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# 1 Dataset Comparison

| Dataset  | Data collection method  | Coverage   | Date range               |
|--|---|--|--------------------------|
| <a href="#">Complexity Science Hub Covid-19 Control Strategies List (CCCSL)</a>          | Manual - over 40 volunteers   | 60 countries                                       | 2019-12-31 to 2021-01-01 |
| <a href="#">CoronaNet</a>  | Hybrid, over 500 scholars and research assistants   | 195 countries                                      | 2019-12-31 to 2021-01-10 |
| <a href="#">Oxford COVID-19 Government Response Tracker (OxCGRT)</a>                     | Manual - over 450 Oxford University students and staff  | 185 countries                                      | 2020-01-01 to 2021-01-13 |
| <a href="#">ACAPS - COVID-19 Government Measures</a>                                     | Manual - ACAPS analysts and volunteers from University of Copenhagen and University of Lund   | 193 countries                                      | 2020-01-01 to 2020-12-08 |
| <a href="#">Response2covid19</a>   | Manual  | 229 countries                                      | 2020-01-01 to 2020-08-31 |
| <a href="#">HIT-COVID</a>  | Manual - over 200 volunteers from Johns Hopkins Bloomberg School of Public Health, Boston University School of Public Health  | 155 countries                                      | 2019-12-31 to 2021-01-11 |
| <a href="#">Worldwide Non-pharmaceutical Interventions Tracker for COVID-19 (WNTRAC)</a> | AI-assisted, human-in-the-loop incremental non-pharmaceutical intervention (NPI) curation system powered by Wikipedia. Daily incremental validation performed by 2 volunteers working 1 hour per day. Initial validation was done by 37 IBM volunteers to bootstrap the system. | 261 regions including 54 US states and territories | 2020-01-01 to 2021-01-06 |

**Table 1.** Comparison of prominent NPI datasets accessed as of 11<sup>th</sup>, January 2021.

## 2 Taxonomy Comparison

| OxCGRT                                 |  | CoronaNet                    |  | WNTRAC                              |  |           |
|--|--|------------------------------|--|-------------------------------------|--|-----------|
| Category                               | Indicator                                | NPI count                    | Policy type  | NPI count                           | NPI type                               | NPI count |
| C - containment and closure            | C1 - School Closures                     | 1025                         | Closure and Regulation of Schools                      | 1449                                | School Closures                        | 964       |
|  |  |                              | Restriction and Regulation of Businesses               | 3210                                | Work Restrictions                      | 268       |
|  | C2 - Workplace closing                   | 1244                         | Restriction and Regulation of Government Services      | 1531                                | Public Service Closures                | 101       |
|  |  |                              |  |                                     | Prison-related Policies                | 11        |
|  | C3 - Cancel Public Events                | 771                          |  |                                     | Entertainment/Cultural Sector Closures | 1678      |
|  | C4 - Restrictions on gatherings          | 1077                         | Restrictions of Mass Gatherings                        | 2075                                | Restrictions on Gatherings             | 270       |
|  | C5 - Public Transportation               | 613                          |  |                                     | Public Transportation                  | 130       |
|  | C6 - Stay at Home Order                  | 1021                         | Quarantine   | 1510                                |  |           |
|  |  |                              | Lockdown   | 1091                                | Confinement                            | 1040      |
|  |  |                              | Curfew   | 498                                 |  |           |
| C7 - Restrictions on Internal Movement | 887                                      | Internal Border Restriction  | 937  | Domestic Flight Restrictions        | 47                                     |           |
|  |  | External Border Restrictions | 1912   | International Flight Restrictions   | 457                                    |           |
| C8 - International Travel Controls     | 1086                                     |                              |  | Travel Quarantine Policies          | 364                                    |           |
|  |  |                              |  | Freedom of Movement (International) | 884                                    |           |
| E - economic                           | E1 - Income Support                      | 572                          |  |                                     | Economic Impact                        | 237       |
|  | E2 - Debt/contract relief for households | 477                          |  |                                     |  |           |
|  | E3 - Fiscal Measures                     | 1541                         |  |                                     |  |           |
|  | E4 - International Support               | 127                          |  |                                     |  |           |
| H - health system                      | H1 - Public Information Campaigns        | 446                          | Public Awareness Measures                              | 1816                                |  |           |
|  |  |                              | Anti-Disinformation Measures                           | 249                                 |  |           |
|  | H2 - Testing Policy                      | 697                          | Health Testing   | 1102                                |  |           |
|  | H3 - Contact tracing                     | 518                          | Health Monitoring                                      | 1016                                | Contact Tracing                        | 34        |
|  | H4 - Emergency investment in healthcare  | 522                          | Health Resources                                       | 3967                                |  |           |
|  | H6 - Facial coverings                    | 682                          | Hygiene  | 796                                 | Mask Wearing                           | 186       |
|  | H7 - Vaccination policy                  | 155                          | Vaccines   | 8                                   |  |           |
| M - miscellaneous                      | M - Miscellaneous policies               |                              | Declaration of Emergency                               | 629                                 | State of Emergency                     | 280       |
|  |  |                              | Other Policy Not Listed Above                          | 1971                                | Other                                  | excluded  |
|  |  |                              | New Task Force, Bureau or Administrative Configuration | 1083                                |  |           |
|  |  |                              | Social Distancing                                      | 1330                                |  |           |

