

Introduction to Survey Methodology

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<http://www.openoffice.org>*



Overview

- What is a survey?
- What is survey methodology?
- Survey quality perspective
- Behavioral Risk Factor Surveillance System



What is a survey?

- A systematic method for gathering information from (a sample of) individuals for the purposes of describing the attributes of the larger population of which the individuals are members.
- The attributes attempt to describe basic characteristics or experiences of large and small populations in our world.



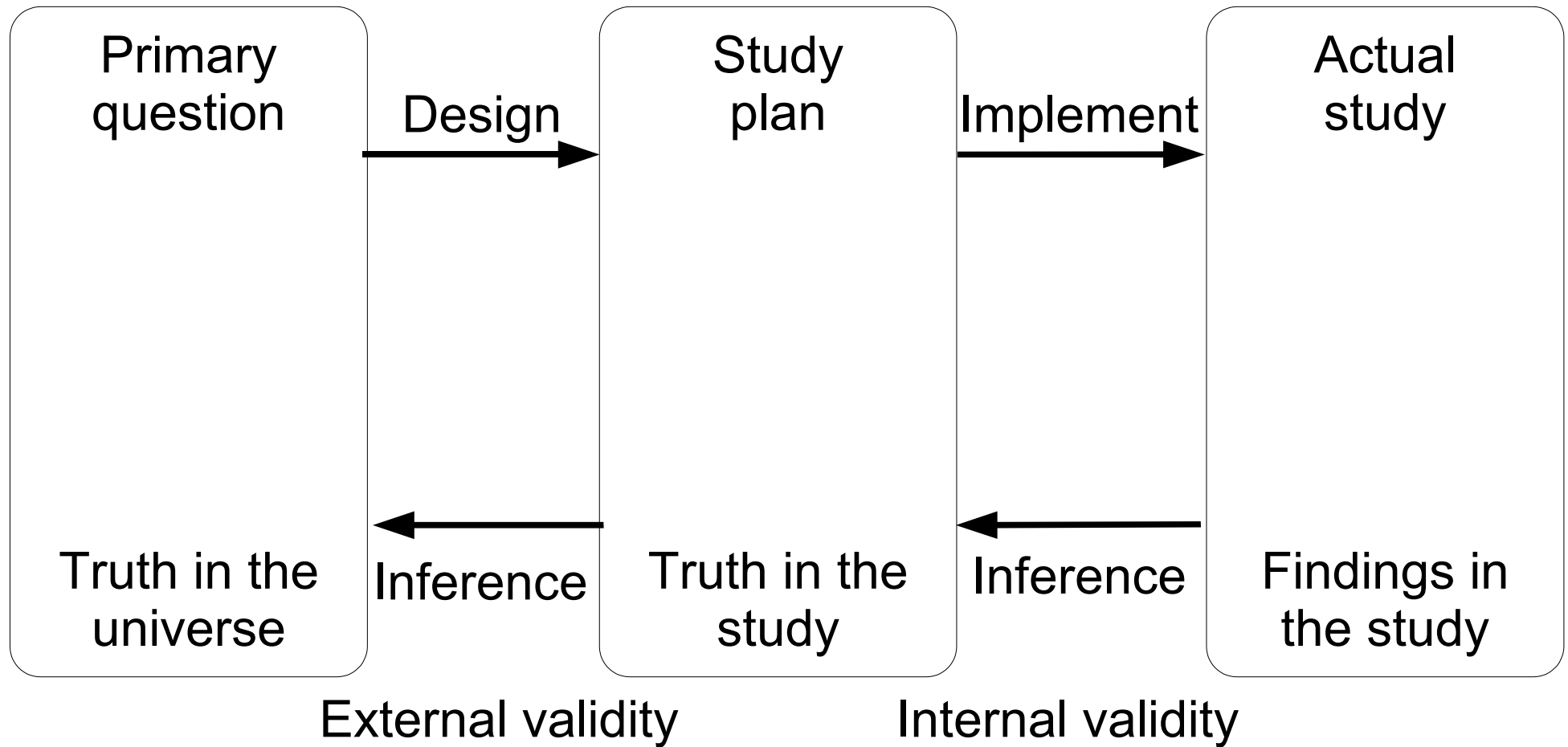
Features of a survey

- Information is gathered by asking people questions.
- Information is collected either by having interviewers ask questions and record answers or by having people read or hear questions and record their answers.
- Information is collected from only a subset of the population to be described (a sample) rather than from all members.



