

Synthetic Data, Common Data Models and Federation: Holy Trinity or unholy mess?

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The healthcare sector's adoption of data and digital technologies is hindered by stringent data privacy regulations. Synthetic data, common data models (CDMs) and federated data ecosystems present promising solutions to these challenges. This workshop explored the potential of synthetic data to revolutionise health research, education and innovation (REI).

By discussing applications, benefits, and ethical implications, the workshop addressed the role of synthetic data in enhancing data interoperability, scalability, and privacy preservation within healthcare REI systems. It also examined the relationship between synthetic data and CDMs, such as the Observational Medical Outcomes Partnership (OMOP) CDM, and the potential of federated data ecosystems to enable collaborative analysis while maintaining data ownership and control.

The workshop delved into specific use cases to assess the feasibility, benefits, and limitations of synthetic data in various healthcare contexts. Through case studies and discussions, participants explored and developed best practices for effective utilisation. Ultimately, the workshop aimed to explore whether the combination of synthetic data, CDMs, and federation could facilitate privacy-preserving data sharing, seamless data integration, and scalable analysis across distributed data sources. By addressing privacy, interoperability, and scalability challenges, these approaches can drive innovation and insights within the healthcare sector.



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