

# Data to Policy



## DATA TO POLICY COURSE

### Glossary

Bloomberg  
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DATA FOR  
HEALTH INITIATIVE



Data to  
Policy



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Vital  
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**Note:** Terms are defined in terms of their use in this course.

<b>Accuracy</b>	Standard used by the CDC for assessing the quality of an evaluation activity. Accuracy considers whether the approach at each step is adequate given the needs of the stakeholders and the purpose of the evaluation.
<b>Activities</b>	Actions that comprise a program, in this case identifying the problem and developing and implementing the policy option.
<b>Administrative Action</b>	Action or decision made or issued by an agency, such as an executive order, to order or authorize implementation of a policy or program.
<b>Administrative Area</b>	The geographic area delineated for governmental action. This may include country, province, region, ward or district geographic areas.
<b>Bar Graph</b>	Also known as a bar chart. A diagram in which the numerical values, usually for categorical variables, are represented by the height of rectangles of equal width.
<b>Bias</b>	Systematic difference between the true value and the measured value.
<b>Binary Variable</b>	A variable that can take only two values (yes/no, alive/dead, positive/negative, 0 or 1).
<b>Box-and-Whiskers Plot</b>	Graphically depicts the five (5) number summary of a continuous variable (see continuous variable), including the minimum value, the 25 <sup>th</sup> percentile, the median, the 75 <sup>th</sup> percentile, and the maximum value.
<b>Categorical variable</b>	Numeric or nonnumeric data divided into categories. Examples include: <ul style="list-style-type: none"><li>• Smoking status: former, never, current</li><li>• Income categories: 1 (Lower than 25,000 USD); 2 (25,000 to 45,000 USD); 3 (Higher than 45,000 USD)</li></ul>
<b>CDC</b>	(See U.S. CDC)

<b>Census</b>	Complete population count, usually taken every 10 years. Many censuses also collect other useful data about the population that can be used in public health analysis.
<b>Choropleth Map</b>	Map used to link prevalence, rates and ratios to administrative areas. Divides data into categories and ranks them from high to low or low to high. For methodologic and visual purposes, best practices suggest three to six categories.
<b>Cohort Study</b>	<p>Type of observational study in which a group of non-diseased subjects are selected and followed over time to measure changes in an outcome/disease. The exposure status of participants is measured at the beginning of the study to understand who has been exposed and people who has not. The main characteristic in a cohort study is that temporality between exposure and disease is established, since all participants are disease free at the start of the study.</p> <p>Compared to clinical trials, cohort studies have greater potential for bias and unmeasured confounding factors. Causal links can be weak and disputed. However, cohort studies provide a window into what happens to people in real-world situations and when it would be impossible or unethical to conduct a randomized control trial.</p>
<b>Column Chart</b>	Type of chart in which numerical values are illustrated with vertical columns. Column charts are particularly effective for showing values that are categorized by two separate characteristics, such as year and sector.
<b>Community Leaders</b>	Those able to mobilize a community to adopt policy change. May also function as the voice of the community.
<b>Confidence Interval</b>	Range of values that quantify the uncertainty around a point estimate (e.g., a risk, prevalence, risk ratio).
<b>Confounding Factor</b>	A source of potential bias that can arise during group comparison if the groups differ on an important factor that is associated with the exposure and is also a risk factor for the disease or condition.
<b>Continuous Data</b>	Type of data where the potential values are infinite. That can take an infinite number of values.

<b>Costs</b>	The value of all resources, such as people, facilities, equipment, supplies, money, time, utilities, used to produce goods or services.
<b>Cost Analysis</b>	Method used to compare net costs of different programs to aid planning and assessment.
<b>Cost-Benefit Analysis</b>	A form of economic evaluation that expresses all benefits, such as improved health outcomes and lives saved, in monetary terms. Allows comparison of different programs with a wide range of health and non-health outcomes.
<b>Cost Classification</b>	Costs separated by cost components, level of responsibility, sources of funding and functional program activity areas.
<b>Cost Component</b>	The different categories of costs involved in the provision of goods or services such as cost for personnel, equipment and buildings.
<b>Cost-Effectiveness Analysis</b>	A form of economic evaluation that assesses the outcomes and costs of different interventions.
<b>Cost Inventory</b>	List of all items to be included in costing.
<b>Cost-Utility Analysis</b>	A form of economic evaluation where interventions which produce different effects in terms of both quantity and quality of life are expressed as utilities.
<b>Cumulative Incidence</b>	The proportion of a closed population at risk for a disease that develops during a specified interval.
<b>Data Visualization</b>	Graphical representation of data.
<b>Decision-makers</b>	Persons who usually influence adoption of policies, hold positions of power and can make decisions affecting the community.
<b>Descriptive Epidemiology</b>	The orientation of health outcomes, health behaviors, or risk factors by population characteristics, place, or time.
<b>Direct Costs</b>	All resources consumed that are directly attributable to an intervention.
<b>Disability-Adjusted Life-Years (DALY)</b>	<p>A measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability.</p> <p>DALYs for a specific disease are calculated by adding the years of life lost (YLL) due to premature mortality in the</p>

