# THE LANCET

## Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Singh S, McNab C, McKeon Olson R, et al. How an outbreak became a pandemic: a chronological analysis of crucial junctures and international obligations in the early months of the COVID-19 pandemic. *Lancet* 2021; published online Nov 8. http://dx.doi.org/10.1016/S0140-6736(21)01897-3.

#### Appendix 1 – Methodology used for literature reviews

Two systematic searches were performed: one on the earliest scientific findings and one on the early spread of SARS-CoV-2 respectively. The search strategy on the scientific origins, Search Strategy 1, was designed to retrieve all eligible articles on the origins of SARS-CoV-2 conducted in China that met inclusion criteria. The electronic databases MEDLINE, EMBASE, Global Health, LILACS, WPRIM, and Africa Wide Information were searched using the search terms coronavirus, novel virus, 2019-nCOV, COVID-19, SARS-CoV-2, and Wuhan virus, as per the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) reporting guideline.

The search strategy on early spread, Search Strategy 2, was designed to retrieve all eligible articles published between December 2019 and March 2021 that reported on the epidemiology of COVID-19 spread, found in the electronic databases MEDLINE, EMBASE, Global Health, LILACS, WPRIM, and Africa Wide Information. Search terms included spread, transmission, or seroprevalence and COVID-19, SARS-CoV-2, coronavirus, novel virus, or Wuhan virus. The results were narrowed to articles which examined, either in real-time or retrospectively, spread both within China and outside of China within the early months of the pandemic (December – end of March 2020).

Researchers in relevant fields were contacted to identify additional published and preprint studies. Select supplementary information from non-primary sources such as news articles or interviews is provided in footnotes when authors deemed they provided important contextual information not available in scientific literature. Two independent researchers for each search strategy screened abstracts of retrieved articles using pre-specified criterion for eligibility. The investigators then independently reviewed full-text articles to assess eligibility for inclusion. Any discrepancies were resolved through discussion and consensus, and if needed, consultation with a third reviewer.

#### Inclusion and exclusion criteria for Search Strategy 1

Inclusion criteria

- Population: Animal or human populations in China
- Timeframe: Any study published on or before 31 March 2020
- Study design: Published, peer-reviewed primary data from descriptive, observational, and experimental studies, including cross-sectional studies, prospective and retrospective cohort studies, case control studies, case studies and case series, as well as environmental and ecological studies
- Outcome: Description of zoonotic, genomic, human, and environmental sources of infection

#### Exclusion criteria

- Not primary research such as guideline documents, news articles, reviews, commentaries, or editorials
- Not focused primarily on early months of pandemic (December 2019 end of March 2020)
- Completely theoretical studies

- Preprint articles
- Exceedingly small sample size
- Full text not available

#### Inclusion and exclusion criteria for Search Strategy 2

Inclusion criteria

- Population: Global human population
- Timeframe: December 2019 March 2021
- Study design: Published primary data from descriptive and observational studies, including cross-sectional studies, prospective and retrospective cohort studies, case control studies, mathematical modelling studies
- Outcome: Measures and trajectory of Covid-19 spread, including transmission dynamics, modelling studies, phylogenetic analyses, seroprevalence, case reports of index cases, effect of public health interventions

Exclusion criteria

- Not primary research such as guideline documents, news articles, reviews, commentaries, or editorials
- Not focused primarily on early months of pandemic (December 2019 end of March 2020)
- Completely theoretical studies
- Preprint articles
- Exceedingly small sample size
- Full text not available

Four independent reviewers extracted data from each eligible study using a standardized form. Information extracted included study design, population, location, date of study period and key findings. For the scientific origins component, key findings were assessed within the four outcome domains: 1) zoonotic sources, 2) genomic origins, 3) earliest human cases, and 4) earliest environmental evidence of SARS-CoV-2 infection. For the early spread component, key findings assessed included case reports of index cases, phylogenetic analysis, epidemiological parameters, serological estimates of spread, and surveillance measures of spread, such as waste-water surveillance and symptom surveys.

Researchers in relevant fields were contacted to identify additional published and preprint studies. Select supplementary information from non-primary sources such as news articles or interviews is cited in footnotes when authors deemed they provided important contextual information not available in the peer-reviewed scientific literature.

#### Search Results

The Search Strategy 1 identified 6,133 articles. Eight additional articles were identified through grey literature. After removing duplicates, 5,440 articles were reviewed based on title and abstract, of which

4,434 were excluded. 88 full texts were assessed for eligibility, with 49 full-text articles excluded based on eligibility criteria. 39 articles met inclusion criteria. Additionally, 14 articles were identified by searching references of eligible studies. A total of 53 records in Search Strategy 1 were included in the final review.

The Search Strategy 2 identified 6,494 articles. Four additional articles were identified through grey literature. After removing duplicates, 4,844 articles were reviewed based on title and abstract, of which 4,713 were excluded. 131 full texts were assessed for eligibility, with 74 full-text articles excluded based on eligibility criteria. 57 articles met inclusion criteria, which were included in the final review.

#### Appendix 2 - Background to the Independent Panel for Pandemic Preparedness and Response

The Independent Panel for Pandemic Preparedness and Response (The Independent Panel) was Co-Chaired by the Right Honourable Helen Clark and Her Excellency Ellen Johnson Sirleaf.

The Panel was charged with reviewing the spread, actions and responses to the COVID-19 pandemic, distilling lessons, and making evidence-based recommendations to ensure countries and global institutions, including the WHO, can more effectively address health threats.

The Independent Panel was initiated by the World Health Organization Director-General in response to a World Health Assembly Resolution (73.1) in May 2020, which called for an independent, impartial and comprehensive review into the international health response to the COVID-19 pandemic. The WHO Director-General appointed the Co-Chairs, who in turn selected 11 Panel members in early September 2020. <u>Panel members</u> represent a wide mix of skills and expertise in infectious diseases, global and national health policy and financing, outbreaks and emergencies, economics, public administration, youth advocacy, and in the wellbeing of women and girls.

The Independent Panel began its work at its first meeting on 17-18 September 2020. It met approximately every six weeks and, due to the pandemic, the meetings were virtual. The Panel delivered its main report "COVID19: Make it the Last Pandemic" to the 74<sup>th</sup> World Health Assembly in May 2021.

How an outbreak became a pandemic: a chronological analysis of crucial junctures and international obligations in the early months of the COVID-19 pandemic

Appendix 3

# COVID-19: The Authoritative Chronology, December 2019–March 2020

Background paper 2a The Independent Panel for Pandemic Preparedness and Response







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### **Glossary and abbreviations**

AFCOR-Africa Task Force for Novel Coronavirus

AFR-WHO African Region

AMR-WHO Region of the Americas

**AP**–Associated Press

**Article 6**–International Health Regulations section regarding Member State notifications to the World Health Organization about a potential public health emergency of international concern

Article 10—International Health Regulations section regarding WHO power to request verification from Member States of reports from other sources of a potential public health emergency of international concern

AU—African Union

**CCDC**–Chinese Center for Disease Control

COVID-19—the disease caused by SARS-CoV-2

DG-WHO Director-General

**Dispersion factor k**-describes how a disease clusters

**EB**-WHO Executive Board

**ECDC**-European Centre for Disease Prevention and Control

**ED**-Executive Director

**EEA**—European Economic Area

**EMR**– WHO Eastern Mediterranean Region

**EU**—European Union

**EUR**–WHO European Region

**G7**–Group of Seven

G20-Group of Twenty

**GOARN**–WHO Global Outbreak Alert and Response Network

HCWs-health care workers

**h-to-h**-human-to-human

HQ-headquarters

IASC-Inter-agency Standing Committee

**IDVI**–Infectious Disease Vulnerability Index

IFRC–International Federation of Red Cross and Red Crescent Societies

**IHR**–International Health Regulations

ILO-International Labour Organization

**Mean serial interval**—indicates the length of time between symptom onset of an initial case and any subsequent cases

**nCoV**-novel coronavirus

PCR-polymerase chain reaction

R&D-research and development

**PHEIC**—Public Health Emergency of International Concern

**PPE**-personal protective equipment

**ProMED**–Program for Monitoring Emerging Diseases

PUO-pneumonia of unknown origin

**R0**–R naught, basic reproduction number, estimates how many other cases one infected individual is likely

to cause prior to institution of public health measures or development of immunity

**Rt and Re**—R at time t, effective reproduction number, estimates how many other cases one infected individual is likely to cause at a specific time, considering immunity and public health measures

RaTG13—a type of bat coronavirus

**RCCE**—Risk Communication and Community Engagement

SARS-severe acute respiratory syndrome

**SARS-CoV-2**—severe acute respiratory syndromecoronavirus-2, the virus that causes COVID-19 disease

SCMP-South China Morning Post

SEAR–WHO South-East Asian Region

**STAG-IH**–WHO Strategic and Technical Advisory Group for Infectious Hazards

**UN**-United Nations

**UNHCR**–UN High Commissioner for Refugees

**UK**–United Kingdom

**US**–United States

**US CDC**–United States Centers for Disease Control and Prevention

WASH–Water, Sanitation, and Hygiene

WHO–World Health Organization

WPRO-WHO Western Pacific Regional Office

2019-nCoV-novel coronavirus 2019

| CHRONOLOGY LEGEND   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| SUB-CATEGORY  |  |  |  |  |  |  |
| Headline<br>Author/Actor<br>Published: < <date>&gt;</date>  |  |  |  |  |  |  |
| Caption   |  |  |  |  |  |  |
| Source<br>Links to other sources e.g. news release  |  |  |  |  |  |  |
| Time zones  |  |  |  |  |  |  |
| CST – China Standard Time   |  |  |  |  |  |  |
| CET – Central European Time   |  |  |  |  |  |  |
| International actions   |  |  |  |  |  |  |
| Country actions   |  |  |  |  |  |  |
| Real-time evidence  |  |  |  |  |  |  |
| Retrospective evidence  |  |  |  |  |  |  |
| Annotations   |  |  |  |  |  |  |
| 🔆 Key events  |  |  |  |  |  |  |
| Private document  |  |  |  |  |  |  |
| • Public document   |  |  |  |  |  |  |
| (in the section with the section is |  |  |  |  |  |  |
| Strength of research  |  |  |  |  |  |  |
| ∎[] 1 - low quality pre-print   |  |  |  |  |  |  |
| 2 - medium peer reviewed  |  |  |  |  |  |  |
| 3 - high quality top tier journal   |  |  |  |  |  |  |

#### COVID-19: The Authoritative Chronology, December 2019–March 2020, Background paper 2a, The Independent Panel for Pandemic Preparedness and Response – Page 4 of 48

| <b>O-</b> pre-Dec 2019 ———   | <b>O-</b> 01 Dec 2019 ————  | <b>O-</b> 08 Dec 2019 ———  | <b>O-</b> 15 Dec 2019 ————  | <b>O-</b> mid-Dec 2019 ———   |
|--|---|--|---|--|
|  | CASES III 💿   |  |   |  |
| Assumed spillover from animals   | Patient with COVID-like   |  |   |  |
| to humans  | symptoms identified   | CASES 💿  |   | SARS-CoV-2 could have infected   |
| i van Dorp L, Acman M, et al.  | Huang C, Wang Y, et al.   | First identified COVID-19 patient  | R0 increased during Dec. 2019   | people in the US in mid-Dec  |
| Published: 5 May 2020  | Published: 24 Jan 2020  | becomes ill  | ,   | Basavaraju S, Patton M, et al.   |
| Analysis of genomic diversity over   | 62-year-old man developed<br>symptoms of a respiratory illness  | Joint WHO-China mission<br>Published: 30 Mar 2021  | Lai A, Bergna A, et al.<br>Published: 25 Feb 2020   | Published: 30 Nov 2020<br>Blood samples in the United Stat   |
| time found that all sequences<br>share a common ancestor towards<br>the end of 2019, suggesting this<br>as the period when SARS-CoV-2<br>spilled over to a human host. | on this date. He was identified<br>by some as the first patient with<br>eventual laboratory confirmed<br>COVID-19. Subsequent evidence<br>suggests he was infected later in | "The case with the earliest onset<br>date reported to the Chinese<br>National Notifiable Disease<br>Reporting System became ill on<br>December 8". | The analysis of 52 viral genomes<br>from different countries<br>determined that R0 increased<br>from 0.8 to 2.4 during Dec. 2019,<br>with a mean doubling time of | (US) were found to have cross-<br>reactive antibodies to SARS-<br>CoV-2, suggesting that the virus<br>could have infected people there<br>as early as Dec. 2019. |
| Infection, Genetics and Evolution, Nature,<br>WHO-convened Global Study of the<br>Origins of SARS-CoV-2  | December.<br>The Lancet, WHO, WHO-convened Global<br>Study of the Origins of SARS-CoV-2   | WHO-convened Global Study of the   | around 4 days.<br>Journal of Medical Virology   | Clinical Infectious Diseases, Wall Street<br>Journal   |

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| <b>O</b> - 16 Dec 2019  | <b>O-</b> 18 Dec 2019   | <b>O-</b> 21 Dec 2019  | <b>O-</b> 24 Dec 2019  |
|---|---|--|--|
| 16 Dec 2019–02 Jan 2020<br>CASES III 💿  |   | 21 Dec-30 Dec 2019<br>CASES III ()   | NEWS REPORT 💿  |
| Patients with PUO admitted to<br>Wuhan hospital (later confirmed  |   | Three patients with PUO identified in Wuhan (later<br>confirmed as SARS-CoV-2)   | sample to commercial lab for testing   |
| Huang C, Wang Y, et al.   | Sewage samples in Italy possibly positive for SARS-CoV-2  | Zhu N, Zhang D, et al.<br>Published: 24 Jan 2020   | Published: 05 May 2020<br>Wuhan doctors noticed  |
| 41 patients with pneumonia of<br>unknown origin (PUO) were<br>admitted to a Wuhan hospital<br>between 16 Dec2 Jan. Confirmed<br>as SARS-CoV-2 in Jan. 2020. | La Rosa G, Mancini P, et al.<br>Published: 15 Aug 2020<br>Sewage samples from 18 Dec. in<br>Milan and Turin were found to be<br>positive for SARS-CoV-2, but may<br>be false positives. | Three patients with PUO were identified in Wuhan<br>from 21 Dec. onwards. Lung fluid samples collected<br>30 Dec. during hospital admission later confirmed<br>SARS-CoV-2. One patient was a retailer at the Huanan<br>Seafood Market, another a frequent market visitor.<br>One died 9 Jan. 2020, the others were discharged. | pneumonia patients were not<br>responding to usual treatments<br>and sent a test sample to Vision<br>Medicals (commercial lab) for next<br>generation sequencing/testing.<br>Chinese Medical Journal, PBS Frontline, |
| The Lancet  | Science of the Total Environment  | New England Journal of Medicine  | Caixin   |

L

| Dr. Zhang Jixian<br>One female w<br>cough sympto<br>by Dr. Zhang Ji<br>Hospital of Inte<br>and Western M  | <b>al</b><br>ith fever and dry<br>ms is identified<br>ixian in Hubei   | ACTION<br>Additional suspicious cases<br>identified at Wuhan hospital,<br>cluster reported<br>Dr. Zhang Jixian  | Wuhan CDC collects sa<br>from PUO patients     Wuhan CDC     Wuhan CDC visits Hube   |  |
|---|--|---|--|--|
| Vuhan hospitu<br>Dr. Zhang Jixian<br>One female w<br>cough sympto<br>by Dr. Zhang Ji<br>Hospital of Intu<br>and Western N   | <b>al</b><br>ith fever and dry<br>ms is identified<br>ixian in Hubei   | identified at Wuhan hospital,<br>cluster reported<br>Dr. Zhang Jixian   | Wuhan CDC<br>Wuhan CDC visits Hube   | :  |
| One female w<br>cough sympto<br>by Dr. Zhang Ji<br>Hospital of Inte<br>and Western N  | ith fever and dry<br>ms is identified<br>ixian in Hubei  | Dr. Zhang Jixian  |  | : [] = = = : t = ]   |
| department of<br>the same day.<br>diagnostic wor<br>than normal p<br>The female   | Aedicine. Her<br>mitted to a different<br>f the hospital on<br>The results of the<br>rk-ups are different<br>neumonia cases.<br>ports close contact<br>an Seafood Market,                                    | Staff at Hubei Hospital of<br>Integrated Chinese and Wester<br>Medicine realize that the two<br>cases are a couple, and transfe<br>the husband to the same<br>department as his wife. Their so<br>who is asymptomatic, is also CT<br>scanned, which reveals that he<br>similar lung abnormalities as hi<br>parents. Dr. Zhang Jixian report<br>the three cases to the Jianghan<br>District Center for Disease Con | patients (husband, wife<br>more investigation. Dr. J<br>Jixian reports to Wuhan<br>on, she is "concerned about<br>to-human (h-to-h) tran<br>Dr. Zhang Jixian notes "<br>CDC didn't dismiss my t<br>nor did they confirm the<br>said they needed to cor | and Western<br>g fluid and<br>ee PUO<br>, son) for<br>Zhang<br>CDC that<br>t human-<br>smission."<br>Wuhan<br>houghts<br>em, but |
| with the Huan<br>while her husb<br>contact with th<br>Interview and corr<br>Dr. Zhang Jixian, Ja<br>Medicine, WHO-c<br>Study of the Origin  | ne market.<br>respondence with<br><u>ournal of Nuclear</u><br>onvened Global   | and Prevention (CDC).<br>Interview and correspondence with<br>Dr. Zhang Jixian, <u>Journal of Nuclear</u><br><u>Medicine</u> , <u>IHR Review Committee Repor</u>  | Interview and correspondence<br>Dr. Zhang Jixian, Journal of Nu<br>Medicine, IHR Review Commit   | e with<br><u>clear</u>   |
| <b>O</b> = 25 Dec 2019  | 3  | - 27 Dec 2019   |  |  |
| <b>O- 25 Dec 2019 O- 26 Dec 201</b><br>NEWS   | 9O   | - 27 Dec 2019   |  |  |
| NEWS  | REPORT   | - 27 Dec 2019   |  |  |
| NEWS  | REPORT   entified SARS-like es   | > 27 Dec 2019   | 1. (3)   |  |
| NEWS  | REPORT   entified SARS-like es 2020 blished in multiple  |   | talised patient in   |  |
| NEWS  | REPORT  entified SARS-like es 2020 blished in multiple sites by an b technician, said his  | SCIENCE I<br>Respiratory sample from hospi  | talised patient in   |  |
| NEWS REPORT<br>NEWS REPORT<br>Senior director at Wuhan hospital<br>heard of possible spread<br>Published: 28 Jan 2020<br>Dr. Lu Xiaohong, head of<br>gastroenterology at City Hospital<br>No. 5, told China Youth Daily that<br>on 25 Dec. she heard unexplained<br>NEWS<br>Chinese lab id<br>virus in sample<br>Published: 01 Feb<br>An account pu<br>Chinese news<br>anonymous la<br>company had<br>from Wuhan a<br>26 Dec. they co | REPORT<br>entified SARS-like<br>es<br>2020<br>blished in multiple<br>sites by an<br>b technician, said his<br>received samples<br>nd determined on<br>ontained a new<br>ith 87% similarity<br>te Respiratory | SCIENCE I<br>Respiratory sample from hospi<br>France positive for SARS-CoV-2<br>Deslandes A, Berti V, et al.  | talised patient in<br>2<br>retrospectively tested<br>nts admitted to the<br>ca-like illness in Dec.<br>t admitted on 27 Dec.   |  |

| NEWS REPORT  | •                   |  |  |  |  |
|--|---------------------|--|--|--|--|
| Private lab in China pieced mo<br>of genome  | st                  |  |  |  |  |
| Published: 26 Feb 2020   |                     |  |  |  |  |
| Private lab shared next general<br>sequence data of potential new<br>virus with homology to SARS-lik<br>coronavirus with Wuhan official<br>and the Chinese Academy of<br>Medical Sciences. First reporte<br>by Chinese finance publication<br>Caixin; independently confirmed<br>by the Associated Press (AP). | v<br>ke<br>Ils<br>d |  |  |  |  |

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| n<br>W                   | 30 Dec 2019 – 15:10 CST/08:10 CET<br>ALERT $\odot$<br>Vuhan issues a first "urgent | 18:50 CST/11:50 CET<br>ALERT   | Θ        |  |  |                       |  |            |
|--------------------------|--|--|----------|--|--|-----------------------|--|------------|
| N<br>N<br>W              |  | ALERI  |          |  |  |                       |  |            |
|                          | notice" to health institutions   | Wuhan issues a second "urge<br>notice" to health institutions                | ent      |  |  |                       |  |            |
|                          | Vuhan Municipal Health Commission  | Wuhan Municipal Health Commission  | n        |  |  |                       |  |            |
|                          | he Wuhan Municipal Health  | The Wuhan Municipal Health   |          |  |  | (3)                   | 12:16 CST/05:16 CET                                      |            |
| C                        | Commission issues an "urgent   | Commission issues a second   |          | ACTION O   |  |                       | REQUEST  |            |
| С                        | notice" to health institutions about<br>ases of PUO linked to the Huanan           | notice to health institutions,<br>with instructions not to disclo            |          | Wuhan Institute of Virology<br>receives PUO samples  |  |                       | CDC IHR Point of Con<br>WHO via IHR                      | ntad       |
|                          | Seafood Market. The notice is hared in online chat groups,                         | information to the public with<br>authorisation. The "urgent                 | nout     | Wuhan Institute of Virology  |  |                       | DC IHR Point of Contact                                  |            |
| si<br>ir<br>Li<br>W      | ncluding by ophthalmologist Dr.  | notice" includes the following<br>three headings: Strengthenin               |          | Wuhan Institute of Virology<br>receives samples from seven<br>patients with PUO. The samples |  | Taipei (              | CDC IHR Point of Con<br>WHO via the Internat             |            |
| aı                       | Vuhan Municipal Health Commission  | Responsibility and Guidance,<br>Regularizing Medical Care, a                 | ind      | are sent by staff at Wuhan<br>Jinyintan Hospital.  |  | Health<br>and rea     | Regulations (IHR) sys<br>quests information ab           | ster       |
|                          | locuments, <u>Associated Press</u> , <u>PBS Frontline</u>                          | Strict Reporting Information<br>System.<br>Wuhan Municipal Health Commission |          | Interview and correspondence with<br>Dr. Zhengli Shi , <u>Nature</u>                         | <b>31 Dec 2019</b> – 10:16 CST/03:16 CET   | reports               | referring to recent ne<br>s. WHO Headquarters            | ws<br>s (H |
|                          |  | archived document, WHO internal  |          |  | NEWS REPORT 💿  |                       | vledges the request.<br>ernal documents, <u>Taiwan C</u> | onte       |
| g                        | Private laboratory sequences<br>genome of novel coronavirus                        | documents, <u>The Guardian</u> , <u>Associated</u><br><u>Press</u>           | <u>d</u> |  | First report of cases in Chinese media   | for Disea             | ise Control  | ente       |
| B Vi                     | /ision Medicals  |  |          |  | Published: 31 Dec 2019   |                       |  |            |
|                          | Scientists at private lab report   |  |          |  | Finance Sina publishes the first   |                       |  |            |
|                          | genome sequencing results as<br>highly suspicious of SARS". This is                |  |          |  | report in Chinese media on cases<br>of PUO in Wuhan. Other media                             |                       |  |            |
| iu<br>u S                | hared with the hospital that sent  |  |          |  | articles are published shortly after   |                       |  |            |
| ≦ tł                     | he samples.  |  |          |  | in Beijing News, Central News  |                       |  |            |
| 5 <u>P</u>               | Pre-print  |  |          |  | Agency, Taiwan and South China   |                       |  |            |
| E A                      |  |  |          |  | Morning Post (SCMP).   |                       |  |            |
|                          |  |  |          |  | <u>Finance Sina</u> , WHO internal documents   |                       |  |            |
| <b>-</b> <u></u> <u></u> | 30 Dec 2019  |  |          |  | <b>O</b> - 31 Dec 2019   |                       |  |            |
| CE                       |  |  |          |  |  |                       | CASES III  |            |
| VIDEN                    |  |  |          |  |  |                       | cases linked to Huand<br>d Market                        | an         |
| IVEE                     |  |  |          |  | NEWS REPORT  | Li Q, Gua<br>Publishe | ın X, et al.<br>d: 29 Jan 2020                           |            |
| PECT                     |  |  |          |  | China CDC visited Huanan<br>Seafood Market   | confirm               | of the first laborator<br>ned patients in Wuhar          | ń          |
| OS                       |  |  |          |  | Published: 2 Nov 2020  | with CO               | DVID-19 found a link to                                  | o tł       |
| RETROSPECTIVE EVIDENCE   |  |  |          |  | China CDC visited Huanan<br>Seafood Market and took samples<br>before the market was closed. |                       | n Seafood market in 5<br>vith onset of disease k         |            |
|                          |  |  |          |  | <u>NY Times</u>  | + f                   | land Journal of Medicine                                 |            |

