúde da forma mais agressiva possível. Com esse plano de batalha, poderíamos gradualmente criar imunidade sem destruir a estrutura financeira na qual nossas vidas se baseiam.

MICHAEL T. OSTERHOLM, DIRECTOR OF THE CENTER FOR INFECTIOUS DISEASE RESEARCH AND POLICY AT THE UNIVERSITY OF MINNESOTA.

We are in uncharted territory. But the best alternative will probably entail letting those at low risk for serious disease continue to work, keep business and manufacturing operating, and “run” society, while at the same time advising higher-risk individuals to protect themselves through physical distancing and ramping up our health-care capacity as aggressively as possible. With this battle plan, we could gradually build up immunity without destroying the financial structure on which our lives are based

<https://www.washingtonpost.com/opinions/2020/03/21/facing-covid-19-reality-national-lockdown-is-no-cure/>

(B.2) Fechamento de Escolas. Equívoco.

The Lancet. School closure and management practices during coronavirus outbreaks including COVID-19: a rapid systematic review. Prof Russell M Viner, PhD. Simon J Russell, PhD. Helen Croker, PhD. Jessica Packer, MEpi. Joseph Ward, MBBS. Claire Stansfield, PhD et al. Published: April 06, 2020 DOI: [https://doi.org/10.1016/S2352-4642\(20\)30095-X](https://doi.org/10.1016/S2352-4642(20)30095-X)

[https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642\(20\)30095-X/fulltext](https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642(20)30095-X/fulltext)

(B.3) Johns Hopkins. Diferença de taxas de mortalidade em dezenas de países ao redor do mundo.

<https://coronavirus.jhu.edu/data/mortality>

(B.4) Estatística pouco confiável com elevada chance de erro político.

<https://www.statnews.com/2020/03/17/a-fiasco-in-the-making-as-the-coronavirus-pandemic-takes-hold-we-are-making-decisions-without-reliable-data/>

(B.5) Fatos sobre o covid.

<https://www.instagram.com/p/B-BKpEip74a/?igshid=1m0qvqnpelsz4>

(B.6) Visual capitalist exhibe diferenças entre diversas epidemias ao longo da história.

https://www.visualcapitalist.com/history-of-pandemics-deadliest/?_lrsc=79b09bc0-97c0-472b-819d-70fd77e21dd7&cid=other-soc-lke

(B.7) Universidade de Oxford. Pesquisas mais atuais sobre covid-19.

<http://www.ox.ac.uk/news-and-events/coronavirus-research>

(B.8) Estudo sobre o efeitos da cadeia de hemoglobina em relação ao covid-19.

COVID-19: Attack of the 1-Beta Chain of Hemoglobin and Captures the Porphyrin to Inhibit Human Heme Metabolism. Wenzhong Liu^{1,2,*}, Hualan Li² School of Computer Science and Engineering, Sichuan University of Science & Engineering, Zigong, 643002, China; ²School of Life Science and Food Engineering, Yibin University, Yibin, 644000, China; * Correspondence: liuwz@suse.edu.cn;

https://chemrxiv.org/articles/COVID-19_Disease_ORF8_and_Surface_Glycoprotein_Inhibit_Heme_Metabolism_by_Binding_to_Porphyrin/11938173/5

(B.9) PAPER: Distribuição de carga viral em epidemia de sars: (a) houve surto comunitário, (b) em complexo residencial com arranha-céus em Hong-Kong, (c) maior carga viral nasofaríngea foi encontrada em pacientes que moravam em unidades adjacentes do mesmo bloco habitadas pelo paciente índice, (d) carga viral nasofaríngea menor, porém detectável, foi encontrada em pacientes que moravam mais longe do paciente índice, (e) esse padrão de carga viral nasofaríngea sugeria que a transmissão aérea desempenhava um papel importante nesse surto em Hong Kong, (f) objetos contaminados e pragas de roedores também podem ter desempenhado um papel.

VIRAL LOAD DISTRIBUTION IN SARS OUTBREAK. Emerg Infect Dis. 2005 Dec; 11(12): 1882–1886. doi: 10.3201/eid1112.040949. PMID: 16485474. Chung-Ming Chu,* Vincent C.C. Cheng,† Ivan F.N. Hung,† Kin-Sang Chan,* Bone S.F. Tang,† Thomas H.F. Tsang,‡ Kwok-Hung Chan,† and Kwok-Yung Yuen corresponding author†

An unprecedented **community** outbreak of severe acute respiratory syndrome (SARS) occurred in the Amoy Gardens, a high-rise residential complex in Hong Kong. Droplet, air, contaminated fomites, and rodent pests have been proposed to be mechanisms for transmitting SARS in a short period. We studied nasopharyngeal viral load of SARS patients on admission and their geographic distribution. Higher nasopharyngeal viral load was found in patients living in adjacent units of the same block inhabited by the index patient, while a lower but detectable nasopharyngeal viral load was found in patients living further away from the index patient. This pattern of nasopharyngeal viral load suggested that airborne transmission played an important part in this outbreak in Hong Kong. Contaminated fomites and rodent pests may have also played a role.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3367618/>

