A STANDARDIZED MULTI-DIMENSIONAL PATIENT ASSESSMENT SYSTEM FOR COMMUNITY PARAMEDICINE HOME VISIT PROGRAMS IN ONTARIO, CANADA

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About Me

Paramedic – PhD

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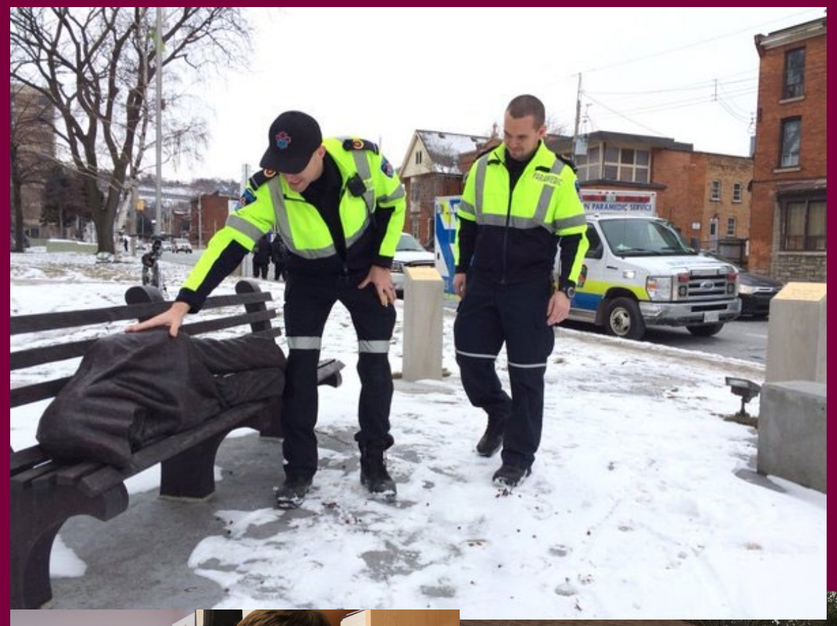
Career Motivation:

- If paramedic services want to do emergency response “better,” then they must address the things that take up the most amount of time.

Paramedic Practice: From conveyance to “on-demand” access to care

Key Terms:

1. **Community Paramedicine:** a model of care whereby paramedics can apply their education to provide immediate or scheduled primary, urgent and/or specialized healthcare to vulnerable patient populations by focusing on improving equity in healthcare access across the continuum of care. - CSA Z1630
2. **Community Paramedicine Program:** The means or method for delivering healthcare to an identified patient population group, often in collaboration or coordination with a multi-disciplinary team.
3. **Community Paramedic:** A paramedic acting in the delivery of care with an expanded role or extended scope of practice according to locally established parameters



Key Questions:

- Who are “vulnerable patient populations?”
- What are the points of access “across the continuum of care?”
- How do we know?

MEDICAL SCENARIO MARKING SHEET

NAME:_____

ASSESSMENT		FINDINGS
Scene Survey: EMCA		E- M- C- A-
PRIMARY SURVEY:		**DEFIBRILLATION (20%)**
Stabilizes neck: self or partner		(5) Assessment- pt. - hx. If alone; CPR in progress, equip set up
Airway: patency can pt speak/respond approp.		(2.5) Pads: - size - placement
Breathing: Look: approx. rate/quality - patient position - tracheal deviation		(2.5) Safety:- - scene - others
Chest: Look: - signs of resp. distress - distress - chest movement **Listen**: - noisy respirations - air entry - breath sounds **Feel**: - tracheal deviation - subcutaneous emphysema - tenderness/instability - skin temp./condition		(5) Pt. Care - on going care - responding to monitor prompts - directing help - safety - Rx. for pt.
Circulation: Pulse: - carotid/radial present - B/P statement - rate/rhythm/quality - hemorrhage check - LOC-AVPU **Skin**: - colour/condition - cap. Refill - neck veins - flat/distended		(5) Protocol: VF/VT - no shock - hypothermia - CPR in progress - Change during code
Rules out spinal injury		
TIME FOR PRIMARY SURVEY		
MAKES "LOAD AND GO" DECISION		
OBTAIN SAMPLE HISTORY		

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RESEARCH ARTICLE

INTERNATIONAL EXAMINATION AND SYNTHESIS OF THE PRIMARY AND SECONDARY SURVEYS IN PARAMEDICINE

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OPEN ACCESS ARTICLE

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Abstract

Introduction
Paramedics routinely rely upon two assessment and treatment algorithms, known as the primary survey and the secondary survey to guide their care. Despite their ubiquity, there is no international consensus for the assessments and interventions that are included in, or omitted from, these algorithms.

