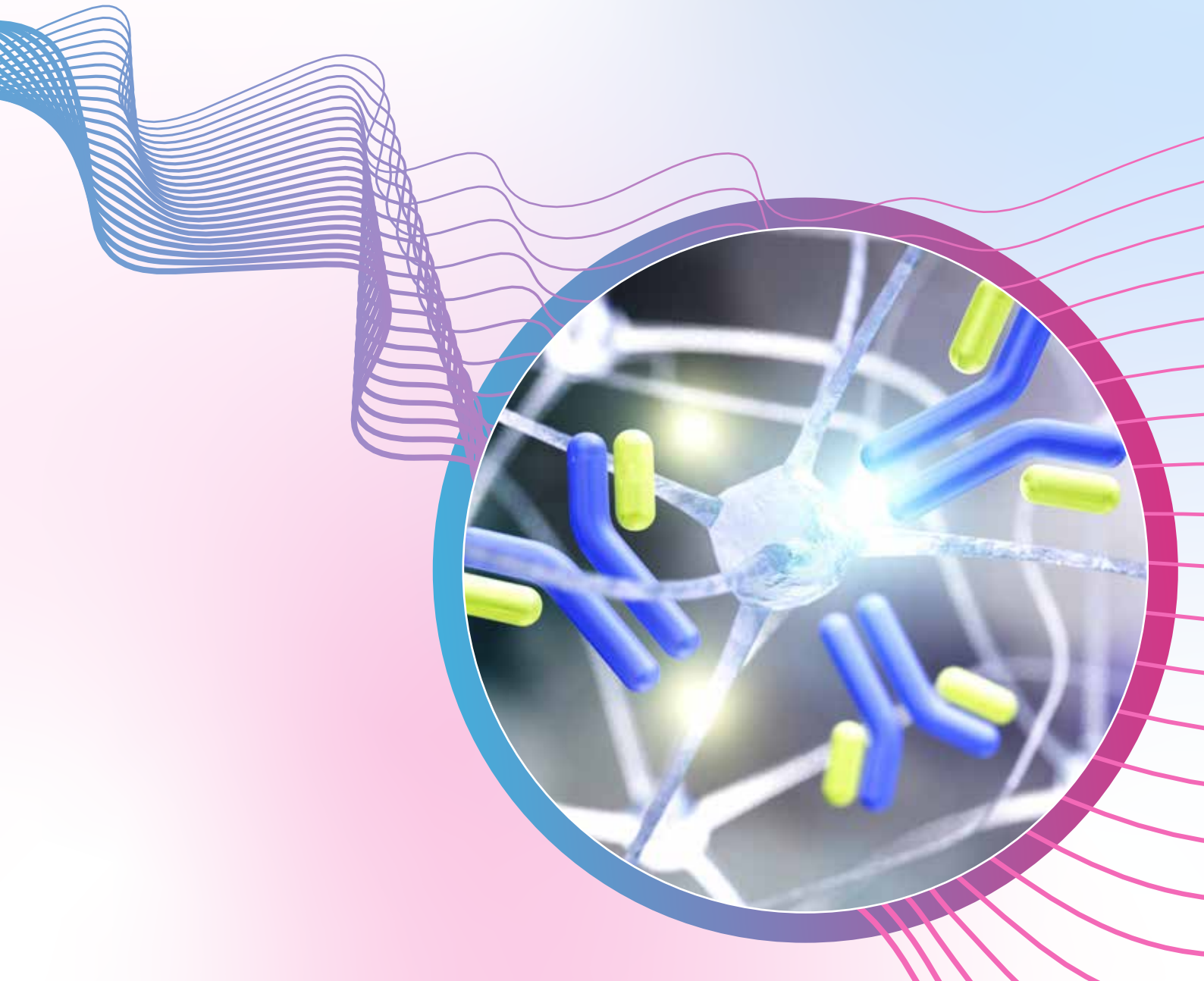
excelra

Screening adverse-events-related data

CASE STUDY



Purpose

- To update an adverse events database with recent, relevant, and reliable drug targets using Excelra's manual curation services.
- To use the curated content to iteratively improve the sensitivity of the client's text-mining pipeline.