(B.10) PAPER. Carga mínima viral. (a) determinação da dose mínima de partículas virais que pode iniciar a infecção, (b) foi demonstrado que a presença de anticorpos preexistentes afeta a dose infecciosa e protege contra a reinfecção em muitos, mas não em todos os vírus, (c) a maioria dos vírus respiratórios parece ser tão infecciosa em humanos quanto na cultura de tecidos, (d) foi relatado que doses de <1 TCID₅₀ de vírus da gripe, rinovírus e adenovírus infectam 50% da população testada, (e) baixas doses dos vírus entéricos, norovírus, rotavírus, echovírus, poliovírus e vírus da hepatite A causaram infecção em pelo menos alguns dos voluntários testados, (f) vários fatores podem influenciar a infectividade dos vírus em voluntários humanos infectados experimentalmente, isso inclui fatores hospedeiros e patógenos, bem como a metodologia experimental.

MINIMUM INFECTIVE DOSE OF THE MAJOR HUMAN RESPIRATORY AND ENTERIC VIRUSES TRANSMITTED THROUGH FOOD AND THE ENVIRONMENT. Article (PDF Available) in Food and Environmental Virology 3(1):1-30 · March 2011 with 3,778 Reads. DOI: 10.1007/s12560-011-9056-7. Saber Yezli - Ministry of Health Saudi Arabia. Jon Otter at Imperial College Healthcare NHS Trust. TY - JOUR. AU - Yezli, Saber. AU - Otter, Jon. PY - 2011/03/01. SP - 1. EP - 30 N2 - Viruses are a significant cause of morbidity and mortality around the world. Determining the **minimum dose of virus** particles that can initiate infection, termed the minimum infective dose (MID), is important for the development of risk assessment models in the fields of food and water treatment and the implementation of appropriate infection control strategies in healthcare settings. Both respiratory and enteric viruses can be shed at high titers from infected individuals even when the infection is asymptomatic. Presence of pre-existing antibodies has been shown to affect the infectious dose and to be protective against reinfection for many, but not all viruses. **Most respiratory viruses appear to be as infective in humans as in tissue culture. Doses of <1 TCID₅₀ of influenza virus, rhinovirus, and adenovirus were reported to infect 50% of the tested population. Similarly, low doses of the enteric viruses, norovirus, rotavirus, echovirus, poliovirus, and hepatitis A virus, caused infection in at least some of the volunteers tested.** A number of factors may influence viruses' infectivity in experimentally infected human volunteers. These include host and pathogen factors as well as the experimental methodology. As a result, the reported infective doses of human viruses have to be interpreted with caution.

https://www.researchgate.net/publication/227225392_Minimum_Infective_Dose_of_the_Major_Human_Respiratory_and_Enteric_Viruses_Transmitted_Through_Food_and_the_Environment

(B.11) PAPER: Alta mortalidade na infância correlacionada à intensidade da exposição. (a) em uma comunidade urbana da África Ocidental, a infecção por sarampo em bebês foi examinada por cinco anos (1979-1983), (b) na faixa etária de 0 a 11 meses, a mortalidade por sarampo foi maior entre os casos secundários (infectados em casa) do que entre os índices (infectados fora de casa), e a proporção de casos secundários foi significativamente maior para esse grupo etário do que para crianças mais velhas, (c) a

exposição intensiva relacionada ao padrão social de transmissão da doença pode ser importante para explicar a alta mortalidade infantil observada com sarampo nos países em desenvolvimento, (d) mortalidade durante os primeiros 12 meses de vida aumentou com a idade, presumivelmente por causa da diminuição dos anticorpos maternos derivados do sarampo, (e) em crianças com menos de 6 meses de idade, geralmente consideradas protegidas por anticorpos maternos, a exposição intensiva pode levar à infecção, como demonstrado por um alto nível de anticorpos específicos para o sarampo em algumas crianças **expostas a um irmão mais velho com sarampo**, (f) objetivo das políticas de saúde pública deve ser alterar as condições de exposição.