Methods
A Delphi process evaluated Australasian paramedic clinical practice guidelines alongside six other international paramedic CPGs from the United States of America, Ireland, United Kingdom, South Africa, Qatar, and the United Arab Emirates in order to identify current assessments and interventions, described in best-practice recommendations for paramedics. The panellists also contributed concepts that they felt were important additions based on their experience as experienced paramedics and paramedic educators.

Results
The resulting amalgamation of concepts identified in each term was then formed into two mnemonics, which sequentially list approximately 100 specific clinical concepts that paramedics routinely consider in their care of patients. We describe these as the “International Paramedic Primary and Secondary Surveys”.

Conclusion

Single Dimension Assessment (First-generation)

Clinical Domain or Problem	Examples of Single Domain/Problem Assessments
Cognition	• Mini-Mental State Exam (MMSE) • Montreal Cognitive Assessment (MoCA) • Mini-Cog
Communication & Vision	• Visual Acuity Test (Snellen chart) • Hearing Tests
Mood	• Personal Health Questionnaire 9 item (PHQ-9) • Hamilton Rating Scale
Social Factors	• Multi-dimensional Scale of Perceived Social Support (MSPSS)
Functional Status	• EQ-5D Function Items • Timed-up-and-go (TUG) • Barthel
Disease Diagnoses & Health Conditions	• New York Heart Association (NYHA) Classification • Visual Analogue Pain Scale • CANRISK
Nutritional Status	• Mini-Nutritional Assessment (MNA)
Medications	• MedsCheck • Tool to Reduce Inappropriate Medications (TRIM)
Home Environment	• Safety Assessment of Function and the Environment for Rehabilitation – Home Outcome Measurement and Evaluation (SAFER-HOME) • Falls and Accidents Screening Tool (HOME FAST)

Multi-Dimensional Assessment (Second-generation)

Standardized Observations of Clinical Domains	Examples of Applications Derived From Clinical Observations
Cognition Communication & Vision Mood Social Factors Functional Status Disease Diagnoses & Health Conditions Nutritional Status Medications Home Environment	The interRAI suite of assessment instruments are examples of Multi-Dimensional Assessment Systems which include: Disease & Function-specific Severity Scales. Examples: • Cognitive Performance Scale • Depression Rating Scale Outcome Specific Risk and Prognostic Scales. Examples: • Changes in Health, End-Stage Disease, Signs, and Symptoms (CHESS), • Detection of Indicators and Vulnerabilities for Emergency Room Trips (DIVERT) Single or Multi-domain Care Planning or Treatment Prompts. Examples: • Clinical Assessment Protocols or Clinical Action Points

Assessment context

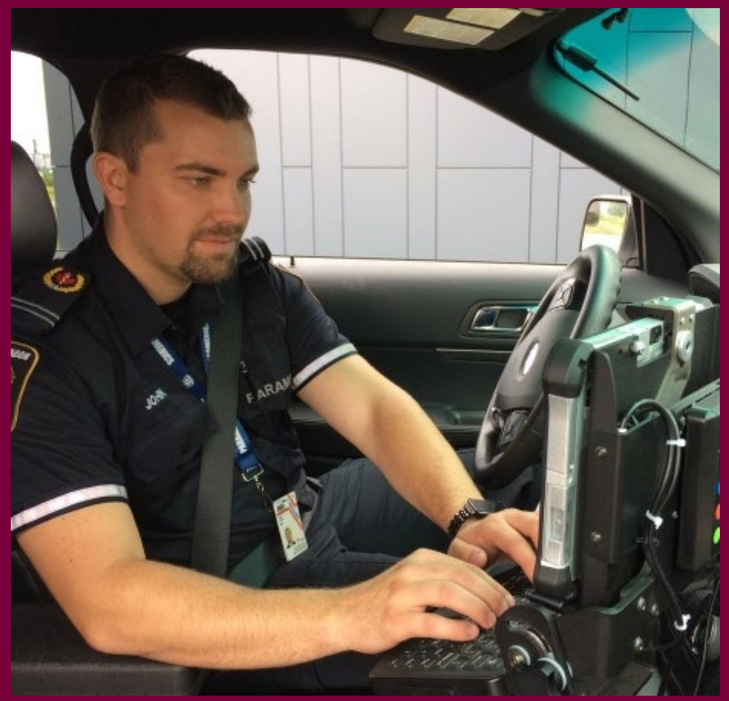
Patient Care Scenario:

- Mr. Brooks is an 86 y/o gentleman living in the community while waiting for long-term care placement.
- He has some mild cognitive impairment and congestive heart failure.
- He recently began experiencing bouts of bowel incontinence.
- He has been falling regularly, non-injurious but requiring lift assist.

Should the destination for his care be the Emergency Department?

Paramedics assessing patients with complex comorbidities in community settings: results from the Common Assessments for Repeated Paramedic Encounters (CARPE) study

CARPE
Common Assessments for Repeated Paramedic Encounters



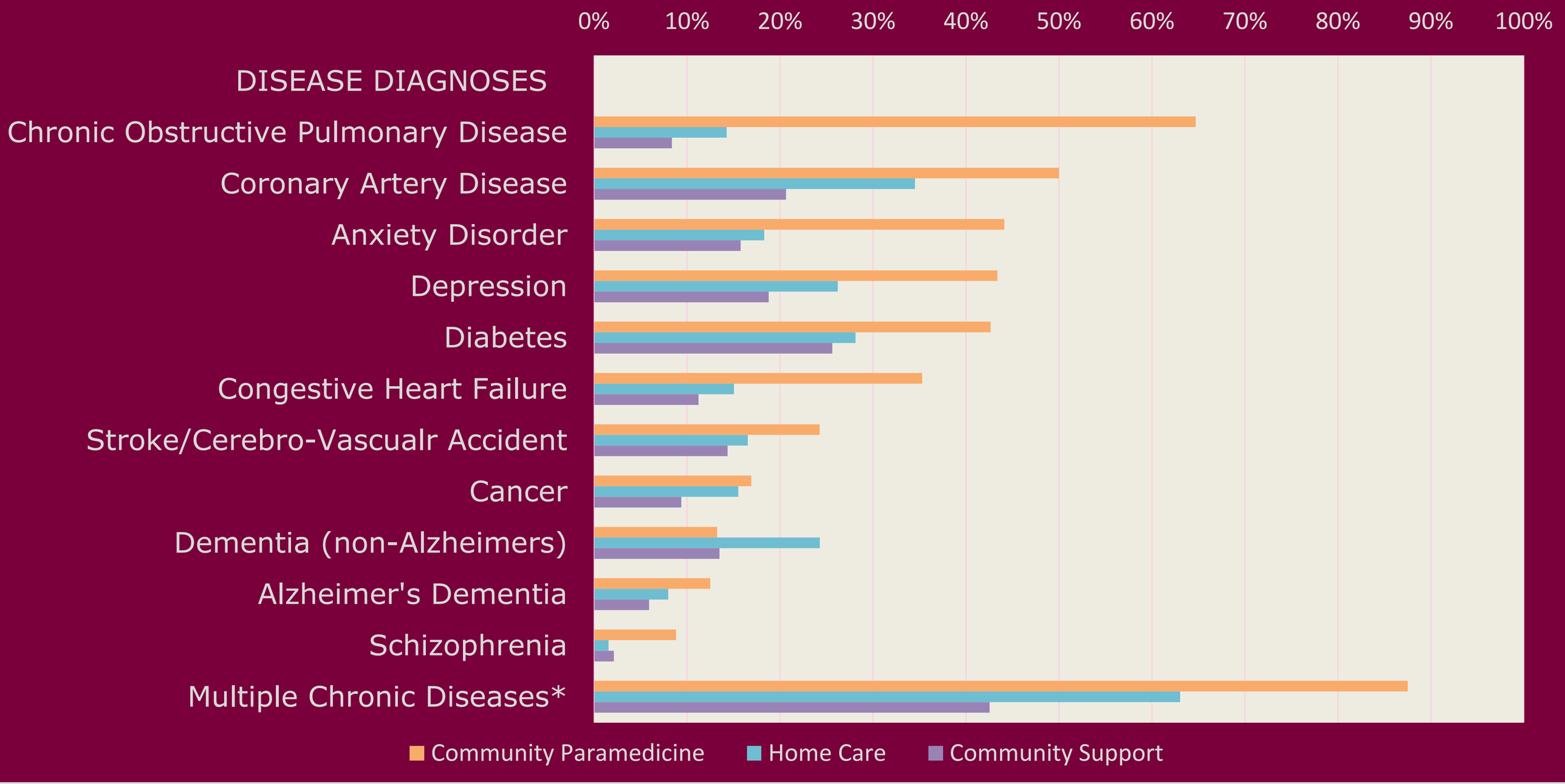
Objective:

