Where's The Beef?
Calming the COVID-19 Storm With Socio-Clinical Interventions

Kristin Pont1,2, Saugata Chakraborty3, Annalone Cookley4, Adam Vyse5, Turin Chowdhury1,2, 3
1University of Calgary Dept. Community Health Sciences, 2University of Calgary Dept. Family Medicine, 3Alberta Health Services, 4Mosaic Primary Care Network, 5Calgary Rural Primary Care Network

Background: COVID-19 Outbreak and Impact
Cargill meat-packing plant located in High River, AB was the site of the largest workplace outbreak in North America during the first wave of the pandemic.
- 936/2000 employees tested positive
- 1560 total cases linked to the outbreak
- Socioeconomic risk factors played a large role in transmission

Profile of Employees Who Were Impacted
- Temporary Foreign workers
- Low Income Earners
- English as a Second Language
- Newly arrived immigrants
- Refugees
- Job insecurity

Same COVID-19 Storm but Different Socioeconomic Boats

Community Agency Response
Supported 2163 households over the course of months to address needs related to:
- COVID-19 (26%) & isolation (29%)
- Underlying medical conditions (15%)
- Unemployment, reduced income (30%)
- Family violence (5%)

PCNs and community agencies collaborated in new ways to meet the patients’ medical and social needs

Objectives
- Evaluate and improve service delivery
- Goal: patient-centered, efficient & effective
- Improve connections between community, primary

Methods
Recruitment through community-based methods:
- Patient advisors from ethno-cultural groups (also involved in planning & recruitment)
- Town halls
- Online platforms
- Snowball sampling

Qualitative data collection:
- Semi-structured interviews with first language translation
- Thematic analysis for pain points & gain points

Results
Data collection in progress. Preliminary pain points from initial scoping interviews with providers revealed a need for improved role clarity and data sharing.

We plan to collect:
- 40 Patient interviews
- 40 Provider interviews
- Stop collection if saturation is reached

Future Work
The COVID-19 outbreak at Cargill meat-packing plant in High River was a catalyst for primary care and the social sector to collaborate like never before. At this time, these new relationships between primary care and the social sector are being leveraged for the roll out of the COVID-19 vaccine.

We hope to improve and strengthen these relationships for the future not only to respond to future outbreaks, but also to improve the overall health and well-being of our communities.

Weathering The Storm: Primary Care Response
Primary Care Networks (PCNs) were instrumental in detecting the outbreak and rapidly responding by:
- organizing COVID testing sites
- referring to community agencies for social supports
- managing COVID patients in the community
- preventing calls to Health Link and emergency department visits

Outbreak
April - May 2020
Project planning
& Community engagement
Sept - Dec 2020
Data analysis
& action
April 2021

Funding
August 2020
Data collection
Jan - March 2021

Fig. 2 Project Timeline

Community Agency and PCN Collaborators

Special thanks to Edna Ramirez Cerino, Mussie Yemane, Adanech Sahlie, and Michael Youssef for their contributions
The Efficacy of Journaling in the Management of Mental Illness
A Systematic Review and Meta-Analysis

Monika Sohal | P.I: Dr. Harbir Singh Gill

Author list: Monika Sohal, Pavneet Singh (PhD), Bhupinder Dhillon (MD), Gursharan Dhillon P.I: Dr. Harbir Singh Gill
Rationale

- Journaling is a widely used tool in many forms of non-pharmacological mental health therapy.
- Family physicians are commonly the first line of access for mental health support yet receive minimal formal training on mental health therapy.
- Significant data exists on this modality, but limited efforts to systematically review it in a Canadian context.

Objective

- To perform a meta-analysis assessing the efficacy of journaling as an intervention for improving mental health outcomes.
- To inform primary care clinicians regarding the current state of the literature and strength of recommendations on utilizing journaling as an intervention.

Methods

- Records identified through database searching* (n = 3979)
- Additional records identified through other sources (n = 6)
- Records after duplicates removed (n = 3108)
- Records screened (n = 3108)
- Records excluded (n = 3104)
- Full-text articles assessed for eligibility (n = 72)
- Full-text articles excluded, with reasons (n = 52)
- Studies included in quantitative synthesis (meta-analysis) (n = 20)

Results

- 20 peer-reviewed, randomized control trials (31 outcomes) (MEDLINE, EMBASE, PsycInfo) met inclusion criteria.
- Studies addressed the impact of a journaling intervention on PTSD, other anxiety disorders, depression or a combination of the aforementioned.
- Data is highly heterogeneous with the control arm having an $I^2$ of 71.2% and the intervention arm having an $I^2$ of 83.8%. SORT = B-level recommendation.
- Effect size analysis of studies suggest an overall small to moderate benefit.
- There is a significant difference between control (0.01, CI: (-0.03 - 0.00)) and intervention arms (-0.06, CI: (-0.09 - -0.03)). This 5% difference between groups indicates that a journaling intervention resulted in a greater reduction in scores on patient health measures when compared to the control arm. It is unlikely this reaches clinical significance. However, it is suggestive that journaling is an effective tool in the management of mental illness.

Limitations

- Heterogeneous and low-quality data (SORT = B-level recommendation)
- Lack of standardized protocols across studies (e.g., all studies implemented variable durations of journaling)

Key Conclusions

- Journaling, is overall an effective tool in the treatment of mental illness
- Journaling as an intervention, is low risk, cost efficient and builds self-efficacy

Future Directions

- Higher quality RCTs needed, particularly with comparison to journaling to medications
- Studies should be conducted in a family physician context with a model similar to “exercise as a prescription”
INTRODUCTION

BACKGROUND

• Canadian rural communities play an essential role in the training of urban-based Family Medicine (UBFM) postgraduate learners.

• The original intent of rural rotations was to influence practice location in the UBFM resident.

• As urban programs have grown, there has been increased pressure on rural preceptors to accommodate these learners.

• The outcome of “practice location” has remained the primary measure of success in the evaluation of the rural training experience. We do not know the impact on teaching rural physicians.

RESEARCH QUESTION

• In what ways do rural rotations of urban-based postgraduate family medicine (UBFM) residents impact the rural preceptor?

METHODS

PARTICIPANTS

• The University of Calgary Department of Family Medicine teaching preceptor data base was used to identify potential participants.

• Demographic data was collected including:
  - duration of teaching appointment,
  - the preceptor’s own FM training location (rural/urban),
  - location of practice and,
  - the scope of practice in their community.

SURVEY

• Online survey designed and vetted by practicing rural preceptors collected quantitative and free-text data.

• Communities were categorized by size as well as scope of practice.

• Impact rated on a 5-point Likert scale (significantly negative to significantly positive) across three domains: personal, professional, and financial.

RESULTS

DEMOGRAPHICS

• 46% response rate with 28 of 61 physicians; mostly male (75%).

• Largest age category was between ages 31-40 (39%).

• Majority in practice for more than 10 years (61%).

• 61% had less than 10 years of experience specifically teaching UBFM.

• 64% attended faculty development events, usually irregularly.

RATING OF IMPACT

• No statistically significant differences for participant age, gender, and community size.

• Preceptors graduating from rural residency training more likely to rate impacts negatively.

PERSONAL

• Majority of benefits are intrinsic with some extrinsic:
  - “I continuously learn new things when I have residents”
  - “At urgent care they help significantly with ED flow”

• An emotional toll apparent on preceptors when they are asked to supervise learners who have little intention of rural practice:

• Majority of benefits are intrinsic with some extrinsic:
  - “tiring”, “disappointed”, “fatiguing”, “frustrating”, “resentment”

PROFESSIONAL

• UBFM residents may have fewer clinical skills than expected, thus requiring more supervision.

• Patient-resident interactions cause additional stress for supervisor.

FINANCIAL

• No reported significant overall impact on finances.

FACULTY DEVELOPMENT

• Preceptors do not link their own teaching skill to the experience of having an UBFM learner:
  - “The issue is not faculty development, [it] is getting them more up to speed before they get to us”

COUNTER BALANCING PERSPECTIVES

• Respondents sometimes mentioned one positive or negative impact that was immediately followed by a contrasting statement:
  - “longer days, occasionally dealing with unprofessional behaviours along with better job satisfaction and ability to accommodate more appointments to service our panel.”

DISCUSSION

• Overall, the impact of the UBFM resident was positive within personal and professional spheres; negative impacts are often offset.

• Personal/Professional impacts outweighed neutral financial impact

• Personal residency experience of the preceptors may contribute to expectations of incoming learners.

• With program growth, the purpose of rural rotations may have moved from recruitment to the teaching of core procedural and clinical skills.

• Given the generalist tradition of rural medicine, learners may arrive with the needed theoretical knowledge but without the clinical experience to perform the required skills.

• Preceptor satisfaction with growth in their residents highlights the importance of:
  - the quality of teaching relationship and,
  - longitudinality in learning experiences.

UNEXPECTED RESULTS

• The duration in practice and the duration of teaching did not significantly impact the perceptions of these teaching physicians.

• A suggested role of Faculty Development is to inform the preceptor of the urban program structure.

  - “Know limitations of urban program in providing independence and experience”

CONCLUSION

• Rural preceptors describe intrinsic rewards as well as the emotional stress and frustration related to working with some residents.

• Financial impact was reported as neutral across the respondents.

• Rural training location of the rural preceptor was significantly linked to negative perception of the UBFM learner.

• Potential disconnect between expectations of the rural rotation for the preceptor and the UBFM resident may fuel discontent.
**Aim**

- To evaluate a care model developed in response to the first wave of COVID-19 in Alberta, Canada
- To describe the facilitation of patient attachment to Primary Care Network (PCN) or family physician and primary care follow-up
- To inform model refinement for mobilization and up-scaling in response to future wave

**Background**

The last 20 years have seen increasing interest in Primary Care (PC) integration. Connecting family physicians with their counterparts in the broader health system to deliver wraparound patient care has become a major aim. The first wave of COVID-19 in Calgary, Alberta, Canada accelerated achievement of this goal, giving rise to the COVID-19 Integrated Pathway (CIP). Calgary and Rural Primary Care Networks (PCNs) led rapid and unprecedented collaboration between PC, acute care, and Alberta’s Public Health systems. Prior to CIP, family physicians were unaware of their patients’ COVID status and did not provide follow-up.

**Method**

**Study Design:** Mixed quantitative and qualitative study.

**Setting:** Communities and PCNs in Calgary and surrounding areas

**Intervention:** The CIP has 2 components: the Information Pathway and the Clinical Pathway

CIP integrates PCNs, acute care specialists, and Alberta’s Public Health and HealthLink telephone referral systems to provide follow-up and social work referral, as well as attach patients to medical homes for continuity of care.

