# MANAGING QUALITATIVE DATA

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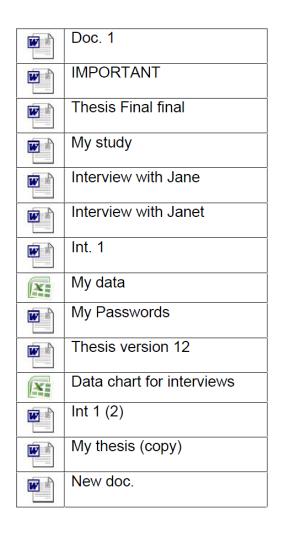


- too much DM advice out there is generic and confusing
- data management is not a word quali researchers understand/like much – we use 'manage and share'
- guidance needs to be meaningful and relevant
- qualitative data has its own peculiarities I hope to offer you useful take home messages and tips

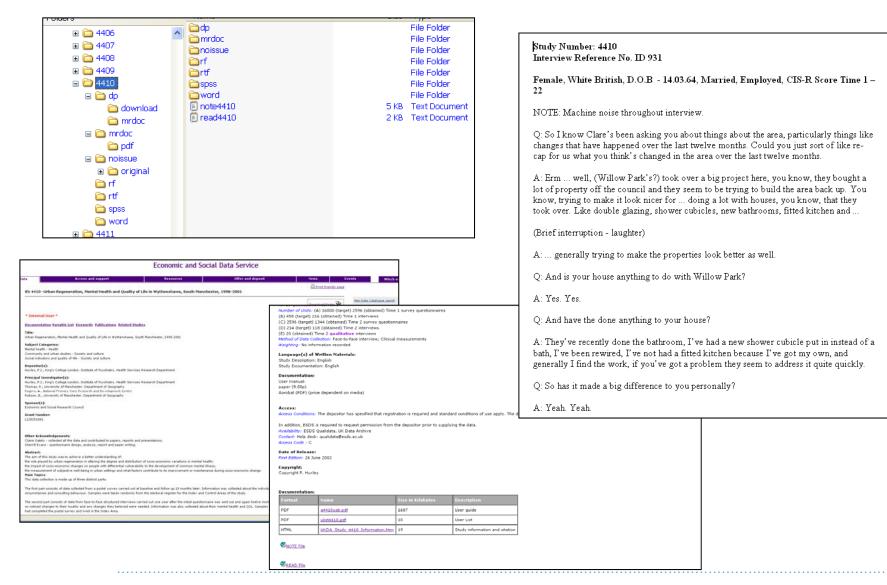
- UK Data Archive experience of providing support for data creators of social science data
- We operate the ESRC Data Policy (since 1995) you must share your data!
- our best practice approaches to making data shareable based on:
  - challenges faced by data creators over the years
  - over 40 years of handling others' social science data -17 years with qualitative data
- highly skilled staff comprising researchers, technical and information specialists

### JOURNEY FROM YOUR DATA ....





### ...TO OUR DATA



- efficiency makes research easier
- quality better research data for you and others
- safety protect valuable data
- reputation enhances research visibility
- compliance with ethical codes, data protection laws, journal requirements, funder policies

### WHAT IS DATA MANAGEMENT?

#### **CREATE & MANAGE DATA**

RESEARCH DATA LIFECYCLE

STARTING YOUR RESEARCH

CONSENT & ETHICS

COPYRIGHT

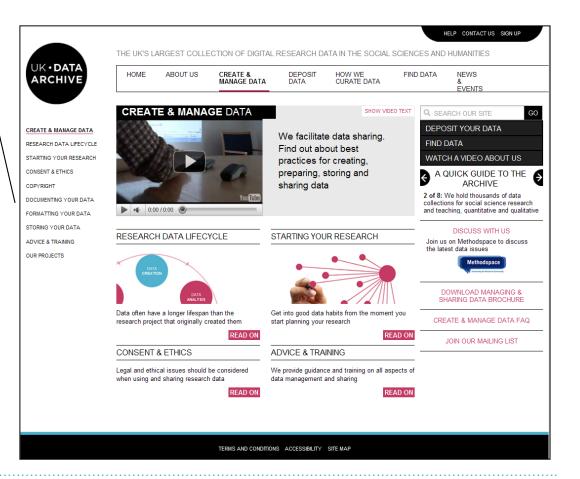
DOCUMENTING YOUR DATA

FORMATTING YOUR DATA

STORING YOUR DATA

ADVICE & TRAINING

OUR PROJECTS



- data confidentiality and conditions of use
- describing and documenting data for re-use
- practicalities of looking after data
  - formats, version controlling, encryption, storage, back-up, file-sharing

