

Creating a Tobacco Cessation Program for People with Disabilities: LIFT to E-LIFT

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Introduction

In 1964, the Surgeon General released the first report linking smoking to the increased risk of lung and laryngeal cancer, as well as chronic bronchitis [1]. Over the years research has shown smoking not only causes lung and laryngeal cancer, but a variety of cancers and an increased risk of stroke, respiratory diseases, diabetes and a decrease in fertility and immune function [2]. Despite the serious health consequences, health warnings on cigarettes packages, and the banning of cigarette advertisements on television, 42.1 million U.S. adults currently smoke, and approximately 480,000 U.S. deaths are attributed to cigarette smoking each year [1-3]. While the overall rate of cigarette use in the US continues to decline, 25.4 percent of people with disabilities (PWD) smoke compared to 17.3 percent of the able-bodied population [4].

Along with higher rates of smoking, research also shows that PWD are more likely to use multiple tobacco products, increasing their risk of further health consequences [5]. This pattern of use is particularly alarming for PWD given tobacco use can exacerbate an individual's disability [5]. Research shows cessation programs tailored to a specific population and community-based participatory research (CPBR) designed interventions both show higher success rates than conventionally created cessation programs [6,7]. As a result, a tobacco cessation program was designed by and for PWD using CBPR. The current program, Living Independent from Tobacco (LIFT), is administered in a written format and designed for in-person, group meetings and specifically focuses on cognitive, physical, mental and intellectual/developmental disabilities [8]. Preliminary results

evaluating the LIFT program showed a 22 percent abstinence of tobacco at 6 months, which is higher than the standard quit rate [9]. It should be noted that the authors relied on the World Health Organization's (WHO) definition of disability. The WHO defines disability as a "catch-all" term that covers impairments, activity limitations, and participation restrictions [10]. WHO specifically states that disabilities are not just defined as a health problem but a complex interaction between and individuals body and the society that they live in [10]. As a result, participant's different impairments and limitations were recruited to include individuals with spinal cord injury, traumatic brain injury, intellectual disability, mental health conditions, and chronic illnesses.

Many tobacco cessation programs offer multiple formats which include in person as well as online and/or phone/tablet applications. However, online programs and phone apps have not been designed specifically for PWD who are trying to quit tobacco. Although studies have shown that general online and phone app tobacco cessation programs show mixed results on their effectiveness, an online and phone app for tobacco cessation for PWD would eliminate the barriers of accessibility and transportation for PWD [11-13]. An online and phone app cessation program would also allow for further tailoring for PWD than an in-person format. These results document the urgent need to adapt the LIFT program to an online and phone app format (E-LIFT) in order to increase the accessibility of tobacco cessation resources to PWD. Table 1, shows potential adaptations of LIFT curriculum from converting the LIFT into E-LIFT resulting in increased accessibility to PWD.

Accessibility Barriers Of The Lift Curriculum	E-LIFT Curriculum Enhancements
Program only available at specific Centers for independent living that have resources to support tobacco cessation.	Program is accessible from anywhere in the United States with internet access
Sessions are currently only available if consumers attend.	Sessions can be repeated easily online and can be increased due to greater accessibility
Currently the group is limited to eight people.	Individuals can work through program individual or choose to connect with others for online support and social networking opportunities
Transportation issues still create a barrier to participation due to para transit, doctor appointments, and changes in health.	Eliminates accessibility challenge of transportation. Participants can access the materials online and overcome transportation barriers that often contribute to miss or being late to appointments.
Currently disability resources are limited to the manual provided to participants.	Include online links to multiple disability-related resources
Currently there are not any resources to educate personal care attendants (PCA's)	Online videos that PWD can present to PCA are to educate them on harmful effects of tobacco use.

The treatment regimen can still be challenging for people with cognitive impairments.	The app can incorporate a cognitive-behavioural approach for people with cognitive disabilities as well text messaging.
Currently, the LIFT program does not offer alternative formats for hearing and visually impaired.	Closed Captioning on videos and ability to increase font size.
Currently a structured program with a specific quit deadline.	Reduces the barrier of a structured tobacco cessation program and allows for more flexibility as individuals can work at their own pace and revisit previous sessions via online modalities.
Healthy alternatives (eating, exercise) are limited to what is available within the treatment manual.	Links to other apps that incorporate healthy eating activities
Lack of engagement for homework assignments, limiting participation.	Online engaging homework assignments can be completed on a phone or tablet.
Participants currently cannot evaluate themselves outside of the treatment sessions.	Online self-assessments and video Carbon Monoxide measures to gauge and evaluate outcomes.

Table 1: How E-LIFT would enhance LIFT curriculum.

The E-LIFT will provide a framework for success for PWD as it will provide the ability to take control of their health behaviours with a curriculum containing research-based practices that are specifically tailored for PWD [13]. It will also provide a climate that accepts PWD for who they are, as well as a safe place to foster the behaviour change of tobacco cessation [13]. E-LIFT will also instill a sense of community, as they interact with other individuals, and a sense of connection, as they learn skills that will prevent relapse in the future [13]. These 5 C's (control, curriculum, climate, community and connection) have been shown to engage individuals and prevent dropout [14]. Along with these components, the E-LIFT will mirror the LIFT curriculum in its CBPR approach, ensuring the program is designed by and for PWD.

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