HIGH MEASLES MORTALITY IN INFANCY RELATED TO INTENSITY OF EXPOSURE. Aaby P, Bukh J, Hoff G, Leerhøy J, Lisse IM, Mordhorst CH, Pedersen IR. *J Pediatr.* 1986 Jul;109(1):40-4. Abstract. In a West African urban community, measles infection in infants was examined over 5 years (1979-1983). In the age group 0 to 11 months, measles mortality was higher among secondary cases (infected in the house) than among index cases (infected outside the house), and the proportion of secondary cases was significantly higher for this age group than for older children. Intensive exposure related to the social pattern of disease transmission may be important in explaining the high infant mortality observed with measles in developing countries. Mortality during the first 12 months of life increased with age, presumably because of the decrease of maternally derived measles antibodies. In children younger than 6 months of age, who are usually considered to be protected by maternal antibody, **intensive exposure may lead to infection, as demonstrated by a high level of measles-specific antibodies in some children exposed to an older sibling with measles.** The aim of public health policies should be to change conditions of exposure. PMID: 3723239 DOI: 10.1016/s0022-3476(86)80569-8. [Indexed for MEDLINE]

<https://www.ncbi.nlm.nih.gov/pubmed/3723239>

(B.12) PAPER. (a) foram estudados os aspectos clínicos e virológicos da resposta dos gatos às infecções intranasais com várias doses de Rinotraqueíte Viral Felina (FVR), (b) gatos inoculados com doses de 102, 103, 105 ou 107 CCID₅₀ de vírus desenvolveram uma síndrome respiratória superior característica, enquanto uma dose de 101 CCID₅₀ não conseguiu estabelecer uma infecção, (c) embora a variação individual na resposta tenha sido bastante acentuada, foi demonstrado que um aumento na dose viral infectante estava correlacionado com uma diminuição na duração do período de incubação antes do início da pirexia, outros sinais clínicos e excreção viral, (d) embora o aumento da dose viral pareça estar diretamente relacionado à gravidade dos sinais clínicos, essa relação foi estatisticamente significativa apenas para dispneia, (e) havia alguma indicação de um efeito de um aumento na infecção da dose viral na duração da excreção viral subsequente, (f) foi encontrada uma relação significativa entre a duração da excreção viral e a gravidade da síndrome resultante. As respostas sorológicas dos gatos à FVR foram geralmente de baixa magnitude. A proporção de animais infectados com anticorpos neutralizantes aumentou de 6 de 15 (40%) em 16 a 20 PID, para 11 de 15 (73%) em 30 a 34 PID.

THE DOSE RESPONSE OF CATS TO EXPERIMENTAL INFECTION WITH FELINE VIRAL RHINOTRACHEITIS VIRUS. *Journal of Comparative Pathology.* Volume 89, Issue 2, April 1979, Pages 179-191. Author links open overlay panel R.M.Gaskell R.C.Povey*.

Show more: [https://doi.org/10.1016/0021-9975\(79\)90057-4](https://doi.org/10.1016/0021-9975(79)90057-4) Get rights and content

Abstract. The clinical and virological aspects of the response of cats to intranasal infections with various doses of Feline Viral Rhinotracheitis (FVR) were studied. Cats inoculated with doses of 102, 103, 105, or 107 CCID₅₀ of virus developed a characteristic upper respiratory syndrome whereas a dose of 101 CCID₅₀ failed to establish an infection. Although individual variation in the response was quite marked, it was shown that an increase in the infecting viral dose was correlated with a decrease in the length of the incubation period before onset of pyrexia, other clinical signs and viral excretion. Although increasing viral dose appeared to be directly related to the severity of the clinical signs, this relationship was only found to be statistically significant for dyspnoea. **There was some indication of an effect of an increase in infecting viral dose on the duration of the subsequent viral excretion. A significant relationship was found between the duration of viral excretion and the severity of the resultant syndrome.** The serological responses of the cats to FVR were generally of low magnitude. The proportion of infected animals with neutralizing antibody titres rose from 6 of 15 (40 per cent) by PID 16 to 20, to 11 of 15 (73 per cent) by PID 30 to 34.

<https://www.sciencedirect.com/science/article/abs/pii/0021997579900574>

(B.13) PAPER. Carga viral mínima infecciosa. (a) o potencial de disseminação de doenças virais e outras doenças infecciosas é uma função da **carga necessária** para iniciar uma infecção com sequelas clínicas ou subclínicas, (b) isso é especialmente importante para a disseminação ambiental, onde geralmente se supõe que a diluição e a morte natural desempenham papéis proeminentes no controle da doença, (c) uso de desinfetantes e outros métodos de destruição de patógenos são comuns em certos casos, mas muitas vezes alguns sobreviventes acabam encontrando rotas de volta para seus hospedeiros, (d) a importância da **carga infecciosa mínima** é, portanto, evidente.