**Outcome Measures**

**Quantitative objectives:**

- To characterize patients cared for via the CIP by age, sex, ethnicity, and risk-level
- To quantify the proportion of patients without a family physician who were attached to a medical home via the CIP
- To quantify the number of patients followed by their physicians in community, and the number of specialist consultations made by family physicians to support care

**Qualitative objectives:**

- Qualitative exploration of patient experience
- Quality and timing of relationships and communication flows
- Public Health, HealthLink, and PCN perceptions of workload, role clarity, system efficiency

**Preliminary Findings**

- Between April 16 to September 27, 2020, 7753 patients were referred by public health to C4 (Calgary COVID-19 Care Clinic- a designated hub clinic for COVID19 patients during pandemic)
- Majority of patients had a follow up by C4 clinic using Clinical pathway (CIP)
- 3832 patients had a family physician (FP)
- 2617 patients were sent directly to PCN
- 1305 patients had no FP
- 1899 of these patients were monitored by C4 physicians – either did not have FP or their FP were not available to follow their patient

**Discussion**

- CIP has a potential to increase attachment to medical homes or reconnection to family physician, especially for patients at risk of poor outcomes (i.e. patients who are older, live alone, or have multiple co-morbidities, etc.)
- Improves bidirectional information flow between CIP partners
- This project will evaluate the CIP for potential scale to other parts of Alberta and Canada
The Primary Care Network COVID-19 Integrated Pathway: A Rapid Response to Health and Social Impacts of COVID-19

Fariba Aghajafari1, 2,3 MD PhD, Alyssa Ness MD4, Lauren Bilinsky MD3, Franco Rizzuti MD4, Brian Hansen4, Kerry McBrien MD MPH1,2,3, Myles Leslie PhD2,3, Rick Ward MD5, Jia Hu MD MSc2,3
1Department of Family Medicine, 2Department of Community Health Sciences, 3University of Calgary, Calgary, AB, Canada 4Primary Care Networks, Calgary 5Alberta Health Services, Alberta Canada

Aim

• To evaluate a care model developed in response to the first wave of COVID-19 in Alberta, Canada
• To describe the facilitation of patient attachment to Primary Care Network (PCN) or family physician and primary care follow-up
• To inform model refinement for mobilization and up-scaling in response to future wave

Background

The last 20 years have seen increasing interest in Primary Care (PC) integration. Connecting family physicians with their counterparts in the broader health system to deliver wraparound patient care has become a major aim. The first wave of COVID-19 in Calgary, Alberta, Canada accelerated achievement of this goal, giving rise to the COVID-19 Integrated Pathway (CIP). Calgary and Rural Primary Care Networks (PCNs) led rapid and unprecedented collaboration between PC, acute care, and Alberta’s Public Health systems. Prior to CIP, family physicians were unaware of their patients’ COVID status and did not provide follow-up.

Method

Study Design: Mixed quantitative and qualitative study.
Setting: Communities and PCNs in Calgary and surrounding areas
Intervention: The CIP has 2 components: the Information Pathway and the Clinical Pathway
CIP integrates PCNs, acute care specialists, and Alberta’s Public Health and HealthLink telephone referral systems to provide follow-up and social work referral, as well as attach patients to medical homes for continuity of care

Outcome Measures

Quantitative objectives:
• To characterize patients cared for via the CIP by age, sex, ethnicity, and risk-level
• To quantify the proportion of patients without a family physician who were attached to a medical home via the CIP
• To quantify the number of patients followed by their physicians in community, and the number of specialist consultations made by family physicians to support care

Qualitative objectives:
• Qualitative exploration of patient experience
• Quality and timing of relationships and communication flows
• Public Health, HealthLink, and PCN perceptions of workload, role clarity, system efficiency

Preliminary Findings

• Between April 16 to September 27, 2020, 7753 patients were referred by public health to C4 (Calgary COVID-19 Care Clinic - a designated hub clinic for COVID19 patients during pandemic)
• Majority of patients had a follow up by C4 clinic using Clinical pathway (CIP)
• 3832 patients had a family physician (FP)
• 2617 patients were sent directly to PCN
• 1305 patients had no FP
• 1899 of these patients were monitored by C4 physicians – either did not have FP or their FP were not available to follow their patient

Discussion

• CIP has a potential to increase attachment to medical homes or reconnection to family physician, especially for patients at risk of poor outcomes (i.e. patients who are older, live alone, or have multiple co-morbidities, etc.)
• Improves bidirectional information flow between CIP partners
• This project will evaluate the CIP for potential scale to other parts of Alberta and Canada

Contact Information

Email: Fariba.aghajafari@ucalgary.ca

https://www.youtube.com/embed/AeZBxR6V8N0
Antihypertensive Deprescribing in long-term Care (ADCare): Protocol for a Randomized Controlled Trial

Roni Kraut MD, Cheryl Sadowski PharmD, Jeff Bakal PhD, Donna Manca MD, Douglas Faulder MD, Dean Eurich PhD, Oksana Babenko Phd, Margaret Manville MD, Carina Lundby Olesen PhD, Paul Kivi MD, Scott Garrison MD PhD

Context and Objective

- Studies suggest deprescribing antihypertensive medication (AH) in frail older adults is beneficial
- RCTs are needed to confirm this finding

Objective: Determine if deprescribing AH in frail older adults will lead to a change in time to all cause mortality compared to those whose AH is not deprescribed.

Innovative

- RCT on deprescribing AH in the frail older adult population
- Data steward – Alberta Health Services Research Data Services - will select, randomize and assess outcomes using administrative data
- Facility pharmacist will lead the deprescribing
- Creation of an AH deprescribing algorithm

Design

- Randomized controlled
- Open label
- Parallel group
- Event driven

Participants: Alberta long-term care residents with hypertension on AH

Timing:
- Year 1: deprescribe AH
- Year 2-3: monitor outcomes, trial will end when 247 events (deaths) occur

Deprescribing Algorithm

**Why is resident taking antihypertensive (AH)?**

<table>
<thead>
<tr>
<th>Indication unknown</th>
<th>Hypertension</th>
<th>Congestive Heart Failure</th>
<th>Symptom control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommend Deprescribing</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Taper to a systolic of 140 ± 5 mm Hg**

- Decrease by 25 – 50% of the previous dosage every second week

**Monitor blood pressure (BP) for the duration of taper and at least two weeks after taper completed**

<table>
<thead>
<tr>
<th>BP &lt;135</th>
<th>BP 135–145</th>
<th>BP 146–150</th>
<th>BP &gt;150 or still 146-150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continue taper</td>
<td>Deprescribing completed</td>
<td>Monitor BP for 2 more weeks</td>
<td>Resume previous dose</td>
</tr>
</tbody>
</table>

Individuals evaluate each AH in the following order:

1. Alpha blockers
2. Central alpha agonists
3. Calcium channel blockers
4. Beta blockers
5. Renin angiotensin inhibitors
6. Diuretics

*If on combined AH, separate and evaluate each component individually

Statistics

- Primary outcome: Time to event survival analysis with cox proportional hazard model
- Adjusted for covariates

- Other outcomes:
  - Secondary & safety: cox proportional hazard model
  - Process: Student’s t-test
  - Exploratory: logistic regression

Trial process

- Intervention group:
  - Facility pharmacist will deprescribe AH per the protocol
- Control group:
  - Will receive usual care

Feasibility study: will be conducted at a pilot site prior to the study starting

Outcomes

**Primary:** all cause mortality

**Secondary:** hospital/emergency visit, non vertebral fracture and cost

**Process:** AH and blood pressure changes

**Exploratory:** falls, cognition, depression & activities of daily living

**Safety:** composite of emergency, hospital & physician callbacks with specific diagnoses

Sub study

- To access barriers and facilitators of this initiative
- Survey to be given to facility pharmacists before & after the intervention
- Survey follows the RE-AIM framework (reach, effectiveness, adoption, implementation & maintenance)
**BACKGROUND**

- The 2020 Canadian Adult Obesity Clinical Practice Guidelines highlight the impact of comorbidities on obesity.
- There is a need for early person-centred interventions in primary care to prevent excessive weight gain and development of obesity-related comorbidities.
- Edmonton Obesity Staging System (EOSS) stage is a better predictor of mortality than Body Mass Index (BMI).

**OBJECTIVE**

To determine the usability of data from the Northern Alberta Primary Care Research Network (NAPCReN) database to develop a dashboard to assess patient EOSS stage.

**RESULTS**

**METHODS**

Data Source & Study Design:
We conducted a retrospective secondary analysis using data from the Northern Alberta Primary Care Research Network.

Participants:
Individuals aged 18 years old, with a BMI ≥ 30 and ≤ 60 kg/m², who had at least one visit from July 2016 to July 2019 with primary care clinicians contributing data to NAPCReN were included (n=23,460).

Outcome Measures:
Descriptive statistics and ordinary least squares regressions were conducted to describe the population. Overall and comorbidity EOSS stages were assigned.

**CONCLUSION**

- Over half our region is in the EOSS 2, providing an opportunity to intervene to improve clinical outcomes for people living with obesity.
- 11 to 18% of patients could not be assigned comorbidity EOSS stage scores based on unavailable data. Physicians can use the dashboard to identify these patients and determine whether it would be appropriate to obtain measures for them.
- The dashboard offers an opportunity for physicians and teams to quickly identify patients at risk of disease (EOSS 1) or with established disease.
- The dashboard makes information easily accessible for quality improvement and individual clinical care.
The Care-of-the-Elderly Health Guide
Jean Triscott, MD; Bonnie Dobbs, PhD; Lesley Charles, MBChB; James Huang, MD; David Moores, MD; Peter Tian, MD, MSc; Judith Cerna, MLIS

1Division of Care of the Elderly, Department of Family Medicine, University of Alberta; 2Department of Family Medicine, University of Alberta

Corresponding Author: Dr. Jean Triscott (jean.triscott@albertahealthservices.ca)

BACKGROUND

• The Care-of-the-Elderly Health Guide (Triscott J, et al., 2002) is a clinical record with cross-references to care recommendations for the elderly.
• In 2003, the Guide was endorsed by the Health-Care of the Elderly Committee of the College of Family Physicians of Canada.
• Since then, family physicians have used the Health Guide as a checklist and a monitoring tool for care to older persons.

OBJECTIVE

• To update the Health Guide with current published evidence-based recommendations.

METHODS

• Mixed methods with two phases.
• In Phase 1, the investigators, through consensus, created an initial list of topics and chose published recommendations on the topics, with consideration to relevance in family practice.
• This initial list was reviewed by family physicians in two focus groups. The investigators then revised the list based on the feedback.
• In Phase 2, a panel of ten Care of the Elderly physicians and geriatricians, through a modified Delphi technique with two rounds of online surveys, reviewed whether the recommendations represented current Standards of Care.
• Participants: Twelve family physicians and a panel of ten Care of the Elderly physicians and geriatricians.

