

SLLS Conference 2026: Pre-Conference Workshop 1

Opportunities and Barriers of Linking Smart Data Within Longitudinal Population Studies

Presenter

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Duration

Half Day

About

Smart data—also called digital footprint or digital behavioural data—offers new opportunities for longitudinal population studies (LPS) by providing detailed, real world information on people’s everyday behaviours. Sources such as retail purchasing data, app derived information, mobility traces, and wearable device outputs can complement traditional cohort measures by capturing behaviours that are difficult to observe through surveys or clinical assessments. These linked datasets could support more timely, policy relevant insights into health, wellbeing and social behaviour.

A previous workshop, held at the Digital Footprints Conference in 2024, brought together LPS teams, methodologists and data ethics specialists to explore this emerging area. The discussion informed the published paper Linking digital footprint data into longitudinal population studies (IJPDS, 2025), which proposed a four stage framework for responsible linkage:

1. understanding participant expectations and acceptability;
2. establishing feasible approaches to collection and linkage;
3. assessing data quality and fitness for purpose;
4. ensuring secure, ethical access through trusted research environments and, where appropriate, synthetic data

The paper highlighted challenges such as reliance on commercial platforms, uncertainties around legal and governance routes, and issues like missingness and measurement error in smart data sources.

This half day workshop will follow on from this work by focusing on how LPS teams can begin to apply the framework in practice, even at small scale. The session will introduce the topic for those less familiar with smart data, outline emerging use cases, and discuss practical considerations around governance, data quality checks, participant communication, and infrastructure requirements. Short examples from ongoing research will illustrate what is currently possible and where gaps remain.

Participants will work together to identify opportunities, concerns and priorities within their own study contexts, and the workshop will conclude with a shared discussion on next steps for collaborative pilot activity across the LPS community.

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