

Quality in care homes: How wearable devices and social network analysis might help

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Abstract

Social network analysis can support quality improvement in care homes but traditional approaches to social network analysis are not always feasible in care homes. Recalling contacts and movements in a home is difficult for residents and staff and documentary and other sources of individual contacts can be unreliable. Bluetooth enabled wearable devices are a potential means of generating reliable, trustworthy, social network data in care home communities. In this paper, we explore the empirical, theoretical and real-world potential and difficulties in using Bluetooth enabled wearables with residents and staff in care homes for quality improvement. We demonstrate, for the first time, that a relatively simple system built around the Internet of Things, Bluetooth enabled wearables for residents and staff and passive location devices (the CONTACT intervention) can capture social networks and data in homes, enabling social network analysis, measures, statistics and visualisations. Unexpected variations in social network measures and patterns are surfaced, alongside "uncomfortable" information concerning staff time spent with residents. We show how technology might also help identify those most in need of social contact in a home. The possibilities of technology-enabled social network analysis must be balanced against the implementation-related challenges associated with introducing innovations in complex social systems such as care homes. Behavioural challenges notwithstanding, we argue that armed with social network information, care home staff could better tailor, plan and evaluate the effects of quality improvement with the sub-communities that make up a care home community.

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