MINIMUM INFECTIVE DOSE OF ANIMAL VIRUSES. Richard L. Ward , Elmer W. Akin & Donn J. D'Alessio. Pages 297-310 | Published online: 09 Jan 2009

Download citation <https://doi.org/10.1080/10643388409381721>

The potential for spread of viral and other infectious diseases is a function of the dose required to initiate an infection with either clinical or sub-clinical sequelae. This is especially important for environmental spread where dilution and natural die-off are generally assumed to play prominent roles in the control of disease. The use of disinfectants and other methods of pathogen destruction are common in certain instances but often a few survivors will eventually find routes back to their hosts. **The importance of the minimum infectious dose is, therefore, evident. This report will review studies on the doses of different viruses required to initiate infection in animals and man.**

<https://www.tandfonline.com/doi/abs/10.1080/10643388409381721>

(B.14) PAPER: Efeito da carga viral em experimento com pneumonia. O efeito de várias doses de aerossol do herpesvírus bovino 1, seguido quatro dias depois pela exposição ao aerossol a um nível constante de *Pasteurella haemolytica*, foi estudado em 16 bezerros mestiços da linha Hereford. Utilizou-se um nebulizador de colisão para

gerar aerossóis a partir de suspensões de vírus com concentrações de 10 (8,2) (alta), 10 (5,2) (moderada) ou 10 (2,2) (baixa) TCID₅₀ / mL. A suspensão bacteriana continha 10 (7) unidades formadoras de colônias / mL. Os bezerros expostos apenas a *P. haemolytica* não desenvolveram lesões pulmonares. Os bezerros dos grupos de baixa, moderada e alta exposição ao vírus desenvolveram áreas lobulares de atelectasia; além disso, um bezerro no grupo moderado e os quatro no grupo com alta exposição ao vírus desenvolveram pneumonia fibrinosa. Um dos últimos bezerros morreu. A dose eficaz de 50% para pneumonia fibrinosa sob essas condições experimentais foi de 10 (6.0) herpesvírus bovino TCID₅₀ 1 / mL de suspensão no reservatório do nebulizador e aproximadamente 10 (4,0) unidades infecciosas inaladas por bezerro.

EFFECT OF VIRAL DOSE ON EXPERIMENTAL PNEUMONIA CAUSED BY AEROSOL EXPOSURE OF CALVES TO BOVINE HERPESVIRUS 1 AND PASTEURILLA HAEMOLYTICA. W D Yates, K W Jericho, and C E Doige. This article has been corrected. See *Can J Comp Med.* 1983 April; 47(2): 171. This article has been cited by other articles in PMC. Abstract: The effect of various aerosol doses of bovine herpesvirus 1, followed four days later by aerosol exposure to a constant level of *Pasteurella haemolytica*, was studied in 16 crossbred Hereford range calves. A Collision nebulizer was used to generate aerosols from virus suspensions with concentrations of 10(8.2) (high), 10(5.2) (moderate) or 10(2.2) (low) TCID₅₀/mL. The bacterial suspension contained 10(7) colony forming units/mL. Control calves exposed only to *P. haemolytica* developed no pulmonary lesions. Calves in the low, moderate and high virus exposure groups developed lobular areas of atelectasis; in addition, one calf in the moderate and all four in the high virus exposure group developed fibrinous pneumonia. One of the latter calves died. The 50% effective dose for fibrinous pneumonia under these experimental conditions was 10(6.0) TCID₅₀ bovine herpesvirus 1/mL of suspension in the nebulizer reservoir, and approximately 10(4.0) infectious units inhaled per calf.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1235885/>

(B.15) ARTIGO. O que afeta a razão dos casos de fatalidade? (a) o número de casos detectados pelo teste varia consideravelmente por país; (b) viés de seleção pode significar que aqueles com doença grave são testados preferencialmente; (c) pode haver atrasos entre o início dos sintomas e as mortes, o que pode levar à subestimação da CFR; (d) pode haver fatores responsáveis pelo aumento das taxas de mortalidade, como coinfeção, cuidados de saúde mais inadequados, dados demográficos dos pacientes (ou seja, pacientes mais velhos podem ser mais prevalentes em países como a Itália); (e) Pode haver um aumento nas taxas de tabagismo ou comorbidades entre as mortes; (f) Diferenças na maneira como as mortes são atribuídas ao Coronavírus: morrer com a doença (associação) não é o mesmo que morrer da doença (causa).

WHAT IS AFFECTING THE CASE FATALITY RATE? CEBM - The Centre for Evidence-Based Medicine develops, promotes and disseminates better evidence for healthcare. Global Covid-19 Case Fatality Rates. March 17, 2020. Updated 28th March. Jason Oke, Carl Heneghan.

The number of cases detected by testing will vary considerably by country; Selection bias can mean those with severe disease are preferentially tested; There may be delays between symptoms onset and deaths which can lead to underestimation of the CFR; There may be factors that account for increased death rates such as coinfection, more

inadequate healthcare, patient demographics (i.e., older patients might be more prevalent in countries such as Italy); There may be increased rates of smoking or comorbidities amongst the fatalities.

Differences in how deaths are attributed to Coronavirus: dying with the disease (association) is not the same as dying from the disease (causation).

What is affecting the case fatality rate?

