

Learn to Quit (LTQ) - A mobile application for quitting smoking tailored to patients with severe mental illness

Value Proposition

The tobacco smoking rate among adults diagnosed with serious mental illness (SMI), such as schizophrenia spectrum, bipolar, and recurring depressive disorders, is 3 to 4 times the rate of the general population. People with serious mental illness consume about half of the cigarettes sold in the United States. These high smoking rates have serious health consequences for this population, including a higher incidence of cancer and 25 years of reduced life expectancy. Lower cost and higher reach smoking cessation interventions are needed to address this problem. Digital technology may help address the treatment needs of people with SMI. The digital therapeutics global market was \$1.2 million in 2018 and is anticipated to be about \$8.6 million by the year 2025. Digital interventions can be standardized to provide evidence-based content, accessed from many locations at any time, tailored to specific groups, and implemented at a lower cost than traditional psychosocial interventions. Furthermore, two recent studies indicate that 72%-81% of individuals with SMI have a mobile device, suggesting that wide dissemination of smartphone-based interventions is possible. Digital interventions for the general population exist, including the QuitGuide app developed by the National Cancer Institute. However, there is a great need to develop tailored smoking cessation interventions that can be widely disseminated in the severe mental illness population.

Technology

Duke researchers have developed a mobile application called Learn to Quit (LTQ) to teach patients with severe



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Meet the Inventors

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Publication(s)

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External Link(s)

• [From the lab of Dr. Roger Vilardaga](#)
• [Recently awarded an NIH grant titled](#)
[u201cRandomized Controlled Trial of a Novel](#)
[Smoking Cessation Application Tailored to](#)
[Individuals with Severe Mental Illnessu201d](#)

mental illness the skills to quit smoking. LTQ incorporates the following design features to address usability barriers among people with SMI: (a) simple screens, large buttons, and a predictable app structure; (b) gamification of smoking cessation content; (c) use of behavioral principles to enhance retention and comprehension of content; (d) emphasis in visual engagement and storytelling; and (e) access to technical coaching. A phase 1b study intended to refine core elements of the studied intervention in a real-world setting has been completed with strong evidence of LTQ's usability, feasibility, and safety. A larger randomized controlled trial is being prepared.

Other Applications

This technology is also being developed to treat the general public.

Advantages

- A low-cost treatment strategy that reduces smoking in patients with severe mental illness
- Larger number of mobile app interactions, longer durations of app use, and higher usability scores reported from severe mental illness patients compared to the QuitGuide app
- Recently awarded an NIH grant to complete a larger randomized controlled trial