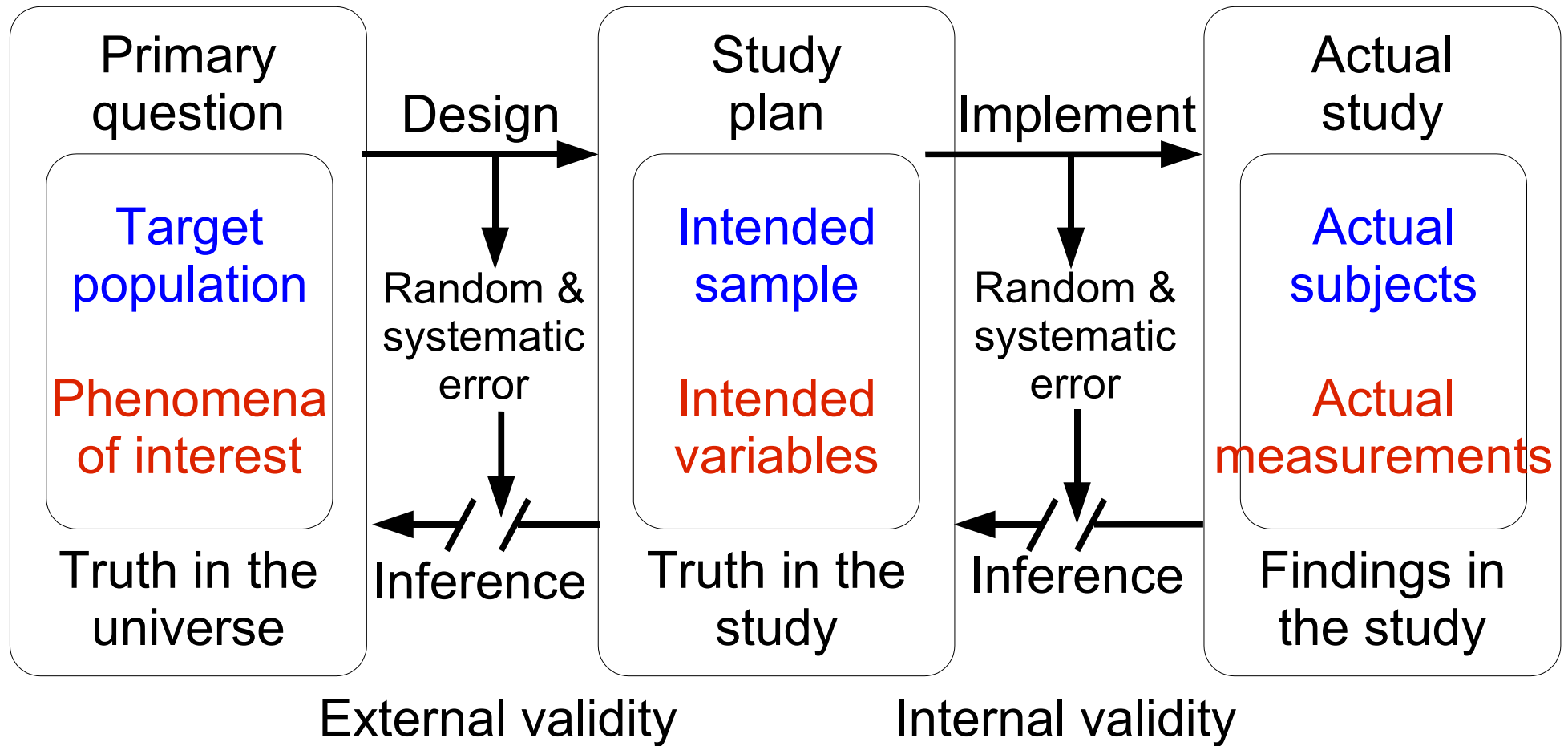
Study design sets up inferences

Hulley et al. *Designing Clinical Research*, 2nd Ed



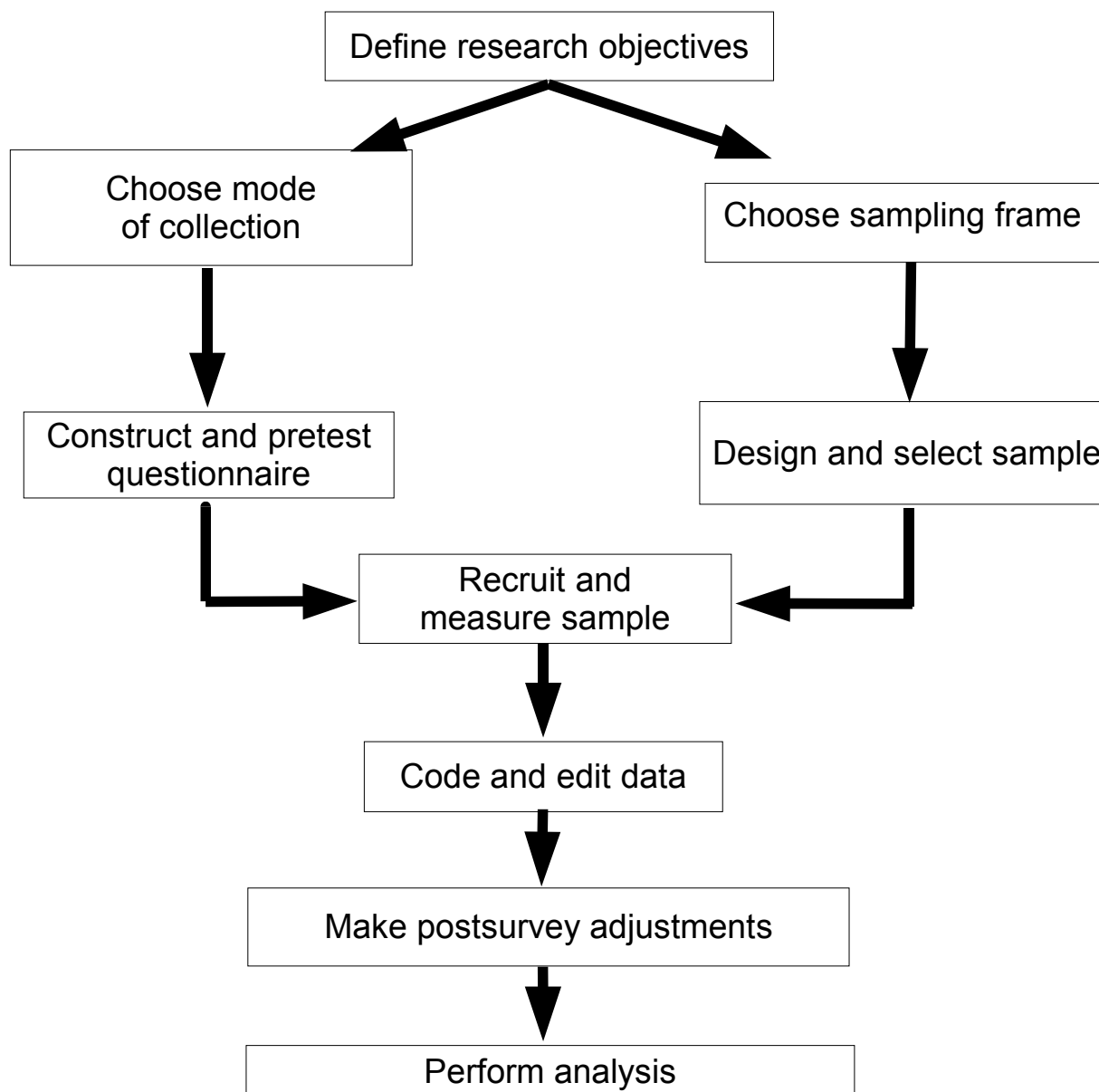
