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Implementing Sensor-Based Physical Activity Measurement in the Existing Infrastructure for the National Health Surveillance in The Netherlands

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Purpose: Several Dutch studies have examined the possibility to implement sensor-based measurement of physical activity (PA) as part of the existing national health surveillance infrastructure. These pilots have provided valuable knowledge, but reaching a representative sample of the general population, which is crucial for informing policy, remains a challenge. We investigated the differences between respondents at different stages of the data collection protocol in order to assess barriers and facilitators to participation and improve recruitment strategies for future large-scale surveillance efforts.
Methods: For this pilot, we used the existing infrastructure from the GGD Health Monitor (GEMON), which is a probability sample from the Dutch population and contains the Short QUestionnaire to ASsess Health-enhancing physical activity (SQUASH). At the end of the GEMON, we asked respondents whether they would be willing to wear an accelerometer (*activPAL*) for seven consecutive full days. From those willing, we selected a subsample based on ethnicity, age, and income to wear the accelerometer. The primary goal was to compare key characteristics (e.g. demographics, health behaviours including PA, socioeconomic factors) of respondents to non-respondents in each stage of the data collection protocol. We performed univariate and multivariable regression analyses.
Results: Of 125,248 invited persons, 13,727 responded to the questionnaire. Of those, 6,655 persons agreed to wear the accelerometer. We selected 1,459 persons, of which 580 adults between 18–65 years old actually wore the accelerometer. For our primary outcome, we are currently running statistical analyses, and are able to present the results at the HEPA conference.
Conclusion: We expect interesting insights that will inform our advise to the Ministry of Health, Welfare and Sport of The Netherlands how to best implement sensor-based physical activity measurement in the existing national health surveillance infrastructure.
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