- Describe results from pilot-testing and compare response distributions to other community care populations.

Methods:

- Pragmatic prospective cohort study
- Six paramedic services used the CARPE assessment instrument as part of regular practice in community paramedicine home visit programs
- Secondary data from standardized assessment instruments for community dwelling older adults were compared using z-tests.

Citation: Leyenaar MS, McLeod B, Jones A, Brousseau AA, Mercier E, Strum R, Nolan M, Sinha SK, Agarwal G, Tavares W, Costa AP. Paramedics assessing patients with complex comorbidities in community settings: results from the Common Assessments for Repeated Paramedic Encounters (CARPE) study. In Press Canadian Journal of Emergency Medicine. 2021.



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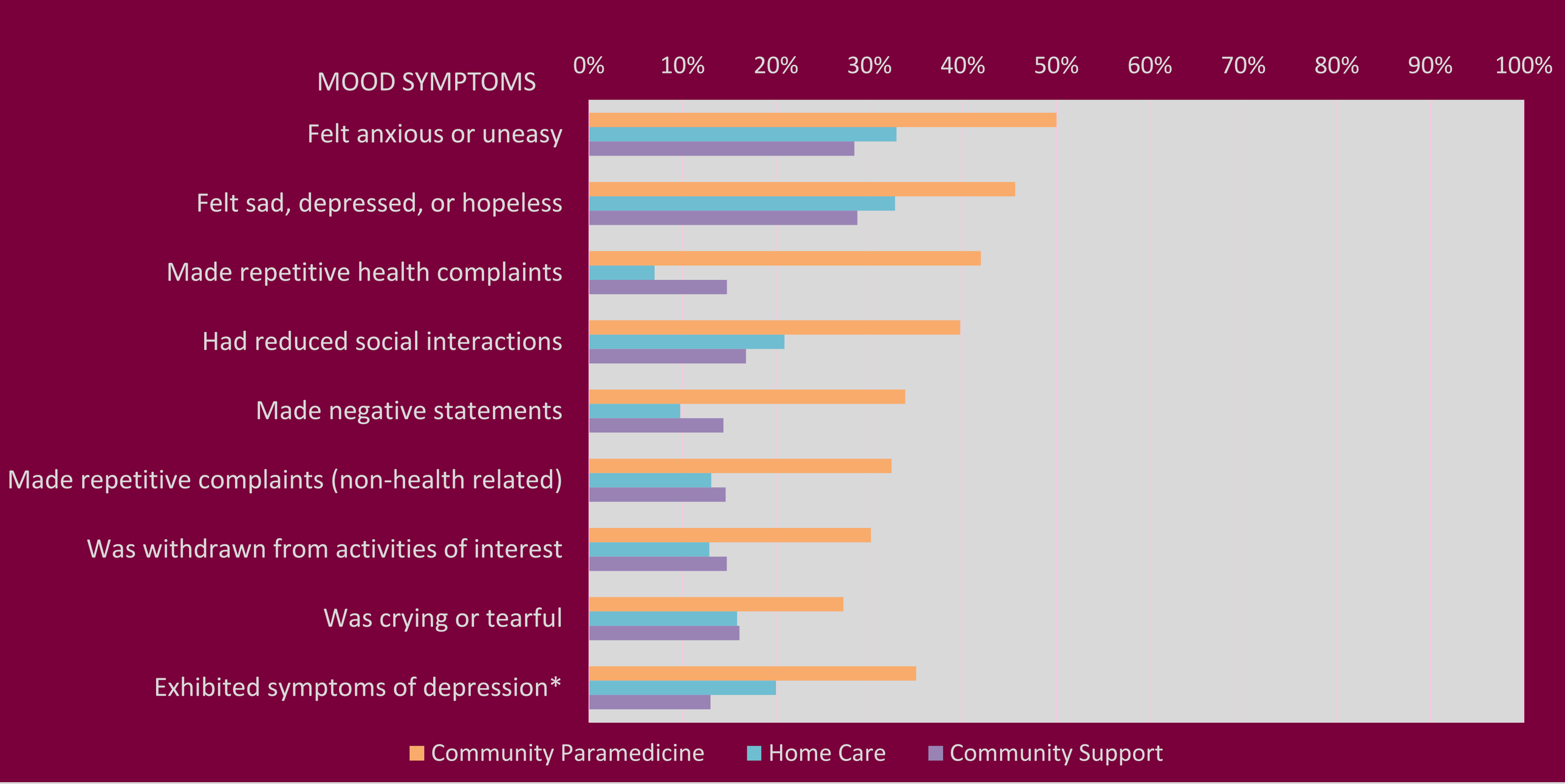