- The number of cases detected by testing will vary considerably by country;
- [Selection bias](#) can mean those with severe disease are preferentially tested;
- There may be delays between symptoms onset and deaths which can lead to underestimation of the CFR;
- There may be factors that account for increased death rates such as coinfection, more inadequate healthcare, patient demographics (i.e., older patients might be more prevalent in countries such as Italy);
- There may be increased rates of smoking or comorbidities amongst the fatalities.
- Differences in how deaths are attributed to Coronavirus: dying with the disease (association) is not the same as dying from the disease (causation).

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

C. ESTATÍSTICA

(C.1) CORONAVIRUS - SITE DO GOVERNO BRASILEIRO - MINISTÉRIO DA SAÚDE

<https://covid.saude.gov.br>

(C.2) Boletins de Saúde do governo brasileiro.

<https://www.saude.gov.br/boletins-epidemiologicos>

<https://www.saude.gov.br/images/pdf/2020/April/09/be-covid-08-final-2.pdf>

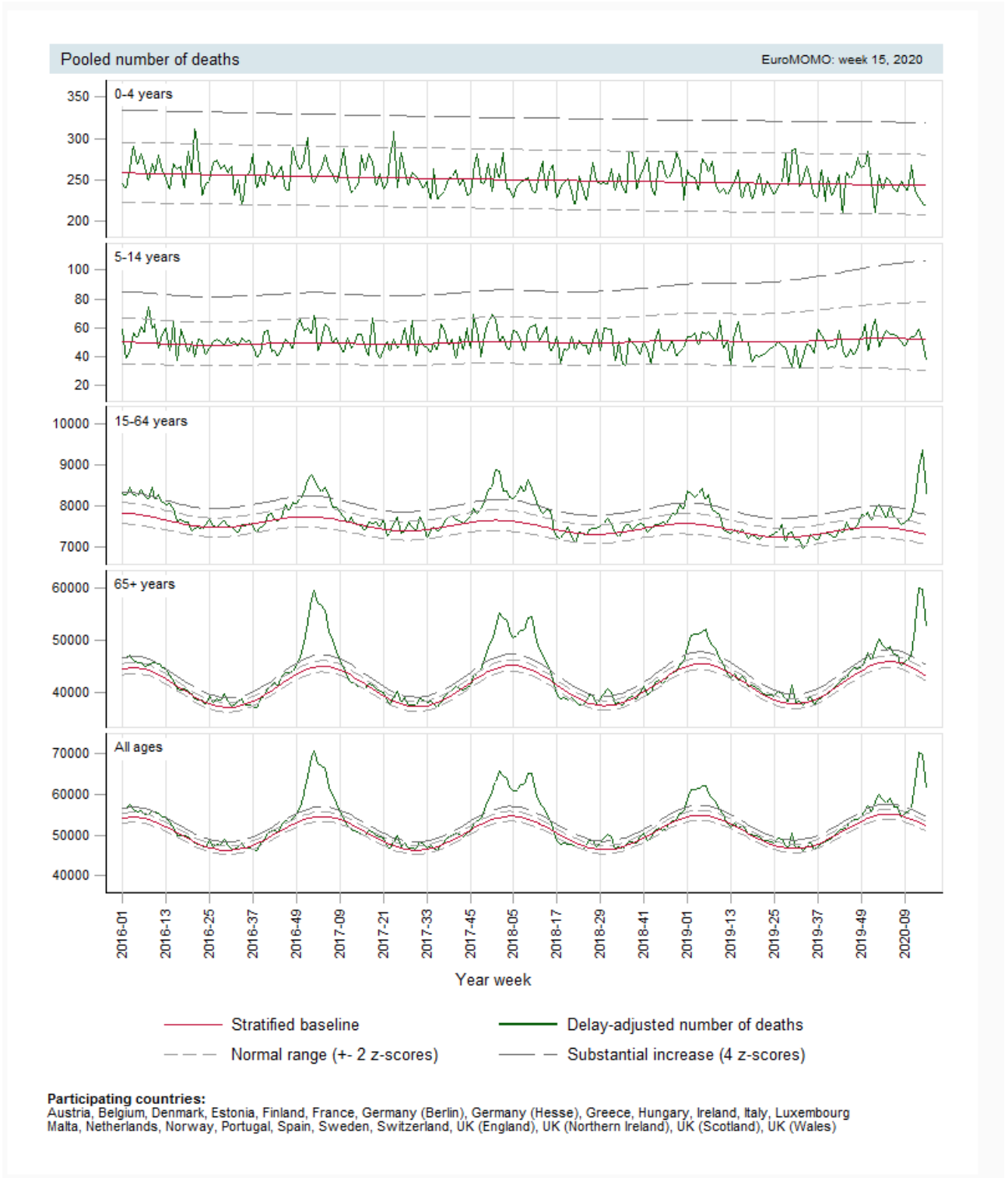
<https://www.who.int/news-room/q-a-detail/q-a-similarities-and-differences-covid-19-and-influenza>

