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Enabling Aging in Place Promising Practices: CP@clinic

CP@clinic©

CP@home©

Health Canada Santé Canada

McMaster University

Family Medicine

The following promising practice was prepared following interviews with the McMaster Community Paramedicine (MCP) research team during the summer of 2023. Healthcare Excellence Canada (HEC) would like to formally acknowledge the generosity of the MCP team in sharing their skills, knowledge, expertise and experiences to form this promising practice.

About Healthcare Excellence Canada

Healthcare Excellence Canada (HEC) works with partners to spread innovation, build capability and catalyze policy change so that everyone in Canada has safe and high-quality healthcare. Through collaborations with patients, essential care partners and people working in healthcare, we turn proven innovations into lasting improvements in all dimensions of healthcare excellence.

HEC focuses on improving care of older adults, bringing care closer to home and supporting pandemic recovery and resilience – with quality and safety embedded across all our efforts. We are committed to fostering inclusive, culturally safe and equitable care through engagement with different groups, including patients and essential care partners, First Nations, Métis and Inuit, healthcare workers and more.

Launched in 2021, HEC brings together the Canadian Patient Safety Institute and the Canadian Foundation for Healthcare Improvement. We are an independent, not-for-profit organization funded primarily by Health Canada. The views expressed herein do not necessarily represent the views of Health Canada.

150 Kent Street, Suite 200
Ottawa, Ontario, K1P 0E4, Canada
1-866-421-6933 | info@hec-esc.ca

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Model description

The Community Paramedicine at Clinic (CP@clinic) program is an innovative, evidence-based chronic disease prevention, management and health promotion program operated by local community paramedics in community social housing with high concentrations of older adults.

The CP@clinic program was created by Dr. Gina Agarwal, who leads the McMaster Community Paramedicine (MCP) Research Team at McMaster University's Department of Family Medicine. It was developed to address a disproportionately high number of 911 calls and the health needs of low-income older adults living in social housing. It is implemented in local communities by local community paramedic services through a partnership with the MCP research team.

The objectives of the CP@clinic program are to:

- improve older adults' health and quality of life and reduce their social isolation
- empower older adults to take control of their own health
- better connect older adults with primary care and community resources
- reduce the economic burden of avoidable 911 calls by older adults

The core elements of the CP@clinic program are offered through two delivery models:

1. CP@clinic is a drop-in service available in communal areas of social housing buildings.
2. CP@home offers scheduled home visits for older adults when social housing buildings are not large enough and if there is no appropriate communal space for a drop-in clinic.

During a visit with an older adult, following written informed consent, paramedics:

- conduct several evidence-based health assessments
- set health goals with participants
- provide participants with tailored health education
- engage participants in healthy lifestyle discussions
- help participants navigate the healthcare system
- provide referral to primary care and community resources

Paramedics use the CP@clinic program database to administer validated primary care health assessments. The smart database has built-in algorithms with decision support that analyze the information encoded, provide assessment results and provide recommendations for actions based on the assessment and locally available resources. The referrals made by the paramedics are tailored to the resources and services available in their local community.

Enabling aging in place principles

Person-centredness is a core philosophy of HEC's Enabling Aging in Place program. All the principles must be implemented in a person-centred way and reflect a deep understanding of community assets and needs of older adults and their care partners.

Access to specialized healthcare services	Access to social and community support	Access to system navigation support
Programs improve access to services for older adults and caregivers, living in community to promote all forms of health including chronic disease management, and more accessible, safe and secure living environments.	Programs are built around community assets and partners to improve social connections and reduce loneliness and social isolation of older adults and caregivers living in community, complementary to specialized healthcare supports.	Programs optimize the use of health and community assets and improve access to supportive services through personalized navigation and accompaniment to support older adults.

Adaptive and responsive

Programs are tailored to the specific, individualized needs and preferences of older adults and caregivers living in community. Programs adapt and respond to emerging needs as they evolve.

Equitable

Programs integrate a health equity lens, with a focus on the structural and social determinants of health, that support older adults aging in place in community.