Study design sets up inferences

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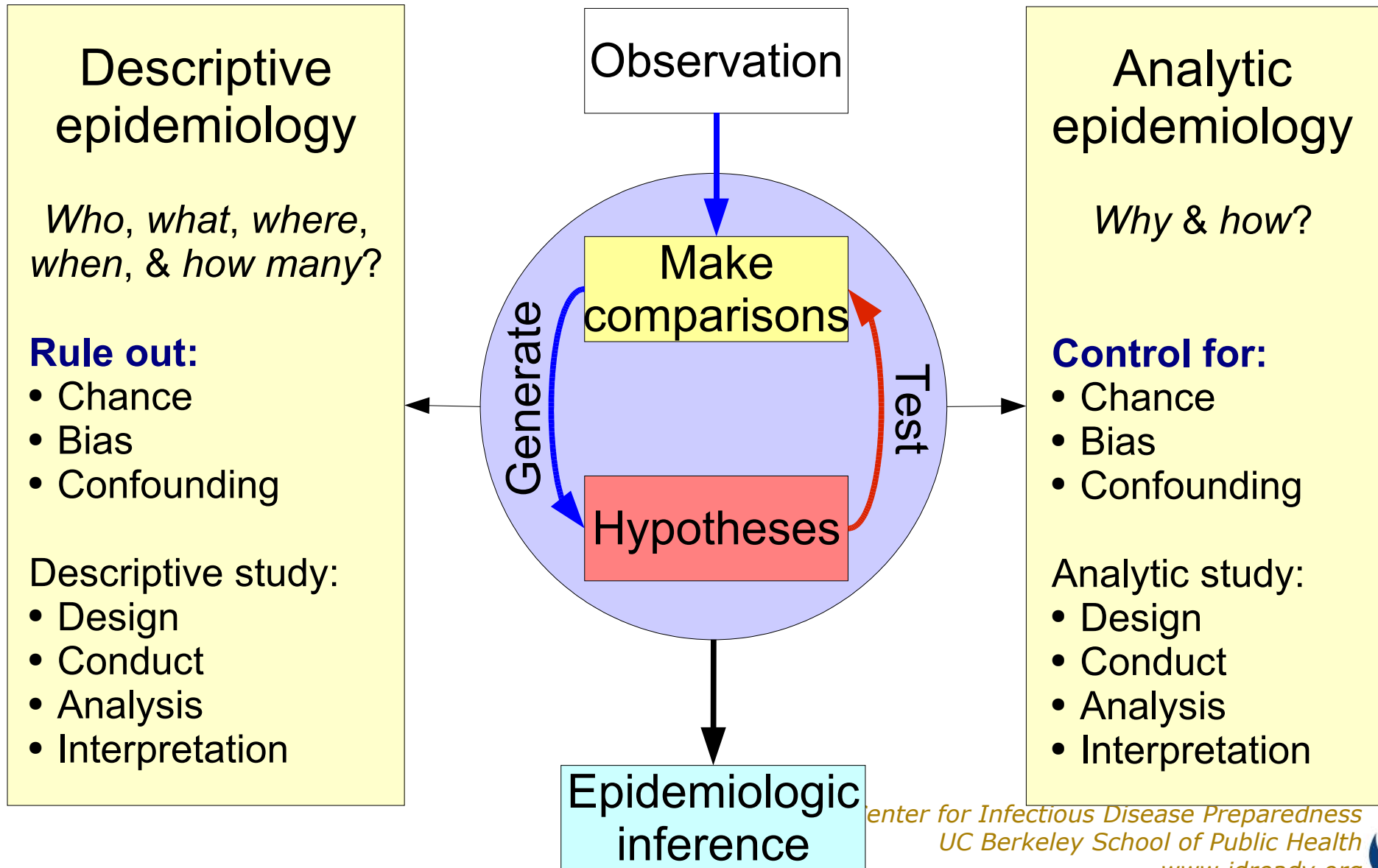
Survey Process Perspective

