Anonymization and Sharing of Individual Patient Data from Clinical Studies

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Inspired by patients.
Driven by science.

Agenda

TransCelerate BIOPHARMA INC.
- Overview
- Clinical data transparency workstream

UCB Approach to Data Sharing
- External researcher requests
- Collaborations

AETIONOMY

Final Considerations
- Policy 70 Part 1
- Policy 70 Part 2
- The Future of Sharing
- Lessons Learned

TransCelerate BIOPHARMA INC.

ACCELERATING THE DEVELOPMENT OF NEW MEDICINES

TransCelerate Today
19+ Organizations and 14 Active Initiatives

TransCelerate Strategic Priorities

Improve the Site Investigator Experience

Improve the Site Investigator Experience as they work with Sponsors to execute Clinical Trials.

Facilitate Information Sharing

Facilitate the sharing of clinical trial related information as appropriate amongst industry stakeholders, focused on exchanges of information that would enable the industry to capture efficiencies.

Enable Harmonization of Clinical Trial Processes

Enable the industry to move toward greater harmonization of clinical trial processes to facilitate the advancement of technologies and processes within the broader clinical ecosystem.

Enhance Sponsor Efficiencies

Through collaboration, streamline redundant sponsor activities to reduce investigator and Patient burden, while refocusing resources to drive and deliver innovative drugs to patients faster and safely.

Improve the Patient Experience

Improve the Patient Experience by enabling earlier access to well run clinical studies.

Why Protect Privacy?

- **It is the right thing to do for patients that participate in clinical trials**

Legal requirements such as:

- **HIPAA Privacy Rule**
- **Regulation (EC) No. 45/2001** of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data.
- **Directive 95/46/EC** of the European Parliament and of the Council of October 24, 1995 on the protection of individuals with regards to the processing of personal data and on the free movement of such data.

Ethically important:

- **Declaration of Helsinki**: It is the duty of physicians who are involved in medical research to protect the life, health, dignity, integrity, right to self-determination, privacy, and confidentiality of personal information of research subjects. The responsibility for the protection of research subjects must always rest with the physician or other health care professionals and never with the research subjects, even though they have given consent.

Individual Patient Data – Privacy Protection

- The best way for researchers to test hypotheses is with the use of individual patient level data
- In order to share this data and protect patients' privacy, the data must be de-identified or anonymized
- TransCelerate has released the "**Data De-identification and Anonymization of Individual Patient Data in Clinical Studies – A Model Approach**" which describes methods that can be utilized to meet the needs of protecting study participants' privacy while retaining usable data
  - TransCelerate has developed the model approach to assist sponsors in implementing operational methods to protect against disclosure of patients' personally identifiable information, but the guidance provided by TransCelerate should not be construed as legal advice.
- Two methods are described in the approach:
  - Enhanced Safe Harbor Method
  - Expert Determination Method

Individual Patient Data – Enhanced Safe Harbor

This method incorporates the list of identifiers from HIPAA and Safe Harbor

Determine all of the identifiers in the data

Remove some data that cannot be modified including:

- Free-Text Verbatim Fields
- Sensitive data (illicit drug use or “risky behavior”)
- Rare events (small numerators in a population)
- Date of Birth
- Names of Research Participants
- Contact Information

Recode other pieces of information:

- Patient IDs – change to new set of patient IDs not associated with study documentation
- Event Dates – either use a date offset method or relative day method

Individual Patient Data – Expert Determination

- Expert Determination involves “A person with appropriate knowledge of and experience with generally accepted statistical and scientific principles and methods for rending information not individually identifiable:
  - Applying such principles and methods, will help reduce the possibility that the information could be used, alone or in combination with other reasonably available information, by an anticipated recipient to identify an individual who is a subject of the information; and
  - Documents the methods and results of the analysis that justify such determination”

- The TransCelerate model approach recommends using the expert determination method with datasets on rare diseases or small populations that are provided for additional research purposes

Individual Patient Data – Access Requirements

- Regardless of the approach utilized for ensuring privacy of patients when providing individual patient data, some additional protections should be utilized to protect privacy including:
  - Access should be provided to known individuals
  - Access should be provided after receiving a signed data sharing agreement that includes a promise to not try to re-identify patients
  - Access should be provided in a controlled access environment
  - Consideration should be given to how long data will be made available to researchers

- Additionally, for good science, the process of data access requests should include:
  - Publication plan for the results of the analyses
  - Review of research proposal for scientific validity

UCB Approach to Data Sharing

Data Sharing - Examples

- Information UCB proactively shares:
  - Lay summaries on UCB.com
  - CSR synopses on UCB.com
  - Registry reporting on ClinicalTrials.gov, EudraCT, etc.