High value

Programs optimize resources used on health and social services relative to outcomes that matter to older adults and care partners over the course of their care journey.

The following reflects how the CP@clinic program fulfils HEC's Enabling Aging in Place program principles:

Access to specialized healthcare services – The CP@clinic program completes health assessments and connects older adults with necessary health services and community resources to enable older adults to manage health conditions and promote overall health.

Access to social and community support – The CP@clinic program reduces social isolation by offering services in communal settings, providing opportunities to connect and interact with peers and increasing self-efficacy and resiliency through education and health-management strategies.

Access to system navigation support – The CP@clinic program supports system navigation by providing information, direction and referrals to community resources and health services. If appropriate, older adults are supported with direct referral services.

Adaptive and responsive – The CP@home program is an adaptation available to older adults who cannot attend a CP@clinic session in communal spaces or where communal spaces are unavailable within the housing unit. The support offered by paramedics is responsive to individual health-assessment results and the available evidence and resources in their community.

Equitable – The CP@clinic program is provided for low-income older adults living in community housing. It provides enhanced access to preventative health services that are proportionate to the level of need among older adults living in social housing.

High value – An economic evaluation estimated that for every $1.00 spent on the CP@clinic program, the emergency care system sees $2.00 in benefits while demonstrating improved quality of life for older adults living in social housing. This means that emergency care resources, which are limited, can be reallocated and older adults are able to access the care they need.

Funding

Health Canada provides funding for the research team to sustain and scale the CP@clinic program. The Ontario Ministry of Long-Term Care (MLTC) has also provided funds to paramedic services to care for people on LTC wait lists. Paramedic services implement the CP@clinic programs as part of their community paramedicine programming. Other funding sources (for example, local municipalities), support CP@clinic implementation for other target populations, such as vulnerable sectors of the community, refugees and immigrants, and those precariously housed.

Implementation

Assessing needs and assets: Planning for initiation of the CP@clinic program starts with a stakeholder meeting with the MCP research team, paramedic service and local housing provider to identify suitable social housing buildings. The next steps include setting up the CP@clinic program database with the paramedic service and enrolling paramedics in a CP@clinic Paramedic Training Program. Paramedics who complete this training receive a CP@clinic micro-credential from McMaster University. When a paramedic service adopts the program, it is supported by the MCP research team, which works with the paramedic service to set up the program, identify local services and referral processes, and adapt the program to meet the community's needs. Paramedic services are also given quarterly impact reports on program metrics.

CP@clinic program team: The CP@clinic program is implemented by community paramedics, paramedics and community paramedicine supervisors who have completed McMaster University's micro-credential CP@clinic Paramedic Training Program. The number of paramedics involved in a local CP@clinic program depends on the size of the paramedic service. Generally, one to two paramedics are available at each CP@clinic session.

Target population: The target population for CP@clinic and CP@home programs are generally low-income older adults who live in social housing or other community settings. There are no other eligibility or exclusion criteria.

Enrollment: The CP@clinic program is advertised through individual paramedic services. Advertisements, such as posters and brochures, are placed in high-traffic and visible areas in social housing buildings. Tenant engagement staff are made aware of the programs. They are encouraged to refer older adults living in the buildings to the programs.

Older adults voluntarily enroll in one of the programs and consent to have their health information recorded and potentially shared with family physicians or referral agencies. Participants attend the CP@clinic sessions weekly, bi-weekly or monthly (determined by the capacity of paramedic services). For the CP@home program, the paramedics schedule appointments with participants according to their needs and availability instead of offering drop-in sessions.

Participants can also be referred to the CP@clinic program via other front-line paramedic services, family doctors, community agencies or hospital discharge planners.