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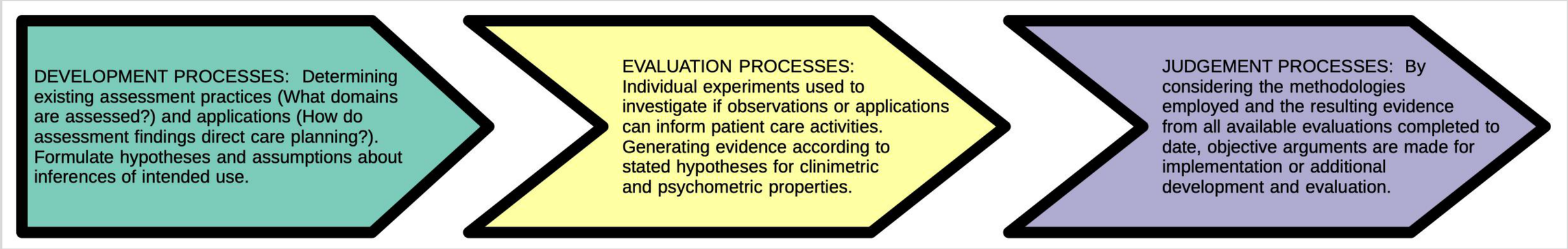
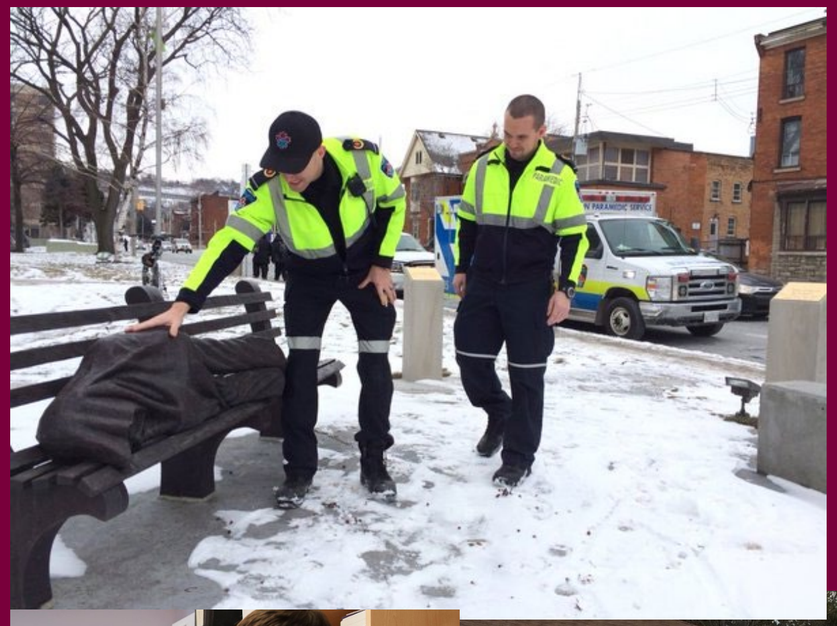