Phase 1. Preparations
Step 1: Creation of Initial List of Topics for Inclusion in the Guide
Step 2: Search for North American Guidelines or Best Practices on each topic
Step 3: Review and Revision of List of Topics and Recommendations
Step 4: Initial Selection of Guidelines Representing Best Practices
Step 5: Online Survey – Round 1 (Expert Group Consensus on Best Practices)
Step 6: Online Survey – Round 2 (Expert Group Consensus on Best Practices)

Phase 2. Modified Delphi Technique
Through a consensus among investigators
Through 2 focus groups of 12
Through an online survey with a 67% concurrence
Through an online survey with a 67% concurrence

RESULTS

In Phase 1:
• Initial list of 43 topics and selected recommendations.
• Two focus groups among family physicians (n=12).
• The list of topics and recommendations were reviewed, with overarching themes of user-friendliness, relevance to clinical practice, and quality of evidence.

In Phase 2:
• In the 1st online survey, the panel of physicians was in consensus that 63 of the 66 groups (95%) of recommendations represented current Standards of Care. In the 2nd survey, three more groups of recommendations achieved consensus.

Final List of Topics

Section A. Geriatric Syndromes
Delirium, Dementia, Mild Cognitive Impairment, Falls, Urinary Incontinence, Polypharmacy

Section B. Geriatric-Specific Concerns
Constipation & Fecal Incontinence, Decubitus Ulcer, Depression, Leg Edema, Insomnia, Severe Nutritional Risk, Chronic Pain, Parkinson’s Disease

Section C. Geriatric Safety & Caregiving Issues
Caregiver Burden, Decision-Making Capacity Assessment, Fitness to Drive, Frailty Scale, Goals of Care, M.A.I.D., Environmental Safety, Elder Abuse

Section D. Primary Prevention for Geriatrics
Hearing, Oral Health, Osteoporosis, Vision

Section E. Secondary Prevention for Geriatrics
Abdominal Aortic Aneurysm, Atrial Fibrillation, Breast Cancer, Cervical Cancer, Colorectal Cancer, Coronary Heart Disease, Type II Diabetes, Dyslipidemia, Hypertension, Chronic Kidney Disease, Lung Cancer, Prostate Cancer

Section F. Other Preventative Areas
Diet, Physical Activity, Sexuality, Sun Protection, Tobacco-Alcohol Use, Vaccination (Hepatitis A & B, Herpes Zoster, Influenza, Pneumococcus, Tetanus-Diphtheria-Pertussis)

CONCLUSION

The Care-of-the-Elderly Health Guide is a quick reference to geriatric care, reviewed for relevance by family physicians and a panel of experts. The Guide will be useful in primary care.
What do patients and primary care providers value in a prevention visit? A qualitative evaluation of the BETTER WISE project

N. Sopcar1, C. Fernandez3, M.A. O’Brien2, D. Ofosu1, M. Wong3, T. Wong1, M. Kebbe4, D. Manca1

1Department of Family Medicine, University of Alberta, Edmonton, AB; 2Department of Family and Community Medicine, University of Toronto, Toronto, ON; 3Patient Advisor, Strategic Clinical Networks, Alberta Health Services, Calgary, AB; 4Pennington Biomedical Research Center, Louisiana State University, Baton Rouge, LA

Background

- Chronic diseases such as cancer, heart disease, and diabetes account for almost 70% of all deaths worldwide.
- Integrated and comprehensive prevention and screening strategies are needed in primary care.
- The BETTER WISE (Building on Existing Tools to Improve Cancer and Chronic Disease Prevention and Screening in Primary Care for Wellness of Cancer Survivors and Patients) project developed a comprehensive approach that proactively addresses chronic disease prevention, screening and cancer survivorship, including screening for poverty and addressing lifestyle risks.
- Prevention visits are provided by healthcare professionals, the Prevention Practitioner (PP).

Objectives

- This qualitative evaluation is a sub-component of the BETTER WISE study and aims to identify key components of a BETTER WISE prevention visit based on patients’ and primary care providers’ perspectives.

Methods

Setting

- Thirteen primary care settings (urban, rural, and remote) in Canada (6 in Alberta (AB), 4 in Ontario (ON), and 3 in Newfoundland and Labrador (NL)) participated in 14 focus groups and 19 key informant interviews. They were asked about implementation, uptake, impact, and sustainability of BETTER WISE.

Participants

- Primary care providers (N = 124; including all 13 PPs)

Analysis

- Qualitative data was analyzed using the constant comparison method informed by grounded theory.

Results

Four themes (Figure 1) were identified:

1) Creating a safe space and building trust

PPs provided time and a safe space for patients to share what was important to them including their concerns related to poverty, alcohol, and mental health that were often not shared with physicians.

2) Personalized health education

PPs used BETTER WISE tools to provide patients with a personalized overview of their health and eligible screening.

3) Non-judgmental empowerment of patients

Instead of directing patients what to do, PPs evoked patients’ preferences and helped them set goals (if desired).

4) Integrating care for patients

PPs clarified information in patients’ charts and helped patients navigate resources within and outside of the primary care team.

Conclusion

Personalized, trusting, and non-judgmental relationships between primary care providers and patients as well as integrating care are key to successful chronic disease prevention and screening as exemplified by the BETTER WISE prevention visits.

Acknowledgment

Production of this poster has been made possible through a financial contribution from Alberta Innovates. The views expressed herein represent the views of the authors and do not necessarily represent the views of the project funders.

Figure 1. Themes and quotes for identified themes from patients and primary care providers on a BETTER WISE prevention visit

References


Figure 1. Themes and quotes for identified themes from patients and primary care providers on a BETTER WISE prevention visit

Theme 1: Creating a safe space and building trust

“Great feeling when you can talk so openly about health issues, meds you are taking and no judgment” [Patient, female, AB]

“We uncover things that even their physician for years was not even aware of. It just speaks to how valuable it has to be to give the patient the time and to be heard and to explore what they feel is important to them” [PP, KI 012, ON]

Theme 2: Personalized health education

“[PP] helped me make realistic goals” [Patient, female, NL]

“Setting goals for my health with my prevention practitioner will go a long way for me. I feel like I’m doing this for myself but also have a coach motivating me in the background. (…) I can maintain the goals I set for myself and confide in my practitioner to help me achieve good health. I will be very happy with myself” [Patient, ON, male]

Theme 3: Non-judgmental empowerment of patients

“Traditionally, it’s been the physician mostly, but I think in the last few years it’s becoming more and more of a team work. And [BETTER WISE] is taking it a step further. And to me, it means less patients falling through the cracks” [Physician P6, Alberta]

Theme 4: Integrating care for patients


Acknowledgement

Production of this poster has been made possible through a financial contribution from Alberta Innovates. The views expressed herein represent the views of the authors and do not necessarily represent the views of the project funders.
Drivers, Navigators, and Passengers: how do those living with advanced complex chronic diseases want to self-care?

Toon L., Barber T., Lakusta B., Scott K., Davison S., Green L.A.

**Key Takeaways**

In the context of self-care, patients described barriers that make self-care difficult:

- The health system is complex and difficult to navigate, even those who feel empowered struggle to advocate for themselves within this complex system.
- Gaps in knowing how to access and use information, how to get to appointments, and what resources are available.
- Health care provider’s unspoken expectations of a patient’s ability to self-care.
- Variation in how active they want to be in their self-care.
- Care and treatment being disease focused.

Facilitators that would enable self-care:

- A need for relational continuity: provider needs to take time with patient; understand patient is unique and has distinct wishes they want heard and respected.
- A need for support in navigating the system – a System Navigator Role.
- That a care pathway could be beneficial if: it is interactive, accessible to all involved, and personalized to each patient.

**Context**

Patients with advanced stage chronic diseases, often characterized by high rates of hospitalization or aggressive care of treatments with limited benefit, present significant challenges. These patients have extensive unmet care needs as they transition between hospital and home and regularly return to hospital. This results in poor quality of life for patients, frustration, and work for health care providers with increased costs to the health system.

**Methods**

World Café Methodology

Enables participants to interact, share experiences, explore issues, identify gaps & working solutions, and inform implementation strategies.

Organized in small groups at four tables, participants rotated between all tables. Each table had a set of questions and assigned facilitators and note takers to record the discussions. Notes were transcribed verbatim for analysis.

**Participants**

Patients (n=12) living with, and caregivers (n=4) caring for a patient with, advanced chronic disease from both rural and urban areas across Alberta. The majority of the patient participants were living with cancer-related illnesses. Others were living with end-stage kidney disease, fibromyalgia, dementia/Alzheimer’s, and neurological diseases.

If you have any comments, questions or would like to request a print copy of this poster, contact Lynn Toon lynn.toon@albertadoctors.org
Validating Primary Care EMR Data for Osteoarthritis
Dr. Stephanie Garies¹,², D. Himasara Marasinghe¹, Dr. Kendra Barrick¹, Dr. Fariba Aghajafari¹,², Dr. Hude Quan² & Dr. Tyler Williamson²
¹ Department of Family Medicine, University of Calgary; Calgary, Alberta, Canada
² Department of Community Health Sciences, University of Calgary; Calgary, Alberta, Canada

BACKGROUND
Context: Osteoarthritis (OA) is a chronic musculoskeletal condition common among older adults. It is typically diagnosed and managed within community-based settings. Digital record-keeping such as EMRs within primary care practices provides a valuable source of information for chronic disease research and surveillance.

Because EMR data are recorded for patient care and administrative tasks, the quality and suitability of the data should be assessed before being used for secondary purposes.

Objective: To determine the quality of pan-Canadian primary care EMR data for osteoarthritis surveillance and research.

METHODS
Design: Secondary analysis of de-identified, pan-Canadian primary care EMR data extracted from participating primary care providers by the Canadian Primary Care Sentinel Surveillance Network (CPCSSN).

Participants:
• Active within the practice
• 45 years or older
• Diagnosed with OA

Outcome Measures: Completeness and plausibility for patient-level demographics, clinical observations, OA medications, total knee replacements (TKR) and chronic co-morbidities. External validity compared to other published population-level sources.

RESULTS
Overall completeness of CPCSSN data was good for:
• demographics (age, sex, urban/rural) (98.6%)
• BMI (84.4%), height (79.2%), weight (75.6%)
• CPCSSN defined chronic co-morbidities (84.9%)

Completeness was lower for:
• other chronic co-morbidities (45.7%)
• dose & frequency information for OA-related medications (47.1% of prescription records)

Over 99% of patients had a measurement within a plausible range for height, weight, and BMI.

CONCLUSION
The completeness and plausibility for most outcome measures were high. Low percentages for dosage and frequency of OA prescription records could be due to the use of over-the-counter medications. Prevalence of OA in the CPCSSN population was slightly higher compared to the Canadian population when compared to administrative data but lower when compared to survey data.

Limitations: Currently, the national CPCSSN database has no processed information on medical procedures, thus the quality of TKR data can not be reported. Future CPCSSN work could focus on developing methods to process & code medical procedures.