	population and the years lost due to disability (YLD) for people living with the health condition or its consequences.
<b>Distribution</b>	Frequency and/or patterns of a set of events.
<b>Dot-Density Map</b>	A geographic illustration used for non-aggregated or count data measuring disease cases using either one-to-one (individual case of disease) or one-to-many (more than one case of disease) dot representation.
<b>Economic Evaluation</b>	Analytic methods applied to identify, measure, value and compare the costs and outcomes of alternative interventions.
<b>Economic Feasibility</b>	Assessing the viability of the intervention based on costs and benefits comparison, distribution, timeline and gaps in data.
<b>Effectiveness</b>	Measure of effect under real-life conditions.
<b>Efficacy</b>	Measure of effect under ideal conditions.
<b>Epidemiology</b>	The study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems.
<b>Etiological Research</b>	Research that shows the relationship between exposure and disease.
<b>Evaluation</b>	Systematic collection of information about the activities, characteristics and outcomes of programs (which may include interventions, policies and specific projects) in order to make judgments about that program, improve program effectiveness and/or inform future decisions about program development.
<b>Excel-Based Modeling</b>	An evaluation methodology that allows for entering, changing and updating data on an Excel spreadsheet, given a set of assumptions, in order to calculate a needed result. Data is organized in categories by population, epidemiologic, clinical, intervention, effectiveness and compliance, and cost of cases and intervention.
<b>Experimental Design</b>	Study method that assigns participants to either a control or treatment (experiment) group.

<b>Feasibility</b>	Standard used by the CDC for assessing whether the evaluation procedures are practical, given the time, resources, and expertise available.
<b>Fiscal and Economic Impact</b>	An analytical approach which is defined as “who benefits, who pays” in the economic evaluation. Fiscal relating to the operational budgetary impact and economic related to the overall health systems monetary impact.
<b>Evaluation Framework</b>	A methodology used to guide evaluations, including how the evaluation will be doing, questions it will answers, the stakeholders who will be involved, who will use the results, and how the results will be used.
<b>Framing</b>	Framing helps us target a message to a specific audience by structuring or presenting a problem, so it is clear exactly what health or policy problem is being addressed.
<b>Health-Adjusted Life Expectancy (HALE)</b>	Average number of years a person can expect to live in “whole health” by considering years lived in less than whole health due to disease and/or injury.
<b>Health Economics</b>	A logical and simple framework to help health care workers, decision-makers, or governments make choices about how best to use resources.
<b>Health Implications</b>	The effects of a policies/laws/behaviors/population and social characteristics that affect individual or population health.
<b>Health Inequalities</b>	Differences between groups in terms of health outcomes.
<b>Health Policy</b>	Laws, regulations, procedures, administrative actions, incentives or voluntary practices of governments and other institutions that are undertaken to achieve specific health care goals.
<b>Histogram</b>	Diagram consisting of rectangles whose area is proportional to the frequency of a variable and whose width is equal to the class interval.
<b>Incentive</b>	Monetary or nonmonetary motivator meant to induce or encourage a desired outcome or behavior.
<b>Incidence</b>	New events or cases of disease occurring during a defined period in a defined population.
<b>Incidence Rate</b>	Number of <u>new</u> cases of a disease that occur during a specified period of time, divided by the person-time at risk