**Table 2.** A coarse-grained mapping of taxonomy between Oxford COVID-19 Government Response Tracker (OxCGRT), WNTRAC and CoronaNet datasets, organized by the top level OxCGRT categories. Counts of NPI based on the version of datasets accessed on 11<sup>th</sup> January, 2021. Counts for OxCGRT were derived from the time-series by considering change in stringency level for particular NPI type as an NPI event. Counts for CoronaNet are based on the unique policy id field. Counts for WNTRAC are based on the unique 5-tuple that defines an NPI as discussed in the Methods section. The Jupyter notebook available at [https://github.com/IBM/wntrac/blob/master/code/analysis/dataset\\_comparison.ipynb](https://github.com/IBM/wntrac/blob/master/code/analysis/dataset_comparison.ipynb) contains the code for this comparison.

### 3 Geographical Coverage

| Region                       | Code   |                           |        |                              |     |
|------------------------------|--------|---------------------------|--------|------------------------------|-----|
| Abkhazia                     | GEO-AB | Germany                   | DEU    | Norway                       | NOR |
| Afghanistan                  | AFG    | Ghana                     | GHA    | Oman                         | OMN |
| Albania                      | ALB    | Greece                    | GRC    | Pakistan                     | PAK |
| Algeria                      | DZA    | Greenland                 | DEN-GR | Panama                       | PAN |
| Andorra                      | AND    | Grenada                   | GRD    | Papua New Guinea             | PNG |
| Angola                       | AGO    | Guadeloupe                | FRA-GU | Paraguay                     | PRY |
| Anguilla                     | AIA    | Guatemala                 | GTM    | Peru                         | PER |
| Antarctica                   | ATA    | Guinea                    | GIN    | Philippines                  | PHL |
| Antigua and Barbuda          | ATG    | Guinea-Bissau             | GNB    | Poland                       | POL |
| Argentina                    | ARG    | Guyana                    | GUY    | Portugal                     | PRT |
| Armenia                      | ARM    | Haiti                     | HTI    | Qatar                        | QAT |
| Australia                    | AUS    | Honduras                  | HND    | Republic of Artsakh          | ARM |
| Austria                      | AUT    | Hong Kong                 | CHN-HK | Republic of Congo            | COG |
| Azerbaijan                   | AZE    | Hungary                   | HUN    | Republic of Ireland          | IRL |
| Bahamas                      | BHS    | Iceland                   | ISL    | Romania                      | ROU |
| Bahrain                      | BHR    | India                     | IND    | Russia                       | RUS |
| Bangladesh                   | BGD    | Indonesia                 | IDN    | Rwanda                       | RWA |
| Barbados                     | BRB    | Iran                      | IRN    | Saint Helena                 | SHN |
| Belarus                      | BLR    | Iraq                      | IRQ    | Saint Kitts and Nevis        | KNA |
| Belgium                      | BEL    | Israel                    | ISR    | Saint Lucia                  | LCA |
| Belize                       | BLZ    | Italy                     | ITA    | Saint Pierre and Miquelon    | SPM |
| Benin                        | BEN    | Ivory Coast               | CIV    | Saint Vincent and Grenadines | VCT |
| Bhutan                       | BTN    | Jamaica                   | JAM    | San Marino                   | SMR |
| Bolivia                      | BOL    | Japan                     | JPN    | Saudi Arabia                 | SAU |
| Bosnia and Herzegovina       | BIH    | Jordan                    | JOR    | Senegal                      | SEN |
| Botswana                     | BWA    | Kazakhstan                | KAZ    | Serbia                       | SRB |
| Brazil                       | BRA    | Kenya                     | KEN    | Seychelles                   | SYC |
| Brunei                       | BRN    | Kosovo                    | KOS    | Sierra Leone                 | SLE |
| Bulgaria                     | BGR    | Kuwait                    | KWT    | Singapore                    | SGP |
| Burkina Faso                 | BFA    | Kyrgyzstan                | KGZ    | Slovakia                     | SVK |
