Data sharing and its impact on clinical research

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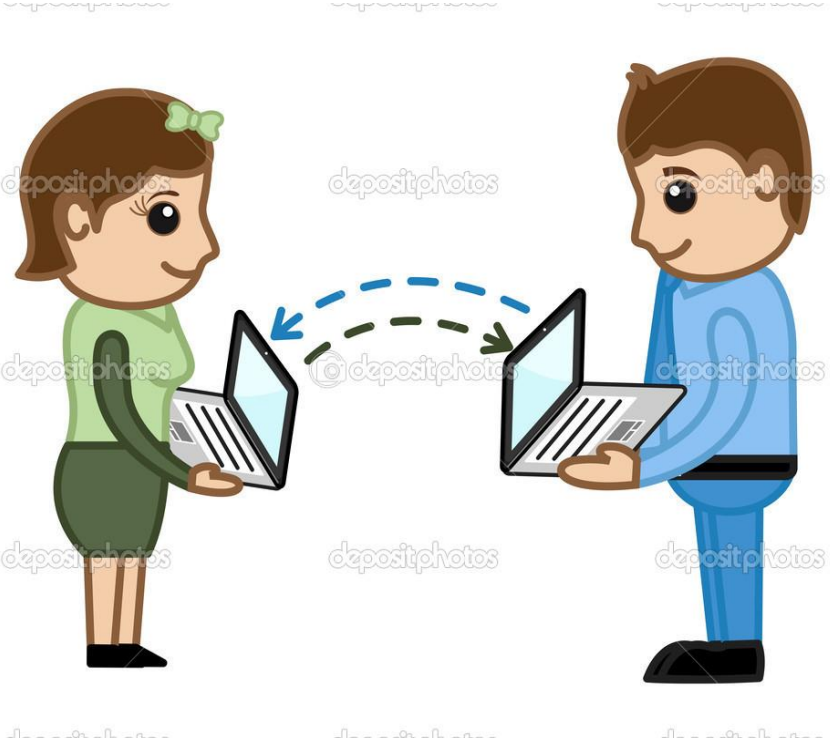
Verona 2016

Overview

- Data sharing polices
- Where is the industry today?
- EFSPI initiative
  - Overview on its activities
  - Current status
- Potential impact for statisticians
- Summary



Data sharing Policies

Data sharing policy
Old Times…

- A study can be a substantial investment of up to 0.5 BCHF. The outcome of such investment is a study database and a report (CSR)
- Companies sponsoring and performing a study felt that they are the owner of the database
- Sharing data with third parties for scientific research happened but was handled overall rather conservatively under company control
- Certainly, I was personally convinced that this is good way to operate

Data sharing policy
EMA discussions

- EMA announcement: EMA will enforce data sharing
- Data sharing initiatives initiated by companies and later enforced by EFPIA agreement
- Most important however: A paradigm shift happened:
  - Ownership remains with patients. Sponsoring studies does not generate ethically ownership of data
  - Justification: Altruistic objective of patients to maximize scientific use of their data whilst maintaining patient confidentiality
- This new paradigm enforces data sharing in an environment which maintains patient confidentiality
- This paradigm is not only for industry but for all parties running clinical trials

Data sharing policy
New initiatives

- EFPIA/Pharma principle: Data sharing already reality today!
- No uniform solution but many companies evaluate to join or joined SAS consortium
- Detailed rules may differ but key points are:
  - Decision to provide data depends on quality of scientific research question
  - Decision made by an independent group of experts
  - Future data but also past data shared to various extent
- Maintain patient confidentiality:
  - Providing all data increases risk for patient de-identification, especially when openly available to possibly merge with other data
  - Access to data therefore controlled by an environment with restricted ability to download data

Data sharing policy
Expected future impact…

- How valuable will be data transparency for the societies?
  - There will be additional publications with mixed quality and controversial outcome at least in the beginning
  - In such a situation it may be harder for physicians and patients for some time to make good treatment decisions
- What does this mean for industry?
  - Industry trials usually performed with high quality and rigor
    => This will be more visible in the future!
  - But it will generate more work, especially in the beginning
  - Attitude of control on messaging will change
- Scientific communities need to find and will find solutions to distinguish between useful and less useful research work but this will take time…
  - How can biostatistics support such a learning process best?

Where is the industry today?

"Rest assured that your information will not be shared. Now, where can I e-mail the receipt?"

Data Sharing Landscape

- The lifecycle of clinical data is changing ….
  - What your companies will be sharing
  - What you can access from other Data Holders
- Many signed up to the EFPIA/Pharma principles, but each company has their own approach

Data Sharing : Clinical Documentation

Who is sharing what?

”

Data Sharing : Clinical Documentation

And when?

Not sure:

Amgen

Janssen

Takeda

AstraZeneca

Patient Level Data (PLD) access : Common model +/– variations

- **Research proposal** written (analysis objectives, statistical analysis plan, researcher affiliations and conflicts of interest (if any), team includes a qualified statistician, CVs)
- Access approval by an sponsor independent **Review Panel**
- Patient identifiers (direct and indirect) removed from datasets
- Researchers sign a **Data Sharing Agreement** (legal agreement)
- Data (and associated documentation) shared
  - via a **secure website** (safe haven for the data)
  - directly
- Research required to be published – copy to sponsor for information

Different approaches to sharing PLD ….