Partnerships: The CP@clinic Program has **formal partnerships** at this time with 28 paramedic services/authorities across Ontario and British Columbia, including:

- Brant/Brantford Paramedic Service
- British Columbia Emergency Health Services
- Chatham-Kent Emergency Medical Services
- Cochrane District Social Services Board Paramedics
- Region of Durham Paramedic Service
- Essex-Windsor Emergency Medical Services
- Frontenac Paramedic Services
- City of Greater Sudbury Paramedic Services
- Grey Country Paramedic Services
- Guelph-Wellington Paramedic Service
- Halton Region Paramedic Services
- Hamilton Paramedic Services
- Hastings-Quinte Paramedic Services
- Kenora District Services Board, Northwest EMS
- Middlesex London Paramedic Service
- Naotkamegwanning Emergency Medical Service
- Niagara Emergency Health Services
- Norfolk County Paramedic Services
- Oxford County Paramedic Services
- Peel Regional Paramedic Services
- Peterborough County-City Paramedics
- United Counties of Prescott and Russell Emergency Services
- Sault-Saint Marie Paramedic Services
- County of Simcoe Health and Emergency Service
- District of Timiskaming Social Services Administration Board
- Weeneebayko Area Health Authority Paramedic Services
- York Region Paramedic Services

The paramedic services implementing CP@clinic programs have partnerships with various health and community organizations to support participant referrals.

The CP@clinic program team would like to expand their partnership network to include other paramedic services. The expansion was initiated through Health Canada funding but was interrupted due to the COVID-19 pandemic.

Adaptations over time: Since 2016, the CP@clinic program has remained relatively stable and has become the gold standard of community paramedicine wellness clinics. During the COVID-19 pandemic, the CP@clinic program transitioned to virtual appointments where paramedics could conduct virtual risk assessments, and participants could request an in-person appointment if needed.

The CP@clinic program has evolved to include additional health-risk assessment tools and updated paramedic training. Program materials for participants have also been refined.

Evaluation and Impact[1]

9-11 calls: Research demonstrated that the CP@clinic program contributed to a direct reduction in 911 calls. On average, the number of monthly ambulance calls was lowered by 19–25 percent in buildings where CP@clinic programs were held compared to control buildings without the program. Recent statistics show:

- 19 percent fewer calls in the CP@clinic multi-site randomized control trials[1]
- 22 percent fewer calls in the three intervention buildings in Hamilton, ON[2]
- 25 percent fewer calls in the CP@clinic pilot study[3]

Emergency department visits: Information on the CP@clinic program's role in reducing unnecessary emergency department visits is forthcoming. The initial findings from a randomized controlled trial of 13 social housing buildings suggest a cost benefit to implementing the CP@clinic program. It is estimated that for every $1.00 spent on the CP@clinic program, the emergency care system sees $2.00 in benefits. [4]

Chronic disease risk: CP@clinic program participation has been shown to decrease blood pressure among participants with high blood pressure, a key risk factor for cardiovascular disease. In randomized control trials, 40.5 percent of participants with high blood pressure at their first CP@clinic session had their blood pressure normalized after attending several CP@clinic sessions.[5] Participants had an average decrease of 5.0 mmHg systolic and 4.8 mmHg diastolic after the 2nd and 4th sessions. This decrease was sustained across 10 or more visits.[6]

Quality of life: Research demonstrated that the CP@clinic program has improved participants' quality-adjusted life years (QALY).[7] QALY measures how well medical treatments lengthen or improve patients' lives. Improvements included self-care (for example, washing and dressing themselves), engagement in activities and improvements in pain and discomfort. These increases led to improved coping skills and increased resiliency among participants.

Program staff experience: A forthcoming paper will highlight that paramedics found their role in the CP@clinic program fulfilling because they can use their skills to help vulnerable populations in ways other than responding to emergency calls. Paramedics feel positive about helping older adults improve their health, access local resources and feel more comfortable calling 911 for appropriate emergency services.

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[1] The evaluation and impact information shared reflects information available at the time of writing this promising practice. HEC would like to acknowledge that evaluation activities are an ongoing process for many promising practices and the type of data collected is influenced by program goals, the length of time the program has been implemented and the level of resources available to support evaluation.

