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International Roundtable on Community Paramedicine ircp

Community Paramedicine:
A Systematic Review of Program Descriptions and Training - The Evolving Role of Pre-Hospital Health Care

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CP@clinic

Michael G. DeGroote SCHOOL OF MEDICINE

What is Community Paramedicine?

- **CP** is a relatively new role that extends traditional paramedic care often with additional training
- **CP** programs may lead to more effective use of paramedic resources
- There is a growing interest in and expansion of **CP** across Canada, Australia, the United States, and the United Kingdom

- **CP** programs can be tailored to community / population needs:
  - Disease management
  - Home assessments
  - Referral to community resources

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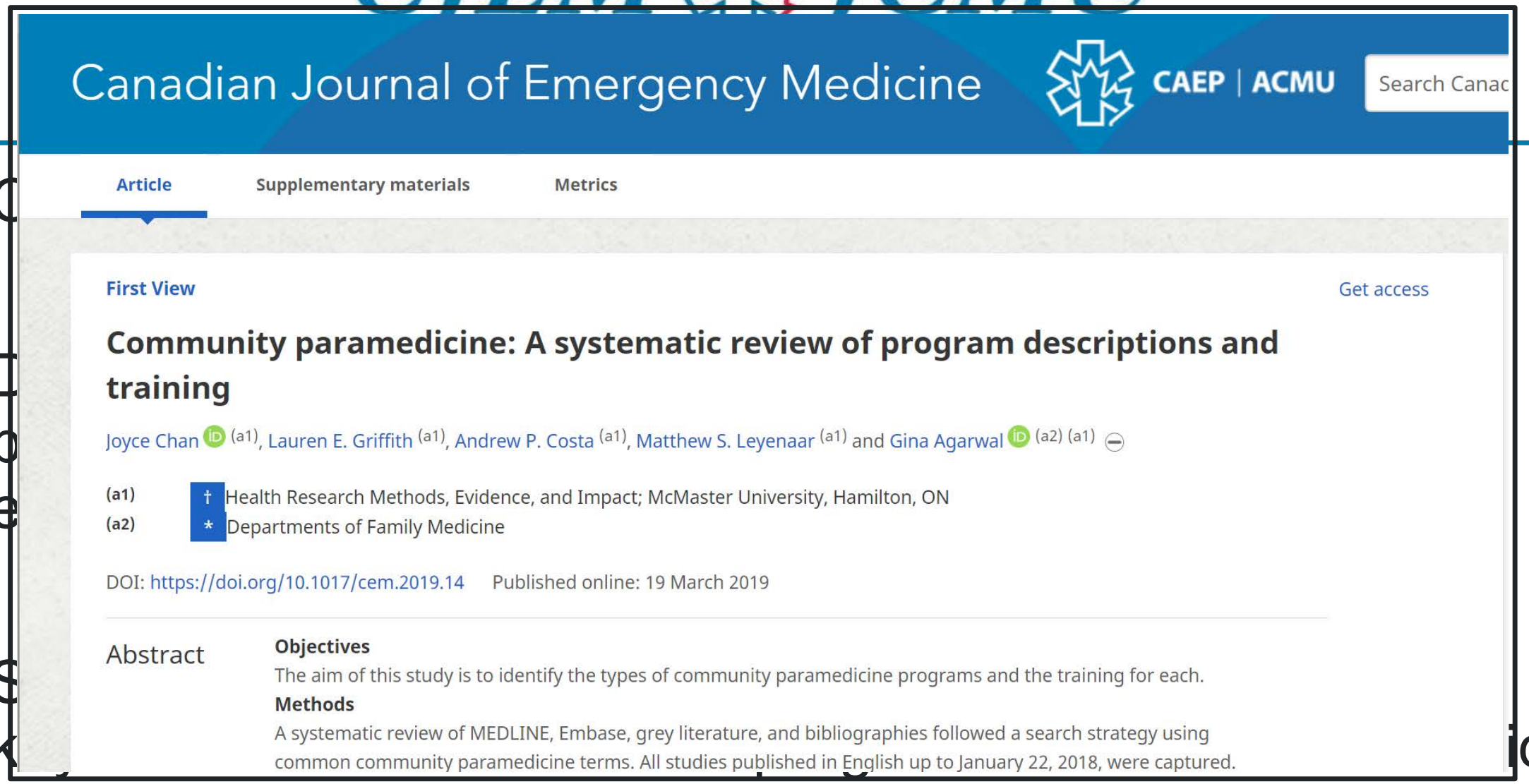

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Community paramedicine: A systematic review of program descriptions and training

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Abstract

Objectives

The aim of this study is to identify the types of community paramedicine programs and the training for each.