- Requested data can fall under several different pathways:
  - External requests - via CSDR
  - External collaborations - eg IMI
  - Requests for (new) analyses - ie summary tables or graphs
  - In support of grants
  - Regulatory Agency Interactions - FOIA & EMA Policy 43, and EMA Policy 70

The UCB Data Sharing Process covers each of these categories

Data Sharing with External Researchers

According to UCB Governance, research proposals are managed through CSDR

- UCB stakeholders review proposals for feasibility, IP, CCI etc
- Proposals are then reviewed for scientific merit by an Independent Review Panel

For approved requests:

- Patient-level-datasets are anonymized
- Study documents are redacted: CSR (incl protocol, blank CRF), program specs and aCRF

Deliverables are loaded into a SAS Multi-Sponsor-Environment (MSE)

- The Researcher must sign a Data Sharing Agreement
- Researchers are granted access to the password-protected SAS MSE for an initial 12-month period
- UCB reviews outputs before they can be downloaded; UCB datasets & docs cannot be downloaded
- UCB has courtesy review of the Researcher’s proposed manuscript prior to its submission

Data Sharing with External Researchers

ClinicalStudy DataRequest.com

Data Sharing within Collaborations

UCB collaborates with Academia and other Sponsor Companies

As part of collaborations, UCB can provide anonymized patient-level data & redacted study docs

- UCB will only deliver data to suitably secure locations
  - The SAS MSE can be used for collaborations but has limited analysis packages available
  - If the SAS MSE is not deemed suitable for a collaboration, collaborators are to identify an alternative solution that meets required security criteria
- Ideally, anonymization rules are adapted to standardize across all Sponsor companies
  - An **IMI project** to Analyze and structure different types of data and apply this knowledge to construct a new classification of patient groups based on the underlying causes of disease (AETIONOMY)
  - **TransCelerate Placebo Standard of Care** – To maximize the value of clinical data collected historically to improve study design, interpret safety signals contextually and improve subject recruitment, by secondary use of pooled control data

An Example Collaboration:

AETIONOMY - Partners

Fraunhofer SCAI

EBC European Brain Council

uni.lu UNIVERSITÄT LUXEMBURG

NEURORAD CENTRU DE RADIOLOGIE

Leibniz Universität Hannover

ICM Institut du Cerveau et de la Moelle épinière

UCL

PHARMACOIDEA

Erasmus MC

ucb

universitäts klinikum bonn

IDIBAPS Institut D'Investigacions Biomèdiques August Pi i Sunyer

NOVARTIS

Alzheimer Europe

SANOFI

Boehringer Ingelheim

AETIONOMY - Sponsor logistics

Concept summary

- Each of the 4 sponsors will submit data to be used in the MSE
  - Further, 3 sponsors will submit data to be used outside of the MSE

Legal considerations

- Each company will have an agreement in place for the data they plan to share
  - Agreements multiply per the number of institutions getting the data
- Sharing in multiple spaces (MSE, TranSmart, etc.) will multiply the complexity
  - More secure environments require fewer rules in the agreement

