Barriers to Electronic Health Records Uptake

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Project Background

In the Chancellor of the Exchequer's autumn review in late 2011, the government mandated all NHS General Practices (GP) to provide their patients with access to their electronic health records (EHR) by 2015. As of January 2020, 99.5% of 6696 GPs in England enabled the functionality of allowing patients to book and cancel appointments, order prescriptions and view their detailed coded records online (NHS Digital, 2020). Despite all the years of policy commitments and financial support, as of January 2020, only under 30% of 60 million registered patients in England access their electronic health records and make use of the online healthcare system (NHS Digital, 2020). Therefore, this project aims to identify what barriers prevent widespread uptake of electronic health records.

Data and Methods

There are two approaches to the project objective: The main approach is data analysis, whereas the alternative approach is human-behavioural analysis. The data analysis involves the use of publicly available datasets from the 'National Health Service', 'Office for National Statistics' and 'Ministry of Housing, Communities & Local Government'. Regression analysis based upon 'Leaps-and-Bounds' algorithm is carried out to understand what factors are correlated with patients' low EHR uptake. On the other hand, the behavioural analysis involves an extensive literature review on EHR and a cost-effectiveness analysis (CEA) of potential solutions to low EHR uptake. Since there is no literature on the costs/effects of potential solutions, the inputs into the CEA come from three different teams within the sponsoring client. Hence, the findings of the data analysis are complemented by the outcomes of the behavioural analysis.

Key Findings

The results show that patients aged 45-49 most actively make use of EHR out of all the other age groups. This is contrary to the least active age-group, which is age 0- 19. Likewise, female patients aged 55+ tend to utilise EHR more actively than male patients aged 55+. Moreover, amongst other ethnic and religious groups, black Africans and Sikhs are least likely to make use of EHR. In particular, higher uptake of EHR is evident in the patient-groups who are affluent, live further away from GPs or suffer from chronic health conditions. Smoking habits also appear to be related to EHR uptake. Further, the majority of the patients are not aware of the existence of EHR. More personalised methods such as SMS can efficiently and economically raise public awareness. In addition, most physicians and patients are concerned about the security of personal information on EHR, which is one of the major barriers to EHR uptake. The adoption of more advanced security measures such as encryption onto EHR is a possible solution. Lastly, with sufficient government funding and planning, open application programming interfaces (APIs) have the potential to resolve poor EHR interoperability and improve workload-management for physicians.

Value of the Research

Appreciating this EHR issue is of great importance to the sponsoring client as it will allow them to overcome the weaknesses that they have overlooked and further develop the strengths of their current healthcare system. Consequently, it will help advance the care that patients need to the next level and support the sponsoring client's business development of new functionality and technology that would facilitate the efficient delivery of care.