Methods

A systematic review of MEDLINE, Embase, grey literature, and bibliographies followed a search strategy using common community paramedicine terms. All studies published in English up to January 22, 2018, were captured.

CJEM JCMU

Published Systematic review

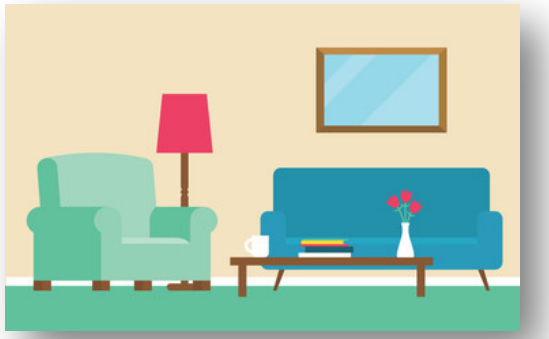
- MEDLINE and Embase databases were searched to identify all relevant articles published up until January 22, 2018
- The search identified **3,004 articles**, and after screening and searching bibliographies of included articles, a total of **64 studies representing 58 unique CP programs** were included
- Mixed Methods Appraisal Tool (MMAT) was used to assess studies' methodological quality

Place of Visit

Patient Home
41 (70.7%)

Place of 911 call incidence
10 (17.2%)

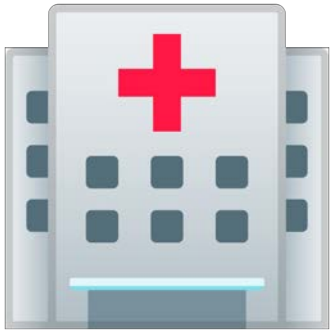
Community clinic
4 (6.9%)



Common area in residence building
2 (3.4%)

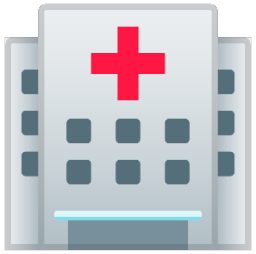
Telephone Services
1 (1.7%)

Hospice
1 (1.7%)

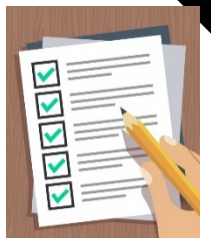


Hospital
1 (1.7%)

Long-term Care Facility
1 (1.7%)



Patient Population	Number of Programs (n=58)
911 callers	28 (48.3%)
• In general	3 (5.2%)
• Presenting with low acuity conditions	12 (20.7%)
• Presenting with low acuity conditions, and are seniors in the community or Long-term Care (LTC) Home	3 (5.2%)
• Frequent 911 callers/ users of Ambulances and Emergency Medical Services	10 (17.2%)
At risk for ED re/admission or hospitalization	24 (41.4%)
• In general	22 (37.9%)
• Children	1 (1.7%)
• Hospice patients	1 (1.7%)
Seniors living in the community (not facility)	4 (6.9%)
Other (e.g. Families with newborns)	1 (1.7%)
Unknown	1 (1.7%)



Assessment and Screening	
Physical assessment e.g. vital signs, blood pressure	27 (46.6%)
Medication management e.g. protocol led dispensing, medication review	23 (39.7%)
Assessment of the home	14 (29.5%)
Non-physical assessment e.g. mental health and social needs assessments	14 (29.5%)
Preventative health screening e.g. not for depression	8 (13.8%)
Monitor patient e.g. side effects/symptoms, mental health	5 (8.6%)
Collect patient history information e.g. medical history	3 (5.2%)
Depression screening	1 (1.7%)

Acute Care and Treatment	
Acute care e.g. assess and treat minor issues/conditions	21 (36.2%)
Transport and Referral	
• Assess, refer, and/or transport to community services e.g. sobering centre, detox centres, mental health crisis centre, mental health hospital	22 (37.9%)
• Refer and/or transport to additional healthcare providers e.g. pharmacist, physician, hospital diagnostic imaging	13 (22.4%)
• Transport to ED/ urgent care centre e.g. walk-in clinic	13 (22.4%)
Point-of-care lab tests e.g. blood draws, toxicology screening	7 (12.1%)
Immunization	1 (1.7%)