Participant experience: Participants spoke highly of the program in an ethnographic study of a social housing building that implemented the CP@clinic program.[8] The following major themes emerged from the study:

- **CP@clinics are filling a health care need** – The program allowed participants to ask about a range of healthcare concerns. Participants also mentioned that the program helped mitigate the frustration of dealing with wait times associated with seeing a primary care physician. Additionally, they felt the interactions were personable.
- **CP@clinics increased participants' access to health knowledge and** resources – Participants were equipped with the tools and knowledge to monitor their current and future health concerns. They felt comfortable seeking advice or clarification on short- and long-term health issues. This was true for participants with chronic illnesses and participants who self-described as "healthy."
- **CP@clinics provided increased social connectedness among older adults living in the buildings** – Participation in sessions connected older adults to each other as well as social events in the building. There was increased social interaction among older adults as they would connect with one another before the clinic opened or while waiting in line for blood pressure checks, for example. Older adults would also be made aware of other social events happening in the building and indicated they were more inclined to attend if they knew some of the other residents.
- **CP@clinics reduced feelings of social isolation and** loneliness – Participants described that the program went beyond simply addressing health concerns by allowing other connections to happen without the burden of mobility or monetary constraints. Socialization is important for older adults, and the CP@clinic program facilitated encounters between older adults in a safe and familiar setting.

Keys to success

Flexibility: A key factor in the success of the CP@clinic program is its flexibility. Since it is administered by paramedics familiar with the population's needs and community resources, they can leverage local resources to better meet the unique needs of participants.

Standardized components: The CP@clinic program provides standardized components that have been confirmed using evidence-based, high-quality data. The training and standardized materials guide paramedics in their decision-making processes.

Monitoring impact: A comprehensive database of participant information has been gathered (with participant consent) through the validated health risk assessment tools. This data is used

to assess the program's impact on key indicators such as 911 calls, hospital admissions and LTC admissions.

Key challenges

Stable funding: The main challenge faced by the CP@clinic program is the capacity of participating paramedic services. The provincial and municipal funding bodies did not fund community paramedicine during the randomized control trial. The paramedic service relied on modified-duty paramedics to administer the program, which was not sustainable. Recognizing this, the CP@clinic Team and participating paramedic services began advocating for dedicated funding from provincial and municipal governments. The call for additional funding was supported by the program's flexibility and the research evidence that showcased the CP@clinic program's efficacy.

References

[1] Agarwal G, et al. Reducing 9-1-1 emergency medical service calls by implementing a community paramedicine program for vulnerable older adults in public housing in Canada: A multi-site cluster randomized controlled trial. *Prehospital Emergency Care*. 2019;23(5): 718-729.

[2] Agarwal G, et al. Evaluation of a Community Paramedicine Health Promotion and Lifestyle Risk Assessment Program in Seniors Living in Social Housing Buildings: A Cluster Randomized Trial. *CMAJ*. 2018;190(21): E638-E647.

[3] Agarwal G, et al. Effectiveness of a community paramedic-led health assessment and education initiative in a seniors' residence building: the Community Health Assessment Program through Emergency Medical Services (CHAP-EMS). *BMC Emergency Medicine*. 2017;17(8): 1-8.

[4] Agarwal G, et. al. Cost-effectiveness analysis of a community paramedicine programme for low-income seniors living in subsidised housing: the community paramedicine at clinic programme (CP@clinic) *BMJ Open*. 2020;10.

[5] Agarwal G, et al. Reducing 9-1-1 emergency medical service calls by implementing a community paramedicine program for vulnerable older adults in public housing in Canada: A multi-site cluster randomized controlled trial. *Prehospital Emergency Care*. 2019;23(5): 718-729.

[6] Agarwal G, et al. Evaluation of a Community Paramedicine Health Promotion and Lifestyle Risk Assessment Program in Seniors Living in Social Housing Buildings: A Cluster Randomized Trial. 2018;*CMAJ*. 190(21): E638-E647.

[7] Agarwal G, et al. Reducing 9-1-1 emergency medical service calls by implementing a community paramedicine program for vulnerable older adults in public housing in Canada: A multi-site cluster randomized controlled trial. *Prehospital Emergency Care*. 2019;23(5): 718-729.

[8] Brydges M, Agarwal G, Denton M. The CHAP-EMS health promotion program: a qualitative study on participants' views of the role of paramedics. *BMC Health Service Research*. 2016;16(435).