REFERENCES
4) Courtesy of Multimedia, Instructional Resources, Cumming School of Medicine

Contact Information
Himasara Marasinghe - Research Coordinator
SAPCReN - CPCSSN
Email: dhmarasi@ucalgary.ca
Web: http://sapcren.ca/
Early Learnings from Engaging Older People with Experiences of Homelessness in Health Service Co-Design

Megan Sampson (MA); Fadzai MoreBlessing Punungwe (DrPH); “The Exchange” Community Advisory Group at Peter Coyle Place; Martina Kelly (MD, PhD); Lara Nixon (MD)

Department of Family Medicine, University of Calgary, Calgary, AB, Canada

Context

Older People with Experiences of Homelessness (OPEH)
- Functional decline at an earlier age
- Complex health and social service needs
- Often mental health and/or substance use challenges

Excluded From conventional seniors housing (i.e. linked primary care supports), and other senior-oriented health services
- Due to substance use or complexity of mental health challenges
- Typically targeting only those aged 65+

Unmet Care Needs
- Long-term hospital stays (awaiting appropriate placement)
- Living at high-risk in the community
- Lack of connection to Primary Care

Objective: Engage Older People with Experiences of Homelessness (OPEH) and their care providers in the co-design of enhanced supports, including primary care and harm reduction.

Setting: Peter Coyle Place, a Permanent Supportive Housing site in Calgary, Alberta, for older people (55+) with experiences of homelessness, substance use, and mental health challenges.

Study Design:
- Mixed-method (qualitative + quantitative), Community-Based Participatory Action Research (CBPAR) to inform the co-design, implementation & evaluation enhanced primary care, wellness & addiction supports
- Engagement + qualitative data collection through:
  'Townhall Meetings'
  - Open to all PCP residents/staff
  - Broad idea generation + member-checking

  ‘The Exchange’ Community Advisory Group
  - Active intervention co-design + rapid dissemination of data
  - Interviews & Focus Groups
  - Residents + Staff
  - Identifying implementation barriers/facilitators

Iterative, collaborative thematic analyses

Project-funded Housing-based Intervention

- Harm Reduction
- Mental Health
- Primary Care

New Staff
- Addiction/Mental Health RN (0.8 FTE)
- Rec Therapist/Mental Health Support Team (3.0 FTE)
- Peer Support Worker with relevant lived expertise (0.4 FTE)

New Programming, co-designed + implemented in partnership with PCP residents + staff

Results

Challenges to Engagement

Power Dynamics
- Between residents, staff, and the research team.
- Overcoming initial perception of residents, staff, and researchers making up ‘camps’ of competing interests – rather than the same team

Substance Use Stigma
- Reluctance to speak openly about needs and preferences re: harm reduction services and/or recovery supports.

“20 years ago, all I was taught was ‘if you [meet] an addict, you have a problem’. I think the target for our [resources + educational materials] should be everybody […] people with prejudices against people who use substances [and] people who use substances.”

Resident Perspectives

“[During our Advisory Group meetings] I feel that there were little camps, where it was ‘OK, we’re [management’s] people’, ‘OK, we’re Dr. Nixon’s people’”

“[I prefer to share [my opinion]. But I prefer to share one-on-one, because I’m a private person”

Participants

Interviews
- Residents (n=15)
- Staff (n=16)

“‘The Exchange’ Community Advisory Group
- 14 meetings to-date
- 7 residents (4 female, 3 male)
- 10 staff (3 support, 3 recreation, 4 clinical, 2 management)

Flexible Engagement & Power-Sharing
- Opportunities for individual and group sharing.
- Meeting community members at times, locations, + forums comfortable to them

Co-creating Educational Resources
- To create shared understanding + reduce conflict
- To reduce stigma around substance use + other social determinants of health
- Finished outputs demonstrate accountability toward shared goals

Community-Developed Strategies

Conclusion

- Patient engagement in service co-design can enhance care delivery, and patient-oriented research aligns with family medicine’s community-based and relational principles
- however, the service needs of Older People who Experience Homelessness (OPEH) are currently under-explored, with few studies engaging this population using participatory methods
- Engaging OPEH in service co-design requires:
  - Attention to current and historical ways that power and stigma shape care experiences.
  - Strategies to promote power-sharing and accountability to co-developed priorities.

References

More Info

Lara Nixon: l Nixon@ucalgary.ca
Megan Sampson: msampso@ucalgary.ca

This project was funded by Health Canada's Substance Use and Addictions Program. The contents of the presentation do not necessarily represent the views of Health Canada.
Care-of-the-Elderly Graduates Provide Essential Services in Alberta
Bonnie Dobbs, PhD; Jean Triscott, MD, CCFP(COE); Lesley Charles, MBChB, CCFP(COE); Peter Tian, MD, MSc
Division of Care of the Elderly, Department of Family Medicine, University of Alberta
Corresponding Author: Dr. Bonnie Dobbs (bdobbs@ualberta.ca)

BACKGROUND
- The Care of the Elderly (COE) Program is a 6-month to 1-year residency program on the care of older persons.
- This program was developed by The College of Family Physicians of Canada to address the increasing demand for health services among seniors.
- At the University of Alberta, the program has trained more than 60 COE physicians since 1993.

OBJECTIVE
- To determine the practice characteristics, practice preparedness, and service provision among graduates of the COE program at the University of Alberta.

METHODS
Participants. Graduates of the COE Program in the University of Alberta.
Instrument. The 38-item online survey consisted of Likert-type, multiple-choice, and open-ended questions on demographics, current practice, care-of-the-elderly practice, professional activities, practice location, lifestyle satisfaction, and program structure.
Outcome Measures. Descriptive statistics (frequencies, proportions, and means) of participant characteristics.

RESULTS
- There were 33 respondents with a response rate of 56% (33/59).
- The median age was 44 years (range: 30-66), with 72% females (24/33).
- The vast majority (92.6% [25/27]) were satisfied with their professional life.

CONCLUSION
The COE graduates provide clinical, academic, and administrative service in a variety of settings. As the older population increases, the need for COE physicians increases as well.
RESULTS: Primary Prevention

Objectives:

1. Prevent primary prevention of stroke in the general population.
2. Identify asymptomatic patients at high risk for stroke.
3. Implement secondary prevention strategies for established stroke risk factors.

Methods:

- Systematic review of randomized controlled trials and observational studies.
- Meta-analysis of key outcomes.
- Evidence-based guidelines and consensus statements.

Findings:

1. Risk factors for stroke:
   - Hypertension
   - Diabetes
   - Hyperlipidemia
   - Smoking
   - Family history of stroke

2. Evidence-based strategies:
   - Blood pressure lowering
   - Smoking cessation
   - Antplatelet therapy
   - Statin therapy

Conclusions:

- Primary prevention is the foundation of stroke prevention.
- Secondary prevention targets existing risk factors.
- Integrating primary and secondary prevention strategies is essential.

References:

- Karmali KN; Lloyd-Jones DM; van der Leeuw J; Goff DC Jr; Yusuf S; Zanchetti A; Glasziou P; Jackson R; Woodward M; Rogers A; Neal BC; Berge E; Teo K; Davis BR; Chalmers J; Pepine C; Rahimi K; Sundstrom J; Blood Pressure Lowering Treatment Trialists’ Collaboration. (2016).
- Abdelhamid AS; Brown TJ; Brainard JS; Biswas P; Thorpe GC; Moore HJ; Deane KH; Summerbell CD; Worthington HV; Song F; Hooper L. (2014).
- Cochrane Database of Systematic Reviews. (2020).

Key terms:

- Stroke prevention
- Primary prevention
- Secondary prevention
- Blood pressure lowering
- Antplatelet therapy
- Statin therapy

Downloadable resources:

- Evidence-based guidelines
- Consensus statements
- Systematic review protocols

Watch the video tutorial for a comprehensive guide on stroke prevention.
Using co-design to create patient-centred tools for living with dyspepsia

Authors: Christopher Rice¹, Ashleigh Metcs¹, Brenna Murray¹, Dr. Kelly Burak¹,²,³, Dr. Kerri Novak¹,²,³
¹Physician Learning Program, University of Calgary, ²Calgary Division of Gastroenterology and Hepatology, ³Department of Medicine, University of Calgary

Using co-design, we developed patient and physician resources that can optimize gut health management and potentially reduce esophagogastroduodenoscopy (EGD) usage. This project is part of a larger quality improvement initiative led by the University of Calgary’s Physician Learning Program and the Calgary Division of Gastroenterology and Hepatology.

**Research Questions:**
1. Why are patients with dyspepsia being referred for EGDs?
2. How might we support patients and providers along the dyspepsia primary care pathway?
3. How might a patient education resource package support a reduction in low-yield EGDs?

**What we did:**
Engaged participants in virtual experience mapping sessions to understand the patient experience for referrals.

**Outcome:**
Feedback was translated into experience maps which stimulated discussion in subsequent focus groups to identify unmet needs.

**Research Questions:**
1. Why are patients with dyspepsia being referred for EGDs?
2. How might we support patients and providers along the dyspepsia primary care pathway?
3. How might a patient education resource package support a reduction in low-yield EGDs?

**What we did:**
Conducted two virtual multi-disciplinary co-design sessions with participants focused on how to develop user-centred resources.

**Outcome:**
Sessions informed the first poster prototype.

**What we did:**
Engaged Red Deer PCN to evaluate poster prototype.

**Outcome:**
Re-evaluated poster messaging and content based on feedback. Expanded intervention to include a patient journal for tracking gut symptoms.

**What we did:**
Developed journal prototype and engaged participants in virtual co-design sessions to refine.

**Outcome:**
Feedback from virtual co-design sessions informed final journal prototype.

**What we plan to do:**
Partner with the Digestive Health SCN to spread and scale these resources. Test resources with patients and physicians to evaluate effectiveness.

**Conclusion:**
Using co-design, physicians and patients helped develop useful point-of-care resources that empower patients to manage their condition and facilitate clear communication with primary care providers. We anticipate these resources will also optimize the use of EGDs for healthy adults with dyspepsia. Evaluation of these resources in practice will tell us how effectively they meet the needs of patients and providers.
Influenza Surveillance In Alberta During The COVID-19 Pandemic

S Orenstein1, Y Efegoma1, S Mohsen1, J Dickinson1
1Department Of Family Medicine, University of Calgary

Background
- The TARRANT surveillance program helps monitor influenza activity in Alberta and is part of the Sentinel Practitioner Surveillance Network (SPSN) that quantifies vaccine effectiveness (VE) in Canada each year.
- With the increased public health control measures for COVID-19, the influenza season was drastically affected this year, along with how our surveillance program was structured.
- Because ILI patients were attending COVID assessment centers, we began sampling from 5 centers in addition to community practitioners.

Objective:
To describe the effect of the COVID-19 pandemic on a community-based influenza surveillance system.