	for the disease (the number of persons at risk multiplied by the time they are at risk)
<b>Incremental Cost-Effectiveness Ratio</b>	The difference in costs between two interventions (net costs) divided by the difference in health outcomes (net health outcomes)
<b>Indicators</b>	Specific, observable, measurable variables that show the progress a policy is making toward achieving an outcome.
<b>Indirect Costs</b>	These are mainly costs arising from lost productivity due to morbidity or premature mortality.
<b>Infectious Disease Surveillance and Response (IDSR)</b>	A monitoring system implemented in African countries for the purposes of detecting, confirming, and responding to infectious diseases.
<b>Inflation</b>	Increase in prices over time.
<b>Inputs</b>	Information or resources required for developing/implementing policy.
<b>Intermediate Outcomes</b>	An assessment that reflects the near-term effects of an intervention (e.g. persons screened)
<b>Final outcomes</b>	The ultimate outcome of interest (e.g. deaths prevented).
<b>Institute for Health Metrics and Evaluation (IHME)</b>	Independent global health research center at the University of Washington that provides rigorous and comparable measurement of the world's most important health problems and evaluates the strategies used to address them.
<b>Legend</b>	Information on symbols and/or colors used in charts.
<b>Life Expectancy</b>	Average number of years a person of a certain age would be expected to live in a given population.
<b>Line Graph</b>	Line graphs compare two variables, one plotted along a vertical axis and the other plotted along a horizontal axis. The most common line graph shows the values of a health outcome, behavior, or risk factor over time.
<b>Literature Review</b>	Identifying through a search (with key terms) and reading several articles or books written on a particular health topic (usually specifically focused on the association between an exposure or risk factor, and a disease/condition) in order to understand the current information about said topic. Reviews can be informal to gain general knowledge



	about a topic or formal, following an established methodology (see Systematic Reviews).
<b>Logic Model</b>	Systematic, visual way to present the perceived relationships among the resources needed for a policy effort, the activities involved with implementing that effort and the changes or outcomes that result from implementation of that policy effort. The logic model depicts the linear pathways among policy activities and specific outcomes, as well as the links among intermediate and long-term outcomes and impacts.
<b>Map</b>	A type of visualization that associates data with a geographic location.
<b>Mixed-Methods Evaluation</b>	Design for collecting, analyzing and mixing both quantitative and qualitative data in a single study or series of studies.
<b>Modifiable Areal Unit Problem (MAUP)</b>	Mapping bias that occurs when data collected at one spatial level is aggregated and grouped at another spatial level.
<b>Net Cost</b>	Difference in cost of two different interventions.
<b>Net Health Outcomes</b>	Difference in health outcomes with and without an intervention.
<b>Noncommunicable Diseases (NCDs)</b>	Diseases that are not caused by an infectious agent (bacteria, virus, parasite). Examples include cardiovascular diseases and cancers. cardiovascular diseases, cancers, chronic respiratory diseases, diabetes)
<b>Nonexperimental Design</b>	Studies that do not randomize groups or participants to a treatment or control group. Examples include time series analysis, observation studies like cohort and cross-sectional studies, and case studies.
<b>Odds Ratio</b>	Ratio of the odds of an event occurring in one group to the odds of it occurring in another group.
<b>Operational Feasibility</b>	Refers to how easy or practical it will be to implement a policy option given the available resources, current health system, and acceptability by affected groups.
<b>Opportunity Cost</b>	Cost of what we give up in order to gain something else.

<b>P-Value</b>	Probability of finding the observed estimate (estimate from your analysis or study) when the null hypothesis is true (usually that there is no association).
<b>Planning Phase</b>	Process of choosing among competing interventions or programs. Determines whether a program might provide good value and informs efficient allocation of resources among programs.
<b>Policy</b>	A law, regulation, procedure, administrative action, incentive or voluntary practice of a government or other institutions.
<b>Policy Analysis</b>	Systematic process involving the use of quantitative and qualitative methods to identify, compare and select policy interventions that will most efficiently achieve objectives.
<b>Policy Brief</b>	Concise document that presents findings of policy-relevant data analysis and evaluates policy options for non-technical audiences. It typically includes: <ul style="list-style-type: none"> <li>• Context, scope and impact of the problem</li> <li>• Viable solutions</li> <li>• Rationale for adopting or changing a particular policy</li> </ul>
<b>Policy Development</b>	Systematic process that begins with identifying policy needs, conducting a policy analysis, implementing the policy, and evaluating each step of the process.
<b>Policy Enactment</b>	Process of getting the policy adopted. This process may include establishing laws, regulations, procedures, administrative action, incentives, or voluntary practices.
<b>Policy Evaluation</b>	Systematic collection and analysis of information to help make judgments about contexts, activities, characteristics and/or outcomes of an existing policy or process (from policy formulation, to implementation, to evaluation).  Evaluation may inform and improve policy development, adoption, implementation and effectiveness, and it builds the evidence base for future policy interventions.
<b>Policy Implementation</b>	The translation of policy into action. This can involve dedicating necessary resources and defining which institutions will implement and how the policy will be monitored and evaluated
<b>Policy Levers</b>	Spheres of influence that may affect the outcomes of a policy decision. Levers may be legislative, administrative, or regulatory. Generally, they reflect local values and

