

# ODIN

**OPEN DATA  
INVENTORY  
2020/21**

by **OPEN DATA WATCH**

## **EXECUTIVE SUMMARY**



## Acknowledgements

The Open Data Inventory (ODIN) is managed by Jamison Crowell who also authored this report with Eric Swanson, Director of Research and with support from the ODIN research team including: Tawheeda Wahabzada, Laura Batista, David Benko, Samantha Copeland, Miles Johnson, Niklas Jutting, Chandrika Kaul, Erica Ness, Suzan Osman, Dominic Scerbo, Manikiran Soma, Mama Sow, Sam Stalls, Sarah Waggoner, Riley Zecca and inputs from ODW team including: Deirdre Appel, Shaida Badiee, Elettra Baldi, Martin Getzendanner, Reza Farivari Lorenz Noe, Amelia Pittman, Caleb Rudow, and Alyson Marks (SDSN TRenDS). We are grateful for financial support from the William and Flora Hewlett Foundation.

# EXECUTIVE SUMMARY

The 2020/21 Open Data Inventory (ODIN) is the fifth edition compiled by Open Data Watch (ODW). ODIN 2020/21 provides an assessment of the coverage and openness of official statistics in 187 countries, a gain of 12 countries since the last assessment. ODIN monitors the progress of open data that are relevant to the economic, social, and environmental development of a country. Because these data are a public good, they should be made easily accessible to all. Without them, decision makers cannot make informed decisions and people cannot hold their governments to account.

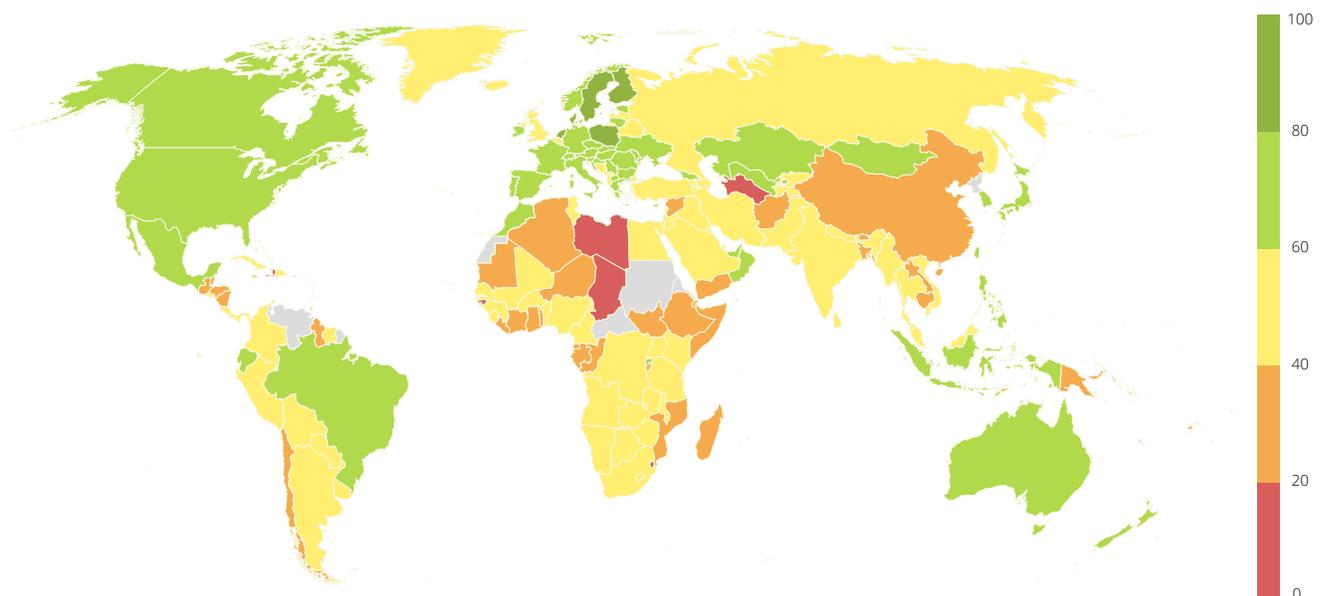
The year 2020 was a challenging year for the world as countries grappled with the COVID-19 pandemic. Nonetheless, and despite the pandemic's negative impact on the capacity of statistics producers, 2020 saw great progress in open data. In the [full report](#) we feature the stories of eight countries that have made substantial improvements in the coverage and openness of their statistical systems

Progress, however, was not uniformly distributed. Countries in every region still struggle to publish gender data and many of the same countries are unable to provide sex-disaggregated data on the COVID-19 pandemic. And low-income countries continue to need support for capacity building and additional financial resources to overcome barriers to publishing open data.