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|                    | 12:17 CST/05:17 CET  |  |  | 13:55 CST/06:55 CET   | -                        | - 6:57 CST/09:57 CET   |                          |
|--------------------|--|--|--|---|--------------------------|--|--------------------------|
|                    | REQUEST $\Theta$   |  |  | ACTION  | ۲                        | REQUEST  | ۲                        |
| ١٩٢                | WHO China Country Office<br>receives query from Beijing<br>bureau of New York Times                                    |  |  | WHO China takes note of pul<br>bulletin and notifies WPRO   | olic                     | WHO HQ requests informatio<br>from WHO WPRO IHR Focal P  | on<br>Point              |
| ō                  | WHO Ching Country Office   |  |  | WHO China Country Office  |                          | WHO HQ   |                          |
| INTERNATIONAL      | WHO China Country Office<br>receives a query from the Beijing<br>bureau of New York Times<br>regarding cases in Wuhan. |  |  | WHO China Country Office se<br>online public bulletin from We<br>Municipal Health Commission<br>and immediately notifies the<br>WPRO IHR Focal Point by emu | uhan<br>n<br>WHO<br>ail, | Having detected ProMED sigr<br>WHO HQ surveillance team<br>requests more information<br>from the WHO WPRO IHR Foc<br>Point, who provides a machine   | al                       |
|                    | WHO internal documents   |  |  | and specifies no IHR notificat<br>has been issued.  | ion                      | translation of the Wuhan<br>Municipal Health Commission  | n                        |
|                    |  |  |  | WHO staff interview, WHO internal documents   |                          | public bulletin. On the same d<br>WHO receives requests for mo   | day,                     |
|                    |  |  |  | BORDER MEASURES   | ۲                        | information from the United<br>Kingdom (UK) and the Europe   | ean                      |
| ۲                  |  |  |  | Taiwan (China) starts screen<br>airline passengers  | ing                      | Centre for Disease Control<br>(ECDC).  |                          |
| I.L.               |  |  |  | Taiwan (China)  |                          | WHO internal documents   |                          |
| COUNTRY            |  |  |  | Taiwan (China) starts screeni<br>airline passengers from Wuh<br>fever.  | ng<br>an for             | BORDER MEASURES<br>Hong Kong SAR (China) make  | •<br>es                  |
|                    |  |  |  | <u>Taiwan Today, JAMA</u>   |                          | public health announcement<br>Hong Kong SAR (China)  | ſ                        |
| REAL-TIME EVIDENCE | ■ 31 Dec 2019, cont.   | 12:59 CST/05:59 CET         ALERT       ●         ProMED reports cases in Wuhan         ProMED         WHO HQ Epidemic Intelligence<br>from Open Sources detects<br>signals of outbreak on Program<br>for Monitoring Emerging Diseases<br>(ProMED).         ProMED, WHO staff interview, WHO<br>internal documents, IHR Review Committee<br>Report | 13:38 CST/06:38 CET         CASES         Wuhan releases public bulletin about PUO cases         Wuhan Municipal Health Commission         27 cases of PUO are confirmed by Wuhan Municipal Health Commission in public bulletin.         State Council Information Office of the People's Republic of China |   |                          | Hong Kong SAR (China) make<br>public health announcement<br>related to cluster of PUO case<br>Wuhan, and underscores ther<br>imaging systems are in place<br>borders to screen for possible<br>cases.<br><u>Government of the Hong Kong Specia</u><br><u>Administrative Region</u> | es in<br>rmal<br>at<br>e |

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|                    | 01 Jan 2020 – 10:35 CST/03:35 CET   |   | 16:54 CST/09:54 CET   | - 🕐 01 Jan – 23:05 CET  | 10:45 CST/03:45 CET  |
|--------------------|---|---|---|---|--|
|                    | REQUEST 📀   |   | REQUEST 📀   | <b>02 Jan</b> – 06:05 CST   | REQUEST 🛛  |
| ļ                  | WHO WPRO IHR Focal Point requests information   |   | WHO Representative to China emails Chinese NHC  | REQUEST   WHO HQ requests WHO WPRO to   | WHO China Country Office<br>contacts WPRO  |
|                    | WHO WPRO  |   | WHO Representative to China   | trigger Article 10 of IHR   | WHO China Country Office   |
|                    | WHO WPRO IHR Focal Point<br>requests information about<br>the cluster of cases from the<br>Chinese National Focal Point, who<br>acknowledges request one hour<br>later. WHO WPRO IHR Focal Point  |   | WHO Representative to China<br>emails the Chinese National<br>Health Commssion to offer<br>support and repeats the requests<br>for information.<br>WHO internal documents | WHO HQ<br>In an email, WHO HQ requests<br>WHO WPRO to activate Article<br>10 of the IHR and issue a formal<br>request for verification. The<br>Incident Management System | Replying to the email from WHO<br>HQ, WHO Country Office repeats<br>request to WPRO to follow up with<br>the Chinese National Focal Point.<br><i>WHO internal documents</i>                                |
|                    | sends a more detailed request for<br>information shortly afterward.<br>WHO Timeline, WHO internal documents,  | (3) 13:05 CST/06:05 CET   | ACTION  | is activated and an Incident<br>Management Support Team<br>established.   |  |
|                    | IHR Review Committee Report   | REQUEST O   | Huanan Seafood Market closed  | WHO internal documents, <u>WHO Timeline</u>   | Wuhan Institute of Virology  |
|                    |   | Singapore National Focal Point<br>contacts WHO WPRO   | Wuhan local health authority  |   | sequences the virus  |
| Ľ                  |   | Singapore National Focal Point  | The Huanan Seafood Market is closed, cleaned, and disinfected.  | -   | Wuhan Institute of Virology<br>Published: 29 Jan 2020  |
| COUNTRY            | MEWS REPORT ● Media reports WHO is in contact   | The Singapore National Focal<br>Point contacts WHO WPRO,<br>requesting information about<br>the cases in Wuhan. WHO WPRO<br>replies four hours later.<br>WHO internal documents | People's Daily, WHO   |   | Using next-generation<br>sequencing, Wuhan Institute of<br>Virology decodes the sequence<br>of the virus genome, except the<br>5' and 3' terminus. The Institute<br>sequences the full genome by 7<br>Jan. |
| KEAL-IIME EVIDENCE | with Chinese authorities<br>Published: 01 Jan 2020<br>South China Morning Post<br>reports that "The World Health<br>Organisation said it is in ongoing<br>contact with authorities in China<br>over an unidentified outbreak of<br>viral pneumonia in the central<br>city of Wuhan, amid concern it<br>may have been transmitted from<br>animals."<br>South China Morning Post<br>- 01 Jan 2020 |   |   |   | <ul> <li>Interview and correspondence with Dr.</li> <li>Zhengli Shi, Wuhan Institute of Virology,<br/>Associated Press</li> <li>O2 Jan</li> </ul>  |

|  | NEWS REPORT  | ۲   |
|--|--|---|
| Eight doctors qu   | estioned by Wuhan polic  | e   |
| Published: 01 Feb 20   | 20   | •••••   |
| Wenliang, who h<br>colleagues about<br>were reported of<br>Lianbo", watche<br>with a warning i | stioned include ophthalm<br>had sent a private chat me<br>ut a new SARS-like virus. T<br>in the Chinese newscast ")<br>d by millions. The police fo<br>n the Xinhua News Agenc<br>o not fabricate rumors, no | essage to<br>The incidents<br>Kinwen<br>pllowed up<br>y and "call |

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| MEETING   |         | (2)  |   | (2)                           |  |   |
|---|---------|--|---|-------------------------------|--|---|
| The Three-level Interactions         WHO and GOARN Interactions         <   |         |  |   | REQUEST 💿                     | 😻 👬 03 Jan – 11:15 CST/04:15 CET                         |   |
| Formation         With and COAR Histoconference<br>With and Coard Manager Support         With and COAR Histoconference<br>With and Coard Manager Support         With and COAR Histoconference<br>With and Coard Manager Support         With and COAR Histoconference<br>With and Manager Support         With and COAR Histoconference<br>(CoARR) hald a sileconference<br>does not join the call.         With and Coard With Coard Mithour<br>With and Manager Support         First of these half indication of the<br>Coard Histoconference<br>does not join the call.         With and Coard Mithour<br>With and Manager Support         With and Coard Mithour<br>With and Mithour<br>With and Mithour<br>With and Mithour<br>With and Mithour<br>With and Mithour<br>Coard Histoconference<br>does not join the call.         With and Coard Mithour<br>With and Mithour<br>With and Mithour<br>With and Mithour<br>With and Mithour<br>Coard Histoconference<br>does not join the call.         With Annotacing Coard<br>Mithour<br>Coard Histoconference<br>does not join the call.         With and Coard Mithour<br>With and Mithour<br>Coard Histoconference<br>does not join the call.         With and Coard Mithour<br>With and Mithour<br>Coard Histoconference<br>does not join the call with and<br>Coard Histoconference<br>does not join the call with and<br>Mithour Mithour<br>With and Mithour<br>With and Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour<br>Mithour   |         | -  | -   | WHO Representative to China   |  |   |
| WIO Incident Mensops Support<br>Heam block is first Hea-level<br>economics in first Health is first   | Ļ       |  |   | writes formal letter to China | WHO WPRO contacts China,<br>triggering Article 10 of IHR | First technical briefing between<br>China and WHO |
| Who were been holds in first the industries         Who were been industries in formation         First of first exceed to be the outbreak Metwork           Information from several Members         GCARNIN join the call.         Who were been industries         First of first exceed to other the industries           Information from several Members         GCARNIN join the call.         Who were been industries         First of first exceed to other the industries           Information from several Members         GCARNIN join the call.         Who were decuments.         Who were   | NA      |  |   | •                             |  |   |
| Big       Big       Eleconference. In a context<br>of increasing requests for<br>information from several Member<br>States, specifical of chicking the outbreak. This outbreak is the<br>chick and the information<br>matching       From the Chinase National Focus<br>Point and conterns information<br>focal Point registers to<br>focal Point Point<br>focal Point<br>focal Point Point<br>focal | E       |  |   |                               |  |   |
| Big of increasing requests for inforced in proceedings of the outbrack. China CDC inforced in proceedings of the outbrack in the outbrack i   | NA      |  |   |                               |  |   |
| Iters specifics of activating IRR to obtain further information marks. <u>W40 Immediate</u> HIR National Focal Point 160 requests for information.       Iter and confirms information.       WHO internal documents, <u>W40 Immediate</u> REQUEST               BODER MEASURES               BODER MEASURES               WHO internal documents, <u>W40 Immediate</u> W40 internal documents, <u>W40 Immediate</u> WHO internal documents, <u>W40 Immediate</u> W40 internal documents               W40 internal documents  | TER     | of increasing requests for   | about the outbreak. China CDC               | support and urging the        |  |   |
| b obtinin further information from<br>China are discussed.       Image: China are discussed.       Image: Ch  | ž       |  |   |                               |  |   |
| China are discussed.       Commission.       No information.       Commission.       No information.       No   |         |  | WHO internal documents, <u>WHO Timeline</u> |                               |  |   |
| WIO Internal documents       WIO Internal documents, WHO Timeline       Uniternal documents, WHO Timeline       WIO Internal documents, WHO Timeline         BORDER MEASURES       Hot Skores, request further information<br>about the cubrack from WHO,<br>wito internal documents       BORDER MEASURES       WIO Internal documents, WHO Timeline       WIO Internal documents, WHO Timeline         Wio Counties is ack WHO for<br>formation       Hot Skores, request further information<br>about the cubrack from WHO,<br>wito internal documents       WIO Internal documents, WHO Timeline       WIO Internal documents, WHO Timeline         Wio Internal documents       Wio Internal documents, WHO Timeline       Bornes (China) to add<br>mystery Withon<br>about the cubrack from WHO,<br>with internal documents       WIO Internal documents, WHO Timeline       WIO Internal documents,<br>WHO Internal documents         Wio Internal documents       Bornes (China) to add<br>mystery Withon<br>appring the solution of the public on<br>public on public on<br>public on<br>public on public on<br>public on<br>publ   |         | China are discussed.   |   |                               |  | hour later. A WHO three-level                     |
| EEQUEST     O     BORDER MEASURES       Countries and WHO for<br>information     On Kong SAR (Chino) to add<br>"mystery Wuhon preumonid" to<br>mystery Wuhon preumonid" to<br>and countries     Thailand implements screening<br>of patient travelling from<br>Wuhon       Several Member States, including<br>Abort the outbreak from WHO,<br>WHO infermal documents     Hong Kong SAR (Chino)<br>to a list of switching<br>prevention to a switching<br>prevention the swit  | -       | WHO internal documents   |   |                               |  | teleconference is held immediately                |
| Border Mathematical States, including Market showed the specific of contribution of the specific or speci   |         |  |   | ,,                            | Committee Interim Progress Report                        |   |
| Tormation     "mystery Wuhen preumonie" in<br>Oranites       Several Member States, including<br>Alacysia and the Republic of<br>Korea, request further information<br>about the outbreak from WHO.     The ag Kong SAR (Chino)<br>Hong Kong SAR (Chino) announces<br>the several decuments       Wild internal documents     Hong Kong SAR (Chino)<br>Hong Kong SAR (Chino) announces<br>the several decuments     Generation of Thailand       Wild internal documents     Hong Kong SAR (Chino)<br>Hong Kong SAR (Chino) announces<br>the several documents     Generation of Thailand       Wild internal documents     Barting SAR (Chino)<br>Hong Kong SAR (Chino)<br>previous do a list of long in the<br>particular documents     Generation of Thailand       Wild internal documents     Barting SAR (Chino)<br>Hong Kong SAR (Chino)<br>Previous documents     Generation of the severation<br>previous documents       Barting SAR (Chino)<br>Hong Kong SAR (Chino)<br>Hong Kong SAR (Chino)<br>Previous documents     Barting SAR (Chino)<br>Hong Kong SAR (Chino)<br>Previous documents       Barting SAR (Chino)<br>Hong Kong SAR (Chino)<br>Hon  |         | • • •  |   |                               | BORDER MEASURES 🛛 👁                                      |   |
| Program       notifiable infectious diseases list       of patients travelling from         Several Member States, including<br>Malaysia and the Republic of<br>about the outbreak from WHO.       Government of Thailand         Wild Internal documents       The Sang AR (China) nonounces<br>that Member States, including<br>quarantine.       Government of Thailand         Wild Internal documents       Quarantine.       Government of Thailand         Quarantine.       Quarantine.       Government of Thailand         Quarantine.       Quarantine.       Bauth China Morning Post         P12 Jan, cont.       Bauth China Morning Post       Euro Surveillance wHO         Quarantine.       SciENCE III       Quarantine.         Sampling at Huaran Sectod Market showed the<br>virus was present in the environment, not in animals<br>publicies juit 200       Quarantine.         Ying WHO-China mission<br>Publice and public and market showed the<br>virus was present in the environment, not in animals<br>Publices juit 200       Quarantine.         Ying WHO-China mission<br>Publices juit 200       Government samples were public by PCR for SARS-<br>CoV-2. Three genetic sequences of SARS-CoV-2 from<br>envirumental samples were published on the Global Initiative on<br>swrituelly were published on the Global Initiative on<br>Sharing All Influenzo Data.   |         |  | "mystery Wuhan pneumonia" to                |                               |  | -   |
| Total Nember States, including       Heng Keng SAR (Chino)         Malaysia and the Republic of Korea, request further information food that do the start start start start start start information documents       General Market States, allowing the mammal of that start starts, including the nutber starts, including the nutber starts in duction allowing the nutber starts starts, including the nutber starts, including the nut   |         | Countries  | notifiable infectious diseases list         |                               | of patients travelling from                              |   |
| Big     Malaysia and the Republic of<br>Korea, request further information<br>bout the outbreak from WHO.     Hong Kong SAR (Chino) announces<br>for screening patients travelling<br>for screening patients in dogurantine.       WHO internal documents     Hong Kong SAR (Chino) announces<br>for screening patients in dogurantine.     Thailand implements measures<br>for screening patients in dogurantine.       Born Multing Constraint     South Chino Moming Post     Euro Surveillance of public and<br>private hospitals.       Born Multing Constraint     South Chino Moming Post     Euro Surveillance of Multing<br>patients in duranting<br>patients in duranting patients in duranting<br>patients in duranting Post       Born Multing of Huanan Sectod Market showed the<br>Virus was present in the environment, not in animals<br>public was present in the environment, not in animals<br>public patients in duranting<br>provide thospital duranting patients in duranting<br>patients in duranting<br>p   |         |  |   |                               |  |   |
| about the outbreak from WHO.       pneumonia" to a list of notifiable infectious discuss, allowing the authorities to place patients in authorities to place patients and place authorities to place patients and place authorities to place authorities to place place authorities to place authoritis authoritis and place authorities to place authorities authoriti  | 10<br>C | Malaysia and the Republic of   | Hong Kong SAR (China) announces             |                               |  |   |
| WHO Internal documents       infectious diseases, allowing the quarantine.       from Wuhon at four airports, and steps up surveillance at public and private hospitals.         South China Moming Post       South China Moming Post       Euro Surveillance, WHO         02 Jan, cont.       SciENCE till       O         Sampling at Huanan Sedfood Market showed the virus varse present in the environment, not in animals       - 03 Jan         Virus was present in the environment, not in animals       Joint Wenchine Sedfood Market showed the virus was present in the environment, not in animals         Of 33 Samples collected from animals at Huanan Sedfood Market and Sedfood Market at Publiked: 31 Jul 2020       Sourples and the softwarket environment as amples were positive by PCR for SARS-COV-2 from environmental samples at Huanan Sedfood Market at Head Advire at Huanan Sedfood Market at Huanan Sedfood Market at Huanan Sedfood Market and the softwarket environmental samples and Huanan Sedfood Market at Huanan Sedfood Market and the softwarket environmental samples and Huanan Sedfood Market an  | Ŭ       |  | that they will add "mystery Wuhan           |                               | for screening patients travelling                        |   |
| Output with the second seco   |         |  |   |                               | from Wuhan at four airports, and                         |   |
| Bouth China Moming Post         62 Jan, cont.         62 Jan, cont.         Sampling at Huanan Secfood Market showed the virus was present in the environment, not in animals         Joint WHO-China mission         Published: 31 jul 2020         Of 33 Samples collected from animals at Huanan         Seafood Market, none was positive by polymerses         chair need to for SARS-CoV-2. 69 out of 842         environmental samples were positive by PCR for SARS-         CV-2. Three genetics squences of SARS-CoV-2 form         environmental samples at Huanan Secfood Market         eventually were published on the Global Initiative on         Shoring All Influenzo Data.  |         |  | authorities to place patients in            |                               |  |   |
| O2 Jan, cont.       O 3 Jan         Sampling at Huanan Seafood Market showed the virus was present in the environment, not in animals juli view as present in the environment, not in animals Juli view as present in the environment, not in animals Juli view as present in the environment and the animals Juli view as present in the environment and the animals Juli view as present in the environment as the animals Juli view as present in the environment and the animals Juli view as present in the environment as a positive by polymerase chain reaction (PCR) for SARS-Cov-2. Start of 842         Covice Three genetics of SARS-Cov-2 from environmental samples at Huanan Seafood Market eventually were published on the Global Initiative on Shoring All Influenzo Data.  |         |  | •   |                               | · · · · · ·  |   |
| 02 Jan, cont.         SCIENCE III         SCIENCE III         Sampling at Huanan Seafood Market showed the virus was present in the environment, not in animals point WHO-China mission         Published: 31 Jul 2020       Of 336 samples collected from animals at Huanan         Seafood Market, none was positive by polymerase chain reaction (PCR) for SARS-CoV-2. 69 out of 842 environmental samples were positive by PCR for SARS-CoV-2 from environmental samples at Huanan Seafood Market eventually were published on the Global Initiative on Sharing All Influenza Data.   |         |  | South China Morning Post                    |                               | Laro Surveinance, wrio                                   |   |
| 02 Jan, cont.         SCIENCE III         SCIENCE III         Sampling at Huanan Seafood Market showed the virus was present in the environment, not in animals point WHO-China mission         Published: 31 Jul 2020       Of 336 samples collected from animals at Huanan         Seafood Market, none was positive by polymerase chain reaction (PCR) for SARS-CoV-2. 69 out of 842 environmental samples were positive by PCR for SARS-CoV-2 from environmental samples at Huanan Seafood Market eventually were published on the Global Initiative on Sharing All Influenza Data.   | ш       |  |   |                               |  |   |
| 02 Jan, cont.         SCIENCE III         SCIENCE III         Sampling at Huanan Seafood Market showed the virus was present in the environment, not in animals point WHO-China mission         Published: 31 Jul 2020       Of 336 samples collected from animals at Huanan         Seafood Market, none was positive by polymerase chain reaction (PCR) for SARS-CoV-2. 69 out of 842 environmental samples were positive by PCR for SARS-CoV-2 from environmental samples at Huanan Seafood Market eventually were published on the Global Initiative on Sharing All Influenza Data.   | N       |  |   |                               |  |   |
| 02 Jan, cont.         SCIENCE III         SCIENCE III         Sampling at Huanan Seafood Market showed the virus was present in the environment, not in animals point WHO-China mission         Published: 31 Jul 2020       Of 336 samples collected from animals at Huanan         Seafood Market, none was positive by polymerase chain reaction (PCR) for SARS-CoV-2. 69 out of 842 environmental samples were positive by PCR for SARS-CoV-2 from environmental samples at Huanan Seafood Market eventually were published on the Global Initiative on Sharing All Influenza Data.   | DE      |  |   |                               |  |   |
| 02 Jan, cont.         SCIENCE III         SCIENCE III         Sampling at Huanan Seafood Market showed the virus was present in the environment, not in animals point WHO-China mission         Published: 31 Jul 2020       Of 336 samples collected from animals at Huanan         Seafood Market, none was positive by polymerase chain reaction (PCR) for SARS-CoV-2. 69 out of 842 environmental samples were positive by PCR for SARS-CoV-2 from environmental samples at Huanan Seafood Market eventually were published on the Global Initiative on Sharing All Influenza Data.   | Ē       |  |   |                               |  |   |
| 02 Jan, cont.         SCIENCE III         SCIENCE III         Sampling at Huanan Seafood Market showed the virus was present in the environment, not in animals point WHO-China mission         Published: 31 Jul 2020       Of 336 samples collected from animals at Huanan         Seafood Market, none was positive by polymerase chain reaction (PCR) for SARS-CoV-2. 69 out of 842 environmental samples were positive by PCR for SARS-CoV-2 from environmental samples at Huanan Seafood Market eventually were published on the Global Initiative on Sharing All Influenza Data.   | ME      |  |   |                               |  |   |
| 02 Jan, cont.         SCIENCE III         SCIENCE III         Sampling at Huanan Seafood Market showed the virus was present in the environment, not in animals point WHO-China mission         Published: 31 Jul 2020       Of 336 samples collected from animals at Huanan         Seafood Market, none was positive by polymerase chain reaction (PCR) for SARS-CoV-2. 69 out of 842 environmental samples were positive by PCR for SARS-CoV-2 from environmental samples at Huanan Seafood Market eventually were published on the Global Initiative on Sharing All Influenza Data.   | Ę       |  |   |                               |  |   |
| 02 Jan, cont.         SCIENCE III         SCIENCE III         Sampling at Huanan Seafood Market showed the virus was present in the environment, not in animals point WHO-China mission         Published: 31 Jul 2020       Of 336 samples collected from animals at Huanan         Seafood Market, none was positive by polymerase chain reaction (PCR) for SARS-CoV-2. 69 out of 842 environmental samples were positive by PCR for SARS-CoV-2 from environmental samples at Huanan Seafood Market eventually were published on the Global Initiative on Sharing All Influenza Data.   | EAI     |  |   |                               |  |   |
| SCIENCE III<br>Sampling at Huanan Seafood Market showed the<br>virus was present in the environment, not in animals<br>Joint WHO-China mission<br>Published: 31 Jul 2020<br>Of 336 samples collected from animals at Huanan<br>Seafood Market, none was positive by polymerase<br>chain reaction (PCR) for SARS-CoV-2. 69 out of 842<br>environmental samples were positive by PCR for SARS-<br>CoV-2. Three genetic sequences of SARS-CoV-2 from<br>environmental samples at Huanan Seafood Market<br>eventually were published on the Global Initiative on<br>Sharing All Influenza Data.   | ~       |  |   |                               |  |   |
| SCIENCE III<br>Sampling at Huanan Seafood Market showed the<br>virus was present in the environment, not in animals<br>Joint WHO-China mission<br>Published: 31 Jul 2020<br>Of 336 samples collected from animals at Huanan<br>Seafood Market, none was positive by polymerase<br>chain reaction (PCR) for SARS-CoV-2. 69 out of 842<br>environmental samples were positive by PCR for SARS-<br>CoV-2. Three genetic sequences of SARS-CoV-2 from<br>environmental samples at Huanan Seafood Market<br>eventually were published on the Global Initiative on<br>Sharing All Influenza Data.   |         |  |   |                               |  |   |
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| Virus was present in the environment, not in animals<br>Joint WHO-China mission<br>Published: 31 Jul 2020<br>Of 336 samples collected from animals at Huanan<br>Seafood Market, none was positive by polymerase<br>chain reaction (PCR) for SARS-CoV-2. 69 out of 842<br>environmental samples were positive by PCR for SARS-<br>CoV-2. Three genetic sequences of SARS-CoV-2 from<br>environmental samples at Huanan Seafood Market<br>eventually were published on the Global Initiative on<br>Sharing All Influenza Data.  |         | SCIENCE  | •   |                               |  |   |
| Joint WHO-China mission<br>Published: 31 Jul 2020<br>Of 336 samples collected from animals at Huanan<br>Seafood Market, none was positive by polymerase<br>chain reaction (PCR) for SARS-CoV-2. 69 out of 842<br>environmental samples were positive by PCR for SARS-<br>CoV-2. Three genetic sequences of SARS-CoV-2 from<br>environmental samples at Huanan Seafood Market<br>eventually were published on the Global Initiative on<br>Sharing All Influenza Data.  | ш       |  |   |                               |  |   |
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| Seafood Market, none was positive by polymerase<br>chain reaction (PCR) for SARS-CoV-2. 69 out of 842<br>environmental samples were positive by PCR for SARS-<br>CoV-2. Three genetic sequences of SARS-CoV-2 from<br>environmental samples at Huanan Seafood Market<br>eventually were published on the Global Initiative on<br>Sharing All Influenza Data.  | /IDE    |  |   |                               |  |   |
| chain reaction (PCR) for SARS-CoV-2. 69 out of 842<br>environmental samples were positive by PCR for SARS-<br>CoV-2. Three genetic sequences of SARS-CoV-2 from<br>environmental samples at Huanan Seafood Market<br>eventually were published on the Global Initiative on<br>Sharing All Influenza Data.   |         |  |   |                               |  |   |
| environmental samples were positive by PCR for SARS-<br>CoV-2. Three genetic sequences of SARS-CoV-2 from<br>environmental samples at Huanan Seafood Market<br>eventually were published on the Global Initiative on<br>Sharing All Influenza Data.   |         |  |   |                               |  |   |
| CoV-2. Three genetic sequences of SARS-CoV-2 from<br>environmental samples at Huanan Seafood Market<br>eventually were published on the Global Initiative on<br>Sharing All Influenza Data.   |         |  |   |                               |  |   |
| environmental samples at Huanan Seafood Market<br>eventually were published on the Global Initiative on<br>Sharing All Influenza Data.  |         |  |   |                               |  |   |
| eventually were published on the Global Initiative on<br>Sharing All Influenza Data.  | ž       | environmental samples at Huanan  | Seafood Market                              |                               |  |   |
|   | E       | eventually were published on the G   | lobal Initiative on                         |                               |  |   |
| WHO-Convened Global Study of the Origins of SARS-CoV-2  |         |  |   |                               |  |   |
|   |         | WHO-Convened Global Study of the Origins of the Ori | of SARS-CoV-2                               |                               |  |   |

