



# Pain in Long-Term Care Settings: Applications of mHealth Technology and Policy Implications

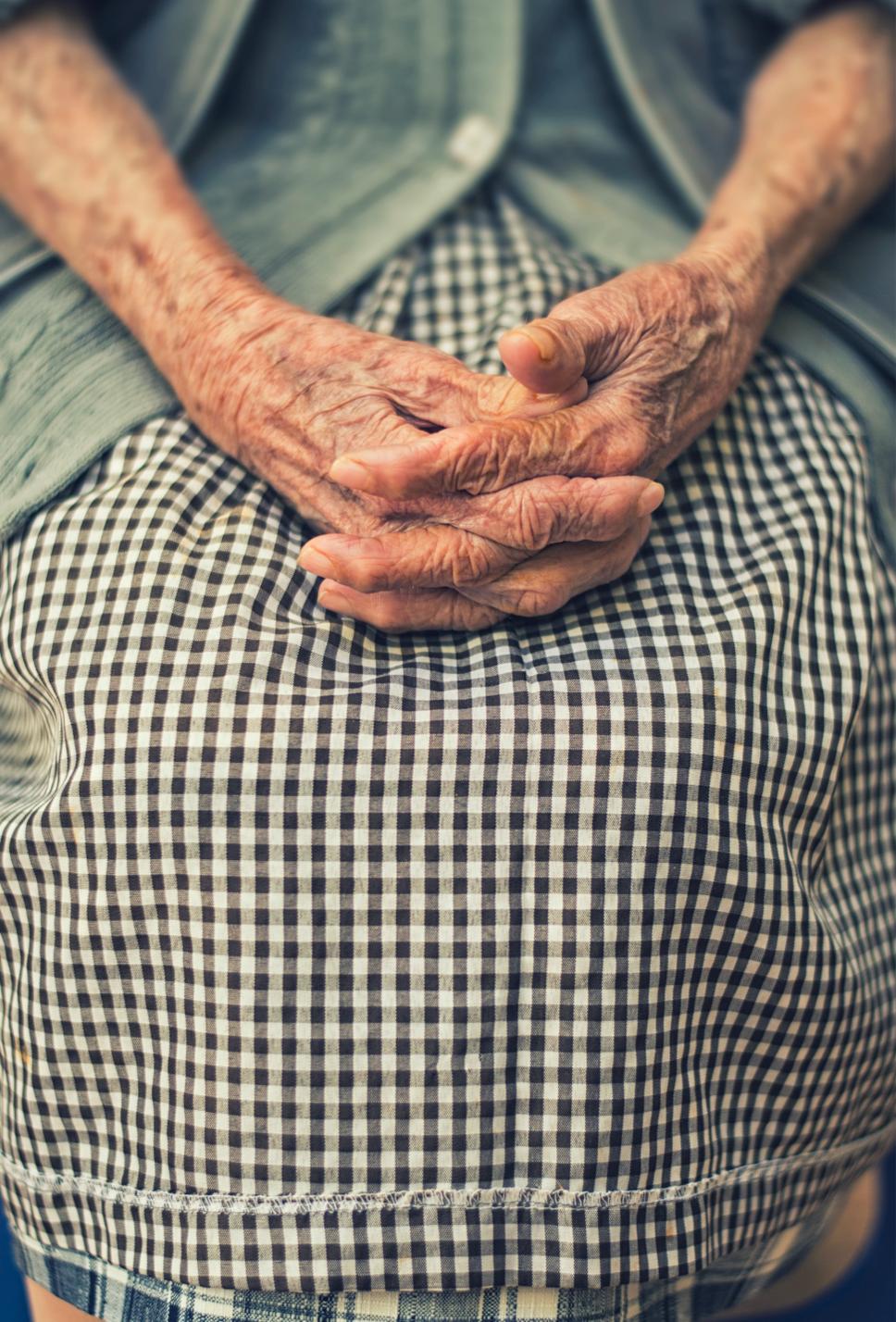
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Vivian Tran, MSc. Clinical Psychology

University of Regina







# Pain in Residents with Dementia in Long-Term Care (LTC)

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- Pain is under-assessed and under-addressed in LTC. This is especially true for seniors who are suffering from severe dementia.
- Appropriate pain interventions for seniors with dementia are less likely compared to their cognitively intact counterparts.
- Pain may manifest as challenging behaviour in people with dementia.
- This behaviour is misattributed to psychiatric concerns and is treated with psychotropic rather than analgesic medication.

# Impact of Resident Pain on Health Care Professionals



- Pain and dementia contributes to elevated levels of stress and job burnout.
- Behavioural disturbances including repeated vocalizations.
- Uncertainty about the needs of residents with dementia.