Client

Industry
Publishing house

Location
Europe

Sector
Agnostic

Specification

The client owns a proprietary tool for preclinical toxicity, clinical, and pharmacovigilance studies. It required the addition of accurate, up-to-date, and validated content on drugs and targets to its adverse events database. The update of the database needed to be facilitated by Excelra's data-mining, classification, and excerption services. The validated content would then be used to improve the client's text-mining pipeline.

Input

- List relevant entities, tags, and accepted associations.
- Output the client's product to Excel sheet entries.

Workflow

Excelra's expert biocurators ran an in-depth, manual validation on the extracted PMIDs for adverse events. The validated PMIDs were then used to train the client's text-mining pipeline and fine-tune its output.

To obtain the desired results, our team exhaustively screened approximately 1000 articles a day. The literature included: case reports of drug-induced adverse events; potential association between a drug (or drug class) and an adverse event; review of safety data, drug, and drug class; preclinical toxicology results with a new drug candidate or a known drug; knockdown/knockout studies; and articles correlating a disease with a genomic finding.

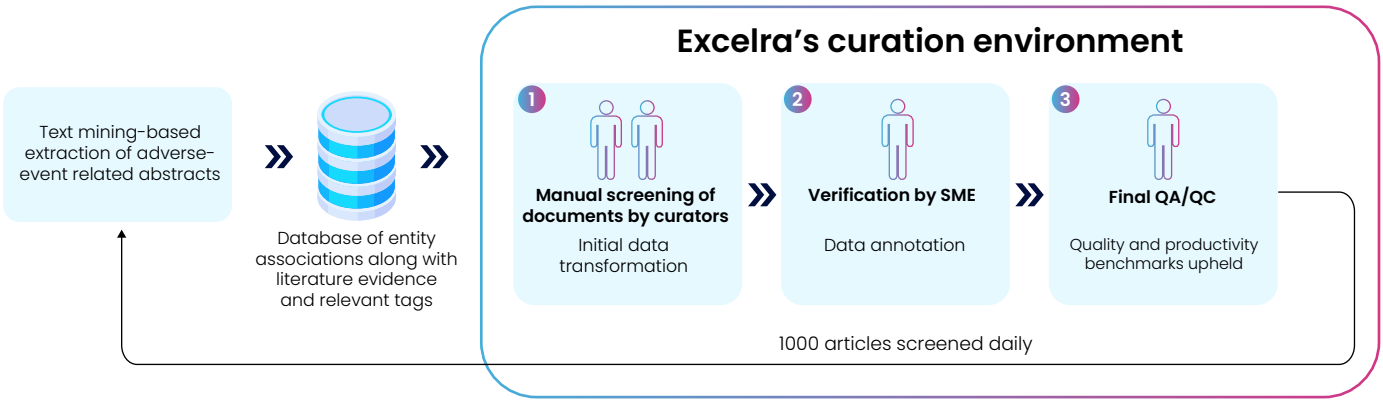


Figure 1 : Excelra's data-curation pipeline

The multi-stage data-curation process (fig. 1) consisted of the following steps:

1. **Manual screening of documents:** This was done by curators who performed the initial data transformation as per the lexicon built for the client's requirement. They ensured that individual productivity and quality targets met the company standards.
2. **Data verification by SME**: Our subject matter experts reviewed the curated data and annotated it further as per the quality and productivity benchmarks.
3. **Final QA/QC**: Another round of QA/QC was completed to ensure that the client only received the highest quality data that best served their scientific objective.

Our contribution

Manual curation and validation of drug-target data is an arduous process. The validation provided to the client as a result of our verification and annotation exercise helped ensure the correct data was entered into their production environment. Our curation services helped the client successfully update the database twice a week with validated content. The additional entries on drugs and targets also helped to train the client's existing text-mining pipeline, substantially improving its efficiency.

Our service portfolio

Data	**Data curation** Filter out the noise, focus your attention **Clinical data** Analysis-ready data for informed clinical decision-making **Semantic data** Refine your decisions, find your value
Insights	**Bioinformatics** Illuminate the path to faster discoveries **Data science** Unlock the power of data **Visualization** Pictures paint a thousand words
R&D technology	**Product design and development** Unlock your potential with data-driven design and development **Cloud enablement** Optimize your output on the cloud **Data engineering** Mitigate risks, protect your data, and rationalize your portfolio and processes.

Where data means more

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