Groves et al. *Survey Methodology* 2004



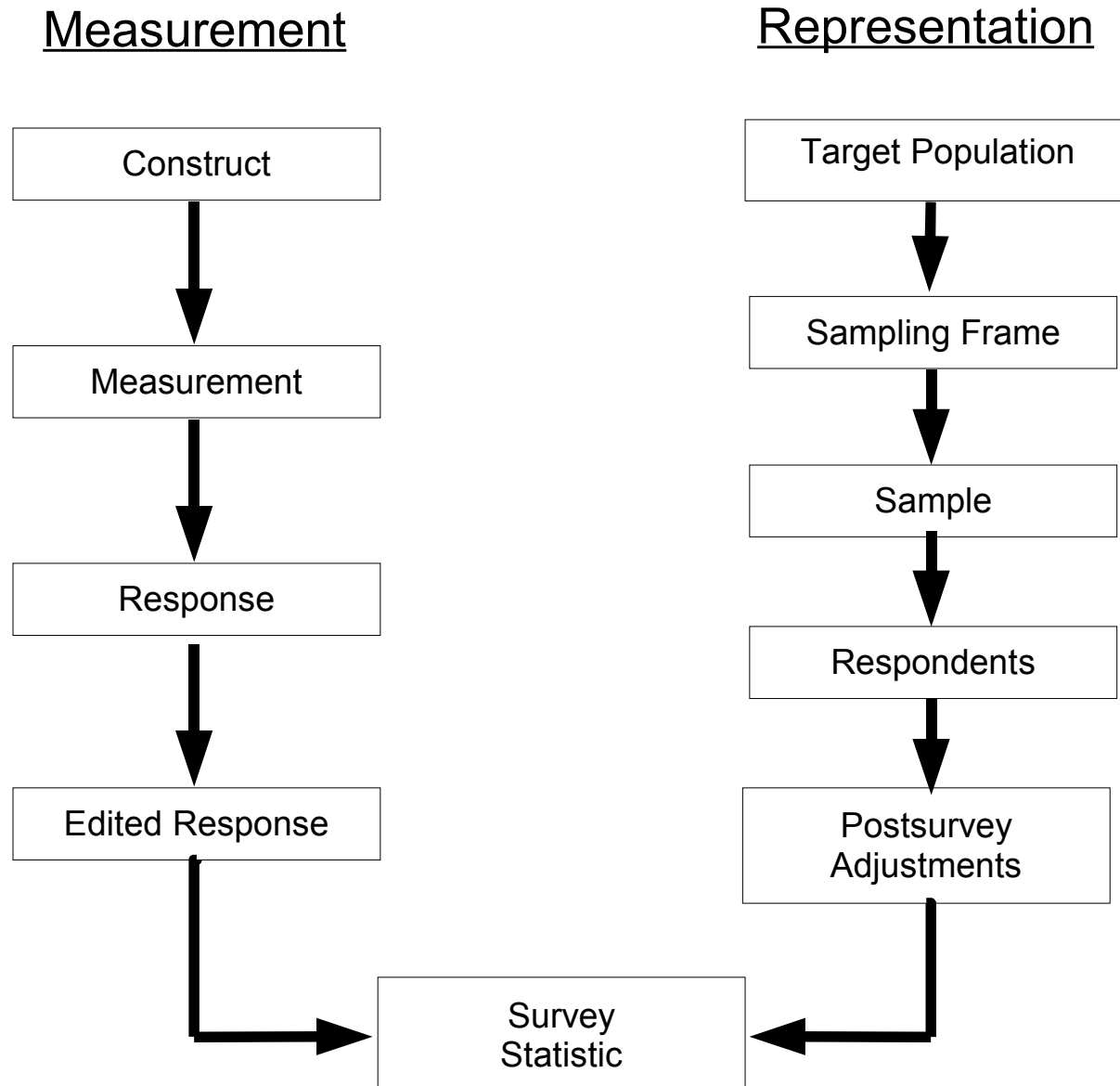
Process of epidemiologic inference

(How epidemiologists think about data)



Survey Design Perspective

Groves et al. *Survey Methodology* 2004

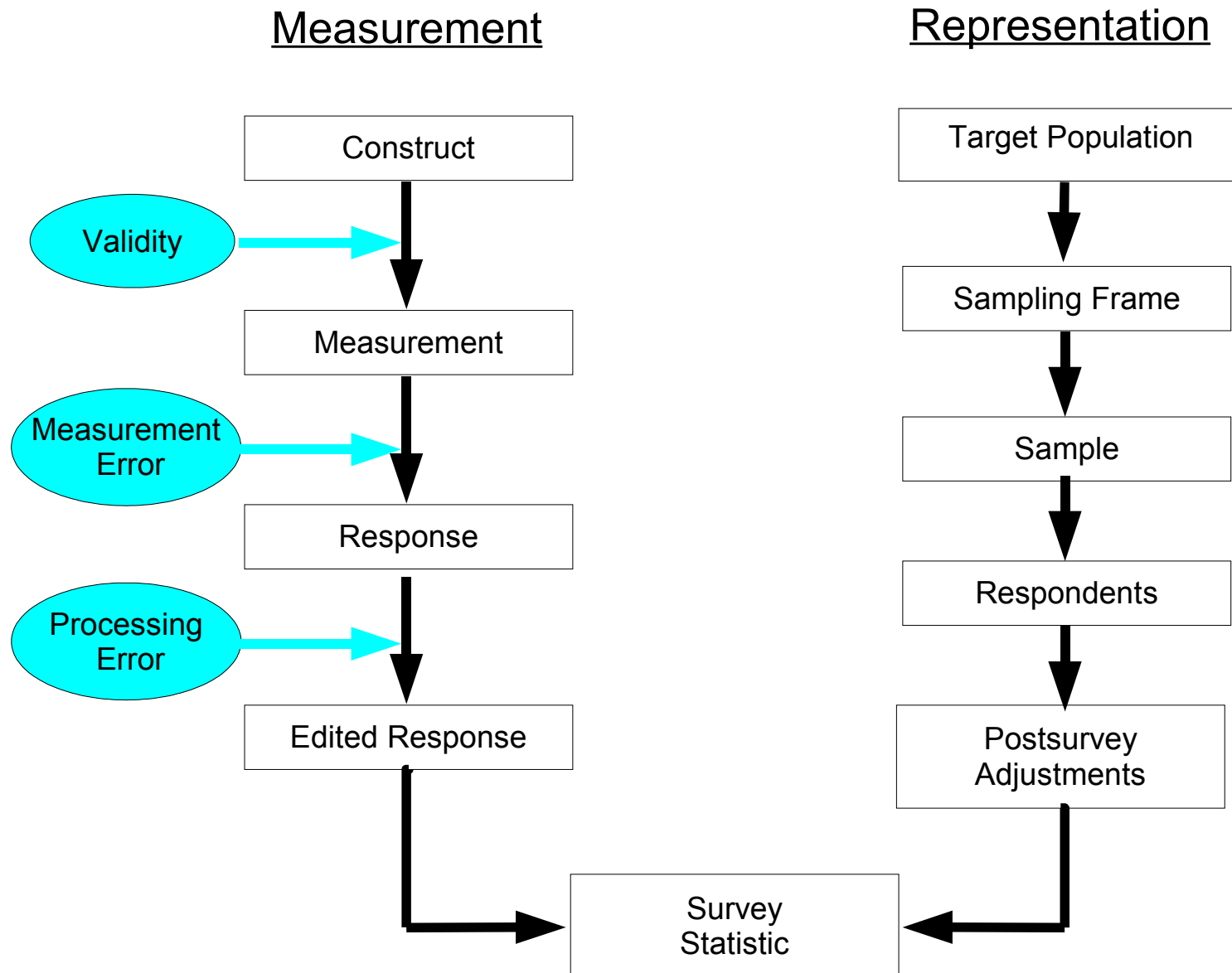


What is survey methodology?