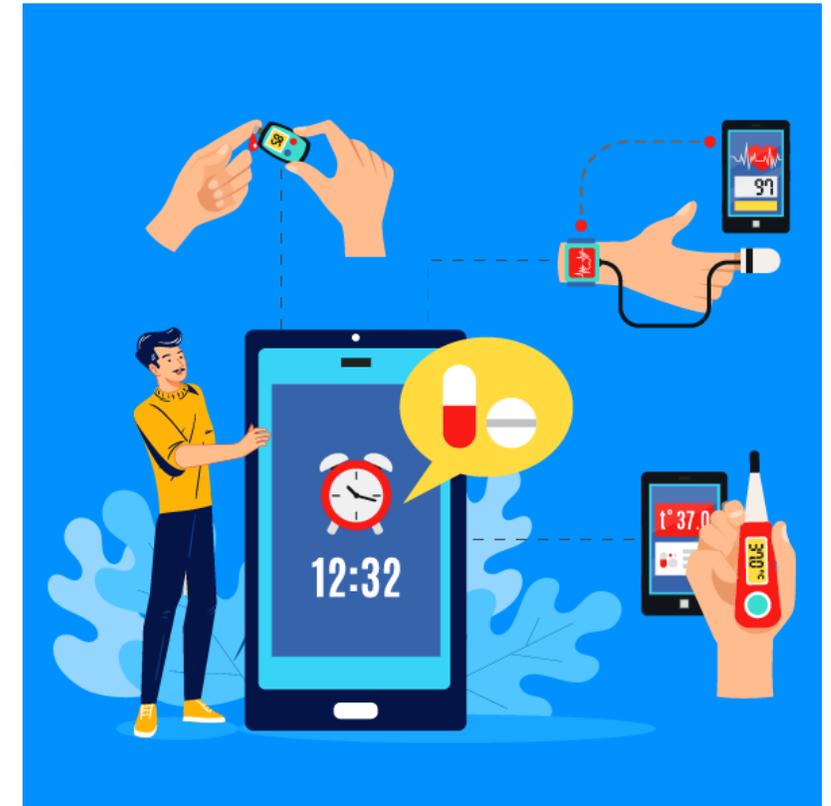
# PACSLAC-II Assessment Tool



- Pain Assessment Checklist for Seniors with Limited Ability to Communicate-II:
  - Facial expressions;
  - Verbalizations and vocalizations;
  - Body movements;
  - Changes in interpersonal interactions;
  - Changes in activity pattern or routines;
  - Mental status changes.

# Benefits mHealth

- mHealth (mobile health) is the practice of medicine and public health supported by mobile communication devices for health services and information.
- Number of benefits associated with mHealth
  - Ease of use
  - Low cost
  - Convenience
  - Increased accessibility



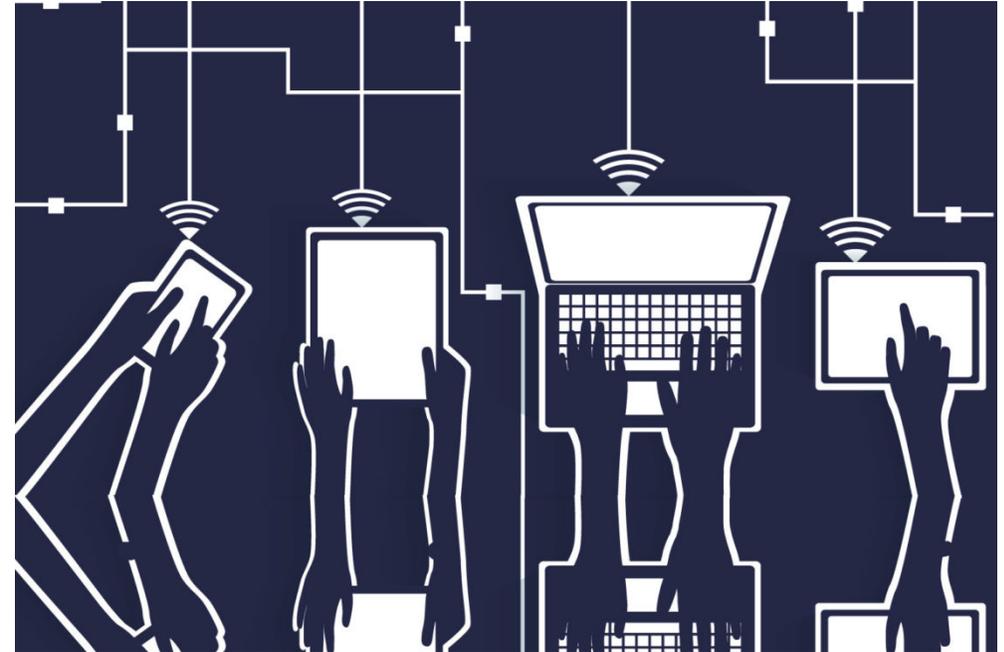
# Current mHealth Regulations

- Regulation is overseen by Health Canada.
- Currently, mHealth apps are only subject to regulations if they meet the legal definition of a medical device.
- Therefore, current regulations lack a regulatory framework that is specific to mHealth.
- The onus is on the app developers rather than app distributors to label and follow these regulations.