Making data open — as measured by ODIN — is a critical step to make data accessible and useful for decision making. However, there are additional things to be done to facilitate data use and increase impact (see the [data value chain](#)), such as creating user-feedback loops, implementing programs to improve data literacy among stakeholders, devising data communication strategies that target groups of users, and building accessible, well-functioning data dissemination platforms.

Figure 1 shows each country in the ODIN 2020/21 assessment, color-coded by their overall ODIN score. Dark green countries score the highest and red countries score lowest.

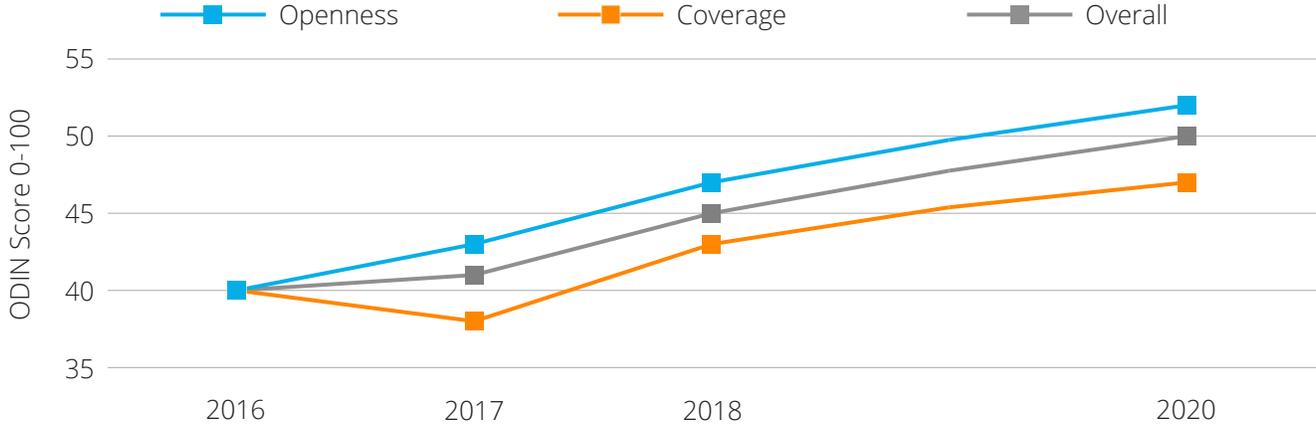
**Figure 1** ODIN scores, 2020



# Open statistical data is on the rise, with countries demonstrating the greatest progress to date

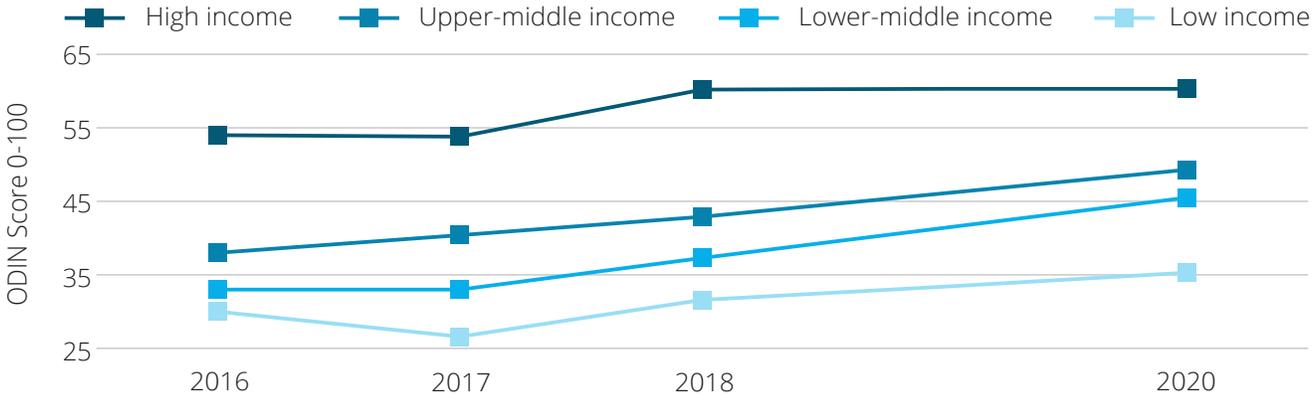
ODIN scores have been rising (see Figure 2). Average openness scores have risen steadily since 2016. Coverage scores fell in 2017, in part because of changes in ODIN methodology, but have been rising ever since. For the 187 countries included in the 2020/21 ODIN, the five elements of openness increased by 30 percent from 2016, while the five elements of coverage increased by 18 percent. Because of a significant change in country coverage, scores from 2015 are not shown in this or subsequent charts and tables.