|                             |  | (2)  | (2)   | (2)   |  |
|-----------------------------|--|--|---|---|--|
|                             |  | 04 Jan – 11:22 CST/04:22 CET                                     | 13:27 CST/06:27 CET   | 04 Jan – 19:13 CET<br>05 Jan – 02:13 CST                    | PUBLICATION 📀  |
|                             |  | REQUEST 📀  | ANNOUNCEMENT  |   | WHO reports 44 cases in Disease                                  |
| _                           |  | WHO WPRO requests more<br>information; advises IHR state         | WHO WPRO tweets China has<br>reported a cluster of PUO cases        | WHO HQ tweets China has                                     | Outbreak News  |
| NTERNATIONAL                |  | parties will be notified   | who wpro  | reported a cluster of pneumonia                             | WHO  |
|                             |  | WHO WPRO   | "#China has reported to WHO   | cases   | Based on Chinese data, WHO                                       |
| .AN                         |  | WHO WPRO IHR Focal Point   | regarding a cluster of pneumonia                                    | WHO HQ  | reports the 44 cases identified<br>by 3 Jan. in Disease Outbreak |
| LER                         |  | acknowledges the information                                     | cases in Wuhan, Hubei Province.                                     | "#China has reported to WHO                                 | News, and states that there is "no                               |
| z                           |  | received under Article 10 of IHR                                 | The Govt has also met with our                                      | a cluster of #pneumonia cases<br>—with no deaths— in Wuhan, | evidence of significant human-to-                                |
|                             |  | and requests more information<br>from the Chinese National Focal | country office, and updated @<br>WHO on the situation. Govt actions | Hubei Province. Investigations are                          | human transmission".   |
|                             |  | Point. WHO WPRO advises that                                     | to control the incident have been                                   | underway to identify the cause of                           | WHO Disease Outbreak News  |
|                             |  | IHR state parties will be notified.                              | instituted and investigations into                                  | this illness."  |  |
|                             |  | The Focal Point replies one hour                                 | the cause are ongoing."   | WHO Twitter   |  |
|                             |  | later.   | WHO WPRO Twitter  |   |  |
|                             |  | WHO internal documents   |   |   |  |
| >                           |  |  |   |   |  |
| ITR                         |  |  |   |   |  |
| COUNTRY                     |  |  |   |   |  |
| Ü                           |  |  |   |   |  |
|                             |  |  |   |   | Wuhan issues third public  |
|                             |  |  |   |   | bulletin confirming 59 PUO cases                                 |
|                             | 17:00 CST/10:00 CET  |  |   |   | Wuhan Municipal Health Commission<br>Published: 5 Jan 2020       |
|                             | CASES 😐  |  |   |   | Wuhan Municipal Health   |
| щ                           | Wuhan issues second public                                   |  |   |   | Commission issues a third bulletin,                              |
| DENC                        | bulletin confirming 44 PUO cases                             |  |   |   | reporting 59 cases, seven in serious condition, no deaths. The   |
|                             | Wuhan Municipal Health Commission                            |  |   |   | bulletin reports that preliminary                                |
| ш<br>Ш                      | Wuhan Municipal Health                                       |  |   |   | studies have not shown any sign                                  |
| Σ                           | Commission issues second public                              |  |   |   | of h-to-h transmission, and that                                 |
| 5                           | bulletin, confirming 44 PUO cases,                           |  |   |   | no health care workers have been infected.                       |
| A                           | of which 11 are severely ill and 33 are in stable condition. |  |   |   | Intected.<br>Wuhan Municipal Health Commission,                  |
| 2                           |  |  |   |   | <u>Center for Infectious Disease Research and</u>                |
|                             | <u>-</u>   |  |   |   | <u>Policy</u>  |
| _                           | 03 Jan, cont   | o  | •   | •   | 🔶 05 Jan ————  |
|                             |  |  |   |   | · – – – – – – – – – – – – – – – – – – –                          |
| Щ                           |  |  |   |   |  |
| DEN                         |  |  |   |   |  |
| EVI                         |  |  |   |   | 01 Jan-09 Jan 2020   |
| IVE                         |  |  |   |   | SCIENCE III 💿  |
| LCT                         |  |  |   |   | Re estimated at 3.54 in China                                    |
| <b>RETROSPECTIVE EVIDEN</b> |  |  |   |   | Hao X, Chen S, et al.<br>Published: 16 Jul 2020                  |
| TRC                         |  |  |   |   | Re estimated at 3.54 (3.4-3.67) in                               |
| B                           |  |  |   |   | China for the period 1 Jan9 Jan.,                                |
|                             |  |  |   |   | suggesting rapid spread.   |
|                             |  |  |   |   | L INGTURO  |

<u>Nature</u>

| ALERT   | •    |  |   |   | NEWS BRIEFING  | 0                        |
|---|------|--|---|---|--|--------------------------|
| WHO alerts Member States vie  | a    |  |   |   | WHO briefs UN journalists  |                          |
| IHR   |      |  |   |   | <b>WHO</b>   |                          |
| WHO<br>WHO shares information about<br>the cluster of cases through the   |      |  |   |   | WHO participates in a regula<br>Geneva press briefing to give<br>update on the cluster of case   | e an                     |
| IHR Event Information System<br>accessible to all WHO Member<br>States and advises countries to<br>take precautions to reduce the<br>of acute respiratory infections. | risk |  |   |   | WHO internal documents   | -5.                      |
| WHO Timeline, IHR Review Committee<br>Report  | -    |  |   |   |  |                          |
|   |      |  |   |   | SCIENCE<br>China CDC isolates the virus<br>China CDC<br>The National Institute for Viro<br>Disease Control and Prevent<br>of the China CDC succeeds in<br>isolating the first novel coron<br>strain.<br>Interview: Dr. George Gao 25 Nov. 20 | al<br>ion<br>n<br>naviru |
|   |      |  |   |   | Council Information Office of the Peo<br>Republic of China   |                          |
| • 05 Jan, cont.   |      |  | <b>O-</b> 06 Jan ————   | •   | 0- 07 Jan  |                          |
| ⊥ ́ _ ́   |      | SCIENCE 💿  |   |   |  |                          |
| SCIENCE   | ۲    | Shanghai group submit genome<br>to GenBank   |   |   |  |                          |
| Wuhan Institute of Virology<br>isolates virus   |      | Zhang YZ, Wu F et al.<br>Published: 11 Jan 2020  | NEWS REPORT   | NEWS REPORT (©) WHO was concerned that not  | NEWS REPORT  | ۲                        |
| Wuhan Institute of Virology<br>Published: 29 Jan 2020   |      | A consortium of researchers from<br>the Shanghai Public Health Center                            | Published: 02 Jun 2020  | enough data was shared<br>Published: 02 Jun 2020  | Chinese top leaders discuss  | <u>.</u>                 |
| The Wuhan Institute of Virology   | /    | sequenced the novel coronavirus  | China CDC raised emergency level  | "We're currently at the stage   | the outbreak   |                          |
| confirmed the isolation of  |      | and uploaded the sequence to   | to second highest. Staff isolated   | where they're giving it to us 15  | Published: 09 Jun 2020   |                          |
| the novel coronavirus with<br>immunofluroscence and<br>quantitative PCR assays.   |      | GenBank on 5 Jan. The submitted<br>sequence was subsequently<br>published on 11 Jan. and updated | the virus, drafted lab testing<br>guidelines, and designed test kits.<br>The agency has no authority to | minutes before it appears on<br>CCTV (China Central Television),"<br>said WHO Representative to | Chinese top leaders, includir<br>President, discussed the out<br>at a meeting of the Politburo   | oreak                    |
|   | I    | on 14 Jan. and 17 Jan.   | issue public warnings.  | China.  | Standing Committee.  |                          |
| Interview and correspondence with Dr.<br>Zhengli Shi, <u>Wuhan Institute of Virology</u>  |      | GenBank submission, Nature   | Associated Press  |   | fording committee.   |                          |

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|--------|--|--|--|--|---|
|        |  | REQUEST 📀  | 09-12 juli 2020  | ANNOUNCEMENT 📀   | PUBLICATION (   |
|        |  | WHO requests detailed case<br>information from China   | INTERIM GUIDANCE    WHO issues a series of guidance  | WHO announces China has<br>identified new coronavirus  | Risk for introduction to the EU considered low  |
| ç      |  | WHO  | tools  | WHO China  | ECDC  |
|        |  | WHO writes to the China IHR<br>National Focal Point and requests<br>urgent confirmation of the<br>discovery of the novel coronavirus,<br>and detailed information on its<br>etiology, clinical presentation,<br>additional laboratory findings,<br>including sequencing, and the   | WHO HQ<br>Published: 9 Jan 2020<br>WHO issues a series of guidance<br>tools related to national capacities<br>(9 Jan.), disease commodities (9<br>Jan.), infection prevention and<br>control (10 Jan.), laboratory testing<br>(10 Jan.), risk communication and<br>community engagement (10 Jan.), | "Chinese authorities have made<br>a preliminary determination of<br>a novel (or new) coronavirus,<br>identified in a hospitalized person<br>with pneumonia in Wuhan."<br><u>WHO Statement, IHR Review Committee</u><br><u>Report</u> | Published: 9 Jan 2020<br>Three EU airports have direct<br>flights to Wuhan. As there is no<br>indication of h-to-h transmission<br>and no cases detected outside<br>Wuhan, the European Centre for<br>Disease Prevention and Control<br>(ECDC) considers the likelihood |
|        |  | containment measures put in place.   | surveillance case definitions (11<br>Jan.), and clinical management (12  |  | of introduction to the European<br>Union (EU) to be low, but it can't be<br>excluded.   |
|        |  | WHO internal documents   | Jan.).   |  | ECDC  |
|        |  |  | WHO guidance   |  |   |
|        |  | NEWS REPORT         Chinese scientists identify new coronavirus         Published: 08 Jan 2020         Ahead of anyone, the Wall Street Journal reports that Chinese scientists investigating a mystery illness that has sickened dozens in central China have discovered a new strain of coronavirus.         Wall Street Journal |  |  |   |
| _      | • 07 Jan, cont. •  | 0- 08 Jan  | <b>0-</b> 09 Jan ————  | •  | •   |
| L<br>L |  |  | CASES III 💿  | CASES ©  |   |
|        | NEWS REPORT (©)<br>Mayor of Wuhan reported to the  |  | Unobserved cases due to h-to-h<br>transmission in China estimated<br>to be 52,381  | Wuhan Municipal Health Commission<br>Published: 11 Jan 2020  |   |
|        | People's Congress of Wuhan<br>Published: 01 Feb 2020, updated 7 Feb 2020   |  | Mizumoto K, Kagaya K, and Chowell G.<br>Published: 2 Jun 2020  | The first pandemic-related death<br>occurred on 9 Jan. — a 61-year-  |   |
|        | In his address to the People's<br>Congress of Wuhan, the Mayor<br>of Wuhan focused on new<br>infrastructure, didn't mention the<br>outbreak. |  | Unobserved cases due to human-<br>to-human transmission were<br>estimated to be 52,381 from 8 Dec.<br>2019 to 9 Jan. 2020. R0 estimated  | old male with liver disease who<br>frequented the Huanan Seafood<br>Market. The immediate cause<br>of death was respiratory and<br>circulatory failure.  |   |
|        | <u>NY Times</u>  |  | International Journal of Infectious Disease  | <u>Bloomberg</u>   |   |

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|                             | (3)   | - (å)     |  |          |  |   | (a) <u>*</u>  |                    | (A)  |   |            |
|-----------------------------|---|-----------|--|----------|--|---|---|--------------------|--|---|------------|
|                             | MEETING O   |           | REQUEST  | ۲        | MEETING  | 6                                       | ADVICE  | •                  |  | MEETING                                   | ۲          |
| _                           | WHO convenes global experts<br>WHO                                  |           | uests PCR primer<br>sequence                         | and      | First meeting of the STA<br>WHO STAG-IH  | G-IH                                    | WHO recommends no s<br>health measures for tra                                |                    | and Scie   | r R&D Preparednes<br>entific Advisory Gro | oup        |
| IONA                        | WHO begins convening expert<br>panels including clinicians and      | Health Er | utive Director of th<br>nergencies Progra            | amme     | WHO Strategic and Tec<br>Advisory Group for Infe   |   | WHO HQ<br>Published: 10 Jan 2020  |                    | telecont   | &D Blueprint hold f<br>ference            | nrst       |
| AT                          | experts on diagnostics and  |           | China's National II                                  |          | Hazards (STAG-IH) disc   | usses the                               | WHO publishes advice f  |                    | WHO  |   |            |
| NTERNATIONAL                | laboratory guidance.<br>WHO internal documents, <u>WHO Timeline</u> | the diagr | nt requesting Chin<br>hostic PCR primer<br>sequence. | and full | situation in Wuhan and<br>risk analysis. WHO conv<br>experts as well.  |   | international travel and<br>recommends caution wh<br>traveling in or from Wuh | nile               | The Global Coordination<br>Mechanism for R&D Preparedness<br>and the Scientific Advisory Group |   |            |
| -                           |   | -         | Committee Report                                     |          | WHO STAG-IH  |   | Advises against travel or   | trade              | of the R   | &D Blueprint hold th                      | heir first |
|                             |   |           |  |          |  |   | restrictions on China bac<br>currently available infor                        |                    | coronav  |   |            |
|                             |   |           |  |          | BORDER MEASURE   | 6 0                                     | <u>WHO HQ</u>   | -                  | GCM teleo<br>WHO time  | conference meeting min<br>line            | utes,      |
|                             |   |           |  |          | Areas impose internations screening and/or contractions and and a screening and a screening and screen scre | onal travel<br>ols                      |   |                    |  |   |            |
|                             |   |           |  |          | Various countries  |   |   |                    |  |   |            |
| COUNTRY                     |   |           |  |          | By 10 Jan., Hong Kong S<br>Japan, Macao SAR (Chi   | na), Taiwan                             |   |                    |  |   |            |
| CO                          |   |           |  |          | (China), Singapore, Turl<br>Viet Nam, Malaysia, and  | d the                                   |   |                    |  |   |            |
|                             |   |           |  |          | Philippines all implement<br>border measures.  | nt some                                 |   |                    |  |   |            |
|                             |   |           |  |          | Our World in Data, Viet Nam, I<br>Philippines  | <u> Malaysia</u> ,                      |   |                    |  |   |            |
|                             |   |           |  |          |  |   |   |                    |  |   |            |
|                             |   |           |  |          |  |   |   |                    |  |   |            |
| В                           |   |           |  |          |  |   |   |                    |  |   |            |
| DEN                         |   |           |  |          |  |   |   |                    |  |   |            |
| EVI                         |   |           |  |          |  |   |   |                    |  |   |            |
| <b>REAL-TIME EVIDENCE</b>   |   |           |  |          |  |   |   |                    |  |   |            |
| 5                           |   |           |  |          |  |   |   |                    |  |   |            |
| REA                         |   |           |  |          |  |   |   |                    |  |   |            |
|                             |   |           |  |          |  |   |   |                    |  |   |            |
|                             | • 09 Jan, cont  |           |  |          | - 10 Jan   |   |   |                    |  |   |            |
|                             |   |           |  |          |  |   | SCIENCE II  | •                  |  |   |            |
| ы                           |   |           |  |          |  |   | PCR diagnostic reagent  |                    |  |   |            |
|                             |   |           |  |          |  |   | developed and tested  |                    |  |   |            |
|                             |   |           |  |          | SCIENCE III<br>R0 initially estimated a  | ····· <del>i</del> ····· <del>i</del> · | China CDC<br>Published: 29 Jan 2020   |                    |  |   |            |
| VEI                         |   |           |  |          | China  |   | PCR diagnostic reagent  |                    |  |   |            |
| <b>RETROSPECTIVE EVIDEN</b> |   |           |  |          | Li Q, Guan X, et al.<br>Published: 29 Jan 2020   |   | developed and tested in<br>allowing for accurate ide                          | entification       |  |   |            |
| SPI                         |   |           |  |          | Initial estimates of trans   | ·····                                   | and diagnosis of SARS-0   | CoV-2              |  |   |            |
| TRO                         |   |           |  |          | dynamics in Wuhan ind  | cated R0                                | infection. Reagent was c<br>to Wuhan the next day.                            | IISTRIDUTED        |  |   |            |
| RE                          |   |           |  |          | to be 2.2 (1.4–3.9) and a time of 7.4 days.  | doubling                                | New England Journal of Medic  |                    |  |   |            |
|                             |   |           |  |          | New England Journal of Media   | ine                                     | <u>Council Information Office of tl</u><br><u>Republic of China</u>           | <u>ne People's</u> |  |   |            |
|                             |   |           |  | 1        |  | ••••••                                  | •••••••••••••••••••••••••••••••••••••••                                       |                    |  |   |            |

