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CMAJ headlines:

- Paramedic-run health care clinic in low-income apartments reduced number of 911 calls, improved health of patients — *Randomized controlled trial***
- No link between HPV vaccination and risk of autoimmune disorders: *CMAJ* study**

■ VULNERABLE POPULATIONS

Paramedic-run health care sessions in low-income apartments reduced number of 911 calls, improved health of patients

Randomized controlled trial

A community-based health promotion program developed by McMaster University that was offered by paramedics in low-income apartment buildings significantly reduced the number of 911 calls and improved quality of life for seniors, found a randomized controlled trial published in *CMAJ (Canadian Medical Association Journal)*.

Few studies exist on the impact of the new and rapidly evolving field of community paramedicine, which offers health care by paramedics outside of emergency visits.

Chronic diseases such as heart disease, diabetes and hypertension often cause older adults living at home to seek emergency care, leading to visits from paramedics. Seniors living in subsidized housing have higher death rates and poorer quality of life because of health issues.

The study looked at the impact of the Community Paramedicine at Clinic (CP@clinic), a weekly drop-in health promotion and prevention program for older adults run by trained paramedics in subsidized-housing buildings in Hamilton, Ontario. It compared buildings that received CP@clinic for one year, in addition to usual health care and wellness programs, with buildings that only received usual health care and nonparamedic wellness programs (control group).

CP@clinic offers blood pressure, diabetes and falls assessments; identification of high-risk patients and referral to health care; health education and more. What sets this program apart from other paramedicine initiatives is the ongoing reports back to family doctors, who can reconnect with their patient.

In the buildings offering CP@clinic, there were significantly fewer emergency ambulance calls (3.11 calls per 100 units/month) compared with buildings that did not

offer the clinics (3.99 calls 100 units/month), which translates to 22% fewer calls. The clinics picked up undiagnosed hypertension in 36 participants (52.5%) and elevated blood pressure in 75 people (54.7%) with previously diagnosed hypertension. After attending CP@clinic, mean blood pressure for participants with hypertension dropped significantly.

“The combination of risk factor improvements among participants were significant enough to show changes in participants’ diabetes risk category, which implies that CP@clinic is having an impact in reducing participants’ risk of developing diabetes,” says Dr. Gina Agarwal, Department of Family Medicine, McMaster University, Hamilton, Ontario. “As well, several health-related quality-of-life areas improved in those who attended, such as ability to perform daily tasks and personal care, suggesting that these overall improvements may have led to the reduction in calls in the intervention group compared with the controls.”

Building on its previous work, McMaster University ran the successful CP@clinic program with the Hamilton Paramedic Service in 2014 and 2015 in seniors’ social housing buildings. The program is still being run by the Hamilton Paramedic Service in the city.

“We estimate that an average of 10–11 calls per 100 apartment units could be avoided each year with programs like this,” says Dr. Agarwal. “We think that the difference in ambulance calls in the short term was due to improved health care access, linkage to health care resources and knowledge about when to access these services.”

Expanding the CP@clinic program into other subsidized housing buildings across Canada could improve the health of older adults and increase efficiencies in the health care system.

“The CP@clinic can reduce the burden on emergency services — saving resources for other important areas of health care,” she says.

“Because paramedics initiate care for people in their own homes and communities, these health care professionals are well placed to recognize the unmet needs of the community-dwelling individuals they serve and to act proactively to support efforts to stem unnecessary use of emergency medical services,” writes Michael Nolan, County of Renfrew, Ontario, with coauthors in a related commentary.

“The trial further highlights the potential value of deploying a low-cost community paramedicine intervention in a high-risk social-housing setting, because it showed a significant difference in the number of ambulance calls between participants who received the intervention (i.e., attending the CP@clinic) and controls,” write the authors.

The research study was funded by the Hamilton Academic Health Sciences Organization and the Canadian Institutes of Health Research (CIHR).

“Evaluation of a community paramedicine health promotion and lifestyle risk assessment program for older adults who live in social housing: a cluster randomized trial” is published May 28, 2018.

MEDIA NOTE: Please use the following public links after the embargo lift:

Research: <http://www.cmaj.ca/lookup/doi/10.1503/cmaj.180642>

Commentary: <http://www.cmaj.ca/lookup/doi/10.1503/cmaj.170740>

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No link between HPV vaccination and risk of autoimmune disorders: study in CMAJ

A new study in *CMAJ (Canadian Medical Association Journal)* found no increased risk of autoimmune disorders in girls who received quadrivalent human papillomavirus (HPV4) vaccination, adding to the body of evidence for the safety of the vaccine.

Human papillomavirus is the most common sexually transmitted disease worldwide, affecting 50%–75% of sexually active people. The HPV4 vaccine is effective at protecting against 90% of the strains that cause cervical and anal cancer. Despite studies showing safety of the vaccine, there have been concerns about a possible link to autoimmune disorders.

“Despite demonstrated effectiveness in real-world settings, concerns continue to persist regarding the safety of the HPV4 vaccine. In light of these concerns, we wanted to study the HPV4 vaccination since it was being offered free to all grade 8 girls in Ontario through school-based clinics,” says Dr. Jeffrey Kwong, a study author and a senior scientist at the Institute for Clinical Evaluative Sciences (ICES) and at Public Health Ontario.

To determine whether the HPV4 vaccination triggered autoimmune conditions such as lupus, rheumatoid arthritis, type 1 diabetes and multiple sclerosis, researchers looked at data on 290 939 girls aged 12 to 17 years in Ontario who were eligible for vaccination between 2007 and 2013. Of the total 180 819 girls who received the HPV4 (Gardasil and Merck) vaccination in school-based clinics, there were 681 diagnosed cases of autoimmune disorders between one week and two months after vaccination. This rate is consistent with the general rate of diagnosed cases in this age group.

“These findings add to the body of evidence on the safety of the HPV4 vaccine and should reassure parents and health care providers,” says Dr. Linda Lévesque, Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Ontario.

The study was funded by the Ontario Ministry of Health and Long-Term Care, Drug Innovation Fund and the Canadian Institutes of Health Research (CIHR).

“Quadrivalent human papillomavirus vaccination in girls and the risk of autoimmune disorders: the Ontario Grade 8 HPV Vaccine Cohort Study” is published May 28, 2018.

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