
COVID-19

Data and code repository for the Open COVID-19 Data Working Group: a global and multi-organizational initiative that aims to enable rapid sharing of trusted and open public health data to advance the response to infectious diseases.

Acknowledgements

We first want to thank all those individuals and organizations across the world who have been willing and able to report data in as open and timely manner as possible. This work attempts to synthesize information from across a myriad set of data sources. Each entry in our database has an associated source. A number of individuals have contributed to the specific data added here and their names and details are listed below along with citations.

Please get in touch should you want to contribute line list data, have any questions or just want to say hi: pigottdm@uw.edu or moritz.kraemer@zoo.ox.ac.uk

We promote open collaboration among researchers and encourage users of these data make best efforts to collaborate with representatives of the groups that generated data and involve them in their analyses where appropriate. Please get in touch should you require more information.

Reconstructed line lists and data descriptor

Daily updates are usually processed by 10pm PT (1am EST, 6am GMT) and can be found the latest data folder.

A full description of the methodology used for this study can be found here: Xu, B., Gutierrez, B., Mearu, S. et al. Epidemiological data from the COVID-19 outbreak, real-time case information. *Sci Data* 7, 106 (2020). <https://doi.org/10.1038/s41597-020-0448-0>

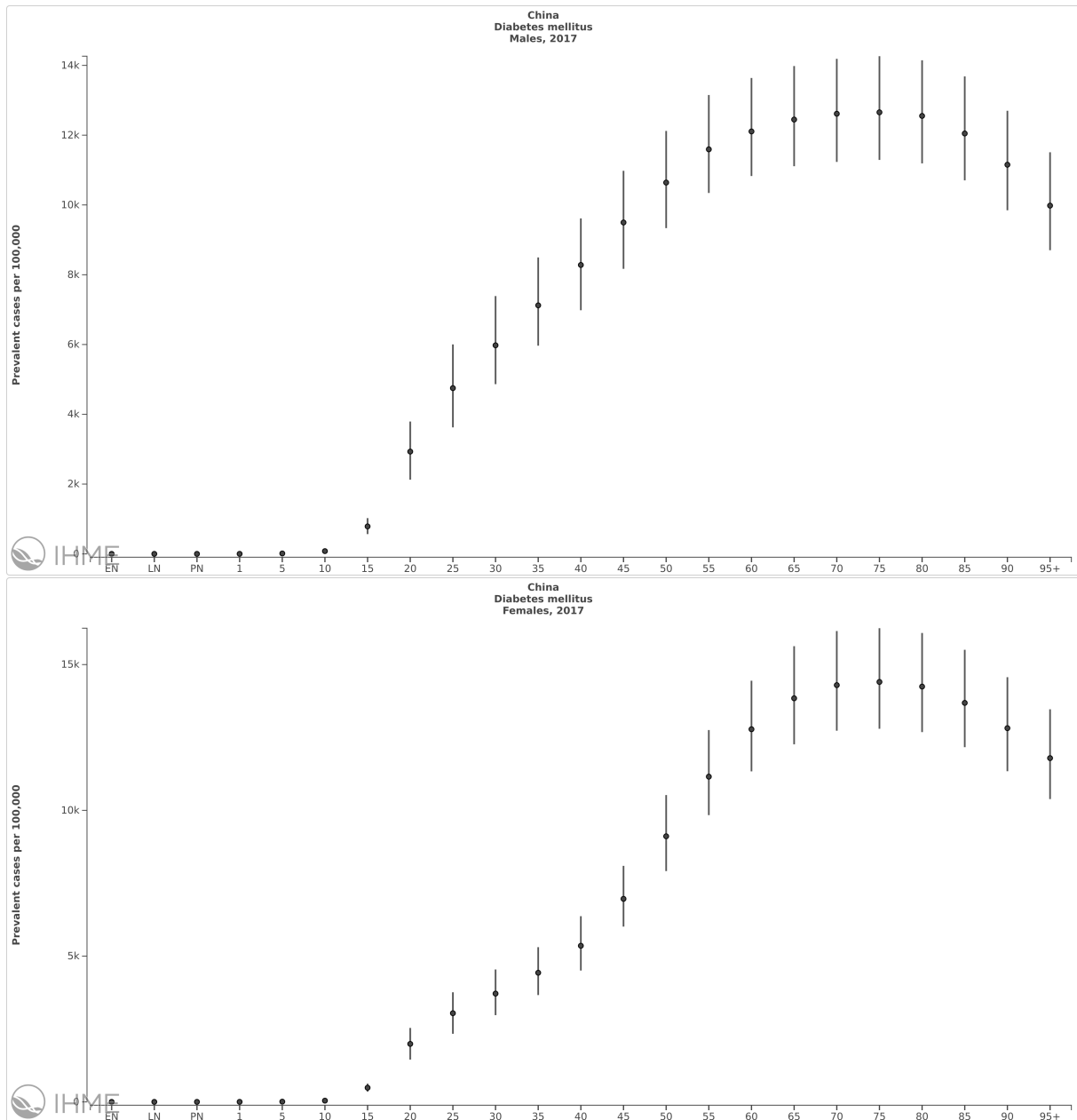
And a short summary of the data can be found here: Xu B, Kraemer MUG, Open COVID-19 Data Working Group. Open access epidemiological data from the COVID-19 outbreak. *Lancet Infect Dis.* 20(5):534 (2020). [https://doi:10.1016/S1473-3099\(20\)30119-5](https://doi:10.1016/S1473-3099(20)30119-5)