Methods
Inclusion criteria for TARRANT Study:
- Cough or fever with one or more of: Arthralgia, myalgia, prostration, or sore throat.
- Samples collected from November 01, 2020 to January 22, 2021
- Nasopharyngeal (NP)/Throat swabs collected by community sentinel clinicians and testers at 5 COVID-19 assessment centers across the province.
- Swab samples and requisition forms sent to the provincial lab analyzed for COVID-19 & Influenza using a PCR nucleic acid test and a multiplex respiratory panel for other respiratory viruses.

Statistical Analysis:
- Prevalence of respiratory viruses (i.e., COVID-19, Enterovirus) and distribution of collected samples by age and sex determined using Stata 16 software.

Findings
- This season, NO lab-confirmed influenza samples were collected.
- Last reporting season, 180 (47%) of the 380 tested samples tested positive for influenza.
- We received 134 samples, compared to 391 samples collected over this same time period last reporting season.
- The median age of the 134 patients was 41. 61.9% were female.

Table 1. Demographic and clinical characteristics of 134 included patients by testing source

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Sentinels (n=35)</th>
<th>Assessment Centers (n=99)</th>
<th>Total (n=134)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, yr, median (IQR)</td>
<td>41(31-56)</td>
<td>35 (24-47)</td>
<td>37(52-24)</td>
</tr>
<tr>
<td>Sex, female, n (%)</td>
<td>21 (60.0)</td>
<td>62 (62.6)</td>
<td>83 (61.9)</td>
</tr>
<tr>
<td>Patient Symptoms, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fever</td>
<td>13 (37.1)</td>
<td>96 (97.0)</td>
<td>109 (81.3)</td>
</tr>
<tr>
<td>Cough</td>
<td>14 (40.0)</td>
<td>93 (93.9)</td>
<td>107 (79.9)</td>
</tr>
<tr>
<td>Sore Throat</td>
<td>16 (45.7)</td>
<td>55 (55.6)</td>
<td>71 (53.0)</td>
</tr>
<tr>
<td>Myalgia</td>
<td>11 (31.4)</td>
<td>38 (38.4)</td>
<td>49 (36.6)</td>
</tr>
<tr>
<td>Lethargy</td>
<td>10 (28.6)</td>
<td>62 (62.6)</td>
<td>72 (53.7)</td>
</tr>
<tr>
<td>Nausea</td>
<td>27 (77.1)</td>
<td>2 (2.0)</td>
<td>29 (21.6)</td>
</tr>
<tr>
<td>Vomit</td>
<td>0 (0)</td>
<td>15 (15.2)</td>
<td>15 (11.2)</td>
</tr>
<tr>
<td>Loss of Smell</td>
<td>1 (2.9)</td>
<td>7 (7.1)</td>
<td>8 (6.0)</td>
</tr>
<tr>
<td>Loss of Taste</td>
<td>0 (0)</td>
<td>14 (11.4)</td>
<td>14 (11.0)</td>
</tr>
</tbody>
</table>

Table 2. Prevalence of respiratory viruses by testing source

<table>
<thead>
<tr>
<th>Virus Type</th>
<th>Sentinel (n=35)</th>
<th>Assessment Center (n=99)</th>
<th>Total (n=134)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19</td>
<td>2 (5.7)</td>
<td>31 (31.3)</td>
<td>33 (24.6)</td>
</tr>
<tr>
<td>Rhino Virus</td>
<td>4 (11.4)</td>
<td>10 (10.1)</td>
<td>14 (10.4)</td>
</tr>
</tbody>
</table>

Table 3. Patient symptoms presented by respiratory virus.

<table>
<thead>
<tr>
<th>Patient Symptoms, n (%)</th>
<th>COVID Positive (n=33)</th>
<th>Enterovirus/ Rhino Virus positive (n=14)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>33 (100.0)</td>
<td>12(92.3)</td>
<td>0.126</td>
</tr>
<tr>
<td>Cough</td>
<td>32 (97.0)</td>
<td>14(100)</td>
<td>0.504</td>
</tr>
<tr>
<td>Sore Throat</td>
<td>18 (54.6)</td>
<td>12 (85.7)</td>
<td>0.054</td>
</tr>
<tr>
<td>Myalgia</td>
<td>13 (39.3)</td>
<td>3(21.4)</td>
<td>0.208</td>
</tr>
<tr>
<td>Lethargy</td>
<td>10 (30.3)</td>
<td>1(7.1)</td>
<td>0.048</td>
</tr>
<tr>
<td>Nausea</td>
<td>10 (30.3)</td>
<td>2 (14.3)</td>
<td>0.311</td>
</tr>
<tr>
<td>Vomit</td>
<td>2 (6.1)</td>
<td>1(7.1)</td>
<td>0.911</td>
</tr>
<tr>
<td>Loss of Smell</td>
<td>5 (15.2)</td>
<td>0(0)</td>
<td>0.117</td>
</tr>
<tr>
<td>Loss of Taste</td>
<td>7(21.2)</td>
<td>1(7.1)</td>
<td>0.229</td>
</tr>
</tbody>
</table>

Discussion
- There were no lab-confirmed cases of influenza mid-season, for the first time since initiation of TARRANT Viral Watch.
- There was a higher prevalence of COVID-19 positive patients from assessment centers (31.3%) compared to sentinels (5.7%). This may be due to patients presenting with COVID-19/influenza-like symptoms going to assessment centers and not their family physician.
- Mid-season VE could not be determined due to no lab confirmed cases of influenza being detected in Alberta, and very few in other provinces.
- Rhinovirus was still observed (10.4%) this season but no other common respiratory viruses compared to past seasons.
- There were no differences in presenting symptoms between COVID-19 positive patients and Enterovirus/enterovirus positive patients. Due to the small sample size, the analysis was underpowered to detect differences.
- We will continue partnering with assessment centers as well as sentinel practitioners to assess changes in the epidemic, once vaccination is widely available. Through this, we hope to calculate vaccine effectiveness for COVID-19 in addition to influenza.

Conclusion
- This season has been unprecedented due to the onset of the COVID-19 pandemic.
- The lack of detected influenza and other respiratory viruses may be due to public health measures.
- Collaboration with both community clinics and assessment centers may be necessary during surveillance programs for COVID-19 immunization.

S Orenstein1, Y Efegoma1, S Mohsen1, J Dickinson1
1Department Of Family Medicine, University of Calgary
Improving the quality of prescription information in primary care EMR data using a machine learning approach

M. Taylor,¹ S. Garies,² N. Drummond,¹,²,³,⁴ M. Cummings,¹ B. Soos,²,³ C. Weaver,³ S. Aponte-Hao,³ R. Miyagishima,¹ A. Pham,¹ T. Williamson³
¹Dep’t of Family Medicine, University of Alberta; ²Dep’t of Family Medicine, University of Calgary; ³Dep’t Community Health Sciences, University of Calgary; ⁴School of Public Health, University of Alberta

CONTEXT

• Prescribed medications from community-based primary care settings are important for many secondary purposes:
  • Med recall lists
  • Prescribing surveillance
  • Policy decision-making
  • Pharmacovigilance

• Prescribing from EMRs can be difficult to use due to poor quality, high variation, and unstructured free text.

Objective

1. To build a machine learning tool to clean unstructured prescribing information in primary care EMR data into consistent, standardized terms.

DATABASE

• Canadian Primary Care Sentinel Surveillance Network (CPCSSN): a collaboration of 13 primary care practice-based research networks across Canada

• Family physicians & nurse practitioners contribute de-identified patient data from their EMR.

• Approx. 41 million prescribing records from >1.8 million patients

APPRAOCH

• Health Canada’s Drug Product Database used as reference standard

• A FastText linear classifier was developed by training a model with a set of labeled data derived from the Drug Product Database, and a learned text representation based on CPCSSN’s collection of medication strings.

• Manual review of a random sample of 5,000 prescription records to check for accuracy

PRELIMINARY OUTCOMES & NEXT STEPS

• Preliminary observations comparing CPCSSN’s previous medication coding process to the new machine learning method:
  o The error rate has decreased by an estimated order of magnitude;
  o Any identified coding errors seem to be relatively close to the correct code, which is helpful when related medication codes are part of a clinical query or case definition;
  o Updating the ML model with newly approved drugs and corrections appears to have less stability issues in how it may affect other aspects of CPCSSN coding and processing.

• We are currently conducting a manual review to quantify the accuracy of the algorithm (sensitivity, specificity, PPV, NPV).

Example of uncleaned text & coded text

<table>
<thead>
<tr>
<th>Original EMR text</th>
<th>Cleaned Code</th>
<th>Cleaned Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>oxyzocine HCl 30 mg Oral Tablet, Oral Only, Extended Release 12 hr</td>
<td>N02AA05</td>
<td>Oxycodeine</td>
</tr>
<tr>
<td>Fluticasone/salmeterol (Advair 250/50 mg 250/50 mg GORD-REX HFA)</td>
<td>R03MA06</td>
<td>Fluticasone/Salmeterol</td>
</tr>
<tr>
<td>VICTODOL MULTIPROFILE PEN-INJECTOR 30000U/60MG-10000U/12MG-10000U/12MG 1/1/3</td>
<td>A10BA02</td>
<td>Lignocaine</td>
</tr>
<tr>
<td>CONCERTA 30MG 1 tsp od total 56 in lots of 14 pills x 4 Qd/4 Qd 14 Repeats 3</td>
<td>N06BA04</td>
<td>Methylprednisolone</td>
</tr>
<tr>
<td>fluticasone propionate 125 mg/Inhalation Aerosol With Adapter (Gran)</td>
<td>R03BA05</td>
<td>Fluticasone</td>
</tr>
<tr>
<td>budesonide/formoterol fumarate 200 mcg 6 mcg/Actuation Inhalation Aerosol Powder, Breath Activated (Exa)</td>
<td>R03MA07</td>
<td>Budesonide/Formoterol</td>
</tr>
<tr>
<td>rabeprazole sodium 10 mg Oral Tablet, Delayed Release (Enteic Coated)</td>
<td>A02BC04</td>
<td>Rabeprazole</td>
</tr>
<tr>
<td>Codeine/guaifenisin/pseudoephedrine (Rola-Citron I Expectorant 10 mg/150 mg/5 mL LD) 0.5 tsp PO PO QID pm</td>
<td>R05DA04</td>
<td>Codeine</td>
</tr>
<tr>
<td>ALUPENT SYR 10MG/5.0ML 2 tsp TID for COUGH Qty:120</td>
<td>R03FA08</td>
<td>GuaiFenesin</td>
</tr>
<tr>
<td>(Naproxen sodium/methionin 250 mg/45 mg) Oral Suspension, Reconstituted, Oral (Me)</td>
<td>J07AA01</td>
<td>Naproxen</td>
</tr>
<tr>
<td>HYDROCORTISONE CREAM 0.5% USP CREAM TOPICAL (JAMP PHARMA CORPOR)</td>
<td>D07AA02</td>
<td>Hydrocortisone</td>
</tr>
<tr>
<td>acetylsalicylic acid 81 mg Oral Tablet, Delayed Release (Enteic Coated)</td>
<td>R02AC06</td>
<td>Acetylsalicylic Acid</td>
</tr>
<tr>
<td>penicillin (penicillin V 425 mg Oral Tablet, Delayed Release (Enteic Coated)</td>
<td>A02BC02</td>
<td>Penicillin</td>
</tr>
<tr>
<td>acetaminophen/codeine phosphate/salicylic acid 300 mg 30 mg 15 mg Oral Tablet</td>
<td>N02AA06</td>
<td>Codeine and Paracetamol</td>
</tr>
<tr>
<td>zoster vac 1/2, 1 ml/0.5 ml (50 ml/50 ml) Subcutaneous Vac (50)</td>
<td>J07BA01</td>
<td>Varicella, Live Attenuated</td>
</tr>
<tr>
<td>fluticasone propionate/salmeterol (inhalation 250 mg/25 mg/Actuation Inhalation 150 mg 60 mg aerosol with adapter (gran)</td>
<td>R03MA06</td>
<td>Fluticasone/Salmeterol</td>
</tr>
<tr>
<td>oxycodone hydrochloride 30 mg Oral Tablet, Extended Release MULTIPack 24 Hr</td>
<td>J02MA02</td>
<td>Oxycodone</td>
</tr>
<tr>
<td>VIRMICLINE TARTARATE 0.5 mg (11-1 mg (1x4) TABLET, DOSE PACK (11-1x4)</td>
<td>N07BA03</td>
<td>Virenicol</td>
</tr>
<tr>
<td>acetaminophen/codeine phosphate/salicylic acid 300 mg 15 mg Oral Tablet</td>
<td>N02AA06</td>
<td>Codeine and Paracetamol</td>
</tr>
<tr>
<td>VEMPLOY MODIFIED RELEASE TABLET 20MG/200MG 1/4 tsp bid pm Qty:30</td>
<td>M01AE52</td>
<td>Naproxen and Oxacillin</td>
</tr>
</tbody>
</table>

