Statistical Disclosure Control

a.k.a. Statistical Disclosure Limitation

General introduction

Contents

- Confidentiality
- What is Statistical Disclosure Control?
- Five key stages to confidentiality
  - Why is SDC needed?
    - (Increasing) need for SDC
    - General SDC issues
      - R-U map
  - Data characteristics and uses

Confidentiality

- General definition of confidential data:

- Data that can not be published as such

    - By law (e.g., statistical law)
    - Sensitive data (what's sensitive?)
    - Respondent considers it confidential

What is SDC?

Physical protection

- Entrance
- Network

Legal protection

- Oath

Statistical Disclosure Protection

- *Protection of statistical output*

Five key stages

1. Why is confidentiality protection needed?
2. What are the key characteristics and uses of the data?
3. What disclosure risks need to be protected against?
4. Disclosure control methods
5. Implementation

Why is SDC needed?

- Is SDC really needed in this specific case?
- What kind of information can be deduced?
  - Sensitive information?
  - Publicly known information?
    - Freely available?
- Group disclosure or statistics?

Need for SDC

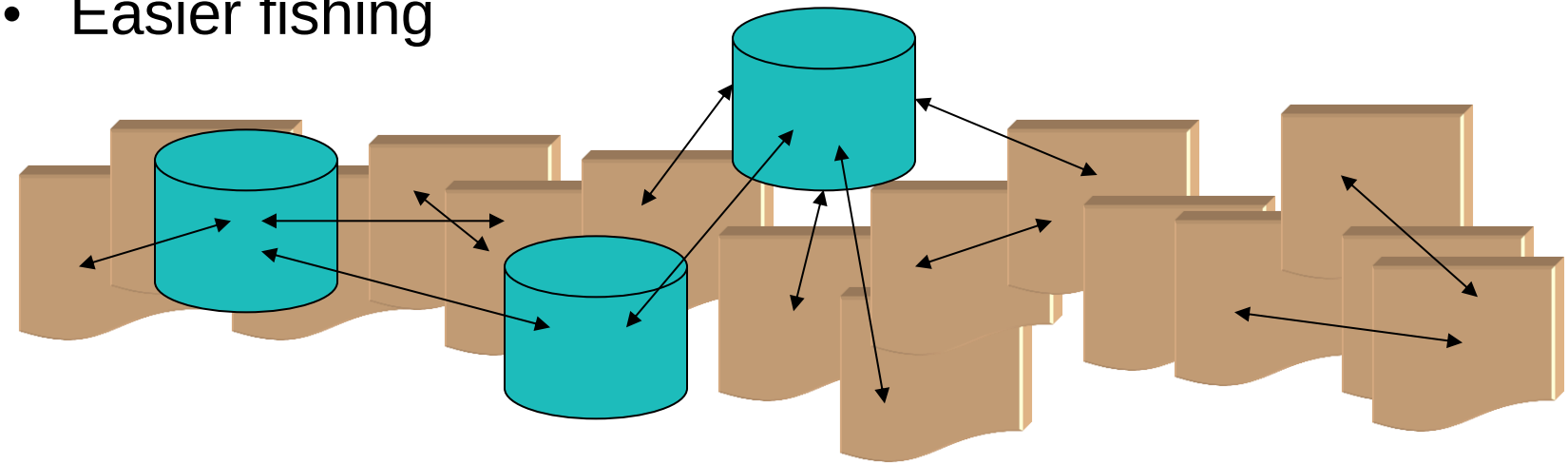
- Laws
  - International (EU)
  - National (The Netherlands)

- Agreement with respondent
  - Current response
  - Future response

- Agreement with owners of registrations

Increasing need for SDC

- Linking
- Registrations
- Surveys
- Datamining techniques
- Easier fishing



Increasing need for SDC

- Change of data characteristics
  - Availability
    Administrative registrations
    Powerful computers
  - Amount of detail
  - Actuality

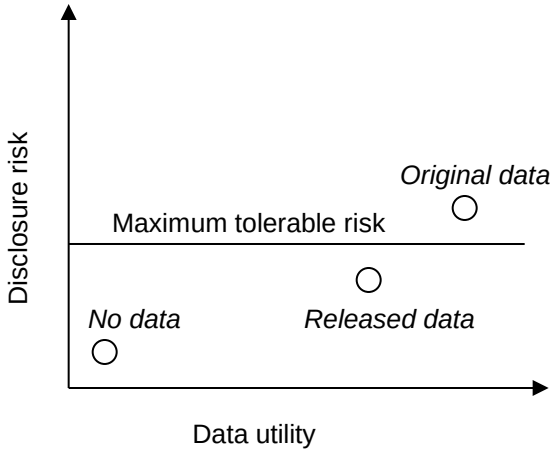
General SDC issues

Apply SDC techniques such that

- ⓘ Resulting data is safe
- ⓘ Information loss is minimal

Problems

- Define safe data
- Define information loss



Data characteristics and uses

- Type of data
  - Full population
  - Sample
- Meta information
  - Sampling design
  - Response, coverage
- Type of variables
  - Categorical
  - Continuous
- Type of output
  - Microdata file
  - Tabular data