Interprofessional Collaboration

In **45** (**77.6%**) CP programs, community paramedics collaborated with at least one other professional

Nurses, including nurse practitioners n=11 **19.0%**

Pharmacists n=4 **6.9%**

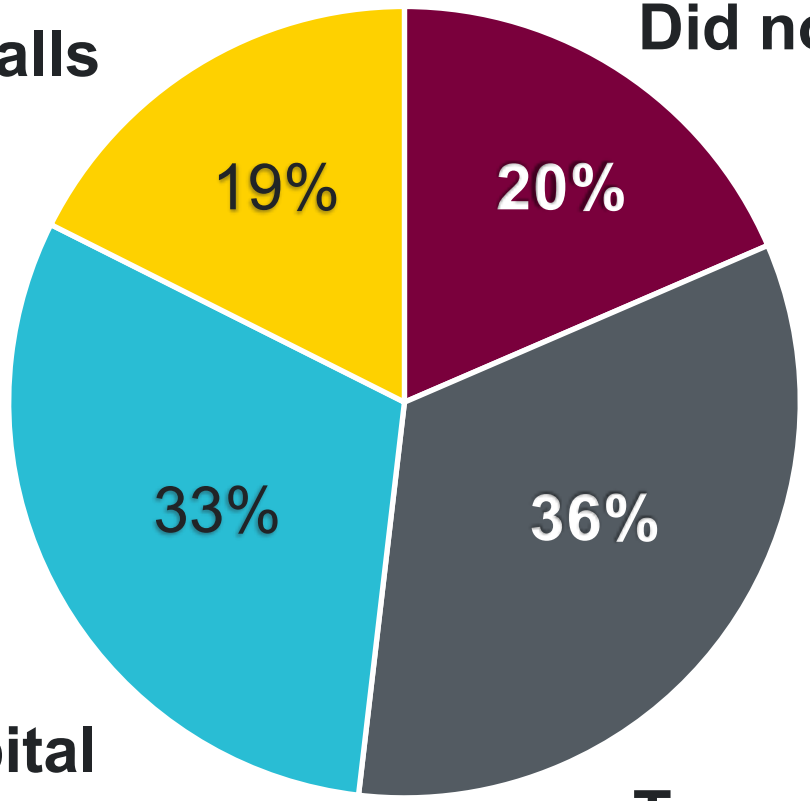
Family Doctors n=3 **5.2%**

Social workers n=7 **12.1%**

Primary care teams, which may have included family doctors n=4 **6.9%**

Health Outcomes Assessed

Of the 64 studies…



Other outcomes assessed:

- adverse outcomes (n=7; 10.9%)
- clinical improvements or changes (n=10; 15.6%)
- healthcare utilization (non-ED, n=8; 12.5%)
- medication adherence (n=3; 4.7%)

A Diversified Role

- CP roles and services have allowed community paramedics to address a variety of health and related community needs
- Recommended by the CSA standards
- Challenging to develop a specific single role description for CP
- Lack of standardization
- Difficult to evaluate
- Lack of evaluation/evidence

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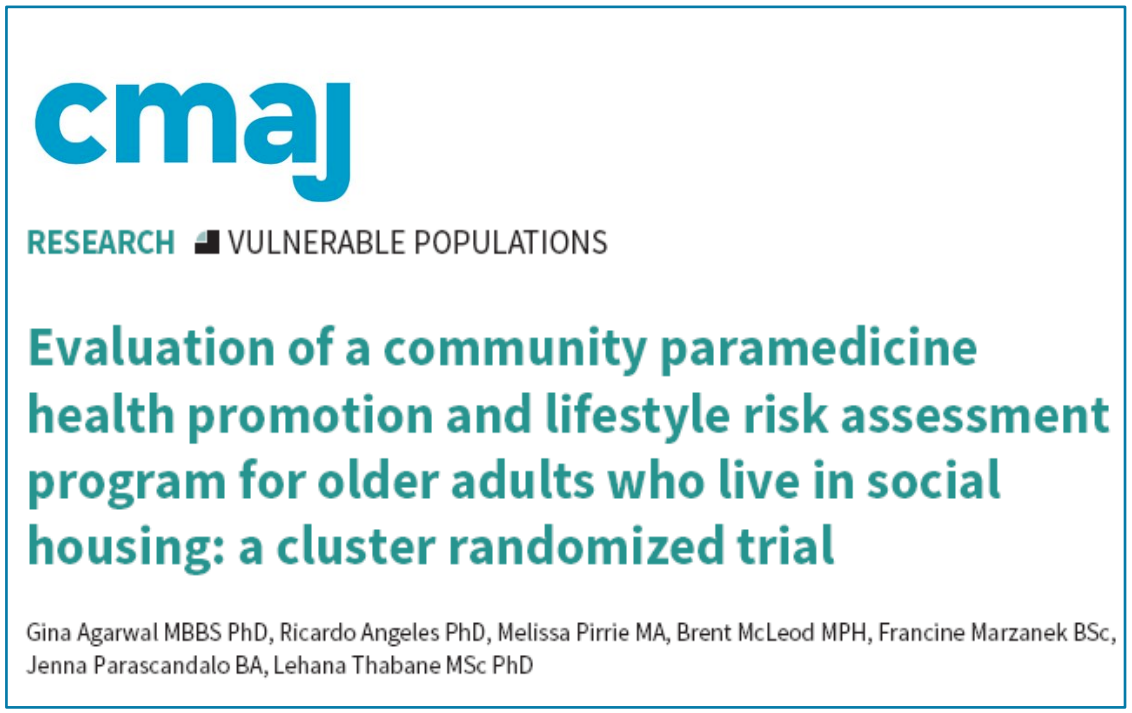
Future of CP