Ethical duties in research

- confidentiality towards informants and participants
- protect participants from harm
- treat participants as intelligent beings, able to make their own judgements and decisions on how the information they provide can be used, shared and made public (through informed consent)
- duty to wider society to make available resources produced by researchers with public funds

Consider data management and sharing during ethical review

LEGISLATION AND DATA SHARING

Data Protection Act (1998)

- 'personal data'
  - relate to living individual
  - individual can be identified from those data or from those data and other information
  - includes any expression of opinion about the individual
- only disclose personal data if consent given to do so (exc. legal reasons)
- DPA does not apply to anonymised data

processed fairly and lawfully obtained and processed for specified purpose adequate, relevant and not excessive for purpose accurate not kept longer than necessary processed in accordance with the rights of data subjects, e.g.

right to be informed about how data will be used, stored, processed, transferred, destroyed; right to access info and data held

kept secure

not transferred abroad without adequate protection

Researchers to consider

- obtaining informed consent, also for data sharing and preservation / curation
- protecting identities

e.g. anonymisation, not collecting personal data

- restricting / regulating access where needed (all or part of data)
  e.g. by group, use, time period
- securely storing personal or sensitive data

Consider jointly and in dialogue with participants Plan early in research

Information sheet and consent form must include consent for

- engaging in the research process, and right to withdraw
- use of data in outputs, publications
- data sharing and possible future uses

Process or one-off consent? - repeat interactions?

Written or verbal consent? - how realistic?

Consent needs to be suitable for the research purposes

### UK Data Archive sample consent form

http://staging.data-archive.ac.uk/create-manage/consent-ethics/consent?index=3

### Identity disclosure

- direct identifiers often not essential research info
- indirect identifiers

### Anonymise data

- remove direct identifiers
- reduce precision/detail through aggregation / generalisation
- restrict upper lower ranges variables to hide outliers
- replace rather than remove
- pseudonyms
- maintain maximum meaningful info
- log edits

at the UK Data Archive

- archived research data NOT in public domain
- use of data for specific purposes only after user registration
- data users sign legally binding End User Licence e.g. not identify any potentially identifiable individuals
- stricter access regulations for sensitive data (case to case basis):
  - access to approved researchers only (approved researcher/special license)
  - data access permission from data owner prior to data release
  - data under embargo for given period of time

If someone was using your data for the first time, what would they need to know?

- context information about research and data
  - final report, publications, fieldnotes, thumbnail about interview setting
- data collection methodology and processes: sampling, data collection process, instruments used, tools used, temporal/geographic coverage, data validation
- documentation: descriptions of codes or classifications used
- data listings for qualitative data
- any conditions of use and access?

## CAN YOU UNDERSTAND/USE THESE DATA?

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- data collection data must reflect facts, responses, observations, events
  - examples: standardised protocols, computer assisted interviews, interview recording and transcription
- data entry, digitisation, transcription and coding avoid errors - use standardised and consistent procedures
  - examples: validation rules for data entry, controlled vocabularies or choice lists, transcription template
- data checking and verifying automated and/or manual
  - typos, check for data completeness, peer review of data

- choice of software format for digital data
  - planned data analyses/discipline-specific customs
  - software availability
  - hardware used e.g. audio recorders
  - discipline-specific standards and customs
- best formats for long-term preservation
  - standard formats
  - interchangeable formats
  - open formats

tab-delimited, comma-delimited (CSV), ASCII, RTF, PDF/A, OpenDocument format, XML

• beware of errors in data conversion! Always check

"I'm sorry but we had to blow up your laptop"



"What....all my client case notes and testimony, writing, pictures, music and applications. Years of work. NO!!!! What?? Are you insane?? What were you thinking? THAT'S ALL MY WORK!?"