|                    | .(2)   |  |   |  | · · · · · · · · · · · · · · · · · · ·  |
|--------------------|--|--|---|--|--|
|                    | MEETING 💿  |  | PUBLICATION O   |  | ACTION 💿   |
|                    | Second technical briefing<br>between China and WHO   |  | WHO reports 41 cases and one death  |  | Scientists publish first protocol<br>for RT-PCR test   |
| NAI                | мно  |  | WHO<br>Published: 12 Jan 2020   |  | WHO<br>Published: 13 Jan 2020  |
| INTERNATIONAL      | Second of three technical briefings<br>between WHO China Country<br>Office and the Chinese National<br>Health Commission. The list of<br>cases shared confirm there are<br>cases not linked to the Huanan<br>Seafood Market.   |  | WHO issues a Disease Outbreak<br>News update, based on<br>information from China's National<br>Health Commission. It reads "WHO<br>is reassured of the quality of the<br>ongoing investigations and the |  | WHO publishes the first protocol<br>for a reverse transcription<br>polymerase chain reaction (RT-<br>PCR) assay for detection of the<br>novel coronavirus, developed by<br>partner laboratories. |
|                    | WHO internal documents   |  | response measures implemented in Wuhan"   |  | <u>Charité Virology</u>  |
|                    |  |  | WHO Disease Outbreak News   |  |  |
| COUNTRY            | CASES $\overline{oldsymbol{\Theta}}$<br>Wuhan reports 41 cases using<br>updated case definition and the<br>first death   |  |   |  |  |
|                    | Wuhan Municipal Health Commission  |  |   |  |  |
|                    | The Wuhan Municipal Health<br>Commission publishes its fourth<br>bulletin coinciding with the second   | Research consortium publishes<br>draft genome<br>Chinese researchers   |   |  |  |
|                    | technical briefing between China   | A consortium of researchers led  |   |  | CASES 💿  |
| REAL-TIME EVIDENCE | and WHO. The total number of<br>cases is revised down to 41, based<br>on a new case definition. The first<br>death is reported. The bulletin<br>also states that no new cases have<br>been reported since 3 Jan., and<br>"no clear evidence of human-to-<br>human transmission" has been | by Professor Yong-Zhen Zhang<br>from the Shanghai Public Health<br>Clinical Center publishes a draft<br>genome of the newly discovered<br>coronavirus suspected of causing<br>the outbreak on GenBank.<br>The genome was submitted |   |  | Thailand: First reported case<br>First reported case in Thailand,<br>imported from Wuhan (see<br>retrospective entry on 12 Jan.).<br><u>WHO Dashboard and Situation Reports</u>                  |
| EAL                | found.   | to GenBank on 5 Jan. (see<br>retrospective entry on 5 Jan.).   |   |  |  |
| ~                  | <u>Wuhan Municipal Health Commission,</u><br>WHO internal documents  | Science Magazine, Post by Edward<br>Holmes, Caixin, Twitter  |   |  |  |
|                    | 0-11 Jan   |  | <b>-</b> 12 Jan ———————————————————————————————————   |  | <b>Ó-</b> 13 Jan   |
|                    |  |  | CASES II  |  |  |
| ENCE               |  |  | First case outside China detected<br>in Thailand  |  |  |
| EVIDE              | NEWS REPORT 💿  |  | Okada P, Buathong R, et al.<br>Published: 27 Feb 2020   |  |  |
| IVE                | Crowds gather at Wuhan events  |  | ¦Air traveler who arrived<br>¦from Wuhan on 8 Jan. was  |  |  |
| ECT                | Published: 01 Feb 2020   |  | identified through airport  | CASES III  |  |
| RETROSPECTIVE      | Holiday shopping fairs and other events continued. Without clear   |  | thermosurveillance and was<br>diagnosed in hospital on 12 Jan.  | China: 1,723 estimated cases                               |  |
| TRC                | government warnings, people  |  | Virus was genetically identical to  | Estimated cases of COVID-19 were                           |  |
| RE                 | kept travelling within and beyond<br>China.  |  | 30 Dec. strains in Wuhan.   | 1,723 based on data looking at probability of exportation. |  |
|                    | Washington Post  |  | Euro Surveillance, IHR Review Committee<br>Report   | Imperial College   |  |
| _                  |  |  |   |  |  |

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| _                         | (A)  | *   |  |   |            |   |
|---------------------------|--|---|--|---|------------|---|
|                           | MEETING O  | ANNOUNCEMENT 📀  |  | ACTION  | ◙          |   |
|                           | WHO teleconference on<br>diagnostics strategy  | WHO seemingly gives conflicting information on h-to-h   |  | WHO reaches agreement with<br>China to visit Wuhan  |            |   |
| AL                        | WHO  | transmission  |  | who   |            |   |
| INTERNATIONAL             | WHO holds a teleconference with<br>the diagnostics and laboratories<br>global expert network to discuss<br>a diagnostics strategy. The<br>teleconference includes members<br>from WHO Global Laboratories<br>Alliance for the Diagnosis of High<br>Threat Pathogens. | WHO HQ<br>WHO scientist in press briefing:<br>"From the information that we<br>have it is possible that there<br>is limited human-to-human<br>transmission". WHO tweet:<br>"Preliminary investigations<br>conducted by the Chinese  |  | WHO China Country Office<br>reaches agreement with China<br>visit Wuhan. The visit takes plac<br>from 20–21 Jan.<br><i>WHO internal documents</i> | i to<br>ce |   |
| -                         | WHO internal documents   | authorities have no clear evidence  |  |   |            |   |
| COUNTRY                   |  | of human-to-human transmission<br>of the novel coronavirus (2019-<br>nCoV) identified in Wuhan, China".<br><u>WHO Twitter, Reuters, IHR Review</u><br><u>Committee Report</u>   |  |   |            |   |
|                           |  |   |  |   |            | NEWS REPORT 🛛 🕥   |
|                           |  | Travel data predict cities most   |  | CASES   | •          | Japan and Thailand report   |
|                           |  | connected to Wuhan  |  | Japan: First reported case  | U          | coronavirus cases   |
| Ш                         |  | Bogoch II, Watts A, et al.  |  |   |            | Published: 15 Jan 2020, updated 21 Jan 2020                         |
| Ň                         |  | Published: 14 Jan 2020  |  | First reported case in Japan,<br>imported from Wuhan.   |            | Japan's Health Ministry says  |
|                           |  | Travel data is used to produce a list of top 20 passenger destination   |  | WHO Dashboard and Situation Reports   | ;          | patient had not visited any   |
| <b>REAL-TIME EVIDENCE</b> |  | cities from Wuhan, with the   |  |   |            | seafood market in China. "It is possible that the patient had close |
| Σ                         |  | majority being in Asia. Infectious  |  |   |            | contact with an unknown patient                                     |
| AL-                       |  | Disease Vulnerability Index (IDVI) scores are calculated for each   |  |   |            | with lung inflammation while in China."                             |
| RE                        |  | destination.  |  |   |            | NY Times  |
|                           |  | Journal of Travel Medicine  |  |   |            |   |
|                           | • 13 Jan. cont.  | - 14 Jan  | ·  | - 15 Jan  |            |   |
| RETROSPECTIVE EVIDENCE    |  | NEWS REPORT<br>China's top health official ordered t<br>prepare for a pandemic<br>China CDC<br>Published: 02 Jun 2020<br>In a confidential teleconference, Chi<br>official ordered the country to prepo<br>China CDC internally declared level<br>Chinese officials still said that the ch<br>h-to-h transmission was low.<br>Associated Press, PBS Frontline | ●<br>he country to<br>na's top health<br>are for a pandemic.<br>one emergency. |   |            |   |

|                      |  |   |   | -   | - (2)  |
|----------------------|--|---|---|---|--|
|                      |  |   | ALERI 🐨   | MEETING O   |  |
|                      |  |   | PAHO issues Epidemiological<br>Alert  | Third technical briefing between<br>WHO and China   | WHO WPRO: no clear evidence of<br>h-to-h transmission  |
| NAL                  |  |   | РАНО  | wно   | WHO WPRO   |
| INTERNATIONA         |  |   | The Pan American Health<br>Organization (PAHO) issues an<br>Epidemiological Alert about the<br>novel coronavirus recommending<br>Member States ensure health<br>workers have access to<br>information, are familiar with<br>principles and procedures, and<br>trained to ask about patient travel | The third in-person technical<br>briefing between WHO China<br>Country Office and Chinese health<br>authorities occurs. China National<br>Health Commission provides the<br>first "line list" of cases.<br>WHO internal documents | Published: 16 Jan 2020<br>WHO WPRO tweets that<br>"According to the latest info we<br>have, there is no clear evidence<br>of sustained human-to-human<br>transmission and there are no<br>infections reported among health<br>care workers." |
| RY                   |  |   | history. Screening at entry points<br>and restrictions on travel and<br>trade are not recommended.<br><u>PAHO</u>   |   | WHO WPRO TWITTER   |
| COUNTRY              |  |   |   |   |  |
| EVIDENCE             | CASES<br>First US COVID-19 patient seeks<br>care<br>US CDC<br>Published: 21 Jan 2020   |   |   |   |  |
| REAL-TIME EV         | A man from Seattle seeking care<br>for illness is later confirmed on 21<br>Jan. as the first US COVID-19 case.<br><u>US Centers for Disease Control and</u><br><u>Prevention</u> |   |   |   |  |
|                      | - 15 Jan, cont.  | - <b>O-</b> mid Jan   | <b>0-</b> 16 Jan  |   |  |
| EVIDENCE             |  | CASES III ( Virus potentially circulated in Italy   |   |   |  |
| VE                   |  | Alteri C, Cento V, et al.   | Rt estimated at 2.35 in China   | 10 Jan-22 Jan 2020  |  |
| ECTI                 |  | Published: 19 Jan 2021  | Kucharski AJ, Russel TW, et al.<br>Published: 11 Mar 2020   | Re estimated at 3.32 in China   |  |
| RETROSPECTIVE EVIDEI |  | Analysis of early Italy cases<br>suggests the virus was already<br>circulating in the community prior | Rt estimated at 2.35 in China one<br>week before travel restrictions  | Hao X, Chen S, et al.<br>Published: 16 Jul 2020   |  |
| RE'                  |  | mid-January.  | were put in place on 23 Jan. It fell<br>to 1.05 one week later.   | Re estimated at 3.32 (3.19–3.44) in<br>China for the period 10 Jan.–22 Jan.   |  |
|                      |  | Nature  | The Lancet Infectious Diseases  | <u>Nature</u>   |  |

|               | <b>_</b>             | MEETING   | •       |  |  | WHO WPRO tweets: Evidence<br>limited h-to-h transmission                    | of  |   | - 🥢 20 Jan-21 Jan 2020  |
|---------------|----------------------|---|---------|--|--|---|---|---|---|
|               |                      | eting of analysis and   | U       |  |  | WHO WPRO<br>Published: 19 Jan 2020  |   | Second meeting of the STAG-IH   | ACTION (©)<br>WHO China Country Office visits   |
| INTERNATIONAL | analysis<br>group fo | lds the first meeting of<br>and modelling workin<br>r the novel coronaviru<br>nal documents, <u>WHO timelir</u> | g<br>s. |  | "According to the latest info<br>received and WHO analysis, th<br>is evidence of limited human<br>human transmission While th<br>is currently no clear evidence<br>of sustained human-to-huma<br>transmission, we do not have<br>enough evidence to evaluate<br>full extent of human-to-huma<br>transmission." | to-<br>here<br>In<br>the  | WHO STAG-IH<br>STAG-IH experts discuss the<br>epidemiological situation, clinical<br>features, the development of<br>a technical package (interim<br>guidance), research and<br>development (R&D) Blueprint<br>landscape analyses (diagnostics,<br>vaccines, and therapeutics). The<br>R&D Blueprint Scientific Advisory<br>Group and Global Coordination | Whan<br>WHO China Country Office<br>WHO China Country Office has<br>its first mission to Wuhan since<br>the outbreak. The team visits the<br>Wuhan Tianhe Airport, Zhongnan<br>hospital and the Hubei provincial<br>CDC, including the Biosafety Level<br>3 laboratory handling coronavirus<br>specimens. |   |
|               |                      |   |         | 18 Jan-19 Jan 2020<br>ACTION                                 | ۲  | WHO WPRO Twitter<br>NEWS REPORT   | ۲   | Mechanisms also meet that day.  | WHO staff interview, <u>WHO Timeline</u> , <u>IHR</u><br><u>Review Committee Report</u> |
|               |                      |   |         | Prof. Nanshan Zhong leads<br>mission to Wuhan                |  | China announces intention to step up efforts to contain                     |   | *   | NEWS REPORT 💿   |
| RY            |                      |   |         | The Chinese National Health                                  |  | outbreak  |   | NEWS BRIEFING   | President Xi Jinping says China<br>will curb outbreak                                   |
| COUNTRY       |                      |   |         | Commission sends a mission to<br>Wuhan, led by Prof. Nanshan | 0  | Ahead of the Lunar New<br>Year, China's National Health                     |   | China medical expert confirms<br>h-to-h transmission  | "People's lives and health should   |
| Ũ             |                      |   |         | Zhong.<br>National Health Commission                         |  | Commission says it will step up<br>prevention and control measu             |   | Prof. Nanshan Zhong<br>National Health Commission   | be given top priority and the spread of the outbreak should be                          |
|               |                      |   |         |  |  | Wuhan's deputy mayor says h<br>strengthen oversight of big ev               | rents   | delegation led by Prof. Nanshan<br>Zhong announces on state   | resolutely curbed," state media<br>quote President Xi Jinping.                          |
|               |                      |   |         |  |  | and reduce public gatherings.<br><u>Reuters</u>                             |   | TV cases involving h-to-h<br>transmission, that medical staff   | Reuters   |
|               | L                    | NEWS REPORT   | •       |  |  | CASES   | •   | have been infected, and that  | CASES 📀   |
| Ш             |                      | rts it will screen<br>ers on Wuhan flights  |         |  |  | China reaches 198 reported c  | ases  | there are two cases in Guangdong<br>Province. The delegation suggests   | Republic of Korea: First reported cases   |
| DEN           | The US v             | vill begin screening<br>t three US airports to  |         |  |  | Wuhan Municipal Health<br>Commission announces 198 co                       | ases  | people don't travel in and out of<br>Wuhan.   | First reported cases in the   |
| EV            | detect tr            | avelers from Wuhan v  |         |  |  | of nCoV-2019 and four deaths  | i,  | National Health Commission, Reuters,  | Republic of Korea, imported from<br>Wuhan.  |
| I WE          | might ho             | ive symptoms of a new<br>ory virus. Many countr   | v       |  |  | as of 19 Jan. In Wuhan Jinyinta<br>Hospital, a doctor reports 150           |   | Chinese Ministry of Education, IHR Review<br>Committee Report   | WHO Dashboard and Situation Reports   |
| AL-T          |                      | it in the days to come  |         |  |  | cases based on a clinical case<br>definition.                               |   | · · · · · · · · · · · · · · · · · · ·   |   |
| RE            | <u>Reuters</u>       |   |         |  |  | Wuhan Municipal Health Commission,<br>Report: Prof. Nanshan Zhong 10 Nov 20 |   |   |   |
|               | 0- 17 Jan            |   |         | - 18 Jan   |  | 0-19 Jan  |   | 0- 20 Jan   |   |

| INTERNATIONAL      |  |                               |         | ANNOUNCEMENT<br>Clear evidence of h-to-h<br>transmission according to WHO<br>WPRO tweet<br>WHO WPRO<br>Published: 21 Jan 2020<br>"It is now very clear from the<br>latest information that there is<br>at least some human-to-human |  |                         |  |           |
|--------------------|--|-------------------------------|---------|---|--|-------------------------|--|-----------|
| 2                  |  |                               |         | transmission of #nCoV2019.<br>Infections among health care<br>workers strengthen the evidence<br>for this."   |  |                         |  |           |
|                    | CONTACT TRACING  | SCHOOL CLOSURES               | ۲       | WHO WPRO Tweet  |  |                         |  |           |
|                    | Singapore implements<br>comprehensive contact tracing                  | China closes schools          |         |   |  |                         |  |           |
|                    | Government of Singapore  | Ministry of Education         |         |   |  |                         |  |           |
| RY                 | Singapore is the first country   | China begins school closures. |         |   |  |                         |  |           |
| COUNTRY            | other than China in the Western  | <u>EdSurge</u>                |         |   |  |                         |  |           |
| 00                 | Pacific Region (WPR) to implement<br>comprehensive contact tracing.    |                               |         |   |  |                         |  |           |
|                    | Our World in Data  |                               |         |   |  |                         |  |           |
|                    | NEWS REPORT 🛛 👁  |                               |         | NEWS REPORT 🛛 👁   | CASES  | •                       | CASES  | Θ         |
|                    | Risk to UK very low  |                               |         | WHO expects further spread  | China: Cases spread to 14                      |                         | Multiple medical staff in Wuhc                           | an        |
| СЕ                 | "Based on the available evidence,                                      |                               |         | "More cases should be expected in   | provinces                                      |                         | infected   |           |
| REAL-TIME EVIDENCE | the current risk to the UK is very                                     |                               |         | other parts of China and possibly   | 309 cases are reported in Chin                 | na,                     | Wuhan Municipal Health Commission                        |           |
| EVI                | low," says Dr. Nick Phin, deputy<br>director of the National Infection |                               |         | other countries in the coming days," says WHO spokesman Tarik   | spread across 14 provinces/<br>municipalities. |                         | Wuhan Municipal Health                                   |           |
| ME                 | Service (NIS). "We are keeping   |                               |         | adys, says who spokesman rank   | WHO Situation Report                           |                         | Commission reports 15 medica staff confirmed as cases of | 11        |
| Ę.                 | the situation under constant   |                               | Reuters |   |  | pneumonia caused by new |  |           |
| EAL                | review."   |                               |         |   |  |                         | coronavirus infection in Wuhan                           | <u>n.</u> |
| ~                  | <u>Reuters</u>   |                               |         |   |  |                         | <u>China Daily</u>                                       |           |
|                    |  |                               |         |   | 1  |                         | 1  |           |
|                    | • 20 Jan, cont   |                               |         | 0- 21 Jan   |  |                         |  |           |

|                    |  |  |  | - 🍏 🗰 22 Jan-23 Jan 2020   | - 🍥 🗰 22 Jan-23 Jan 2020  |
|--------------------|--|--|--|--|---|
|                    |  |  |  |  | • MEETING •   |
| NAL                |  |  |  | WHO's IHR Emergency<br>Committee starts first meeting<br>WHO   | WHO's IHR Emergency<br>Committee ends meeting.<br>No PHEIC declared   |
| E                  |  |  |  | WHO's IHR Emergency Committ  | WHO   |
| INTERNATIONAL      |  |  |  | starts its first COVID-19-related<br>meeting. On this day, WHO<br>reports 314 cases, with 310 cases<br>in 14 provinces and municipalitie<br>within China, and four confirme<br>cases in three countries outside<br>China, all with direct connectior | The IHR Emergency Committee<br>advises the DG that the outbreak<br>does not yet meet the conditions<br>for a Public Health Emergency of<br>International Concern (PHEIC), but<br>urges countries to be prepared for<br>additional spread. The Committee |
|                    | CONTACT TRACING  | CONTACT TRACING O  | MASK USAGE   | to Wuhan.  | agrees to meet again within 10<br>days. By this day, cases have   |
|                    | Germany implements<br>comprehensive contact tracing  | Costa Rica introduces<br>comprehensive contact tracing   | France recommends mask wearing   | IHR Committe Statement, WHO Situation<br>Report  | increased to 581, with 571 cases in   |
|                    | Government of Germany  | Government of Costa Rica   | Government of France   |  | 24 provinces and municipalities within China, and 10 cases in   |
| UNTRY              | Germany is the first country in the<br>WHO European Region (EUR) to<br>implement comprehensive contact | Contact tracing for all COVID-19<br>cases is introduced in Costa<br>Rica, the first country in the WHO | France recommends mask<br>wearing, the first country in EUR<br>to do so. | J  | four countries outside China, all connected to Wuhan.   |
| 80                 | tracing.   | Region of the Americas (AMR) to  | Our World in Data  |  | IHR Committe Statement, WHO Situation<br>Report   |
|                    | <u>Our World in Data</u>   | do so.   |  |  | *   |
|                    | NEWS REPORT 💿  | <u>Our World in Data</u>   |  |  | LOCKDOWN/<br>STAY-AT-HOME MEASURES  |
|                    | China reports 15 samples from<br>Huanan Seafood Market contain   |  |  |  | First lockdown in Wuhan   |
|                    | virus  |  |  |  | Chinese Centre for Disease Control and<br>Prevention  |
| Ш                  | Published: 22 Jan 2020   |  |  |  | Lockdown initiated in Wuhan.  |
| DEN                | It is unclear whether the virus<br>is shed by humans or animals.                                       |  |  |  | China CDC   |
|                    | Chinese scientists publish the   |  |  |  | Cases per million<br>China: 0.45  |
| WE                 | genetic sequence from some samples, but the information  |  |  |  | CASES 📀   |
| 5                  | provides no clues to the virus'  |  |  |  | Singapore: First reported case  |
| <b>ZEA</b>         | origins.   |  |  |  | First reported case in Singapore.   |
|                    | China CDC, NY Times  |  |  |  | WHO Statement   |
|                    | 9- 22 Jan  |  |  |  |   |
|                    | · · · · · · · · · · · · · · · · · · ·  |  |  |  |   |
| ENCE               |  |  |  |  | CASES III 💿   |
| EVID               |  |  |  |  | China: 18,700 estimated cases,<br>R0 at 5.7   |
| CTIVE              |  |  |  |  | Sanche S, Lin Y, et al.<br>Published: July 2020   |
| RETROSPECTIVE EVID |  |  |  |  | 18,700 estimated cases in China.<br>Transmission dynamics of early<br>Wuhan spread were possibly as<br>high as R0 5.7, with a doubling<br>time of 2.3-3.3 days.   |
|                    |  |  |  |  | Emerging Infectious Diseases  |