- **Evidence-based** CP interventions can have a major impact on Pre-hospital care in the Canadian Health System
- We need to produce **more evidence** of cost-effectiveness through structured and rigorous evaluation
- We need **more support from paramedic services** to promote CP to policy makers
- With **research, evidence and planning**, CP will stay and expand to be an important pillar in Pre-hospital healthcare

CP@clinic

What is CP@clinic?

- Evidence-based CP program in Canada
- Chronic disease prevention & management and health promotion program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RESEARCH ▪ VULNERABLE POPULATIONS

Evaluation of a community paramedicine health promotion and lifestyle risk assessment program for older adults who live in social housing: a cluster randomized trial

Gina Agarwal MBBS PhD, Ricardo Angeles PhD, Melissa Pirrie MA, Brent McLeod MPH, Francine Marzanek BSc, Jenna Parascandalo BA, Lehana Thabane MSc PhD

CP@clinic program planning in partnership with paramedic and housing services

Provide input into program **evaluation** and research-related decisions

Data analysis & **interpretation** of program/research results

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WHAT DO WE DO?

CP@clinic program oversight & **evidence-based** updating

Knowledge Translation:
Dissemination of program results with stakeholders (e.g. LHINs) with effective communication strategies such as policy briefs, stakeholder reports, and impact reports

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Visit our website to learn more!

CP@clinic

https://communityparamedicineresearch.ca/

CP@home

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What is CP@clinic?

Setting: Common rooms in subsidized / social housing

Target Population: Older adults with low socioeconomic status

- Mean age 72 years; Female **75%**
- Living alone **90%**
- Up to high school or less **69%**
- Poor health literacy **83%**

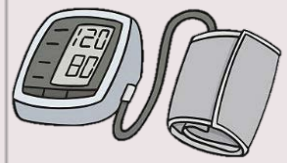
What is CP@clinic?

- Weekly program
- Paramedics conduct health assessments using **evidence-based, validated tools:**
  - Blood Pressure
  - Height, Weight, Waist Measurements
  - Diabetes Risk (CANRISK)
  - Falls Risk
  - Social Isolation and Loneliness
  - Income and Food Security
  - Quality of Life

- Data collected in online database
- With consent, results are shared with participant's Family Physician

IMPACT OF CP@clinic

↓ **911 calls**



Sustained ↓ **BP**

Improved CANRISK score (**Diabetes risk**)
Better lifestyle

$ **Cost-effective**
(BELOW current Canadian cost per QALY threshold for widespread uptake of a new intervention)

Improvements in **Quality of Life**
(Mobility, Self-Care, Usual Activities, Pain & Discomfort, Anxiety & Depression)

More direct route to accessing **community resources**, to ask questions and receive advice

Sense of **community, companionship and cohesiveness**

↑ **QALYS**

0.06 to 0.15 difference between intervention & control groups.

Technology Opportunities

- The CP@clinic database is being integrated into EMRs
- This will allow for:
  - More sites to easily implement CP@clinic
  - Data to be transmitted in real time, requiring less administration work to sync the data
  - Data to be always up-to-date and quicker data reporting
  - Easier troubleshooting
  - Potential to link with patient encounters on the acute side

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