

International Journal of Population Data Science

Journal Website: www.ijpds.org



Mood Music: Combining Spotify data with Ecological Momentary Assessment to explore mental health

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Introduction & Background

Given the growing popularity of loyalty cards across the UK and beyond, it is unsurprising that this data is increasingly being harnessed to research population health. This review synthesises the existing literature to explore three key questions: (1) the types of loyalty card data analysed, (2) the health outcomes investigated, and (3) the advantages and limitations of using such data in research.

Objectives & Approach

We conducted a systematic search across four databases: MEDLINE, EMBASE, PsycINFO, and Scopus. Studies were included if they used digital loyalty card data for health-related research. Key data extracted included population and study characteristics, types of schemes and data analysed, health outcomes investigated, advantages and limitations of loyalty card data, as well as emerging research directions, ethical considerations, and stakeholder involvement.

Relevance to Digital Footprints

Our research focuses on studies using real-world transaction data from loyalty cards.

Results

We identified 43 studies using various national loyalty schemes (mostly UK-, Finland-, and USA-based). Most studies focused on grocery products, categorising items by specific criteria (e.g., salt content, nutritional value) or product groups (e.g., fruits and vegetables, omega-3-rich foods). The health outcomes predominantly focused on diet or nutrition, with a number of intervention studies in these areas. Sociodemographic inequalities emerged as a recurring theme. Some studies assessed population-level responses to government policies (e.g., taxes, campaigns), others explored medication use, and some validated the utility of loyalty card data.

Loyalty card data offers significant advantages, including large-scale, objective insights, ease of data collection, and the

ability to track trends at the individual, household, or population level. However, limitations include challenges in linking data to nutritional information, missing demographic or contextual details, and overrepresentation of certain groups (e.g., women, older adults).

Conclusions & Implications

Our review identifies key opportunities and implications for advancing research, policy, and practice. These include a call for expanded data integration (e.g., across retailers and health records), novel directions in dietary research (such as longitudinal study linkages), and improved analytic methodologies (e.g., natural language processing, probabilistic product matching), to advance the value of loyalty card data for health research.

Keywords

Scoping review, loyalty cards, transaction data, shopping, health outcomes



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