| Burundi                      | BDI    | Laos                      | LAO    | Slovenia                     | SVN |
| Cambodia                     | KHM    | Latvia                    | LVA    | Somalia                      | SOM |
| Cameroon                     | CMR    | Lebanon                   | LBN    | Somalia                      | SOM |
| Canada                       | CAN    | Lesotho                   | LSO    | South Africa                 | ZAF |
| Cape Verde                   | CPV    | Liberia                   | LBR    | South Korea                  | KOR |
| Central African Republic     | CAF    | Libya                     | LYB    | South Sudan                  | SSD |
| Chad                         | TCD    | Liechtenstein             | LIE    | Spain                        | ESP |
| Chile                        | CHL    | Lithuania                 | LTU    | Sri Lanka                    | LKA |
| China                        | CHN-TB | Luhansk People's Republic | UKR-09 | State of Palestine           | PSE |
| Colombia                     | COL    | Luxembourg                | LUX    | Sudan                        | SDN |
| Comoros                      | COM    | Madagascar                | MDG    | Suriname                     | SUR |
| Costa Rica                   | CRI    | Mainland China            | CHN    | Sweden                       | SWE |
| Croatia                      | HRV    | Malawi                    | MWI    | Switzerland                  | CHE |
| Cuba                         | CUB    | Malaysia                  | MYS    | Syria                        | SYR |
| Cyprus                       | CYP    | Maldives                  | MDV    | Taiwan                       | TWN |
| Czech Republic               | CZE    | Mali                      | MLI    | Tajikistan                   | TJK |
| Democratic Republic of Congo | COD    | Malta                     | MLT    | Tanzania                     | TZA |
| Denmark                      | DNK    | Martinique                | FRA-MA | Thailand                     | THA |
| Djibouti                     | DJI    | Mauritania                | MRT    | Timor-Leste                  | TLS |
| Dominica                     | DMA    | Mauritius                 | MUS    | Togo                         | TGO |
| Dominican Republic           | DOM    | Mayotte                   | FRA-MA | Trinidad and Tobago          | TTO |
| Ecuador                      | ECU    | Mexico                    | MEX    | Tunisia                      | TUN |
| Egypt                        | EGY    | Moldova                   | MDA    | Turkey                       | TUR |
| El Salvador                  | SLV    | Monaco                    | MCO    | Turkmenistan                 | TKM |
| Equatorial Guinea            | GNQ    | Mongolia                  | MNG    | Uganda                       | UGA |
| Eritrea                      | ERI    | Montenegro                | MNE    | United Arab Emirates         | ARE |
| Estonia                      | EST    | Morocco                   | MAR    | United Kingdom               | GBR |
| Eswatini                     | SWZ    | Mozambique                | MOZ    | United States                | USA |
| Ethiopia                     | ETH    | Myanmar                   | MMR    | Uruguay                      | URY |
| Faroe Islands                | DEN-FI | Namibia                   | NAM    | Uzbekistan                   | UZB |
| Fiji                         | FJI    | Nepal                     | NPL    | Vatican City                 | VAT |
| Finland                      | FIN    | Netherlands               | NLD    | Venezuela                    | VEN |
| France                       | FRA    | New Caledonia             | FRA-NC | Vietnam                      | VNM |
| French Guiana                | GUF    | New Zealand               | NZL    | Western Sahara               | ESH |
| French Polynesia             | PYF    | Nicaragua                 | NIC    | Yemen                        | YEM |
| French Saint Martin          | MAF    | Niger                     | NER    | Zambia                       | ZMB |
| Gabon                        | GAB    | Nigeria                   | NGA    | Zimbabwe                     | ZWE |
| Gambia                       | GMB    | North Korea               | PRK    |                              |     |
| Georgia (country)            | GEO    | North Macedonia           | MKD    |                              |     |
|                              |        | Northern Cyprus           | CYP    |                              |     |