- Cross-company collaboration
  - Bayer, BI, GSK, Lilly, Novartis, Roche, Sanofi, Takeda, UCB, ViiV
  - Advantages:
    - Easier for researchers to access data from multiple sources
    - More cost efficient
    - Tiered pricing
- Collaboration with academic group
  - J&J (Janssen) and Yale (YODA), BMS and Duke
- “Home grown” solutions
  - Online applications: Pfizer’s INSPIIRE portal
  - Email directly: AstraZeneca, Amgen, Merck, Shire, Novo Nordisk

PLD available from ?

- Which types of studies?
  - Phase 1
  - Phase 2 and 3 (“registrational”)
  - Phase 4, local affiliate studies
- When available?
  - After approval in US and EU (most)
  - After primary publication accepted (most)
  - >18m after sign-off of CSR (Merck, Roche)
- Some share prospective PLD (Jan 2014 onwards) only. Retrospective studies and terminated programs shared by
  - BI, Janssen, GSK, Lilly, Merck, Novo Nordisk, Pfizer, Roche, ViiV

EFSPI initiative on data sharing

EFSPI/PSI working group on data sharing

- Lead: Sally Hollis and Uli Burger
- Objectives:
  - To identify and prospectively prioritize statistical issues in data transparency
  - To co-ordinate statistical contributions across Europe to the data transparency debate
  - To disseminate relevant information on the topic across the statistical community
  - To develop and share a vision of the potential longer term impact of data transparency.

EFSPI/PSI working group on data sharing

- Five work streams
  - Providing continuous input in EMA/EFPIA (Christoph Gerlinger, Bayer, Chrissie Fletcher, Amgen)
  - Recommendations for minimal analysis practices (Sally Hollis, AstraZeneca, Chrissie Fletcher, Amgen)
  - Future impact on biostatistics (Nick Manamley , Amgen)
  - Minimal requirements for data sharing (Rebecca Sudlow , Roche, Janice Branson, Novartis)
  - Ensuring patient data confidentiality (Katherine Tucker, Roche)

EFSPI/PSI working group on data sharing

- Status:
  - All subgroups close to finalization
  - Four manuscript plus one editorial submitted on the topics of each work stream
  - All five will be published together this year
- Achievements:
  - We stay involved and are visible as statisticians from industry in this important topic
  - We add to information sharing between companies and academia and HAs
  - Represent a statistics view from industry without getting in company policies
  - Five publications is just a testimony

Current status of data sharing in industry

Metrics are published…

ClinicalStudy DataRequest.com

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Approved requests

A summary of the number of research proposals and enquiries that have been submitted for the period **7 May 2013** to **31 May 2014** is provided here.

The table below provides metrics for different parts of the process following submission of a research proposal (Requirements check, Independent Review Panel (IRP) review, Data Sharing Agreement, Data preparation and conduct of the research project). The "In process" rows provide the number of research proposals in this part of the process on 31 May 2014. The other rows for each part of the process provide the total number of research proposals that have achieved that outcome from 7 May 2013 to 31 May 2014.

Research proposals requesting access to patient level data (number of proposals)

Number of Research Proposals submitted		58
Requirements check	In process	4
	Withdrawn by the requestor	2
	Did not meet requirements (further details)	7
	Met requirements	45
IRP review	In process	6

Update on data sharing requests

Number of research proposals	126 (30.April 2015)	
Requirements check	Finished Ongoing Withdrawn by requestor Rejected	93 11 12 10
IRP review	Approved with or without conditions Rejected or advised to resubmit	85 8
Data sharing agreement	Ongoing Signed Not agreed Withdrawn by requestor	23 60 0 2

Ref: https://www.clinicalstudydatarequest.com/Metrics.aspx, March 2016

Update on data sharing requests

Number of research proposals	200 (29. February 2016)	
Requirements check	Finished Ongoing Withdrawn by requestor Rejected	145 22 22 11
IRP review	Approved with or without conditions Rejected or advised to resubmit	131 14
Data sharing agreement	Ongoing Signed Not agreed Withdrawn by requestor	37 92 0 2
Outcome	Data prep ongoing Withdrawn Data prep complete Published	4 1 87 1

Ref: https://www.clinicalstudydatarequest.com/Metrics.aspx, March 2016

Current status: Summary

- Data sharing is reality today
- Can be monitored on https://www.clinicalstudydatarequest.com/Metrics.aspx by everyone
- Uptake was smaller than a lot of colleagues anticipated but it is coming
- It is obviously a long process how to get first to data, then to the analysis and finally to the publication
- More will be known only in a couple of years when more data sharing processes have been finalized

Potential impact for biostatisticians

Potential impact for biostatisticians

- Data sharing activities in companies often driven and lead by biostatistics
- High integrity of biostatistics helped companies to handle transparency adequately to the outside world
  - Impact of biostatistics highlighted
- Still to be seen: Impact on companies when results of data sharing comes back. Not all companies are prepared for that yet

Potential impact

Some opportunities:

- More internal and cross-industry sharing
- Increased credibility
- More interactions with academia
- Job security
- Interesting new role for some statisticians
- Biostatistics influence could grow further in marketed products

Some threats:

- More work to assess resulting publications
- Biostatisticians not prepared for investigation of resulting publications. Different profile of statisticians needed
- Biostatistics departments not resourced for additional activities
- Quality of resulting research could be poor with confusing impact on societies

Summary

- Data sharing is a reality today
- After the initial activities from EMA industry took it on, managed a paradigm change and implemented data sharing
- Take up of data sharing not as steep as people thought before but it is coming
- Data sharing has the potential to change the role of biostatisticians in industry in future

Thank you! &