Afdækning D

# Udenlandsk inspiration vedr. incitamenter

**Om bilaget**

Afdækningen tager afsæt i et case study kommissioneret af Knowledge Exchange (KE), "Incentives for sharing research data seen from researcher perspective".

Undersøgelsen er gennemført som kvalitative interviews af fem forskningsteams med en etableret praksis for deling af forskningsdata – et fra hvert af KE partnerlandene (UK, DK, Holland, Tyskland og Finland) og fordelt på humaniora, samfundsvidenskab, biomedicin og kemi samt biologi.

Undersøgelseslederne præsenterede de foreløbige resultater for Styregruppen for National Data Management primo juni. Bilaget udgøres af de slides, som præsentationen tog udgangspunkt i. Endelig afrapportering fra KE undersøgelsen forventes offentliggjort medio september 2014.

# Incentives for Sharing Research Data (preliminary findings)

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# Why study incentives for data sharing ?

- Know a lot about barriers already

- Wide variation in data sharing policies
  - where policies are weak or not present, must rely on norms and incentives

- While overall benefits of data sharing are clear, benefits for individual researcher can be weak or mixed

- Data are rightly viewed as a "public good", but in general, all public goods are under-produced

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Five research case studies –interviews with researchers

- Denmark: LARM Audio Research Archive (4/4)
- Germany: Evolutionary Plant Solutions to Ecological Challenges (5/6)
- Netherlands: Netherlands Bioinformatics Centre (1/4)
- Finland: Ph.D. project Retired Men Gathering in Cities (1/1)
- UK: Chemistry Department, University of Southampton (10/10)

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There's sharing & sharing….

- Sharing data with colleagues in collaborative research
- Sharing data / information via publications
- Releasing raw data / full datasets to unknown users, for anyone to use, for any purpose.

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# Incentives identified in case studies

**Current and potential motivations
to share research data**

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# Finland – ethnography / sociology

- Kudos
- Challenge researchers' assumptions that ethnography field diaries should not be shared
- Progress knowledge by learning from peers / experienced researchers (e.g. methods)
- Being asked for data (FSD) can help overcome fears of having work scrutinised
- Support from data archive to prepare data

- Funders expect data sharing as default, with data management plans to support
- Funder policies important in helping to shift norms

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# Denmark – media studies

- Idealism
- Sharing data and collaborative research drives science progress and knowledge, leads to better research
- Reciprocity – mutual benefits amongst researchers who are both data creators and data users
- Increased learning
- Personal linkage – knowing who uses data for what
- Young researchers more likely to share –social media influence
- Restrictions – copyright legislation needs changing in line with Creative Commons

- Top down motivation needed from funders
- Recognition of data sharing in career progression
- Automatic sharing from active data storage

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# Denmark – 2

- Value of data sharing for researchers under-developed
- Data creators and users need ways to communicate directly e.g., annotations on data; networks of reciprocal "cooperation"
- "Personal contact means the most" – others might need the data
- Need ways to track access and usage of data
- Consistent policies would actually make sharing easier for all
- Acknowledge real and extra cost (time) of data description and recognise those who do it
- Give equal recognition to research data and results (outputs)
- Personal sharing generates feedback – "get wiser"
- Safety and security are also important motivations to share
- Policies can clarify that sharing need not violate privacy
- Great value in sharing more than data: methods; metadata; other users' experiences
- "We reach a lot further together than we can do individually"
- Infrastructure; tech support; legal and IP advice; funding…

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## United Kingdom – chemistry, crystallography

- Sharing data to 'earmark', to build/extend reputation
- Make investments in data sharing re-usable, e.g., DMP templates and harvest content for final report writing (no duplicate work)
- Sharable data for teaching – narrow and broad exercises
- Sharing data allows exposing problems early; corrections are increasingly seen as good science, not career-breaking
- Need to promote "negative findings" as positive (to avoid wasteful replication), not poor practice

- Recognise and reward 'nano-sharing'
  - e.g. set of parameters, process
- Recognition of data – citation, DOIs, research assessment
- Learned societies can play key role in promoting sharing

