**The use of self-monitoring applications for self-management by healthcare consumers**

**ABSTRACT**

**Background:** From the perspective of the increasing number of chronically ill people, the increasing shortage of healthcare professionals and the rising healthcare costs, self-management is becoming more important. Currently, there are self-monitoring applications that facilitate self-management, but it is still unclear which factors, on the level healthcare consumers, influence use and whether the trend in use of self-monitoring applications over the time differs in subgroups of healthcare consumers.

**Methods:** Data from 3,921 Dutch healthcare consumers was used for this cross-sectionalstudy. Secondary analyses of existing data where performed. The relationship between patient- and disease-specific factors and use/willingness to use self-monitoring applications for self-management was assed. Univariate logistic regression analyses where preformed to select potential predictors for the multivariate logistic regression analyses. Trend analyses where preformed to asses change in use/willingness to use over time.

**Results:** lower age, higher level of education and higher income are positively related to using a technological device to track physical activity (SMA-1) and willingness to measure and maintain health values using the internet or with an application (SMA-2). In addition to that, willingness to use a device that regularly measures health values and sends them to a healthcare provider (SMA-3) is also associated with males, presence of a chronic condition, ethnicity, occupation and working in the healthcare sector. SMA-1 and SMA-3 showed a positive trend in use/ willingness to use over time. For SMA-2 willingness tot use stays more or less the same.

**Conclusion:** This study provides the first evidence for factors, on the level healthcare consumers, that are related to use/willingness to use self-monitoring application. Lower educated people need more counselling in order to preform optimal self-monitoring behavior. The percentage use/willingness to use SMA-1 and SMA-3 has increased over time while the gap in use/willingness to use between higher and lower educated healthcare consumers remains similar.

**Clinical Relevance :** This study contributes to the implementation of self-monitoring applications in the Dutch healthcare system by tailoring to specific groups of healthcare consumers.