Contact: Stephanie Garies (sgaries@ucalgary.ca)
This work is funded by the Alberta Children’s Hospital Research Institute (Calgary, Alberta).
Methods for Defining a Patient Denominator in the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) Database: Recommendations for Best Practices

Stephanie Garies, Michael Cummings, D. Himasara Marasinghe, John Queenan

1Dept of Family Medicine, University of Calgary; 2Dept of Family Medicine, University of Alberta; 3Centre for Studies in Primary Care, Queen’s University

CONTXT

- Disease reporting & prevalence studies require definition of a:
  - numerator (number of affected individuals)
  - denominator (number of individuals at risk in the population)

- Calculating the denominator or patient population from primary care electronic medical record (EMR) data can be challenging, as various types of biases & limitations exist within these data.

Objectives
1. To describe different methods used to define patient denominators in primary care EMR databases globally;
2. To assess different patient denominators in Canadian primary care EMR data.

CPCSSN DATA

- Collaboration of 12 primary care practice-based research networks across Canada.
- Family physicians & nurse practitioners contribute de-identified patient data from their EMR.
- EMR data are cleaned, coded, and standardized by CPCSSN to use for secondary purposes.

APPROACH

- Part 2: Descriptive analysis of national CPCSSN data (up to Dec 31, 2019).
- EMR data for over 1.8 million patients from 7 provinces, with up to 10 years of longitudinal data, including:
  - 43 million billing records
  - 52 million encounter records
  - 28 million encounter dx records
  - 41 million prescribed medication records

FINDINGS & RECOMMENDATIONS

From scoping review: International studies calculate denominators for EMR data primarily using external registries (claims, insurance, census) or statistical modelling to standardize for age, sex, SES.

Denominator in CPCSSN Data:
1. Use “Date Created” variable across 4 tables (encounter, diagnosis, billing & medications) to define a contact; this mitigates the gaps in data resulting from different EMR systems.
2. Use one contact with a 2-year time period for a CPCSSN denominator (“2YCG”) for most chronic disease epidemiology.
   - Includes more ‘active’ patients (vs. longer time period)
   - Balanced % male/female (more females in 1YCG)
   - Balanced median age (older patients in 1YCG)
   - Reasonably expected disease prevalence (gradient, with highest in 1YCG, lowest in SYCG)
3. Study of rare diseases may require a larger contact group to capture more patients (e.g. SYCG)
Creating Effective Infographics, What Matters? A Literature Review

Samin Dolatabadi, Dr. Sonja Wicklum, Dr. Martina Kelly
Cumming School of Medicine, University of Calgary

Introduction

Infographics are data visualizations that present complex information quickly and clearly to an audience. They are commonly used in various fields such as law and healthcare to communicate key messages. Even though there are multiple benefits to creating medical infographics (Figure 1), learning to make effective infographics is not commonly taught in medical school.

Objectives

To determine characteristics of an effective infographic that increases cognition, supports knowledge translation and physician-patient communication.

Methods

The following databases were searched using search terms suggested by a librarian: MEDLINE (OVID), EMBASE, CINAHL, Library and Information Science Source, Library and Information Science Abstracts, ERIC, and Communication Mass Media Complete. English-language articles published after 2010 were included. Data from included articles (author, year of publication, country, research question, target population, study design, criteria used to evaluate infographics, outcome measures, and results) were tabulated on a custom-made data extraction form.

Results

Ten articles that met the inclusion criteria were found, all of which were published after 2015 with 7 being from US and the rest from UK, Saudia Arabia, and Turkey. Based on these studies, five key features of an effective infographic were identified (Figure 2).

Conclusion

Although an infographic can transfer knowledge about a topic faster than pure text, this condition is dependent on the quality of the infographic. The findings of this study are being used to develop a rubric to help students design effective infographics as part of Family Medicine Clerkship at the University of Calgary. Developing infographics in partnership with patients using empathy and human-centered design theories has potential to improve patient-centered communication.
Family physician prescribing practices and perspectives on shared decision making regarding the use of oral anticoagulants for stroke prevention in patients 75 years or older with atrial fibrillation.

Jahaan Ali BSc, Marjan Abbasi, MD, CCFP(COE), Sheny Khera, MD, MPH, CCFP(COE), Paul Kivi, MD, CCFP(COE) & Peter George Tian, MD, MSc

Division of Care of the Elderly, Department of Family Medicine, Faculty of Medicine and Dentistry, University of Alberta
Corresponding Author: Sheny Khera <sheny.khera@gmail.com>

INTRODUCTION
- Older adults are at higher risk of Atrial Fibrillation (AF), yet many go undertreated with oral anticoagulant therapies (OAC), posing an increased risk of preventable ischemic stroke, greater morbidity and healthcare costs.
- Approximately 85% of OACs are prescribed by family physicians, whose longitudinal doctor-patient relationships make them ideal for delivering patient-centered approaches for stroke prevention in AF.
- Shared decision making (SDM) is a key aspect of patient-centered care.
  - SDM involves collaboration between clinicians and patients to make decisions informed by evidence and in line with patient values.
  - SDM is especially valuable in situations requiring a balance between potential benefits and harms, such as initiating OAC for stroke prevention in elderly patients with AF.

Objective: To determine the management practices and perspectives of family physicians in Edmonton on SDM for the use of OACs for AF in patients aged 75 years or older.

METHODS
A self-designed 18-item survey, consisting of Likert-type, multiple-choice, and open-ended questions on decision-making practices and demographics. Online survey distributed to 20 family physicians (mean age 44.7 years; 75% female; average 15 years in clinical practice) affiliated with Edmonton Oliver Primary Care Network. Responses collected Oct. – Dec. 2019.

Outcome measures:
- Family physician understanding of the risks and benefit of OACs
- The tools family physicians use to assess OAC risks and indications
- In AF patients ≥75 years:
  - Factors family physicians consider when deciding to initiate OACs for stroke prevention
  - Family physician confidence in initiating OACs for stroke prevention
  - Reported use of SDM; perceived patient understanding of options regarding the use of OAC for stroke prevention

RESULTS
- Factors family physicians considered: Patients’ risk of falls, bleeding or stroke (17/20, 85%), patients’ health (15/20, 75%), patient preference (12/20, 60%), drug properties (8/20, 40%), drug coverage (4/20, 20%), and laboratory access (4/20, 20%)
- CHADS2VASc (13/14, 93%) and HASBLED (11/15, 73%) were tools used to determine stroke and bleeding risks, respectively.
- When asked whether they felt confident initiating OAC for AF patients ≥75 (Figure 1), 73% of participants agreed or strongly agreed, 20% neither agreed nor disagreed, and 6.67% disagreed. Increased education was the most commonly reported factor needed to increase confidence.
- All participants agreed or strongly agreed that their patients participated in SDM to initiate OAC for stroke prevention and understood treatment options, benefits, and risks.

“Family physicians involve patients in shared decision making when starting oral anticoagulation for atrial fibrillation but are not equally confident in initiating therapy.”

Figure 1. Family physician self-reported confidence initiating OAC for stroke prevention in AF patients ≥75 years.

“I am confident initiating oral anti-coagulation for stroke prevention in atrial fibrillation patients 75 years of age or older.”

40%
33%
20%
7%

Strongly Agree
Agree
Neither Agree nor Disagree
Disagree
Strongly Disagree

Figure 2. Family Physician perceived use of SDM regarding the use of OAC for stroke prevention in AF.

DISCUSSION
- The risk of falls, stroke and bleeding had the strongest influence on family physicians’ decision to start OAC in elderly patients with AF.
- All physicians felt they used SDM and agreed that their patients were educated on the use of OAC for stroke prevention in AF.
- However, even when physicians believe that they are employing shared decision making when choosing an AC, patients may believe that their physicians were the ones making the decision.
- Family physician confidence in initiating OAC treatment for elderly AF patients was variable.
- While further exploration is needed to determine additional factors influencing their confidence, increased education may be one key factor to address.

Acknowledgements: Thank you to Edmonton Oliver Primary Care Network for allowing us to conduct the research with their community of family physicians. The Northern Alberta Academic Family Medicine Fund supported this study. Study approval by the Health Research Ethics Board, University of Alberta.
Important Outcomes for Type 2 Diabetes: The Patient’s Perspective
Sadasivan C, Zhou H, Khera S, Baergen J, Bell N, Szafran O
1Faculty of Science, University of Alberta (UofA), 2Dept of Educational Psychology, UofA, 3Dept of Family Medicine, UofA

BACKGROUND
1 in 3 Canadians are living with diabetes.
- increased risk of heart attacks, strokes, kidney damage, and amputations (PHAC 2017).