Implications & Future work



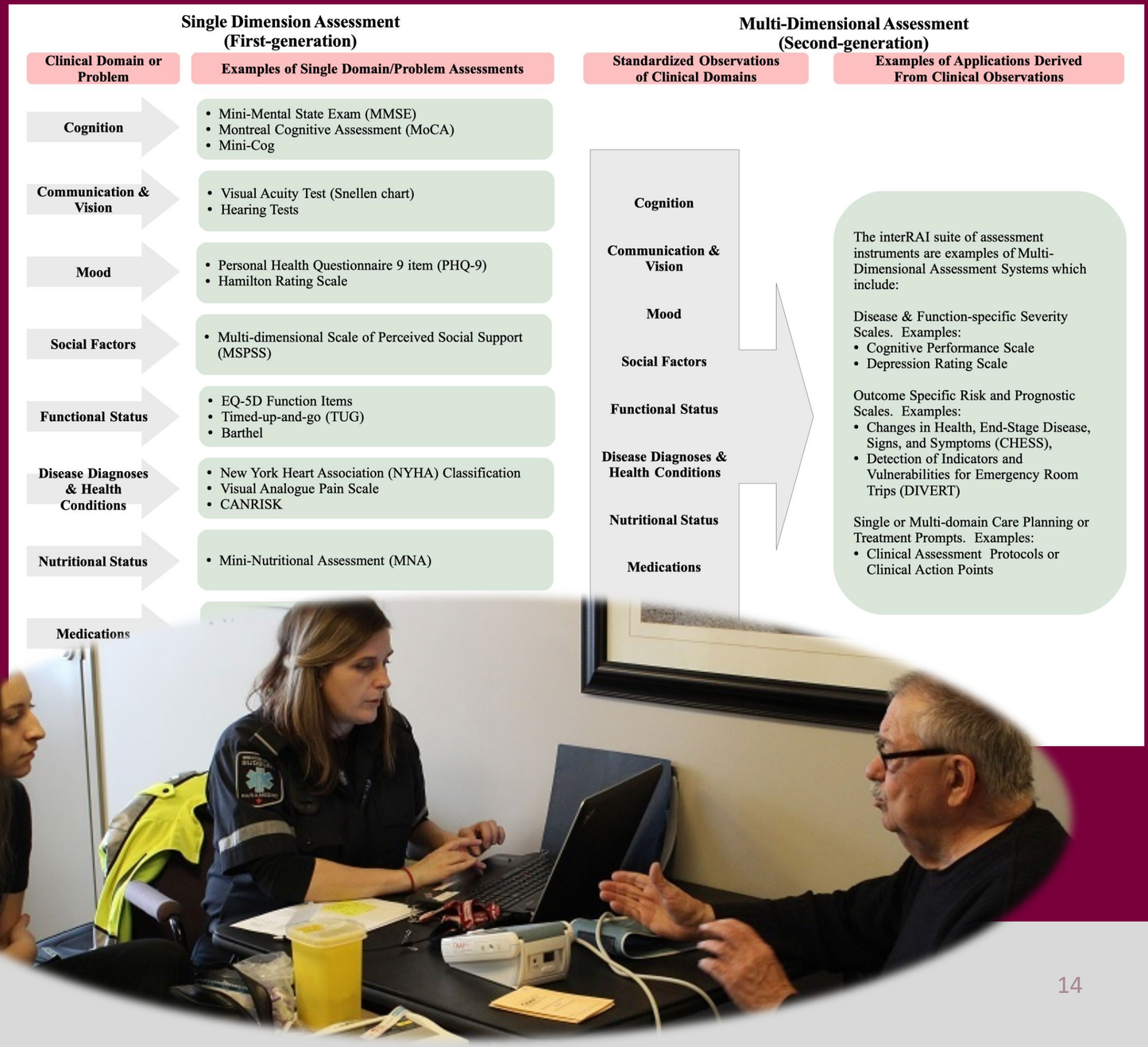
Key Take-aways:

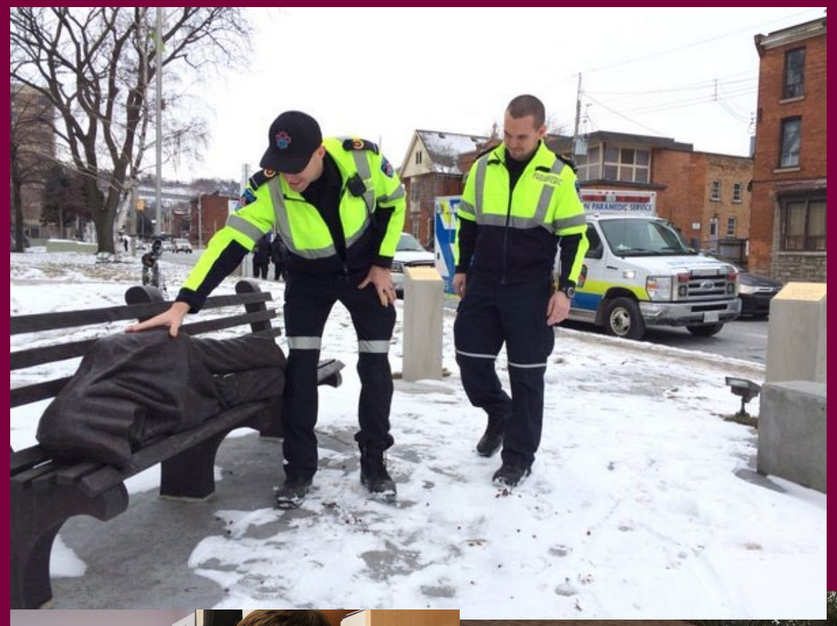
- Who are "vulnerable patient populations?"
  - Multiple chronic disease issues interacting with mental health issues in a socially "compromising" setting
- What are the points of access "across the continuum of care?"
  - Even if patients are receiving other home care or community care services, it is likely that community Paramedicine programs provide a required supplement to their care, potentially improving the linkages between acute and primary care

Implications

- Where community paramedicine programs fit as part of the health care continuum (as an on-demand, mobilized health specialty), they can benefit from a standardized multi-dimensional set of clinical observations in their patient assessments.

- Providing evidence to support both clinical observations and assessment applications (in terms of relevance) ensures clinical utility and can improve assessment practices.





Limitations

- While patient assessment is intended to direct care planning, the thesis is limited by investigating assessment practices and not subsequent care planning.
- The thesis details the need for multiple inter-related experiments but the nature of complex iterative process may not support replication.
- The thesis does not speak directly to improving patient care nor to improving access to care or health system utilization (which underlies design of community paramedicine programs). Although inferences can be made that such improvements would logically follow implementation of an assessment that improves care planning activities.

Future Work

- Does a standardized multi-dimensional patient assessment contribute to:
  - improved “care-in-place?”
  - ability to measure changes in patient condition over time
  - alignment between primary, acute, mental health, and home care
  - enable technological access point for virtual care
- Continue investigating the changing role of the paramedic in the health system
- Paramedics as patient safety experts

Conclusion

- A standardized multi-dimensional set of clinical observations, gathered, tested, and ”fit-for-purpose” in community paramedicine home visit programs.

- A framework to guide those interested in developing and evaluating assessment practices in clinical settings that follow standardized processes intending to cover multiple domains of patient health and share findings with other care team members in the delivery of person-centred integrated care

Thank You!

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