<https://www.saude.gov.br/boletins-epidemiologicos>

(C.3) Evolução de mortes na Europa. Coronavirus não afetou a média. Inclusive, a epidemia de ano de 2016 foi mais grave que a de covid-19 no ano de 2020.

http://www.euromomo.eu/?fbclid=IwAR1LON5RealJPICGXM7KJoMiQAzapYWhQg89I9JMkHobsKh_RX4miL78p7c

http://euromomo.eu/bulletin_pdf/2020/2020_15_bulletin.pdf?fbclid=IwAR1YExZqa74Hw9n9hcZ9EzB0a6xIX4FKi3uM8OZuckaKtbFemkKx3dW9CNI



(C.4) Centro europeu com dados da epidemia ao redor do planeta.

<https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases>

(C.5) Covid tracker.

https://www.bing.com/covid?fbclid=IwAR1Jo9f81skFyzIIMu4_86ebtQ-Kq832OBafMY9mrAbS9XaNtsBPpdkTjs8

(C.6) Our World in Data

<https://ourworldindata.org/coronavirus>

<https://ourworldindata.org/coronavirus-data>

<https://ourworldindata.org/coronavirus-testing-source-data>

<https://ourworldindata.org/grapher/daily-cases-covid-19?time=32..66&country=BRA+ITA+ESP+DEU>

<https://ourworldindata.org/grapher/daily-cases-covid-19?time=23..77&country=BRA+DEU+ITA+ESP+SWE+CHE+GBR+KOR>

(C.7) Site que contabiliza mortes em todo o planeta.

<https://www.worldometers.info/coronavirus/>

<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.25.10.2000180>

<https://www.linkedin.com/pulse/coronavirus-mortality-reality-check-david/>

(C.8) CDC/ Site informativo sobre doenças nos EUA:

<https://www.cdc.gov/nchs/fastats/deaths.htm>

<https://www.cdc.gov/flu/weekly/#S6>

https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_09-508.pdf

(C.8) Estudos do Imperial College.

Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand. 16 March 2020 Imperial College COVID-19 Response Team

https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-NPI-modelling-16-03-2020.pdf?fbclid=IwAR0VbbBXM1BCnZMH2E25IzpDXYAspbJbU4A5yAJW5N9vHzwa3agKVhu_Syc

(C.9) The Global Impact of COVID-19 and Strategies for Mitigation and Suppression. 26 March 2020 Imperial College COVID-19 Response Team

<https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-Global-Impact-26-03-2020.pdf>

(C.10) COVID-19 Science Update for March 24th: Counting Cases and Deaths. written by Jonathan Kay. Published on March 24, 2020

<https://quillette.com/2020/03/24/covid-19-statistical-and-science-update-for-march-24/>

(C.11) Relatório sobre mortos na Itália, idade, comorbidades.

Report sulle caratteristiche dei pazienti deceduti positivi a COVID-19 in Italia Il presente report è basato sui dati aggiornati al 17 Marzo 2020.

https://www.epicentro.iss.it/coronavirus/bollettino/Report-COVID-2019_17_marzo-v2.pdf

(C.12) Projeções do Imperial College.

<https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-Global-unmitigated-mitigated-suppression-scenarios.xlsx>

(C.12) Covid-19 no Reino Unido..

COVID-19 is no longer considered to be a high consequence infectious disease (HCID) in the UK.

<https://www.gov.uk/guidance/high-consequence-infectious-diseases-hcid?fbclid=IwAR3jpBuFaXLqnBci5SdjavumyWjj7LWc5sRtuJ0x62sm0sGaWc-Cmz60tSg#status-of-covid-19>

D. REPORTAGENS

(D.1) NYT. Alemanha. 0,2% de fatalidade.

New York Times. A German Exception? Why the Country's Coronavirus Death Rate Is Low. The pandemic has hit Germany hard, with more than 100,000 people infected. But the percentage of fatal cases has been remarkably low compared to those in many neighboring countries. By Katrin Bennhold. Published April 4, 2020. Updated April 6, 2020

<https://www.google.com.br/amp/s/www.nytimes.com/2020/04/04/world/europe/germany-coronavirus-death-rate.amp.html>

(D.2) Califórnia. Taxa de letalidade de 0,1% a 0,2%.

LOS ANGELES TIMES. CALIFORNIA. Coronavirus infections could be much more widespread than believed, California study suggests. By MELANIE MASON, DEBORAH NETBURN. APRIL 17, 2020 3:05 PM UPDATED 4:12 PM

"Based on their results, the Stanford researchers estimated the mortality rate in Santa Clara County to be between 0.12% and 0.2%. By comparison, the average death rate of the seasonal flu is 0.1%."