A dashboard showing the data can be viewed here: <https://www.healthmap.org/covid-19/>

Co-morbidity estimates

Co-morbidity data may facilitate CFR estimation processes

Datasets derived from Global Burden of Disease on prevalence rates of known co-morbidities, including Diabetes mellitus, Cardiovascular Disease, and Chronic Obstructive Pulmonary Disorder. For more information on these estimates please see metadata and <https://vizhub.healthdata.org/gbd-compare/>



Global Demographic information

Global demographics, with age and sex structure are provided. These are mirrors of estimates from the Global Burden of Disease 2017, publically available here - <http://ghdx.healthdata.org/record/ihme-data/gbd-2017-population-estimates-1950-2017>. For further information please consult [https://www.thelancet.com/6736\(18\)32278-5/fulltext](https://www.thelancet.com/6736(18)32278-5/fulltext)

Contributions

Sources

Current sources used

Specific Contributors

We want to specifically thank the different regional working groups, including the Africa Open COVID-19 Data Working Group (<https://github.com/dsfsi/covid19africa>) and LATAM Open COVID-19 Data Working Group.

A list of curators and contributors to the Open COVID-19 Data Working Group is provided below:

Name	Twitter	Github	Email
Abdullahi Kawu		abdullahikawu	
Albert Doughan		adoughan1	
Alex Benjamin		axmb	alexbenjamin@google.com
Alexander Zabreski			aezarebski@gmail.com
Allyson Pemberton		allysonjp715	allysonjp@google.com
Alyssa Loskill			aloskill@bu.edu
Amanuel Getachew		amanbk12	
Anastasia Lambrou	@anasophlambrou		anastasia.lambrou@jhu.edu

Name	Twitter	Github	Email
Andrew Auruku		aurukua	
Anya Nyman		anya-nyman	
Arianna Maever Amit			alamit@up.edu.ph
Bernardo Gutierrez	@B_Gutierrez_G	BernardoGG	bernardo.gutierrez@zoo.ox.ac.uk
Bo Xu	@BoXu55686629	BoXu123	xu- b15@mails.tsinghua.edu.cn
Carel Nchachi		Carel08	
Carl Britto			carl.britto@paediatrics.ox.ac.uk

Carrie

Daniel Omolo || Jomo20

Darlan Candido |@candido_darlan || darlan.dasilvacandido@merton.ox.ac.uk David Pigott|
@davidmpigott || pigottdm@uw.edu Devon Jarvis || JarvisDevon Diane Igoche || deelearn

Dieudonné Niyitanga || dniyitanga

Elaine Nsoesie ||| onelaine@bu.edu Enrique Estigarribia ||| enrique-estigarribia@hotmail.com Ernest
Offiong || ernooff

Flavia Salles ||| flacrissalles@gmail.com Harvey Davis ||| harvey.davis@gtc.ox.ac.uk Herkulaas Com-
brink || MikeMcMalace

Ian Gregorio-de Souza

Idris Oladele Muniru || idrismunir15

Isha Berry | @ishaberry2 || isha.berry@mail.utoronto.ca Ismaël Koné || iskode

James Azam || jamesmbaazam

Jean Paul Carrera | @JeanCarrPaul || jean.carrera@lincoln.ox.ac.uk Jeanet Morienyane

Jenny MG Shelton ||| j.shelton@imperial.ac.uk Jessie Wu || jessiewu | chiehhsi.wu@gmail.com John
Brownstein Jose Martinez ||| zegmartinezch@gmail.com Juan Pablo Cordova ||| jpablo20048@gmail.com

Julia Morgan ||| morgaj5@uw.edu Kamorudeen Amuda || akindele2012

Kara Sewalk |@kara_sewalk || Kara.Sewalk@childrens.harvard.edu Karen Santiago | @itzel-
mardesiche || santiagomardesichekaren@gmail.com Kate LeGrand | | klegrand15 | kel15@uw.edu

Kazeem Hakeem || hakymulla

Kelly Moran | | khmoran|khmoran@google.com Kernie Obimakinde||dakrownie|kernie@google.com

