World Health Organization

Subnational Administrative Immunization Data Request

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Description of the project:

The Institute for Health Metrics and Evaluation (IHME) is an independent global research center at the University of Washington providing sound measurement of population health and the factors that determine health, as well as rigorous evaluation of health systems and health program performance. IHME's ultimate goal is to improve population health by providing the best evidence possible to guide health policy, and by making that evidence easily accessible to decision-makers as they strategically fund, design, and implement programs to improve health outcomes worldwide. IHME was created in 2007 through funding from the Bill & Melinda Gates Foundation and the State of Washington.

The Global Burden of Disease project (GBD) is a large-scale data analyses and modeling project with multiple complex components. The design contains three basic stages: compiling all input data and creating model input data; using that input data to model results; and, providing results to external audiences through open access publications and online visualizations tools. Model input data is integrated in order to generate new results on an annual basis for GBD and related areas, such as local burden of disease, forecasting, intervention analyses, assessments of resource availability, and for use in order to expand the quantitative evidence available to decision-makers. The analytic flow includes all-cause mortality estimation, cause-specific estimation, disability modeling, and a Bayesian meta-regression model. All computation is done using a secure computer cluster owned and managed by IHME and hosted on the University of Washington campus.

The Disease Expenditures study produces estimates of health expenditure and health system productivity by disease and injury for more than 188 countries. The overarching goal is to provide information on both expenditure and outcomes of disease or injury to facilitate evidence-based health policy formulation, to enhance health system stewardship, and to improve health system performance. By examining expenditure estimates, IHME aims to aid governments, policymakers, donors and other health financing organizations in their allocation of resources.

Specific analyses planned with the data:

We plan to estimate the correlation structure between the coverage of individual vaccines to more precisely measure the proportion of the target population covered by all vaccines included in their national program (SDG indicator 3.b.1).

We report on this indicator by using the geometric mean of the coverage of three-dose diphtheria, pertussis, and tetanus (DPT3); three-dose polio; first-dose measles vaccine; and, for countries where the vaccine(s) are included in the national schedule, BCG vaccine, three-dose pneumococcal conjugate vaccine (PCV3), three-dose *Haemophilus influenza* type b vaccine (Hib3), three-dose hepatitis B vaccine (delivered as part of pentavalent vaccines), and two-dose or three-dose rotavirus vaccine. To account for the scale-up period for newly introduced vaccines, we include new vaccines in the geometric mean only 3 years after the introduction year in each country.

Vaccine coverage estimates are also used as covariates in the estimation process for vaccine-preventable disease (VPD) burden, including measles, pertussis, diphtheria, tetanus, polio, diarrhea, and hepatitis.

Expected use(s) of the data:

We plan to use these data inputs in our estimation process of both national and subnational vaccine coverage for the vaccinations described above, which also feed into vaccine-preventable disease burden models as covariates. We will estimate the correlation structure between the coverage of individual vaccines to more precisely measure the proportion of the target population covered by all vaccines included in their national program for all countries and territories that IHME models.

I understand the limitations of the data shared with me, and that it should be used solely for the purpose of the project described above. I understand that I should always reference this data as "Subnational immunization coverage data for 2016 reported by Member States to WHO and UNICEF through the joint annual data collection process."

Name:

Date: **Signature:**