<https://www.latimes.com/california/story/2020-04-17/coronavirus-antibodies-study-santa-clara-county>

(D.3) Estudos preliminares na Alemanha.

REASON. CORONAVIRUS. Preliminary German Study Shows a COVID-19 Infection Fatality Rate of About 0.4 Percent. Good news from a population screening study. RONALD BAILEY | 4.9.2020 3:05 PM.

"Over the last two weeks, German virologists tested nearly 80 percent of the population of Gangelt for antibodies that indicate whether they'd been infected by the coronavirus. Around 15 percent had been infected, allowing them to calculate a COVID-19 infection fatality rate of about 0.37 percent. The researchers also concluded that people who recover from the infection are immune to reinfection, at least for a while."

"For comparison, the U.S. infection fatality rates for the 1957–58 flu epidemic was around 0.27 percent; for the 1918 Spanish flu epidemic, it was about 2.6 percent. For seasonal flu, the rate typically averages around 0.1 percent. Basically, the German researchers found that the coronavirus kills about four times as many infected people than seasonal flu viruses do."

<https://reason.com/2020/04/09/preliminary-german-study-shows-a-covid-19-infection-fatality-rate-of-about-0-4-percent/>

(D.4) Vírus foi feito por seres humanos em laboratório.

Gilmore Health News. The Virus Is Man Made According to Luc Montagnier the Man Who Discovered HIV. By [Robert Miller](#). Published on April 16, 2020. Reviewed By [Gilmore Health](#) | On: April 21, 2020.

<https://www.gilmorehealth.com/chinese-coronavirus-is-a-man-made-virus-according-to-luc-montagnier-the-man-who-discovered-hiv/>

(D.5) Fechar fronteiras é ridículo.

NEWS Q&A 21 APRIL 2020. 'Closing borders is ridiculous': the epidemiologist behind Sweden's controversial coronavirus strategy. Anders Tegnell talks to Nature about the nation's 'trust-based' approach to tackling the pandemic.

<https://www.nature.com/articles/d41586-020-01098-x>

(D.6) O que está acontecendo nos hospitais britânicos.

<https://youtu.be/fGebJzNSNa4>

(D.7) Questionamento sobre retórica do lockdown.

<https://www.foxnews.com/politics/berenson-big-pivot-lockdown-strategy>

(D.8) Crítica a Neil Ferguson, do Imperial College.

Horowitz: Man who spooked the world with coronavirus model walks back his prediction. Daniel Horowitz · March 26, 2020

<https://www.conservativereview.com/news/horowitz-man-spooked-world-coronavirus-model-walks-back-prediction/?fbclid=IwAR17HTgJH8r0V0TWCTEkRjZPw4Hw6UxzR3vqG10DUhr44AfyXoyZTyw0JsA>

(D.9) Baixa eficácia do fechamento de escolas.

Coronavirus: School closures 'have little effect' on slowing spread of COVID-19. Closing playgrounds and increasing spacing between students may be more effective, according to UCL researchers. Tuesday 7 April 2020 05:52, UK

<https://news.sky.com/story/coronavirus-school-closures-have-little-effect-on-slowing-spread-of-covid-19-11969671>

(D.10) Hospitais em NYC estão vazios.

#filmyourhospital. NYC Hospitals are EMPTY!?. 25,981 views • Apr 3, 2020

<https://youtu.be/msTGeAVuSxs>

Live from outside NYC's first temporary disaster hospital. 5,314 views • Streamed live

on Mar 30, 2020

<https://youtu.be/peyd754qPkk>

What Elmhurst Hospital looks like when the news cameras aren't rolling!
#filmyourhospital Part ½. 180,104 views • Mar 29, 2020

<https://youtu.be/K0z8NhxNTaU>

What Elmhurst Hospital looks like when the news cameras aren't rolling!
#filmyourhospital Part 2/2. 62,392 views • Mar 29, 2020.

<https://youtu.be/cNVTNNmurgA>

(D.11). Crítica a Neil Ferguson.

<https://threadreaderapp.com/thread/1241835454707699713.html>

(D.12) Artigos diversos.