**Figure 2** Coverage, openness, and overall average scores, 2016-2020



ODIN scores, shown in Figure 3, have consistently been higher in wealthier countries, but lower-middle-income countries have made the most rapid progress over the last five years. Since 2016, the overall ODIN scores of lower-middle-income countries have increased by 39 percent. Average scores in high-income countries have plateaued since 2018, while the scores of middle-income countries have continued to rise strongly. Of greater concern are the 26 low-income countries whose scores have risen by only 12 percent, and the three other low-income countries that could not be included in ODIN assessments because they have no functioning websites.

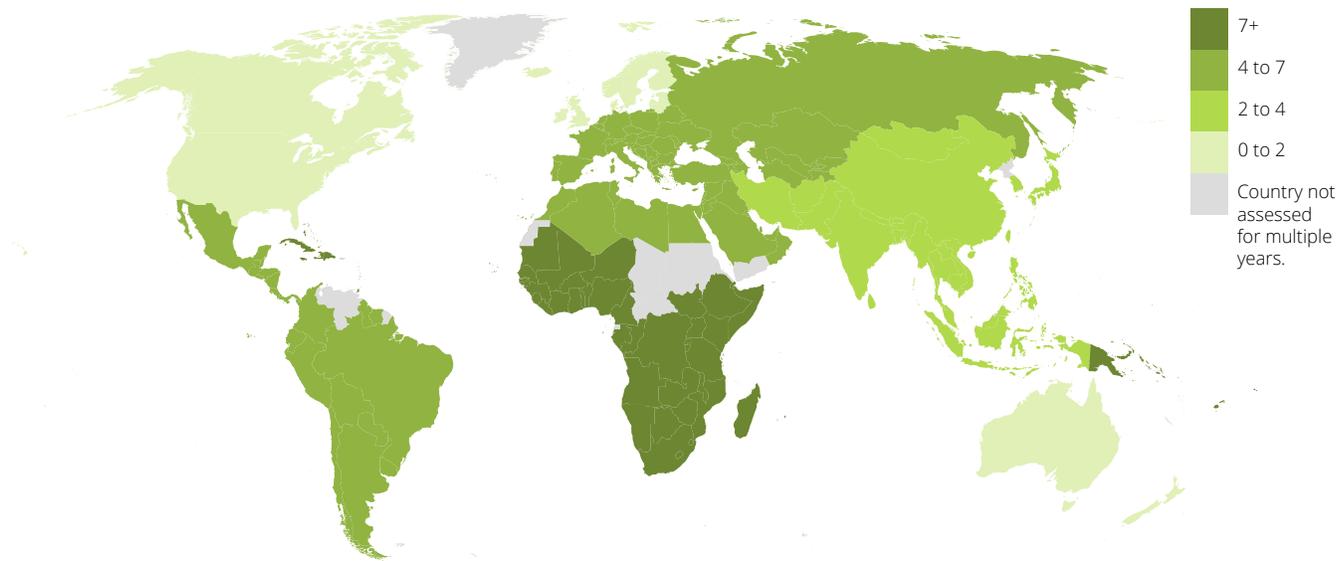
**Figure 3** ODIN scores by income group, 2016-2020



## Countries in the Caribbean and parts of Africa made the most significant overall improvements

ODIN findings at the regional level show the same trend of positive improvement seen at the global level but countries in the Caribbean and parts of Africa made the most significant overall improvements. In every region overall median coverage and openness scores increased. Figure 4 shows which regions saw the most improvement (in dark blue) and those which saw less improvement (in dark orange). Countries in Africa and the Caribbean made the most significant improvements, but many other regions showed considerable progress as well, including the Pacific Islands, Eastern Europe, and Central Asia.

**Figure 4** Changes in regional median ODIN scores, 2018-2020



On the ODIN website, users can view [regional results](#) for 21 geographic regions, defined by UN Statistics Division (M49). Table 2 combines these regions into 11 regions for this section of this report based on income levels and common score trends. Table 2 shows the region’s median score from 2020, the median regional score changes for each region since 2018, and the most improved countries in each region.

**Table 1** ODIN scores, score changes, and most improved countries in 11 regions

Region	Number of Countries	Median Overall score 2020	Median Change since 2018	Most Improved Countries
Caribbean	9	48.3	15.2	St. Lucia (+44), St. Vincent & Grenadines/ Dominican Republic/Cuba (+12)
Western & Middle Africa	22	41.35	8.95	Benin (+31), Angola (+22), Burkina Faso (+20)