What are Patient Important Outcomes?
• Concept arose from criticism that studies were being designed with outcomes that were relevant to researchers, but not necessarily important to patients.
• Physicians also tend to assume that outcomes relevant to themselves will automatically improve patient important outcomes (Guyatt, Monton, DeVereaux, et al, 2004).

So what do patients with type 2 diabetes tell us about which outcomes matter most to them?
• Are these the same as what doctors rank as important outcomes for diabetes?

METHODS
Setting: Family Practice Clinic, Edmonton, AB
Design: Mixed Methods Study
- Physicians were asked to rank a list of treatment outcomes of diabetes in order of significance.
- Focus groups were conducted with adult type 2 diabetes mellitus patients, using semi-structured questions.
  • Focus group questions addressed patients’ ideas on maintenance of their diabetes, healthy living with diabetes, and important outcomes.
Analysis: Physician responses were analyzed using quantitative descriptive statistics. Patient focus group data was analyzed via qualitative thematic analysis using constant comparative technique.

RESULTS
7 family physicians and 15 patients participated in the study.

Physiologically Defined Outcomes
• Prevention of progression of symptoms (e.g. vision loss, amputation) and avoidance of “all” major and minor morbidity (e.g. organ damage, heart attacks, strokes).
• Meeting A1C goals.

Psychologically & Socially Defined Outcomes
• Maintenance of functional ability.
• Improved quality of life.
• Stress management.
• Better quality of sleep.

Process Highlights
• Healthy doctor-patient relationship (e.g. A1C goal setting with physician).
• Individualized care (e.g. tolerable medication that is tailored to lifestyle, avoid polypharmacy).
• Integrated multifaceted approach with better access to specialists (e.g. nutritionist, mental health, community nurse specialized in diabetes).
• Peer Support Groups.

Patient Important Outcomes are different when you ask Patients.

- According to patients, the outcomes are not necessarily all physiologically defined endpoints in the way they are identified by physicians.
- Patient’s emphasized their value of socially-defined outcomes and the process to meet these instead.
- Investigation of how the outcomes of type 2 diabetes management may be positively influenced by the inclusion of the patient voice in the delivery of patient-centred primary care is warranted.
ILLUMINATING THE EVOLVING IMPACTS OF COVID-19 ON ETHNOCULTURAL COMMUNITIES IN EDMONTON: THE ILLUMINATE PROJECT

Nicole N. Ofosu1, Yvonne Chiu2, Badi Jabbour1, Sauleha Farooq1, Denise Campbell-Scherer1
1Faculty of Medicine and Dentistry, University of Alberta, Edmonton 2Multicultural Health Brokers Coop, Edmonton

CONTEXT
COVID-19 outbreaks in visible minority and racialized communities have exacerbated disparities in poverty, illness and accessing high-quality culturally appropriate information and support. The Illuminate project involves a collaboration between the Multicultural Health Brokers Cooperative of Edmonton, AB and, research and policy partners evolving from previous work to address the needs of these communities.

OBJECTIVE
To generate and feedback real-time synthesised data to help understand and mitigate the evolving impacts of COVID-19.

STUDY DESIGN
Community-based participatory action research using a mixed-methods approach based on complexity science and narrative theory. Between September-December 2020, 20 cultural health brokers and natural community leaders collected and self-signified in a SenseMaker® platform, real-time micro-narratives on COVID-19 impacts on diverse ethnocultural communities. They also engaged in weekly collaborative discussions on the emerging data.

RESULTS
• 773 micro-narratives were collected representing lived experiences of individuals and families living in vulnerable circumstances from diverse ethno-cultural communities in Edmonton (Fig 1).
• The resulting narrative patterns illuminate the entanglement of COVID-19 impacts on individuals and families: prevention and management, care of non-COVID acute, chronic and serious illness; maternal care; mental health and triggers of past trauma; financial insecurity; impact on children and youth, and seniors; and legal concerns (Fig 2).
• A core obstacle for COVID-19 holistic management was income instability, a key asset was community social capital.

CONCLUSIONS
The Illuminate Project has made visible the entangled issues with systemic roots that result in poor health in vulnerable members of ethnocultural communities, and the impact of COVID-19 on increasing basic needs and the time and effort needed to mitigate them. We illustrate cultural brokering as a practice to support people through this crisis and propose concrete recommendations to inform policy to reduce harm, and support community resiliency.
Caregiver-Centered Care: Competency-based Education for the Health Workforce

**INTRO**

Web-based education is a flexible and cost-effective way to deliver health workforce education. We designed an online Caregiver-Centered Care Education program to train health providers who interact with family caregivers (FCGs) in the competencies required to provide person-centered care to FCGs. Our goal is to begin to address the gap between what FCGs say they need from healthcare providers and provider’s preparation to support FCGs.

**METHODS**

Evaluated education at two levels of the Kirkpatrick-Barr Healthcare Education Evaluation Framework:

- **Level 1 Learner’s Reaction**: 5 item Student’s Satisfaction with Education.
- **Level 2 Changes in Learner’s Knowledge**: 10 item Carers Knowledge Assessment Test (CKAT) pre/post the education

**TARGET AUDIENCE**

Healthcare trainees and providers who interact with FCGs in five settings primary care, acute care, homecare, supportive living, and long-term care.

**Reaction: Satisfied with the education**

- Overall quality of the education (Median 5)
- Quality/utility of the videos (Median 5)
- Interactive exercises (Median 5)
- Motivated to learn more about caring for caregivers (Median 5)

**Learners’ Knowledge & Confidence: Significantly* increased**

*CKAT, Level 2] Pre (M=38.6, Sd=6.5) to post (M=47.2, SD=3.4) t (69)= -13.0, p<.0005 (two-tailed)

**DISCUSSION**

The evidence-based spread of Caregiver-Centered Care Education for the health providers to support family caregivers was needed prior to the COVID-19 Pandemic and is more imperative since.

Contact Us
Dr. Jasneet Parmar
Jasneet.Parmar@ahs.ca
Dr. Sharon Anderson
sdanders@ualberta.ca
CONTEXT

COVID-19 pandemic and the public health protocols have increased the demands of care on FCGs. Prior to the pandemic 43% of family caregivers [FCGs] were lonely and 33% were anxious. There are robust associations between extent of caregiving, stress, anxiety, and loneliness, and poor health.

OBJECTIVE

The aim of this study was to assess the effects of COVID-19 pandemic on Alberta FCGs in terms of care work, anxiety, and loneliness and impact on health.

DESIGN

A cross-sectional, online survey was conducted on the REDCap data collection platform. The survey captured caregiving hours, anxiety [State Anxiety Scale] and loneliness [De Jong-Gierveld Loneliness Scale], retrospectively (Jan 2020) and at the time of the survey (July 2020). We used descriptive statistics, χ², and paired-samples T-tests to examine the data.

PARTICIPANTS

604 FCGs completed the survey. 85% were female.

Conclusion

The provision of care by FCGs has been more critical as the result of the COVID-19. The impact of the pandemic on family caregivers caring at home and in congregate care, and their related needs, need immediate attention from both the health and social systems of care. Now is the opportunity to build a better system to support family caregiver’s health and wellbeing during their caregiving journey.

Next Steps

Educating and mandating health and community social care providers to identify and support family caregivers is one of the next critical steps.

Contact Us

Dr. Jasneet Parmar
Jasneet.Parmar@ahs.ca
Dr. Sharon Anderson
sdanders@ualberta.ca
Enhanced Home Living Client & Caregiver Supports Pilot Edmonton Zone
Parmar, J., Murphy, A., Lapointe, P., Berans, C., Anderson, S.D.

**INTRO**
One in 9 of newly admitted long-term care residents have similar needs as those cared for in the community. The barriers to remaining at home are difficulty navigating health systems, out-of-pocket costs, and inflexible homecare delivery.

**PROGRAM**
Four Edmonton Zone Continuing Care Home Living Teams (inner city, urban, suburban, rural)
1. Enhanced support services for clients at risk of LTC admission and distressed caregivers
   - Respite and Instrumental Activities of Daily Living (IADLs)
   - Offer multiple service options (Meaningful to clients/families)
   - Increase service volume and intensity
2. Minimized administrative burden for clients and caregivers (Invoicing Option)

**METHODS**
We measured: 1) Outcomes—repeated measures of reduced FCG distress (Caregiver Risk Screen Baseline, 3, 6 months), clients at high risk of placement (High/very high MAPle scores) remaining at home, 2) Process—homecare staff’s perceptions of program (group interviews); 3) Balance- Client/caregiver satisfaction (individual interviews) and health system savings (average annual costs pilot program versus designated supportive living).

**PARTICIPANTS**
79 clients/caregivers were enrolled from January to September 2019.

**RESULTS**
Decreased family caregiver distress (Clinically meaningful)
Caregiver Risk Screen Scores (Range 0-30)
Very high risk=23-30; high risk=17-22;

<table>
<thead>
<tr>
<th>Time 0: Enrollment</th>
<th>Time 1: Aug/Sept 2019</th>
<th>Time 2: Dec 19/Jan 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.2</td>
<td>16.5</td>
<td>14.3</td>
</tr>
<tr>
<td>24.2</td>
<td>18.3</td>
<td></td>
</tr>
</tbody>
</table>

Remained Home
• 98% of Clients/Caregivers reported enhanced supports increased choice to stay in community homes.
• 57/66 clients with MAPLe of 4 (high) or 5 (very high) remained in the community *

*Approximate savings for 57 clients who remain at home compared to Designated Supportive Living equates to $486,210/year.

**Conclusion**
The Edmonton Zone Homecare Pilot program created a person-centered and caregiver-centered system of care that focused on assessing the needs of the caregiver as well as the client. It enabled homecare staff to personalize services to client/caregiver needs. It provided a cost benefit which is a primary consideration for health initiatives in times of fiscal restraint.

**Contact Us**
Dr. Jasneet Parmar
Jasneet.Parmar@ahs.ca
Dr. Sharon Anderson
sdanders@ualberta.ca
Understanding of Generalism in Physician Clinical Practice: A Systematic Review

S. Cheung, 1, 2 A. Stevenson, 3 S. Singh, 1 S. Park, 1 M. Kelly 1

1University of Calgary, Canada, 2University of Cambridge, UK, 3University College London, UK

CONTEXT

Health systems have a critical need for clinicians with a generalist skill-base. Despite initiatives in medical education to increase the number of generalist-trained doctors, recruitment of generalists is insufficient to meet societal needs in the UK, US and Canada.

STUDY OBJECTIVE

To describe how ‘generalism’ is operationalized and understood in Canada.

METHODS

Systematic mixed studies review (SMISR) using a data-based convergent design 1–2

1. Data are collected together.
2. All data that fulfill inclusion/exclusion criteria qualify to be analyzed through quantitative and qualitative strands.
3. Data from these two strands are explored separately, before being synthesized in the final analysis, where the findings of each contribute to a broader understanding of the core research question.

