

Improving Immunization Rates Among Seniors Using the CANImmunize Digital Application

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Summary

- Although immunizations are important for reducing negative health outcomes related to pneumococcal disease, influenza, and herpes zoster (shingles), vaccination rates for older adults are well below the Public Health Agency of Canada's target rates (e.g., 80 percent target rate for pneumococcal immunizations in adults over 65 versus 42 percent actual rate).
- A lack of awareness about which vaccines are needed and when, as well as confusion around the role of healthcare providers in recommending vaccinations, contribute to low vaccination rates among older adults.
- While monitoring and tracking vaccinations through a digital reminder system has been shown to improve immunization rates for children, there has been less focus from researchers on tracking and increasing the immunization rates of older adults.
- This program implemented an existing Canadian digital immunization platform, known as CANImmunize, to help improve immunization rates for older adults in assisted, independent, and retirement living facilities.
 - The platform allowed older adults and their caregivers to access immunization records, view recommended vaccination schedules, and receive vaccination reminders on a secure website adapted for older adult use.
 - The platform also shared the immunization status of residents with care staff, who could prompt them to receive overdue vaccines.
- The primary goal of the project was to evaluate changes in older adults' pneumococcal immunization rates. The project also assessed changes in influenza, shingles, and COVID-19 immunization rates.
- The platform was implemented at three assisted/independent living facilities in Fredericton. Ten older adults (7 women and 3 men, aged 63 to 86 years) were recruited to participate. Data was also collected from a staff member at one of the assisted living facilities.

HSPF Focus Area

Using supportive technologies to foster healthy aging at home and in our communities

Project Start & End Date

May 1, 2020 – March 31, 2024

Organization/Agency

Centre for Innovation and Research in Aging (CIRA), CANImmunize, Bruyère Research Institute

Location

Fredericton

Principal Investigator(s)

[Justine Estey](#) and [Dr. Kumanan Wilson](#)

Indicator	Impact / Outcome / Result	Quote
Safety	<ul style="list-style-type: none"> • Surveys indicated that 4 of 10 participants had received a pneumococcal immunization before the program. There was no change in pneumococcal immunizations during the program. <ul style="list-style-type: none"> • During interviews, some participants noted that they were not aware that they should receive a pneumococcal immunization over the age of 65. • Most participants stayed up to date with their influenza and COVID-19 immunizations over the course of the study. One participant received a shingles vaccine during the study (from a baseline rate of 1 of 10 participants). <ul style="list-style-type: none"> • Several participants reported during interviews that they would receive the shingles vaccine if it was free. 	<p>While the majority of participants indicated that they preferred paper vaccine records over digital records, 5 of the 7 participants who completed the final survey would still recommend CANImmunize for other people to use. One participant explained: <i>“Trying to remember a piece of paper somewhere, and not being able to find if you had a shot done, but I can check my online CANImmunize account now.”</i></p>

Indicator	Impact / Outcome / Result
Caregiver Burden	<p data-bbox="277 149 1455 212"><i>One assisted living facility staff member was interviewed. Although insightful, the single case limits generalizability of the outcomes. These results should be viewed with caution.</i></p> <ul style="list-style-type: none"> <li data-bbox="277 233 1513 485"> <ul style="list-style-type: none"> <li data-bbox="318 233 1513 352">• The staff member expressed concern about the additional time required to manage resident immunization records through a digital platform. <ul style="list-style-type: none"> <li data-bbox="375 296 1513 352">○ Since staffing constraints were common in the staff member's context, they felt that staff were unable to take on additional tasks. <li data-bbox="375 359 1513 422">○ The program did not reduce the participant's workload. Managing residents' immunization records was not a job responsibility before the program. <li data-bbox="375 428 1513 485">○ Immunizations were not a commonly requested care need in the staff member's personal experience and facility context.

Methods and Comparison

The project assessed CANImmunize data and surveyed older adult participants before and after the implementation of the digital platform to measure changes in immunization rates. Interviews were also conducted with older adult participants and one assisted living facility staff member to capture their perceptions and experiences with CANImmunize.

Conclusions and Lessons Learned

- Project outcomes provide insight into the immunization rates of older adults in a small sample, but generalizability of the findings is limited due to the project's small sample size.
- More research is still needed on the immunization rates of older adults.
- The COVID-19 pandemic significantly impacted the project.
 - Recruitment was impacted by COVID-19 fatigue and vaccine hesitance.
 - Much of the immunization data collected relates to COVID-19, rather than pneumococcal, immunization habits and experiences.
- Older adults' access to and relationship with technology impacted their engagement with the digital immunization platform, with some participants lacking regular access to internet-enabled technology and other participants wary of spam email communications (e.g., when they received digital reminders from the project team).
- Many of the older adults in the sample still desired paper immunization records instead of, or in addition to, digital records.

Recommendations

- Decision-makers at assisted living facilities should consider implementing policies for communal access to technology, such as shared computers for resident use.
- Experiment with different methods to engage older adults through technology (e.g., include the researcher's full name and credentials in email communications and send text messages in addition to email reminders).
- Include the option for users to print their digital records in future digital immunization platforms.

Next Steps

The program has not secured or applied for additional funding, as the web-based digital platform used in the study has been discontinued for public use. Participants were encouraged to use CANImmunize's free public mobile application after the study.

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