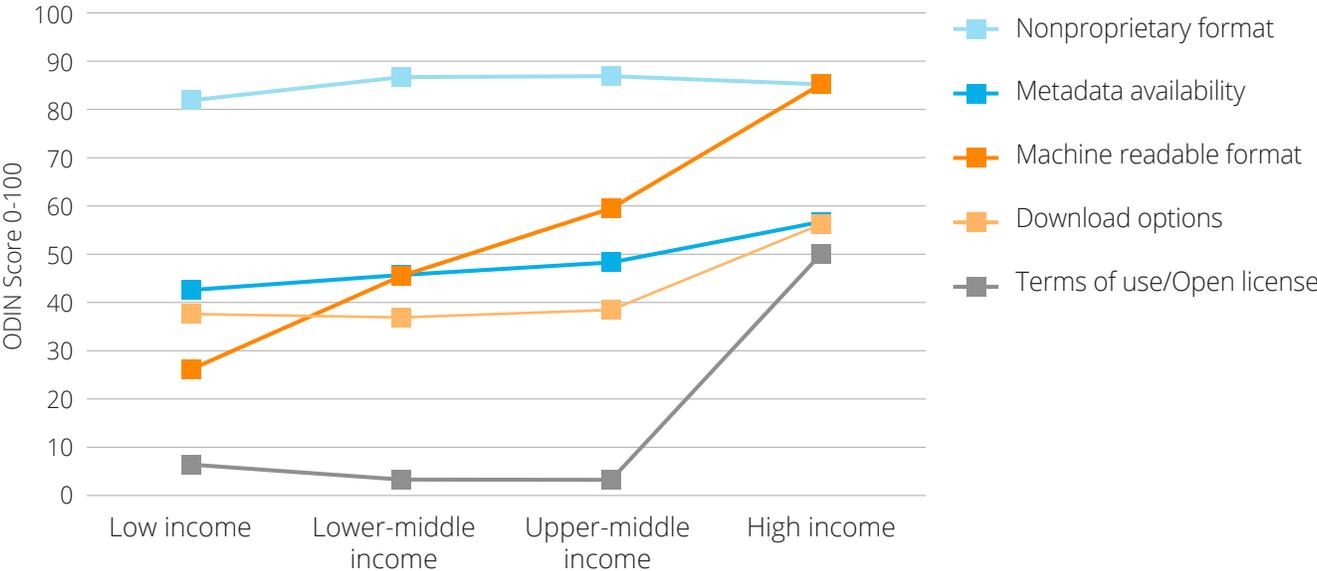
Region	Number of Countries	Median Overall score 2020	Median Change since 2018	Most Improved Countries
Eastern & Southern Africa	21	41	7.5	Tanzania (+23), Zambia (+21), Madagascar (+20)
Pacific Islands	6	33.3	6.5	Marshall Islands (+12), Fiji (+10)
Eastern Europe & Central Asia	15	62.9	6.2	Uzbekistan (+44), Ukraine (+21), Kazakhstan (+9)
South & Central America	19	46.8	5.7	Suriname (+21), Ecuador (+11), Brazil (+8)
Southern & Western Europe	22	62.3	4.95	Serbia (+15), Montenegro (+13), Croatia (+12)
Western Asia & Northern Africa	21	54.9	4.7	United Arab Emirates (+24), Iraq (+23), Palestine (+16)
Southern Asia	9	43.1	3.8	Maldives (+13), Nepal (+7)
South-Eastern & Eastern Asia	17	52.9	2.8	Lao PDR (+16), Philippines (+15), Indonesia/Timor-Leste (+12)
N. America, N. Europe, Australia & New Zealand	14	72.1	0.3	Sweden (+6), Ireland/Finland/New Zealand (+5)

At least one country in each region improved their score by five points. Regions with lower 2020 median scores made some of the greatest progress, but there are some exceptions. Eastern Europe and Central Asia, and Southern and Western Europe made more progress than regions with lower median scores. Even in the combined region of North America, Northern Europe, Australia and New Zealand, where little progress was made collectively, 4 out of 14 countries increased their score by 5 points. However, the combined region's median score was pulled downward by 7 countries that saw small, negative score changes. All 11 regions saw at least one country decrease their overall score since 2018.

### Lower-income countries struggle most with making data open, demonstrating the need for increased financial resources and capacity-building

The biggest difference between high- and low-income countries is their ability to make data available in machine-readable formats and to adopt open data licenses, as shown in Figure 5. Many low-income countries only publish data in PDF format, which is nonproprietary but not machine-readable. When data are made available in formats that are not machine-readable, users cannot easily access and work with the data, which restricts the scope of the data's use. Depending on how a country manages their data, converting data from PDF files to machine-readable formats can be a time-consuming, manual task. More resources to help improve data management systems could greatly improve a country's ability to make data available in various formats with little effort.

**Figure 5** Median openness element scores by income group, 2020



Terms of Use is another openness element that has a large gap between high- and low-income countries. This issue, unlike machine readability, is not related to a need for financial support, but rather capacity building. Through Open Data Watch’s engagements with countries, it has become clear that the main reason most countries lack an open terms of use or license is because of the lack of knowledge about open data and lack of technical and legal capacity to create the license.