Kundai Gwatidzo || epicpewpew

Lauren Goodwin ||| lauren.goodwin@childrens.harvard.edu Leslie Leland ||| leslieland ||| lesiele@google.com
Lin Wang | @fdlwang || lin.wang@pasteur.fr Liz Hurley ||| elizabeth.hurley@childrens.harvard.edu
Lizel Greyling || lizelgreyling
Lucy Matkin ||| lucy.matkin@zoo.ox.ac.uk Mahamat Hamdan || axmat
Mahlet Konjit-Solomon ||| mahlet.nigatu@gmail.com Manoli Heyneke || hey-mano
Manu Cornet ||| Imanul | manucomet@google.com Manuel Muvhango || ManuelMuvhango
Marcos
Marcos Antonio Ecurra ||| marcos1996ecurra@gmail.com Marcos Ecurra ||| marcos1996ecurra@gmail.com
Maria Mercedes Cobo | @meche_cobo || maria.cobo@paediatrics.ox.ac.uk Marie Orschulik || morschu-
lik
Million Abayneh || millzon Modupe Coker || moyegunle
Molly Godfrey ||| molly.d.godfrey@gmail.com Moritz Kraemer | @mougk | mougk | moritz.kraemer@zoo.ox.ac.uk
Moseli Motsoehli
Moses Ronoh ||| moses1065
Mostafa El Habib Daho || Mostafa-EHD Nuno Faria | @nmrfaria || nuno.faria@zoo.ox.ac.uk Olaniyan
Oluwasegun || Segun12
Oliver G Pybus | @EvolveDotZoo || oliver.pybus@zoo.ox.ac.uk Omara Patrick
Onesimo Mtintsilana || oniemtie Pablo Reyes ||| preyesa19@gmail.com Pamela Andrade |||
pamelandrade22@gmail.com Raul Aveiro | @Raulaveiro || raul.aveiro45@gmail.com Rebecca
Cogen | | | cogenr@uw.edu Sabrina Li | @sabrinalyly || sabrina.li@ouce.ox.ac.uk Sam Ewald
| | sewald01 | ewalds2@uw.edu Sam Scarpino | @svscarpino || s.scarpino@northeastern.edu
Sang Woo Park | @sang_woo_park | parksw3 | swp2@princeton.edu Sarah Hill | @Hill_SarahC ||
sarah.hill@zoo.ox.ac.uk Sherif Ceesay || sneceesay77 Shingirai Pfumayaramba || shingiraip
Shivanand Guness || shivam11
Stefanie Watson ||| stefanieaw | watsonsa@uw.edu Stephen Radcliffe ||| sratcliffe118 | sratcliffe@google.com
Steve Bachmeier ||| stevebachmeier | sbachmei@uw.edu Sumiko Mekar | @Sumiko_Mekar ||
Sumiko.Mekar@childrens.harvard.edu Tahir ||| tahirlanre
Thomas Brewer ||| Thomas.Brewer@childrens.harvard.edu Thomas Rawson ||| thomas.rawson@pmb.ox.ac.uk
Timothé Faudot ||| attwad | timothe@google.com Tsige Gebreslasse
Veincent Pepito ||| vpepito@ateneo.edu Vongani Maluleke || Von31
Vukosi Marivate ||| vukosi.marivate@cs.up.ac.za Willard Zvarevashe wzvarevashe Yaset Caicedo |
@yaset_caicedo || eyaset@gmail.com Zakia Salod || ZakiaSalod
Zamasomi Luvuno
Zoë Willis ||| znw23@hotmail.co.uk

Citation

In order to cite the current version of the dataset please use the citation below. As the data are updated regularly, please update the retrieval date in the `howpublished` field.

“`{bibtex} @misc{kraemer2020epidemiological, author = {Open COVID-19 Data Working Group}, title = {{Detailed Epidemiological Data from the COVID-19 Outbreak}}, howpublished = {Accessed on yyyy-mm-dd from http://virological.org/t/epidemiological-data-from-the-ncov-2019-outbreak-early-descriptions-from-publicly-available-data/337}, year = 2020 }`”

```
1
2 and
3
4 In order to cite the original dataset and methodology of how it was
   collected please use:
5
6 ```{bibtex}
7 @article{xu2020Epidemiological,
8   author = {Xu, Bo and Gutierrez, Bernardo and Mekaru, Sumiko and
             Sewalk, Kara and Goodwin, Lauren and Loskill, Alyssa and Cohn,
             Emily and Hswen, Yulin and Hill, Sarah C. and Cobo, Maria M and
             Zarebski, Alexander and Li, Sabrina and Wu, Chieh-Hsi and
             Hullah, Erin and Morgan, Julia and Wang, Lin and O'Brien,
             Katelynn and Scarpino, Samuel V. and Brownstein, John S. and Pybus
             , Oliver G. and Pigott, David M. and Kraemer, Moritz U. G.},
9   doi = {doi.org/10.1038/s41597-020-0448-0},
10  journal = {Scientific Data},
11  number = {106},
12  title = {{Epidemiological data from the COVID-19 outbreak, real-time
             case information}},
13  volume = {7},
14  year = {2020}
15 }
```