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

Vivian Tran, MSc. Clinical Psychology
University of Regina
Presentation Outline

1. Pain in Long-Term Care
2. mHealth - Benefits and Risks
3. Current mHealth Regulation
4. Lessons from the PACSLAC-II App
5. Policy Implications
Pain in Residents with Dementia in Long-Term Care (LTC)

- 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.

(Hadjistavropoulos et al., 2009; Reynolds et al., 2008; Neumann-Podczaska et al., 2016; Balfour & O’Rourke, 2003)
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.

(Costello et al., 2019; Hiyoshi-Taniguchi et al., 2018; Martin et al., 2005)
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.

(Chan, Hadjistavropoulos, Williams & Lints-Martindale, 2014)
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

(WHO, 2011; Agnihothri et al., 2020)
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.

(Jogova et al., 2019)
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.

(Boudreaux et al., 2014; de la Vega et al., 2014, Larson, 2018)
PACSLAC-II App

(Tran, Winters, Stroulia, & Hadjistavropoulos, 2022)
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

- 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

- 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.

(Powell et al., 2019; Kruse et al., 2017; Pew Research Centre, 2019; Maiga et al., 2014)
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.

(Boudreaux et al., 2014; Health Canada, 2021)
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.

(Jogova et al., 2019)
Thank you for listening! Questions?

Thanks to Dr. Eleni Stroulia and my supervisor Dr. Thomas Hadjistavropoulos

viviantran225
viviantran@uregina.ca
References