|                   |   |   | (2)                                    |  |                                   | *   |   |              | (2)  |  |                 |
|-------------------|---|---|--|--|-----------------------------------|---|---|--------------|--|--|-----------------|
|                   |   |   | 2                                      | PUBLICATION  | •                                 | ~ ~   | ADVICE  | ۲            |  | MEETING  | ۲               |
|                   |   |   | Molect<br>COVID                        | ular assays to die<br>)-19   | agnose                            | WHO recom<br>on internati   | nmends no restricti<br>onal traffic   | ons          | Informal of therapeut                              | consultation on<br>tics  |                 |
| ONAL              |   |   | WHO HG<br>Publishe                     | Q<br>ed: 24 Jan 2020   |                                   | WHO<br>Published: 24 J  | an 2020   |              | WHO HQ<br>Published: 2                             | 4 Jan 2020   |                 |
| INTERNATIONAL     |   |   | of asso<br>Foundo<br>Diagno<br>assay o | oublishes an over<br>ays that have app<br>ation for Innovati<br>ostics for particip<br>assessment work | lied to<br>ve New<br>ation in its | exit screeni  | onal traffic,   | port         | an inform<br>prioritizat<br>therapeut<br>coronavir | Blueprint initiat<br>al consultation o<br>ion of candidate<br>ic agents for use<br>us 2019 infection | n<br>e in novel |
|                   |   |   | <u>WHO HG</u>                          | 2  |                                   | WHO   | ry screening.   |              | <u>WHO HQ</u>                                      |  |                 |
| _                 | *   |   |  |  |                                   | <u></u>   |   |              |  |  |                 |
|                   | BORDER MEASURES   |   |  | CONTACT TRACING  |                                   |   |   |              |  |  |                 |
|                   | 21 countries/areas have international screening in place                                  |   | Nepal<br>contac                        | introduces comp<br>ct tracing  | rehensive                         |   |   |              |  |  |                 |
| 2                 | National governments  |   |  | ment of Nepal  |                                   |   |   |              |  |  |                 |
| OUNTR             | Officials across the globe from<br>Africa to South America begin<br>containment measures. |   | COVID                                  | ct tracing for all c<br>-19 introduced in<br>ountry in SEAR to   | Nepal, the                        | - Me  |   |              |  |  |                 |
| Ŭ                 | <u>Our World in Data</u>  |   | <u>Our Wor</u>                         | rld in Data  |                                   | *   | Jan 24: Key scientifi   |              | es published ir                                    |  |                 |
|                   |   |   |  |  |                                   |   |   | Θ            |  | SCIENCE II   | ۲               |
|                   |   |   |  |  |                                   |   | racteristics, sever<br>ity published  | ty,          | transmiss  | ister suggests he<br>ion and asympto   | -to-h<br>omatic |
|                   |   |   |  |  |                                   | Huang C, Wang   | -   | -            | infection  | ( 0 h h  |                 |
| EAL-TIME EVIDENCE |   |   |  |  |                                   | fever, short<br>Approximat<br>acute respir<br>syndrome, 2<br>intensive ca | mptoms: cough,<br>breath, and myalg<br>ely 17-42% develop<br>atory distress<br>23-32% admitted to<br>re units, and 11-15% | ed           | where h-t  | cribes a family c<br>o-h transmissior<br>ptomatic infectio   | ו               |
| EAL-TIME          |   |   |  |  |                                   | confirmed p<br>were found   | 41 first laboratory-<br>patients 27/41(66%)<br>to be exposed to<br>afood Market.  |              |  |  |                 |
| ~                 |   |   |  |  |                                   | <u>The Lancet</u>   |   |              |  |  |                 |
|                   |   |   |  |  |                                   |   |   |              |  |  |                 |
|                   | • 23 Jan, cont  |   | <b>)-</b> 24 Jo                        | an   |                                   |   |   |              |  |  |                 |
| VIDENCE           | CASES III 📀   | CASES II 🖉 💿  |  |  |                                   | of 2019-nCo<br>is essential to  | the pandemic potent<br>V, careful surveillanc<br>o monitor its future h<br>ral evolution, infectivi                       | e i<br>ost ¦ |  |  |                 |
| Ξ J.              | Vast majority of early infections<br>in China undetected                                  | Travel restrictions in China significantly reduced spread   |  |  |                                   |   | lity, and pathogenicit  |              |  |  |                 |
| PECT              | Li R, Pei S, et al.<br>Published: 16 Mar 2020   | Wells CR, Sah P, et al.<br>Published: 13 Mar 2020   |  |  |                                   |   |   |              |  |  |                 |
| RETROS            | prior to the lockdown of Wuhan on   | Researchers estimate that travel<br>restrictions enacted in China after<br>23 Jan. reduced the average daily<br>rate of case exportations by 81.3%. |  |  |                                   |   |   |              |  |  |                 |
|                   | I   | PNAS  |  |  |                                   |   |   |              |  |  |                 |

|  |  | WHO grades outbreak as level<br>three emergency   |   |   |
|--|--|---|---|---|
| NTERNATIONAL   |  | The SARS-CoV-2 outbreak is<br>elevated to the highest level of<br>emergency. WHO HQ takes over<br>emergency management from the<br>regional office. |   |   |
| IN THE REPORT OF T |  | WHO internal documents  |   |   |
|  |  |   |   |   |
|  |  |   |   | MASK USAGE  |
|  |  |   |   | First mask mandates in<br>Guangdong, China  |
| OUNTRY   |  |   |   | The Guangdong Provincial Headquarters<br>Office for the Prevention and Control<br>of Pneumonia Infected by the Novel<br>Coronavirus |
| CON  |  |   |   | Mask wearing in public places<br>made mandatory in Guangdong<br>province.   |
|  |  |   |   | <u>Xinhuanet</u>  |
| NEWS REPORT 💿  |  |   |   | Cases per million<br>China: 1.44  |
| Trump: The US appreciates<br>China's efforts and transparency  | CASES 📀  | CASES 📀   | CASES 📀   | CASES 📀   |
| "China has been working very   | France and Viet Nam: First<br>reported cases             | Australia: First reported cases<br>First cases reported in Australia.   | Index case disembarks Diamond<br>Princess in Hong Kong          | China nears 2,000 cases, spread to 10 countries   |
| hard to contain the Coronavirus.<br>The United States greatly<br>appreciates their efforts and   | France and Viet Nam<br>First reported cases in Viet Nam  | WHO Dashboard and Situation Reports,<br>Australian Department of Health   | Government of Hong Kong<br>Published: 01 Feb 2020               | 2,014 cases globally, of which<br>1,985 are from China. There are 29  |
| 🖁 transparency. It will all work out   | and France. The two Vietnamese                           | Australian Department of Health   | An 80 year old man disembarks                                   | cases in 10 other countries.  |
| well. In particular, on behalf of the<br>American People, I want to thank  | cases involve a father who                               |   | the Diamond Princess in Hong<br>Kong with a cough. On 1 Feb. he | WHO Situation Report  |
| President Xi!" Trump writes in a   | travelled to China, who met his son in Viet Nam.         |   | tests positive for COVID-19.                                    |   |
| ₩ tweet.   | WHO Dashboard and Situation Reports,<br>NEIM, franceinfo |   | <u>Government of Hong Kong, Journal of</u><br>Travel Medicine   |   |
| Reuters  |  |   |   |   |
| 24 Jan, cont.  | •  | <b>0-</b> 25 Jan  | +   | <b>O-</b> 26 Jan ————   |

|  | ACTION 📀   | PUBLICATION 📀  | 27 Jan-28 Jan 2020  |  |
|--|--|--|---|--|
|  | R&D Blueprint: Open call to                                  | Publication of trial designs for                           | MEETING (   |  |
| -  | researchers  | experimental therapeutics                                  | WHO DG meets President Xi   |  |
| NTERNATIONAL   | WHO HQ   | WHO  | WHO DG  |  |
| 110  | Evaluating cross-reactivity<br>of nCoV with SARS to identify | WHO publishes outline of<br>trial designs for experimental | WHO Director-General (DG):<br>"We appreciate the seriousness      |  |
| A N S  | possible designs for experimental                            | therapeutics.  | with which China is taking  |  |
|  | vaccines and therapeutics.                                   | <u>WHO</u>   | this outbreak, especially the                                     |  |
| Z  | WHO STAG-IH  |  | commitment from top leadership,<br>and the transparency they have |  |
|  |  |  | demonstrated, including sharing                                   |  |
|  |  |  | data and genetic sequence of the                                  |  |
|  |  |  | virus."   | BORDER CONTROL MEASURES                                      |
|  |  |  | <u>WHO News Release</u>   | Viet Nam implements border                                   |
|  |  |  | BORDER CONTROL MEASURES 📀   | controls   |
|  |  |  | Singapore expands border  | Prime Minister   |
| TR   |  |  | controls  | Government announces plans to                                |
| OUNTRY   |  |  | Health Ministry   | ban travel from China.                                       |
| 0<br>U   |  |  | Travel ban from Hubei<br>implemented, later expanded to           | <u>Government News Report, Think Global</u><br><u>Health</u> |
|  |  |  | include China.  | Cases per million<br>Viet Nam: 0.02                          |
|  |  |  | <u>Straits Times</u><br>Cases per million                         |  |
|  |  |  | Singapore: 1.20   |  |
| EALENTIME EVIDENCE   | - <b>O</b> - 27 Jan  |  | <b>0-</b> 28 Jan ———————————————————————————————————              |  |
|  |  |  |   |  |
|  |  |  |   |  |
| Possible community circulation of                                |  |  |   |  |
| SARS-CoV-2 in Washington state                                   |  |  | 23 Jan-01 Feb 2020  |  |
| Bedford T, Greninger A, et al.                                   |  |  | SCIENCE III 💿   |  |
| D Published: 10 Sep 2020   | . <u></u>  |  | Dramatic Re reduction to 1.18 in<br>China                         |  |
| Phylogenetic analysis suggests<br>SARS-CoV-2 were circulating in |  |  | Hao X, Chen S, et al.   |  |
| community in Washington state as                                 | S  |  | Published: 16 Jul 2020  |  |
| early as late Jan., prior to active                              |  |  | Re estimated at 1.18 (1.11–1.25) in                               |  |
| community surveillance.  |  |  | China for the period 23 Jan1 Feb.                                 |  |
| 1 <u>Science</u>   |  |  | Nature  |  |

|                           |  | (4)   | (0)  | (4)   |   |  |
|---------------------------|--|---|--|---|---|--|
|                           |  | MEETING 🔒   | NEWS BRIEFING 🛛 👁  | INTERIM GUIDANCE 🛛 👁  | MEETING 🛛   |  |
|                           |  | Third meeting of the STAG-IH  | WHO DG updates on his visit to   | Interim guidance on the use of  | First meeting of PSCN   |  |
| <b>_</b>                  |  | WHO STAG-IH   | China  | masks   | Pandemic Supply Chain Network   |  |
| <b>INTERNATIONAL</b>      |  | STAG-IH discusses briefings on<br>Strategic Response Plan, and R&D<br>Update-Global Research and  | WHO DG<br>"China's efforts to contain the<br>outbreak at the epicentre have                    | WHO HQ<br>Published: 29 Jan 2020<br>Wearing a medical mask is one<br>of the prevention measures to                        | The Pandemic Supply Chain<br>Network (PSCN), created by WHO<br>in collaboration with the World  |  |
| INTER                     |  | Innovation meeting.<br><u>WHO</u>   | been essential for preventing the<br>further spread of the virus."<br><u>DG Press Briefing</u> | limit spread of certain respiratory<br>diseases, including 2019–nCoV,<br>during home care and in health<br>care settings. | Economic Forum, holds its first<br>meeting to develop a market<br>capacity and risk assessment for<br>personal protective equipment<br>(PPE). |  |
|                           |  |   |  | <u>WHO HQ</u>   | WHO Situation Report  |  |
|                           | BORDER CONTROL MEASURES  |   |  |   |   |  |
|                           | Georgia implements border<br>controls  |   |  |   |   |  |
| 2                         | Government of Georgia  |   |  |   |   |  |
| COUNTRY                   | Georgia implements travel ban<br>from high-risk regions, the first in<br>EUR to do so. |   |  |   |   |  |
| ŭ                         | <u>Our World in Data</u>   |   |  |   |   |  |
|                           | <b>Cases per million</b><br>Georgia: 0.251   |   |  |   |   |  |
|                           |  |   |  |   | CASES III 💿   |  |
|                           |  | CASES 🛛 🕑   | CASES 🛛 🕹  | SCIENCE III 🛛 🕙   | Study of first 425 Wuhan cases  |  |
| Ш                         |  | China reaches 6,000 cases,<br>spread to 15 countries  | United Arab Emirates: First reported cases   | Bat coronavirus likely ancestor of SARS-CoV-2   | published in NEJM<br>Li Q, Guan X, et al.   |  |
| VIDEN                     |  | 6,065 cases globally, of which<br>5,997 are from China. 68 cases  | WHO<br>Published: 29 Jan 2020  | Paraskevis D, Kostaki EG, et al.<br>Published: 29 Jan 2020  | Published: 29 Jan 2020<br>Study of first 425 lab-confirmed  |  |
| <b>REAL-TIME EVIDENCE</b> |  | reported outside China, in 15<br>countries.   | Four cases reported in the United<br>Arab Emirates in air travelers                            | A bat coronavirus is found to share<br>96.3% of its genome with SARS-   | cases in Wuhan demonstrates<br>epidemiological characteristics<br>of the disease. Confirms h-to-h   |  |
| 5                         |  | WHO Situation Report  | arriving from Wuhan.   | CoV-2.  | transmission since mid-Dec.   |  |
| REA                       |  |   | WHO Situation Report   | Infection, Genetics and Evolution, Nature   | Supports 14 day quarantine period for those exposed.  |  |
|                           |  |   |  |   | New England Journal of Medicine   |  |
|                           | 🗕 28 Jan, cont. ————   | 🗘 29 Jan ————   |  |   | •   |  |
| RETROSPECTIVE EVIDENCE    |  | SCIENCE III ③<br>Diagnostic reagent provided<br>across China<br>Chinese CDC<br>Published: 26 Mar 2020<br>Diagnostic tests made widely<br>available in all China's provinces.<br>New England Journal of Medicine |  |   |   |  |

|                        | ALERT 💿   |                               |  |  |   |
|------------------------|---|-------------------------------|--|--|---|
|                        | WHO DG declares PHEIC   |                               |  |  |   |
| INTERNATIONAL          | On the advice of the second<br>meeting of the IHR Emergency<br>Committee, the WHO DG declares<br>a Public Health Emergency of<br>International Concern. By this day,<br>cases have increased to 7,834,<br>with 7,736 in China and 98 in 18<br>countries outside China.<br>DG Statement              |                               |  |  |   |
|                        |   |                               |  |  | BORDER CONTROL MEASURES   |
|                        |   |                               |  |  | Pakistan implements border  |
|                        |   |                               |  |  | controls  |
|                        |   |                               |  |  | Government of Pakistan  |
| COUNTRY                |   |                               |  | SCIENCE  | Pakistan introduces temporary<br>ban on travel from high-risk<br>regions, the first in the Eastern<br>Mediterranean Region (EMR) to<br>do so.<br><u>Our World in Data</u> |
|                        |   |                               |  | Case study of pre-symptomatic                                      |   |
|                        | NEWS REPORT 💿   | CASES 📀                       | SCIENCE III 📀  | transmission published in NEJM                                     | CASES 👁   |
| ж                      | Nature news summarises latest<br>science on epidemic  | India: First reported case    | SARS-CoV-2 established as new<br>to humans                     | Rothe C, Schunk M, et al.<br>Published: 30 Jan 2020                | Italy: First reported cases   |
| ENC                    | Published: 30 Jan 2020  | First case reported in India. | Lu R, Zhao X, et al.   | Traveller from China without                                       | First two cases reported in Italy,<br>both with travel history to Wuhan.  |
| <b>ZID</b>             | Article summarises key knowledge  | WHO Situation Report          | Published: 30 Jan 2020   | symptoms is identified as the index case for a cluster of COVID-19 | WHO Dashboard and Situation Reports   |
| AEE                    | at the time: Document's possible asymptomatic transmission; R0 of   |                               | Genomic sequences of early<br>patients with COVID-19 are found | cases in Germany. The Chinese                                      |   |
| Ē                      | 1.4–2.5; not as deadly as SARS; bat   |                               | to be almost (99.98%), suggesting                              | visitor eventually develops symptoms and tests positive,           |   |
| EAL                    | source likely; virus likely emerged<br>Nov. 2019.   |                               | the virus is new to humans.                                    | indicating transmission during                                     |   |
| ~                      | Nature  |                               | <u>The Lancet</u>  | incubation period.   |   |
|                        | 9- 30 Jan   | 1                             | 1  | New England Journal of Medicine                                    | <b>0-</b> 31 Jan —  |
| RETROSPECTIVE EVIDENCE | SCIENCE III (<br>Rt <1 in 30 provinces outside<br>Hubei<br>Zhang J, Litvinova M, et al.<br>Published: 02 Apr 2020<br>Rt estimated to be below the<br>epidemic threshold (<1) in 30<br>provinces outside Hubei after<br>30 Jan., suggesting containment<br>measures rapidly lowered<br>transmission. |                               |  |  |   |

transmission. <u>The Lancet</u>

| ACTION  |
|---|
|   |
| s first PCR-based<br>c tests  |
|   |
| onsignment of validate<br>d diagnostic tests is<br>y WHO from Germany<br>es and WHO Regional<br>I documents |
| aocuments   |
|   |
| CONTROL MEASURES  |
| nents border controls   |
| of Fiji   |
| n China banned for al   |
|   |
|   |
| illion  |
|   |
|   |
| CASES   |
| rted death outside  |
| 2 Feb 2020  |
| eath outside China is   |
| n the Philippines.  |
| on Report   |
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|   |

On the video briefing, WHO's representative to China "praised the Chinese…response. Then he went a step further, calling on other countries not to step out of line with the WHO recommendations…"

Globe and Mail

|                    |  |  | MEETING   | •      | ACTION (O)  |  |
|--------------------|--|--|---|--------|---|--|
|                    |  |  | WHO DG gives speech at WH<br>EB meeting   | 0      | Africa CDC establishes<br>continent-wide task force   |  |
| ONAI               |  |  | wно DG<br>WHO DG begins reporting   |        | Africa CDC<br>Published: 05 Feb 2020  |  |
| INTERNATIONAL      |  |  | on the COVID-19 PHEIC from<br>paragraph 53 of his remarks.<br>The DG also quotes President<br>Xi Jinping, who during the DG | 's     | Africa CDC inagurates Africa<br>Task Force for Novel Coronavirus<br>(AFCOR); as of yet no cases<br>confirmed in Africa. |  |
|                    |  |  | visit to Beijing said: "We will to<br>serious measures at the epice<br>at the source, in order to prot                      | entre, | <u>Africa CDC</u>   |  |
|                    |  |  | our people, and also to preve   |        |   |  |
|                    | BORDER CONTROL MEASURES  | BORDER CONTROL MEASURES 💿  | the spread of the virus to othe   |        |   |  |
|                    | The US implements border controls  | New Zealand bans Chinese<br>travellers and boosts border   | countries."<br><u>WHO</u>   |        |   |  |
|                    | US President   | screening  |   |        |   |  |
| Ľ.                 | Presidential proclamation issued   | Government of New Zealand<br>Restrictions put in place<br>preventing "foreign nationals from<br>or transiting through mainland |   |        |   |  |
| COUNTRY            | suspending entry into the US of<br>"aliens" who had been in China in<br>the preceding 14 days. |  |   |        |   |  |
|                    | Presidential Proclamation  | China from entering New  |   |        |   |  |
|                    | Cases per million  | Zealand."  |   |        |   |  |
|                    | United States: 0.03  | <u>The Guardian</u>  |   |        |   |  |
|                    |  |  |   |        | ACTION (  | SCIENCE III 🛛 🕑  |
| Ш                  |  |  |   |        | Diamond Princess anchors at<br>Yokohama   | Bat coronavirus is possible early progenitor   |
| Ξ.                 |  |  |   |        | Diamond Princess  | Zhou P, Yang X-L, et al.   |
| EVI                |  |  |   |        | The Diamond Princess cruise ship, with 2,666 passengers and 1,045   | Published: 03 Feb 2020<br>At the whole genome level,   |
| REAL-TIME EVIDENCE |  |  |   |        | crew members, quarantines off<br>Yokohama port after a 14 day<br>journey to Hong Kong, Viet Nam,<br>and Taiwan.         | the RaTG13 bat coronavirus<br>from Yunnan province is 96%<br>concordant with the SARS-CoV-2<br>genome. |
| "                  |  |  |   |        | Disaster Medicine and Public Health   | Nature   |
|                    |  |  |   |        | Preparedness  |  |
|                    | • 02 Feb, cont. •  |  | 0- 03 Feb   |        |   |  |

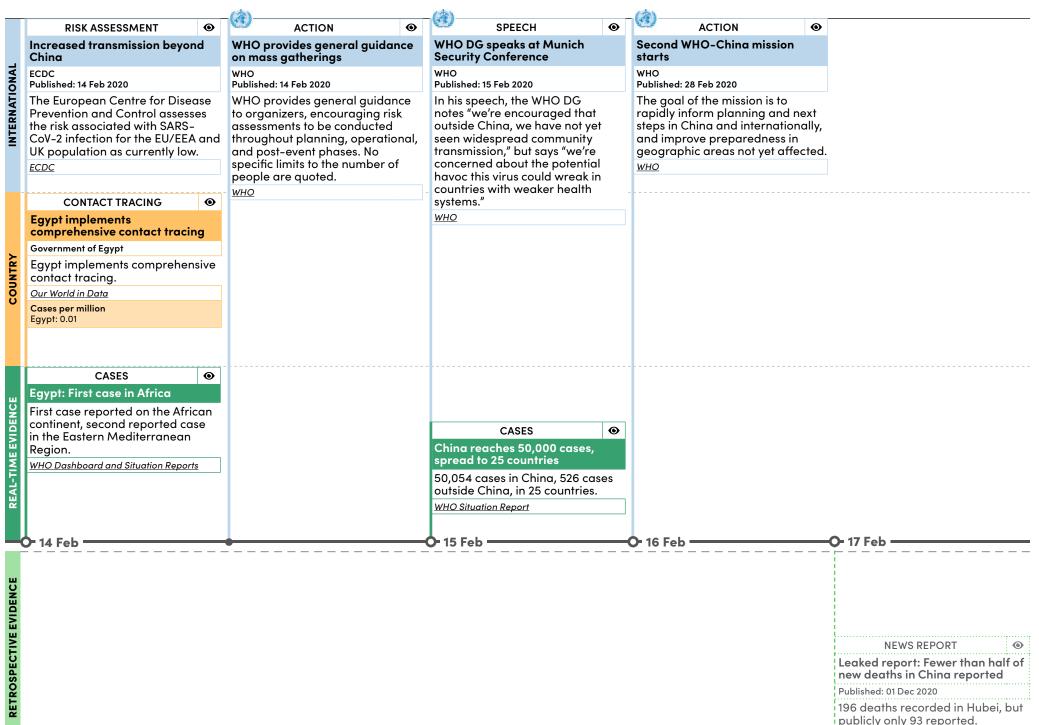
COVID-19: The Authoritative Chronology, December 2019–March 2020, Background paper 2a, The Independent Panel for Pandemic Preparedness and Response – Page 28 of 48