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## United Kingdom – chemistry, crystallography

- Seeing impact of sharing data motivates further sharing (GitHub)
- Just ask! (many want to share but fear "nobody would be interested"
- eLab Notebooks – ex. of reducing costs/increasing accuracy of data shared
- Different sharing forums for different career phases (informal)
- Good access controls matter: early careers; personal data; IP; "working data"

- The UK Data Exchange (proposed) – registry of deposits and uses

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## Netherlands – biosemantics/bioinformatics

- Biosemantics research strongly depends on data sharing – mining existing data and literature
- Research needs drive data sharing
- Citable 'nano-publications' of scientific assertions (triple-store)

- Funders require data stewardship plans – positive move Horizon2020, with DMP as deliverable
- Alternative impact assessment for career progression, e.g. data citation, social media citation
- Modernise science
- Infrastructure for fast international sharing

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## Germany – plant sciences, taxonomy, genetics

- Data sharing in collaborative research projects (= norm)
- Trust = essential for sharing
- Prepublication sharing with peers
- Wider sharing at time of publication; journals expect supplementary data; but also consider future publication potential of data before releasing
- Omics data deposit at time of publications = standard practice
- Sharing part of good research practice; more sharing, more integration
- Maximise benefits of tax money; clear mandates from funders
- Private funding (needed to push research to development) but strict agreements re. (not) sharing
- Headhunted to lead new institute because of good data sharing practices
- Funded to produce public database
- Hidden data are no use to anyone

- Counteract fear of being outcompeted
  - data policies and regulation needed e.g. IPR, legal support
  - establish trust

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# Incentives categories

- Direct research benefits to researchers

- Reduce costs (and risks)

- Norms that support data sharing

- Funder strategies & policies

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# Direct research benefits

**Science drives data sharing /sharing essential for research**
- e.g. biosemantics, collaborative research, methods analysis, genetics, media studies
- but not all data producers are also data users (supply-demand)
- for data producers right motivation to share data may be absent; other strategies therefore still needed (policies,….)
- will never apply to all research

**Mutual benefits through sharing (between researchers)**
- e.g. methods learning, learning from peers, collaborative research
- trust is essential

**Career progression (impact metrics)**
- Currently largely against data sharing – focus only on articles
- altruistic data sharing goes against career progression
- changes / alternatives needed
  - social media citations/metrics for impact
  - data citation metrics

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# Reduce cost

Acknowledge real costs and expertise in producing sharable data

Reduce time/costs of producing data

- e.g. one-stop metadata entry

Develop and share templates and re-use their content

- e.g. consent, DMPs

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# Norms

(Junior ) researchers do what they experience in their research circle

- sharing = default in research domain, research group, institution

Social media influence

- younger researchers more used to 'sharing' information
- hence also data

'Guerilla' data sharing

- progressive scientists push established boundaries

Research openness can benefit research but individual researchers reluctant to take lead

- e.g. failed trials, trial an error results, raw data, metadata, electronic lab books
- fear criticism, being scooped, losing competitive advantage
- trust is essential; may need strong agreements

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## Funding strategies

**Funders directly funding research data sharing projects**

- e.g. database development, secondary analysis programmes, audio archive development, electronic lab notebooks development and uptake
- shared data become output, research resource or tool

**Publisher and funder policies seen as important drivers/ solution for data sharing (esp. in countries that lack them)**

- in reality they do not push data sharing as much as could do
- e.g. supplementary data in journal may be poor quality; mandated repository deposits may be minimal, exclude valuable data
- still influence of personal motivation and community
- positive: policies/expectations slowly change general attitudes, practices, norms; set rules

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## Conclusion

- Leadership needed from funders, institutions, societies, publishers to establish framework where data sharing becomes norm
- "Mixed economy" of incentives needed that consider:
  - phase in research data life cycle
  - career stage of researcher
- Changing norms
- Encourage direct benefits
- Support framework to provide trust
  - data properly cited
  - clear expectations / agreements
  - recognition of data sharing effort

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## Questions

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