	preferences, donor/U.N. interests, interest-group pressures, and so on.
<b>Policy Options</b>	Potential solutions/interventions for a health problem.
<b>Political Feasibility</b>	Political forces, stakeholders, and potential social, educational and cultural perspectives that can affect formation or implementation of a policy.
<b>Political Leaders</b>	Those who have a formal role in developing and adopting policies, with input from other stakeholders. High-level support from political leaders is critical to moving a policy forward.
<b>Population</b>	A group of people defined by variables such as age, sex, race, SES, or geographical region.
<b>Population-Attributable Fraction</b>	Percent of a disease/health condition that is due to a specific risk factor (also the percent that would NOT occur if the risk factor were eliminated).
<b>Population-Based Survey</b>	Representative survey conducted once or periodically (in person or by phone).
<b>Prevalence</b>	The number of existing cases of a condition in a given population within a time period divided by the total population (who have or could develop the condition).
<b>Prevalence Ratio</b>	The division of two prevalence estimates, usually the prevalence of disease in the exposed group divided by the prevalence in the unexposed group. Ratio of prevalence in an exposed group to the prevalence in a nonexposed group.
<b>Price</b>	This reflects the value of resources on the market.
<b>Primary Data</b>	New information collected from a source. Includes data from medical records, accounting and payroll systems, questionnaires, observational surveys and other sources.
<b>Problem Identification</b>	Policy-development step in which a health issue is clearly defined.
<b>Problem Statement</b>	Statement that clearly identifies the policy issue. Describes the situation from a local and/or global/regional perspective.
<b>Procedure</b>	Established or official way of doing something.

<b>Program-Cost Analysis</b>	A systematic collection and assessment of the cost of a program with description of where particular costs are incurred. Estimates a program's total cost (e.g., wages, training, materials, overhead) while reporting as cost per patient or cost per service provided. Used for budgeting and accountability, it estimates the costs of a program by assessing the efficiency of a program and the basis for a full economic evaluation.
<b>Proportional Symbol Maps</b>	Maps with the size of symbols scaled proportionally to data (rates, counts) found at the location.
<b>Public Expenditure</b>	Spending by central, state and local governments.
<b>Public Health Program</b>	Any organized public health action. Can include direct service interventions, community-mobilization efforts, research initiatives, surveillance systems, outbreak investigations, communication campaigns, infrastructure-building projects, training and education services, and administrative systems.
<b>Qualitative Data</b>	Information that is not measured numerically and describes attributes or properties of an object or activity.
<b>Quality-Adjusted Life-Years (QALY)</b>	Measure of life-years adjusted for less-than-perfect quality of life. A year of life in a health state adjusted by the utility associated with that health state.
<b>Quantitative Data</b>	Data that can be measured numerically.
<b>Quasi-Experimental Design</b>	A type of study design that compares the effect of interventions but without randomizing participants to treatment or control groups. A typical use of this study design is to measure the effect of a health intervention on a community to gather data on a health outcome in a community, apply the intervention to the community, and then gather data on the outcome. The pre-intervention data are then compared with the post-intervention data to infer whether the intervention had an effect.
<b>Randomized Clinical Trials</b>	A type of study in which participants are randomly assigned to one or more health-related interventions and followed over time to evaluate the effect of the interventions on health outcomes. Clinical trials provide the strongest evidence for the efficacy of health interventions because the random assignment minimizes both confounding.