Source: Lilysussman's Blog

- ALL digital storage media are fallible
- file formats and physical storage media ultimately become obsolete
  - optical (CD, DVD) and magnetic media (hard drive, tapes) degrade
- best practice:
  - use data formats with long-term readability
  - storage strategy at least two different forms of storage and locations; maintain original copy and external copies
  - check data integrity of stored data files regularly (checksum)
  - know your personal / institutional back-up strategy: network server/PC/laptop; data retention policies
  - what to protect? Not only data, and not only digital

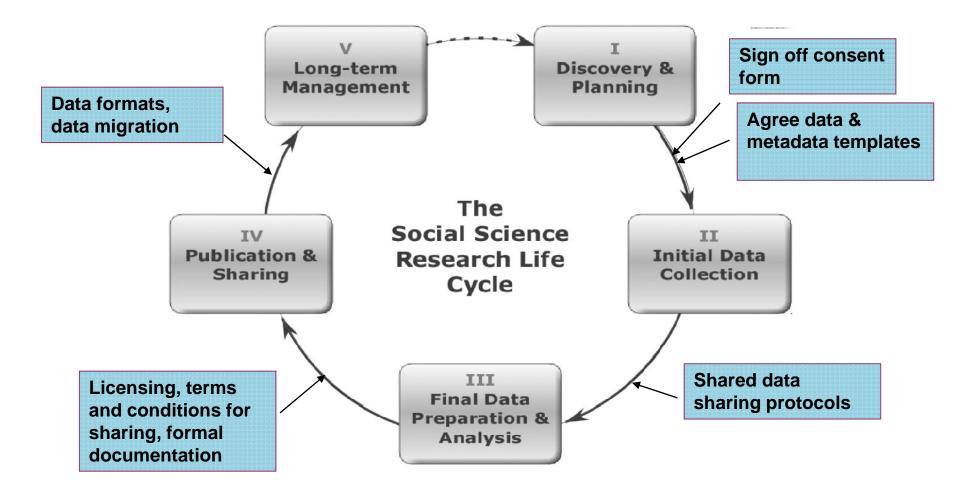
- protect data from unauthorised access, use, change, disclosure and destruction
- personal data need more protection always keep separate
- control access to computers
  - passwords
  - anti-virus and firewall protection, power surge protection
  - networked vs non-networked PCs
  - all devices: desktops, laptops, memory sticks, mobile devices
  - all locations: work, home, travel
  - restrict access to sensitive materials e.g.consent forms, patient records
- proper disposal of equipment (and data)
  - even reformatting the hard drive is *not* sufficient
- control physical access to buildings, rooms, cabinets
- but beware of "requirements" to destroy data

- always encrypt personal or sensitive data
- easy to use
  - Safehouse
  - Truecrypt
  - Axcrypt
- basic principles
  - use an algorithm to transform information (A=1)
  - need a "key" to decrypt
- encrypt anything you would not send on a postcard
  - for moving files e.g. transcripts
  - for storing files e.g. shared areas, mobile devices

Sharing data between researchers and teams

- virtual research environments
  - MS Sharepoint
  - Sakai
- file transfer protocol (ftp)
- Yousendit, Dropbox
- via physical media
- too often email attachments





- need for access to existing data sources
- data planned to be produced
- planned quality assurance and back-up procedures for data
- plans for management and archiving of collected data
- expected difficulties in making data available for re-use and measures to overcome such difficulties
- who holds copyright and intellectual property rights of data
- data management roles and responsibilities

- rich data, breadth, unique, topical, time series
- format, usability and condition of material
- data that have further analytic potential than the original investigation (depth; large-scale; longitudinal)
- relative importance or impact of the study
- confidentiality issues unproblematic (consent)
- copyright is not prohibitive

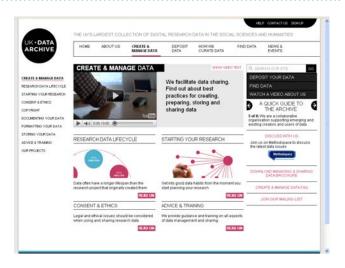
- descriptive material
- comparative research, restudy or follow-up study
- re-analysis/secondary analysis
- research design and methodological advancement
- replication of published statistics
- teaching and learning

- no, it's just common sense.
- it's all about good research practice
- be organised and accountable, and anticipating disaster at any time!

# SIMPLES!







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