- Survey methodology is the study of survey methods and the sources of error in surveys.
 - “Error” describes deviations from the desired outcome.
- This course will describe how to conduct surveys in the real world and how to evaluate the quality of survey results.
 - Emphasis on minimizing sources of “error”.



Survey Quality Perspective

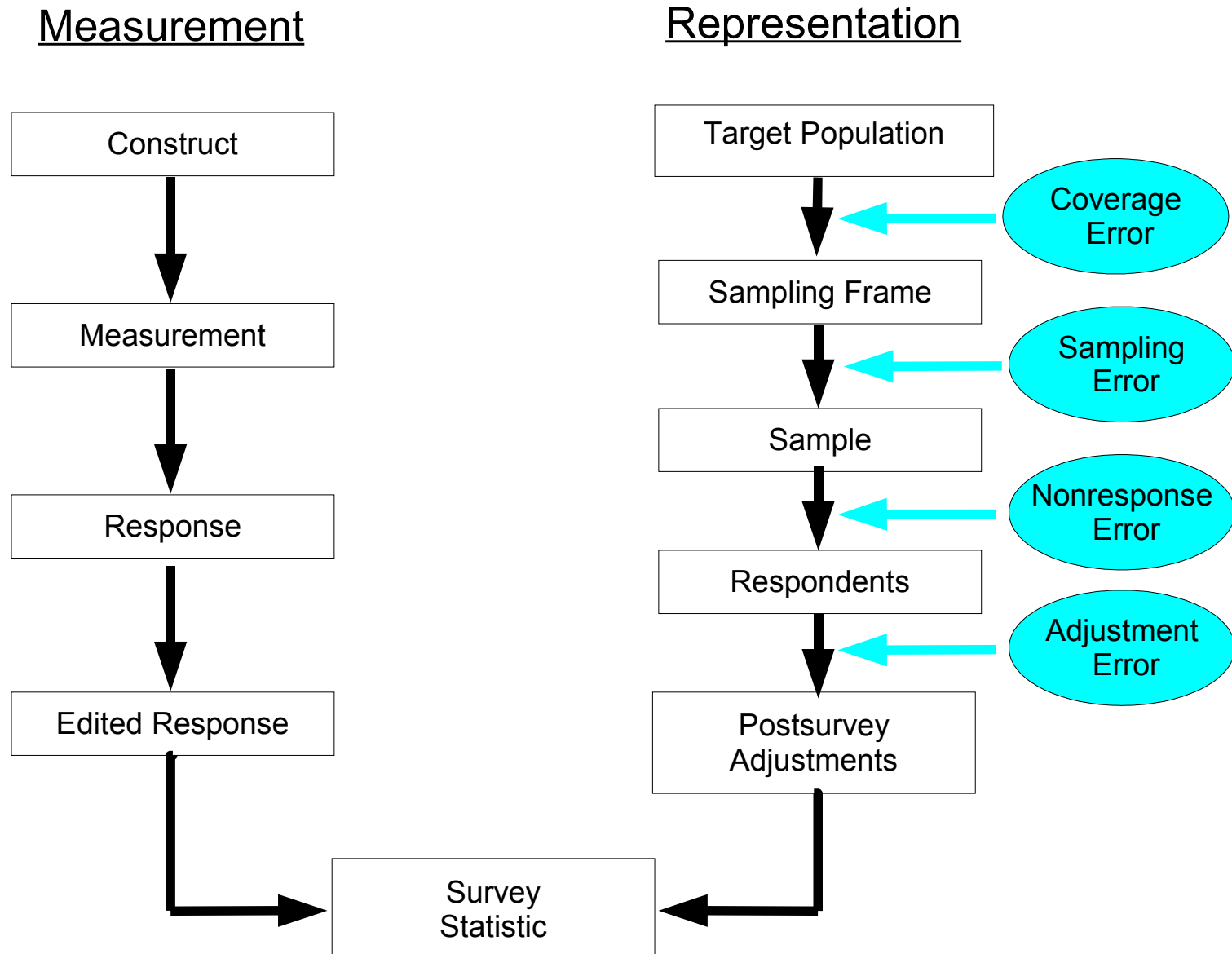


Issues of Measurement

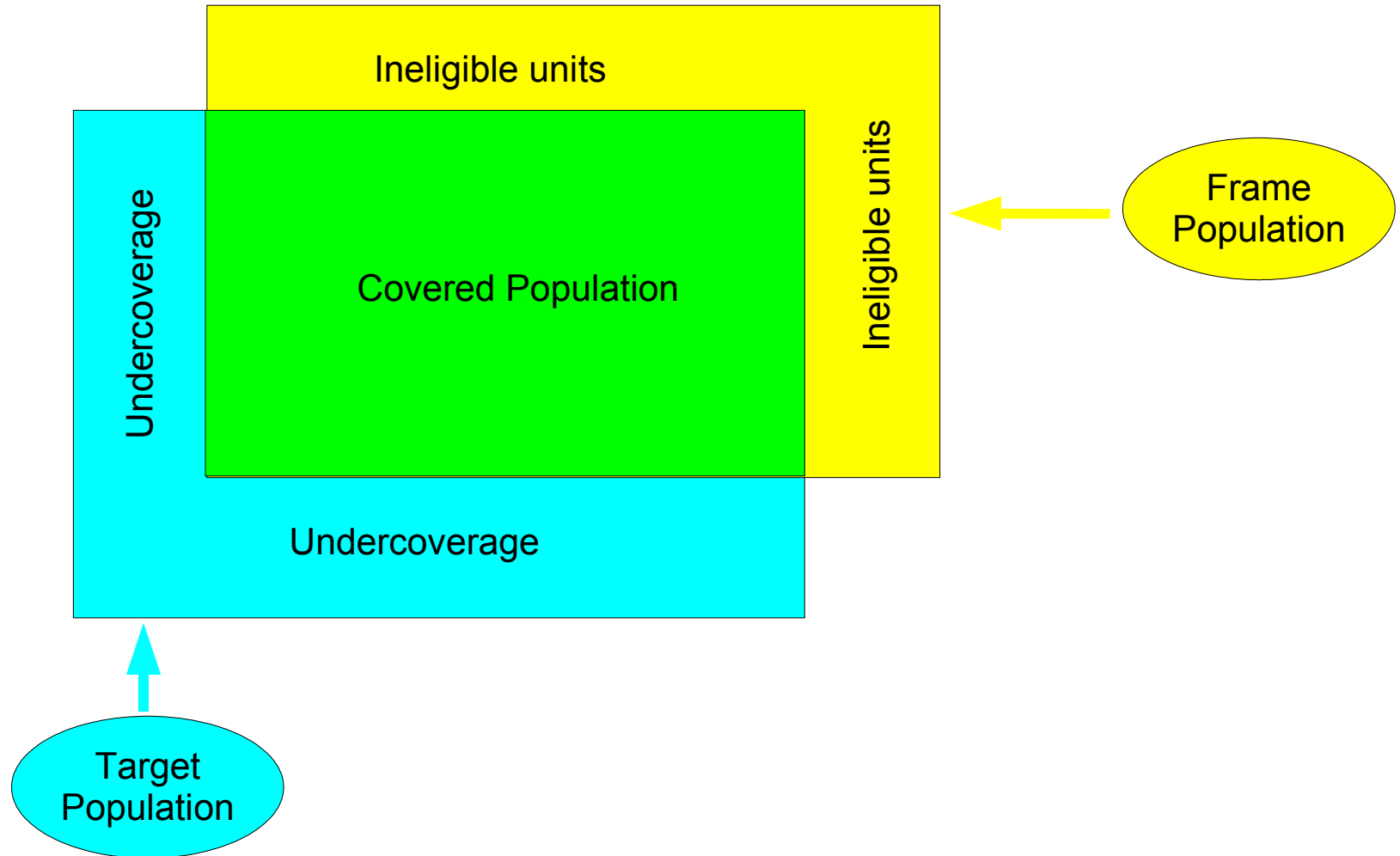
- Formulating questions
 - open-ended vs. closed questions
- Response order effects
- Bias in questionnaires
- Formatting the questionnaire
- Evaluating survey questions



Survey Quality Perspective



Coverage of a Target Population by a Frame



Implementing the Study

- Modes of Administration
- Pilot studies
- Quality control
 - Clinical procedures
 - Laboratory procedures
 - Data
- Protocol revisions
- Postcollection of survey data



Behavioral Risk Factor Surveillance System (BRFSS)



Background

- Since 1965, the National Center for Health Statistics had been providing annual US survey estimates on a variety of health behaviors and conditions.
- The survey estimates clearly indicated that individual personal behaviors affected premature morbidity and mortality.
- However, there were no comparable set of statistics at the state level where much public health policy and oversight rests.



BRFSS

- Since 1984, the BRFSS coordinated by the CDC provided state-level survey estimates of key health factors.
- BRFSS involves a partnership of individual states with assistance from the CDC; the states determine the questions and conduct the survey.
- The core questions ask about current health-related perceptions, conditions, and behaviors (eg, tobacco use, risks for HIV)



Purpose

- The main objectives of the BRFSS are to:
 - collect uniform, state-specific data on preventive health practices and risk behaviors that are linked to chronic diseases, injuries, and preventable infectious diseases in the adult population;
 - enable comparisons between states and derive national-level conclusions;
 - identify trends over time;
 - allow states to address questions of local interest;
 - permit states to readily address urgent and emerging health issues through addition of topical question modules.



Sampling Specifics

- Target Population
 - US adult household population
- Sampling Frame
 - US telephone households
- Sampling Design
 - Varies by state; all but three states (Alaska, California, and Hawaii) used probability designs.
- Mode of Administration
 - Interviewer-administered telephone interview

