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Predicting the willingness of people living with HIV to use a patient portal using a random forest model

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Background

- Patient portals allow people living with HIV (PLWH) to access their personal health information, among other functions
- This study aims to configure a patient portal for HIV care in Montreal, Canada and Paris, France
- Objective: to identify the factors related to PLWH willingness to use of a patient

Methods

- PLWH were recruited using convenience sampling at the Chronic Viral Illness Service of McGill University Health Centre (Montreal, Canada) and Saint-Antoine Hospital (Paris, France)
- A cross-sectional survey was conducted between September 2019 and February 2020
- A random forest analysis using 500 classification trees was used

Results

A total of 114 PLWH participated

74% were men, 24% were women, and 2% identified as other

Based on the random forest model, variable cut-offs were derived to maximize the accuracy of predicting the willingness to use a patient portal

For PLWH 31 years and older, 56% were willing to use a patient portal, including 74 men (52% willing) and 32 women (73% willing)

PLWH with an income of \$60 000 or higher were most willing to use a patient portal (70%)

Willingness of using portal [patients, n=114]

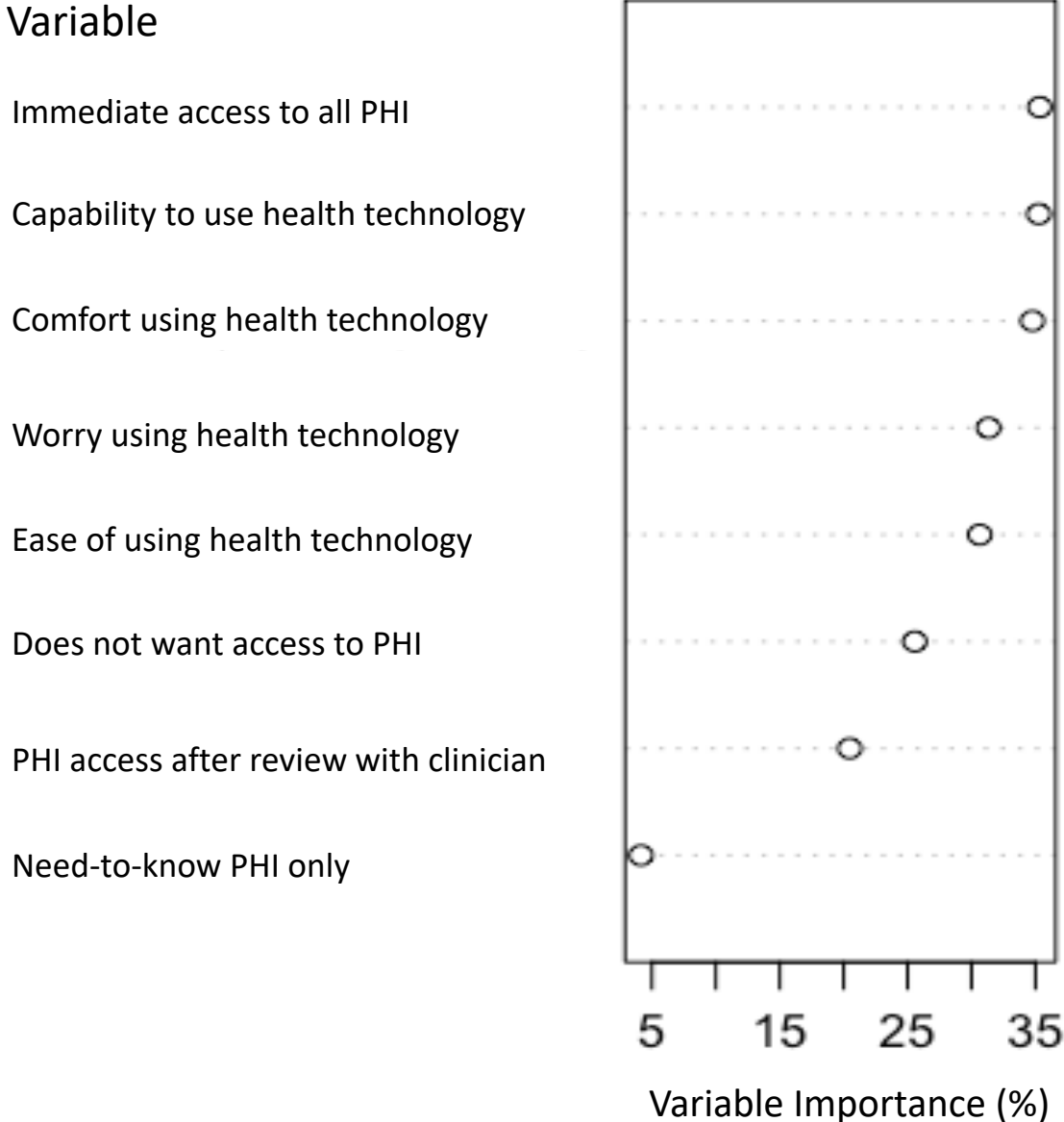


Results Immediate access to personal health information (PHI), capability to use health technology, and comfort using technology were also important factors

Of PLWH capable of using health technology, 79% were willing to use a patient portal

PLWH without experience using health technology (86%), were more willing to use a portal compared to those with experience (68%)

Willingness of using portal [patients, n=114]



Discussion and Conclusion

This study engages stakeholders to predict the variables to determine willingness to use a patient portal

By doing so, this study can:

- 1) refine implementation of a patient portal into HIV care
- 2) promote early portal uptake for specific PLWH groups, including those preferring immediate access to health information, or individuals with the capability to use health technology, and those without health technology experience



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