**Table 3.** List of regions currently supported by the WNTRAC dataset.

| Region                    | Code                          |                              |                              |
|---------------------------|-------------------------------|------------------------------|------------------------------|
| Alabama                   | USA-AL                        | Nevada                       | USA-NV                       |
| Alaska                    | USA-AK                        | New Hampshire                | USA-NH                       |
| Arizona                   | USA-AZ                        | New Jersey                   | USA-NJ                       |
| Arkansas                  | USA-AR                        | New Mexico                   | USA-NM                       |
| California                | USA-CA                        | New York (state)             | USA-NY                       |
| Colorado                  | USA-CO                        | North Carolina               | USA-NC                       |
| Connecticut               | USA-CT                        | North Dakota                 | USA-ND                       |
| Delaware                  | USA-DE                        | Northern Mariana Islands     | USA-Northern_Mariana_Islands |
| Florida                   | USA-FL                        | Ohio                         | USA-OH                       |
| Georgia (U.S. state)      | USA-GA                        | Oklahoma                     | USA-OK                       |
| Guam                      | USA-GU                        | Oregon                       | USA-OR                       |
| Guantanamo Bay Naval Base | USA-Guantanamo_Bay_Naval_Base | Pennsylvania                 | USA-PA                       |
| Hawaii                    | USA-HI                        | Puerto Rico                  | USA-PR                       |
| Idaho                     | USA-ID                        | Rhode Island                 | USA-RI                       |
| Illinois                  | USA-IL                        | South Carolina               | USA-SC                       |
| Indiana                   | USA-IN                        | South Dakota                 | USA-SD                       |
| Iowa                      | USA-IA                        | Tennessee                    | USA-TN                       |
| Kansas                    | USA-KS                        | Texas                        | USA-TX                       |
| Kentucky                  | USA-KY                        | United States Virgin Islands | USA-Virgin_Islands           |
| Louisiana                 | USA-LA                        | Utah                         | USA-UT                       |
| Maine                     | USA-ME                        | Vermont                      | USA-VT                       |
| Maryland                  | USA-MD                        | Virginia                     | USA-VA                       |
| Massachusetts             | USA-MA                        | Washington (state)           | USA-WA                       |
| Michigan                  | USA-MI                        | Washington D.C.              | USA-DC                       |
| Minnesota                 | USA-MN                        | West Virginia                | USA-WV                       |
| Mississippi               | USA-MS                        | Wisconsin                    | USA-WI                       |
| Missouri                  | USA-MO                        | Wyoming                      | USA-WY                       |
| Montana                   | USA-MT                        |                              |                              |

**Table 4.** List of US states and territories currently supported by the WNTRAC dataset.