<b>Rate</b>	An estimate where time is used as a quantity in the denominator.
<b>Rate Ratios</b>	Incidence rate of disease in one population (usually exposed) divided by the rate in the reference population (usually unexposed).
<b>Regulation</b>	General statement issued by an agency, board or commission that has the force and effect of law.
<b>Relative Risk</b>	General term that includes risk, rate, and odds ratios. It is always best practice to use the specific term like rate ratio (see definition) or risk ratio (see definition).
<b>Risk Difference</b>	The difference between the risk in one group (often the exposed group) and the risk in a reference group (often the unexposed group). Also called excess risk.
<b>Risk Ratio</b>	The risk in one group divided by the risk in the comparison group. Often abbreviated to RR.
<b>Secondary Data</b>	Existing information sources (e.g., literature review, environmental scan).
<b>Socioeconomic Status (SES)</b>	Composite measure of economic, social, and work status whereby economic status is usually measured by income, social status by education, and work status by occupation.
<b>Special Interest Groups</b>	People who have a specific interest in a policy (e.g., doctors, healthcare organizations, labor unions, professional associations, lobbyists). Often organized and can influence policy through advocacy efforts. May have financial backing for this influence.
<b>Sources of Funding</b>	Entities that provide funding, such as national, provincial, and district government, as well as bilateral and multilateral partners.
<b>Stacked Bar Chart or Stacked Column Chart</b>	A type of bar or column chart where several categories are represented within the bars or columns and compared.
<b>Stakeholders</b>	People who hold a position on, or have a special interest in, the implementation of a policy. They are likely to be directly impacted by the implementation of a policy.
<b>Standardization</b>	A method used to compute summary rates for two or more populations or groups. This removes the effect of

	differences in composition between the populations due to age and facilitates comparison of rates.
<b>Statistical Significance</b>	Statistical measure used to determine whether an observed difference is likely to represent chance variation or a real difference between groups.
<b>Systematic Review</b>	A method that reviews and combines several single research studies on the same topic (usually a risk factor-disease association(s)) to draw conclusions regarding the associations between risk factors and disease and provide recommendations for improving the research. Systematic reviews that combine quantitative estimates of the risk factor-disease association into one estimate are known as meta-analyses.
<b>United States Centers for Disease Control and Prevention (U.S. CDC)</b>	A national public health organization that leads and supports domestic and global public health projects aimed at monitoring and preventing disease.
<b>Utility</b>	Nonmonetary measure of value for a health state (life, death, mental and social wellbeing).
<b>Valuation</b>	A method to define health outcomes, using natural health units, money or utility.
<b>Natural health units</b>	Direct measures of the effect of an intervention on health or a condition such as reduction in blood pressure and deaths prevented.
<b>Visual Hierarchy</b>	Content organization and prioritization to better communicate health messages.
<b>Visual Processing</b>	<p>The brain's ability to use and interpret information that is seen with the eyes. There are two types of visual processing:</p> <ul style="list-style-type: none"> <li>• <u>Top Down</u>: The purposeful scan for important information which is determined by the viewer.</li> <li>• <u>Bottom Up</u>: The instinctive recognition of important information which is determined by the designer.</li> </ul>
<b>Vital Statistics</b>	Data on vital events recorded through a civil registration system, including the number of births and deaths, and causes of death.

<b>Vital Strategies</b>	A global public health organization with expertise in policy development, project management, strategic communication, epidemiology and surveillance, research and evaluation.
<b>Waterfall Graph</b>	Form of data visualization that depicts the cumulative effect of sequentially introduced positive or negative values.
<b>Window of Opportunity</b>	The moment when conditions are ripe for policy enactment and adoption because policies: (1) are congruent with the national mood; (2) enjoy interest-group support; (3) lack organized opposition; (4) fit the orientation of the prevailing legislative coalition or administration; (5) are technologically feasible; and (6) are financially feasible.
<b>World Health Organization (WHO)</b>	A multilateral organization that directs and coordinates international health within the U.N. system.
<b>Years Lost to Disability (YLD)</b>	Years lived in the population with a specific disease/disability weight given for a disability's severity (i.e., the more severe the disability, the more of a year of life lived with it is considered "lost").
<b>Years of Life Lost (YLL)</b>	Years of life lost in the population due to premature deaths, usually from a specific disease/condition.