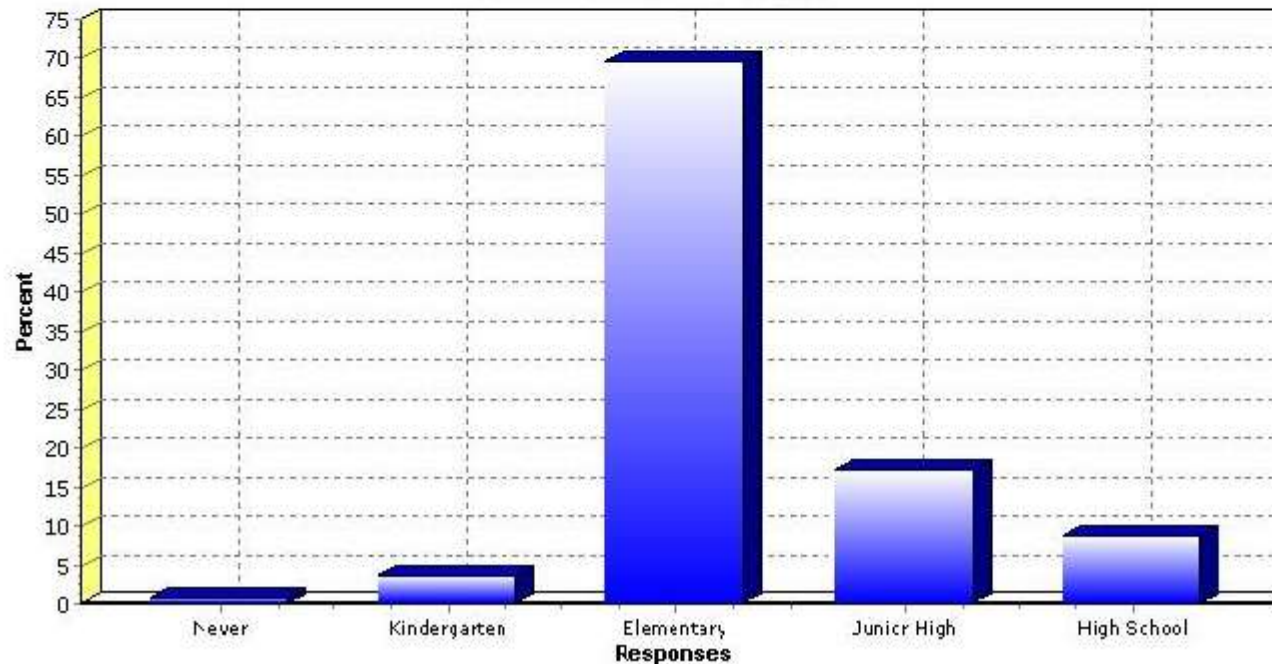


At what grade do you think children should begin receiving education about HIV and AIDS?

| | Never | Kindergarten | Elementary | Junior High | High School |
|----|-----------|--------------|-------------|-------------|-------------|
| % | 0.7 | 3.7 | 69.5 | 17.2 | 8.8 |
| CI | (0.3-1.0) | (2.9-4.4) | (67.5-71.4) | (15.6-18.7) | (7.6-9.9) |
| n | 28 | 112 | 2263 | 566 | 262 |

% = Percentage, CI = Confidence Interval, n = Cell Size
 Percentages are weighted to population characteristics.
 Use caution in interpreting cell sizes less than 50.
[See notes for data users.](#)

When Should HIV/AIDS Education Begin? California - 2000

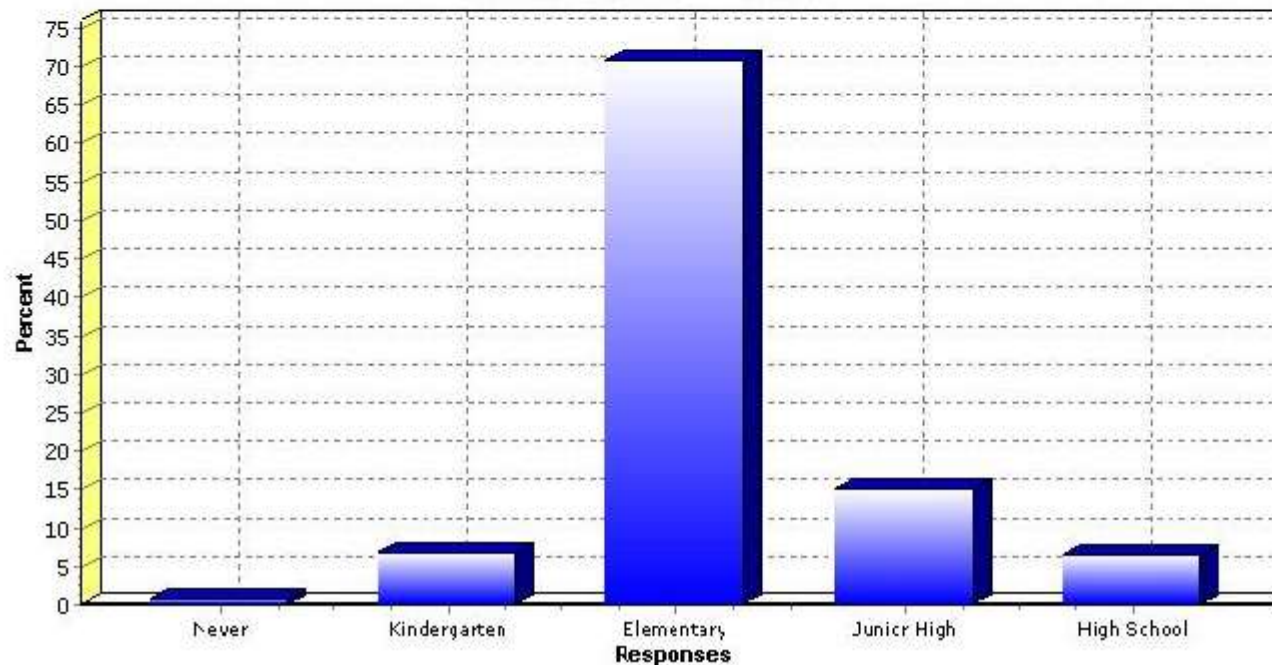


At what grade do you think children should begin receiving education about HIV and AIDS?

| | Never | Kindergarten | Elementary | Junior High | High School |
|----|-----------|--------------|-------------|-------------|-------------|
| % | 0.8 | 6.7 | 70.9 | 15.2 | 6.4 |
| CI | (0.4-1.1) | (5.7-7.6) | (68.7-73.0) | (13.4-16.9) | (5.2-7.5) |
| n | 27 | 193 | 1846 | 368 | 144 |

% = Percentage, CI = Confidence Interval, n = Cell Size
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When Should HIV/AIDS Education Begin? New York - 2000