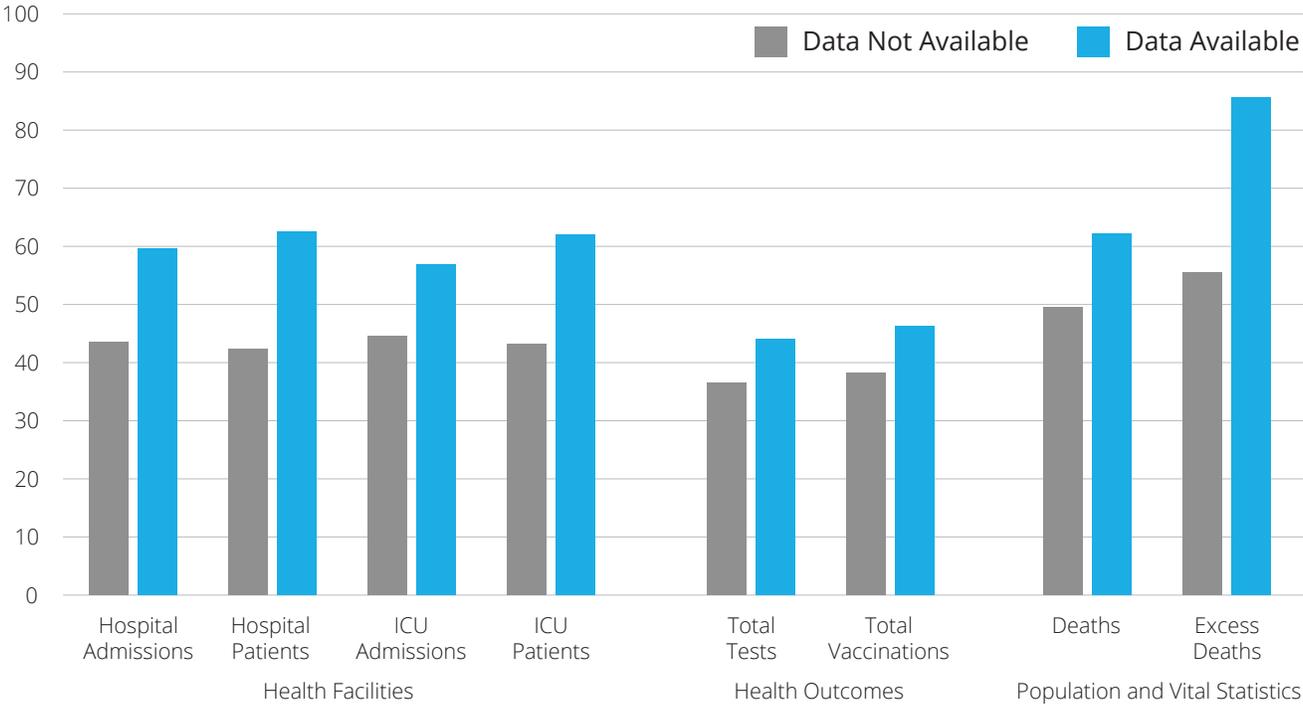
**Countries that provide more health data, publish more COVID-19 data**

The world faces an immense challenge to adequately track the short- and long-term effects of the COVID-19 pandemic on vulnerable populations, as shown both above and in recent work by [ODW and Data2X](#). To deal with the immediate effects of the pandemic on the world’s population, we need accurate data on infections, deaths, burdens on healthcare facilities as well as tests and vaccinations. Using the availability of data on these crucial indicators, as collected by Our World in Data as of late January 2021, we can match ODIN’s three relevant data categories (Population and Vital Statistics, Health Facilities, Health Outcomes) to investigate whether statistical systems that score high in ODIN 2020/21 also have more data available to fight the COVID-19 pandemic.<sup>1</sup>

<sup>1</sup> Based on the indicators assessed for Health Facilities (Number of health facilities, number of beds or data on health care staff, and health expenditures), this category was deemed most relevant for producing data on hospital/ICU admissions and existing patients as measures of healthcare capacity. Based on the indicators assessed for Health Outcomes (Immunization Rate and disease prevalence), this category was deemed most relevant for producing data on total tests conducted, the resulting number of cases, and total vaccinations. Based on the indicators assessed for Population and Vital Statistics (Population data, birth rates, and death rates), this category was deemed most relevant for producing data on COVID-19 deaths and excess death calculations.

As Figure 6 shows, this is broadly true across all COVID-19 indicators.<sup>2</sup> Evidently, health systems that adequately report on health indicators during regular times are better able to respond during times of emergency as well. Countries that record higher scores for the data category Health Facilities are better able to report on hospital and ICU admissions. Likewise, countries that score higher on Population and Vital Statistics are more likely to report on deaths and excess deaths from COVID-19. This likely reflects the greater statistical capacity that is needed both to report on Health Facilities with all required disaggregations as well as to provide information by patient type and is indicative of more robust health information systems. Excess deaths can only be calculated if very timely and historical data on deaths are available, which is correlated with much more robust CRVS systems. No matter the data category, however, as the world sees glimmers of hope in increasing vaccine availability and thinks about how to build back better, statistical systems must be a priority to ensure that the current toll of the pandemic is accurately captured and to build resilience for future emergencies.