| _                   |  | - (2)  |  | - (Å)  |  |
|---------------------|--|--|--|--|--|
|                     | MEETING 💿  | PUBLICATION O  | MEETING 🔒  | ACTION O   |  |
|                     | WHO holds technical briefing on<br>COVID-19 at WHO EB meeting  | Strategic preparedness and<br>response plan  | Fourth meeting of the STAG-IH<br>WHO STAG-IH             | WHO DG begins daily media<br>briefings   |  |
| ONAI                | wно DG<br>The WHO DG underlines that   | WHO HQ<br>Published: 04 Feb 2020   | STAG-IH experts review WHO response strategy and discuss | WHO<br>Published: 05 Feb 2020  |  |
| INTERNATION         | "99% of the cases are in China<br>and 97% of the deaths are in<br>Hubei Province." Nonetheless,<br>he says, "Now is the moment<br>for all countries to be preparing                          | WHO publishes COVID-19 strategic<br>preparedness and response plan<br>outlining public health measures<br>for the international community.<br>The 2019_nCoV Simulation | 'strategy switch.'<br><u>WHO STAG-IH</u>                 | WHO DG begins daily media<br>briefings to provide updates on<br>the COVID-19 pandemic, clarify<br>public health measures, and<br>encourage action. |  |
|                     | themselves" and notes that WHO<br>has begun distributing supplies<br>to 24 countries. He also urges  | Exercise to enhance national<br>preparedness efforts is also made<br>available online.   |  | <u>WHO</u>   |  |
|                     | countries to share data, saying  | <u>WHO HQ</u>  |  |  | CONTACT TRACING 💿  |
|                     | WHO has received complete case<br>report forms for only 38% of 176   | BORDER CONTROL MEASURES 🛛 👁  |  |  | Sri Lanka implements comprehensive contact tracing   |
| 2                   | cases outside China, including from high-income countries.   | The Republic of Korea issues   |  |  | Government of Sri Lanka  |
| UNTRY               | He asks countries not to impose<br>restrictions that are "inconsistent   | border measures<br>Ministry of Health and Welfare  |  |  | Sri Lanka implements<br>comprehensive contact tracing.   |
| i i                 | with the International Health  | Special entry procedures applied   |  |  | <u>Our World in Data</u>   |
| Ŭ                   | Regulations," noting that 22 countries already have done so.   | for all travelers from China.<br>Ministry of Health News Release   |  |  | Cases per million<br>Sri Lanka: 0.05   |
|                     | <u>WHO</u>   | Cases per million<br>Republic of Korea: 0.31   |  |  | NEWS REPORT O  |
|                     | NEWS REPORT 💿  |  |  |  | Chinese ambassador: UK<br>overreacted to coronavirus   |
| ш                   | WHO calls for improved data  |  |  |  | Published: 06 Feb 2020   |
| IDENC               | sharing<br>Published: 04 Feb 2020  |  |  |  | Britain's advice to its nationals to<br>leave China because of outbreak  |
| <b>REAL-TIME EV</b> | WHO DG urges all health ministers<br>to improve data sharing on<br>coronavirus immediately and<br>says he will send a team of<br>international experts to work with<br>Chinese counterparts. |  |  |  | in Hubei was an overreaction, the<br>Chinese ambassador to London<br>says. "We asked them to take<br>the advice of the WHO to make<br>a reasonable response. Do not<br>overreact." |
|                     | Reuters  |  |  |  | <u>Reuters</u>   |
|                     | - 04 Feb   | •  | 0- 05 Feb  | •  | 0- 06 Feb  |

| PUBLICATION   | MEETING                                     | MEETING  | PUBLICATION  |   |
|---|---|--|--|---|
| Personal protective equipment<br>needs in healthcare settings         | Fifth meeting of the STAG-IH<br>WHO STAG-IH | First meeting of the WHO<br>Epidemiology Working Group | Africa CDC/AU publishes two<br>fact sheets                   |   |
| ECDC  | STAG-IH experts discuss nCoV                | who  | Africa CDC/African Union                                     |   |
| Published: 07 Feb 2020  | epidemiology deep dive and                  | The first meeting of the WHO                           | Africa CDC/AU publishes fact                                 |   |
| ECDC publishes technical report                                       | modelling work.                             | Epidemiology Working Group is                          | sheets on COVID-19 for general                               |   |
| on personal protective equipment<br>needs in health care settings for | <u>WHO STAG-IH</u>                          | held.  | public and health workers in<br>English, French, and Arabic. |   |
| the care of patients with suspected                                   |   | WHO internal documents                                 | Africa CDC, Africa CDC                                       |   |
| or confirmed novel coronavirus  |   |  |  |   |
| (2019-nCoV).<br>ECDC  |   |  |  |   |
| <u>ec.bc</u>  | ,<br>                                       |  |  |   |
| BORDER CONTROL MEASURES (   |   |  |  |   |
| Gabon implements border controls                                      |   |  |  |   |
| Government of Gabon   |   |  |  |   |
| Gabon suspends entry of   |   |  |  |   |
| travellers from China, the first country in the African Region        |   |  |  |   |
| (AFR) to implement border control                                     |   |  |  |   |
| measures.   |   |  |  |   |
| BBC   |   |  |  |   |
|   |   |  |  |   |
|   |   | CASES  | •  |   |
|   |   | China reaches 35,000 cases,                            |  |   |
|   |   | spread to 24 countries                                 |  |   |
|   |   | 34,598 cases in China, 288 case                        | es l   |   |
|   |   | outside China, in 24 countries.                        |  |   |
|   |   | WHO Situation Report                                   |  |   |
|   |   |  |  |   |
|   |   |  |  |   |
|   |   |  |  |   |
|   |   |  |  |   |
| 0- 07 Feb   | •   | 0- 08 Feb  |  |   |
|   |   |  |  |   |
|   |   |  |  | NEWS REPORT   |
|   |   |  |  |   |
|   |   |  |  | A leaked report stated only 2/3                                   |
|   |   |  | Estimated Re reduced to 0.51 in                              | Published: 01 Dec 2020  |
|   |   |  | China  | Chinese authorities publicly                                      |
|   |   |  | Hao X, Chen S, et al.  | reported 2,478 new nationwide                                     |
|   |   |  | Published: 16 Jul 2020                                       | cases, but a leaked report note<br>that in Hubei there were 5,918 |
|   |   |  | Estimated Re reduced to 0.51<br>in China after public health | positive cases (2,345 confirmed,                                  |
|   |   |  | interventions and 23 Jan.                                    | 1,772 clinically diagnosed, 1,796                                 |
|   |   |  | lockdown.  | suspected).   |
|   |   |  | <u>Nature</u>  | <u>CNN</u>  |

COVID-19: The Authoritative Chronology, December 2019–March 2020, Background paper 2a, The Independent Panel for Pandemic Preparedness and Response – Page 30 of 48

| MEETING         MEETING <t< th=""><th></th><th></th><th>.(3)</th><th>(Å)</th><th></th><th></th></t<>  |            |                              | .(3)                             | (Å)                                |                                    |                                   |
|---|------------|------------------------------|----------------------------------|------------------------------------|------------------------------------|-----------------------------------|
| Wito TAG-IH<br>Wito STAG-IH<br>Wito STAG-IH<br>Wito STAG-IH<br>Wito STAG-IH         First meeting of the UR Crists<br>Management Team<br>Wito STAG-IH acytert meeting discusses<br>wito STAG-IH acytert meeting discusses<br>wito STAG-IH<br>Wito STAG-IH         Wito Crists Management Team<br>Wito STAG-IH<br>Wito STAG-IH         Wito crists Management Team<br>Conclusion for Wito STAG-IH<br>Notion (UN) Crists Management<br>Encryptical Discusses, short for<br>Corrector (ED) of the WHO Heelth<br>Encryptical Discusses<br>and individual, or group of people<br>Corrector (ED) of the WHO Heelth<br>Encryptical Discusses<br>and individual, or group of people<br>Corrector (ED) of the WHO Tarts to respond<br>Collectively to the 2019-nCoV<br>outbreek.         Wito strate to rubbite<br>method continue with<br>correctively and the 2019-nCoV<br>outbreek.         Wito strate to rubbite<br>method continue with<br>correctively to the WHO Tarts to respond<br>collectively to the 2019-nCoV<br>outbreek.         Wito convenes global research<br>minod.         COVID-19<br>Wito Strate-IH<br>Strate-IH review shows strategy<br>of containment for elimination is<br>an individual, or group of people.         Wito convenes global research<br>minod.         COVID-19<br>Wito Strate-IH<br>Strate-IH<br>Strate-IH review shows strategy<br>of containment for elimination is<br>an individual, or group of people.         Wito convenes global research<br>minod.         COVID-19<br>Wito Strate-IH<br>Wito Strate-IH<br>Wito Strate-IH<br>Wito Convenes global research<br>minod.         COVID-19<br>Wito Strate-IH<br>Wito Convenes global research<br>minod.         COVID-19<br>Wito Strate-IH<br>Wito Strate-IH<br>Wito Convenes global research<br>minod.         COVID-19<br>Wito Strate-IH<br>Wito Strate-IH<br>Wito St |            |                              |                                  |                                    |                                    |                                   |
| Monte State         Use Crise Management Team<br>WHO actividates the United<br>Director (ED) of the WHO Actividates the WHO Activity<br>Director (ED) of the WHO Actividates the WHO Activity<br>Director (ED) of the WHO Activity to the E2019-nCOV<br>outbreak.         Mino activity of the E3019-nCOV<br>Director (ED) of the WHO Activity to the E2019-nCOV<br>outbreak.         Mino activity of the E3019-nCOV<br>outbreak.         Mino activity of the   |            | Sixth meeting of the STAG-IH | First meeting of the UN Crisis   | WHO names disease as COVID-19      |                                    |                                   |
| Organization     DG Statement     WHO   | <b>_</b> _ | WHO STAG-IH                  | •                                | WHO                                | and innovation forum               |                                   |
| OG     Statement     Wito   | NA         |                              |                                  | The name of the disease, short for |                                    |                                   |
| Organization     DG Statement     WHO   | E          | •                            |                                  | Coronavirus Disease, was chosen    |                                    |                                   |
| Organization     DG Statement     WHO   | AN         | <u>WHO STAG-IH</u>           |                                  |                                    | Geneva, with a further 150 joining | crucial and should continue until |
| OG     Statement     Wito   | TER        |                              | Director (ED) of the WHO Health  | geographical location, an animal,  |                                    |                                   |
| Collectively to the 2019-nCoV<br>outbreack.<br>Do Statement   | Ż          |                              | Emergencies Program, to          | • • • •                            | <u> </u>                           | <u>The Lancet</u>                 |
| Big Statement         DC Statement         Image: Statement  |            |                              | coordinate UN efforts to respond | <u>DG Statement</u>                | <u>WHO</u>                         |                                   |
| RAN-TIME EVIDENCE   |            |                              |                                  |                                    |                                    |                                   |
|   |            |                              | DG Statement                     |                                    |                                    |                                   |
| REAL-TIME EVIDENCE  |            |                              |                                  |                                    |                                    |                                   |
| REAL-TIME EVIDENCE  |            |                              |                                  |                                    |                                    |                                   |
| REAL-TIME EVIDENCE  | 2          |                              |                                  |                                    |                                    |                                   |
| REAL-TIME EVIDENCE  | TR         |                              |                                  |                                    |                                    |                                   |
| REAL-TIME EVIDENCE  | N          |                              |                                  |                                    |                                    |                                   |
|   | S          |                              |                                  |                                    |                                    |                                   |
|   |            |                              |                                  |                                    |                                    |                                   |
|   |            |                              |                                  |                                    |                                    |                                   |
|   |            |                              |                                  |                                    |                                    |                                   |
|   |            |                              |                                  |                                    |                                    |                                   |
|   |            |                              |                                  |                                    |                                    |                                   |
|   | В          |                              |                                  |                                    |                                    |                                   |
|   | DEN        |                              |                                  |                                    |                                    |                                   |
|   |            |                              |                                  |                                    |                                    |                                   |
|   | AE E       |                              |                                  |                                    |                                    |                                   |
|   | Ě          |                              |                                  |                                    |                                    |                                   |
|   | AL-        |                              |                                  |                                    |                                    |                                   |
| O- 11 Feb   | <b>R</b>   |                              |                                  |                                    |                                    |                                   |
| Or 11 Feb   |            |                              |                                  |                                    |                                    |                                   |
|   |            | 9- 11 Feb                    |                                  |                                    |                                    | <b>9-</b> 12 Feb                  |



<u>CNN</u>

|   | 3,7  |  | · · ·   | 5  |
|---|--|--|---|--|
|   |  |  |   |  |
|   | Seventh meeting of the STAG-IH   |  |   |  |
|   | WHO STAG-IH  |  |   |  |
|   | STAG-IH experts discuss<br>epidemiological situation and<br>possible relapse in COVID-19<br>survivors.<br><u>WHO STAG-IH</u>   |  |   |  |
|   |  |  |   |  |
|   | DECLARATION OF EMERGENCY   |  |   |  |
|   | The Republic of Korea: Health<br>emergency declared  |  |   |  |
|   | Prime Minister   |  |   |  |
|   | After declaring a health<br>emergency in Daegu, the Prime<br>Minister announces "we have<br>entered an emergency phase."   |  |   |  |
|   | Cases per million<br>Republic of Korea: 2.03   |  |   |  |
|   |  |  | -1(3)   | CASES II 🔍   |
|   | RISK ASSESSMENT 🔢 💿  |  | NEWS REPORT 📀   | First suspected case of  |
|   | Modelling predicts at-risk<br>African countries  |  | WHO DG: The world must act fast to contain coronavirus  | asymptomatic transmission reported   |
|   | Gilbert M, Pullano G, et al.<br>Published: 20 Feb 2020   |  | WHO warns that the window of opportunity to contain wider   | Bal Y, Yao L, et al.<br>Published: 21 Feb 2020   |
|   | Modelling evaluates vulnerability<br>and preparedness of each African<br>country to COVID-19; predicts<br>Egypt, Algeria, and South Africa<br>are at highest risk of spread. |  | international spread of the new<br>coronavirus disease is closing,<br>after cases are reported in Iran<br>and Lebanon.<br><u>Reuters</u>          | Researchers report a familial<br>cluster of five cases, apparently<br>transmitted from an asymptomatic<br>family member with recent Wuhan<br>travel. First report of suspected<br>asymptomatic transmission. |
|   | <u>The Lancet</u>  |  |   | JAMA   |
| - 19 Feb  | - 20 Feb   | •  | <b>Ó-</b> 21 Feb ————   |  |
| CASES III (O)<br>China: Control measures avert  |  |  | SCIENCE II O  |  |
| hundreds of thousands of cases  | CASES  | CASES III 💿  | university doorhandle   |  |
| Tian H, Liu Y, et al.<br>Published: 31 Mar 2020   | Early case definitions in China  | First case of local transmission<br>in Italy   | Lednicky J, Salemi M, et al.<br>Published: 13 Jan 2021  |  |
| Analysis of control measures<br>during the first 50 days in China<br>shows likely aversion of hundreds<br>of thousands of cases by 19 Feb.<br>(day 50). | likely underestimated prevalence<br>Researchers estimate 232,000<br>cases (vs. 55,508 confirmed) in<br>China by 20 Feb. if less narrow<br>case definition had been used.     | Alteri C, Cento V, et al.<br>Published: 19 Jan 2021<br>First case of evident SARS-CoV-2<br>transmission in Italy emerged in<br>Lombardy. | SARS-CoV-2 was detected in<br>sample from Florida university<br>door handle on 21 Feb., weeks<br>before the first confirmed case in<br>the state. |  |
| <u>Science</u>  | Lancet Public Health   | <u>Nature</u>  | <u>PLOS ONE</u>   |  |

<u>Nature</u>

**RETROSPECTIVE EVIDENCE** 

<u>Science</u>

Lancet Public Health

|                           |   |    |  | - (            |   |                | (3)-                |  |       |   |
|---------------------------|---|----|--|----------------|---|----------------|---------------------|--|-------|---|
|                           | REPORT  | 0  |  | 1              | ACTION  | 0              |                     | MEETING  | Ô     |   |
|                           | African Ministers of Health<br>meeting  |    |  |                | int WHO and ECDC missior<br>aly begins  | n to           | Eighth r            | neeting of the STAG-   | IH    |   |
| Μ                         | Africa CDC/African Union  |    |  | w              | HO, ECDC  |                |                     | + experts discuss hot  | spot  |   |
| INTERNATIONAL             | With just one case on the<br>continent, there is an emergenc<br>meeting of African Ministers of<br>Health on the COVID-19 outbred |    |  | ai<br>he<br>in | ne joint WHO and ECDC mis<br>rives in Italy. At this stage, I<br>as reported 148 confirmed c<br>cluding 48 new cases in the | taly<br>cases, | issues a            | nd the introduction o<br>formation Network fo<br>ics.                | f the |   |
| Ż                         | <u>Africa CDC</u>   |    |  |                | hours.  |                |                     |  |       |   |
|                           |   |    | LOCKDOWN/<br>STAY-AT-HOME MEASURES   | <u>W</u>       | HO Europe, WHO  |                |                     |  |       |   |
|                           |   |    | Areas of Italy introduce<br>lockdown/stay-at-home                            | -              | MASK USAGE  | 0              |                     |  |       |   |
|                           |   |    | measures<br>Government of Italy  |                | man recommends mask<br>earing   |                |                     |  |       |   |
|                           |   |    | Several municipalities in northern   | G              | overnment of Oman   |                |                     |  |       |   |
| COUNTRY                   |   |    | Italy orders lockdown, the first in WHO EUR to do so.                        |                | man recommends mask<br>earing, the first in EMR to d  | o so.          |                     |  |       |   |
| 00                        |   |    | The Guardian   |                | <u>ır World in Data</u>   |                |                     |  |       |   |
| 0                         |   |    | Cases per million<br>Italy: 2.564  |                | i <mark>ses per million</mark><br>nan: 0.392  |                |                     |  |       |   |
|                           |   |    | CASES 📀  |                |   |                |                     |  |       |   |
|                           |   |    | Japan: Diamond Princess  |                |   |                |                     | NEWS REPORT  | Θ     |   |
|                           | CASES   | •  | reaches 691 cases  |                |   |                |                     | virus infections mour<br>uise ship "fiasco"                          | nt    | CASES 📀   |
| ш                         | China reaches 76,000 cases,   |    | Nakazawa E, Ino H, Akabayashi A<br>Published: 24 Mar 2020                    |                |   |                |                     | : 25 Feb 2020  |       | Brazil: First case in Latin America                 |
| DENC                      | spread to 28 countries<br>76,392 cases in China, 1,402 cas  | es | 691 cases confirmed on board compared to 10 cases 10 Feb.                    |                |   |                | There a             | re fears that Japan's<br>g of the crisis may lea                     |       | First case reported in Latin<br>America, in Brazil. |
| <b>REAL-TIME EVIDENCE</b> | outside China, in 28 countries.<br><u>WHO Situation Report</u>  |    | The effectiveness and validity of infection control, justification for       |                |   |                | to new a<br>are now | chains of infection. Th<br>700 confirmed COV                         | ere   | WHO Situation Report                                |
| AL-TIA                    |   |    | the timing of inspections, and<br>nature of COVID-19 are all in<br>question. |                |   |                | Princess            | nked to the Diamond<br>s, not counting infecti<br>red among passenge |       |   |
| RE/                       |   |    | Disaster Medicine and Public Health<br>Preparedness                          |                |   |                | after the           | ey have arrived home   |       |   |
|                           | - 22 Feb  |    | O- 23 Feb  |                | 24 Feb  |                | 0- 25 Fe            |  |       | 1   |

|  |  |   |  | - (क)  |
|--|--|---|--|--|
| GUIDANCE 📀   | GUIDANCE 📀   |   |  | GUIDANCE 📀   |
| Guidance note on COVID-19 for<br>UNHCR operations<br>UNHCR   | WHO provides guidance to<br>countries on rational usage of<br>PPE  |   |  | Preparing for large-scale<br>community transmission of<br>COVID-19   |
| UNHCR recommends   | who  |   |  | WPRO   |
| implementing preparedness<br>activities for refugees and other<br>persons of concern within national<br>preparedness and response plans. | Published: 27 Feb 2020<br>WHO notes "the current global<br>stockpile of PPE is insufficient,<br>particularly for medical masks |   |  | WHO WPRO publishes regional<br>guidance in anticipation of large-<br>scale community transmission of<br>COVID-19.  |
| <u>UNHCR</u>   | and respirators especially if the widespread, inappropriate use of   |   |  | <u>WHO HQ / WPRO</u>   |
|  | PPE continues." WHO recommends   |   |  |  |
| BORDER CONTROL MEASURES 📀  | using PPE appropriately, minimising PPE, and coordinating  |   |  |  |
| Singapore implements border control  | the PPE supply chain. No masks<br>or PPE advised for asymptomatic<br>individuals.  |   |  |  |
| Government of Singapore  | WHO  |   |  |  |
| Singapore bars travel from<br>Daegu and Cheongdo effective<br>26 Feb., with border closures later<br>expanded.                           |  |   |  |  |
| <u>Straits Times</u>   |  |   |  | NEWS REPORT  |
|  |  |   |  | WHO raises level of risk<br>assessment of COVID-19   |
|  |  | ADVICE 💿  | CASES 📀  | spreading to highest   |
|  |  | Africa CDC calls for continent to<br>act collectively   | Nigeria: First case in sub-<br>Saharan Africa              | The executive director of WHO's<br>Emergency Program, explains<br>why COVID-19 is not a pandemic,  |
|  |  | Nkengasong JN, Mankoula W<br>Published: 27 Feb 2020   | First case reported in sub-<br>Saharan Africa, in Nigeria. | even though the risk of spread and<br>impact is at the maximum level. "A   |
|  |  | Members of Africa CDC publish<br>on the "looming threat" of<br>SARS-CoV-2 in Africa and call<br>for a unified, continent-wide<br>preparedness plan.<br>The Lancet | WHO Dashboard and Situation Reports                        | pandemic is a unique situation in<br>which we believe that all citizens<br>on the planet will be exposed to<br>the virus within a defined period of<br>time," he says. |
| O- 26 Feb  | <b>O-</b> 27 Feb   |   |  | 0- 28 Feb  |

| _         | (2)   |  |  |  |     |   |         |
|-----------|---|--|--|--|-----|---|---------|
|           | PUBLICATION O   |  | GUIDANCE O   |  |     |   |         |
|           | Report from the second WHO-<br>China mission released   |  | WHO publishes quarantine guidance  |  |     |   |         |
| ONAL      | Aylward B, Liang W, et al.<br>Published: 28 Feb 2020  |  | WHO<br>Published: 29 Feb 2020  |  |     |   |         |
| INTERNATI | The report form the 16-24 Feb.<br>mission, co-written by China,<br>outlines disease severity and<br>transmission dynamics, as well as<br>the control measures proving to<br>be effective. |  | WHO recommends "the global<br>containment strategy includes<br>the rapid identification of<br>laboratory-confirmed cases, and<br>their isolation and management<br>in either a medical facility or at<br>home." For such contacts, WHO |  |     |   |         |
|           | <b>[</b> ]  | CONTACT TRACING 💿  | recommends that such persons be<br>quarantined for 14 days.  | MASK USAGE   | •   | SCHOOL CLOSURES   | •       |
|           | Highlights the importance   | Nigeria implements   | <u>WHO</u>   | Japan recommends mask  |     | Japan closes schools  |         |
|           | of case definition, and the<br>measures that successfully   | comprehensive contact tracing                                      |  | wearing  |     | Prime Minister  |         |
|           | reduced transmission.   | Government of Nigeria  |  | Government of Japan  |     | Closure of elementary, junior   |         |
| COUNTRY   |   | Nigeria is the first country in the AFR to implement comprehensive |  | Face coverings recommended to the government.                      | by  | high, and senior high schools as<br>well as "schools for special need | s<br>ds |
| DO.       |   | contact tracing.   |  | <u>Our World in Data</u>   |     | education."   |         |
| 0         |   | <u>Our World in Data</u>   |  | Cases per million  |     | Prime Minister's Statement  |         |
|           |   |  |  | Japan: 2.05  |     | Cases per million<br>Japan: 2.20                                      |         |
|           |   |  |  |  |     |   |         |
|           | NEWS REPORT 📀   | SCIENCE 💵  |  | CASES  | •   |   |         |
| Е         | WHO: The world is not ready to<br>take same measures as China   | Asymptomatic people can be<br>potential sources                    |  | Spread in China slows down,<br>global surge begins                 |     |   |         |
| EVIDEN    | Report says to take measures such as proactive surveillance, rapid  | Huang R, Xia J, et al.<br>Published: 28 Feb 2020                   |  | 79,968 cases in China, 7,169 cas<br>in 58 countries outside China. | ses |   |         |
| ш         | diagnosis, immediate isolation,   | Analysis of a family cluster of                                    |  | WHO Situation Report   |     |   |         |
| Σ         | track and quarantine contacts,  | patients provides evidence that                                    |  |  |     |   |         |
| 5         | and achieve a high degree of<br>population understanding and  | asymptomatic people can be potential sources of SARS-CoV-2         |  |  |     |   |         |
| REA       | acceptance.   | infection.   |  |  |     |   |         |
| 2         | <u>Reuters</u>  | The Lancet Infectious Diseases                                     |  |  |     |   |         |
|           |   |  |  |  |     |   |         |
|           | 28 Feb, cont.   | •  | 0- 29 Feb —————————  | <b>)-</b> 01 Mar   | —   | <b>D-</b> 02 Mar ———————————————————————————————————                  |         |