<https://brasilsemmedo.com/a-verdade-sobre-os-numeros-da-covid-19/>

<https://www.foxnews.com/politics/coronavirus-stay-at-home-orders-protests-economy>

[https://www.dailywire.com/news/epidemiologist-warns-of-unintended-consequences-from-](https://www.dailywire.com/news/epidemiologist-warns-of-unintended-consequences-from-lockdowns?utm_source=facebook&utm_medium=social&utm_campaign=benshapiro)

[lockdowns?utm_source=facebook&utm_medium=social&utm_campaign=benshapiro](https://www.dailywire.com/news/epidemiologist-warns-of-unintended-consequences-from-lockdowns?utm_source=facebook&utm_medium=social&utm_campaign=benshapiro)

<http://italianismo.com.br/2020/03/22/coronavirus-99-dos-mortos-na-italia-tinham-problemas-de-saude-previos/>

<https://braziljournal.com/coronavirus-medicos-defendem-abordagem-cirurgica-em-vez-de-lockdown-indefinido>

<https://www.foxnews.com/politics/trump-coronavirus-china-virus-white-house-kung-flu>

<https://medium.com/altru%C3%ADsmo-eficaz-brasil/corona-v%C3%ADrus-o-martelo-e-a-dan%C3%A7a-d396553e928b>

https://www.washingtonexaminer.com/news/imperial-college-scientist-who-predicted-500k-coronavirus-deaths-in-uk-revises-to-20k-or-less?fbclid=IwAR334wC8-N2SNIIc2JhKYbOjjOf8X_qEfvagSftF04vlnhU3PSUAjZoCgIc

<https://especiais.g1.globo.com/bemestar/2020/coronavirus/>

<https://br.sputniknews.com/opiniao/2020033115398570-suecia-contraria-tendencia-europeia-e-diz-nao-a-quarentena-do-coronavirus/>

<https://www.bloomberg.com/graphics/2020-wuhan-novel-coronavirus-outbreak/>

E. ECONOMIA

(E.1) Block Trends. ESTE É O TAMANHO DO ESTRAGO DA COVID-19 NA ECONOMIA ATÉ AQUI. Abril 17, 2020. Felipe Hermes

<https://blocktrends.com.br/este-e-o-tamanho-do-estrago-da-covid-19-na-economia-ate-aqui/>

<https://motls.blogspot.com/2020/03/great-viral-depression.html>

<https://necsi.edu/review-of-ferguson-et-al-impact-of-non-pharmaceutical-interventions>

<https://g1.globo.com/rj/rio-de-janeiro/noticia/2020/03/23/control-de-acesso-forma-fila.ghtml>

<https://www.oantagonista.com/economia/40-milhoes-de-desempregados/>

[https://braziljournal.com/o-custo-economico-do-shutdown-global-e-a-busca-por-](https://braziljournal.com/o-custo-economico-do-shutdown-global-e-a-busca-por-alternativas?fbclid=IwAR3urP-)

[9GjQz7fjNv2gFCYWR8kmRy3tixxFyYF8rNy4bvGUhdZYzV7Ep1-I](https://braziljournal.com/o-custo-economico-do-shutdown-global-e-a-busca-por-alternativas?fbclid=IwAR3urP-9GjQz7fjNv2gFCYWR8kmRy3tixxFyYF8rNy4bvGUhdZYzV7Ep1-I)

<https://www.bandab.com.br/geral/em-novo-decreto-ratinho-jr-obriga-que- apenas-servicos-essenciais-funcionem-no-parana/>

<https://medium.com/@tomaspueyo/coronavirus-the-hammer-and-the-dance-be9337092b56>

<https://epocanegocios.globo.com/Economia/noticia/2020/03/epoca-negocios-xp-ve-desemprego-atingir-40-milhoes-no-brasil-sem-plano-marshall-de-verdade.html>

F. HISTERIA

<https://www.thestar.com.my/news/world/2020/03/19/25000-people-gather-for-covid-19-prayer-session-in-bangladesh-sparking-outcry>

<https://oglobo.globo.com/sociedade/coronavirus/coronavirus-estudo-preve-115-milhao-de-mortes-188-milhoes-de-infeccoes-no-brasil-caso-medidas-de-contencao-nao-sejam-tomadas-1-24334697>

<https://oglobo.globo.com/sociedade/estudo-que-previu-meio-milhao-de-mortes-no-reino-unido-fez-governo-mudar-de-posicao-sobre-coronavirus-24310244>

<https://oglobo.globo.com/sociedade/coronavirus/analise-falta-compreender-gravidade-da-pandemia-do-coronavirus-24307022>

https://saude.estadao.com.br/noticias/geral,estudo-preve-ao-menos-44-mil-mortes-de-covid-19-no-brasil-isolar-so-idosos-eleva-n-para-529-mil,70003251026?utm_source=estadao%3Afacebook&utm_medium=link

G. POLÍTICA

<http://g1.globo.com/globo-news/jornal-globo-news/videos/v/presidente-da-china-diz-que-chegou-a-hora-do-pais-pais-liderar-o-mundo/6225514/?fbclid=IwAR3AvPYD5kKIcV9Ia4hoYF0r-Y3MnUt5j3NaO3-87ptnoAM4O-oyHyL9aqs>

<https://threader.app/thread/1240047904183721984>

<https://revistaoeste.com/10-coronafatos-que-voce-precisa-saber/>

H. CIÊNCIA

<http://calteches.library.caltech.edu/51/2/CargoCult.htm>