**Figure 6** Average ODIN scores for health-related data categories by COVID-19 data availability, 2020



<sup>2</sup> All countries covered by ODIN have COVID-19 case counts available from Our World in Data, which is why the comparison has been omitted, as the average score just reflects the average score of the Health Outcomes category.

# OPEN GENDER DATA INDEX

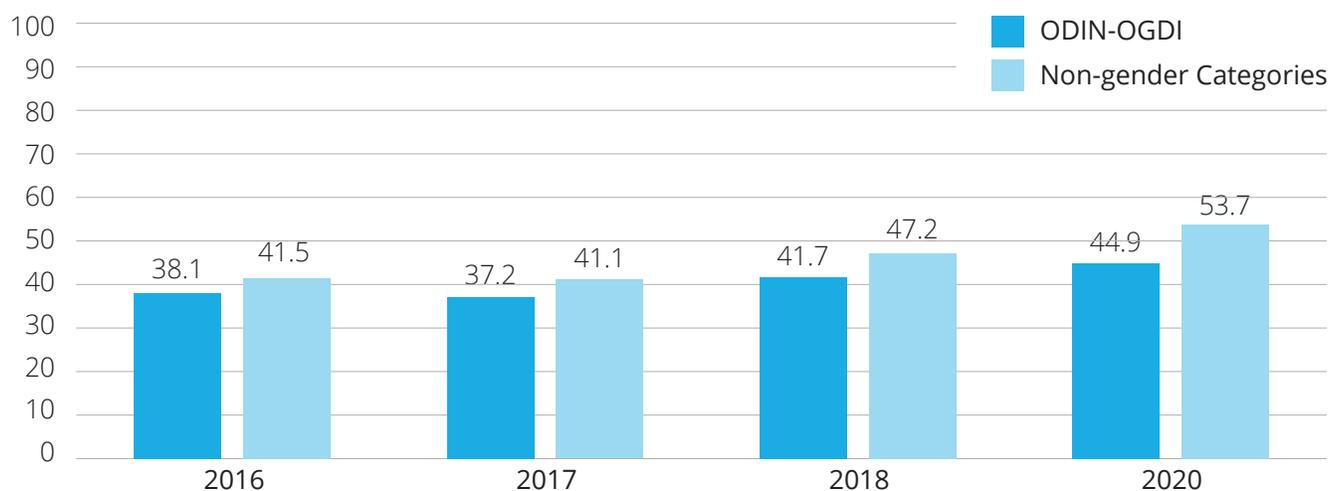
Gender data are data that are disaggregated by sex or that measure conditions and events that have a bearing on the welfare of women and girls. They include data on health outcomes, educational outcomes, and participation in labor markets. These data are used to identify specific needs, formulate policies to address shortcomings, and monitor impacts on women and their families. Whether a country collects and publishes open gender data is an indication of the statistical system's capacity and the country's dedication to achieving its commitments to gender equity.

The ODIN Gender Data Index (OGDI) is a score based on the availability of 27 ODIN indicators in 10 statistical categories. Of these 27, 20 indicators require sex-disaggregation or apply only to women. Seven indicators in the Built Environment and Poverty and Income data categories that are not sex-disaggregated but have important consequences for women are also included in the OGDI. Combining the scores on these data categories yields a measure of the coverage and openness of gender statistics in a country or region. The index is the unweighted average score of the 10 category scores.

## Scores on the ODIN Gender Data Index have been rising, but not as fast as non-gender data categories

Since 2016, the median score of the OGDI has risen by 21 percent, but scores on the remaining non-gender-related categories have risen by 40 percent. This reflects the slow improvement in the Social Statistics data categories compared to most Economic and Financial Statistics and Environmental Statistics data categories. As shown in Figure 7, the average score for non-gender data categories exceeded the OGDI by almost 9 points in 2020.