|                    |  |   | GUIDANCE 📀  | PUBLICATION 💿  | INTERIM GUIDANCE   |
|--------------------|--|---|---|--|--|
| _                  |  |   | Guidance for assessment,<br>monitoring and movement<br>restrictions in Africa   | Africa Joint Continental Strategy<br>for COVID-19 Outbreak   | Responding to community<br>spread of COVID-19  |
| AN                 |  |   |   | Africa CDC/African Union   | WHO HQ   |
| INTERNATIONAL      |  |   | Africa CDC/African Union<br>Africa CDC/African Union<br>publishes Africa CDC Guidance<br>for Assessment, Monitoring and<br>Movement Restrictions of People<br>at Risk for COVID-19 in Africa. | Africa CDC/African Union present<br>Africa Joint Continental Strategy<br>for COVID-19 Outbreak, focusing<br>on limiting transmission and<br>minimizing harm from COVID-19,<br>requiring an all-of-government | Guidance issued in ten areas,<br>including: National coordination,<br>risk communication, public health<br>measures, case management,<br>infection prevention, control,<br>surveillance, laboratory systems, |
|                    |  |   | <u>Africa CDC</u>   | approach.<br>Africa CDC  | and R&D.<br>WHO HQ   |
| _                  |  |   |   |  | <u>_</u>   |
|                    | MASK USAGE 💿   | CONTACT TRACING •   |   |  | LOCKDOWN/<br>STAY-AT-HOME MEASURES   |
|                    | Brazil recommends mask-<br>wearing<br>Government of Brazil                 | Argentina implements<br>comprehensive contact tracing<br>Government of Argentina        |   |  | Singapore: First social distancing measures applied  |
| ≿                  |  | 5   |   |  | Ministry of Health   |
| COUNTRY            | Brazil recommends mask-<br>wearing, the first in the Americas<br>to do so. | Argentina is the first country in<br>AMR to implement comprehensive<br>contact tracing. |   |  | "Circuit-breaker" partial-<br>lockdown introduced with closures  |
| U                  | <u>Our World in Data</u><br>Cases per million                              | <u>Our World in Data</u><br>Cases per million   |   |  | of schools, workplaces, non-<br>essential services, venues, and<br>attractions.  |
|                    | Brazil: 0.009  | Argentina: 0.02   |   |  | Ministry of Health News Highlight  |
| _                  |  |   | CASES 💿   |  | Cases per million<br>Singapore: 23.59  |
|                    |  |   | South Africa: First reported case   |  |  |
| Ц<br>Ц             |  |   | First case reported in South Africa.  |  |  |
| DE                 |  |   | WHO Situation Report  |  |  |
| EV                 |  |   |   |  |  |
| ME                 |  |   |   |  |  |
| REAL-TIME EVIDENCE |  |   |   |  |  |
| REA                |  |   |   |  |  |
|                    |  |   |   |  |  |
|                    | • 02 Mar, cont.  | 0- 04 Mar   | 9- 05 Mar   |  | 0- 07 Mar  |

|               |   |  |   |                       |  |            | the sta  |  |                      |
|---------------|---|--|---|-----------------------|--|------------|--|--|----------------------|
|               |   |  | ANNOUNCEMENT  | ۲                     | GUIDANCE   | •          |  | ANNOUNCEMENT   | •                    |
|               |   |  | GPMB calls for \$8 billion and G7 and G20 leadership  | for                   | COVID-19 prevention and cont<br>in schools   |            | <mark>WHO DG</mark> а<br>wно DG  | innounces pande  | mic                  |
| Μ             |   |  | GPMB  |                       | UNICEF, WHO, IFRC  |            |  | Innounces pande  | mic:                 |
| NO            |   |  | Published: 09 Mar 2020  |                       | UNICEF, WHO, and the   |            | "WHO bo c  | been assessing t   | his                  |
| INTERNATIONAL |   |  | The Global Preparedness and<br>Monitoring Board (GPMB) cal<br>an immediate injection of USE<br>billion for the COVID-19 respo<br>and for G7 and G20 leaders to<br>meet. | ls for<br>) 8<br>nse, | International Federation of Red<br>Cross and Red Crescent Societi<br>(IFRC) publish joint paper on<br>key messages and actions for<br>COVID-19 prevention and contr<br>in schools. | ies<br>rol | outbreak a<br>and we are<br>both by the<br>spread and<br>the alarmin<br>We have th | round the clock<br>e deeply concern<br>e alarming levels<br>d severity, and by<br>ng levels of inacti<br>nerefore made the | ed<br>of<br>on.<br>e |
|               |   |  | <u>GPMB</u>   |                       | UNICEF, WHO, IFRC  |            |  | nt that COVID-19 c   |                      |
|               |   |  | MASK USAGE  | ۲                     | *  |            | characteri<br>WHO DG Spe   | zed as a pandem<br>och   | IC".                 |
|               |   |  | India issues mask guidance  |                       | LOCKDOWN/<br>STAY-AT-HOME MEASURES   | •          | •  |  | •                    |
|               |   |  | Ministry of Health and Family Welfare   | •                     | Italy imposes first national   |            |  | ries implement s   |                      |
| ≿             |   |  | India issues guidance outlining   | g                     | lockdown   |            | closures   | mes implement s  | chool                |
| NTR           |   |  | where masks should be worn.<br>Government Guidelines  |                       | Italy<br>Published: 10 Mar 2020  |            | Various coun   | tries  |                      |
| 00            |   |  | Cases per million   |                       | Expanding on previous local  |            |  | Peru, Sri Lanka, ar  |                      |
| O             |   |  | India: 0.03   |                       | restrictions, Italy announces firs   | st i       | US implem<br>types of sc   | ent various levels<br>hool closures this   | and<br>week.         |
|               |   |  |   |                       | nationwide lockdown in an effo<br>to contain spread of COVID-19.   |            | Pakistan, Per  | u, <u>Sri Lanka</u> , <u>United Sta</u>  | <u>ates</u>          |
|               |   |  |   |                       | Washington Post  |            | Cases per mi<br>Pakistan: 0.14   |  |                      |
|               | CASES 💿   |  |   |                       | CASES  |            | Peru: 0.33<br>Sri Lanka: 0.2   |  |                      |
|               | Spread to 101 countries, cases                                  |  |   |                       | Italy: Highest case number   | -          | United States  |  |                      |
| Ц             | outside China approach 25,000                                   |  |   |                       | outside China (9,172)  |            | NE   | WS REPORT  | ۲                    |
| DE            | 80,859 cases in China, 24,727                                   |  |   |                       | Italy's lockdown is extended   |            |  | "A Fumbled Glob  | al                   |
| N<br>N        | cases outside China, in 101<br>countries.                       |  |   |                       | nationwide as it reaches 9,172<br>cases (the highest outside Chin  |            | Response <sup>:</sup><br>Leadershij  | to the Virus in a  |                      |
| ШШ            | WHO Situation Report  |  |   |                       | expanding exponentially.   |            |  | ld leaders are at  | last                 |
| Ę.            |   |  |   |                       | WHO Situation Report   |            |  | out about the grav   |                      |
| EA            |   |  |   |                       |  |            | the pande  | mic, their voices c  |                      |
| 22            |   |  |   |                       |  |            | a choir fha<br>NY Times  | n a cacophony."  |                      |
|               |   |  |   |                       |  |            |  |  |                      |
|               | <b>0-</b> 08 Mar  |  | <b>D-</b> 09 Mar  |                       | 0- 10 Mar  | Q          | = 11 Mar =   |  |                      |
|               |   |  |   |                       |  |            |  |  |                      |
| ш             |   | SCIENCE III 💿  |   |                       |  |            |  |  |                      |
| DENC          |   | Severity increases with age                                    |   |                       |  |            |  |  |                      |
|               | L   | Pan A, Liu L, et al.   |   |                       |  |            |  |  |                      |
|               | 258,728 estimated infections in China                           | Published: 10 Apr 2020   |   |                       |  | i i        |  | SCIENCE 10   | ۲                    |
| E             | Hao X, Chen S, et al.   | Data from 32,583 Wuhan cases<br>identified between 8 Dec. 2019 |   |                       |  | i i        | Estimates (  | of severity of CO\   | /ID-19               |
| SPE(          | Published: 16 Jul 2020  | and 8 March 2020 showed that                                   |   |                       |  |            | Verity R, Okel<br>Published 30   |  |                      |
| ROS           | Reconstruction of transmission<br>dynamics of COVID-19 in Wuhan | severity increased with age and<br>that public health measures |   |                       |  |            |  | mics of transmiss  | ion                  |
| ЖЕТ           |   | were effective in dropping the                                 |   |                       |  |            |  | l of COVID-19: a   |                      |
| Ľ             | infections by 8 March.  | reproduction rate  |   |                       |  |            | mathemat   | ical modelling stu   | ıdy.                 |
|               | Nature  | JAMA   |   |                       |  |            | Lancet Infecti   | <u>ous Diseases</u>  |                      |

|                      |   |  | (2)   |  |   |
|----------------------|---|--|---|--|---|
|                      | PUBLICATION (   |  | MEETING   |  | GUIDANCE 📀  |
|                      | Monitoring and mitigating the<br>secondary impacts of COVID-19  |  | Ninth meeting of the STAG-IH<br>WHO STAG-IH   |  | Human rights in the COVID-19 response   |
| IAL                  | UNICEF  |  | Experts discuss pandemic  |  | OHCHR   |
| TERNATION            | UNICEF presents briefing on<br>Monitoring and mitigating<br>the secondary impacts of the<br>COVID-19 epidemic on WASH |  | announcement, epidemiology and<br>laboratory diagnosis updates,<br>R&D Blueprint global meeting<br>update, and solidarity trial.                |  | UN Human Rights Office of the<br>High Commissoner publishes<br>guidance on the importance of<br>human rights in the response. |
| Z                    | services availability and access.   |  | WHO STAG-IH   |  | <u>OHCHR</u>  |
|                      | UNICEF  |  |   |  |   |
|                      |   |  |   |  |   |
|                      | MASK USAGE 🛛 🛛  |  | BORDER CONTROL MEASURES   | DECLARATION OF EMERGENCY (   | DECLARATION OF EMERGENCY 🐵  |
|                      | Bhutan recommends mask wearing  |  | Argentina suspends flights from<br>high-risk areas  | Argentina expands emergency measures   | Three countries declare states of emergency   |
|                      | Government of Bhutan  |  | President   | Ministry of Health   | Various countries   |
| COUNTRY              | Bhutan recommends mask-<br>wearing, the first country in SEAR<br>to do so.  |  | There is a 30-day suspension of<br>flights from high-risk countries,<br>including all of Europe, Iran, the<br>US, the Republic of Korea, Japan, | Argentina passes the Decree of<br>Necessity and Urgency, which<br>allows adoption of new health<br>emergency measures. | India, the United States, and<br>Uruguay declare states of<br>emergency or implement<br>emergency legislation.                |
| Ŭ                    | Our World in Data   |  | and China.  | Government announcement  | India, United States, Uruguay   |
|                      | Cases per million<br>Bhutan: 1.296  |  | La Nacion   | Cases per million  | Cases per million   |
|                      |   |  | Cases per million<br>Argentina: 0.42  | Argentina: 0.42  | India: 0.06<br>United States: 6.70<br>- Uruguay: 1.15   |
|                      | NEWS REPORT 🛛 💿   | CASES 💿  |   |  |   |
| CE                   | Urgent need for health security<br>funds  | Iran: Second highest (8,042<br>cases) outside China          |   |  | NEWS REPORT 🛛 👁   |
| VIDENC               | "COVID-19 response must be<br>never again" - urgent need for  | Iran has the second highest<br>number of cases outside China |   |  | Nature interviews experts:<br>containment still possible  |
| TIME                 | funds for a co-ordinated effort to identify, trial, and make available  | with 8,041, surpassing the Republic of Korea.                |   |  | Wellcome Trust, US CDC, and<br>WHO experts say COVID-19   |
|                      | potential treatments.   | WHO Situation Report   |   |  | containment still possible.   |
| REAL                 | <u>Financial Times</u>  |  |   |  | <u>Nature News Explainer</u>  |
|                      |   |  |   |  |   |
|                      | • 11 Mar, cont  |  | 0- 12 Mgr   |  | 0- 13 Mar   |
|                      |   |  |   |  |   |
| ж                    |   |  |   |  |   |
| DENC                 |   |  | CASES III 💿   |  |   |
| N.                   |   |  | 108,689 estimated US infections   |  |   |
| IVE                  |   |  | Perkins TA, Cavany SM, et al.   |  |   |
| ECT                  |   |  | Published: 21 Aug 2020  |  |   |
| SP                   |   |  | Modelling study finds that fewer than 10% of cases were detected  |  |   |
| RETROSPECTIVE EVIDEN |   |  | due to lack of testing; likely<br>108,689 infections in the US by 12  |  |   |
|                      |   |  | March.  |  |   |
|                      |   |  | l <u>PNAS</u>   |  |   |

| VTIONAL            | ANNOUNCEMENT (*)<br>WHO, UN Foundation, and<br>partners launch COVID-19<br>Solidarity Response Fund<br>WHO<br>Published: 13 Mar 2020  |  |  |  |  |  |  |
|--------------------|---|--|--|--|--|--|--|
| INTERN             | The Solidarity Response Fund is<br>a new mechanism for WHO to<br>receive resources from a broader<br>funding base, including private<br>individuals, and corporations.<br>WHO |  |  |  |  |  |  |
|                    | LOCKDOWN/<br>STAY-AT-HOME MEASURES  | LOCKDOWN/<br>STAY-AT-HOME MEASURES                                   | LOCKDOWN/<br>STAY-AT-HOME MEASURES                             | DECLARATION OF EMERGENCY<br>Spain: State of alarm declared           | LOCKDOWN/<br>STAY-AT-HOME MEASURES   |  |  |
|                    | Uruguay requests people to stay   | Iraqi region introduces  | Two countries introduce  | Spain: State of alarm declared<br>Ministry of the Presidency         | Spain begins lockdown  |  |  |
|                    | at home   | lockdown/stay-at-home<br>measures                                    | lockdown/stay at home<br>measures                              | State of alarm declared for 15                                       | Prime Minister   |  |  |
| TRY                | President<br>President asks people to stay  | Iraq Kurdish Regional Government                                     | Governments of Jamaica and Venezuela                           | days.  | Two-week lockdown announced  |  |  |
| COUN               | in their homes to protect the population.   | Kurdish region of Iraq placed<br>under curfew, the first area in EMR | Jamaica introduces 2 week                                      | <u>Government announcement</u><br>Cases per million<br>Spain: 136.69 | ordering people to stay at home<br>with some exceptions for essential<br>services. |  |  |
|                    | <u>BMJ</u>  | to impose movement restrictions.                                     | stay-at-home measures except                                   |  | <u>The Guardian</u>  |  |  |
|                    | Cases per million<br>Uruguay: 1.15  | Cases per million<br>Iraq: 2.511                                     | for essential reasons, the first<br>countries in AMR to do so. |  | Cases per million<br>Spain: 136.69   |  |  |
|                    |   |  | Jamaica, Venezuela   |  |  |  |  |
| щ                  |   |  | Cases per million<br>Jamaica: 2.702                            |  |  |  |  |
| REAL-TIME EVIDENCE | — 13 Mar, cont.   |  |  | <b>)-</b> 14 Mar ———————————————————————————————————                 |  |  |  |

|              |  |  | -(4)  |   |   |
|--------------|--|--|---|---|---|
|              |  | ACTION PLAN O  | COMMENT III 💿   | MEETING 💿   | PUBLICATION (   |
|              |  | Risk Communication and   | COVID-19: Towards controlling of<br>a pandemic  | G7 leaders meet and issue statement   | Mental health briefing note   |
| F            |  | Community Engagement Plan  | a panaemic<br>WHO STAG-IH   |   | IASC  |
| NC           |  | Tool for Risk Communication and<br>Community Engagement (RCCE)   | In a comment to the Lancet,   | G7<br>Published: 16 Mar 2020  | The Inter-Agency Standing   |
| INTERNATIONA |  | staff and responders working with<br>national health authorities and<br>others, to develop, implement<br>and monitor an action plan for<br>communicating with the public<br>and engaging communities and | STAG-IH outlines understanding of<br>control activities and emphasizes<br>research gaps that need to be<br>addressed.<br>Lancet | "By acting together, we will<br>work to resolve the health and<br>economic risks caused by the<br>COVID-19 pandemic and set the<br>stage for a strong recovery of<br>strong, sustainable economic | Committee, the highest level<br>humanitarian coordination forum<br>of the UN system, publishes an<br>interim briefing note addressing<br>mental health and psychosocial<br>aspects of the COVID-19 outbreak.<br><i>IASC</i> |
|              |  | partners.  |   | growth and prosperity."   |   |
|              |  | <u>WHO HQ</u>  | SCHOOL CLOSURES 📀   | <u>GZ</u>   |   |
|              |  | BORDER CONTROL MEASURES  | Four countries implement school   | BORDER CONTROL MEASURES (   |   |
|              |  | Four countries implement border restrictions   | closures  | India implements border controls  |   |
| ~            |  | Various countries  | Various countries   | Government of India   |   |
| OUNTRY       |  | Argentina, Liberia, Peru, and<br>Spain implement various levels<br>of border closures and travel   | Argentina, Germany, India, and<br>Spain implement various levels<br>and types of school closures.                               | Land borders with Myanmar,<br>Bhutan, Nepal, Bangladesh<br>closed. Land border with Pakistan  |   |
| C            |  | restrictions.  | <u>Argentina, Germany, India, Spain</u>   | closed. First country in SEAR to  |   |
|              |  | Argentina, Liberia, Peru, Spain  | Cases per million<br>Argentina: 1.24  | take these measures.<br>Indian Ministry of Home Affairs   |   |
|              |  | <b>Cases per million</b><br>Argentina: 1.24<br>Liberia: 0.20   | Germany: 86.80<br>India: 0.09<br>Spain: 212.64  | Indian Ministry of Home Analis  |   |
|              | CASES (O)<br>143 countries, over 72,000 cases                              | Peru: 2.61<br>Spain: 212.64  |   |   |   |
| EVIDENCE     | 81,048 cases in China, 72,469<br>cases outside China, in 143<br>countries. | SCIENCE 10 • • • • • • • • • • • • • • • • • •   |   |   |   |
|              | WHO Situation Report   | Ferguson N, Laydon D, et al.   |   |   |   |
| REAL-TIME    |  | Influential epidemiological model<br>of the impact of different non-<br>pharmaceutical interventions is<br>published.  |   |   |   |
|              |  | Imperial College   |   |   |   |
|              | - 15 Mar   | 0- 16 Mar  | •   | •   | 0- 17 Mar   |

|      | PUBLICATION 📀   | INTERIM GUIDANCE   |  |  |  |
|------|---|--|--|--|--|
|      | Readiness and response operations in refugee camps  | Mental health considerations WHO HQ  | Launch of SOLIDARITY trial for<br>treatments of COVID-19   |  |  |
| ONAI | IFRC, IOM, UNHCR, WHO<br>Group publishes interim guidance   | WHO publishes a series   | WHO<br>Published: 18 Mar 2020  |  |  |
|      | on scaling-up COVID-19 outbreak<br>in readiness and response<br>operations in humanitarian<br>situations, including camps and | of messages to be used in<br>communications to support mental<br>and psychosocial well-being in<br>different target groups.<br>WHO HQ  | One of the largest international<br>randomized trials for COVID-19<br>treatments starts, enrolling almost<br>12,000 patients in 500 hospital   | LOCKDOWN/<br>STAY-AT-HOME MEASURES   |  |
| -    | camp-like settings.   | BORDER CONTROL MEASURES  | sites in over 30 countries.<br><u>WHO</u>  | Five countries introduce<br>lockdown/stay-at home  |  |
|      |   | Three countries implement  |  | measures   |  |
|      |   | border restrictions  | DECLARATION OF EMERGENCY 🐵   | Various countries  | MASK USAGE 🛛 👁   |
|      |   | Various countries  | Four countries declare states of emergency   | Liberia, Niger, Peru, the Republic<br>of Korea, and the US impose  | Three countries introduce mask usage recommendations/orders    |
|      |   | India, Singapore, and Sri Lanka<br>implement various levels of border  | Various countries  | various levels of lockdown or stay-<br>at-home measures during this  | Various countries  |
|      |   | closures and travel restrictions<br>during this week.  | Brazil, Liberia, Peru, and Russia<br>declare states of emergency or  | week.<br>Liberia, Niger, Peru, <u>Republic of Korea</u> ,  | Argentina, China, and Viet Nam<br>introduce recommendations or |
| 5    |   | India, Singapore, Sri Lanka<br>Cases per million   | implement emergency legislation<br>during this week.   | <u>United States</u><br>Cases per million  | orders around mask usage during this week.                     |
|      |   | India: 0.08  | Brazil, Liberia, Peru, <u>Russia</u>   | Liberia: 0.59  | Argentina, China, <u>Viet Nam</u>                              |
|      |   | Singapore: 38.63<br>Sri Lanka: 2.38  | Cases per million<br>Brazil: 1.36<br>Liberia: 0.59   | Peru: 2.61<br>Republic of Korea: 171.62<br>United States: 9.70   | Cases per million<br>Argentina: 1.00<br>China: 56.32           |
|      |   | SCIENCE III 🕑  | Peru: 1.30 -   |  | Viet Nam: 0.63   |
|      |   | Lopinavir-Ritonavir does not<br>help severe COVID-19   | Russia: 1.36<br>NEWS REPORT  | Wuhan: Estimating the clinical   |  |
|      |   | Cao B, Wang Y et al.<br>Published: 07 May 2020   | Worldwide shortage of COVID–19<br>test agents  | severity of COVID-19<br>Wu J, Leung K et al.<br>Published: 19 Mar 2020   |  |
|      |   | A randomized control trial of<br>Lopinavir-Ritonavir in adults<br>hospitalized with severe COVID-19<br>shows no benefit observed with<br>this treatment beyond standard<br>care. | Worldwide shortage of COVID-19<br>test agents plagues health systems<br>– even as infections surpass<br>200,000.<br><u>Health Policy Watch</u> | Estimating clinical severity of<br>COVID-19 from transmission<br>dynamics in Wuhan to end Feb<br>2020 – with symptomatic case<br>fatality rate 1.4%. |  |
|      | • 17 Mar, cont  | New England Journal of Medicine  |  | <u>Ivalure Medicine (Letter)</u>   | •  |