# Potential risks mHealth

- Processes are not in place to thoroughly evaluate and validate app as they become available.
- A large proportion of apps do not involve health experts in their development.
- mHealth apps do not have to comply with labelling requirements or demonstrate scientific accuracy, safety, or effectiveness before coming to market.
- This can lead to serious consequences if the app is inaccurate or invalid.
- Concerns about protection of user data and privacy.

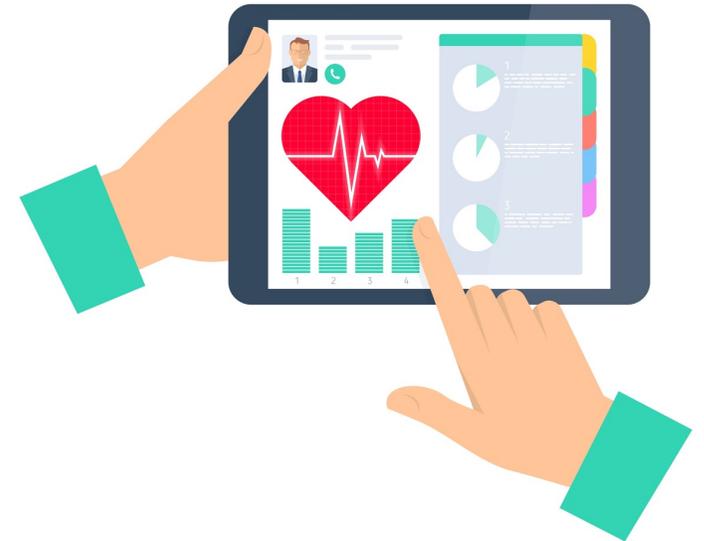


# PACSLAC-II App



# Study Objectives

- 1) Evaluate whether pain assessment quality indicators (QI) improve with the use of the PACSLAC-II app versus care-as-usual;
- 2) Obtain the perspectives of health care professionals on the PACSLAC-II app through individual interviews



# Pain Assessment Quality Indicators



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- Meaning change was established based on 25% change in QI scores:
    - QI 1 (New residents are assessed for pain within 24h of admission) 8/9 units
    - QI 2 (Residents assessed a minimum of once a week): 10/11 units
    - QI 3 (Pain assessments are documented within 24h): 10/11 units
    - QI 4 (Residents with mod-severe pain are reassessed within 24h): 8/11 units
  - Changes were not maintained during follow-up.

# Healthcare Professionals' Perception of App



## Reasons for using app:

- Convenience (56%)
- User-friendly (56%)
- Provides resident graphs for tracking over time (28%)
- Increases security of data (22%)
- Prioritizes pain assessments (19%)

## Reasons for not using app:

- Discomfort with technology or difficulties adjusting to change (31%)
- Incongruent with current health record system (22%)
- Limited technology infrastructure (13%)
- No value added (13%)

# Overall Impressions and Study Barriers

## Overall

- No/minimal impact on workload (74%)
- Preference for app (74%)
- Reported positive experience (87%)

## Study Barriers

- Increased frequency of assessments (22%)
- Lack of staff (22%)
- Timing of study/COVID-19 (9%)



# Study Takeaways

- The app was well received by healthcare professionals even during COVID-19.
- Having designated champions are crucial in implementing new technologies.
- Implementation practices are needed to engender and maintain change.
- The study identified systematic gaps in funding of LTC.





# Policy Implications at LTC level

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- Lack of available infrastructure limits the introduction of new technology.
- Limited familiarity with technology among healthcare professionals.
- Need for participatory approach to involve healthcare workers and health systems during the development and implementation process.
- Healthcare professionals are risk-adverse and cautious about healthcare information and need direction from health authority and government agencies.

# Policy Implications

- In 2019, Canada the cost of chronic pain is \$38-40 billion.
- mHealth needs to interact with current health systems.
- Clear guidelines for healthcare professionals and app developers .
- Important for researchers, practitioners, and policymakers to develop standardized evaluation criteria to ensure that apps are safe and impactful for patients.



# Conclusions

- mHealth is a rapidly growing field and has the potential to improve healthcare delivery, but also carries risk at its current form.
- Canada needs to invest in the technological infrastructure in LTC.
- Canada needs to develop clear regulations specific to mHealth for developers and healthcare professionals.





Thank you for listening!  
Questions?



viviantran225



viviantran@uregina.ca

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