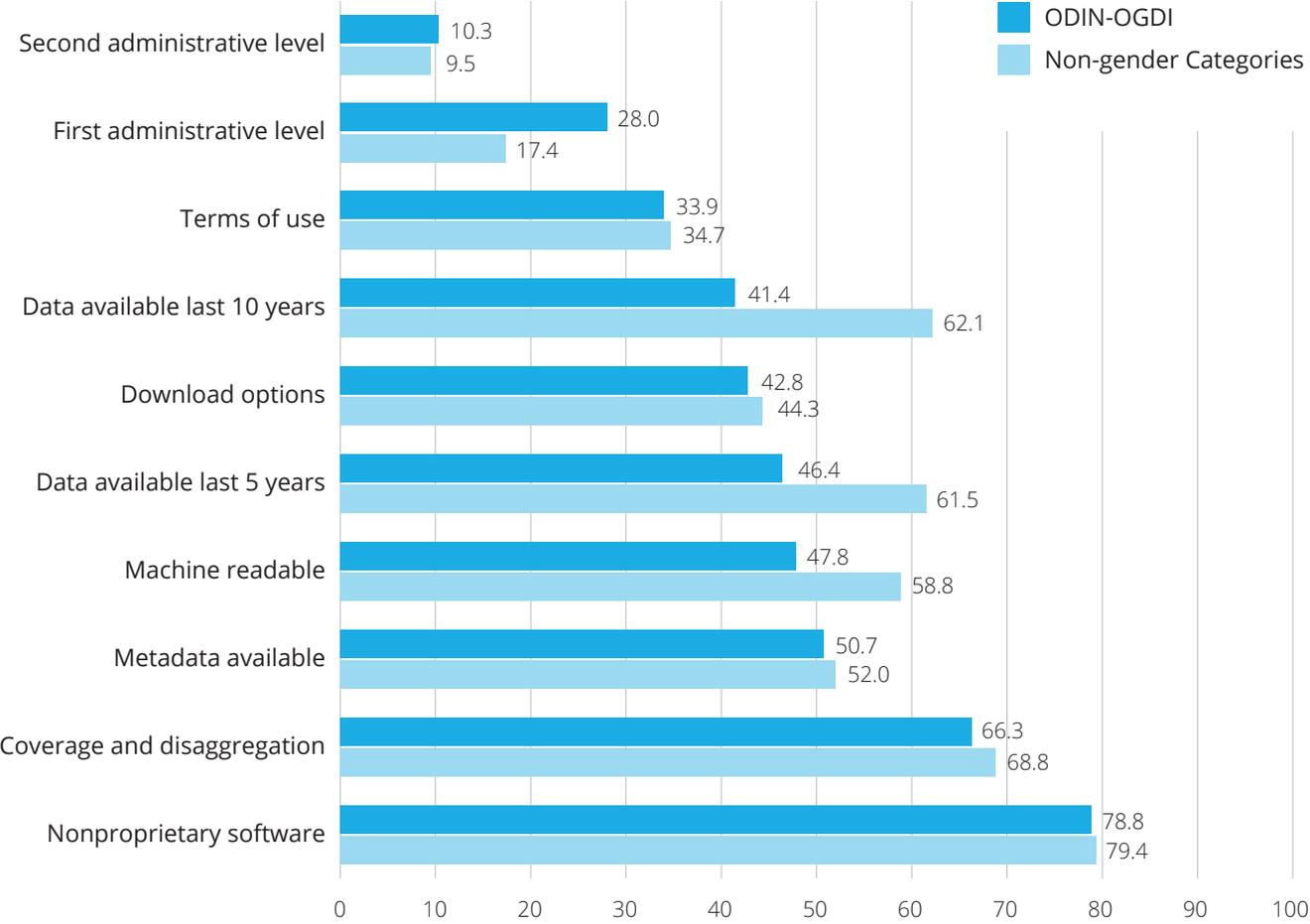
Figure 7 OGDI scores and non-gender data categories, 2016-2020



Gender data categories receive lower scores because they often lack historical and machine-readable data. In 2020, the OGDI coverage score was 30 percent lower than for non-gender data categories, but the OGDI openness scores was only 9 percent lower. The differences shown in

Figure 8 are greatest for the availability of data in the most recent five- and ten-year periods. The lack of historical data makes it more difficult to measure progress or identify deviations from trends that may reveal underlying causes of success or failure of programs intended to redress gender inequities. Gender data are also less likely than non-gender data to be available in machine-readable formats. Gender data categories exceed non-gender categories in the availability of subnational data, but these are the lowest scoring elements for all data categories.