Pre-print published 18 March, final

version published 7 May.

|  |   | REPORTImage: Constraint of the socio-<br>economic impacts of COVID-19UNImage: Constraint of the UN publishes a global solidarity document on responding to the socio-economic impacts of COVID-19.UNImage: Constraint of the socio-economic impacts of COVID-19.UNImage: Constraint of the socio-economic impacts of COVID-19.UNImage: Constraint of the socio-economic impacts of COVID-19.  |  |  |
|--|---|---|--|--|
| SCHOOL CLOSURES       Image: Closures         Six countries implement school closures       Various countries         Egypt, Liberia, Nigeria, Sweden, Thailand, and Uruguay implement various levels and types of school closures during during this week.         Egypt, Liberia, Nigeria, Sweden, Thailand, Uruguay         Cases per million         Egypt, 1.08         Liberia: 0.59         Nigeria: 0.04         Sweden: 125.26         Thailand: 3.04         Uruguay: 2.30 | LOCKDOWN/<br>STAY-AT-HOME MEASURES<br>Lesotho introduces lockdown/<br>stay-at home measures<br>Government of Lesotho<br>Lesotho introduces measures<br>mandating people to stay at<br>home except for "extreme<br>circumstances," the first in AFR to<br>do so.<br><i>Our World in Data</i> | BORDER CONTROL MEASURES       Image: Solution of the second | LOCKDOWN/<br>STAY-AT-HOME MEASURES<br>Two countries introduce<br>lockdown/stay-at home<br>measures<br>Various countries<br>Argentina and Fiji introduce<br>various levels of lockdown or stay-<br>at-home measures.<br>Argentina, Fiji<br>Cases per million<br>Argentina: 2.15<br>Fiji: 1.12 | LOCKDOWN/<br>STAY-AT-HOME MEASURES         Sri Lanka introduces lockdown/<br>stay-at-home measures         Government of Sri Lanka         Lockdown-style curfew<br>imposed for whole country, with<br>recommendations that people<br>stay in their homes. First country in<br>the region to do so.         Economy Next         Cases per million<br>Sri Lanka: 2.8 |

COVID-19: The Authoritative Chronology, December 2019–March 2020, Background paper 2a, The Independent Panel for Pandemic Preparedness and Response – Page 43 of 48

|                           |   | 100   |  | (b)  |  |
|---------------------------|---|---|--|--|--|
|                           | PUBLICATION   | ACTION 📀  | INTERIM GUIDANCE   | INTERIM GUIDANCE 🛛 👁   |  |
|                           | A gender lens on COVID-19   | WHO and social media  | Laboratory testing strategy  | Infection prevention in long-term  |  |
| <b>_</b>                  | UNFPA   | companies launch Health Alert<br>messaging service  | recommendations  | care   |  |
| INTERNATIONAL             | United Nations Population Fund<br>(UNFPA) publishes technical<br>brief on protecting sexual and<br>reproductive health and rights,<br>and promoting gender equality.<br>UNFPA               | WHO<br>Published: 20 Mar 2020<br>WHO launches dedicated<br>COVID-19 public health messaging<br>services in Arabic, English, French, | WHO HQ<br>WHO publishes recommendations<br>for laboratory testing strategy.<br>It describes the strategic use<br>of diagnostic tests in different<br>scenarios and includes how to | WHO HQ<br>WHO publishes interim guidance<br>on infection prevention and<br>control in long-term care facilities<br>to prevent spread within and<br>outside the facility. |  |
|                           |   | <ul> <li>Hindi, Italian, Spanish, and</li> <li>Portuguese with WhatsApp and</li> <li>Facebook.</li> </ul>                           | rationalize testing when testing capacity/reagents are lacking.  | WHO HQ   |  |
|                           | SCHOOL CLOSURES 📀   |   |  |  |  |
|                           | Four countries implement school closures  |   | BORDER CONTROL MEASURES  |  | BORDER CONTROL MEASURESFour countries implement border   |
|                           | Various countries   |   | border restrictions  |  | restrictions   |
| ~                         | Fiji, Niger, Uganda, and the UK   |   | Various countries  |  | Various countries  |
| COUNTRY                   | implement various levels and<br>types of school closures.<br>Fiji, Niger, Uganda, United Kingdom  | _   | Mexico, Pakistan, and Uganda<br>implement various levels of border<br>closures and travel restrictions.  |  | India, Spain, Uruguay, and Viet<br>Nam implement various levels<br>of border closures and travel |
| ŭ                         | Cases per million   |   | <u>Mexico, Pakistan, Uganda</u>  |  | restrictions.  |
|                           | Fiji: 1.12<br>Niger: 0.04<br>United Kingdom: 114.77   |   | <b>Cases per million</b><br>Mexico: 1.95<br>Pakistan: 3.51   |  | <u>India, Spain, Uruguay, Viet Nam</u><br>Cases per million<br>India: 0.29                       |
|                           | CASES @   | CASES 📀   | Uganda: 0.02   |  | Spain: 615.30<br>- Uruguay: 45.48<br>Viet Nam: 1.16  |
|                           | Europe becomes epicenter  | Spain: Second highest outside   |  |  | CASES 📀  |
| REAL-TIME EVIDENCE        | Europe (104,591 cases) surpasses<br>Western Pacific (93,349 cases) as<br>epicenter.   | China (19,980 cases)<br>Spain surpasses Iran to become<br>the country with the second   |  |  | 300,000 cases globally<br>292,142 cases globally, driven   |
| IME EV                    | WHO Situation Report  | highest cases outside China, after<br>Italy.  |  |  | by Europe (151,293 cases) and<br>Western Pacific (94,787 cases).                                 |
| REAL-T                    |   | WHO Situation Report  |  |  | WHO Situation Report   |
|                           |   |   |  |  |  |
|                           | 20 Mar  |   | 0- 21 Mar  | •  | 0- 22 Mar  |
| <b><i>IROSPECTIVE</i></b> | CASES III ©<br>Iran: 916,000 cumulative cases<br>estimated<br>Ghaffarzadegan N, Rhamandad H<br>Published: 06 Jul 2020<br>Simulation modelling estimates<br>916,000 cumulative cases in Iran |   |  |  |  |
| RE                        | by 20 March. 19,644 cases were reported by this date.   |   |  |  |  |
|                           | System Dynamics Review  |   |  |  |  |

|                     |   |   |                  |  | _ (2)              |  |       |  |
|---------------------|---|---|------------------|--|--------------------|--|-------|--|
|                     | PUBLICATION (©  |   |                  | ANNOUNCEMENT 📀   |                    | INTERIM GUIDANCE   | 0     | ACTION 💿   |
|                     | Guidance on social distancing   |   |                  | Japan postpones Summer<br>Olympics   |                    | dance for refugee and<br>grant health  |       | UN begins fundraising drive  |
| ĮAL                 | The European Center for   |   |                  | International Olympic Committee  | EUR                | 0  |       | UN launches a USD 2 billion  |
| <b>NTERNATIONA</b>  | Disease Prevention and Control<br>publishes a technical report on<br>considerations relating to social<br>distancing measures in response |   |                  | The President of the International<br>Olympic Committee and the<br>Prime Minister of Japan hold a<br>conference call where they decide | (EU<br>for<br>relo | O Regional Office for Euro<br>RO) publishes interim guic<br>refugee and migrant heal<br>ation to COVID-19. | lance | coordinated global humanitarian  |
| Z                   | to COVID-19.  |   |                  | to postpone the Summer Olympics<br>until "no later than summer 2021".  | EUR                | <u>0</u>   |       |  |
|                     | ECDC  |   |                  | International Olympic Committee  | s                  | LOCKDOWN/<br>TAY-AT-HOME MEASURES  | ۲     |  |
|                     | SCHOOL CLOSURES   |   |                  | MASK USAGE   |                    | ir countries introduce   |       | BORDER CONTROL MEASURES  |
|                     | Five countries implement school   | STAY-AT-HOME MEASURES                                 | •                | Namibia recommends mask  |                    | kdown/stay-at-home<br>asures   |       | Four countries implement border  |
|                     | closures  | Two countries introduce                               |                  | wearing  |                    | ous countries  |       | restrictions   |
| ~                   | Various countries   | lockdown/stay-at home<br>measures                     |                  | Government of Namibia  | Egy                | pt, India, New Zealand, ar   | nd    | Various countries  |
| COUNTRY             | Mexico, Mozambique, New<br>Zealand, Russia, and the Republic  | Maniana ann tuis a                                    | arious countries | Namibia recommends mask<br>wearing, the first in AFR to do so.   |                    | eden introduce various lev<br>ockdown or stay-at-home  |       | Brazil, China, Nigeria, and Russia<br>implement various levels of border |
| 0<br>0              | of Korea implement various levels   | Pakistan and the UK introduce                         |                  | Our World in Data  |                    | asures.  |       | closures and travel restrictions   |
| Ŭ                   | and types of school closures.   | various levels of lockdown or st<br>at-home measures. | ay-              | Cases per million  | Egy                | ot, <u>India, New Zealand, Sweden</u>  |       | during this week.  |
|                     | <u>Mexico, Mozambique, New Zealand,</u><br>Russia, Republic of Korea  | Pakistan, United Kingom                               |                  | Namibia: 2.755   |                    | e <b>s per million</b><br>ot: 4.46   |       | Brazil, China, Nigeria, Russia   |
|                     | Cases per million   | Cases per million                                     |                  |  | Indi               | a: 0.48  |       | Cases per million<br>Brazil: 16.08                                       |
|                     | Mexico: 2.85<br>Mozambique: 0.03  | Pakistan: 4.40  |                  |  |                    | Zealand: 42.51<br>den: 268.53  |       | China: 56.97   |
|                     | New Zealand: 21.15  | - United Kingom: 187.73                               |                  |  |                    |  |       | - Nigeria: 0.19<br>Russia: 7.10  |
|                     | Russia: 3.00<br>Republic of Korea: 174.78   |   |                  |  |                    | SCIENCE  | ۲     |  |
| NCE                 | Republic of Rored. 1/4.76   |   |                  |  | Mo<br>con          | delling shows measures c<br>trol spread of COVID-19  | an    |  |
| REAL-TIME EVIDENCE  |   |   |                  |  |                    | n K, Liu Y et al.<br>lished: 25 Mar 2020   |       |  |
| ME                  |   |   |                  |  |                    | ng computational models<br>pread in Wuhan, control   |       |  |
| 5.                  |   |   |                  |  |                    | asures are found to halt th  | е     |  |
| EAI                 |   |   |                  |  |                    | ndemic, but premature lift   |       |  |
| ~                   |   |   |                  |  |                    | lead to an earlier second  | peak. |  |
|                     |   |   |                  |  |                    | Lancet Public Health   |       |  |
|                     | - 23 Mar  | •   |                  | <b>Q-</b> 24 Mar   | <b>-O-</b> 2       | 5 Mar  |       | •  |
|                     |   |   |                  |  |                    |  |       |  |
| NCE                 |   |   |                  |  |                    |  |       |  |
| ш                   |   |   |                  | SCIENCE III 💿  |                    |  |       |  |
| RETROSPECTIVE EVIDI |   |   |                  | Seroprevalence in Wuhan and outside approximately 3%   |                    |  |       |  |
| TIV                 |   |   |                  | Xu X, Sun J, et al. Published: 05 Jun 2020   |                    |  |       |  |
| EC                  |   |   |                  | Seroprevalence in Wuhan ranged   | 1                  |  |       |  |
| DSF                 |   |   |                  | from 3.2% and 3.8% during 9  |                    |  |       |  |
| TR                  |   |   |                  | March-10 April, and anywhere   |                    |  |       |  |
| RE                  |   |   |                  | from 1.3% and 3.6% in two cities<br>outside Wuhan but within Hubei.  |                    |  |       |  |
|                     |   |   |                  | Nature Medicine  |                    |  |       |  |
|                     |   |   |                  |  |                    |  |       |  |

|                          |  |  |  | (4)  | (4)  |
|--------------------------|--|--|--|--|--|
|                          |  |  |  |  | INTERIM GUIDANCE 🛛 👁   |
|                          |  |  |  | Origins of SARS-CoV-2  | Surveillance guidance using  |
| _                        |  |  |  | WHO HQ   | GISRS  |
| NA                       |  |  |  | All available evidence suggests  | WHO HQ   |
| INTERNATIONAL            |  |  |  | SARS-CoV-2 has a natural animal<br>origin and is not a manipulated or<br>constructed virus. Most probable<br>ecological reservoir is bats. | WHO publishes interim guidance<br>on operational considerations for<br>leveraging influenza surveillance<br>systems such as the Global |
| Z                        |  |  |  | <u>WHO HQ</u>  | Influenza Surveillance and<br>Response System to incorporate<br>COVID-19 testing.  |
|                          |  |  |  |  | <u>WHO HQ</u>  |
|                          | DECLARATION OF EMERGENCY 📀   |  | SCHOOL CLOSURES 📀  | BORDER CONTROL MEASURES ()   |  |
|                          | Five countries declare states of emergency   | STAY-AT-HOME MEASURES  | US close all public schools  | Three countries implement<br>border restrictions   |  |
|                          | Various countries  | lockdown/stay-at home  | Subnational actors in the United States  | Various countries  |  |
| COUNTRY                  | New Zealand, Niger, Pakistan,<br>Thailand, and the UK declare<br>states of emergency, or implement | measures<br>Various countries<br>Brazil, Germany, Niger, Russia,     | All public school buildings in the<br>US are closed by this date.<br><u>Education Week</u> | Fiji, Thailand, and Uruguay<br>implement various levels of border<br>closures and travel restrictions.                                     |  |
| ö                        | emergency legislation during this  | Thailand, and Uganda introduce                                       | Cases per million<br>United States: 207.97   | Fiji, Thailand, Uruguay  |  |
|                          | week.  | various levels of lockdown or stay-<br>at-home measures during this  |  | Cases per million  |  |
|                          | <u>New Zealand, Niger, Pakistan, Thailand,<br/>United Kingdom</u>                                  | week.  |  | Fiji: 5.58<br>Thailand: 14.97  |  |
|                          | Cases per million<br>New Zealand: 106.59   | <u>Brazil, Germany, Niger, Russia, Thailand,</u><br><u>Uganda</u>    |  | Uruguay: 68.51   |  |
| NCE                      | Niger: 3.73<br>Pakistan: 8.49<br>Thailand: 14.97<br>United Kingdom: 262.84                         | Cases per million<br>Brazil: 10.57<br>Germany: 296.87<br>Niger: 0.41 |  |  |  |
| E EVIDE                  |  | Russia: 8.66<br>Thailand: 14.97<br>Uganda: 0.20                      |  |  |  |
| <b>REAL-TIME EVIDENC</b> |  |  |  |  |  |
|                          | = 25 Mar, cont.  | •  | •  | 0- 26 Mar  | •  |

| INTERIM GUIDANCE                                      | •       | MEETING   | ۲  | INTERIM GUIDANCE  | •          |  |   |                                  |
|---|---------|---|----|---|------------|--|---|----------------------------------|
| Guiding principles for<br>immunization activities     |         | G20 leaders meet and issue statement  |    | Joint family-friendly workplac<br>guidance  | e          |  |   |                                  |
| WHO HQ  |         | G20   |    | UNICEF, ILO, UN Women   |            |  |   |                                  |
| WHO publishes guiding prir                            | nciples | Published: 26 Mar 2020  |    | UNICEF, the International Labo  | our        |  |   |                                  |
| for immunization activities of the COVID-19 pandemic. | during  | "We ask the WHO, in cooperati<br>with relevant organizations,   | on | Organization (ILO), and UN<br>Women publish recommendat                                       |            |  |   |                                  |
| <u>WHO HQ</u>   |         | to assess gaps in pandemic<br>preparedness and report to a<br>joint meeting of Finance and            |    | for family-friendly policies and<br>other good workplace practice<br>the context of COVID-19. | l<br>es in |  |   |                                  |
|   |         | Health Ministers in the coming<br>months, with a view to establish<br>a global initiative on pandemic | h  | UNICEF, ILO, UN Women   |            |  |   |                                  |
|   |         | preparedness and response."<br>Government of the UK   |    |   |            |  |   |                                  |
|   |         |   |    |   |            |  |   |                                  |
|   |         |   |    |   |            |  |   |                                  |
|   |         |   |    |   |            |  |   |                                  |
|   |         |   |    |   |            |  |   |                                  |
|   |         |   |    |   |            |  |   |                                  |
|   |         |   |    |   |            |  |   |                                  |
|   |         |   |    |   |            |  | SCIENCE II  |                                  |
|   |         |   |    |   |            | CASES ©  | SCIENCE 18<br>Loss of smell and taste con<br>with COVID-19  |                                  |
|   |         |   |    |   |            | Italy, US: Highest number of<br>cases, surpassing China  | Loss of smell and taste com<br>with COVID-19<br>Giacomelli A, Pezatti L, et al.<br>Published: 26 Mar 2020   |                                  |
|   |         |   |    |   |            | Italy, US: Highest number of   | Loss of smell and taste com<br>with COVID-19<br>Giacomelli A, Pezatti L, et al.<br>Published: 26 Mar 2020<br>A cross-sectional study of s<br>reported olfactory and tast<br>disorders (OTDs) in patients<br>SARS-CoV-2, finds that loss   | elf-<br>e<br>s wit               |
|   |         |   |    |   |            | Italy, US: Highest number of<br>cases, surpassing China<br>Italy reaches 86,498 cases, and US<br>reaches 85,228 cases, surpassing<br>China (82,213 cases) for the first<br>time. | Loss of smell and taste com<br>with COVID-19<br>Giacomelli A, Pezatti L, et al.<br>Published: 26 Mar 2020<br>A cross-sectional study of s<br>reported olfactory and tast<br>disorders (OTDs) in patients<br>SARS-CoV-2, finds that loss<br>smell and taste is fairly freq<br>and may precede the onset<br>blown clinical disease. | elf-<br>e<br>s wit<br>of<br>juen |
|   |         |   |    |   |            | Italy, US: Highest number of<br>cases, surpassing China<br>Italy reaches 86,498 cases, and US<br>reaches 85,228 cases, surpassing<br>China (82,213 cases) for the first<br>time. | Loss of smell and taste com<br>with COVID-19<br>Giacomelli A, Pezatti L, et al.<br>Published: 26 Mar 2020<br>A cross-sectional study of s<br>reported olfactory and tast<br>disorders (OTDs) in patients<br>SARS-CoV-2, finds that loss<br>smell and taste is fairly freq<br>and may precede the onset                            | elf-<br>e<br>s wit<br>of<br>juen |

|               | CASES   | Θ | CASES   | •      | NEWS REPORT  | ۲                       |  | 0 |  | •                 |
|---------------|---|---|---|--------|--|-------------------------|--|---|--|-------------------|
| Щ             | US has world's highest numbe<br>of cases                    |   | Americas become number<br>epicenter, 635,000 cases g  | r two  | UN warns of impact on stud<br>As one of several announce   |                         | Estimates of COVID-19 fatal ratio published  |   | European analysis of public health interventions   | :                 |
| <b>IIDENC</b> | The US becomes the world's epicenter, surpassing Italy, wit | h | 634,813 cases globally driv<br>Europe (361,031 cases) and   | en by  | about the socio-economic i   | mpact                   | Verity R, Okell L, et al.<br>Published: 30 Mar 2020  |   | Flaxman S, Mishra S, et al.<br>Published: 30 Mar 2020  |                   |
| EAL-TIME EV   | 103,321 cases.<br>WHO Situation Report                      |   | of Americas (120,792 cases)<br>Americas surpasses Wester<br>Pacific.<br><u>WHO Situation Report</u> | ). The | "now nearly 1.5 billion child<br>87% of Earth's student popu<br>- whose schools have close<br>because of the novel coron<br>pandemic."   | ren - or<br>lation<br>d | Estimated overall infection for<br>ratio for China is 0.66%, with<br>increasing profile with age.<br><u>The Lancet Infectious Diseases</u> |   | Non-pharmaceutical interve<br>are found to be effective to<br>transmission, but take two to<br>weeks to demonstrate impa | reduce<br>o three |
| RE/           |   |   |   |        | Washington Post  |                         |  |   | Imperial College   |                   |
| _             | 0- 29 Mar   |   | L   |        | - 30 Mar   |                         | L  |   |  |                   |
|               |   |   |   |        | CASES III  | ۲                       |  |   |  |                   |
| EVIDENCE      |   |   |   |        | 11-fold under-detection in<br>York State   |                         |  |   |  |                   |
|               |   |   |   |        | Rosenberg ES, Tesoriero JM, et al.<br>Published: 17 Jun 2020   |                         |  |   |  |                   |
| RETROSPECTIVE |   |   |   |        | Detected cases compared<br>seroprevalence were 8.9%,<br>suggesting an 11-fold under<br>detection of cases in New Y<br>State. The number of infect<br>experienced adults were<br>estimated to be 2,139,300. | -<br>ork                |  |   |  |                   |
|               |   |   |   |        | Annals of Epidemiology   |                         |  |   |  |                   |

| _       | (à)   |           |
|---------|---|-----------|
|         | MEETING   | ۲         |
|         | 13th meeting of the STAG-IH   |           |
|         | WHO STAG-IH   |           |
|         | Following meetings on 19, 24,<br>and 27 March, STAG–IH exper<br>continue to discuss country<br>situations, research areas, and<br>strategies. | 'ts       |
|         | WHO STAG-IH   |           |
|         |   |           |
| 1 1 1   |   |           |
| COUNIKI |   |           |
|         |   |           |
|         | CASES   | •         |
| ų       | COVID-19 sweeps the globe   |           |
| Z       | wно<br>WHO reports 750,890 COVID-   | 10        |
|         | cases globally, including 57,61   | 0 in      |
| 4       | cases globally, including 57,61<br>the previous 24 hours, along v   | vith      |
| 2       | 36,405 deaths. The US reports<br>the highest number of cases v  | vith      |
|         | 140,640. Italy reports the high<br>number of deaths with 11,591.  | est       |
| ž       |   |           |
|         | WHO Situation Report  |           |
| -       | - 31 Mar  |           |
|         |   |           |
| ц       |   |           |
|         | CASES II  | ۲         |
|         | Lockdown led to rapid reduct<br>of transmission in New Zealar   | ion<br>1d |
|         | Geoghegan JL, Ren X, et al.<br>Published: 11 Dec 2020   |           |
| Ú L     | Genomic epidemiology revea  | ls        |
| 22      | rapid reduction of transmissio<br>within one week of lockdown i   | n         |
| ų       | New Zealand. Re decreased fi  | rom       |
|         | 7 to 0.2.   |           |
|         | Nature Communications   |           |