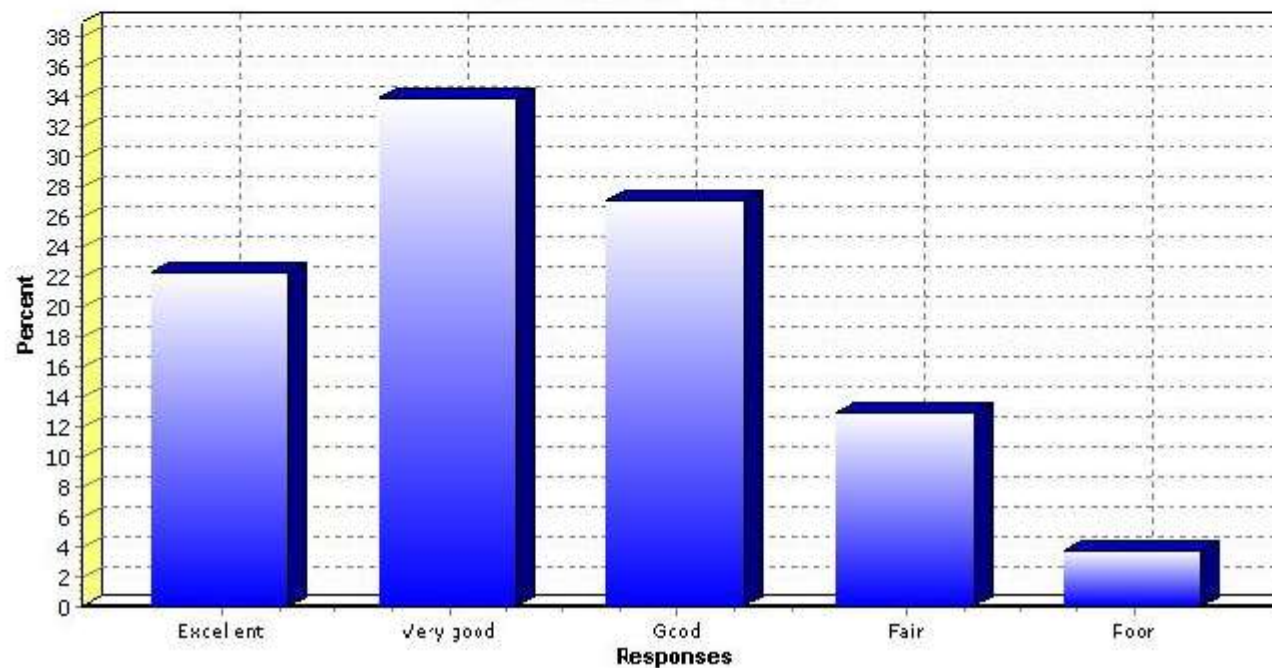


How is your general health?

| | Excellent | Very good | Good | Fair | Poor |
|----|-------------|-------------|-------------|-------------|-----------|
| % | 22.3 | 33.9 | 27.1 | 13.0 | 3.7 |
| CI | (20.9-23.6) | (32.1-35.6) | (25.3-28.8) | (11.6-14.3) | (2.9-4.4) |
| n | 973 | 1400 | 986 | 422 | 124 |

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General Health California - 2000

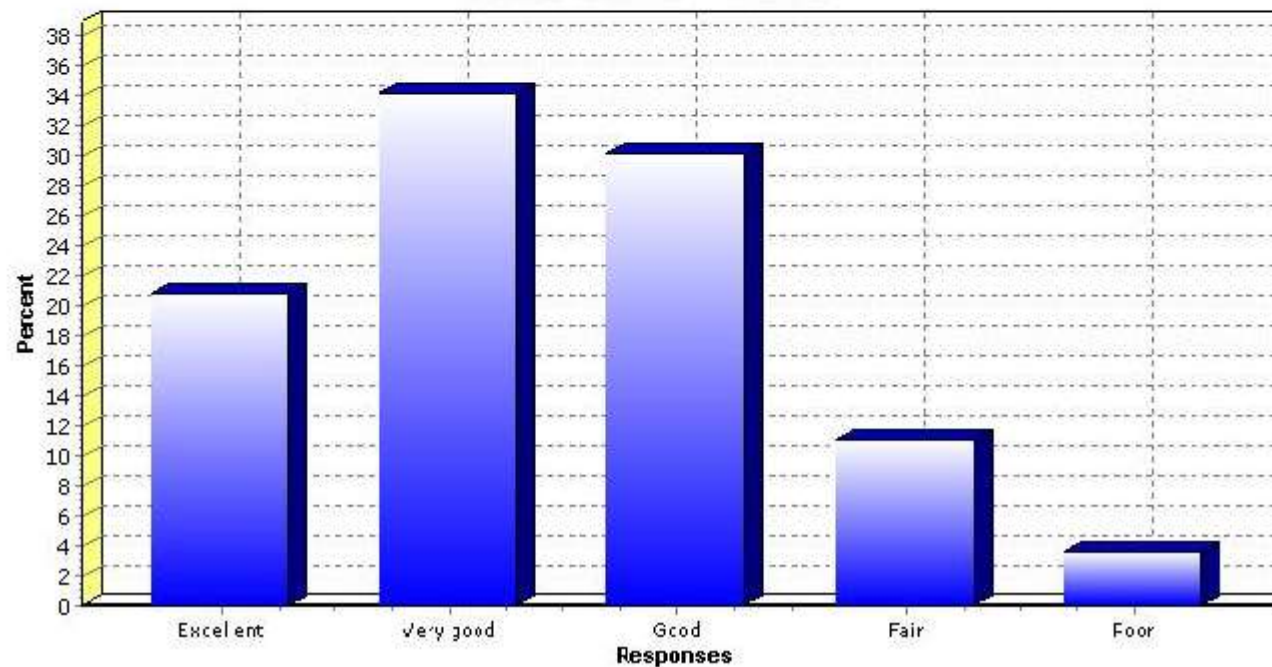


How is your general health?

| | Excellent | Very good | Good | Fair | Poor |
|----|-------------|-------------|-------------|------------|-----------|
| % | 20.8 | 34.2 | 30.2 | 11.1 | 3.6 |
| CI | (19.2-22.3) | (32.2-36.1) | (28.4-31.9) | (9.7-12.4) | (2.8-4.3) |
| n | 739 | 1176 | 976 | 347 | 111 |

% = Percentage, CI = Confidence Interval, n = Cell Size
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General Health New York - 2000



Summary

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