**Figure 8** Average ODIN-OGDI and non-gender data scores by elements, 2020



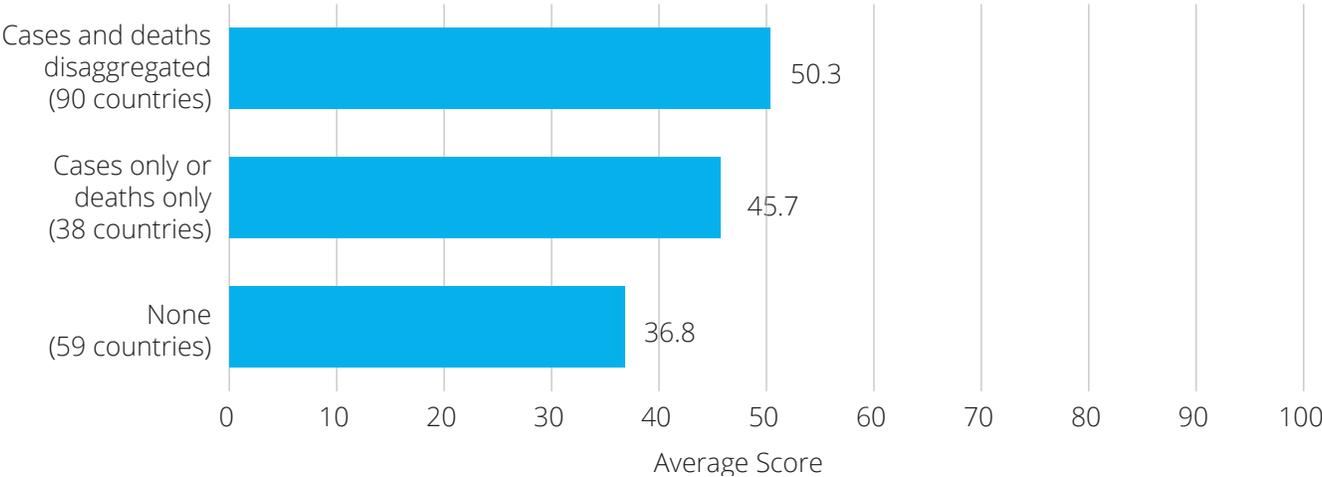
**Gender data are needed to manage the COVID-19 pandemic**

The COVID-19 pandemic has affected men and women differently. In most countries men have higher rates of infection and death, but women are often more affected by the economic consequences of the pandemic. The OGD I indicators capture some of these effects. Countries with better gender data systems are better able to monitor the pandemic and plan for recovery.

There were 168 countries (out of 187) in the ODIN 2020/21 assessment with data available on COVID-19 cases and deaths in the [Global Health 5050 COVID-19 Sex-Disaggregated Data Tracker](#)

as of January 2021. Of these, 90 countries have provided sex-disaggregated data on COVID-19 cases and deaths and 38 more provided data on cases only (33) or deaths only (5). As of January 2021, there were 59 ODIN countries without sex-disaggregated data, of which 19 published no data at all.

**Figure 9** ODIN-OGDI scores by reporting of sex-disaggregated COVID-19 data



Source: COVID-19 data from Global Health 5050, 25 January 2021; ODW calculations

ODIN assesses countries production of well-defined and widely used gender indicators that are — or should be — routinely collected over many years. Are the countries that score well on the OGDI also better at reporting fast-moving indicators of the COVID-19 pandemic? The answer is yes. As shown in Figure 9, there is a 13.5-point difference in the OGDI scores of countries that provide sex-disaggregated data on both the case and death rates from the COVID-19 pandemic and those that provide neither. Countries that report only cases or only deaths fall, on average, 4.6 points below full reporters.

Monitoring a pandemic requires well-developed civil registration and vital statistics and health information systems. Because women are a majority of care workers, information on their labor force attachment and paid and unpaid work is important for mobilizing resources to respond to the pandemic. And planning for recovery should include investments in education and training based on timely assessments of education and occupational skills. All of the systems that produce the necessary data are part of a core gender data system. See the forthcoming report by Open Data Watch and Data2X for a description of the core gender data systems and financing required to support it.

**Crime and justice statistics are the least available data in the gender index**

Sixty-five countries received no score in the Crime & Justice category. Crime statistics that are assessed for sex-disaggregated data include the homicide rate, rate of other crimes, and data on the prison population. Crimes of violence against women are not specifically included in the ODIN

assessment, but the SDGs specify five indicators that report on forms of violence including two specifically concerned with violence against women. If countries reported these indicators with sex-disaggregated data, they would be included in their ODIN scores. Frequent and accurate reporting of crime statistics is needed to halt the epidemic of femicide and violence against women.

**Table 2** Data categories least available in ODIN Gender Data Index, 2020

ODIN gender categories	Number of countries with no score
Population & Vital Statistics	8
Labor	9
Education Outcomes	16
Gender Statistics	21
Health Outcomes	25
Poverty & Income	30
Reproductive Health	32
Built Environment	35
Food Security & Nutrition	48
Crime & Justice	65

## IN CLOSING

ODIN 2020/21 strives to be an effective tool to assist countries in making progress toward open data. With each assessment, we continue to expand data sets included and countries covered. Through our program of country engagement, we encourage communication to addresses countries’ practical concerns, while remaining independent. The new developments of the ODIN website highlight the future frontiers of open data, complementing our work in promoting data use and better data governance, both essential components of a sustainable approach to open official statistics. The ODIN 2020/21 Annual Report explores these themes further, as well as going deeper into the topics already discussed in this summary. Visit [our website](#) to read the Annual Report.



# ODIN

**OPEN DATA INVENTORY**

by **OPEN DATA WATCH**

