Video 3 of 21: Coverage error
Coverage considerations for phone surveys

Sampling
Coverage considerations between Area and Phone frames

Area frame

Population

Coverage rate ≈ 100%

Sampling frame

Phone frame

Population

Households without phone

Coverage rate ≈ Telephone penetration

Households with phone

Sampling frame

Non-working numbers, business numbers, etc
Coverage considerations for phone surveys

• Coverage factors to consider when transitioning from face-to-face to phone:
  ▪ Phone penetration in terms of households and/or individuals
  ▪ Differences between with and without phone population:
    ▪ Urbanicity, wealth, age, gender, etc
  ▪ Overcoverage: large proportion non-working/inactive phone numbers
    ▪ Screening out ineligible phone numbers
    ▪ Inefficiencies for data collection
  ▪ If using lists or directories:
    ▪ What is the coverage properties of such lists/directories?
    ▪ Listed households tend to be different from non-listed households → Potential undercoverage biases
Coverage considerations accounting for Landline and Cellphone frames (I)
Coverage considerations accounting for Landline and Cellphone frames (II)

• Dual-frame design
  ▪ Better coverage
  ▪ Needs to address dual users
    ▪ Overlapping design: Needs to account differential selection probabilities through weighting
    ▪ Screening design: less efficient as it can screen out a large portion of eligible respondents

• If high cellphone coverage: consider cell-only design
  ▪ Avoids inefficiencies in screening design and complications in weighting dual users in overlapping designs
  ▪ Potential coverage bias
Coverage considerations accounting for Landline and Cell phone frames (III)

• Landlines are considered household devices: conduct within-household listing and selection
  – In some surveys, respondent is whoever answers the phone
    • May lead to selection bias
    • Consider instead other pseudo-random within household selection procedures such as next/last birthday → May increase nonresponse

• Cell-phones are generally assumed to be individual device
  – No within-household listing and selection is done
  – If shared cellphone is widespread, consider within-household selection
  – Multiplicity: individuals with more than one phone have higher chance of being selected than those with only one phone
    • Needs to be addressed through weighting
    • Multiplicity information needs to be collected
END OF VIDEO 3