Documents can be shared separately by company

AETIONOMY - Sponsor logistics

Technology

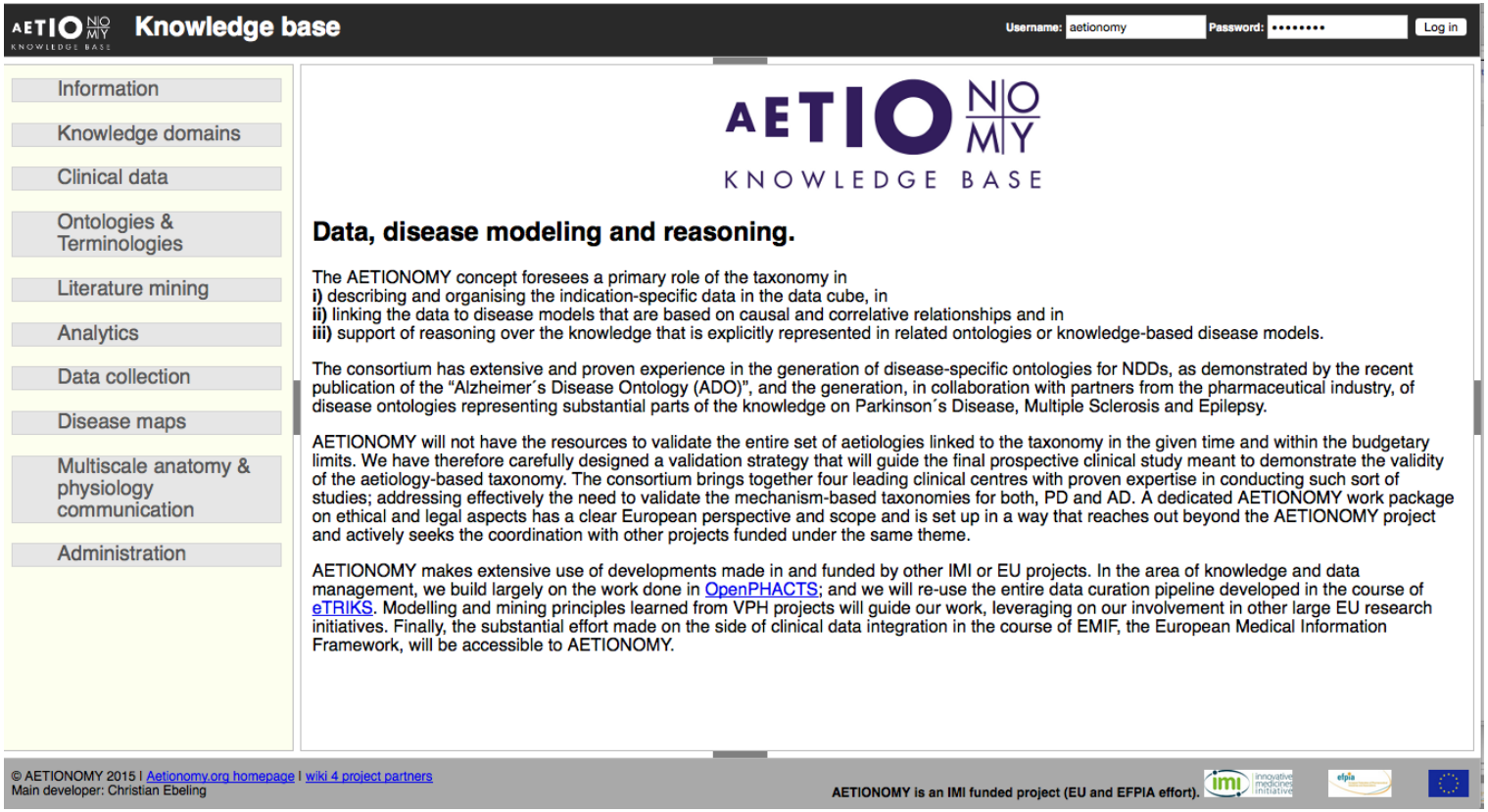
- MSE can be used to keep the data secure but only allows the use of a few programs
  - Restriction of possible programs may limit possible analyses
    - Other secure areas may be needed to facilitate other analytical programs
  - Less “secure” options require more data manipulation to keep them safe
- Constant consideration of security/utility balance

Data to be shared

- Data should ideally have similar rules across sponsors so that the data can easily be used
- Depending on where the data will be shared, different rules will be applied

AETIONOMY - Knowledge Base

Freely available online http://aetionomy.scai.fraunhofer.de/



Final Considerations

Current and Future Considerations

New Regulations

- **Policy 0070 – Final Guidance (for Part 1) just released on March 2nd!**
  - Part 1: Post redacted documents publicly – anonymized documents preferred
  - Part 2: Post anonymized documents and anonymized patient level datasets publicly
    - Part 2 is not yet active

- **EU Clinical Trial Regulation 536/2014 requires submission of a summary of results and a lay person summary 1 year after the end of the trial in the EU**

Current and Future Considerations

New Technology

- **How to ‘future-proof’ as new data and new technology become available?**
  - Wearable devices, phone app integration, new analysis programs, working environments

Collaborations and Beyond

- **Unification of sponsor data in collaborations**
- **Synchronization of information in datasets and documents**
- **How do we get the most informative data while still keeping patient privacy?**
  - K-Anonymity
  - Blurring
  - Other techniques?

Questions?

Thanks!