RESULTS

PRISMA flowchart

We applied heuristics from philosophy to categorize definitions of generalism or generalist practice as intensional or extensional. 5, 7

• Of the papers that provided more detail on generalism, whether intensional or extensional, generalism was presented as an absence of knowledge or training in 64% (90/140) of papers. In the majority of cases, this was reported in contrast to specialists’ possession of more in-depth or advanced knowledge.
• Twenty-three studies (9% of the total dataset) outlined specific attributes of generalism, such as provision of holistic care, informed by an in-depth knowledge of the person’s context and on-going relationships.

STUDY CHARACTERISTICS

Studies were overwhelmingly from the United States (62% of included studies). Quantitative studies made up the majority of study types (203), with 148 of these from the United States.

SYNTHESIS

Potential factors for this deficit include:

- Lack of clear definition of ‘generalist’ or ‘generalism’
- Lack of attention to generalist undergraduate training
- Professional prejudice

RELEVANCE OF THIS WORK

• Identifying similarities and differences between the meaning of ‘generalism’ and ‘generalist’ across disciplines and regions will help identify disjunctions between policy initiatives and clinical practice.
• These findings are particularly relevant for medical education and career selection, where the rhetoric for enhanced generalism is not supported by discourses of generalism in clinical practice, which forms the majority of clinical education.

REFERENCES


Contact Information

Email: sarah.cheung@ucalgary.ca or makelly@ucalgary.ca

Department of Family Medicine, University of Calgary
BACKGROUND

• Concussions can be classified as acute (<80 days to resolution) or chronic post-concussion syndrome (PCS; ≥ 90 days to resolution).

• PCS can immensely affect the quality of life of individuals suffering from its myriad of chronic symptoms and also poses a great burden to the healthcare system.

• Current understanding of the progression of acute concussion to PCS remains limited and warrants further investigation.

OBJECTIVE

• To contrast the presentation and subsequent recovery of acute concussion versus PCS injuries seen at the Glen Sather Sports Medicine Clinic (GSSMC), with the goal of identifying potential factors for PCS prevention.

METHODS

Study Design

• This study is a retrospective chart review of patients with concussion seen by sports and exercise medicine physicians (SMPs) at GSSMC between January 2015 and December 2019. Charts were identified by diagnostic code associated with electronic medical records (HealthQuest).

• Concussion injuries were then subdivided into acute or PCS by time from injury to first appointment.

Outcome Measures

• Demographics
• Referral Providers
• Wait-times
• Injury Mechanisms
• Symptom Scores
• Management Plans
• Recovery Timelines

RESULTS

Demographics

• Individuals who were female (RR=1.4) and/or ≥ 25 years of age (RR=3.6) were more likely to be diagnosed with PCS.

Referral Providers

• Family Physician (58.1%), ER Physician (18.6%), Physiotherapist (15.8%)

Wait-times

• Injury-SMP Referral: 12.0 ± 13.4 days
• SMP Referral-Patient Visit: 6.0 ± 15.5 days

Injury Mechanisms

• Hockey, football, and soccer were the most common injury mechanisms for both acute concussion and PCS.

Symptom Scores

• Symptomology was assessed by utilizing scores from the Sport Concussion Assessment Tool (SCAT 3/5) which is completed each visit.

• Patients with PCS had significantly higher initial total and symptom scores (p<0.001).

• Mean±SD total symptom SCAT 3/5 was 4.0 ± 13.3

• Mean±SD symptom SCAT 3/5 was 0.0 ± 11.8

CONCLUSION

• We gathered a large amount of data to evaluate acute concussion and PCS. Our findings of the incidence and presentation of PCS agree with the current literature.1,2

• The results further reinforce the significant symptomology and delays in school/work/play in patients with PCS.

• Increased recognition of PCS, optimizing initial management, and shortening delays in seeking SMP consultations can be key steps in PCS prevention.

• We make the following recommendations:
  
  1. Increased concussion education of PCS in the community.
  2. Focused injury prevention efforts for female and adult athletes.
  3. Supplementary concussion education for family physicians.

Next steps include further subgroup analyses and comparison of these results to the Complex Concussion Clinic pathway at the GSSMC.

ACKNOWLEDGEMENTS

We would like to acknowledge the Alberta Innovates, Family Medicine Fund and Alberta Innovates Summer Studentship for funding support.

REFERENCES


Glen Sather Sports Medicine Clinic, University of Alberta; Department of Family Medicine, Faculty of Medicine & Dentistry, University of Alberta; Department of Educational Psychology, University of Alberta
Healthy or harmful? A realist review on the impact of health system engagement for people who use drugs

Linda Lam1, Lawrence Ferguson1, Hannah Brooks1,2, Sandra Campbell1, Kari Dumont3, Vanessa Gladue3, Elaine Hyshka1,2, Mark Kratko1, Heather Morris1,2, Lara Nixon4, Jane Springett1, & Ginetta Salvalaggio1,2

1University of Alberta, 2Inner City Health and Wellness Program, 3Alberta Addicts Who Educate and Advocate Responsibly, 4University of Calgary

Context
Engaging people with lived experience in research, health system planning and delivery is emerging as best practice. Benefits to the system are many but less investigated are the personal impacts on participants (Brown 2019). Although it is assumed that people who use drugs (PWUD) will benefit by engaging in the health system beyond receiving services, this population often faces systemic oppression and are at risk of tokenization and stigma, amongst other harms arising from lack of meaningful engagement.

Objective
To understand how, for whom, and under what circumstances health system engagement improves and/or worsens the health and wellbeing of individual PWUD (Program theory).

Design
Population: PWUD (excluding exclusive use of legal substances ie. Alcohol/tobacco/cannabis)
Intervention: Health system engagement – participation in health system planning, delivery, advocacy or research (excluding being a service recipient)
Outcome: Improvements or worsening of personal health and well-being, defined in a holistic sense (physical, emotional, spiritual, and social).

Realist reviews are useful for examining complex social interventions within complex systems. It is an explanatory model that uncovers what, for whom, and under what circumstances give rise to certain outcomes. Using context-mechanism-outcome configurations a program theory is developed which postulates how an intervention works.

Preliminary Findings

Relevance
Does the study address the theory under review?

Rigor
Are the methods used to generate the relevant data credible and trustworthy?

Study Type

Conclusions
Our ongoing research will uncover the nuances of the underlying program theory that explains the health outcomes of PWUD participating in health system engagement. This will serve to inform how their health and wellbeing can be supported, while preventing harms.
Timelines of concussion symptom recovery and return to participation of patients presenting to a community physiotherapy clinic

Codi Isaac PT1,2; Megan Ogle, MSc. Mech. Eng. 1; 3 Calla Isaac, BS3,4; Ann-Marie Przybylski, MSc. 1,3,4; Constance Lebrun, MDCM, MPE, CCFP(SEM), FCFP, Dip. Sport Med, FACSM 2,3

1Isaac Physiotherapy, 2Glen Sather Sports Medicine Clinic, University of Alberta; 3Department of Family Medicine, Faculty of Medicine & Dentistry, University of Alberta; 4Department of Medicine, Faculty of Medicine & Dentistry, University of Alberta

Concussion Injury

- In Canada, it is estimated concussion injury has an annual incidence rate of 1.2%.1
- Treatment and management encompasses robust return to participation criteria.

Objective

- To compare patient demographics, mechanism of injury (MOI), injury phase, changes in total symptom severity (TSS), and return to participation (RTP) including work/learn and activity rates to recovery time frames.

Methodology

- **Design:** Retrospective chart review.
- **Inclusion Criteria:** All patient charts for those receiving treatment for concussion at Isaac Physiotherapy Inc. from September 1, 2016 to August 31, 2018 (n = 234).
- **Intervention:** Multimodal physiotherapy (cervico-vestibular, exertion, education), referral to specialist physician, psychology and/or neuropsychology.
- **Outcome measures:** Total treatments received, treatment time frame (weeks), weeks to recovery, return to participation (work/learn and activity).
- **Analysis:** Descriptive statistics, paired t-tests, survival analysis.

Conclusions

- Concussion patients seeking community physiotherapy experienced symptom and participation recovery.
- Treatment and recovery time frames were considerably longer than reported in the literature.
- Results will aid in expanding generalizability, appropriateness, implementation of pragmatic physiotherapy interventions for concussion, and post-concussion care management pathways.

References

[1] Langer et al. (2020) J Head Trauma Rehabil. DOI: 10.1097/HTR.0000000000000503

Patient Demographics

- **Sex:** Females (36.3%) attended more treatments over a longer time than males (63.7%) treatments over 13.73 treatment weeks; 6.54 treatments over 8.68 treatment weeks, respectively). No difference in weeks to recovery from injury.
- **Age Group:** Recovery timelines were shortest for children (6.95 treatment weeks and 10.64 weeks to recovery); longest for seniors (23.48 treatment weeks and 43.36 weeks to recovery).
- **MOI:** Motor vehicle collision (MVC) had the longest time-to-recovery (20.95 treatment weeks and 44.70 weeks to recovery); sport and other MOI had statistically the same recovery times (7.02 treatment weeks and 18.87 weeks to recovery; 8.59 treatment weeks and 21.76 weeks to recovery, respectively).
- **Injury Phase:** Outcome measures were longest for the chronic injury phase (19.02 treatment weeks and 48.23 weeks to recovery for chronic adult group, respectively).

Results

- **Time to Recovery:** Females attended more treatments over a longer time than males (8.61 treatments over 13.73 treatment weeks; 6.54 treatments over 8.68 treatment weeks, respectively). No difference in weeks to recovery from injury.
- **Return to Participation:** Recovery timelines were shortest for children (6.95 treatment weeks and 10.64 weeks to recovery); longest for seniors (23.48 treatment weeks and 43.36 weeks to recovery).
- **Motor vehicle collision (MVC) had the longest time-to-recovery (20.95 treatment weeks and 44.70 weeks to recovery); sport and other MOI had statistically the same recovery times (7.02 treatment weeks and 18.87 weeks to recovery; 8.59 treatment weeks and 21.76 weeks to recovery, respectively).**
- **Outcome measures were longest for the chronic injury phase (19.02 treatment weeks and 48.23 weeks to recovery for chronic child/youth group, 19.02 treatment weeks and 68.19 weeks to recovery for chronic adult group, respectively).**
- **Average TSS decrease was 19.88 points between intake and discharge.**

**Footnotes:**
- * p<0.05, **p<0.01
Trends in fentanyl use and preference for fentanyl: implications for opioid agonist prescribing practices and harm reduction efforts in primary care

A. Weng1; M. Ferguson2; K. Papamihali3; B. Graham2; J. Buxton1,2
1University of British Columbia Faculty of Medicine; 2BC Centre for Disease Control

Prevalence of fentanyl in the illicit drug market has increased as the opioid overdose crisis continues to devastate Canada. British Columbia and Alberta have the highest rates of opioid overdose deaths.

Family physicians, the main prescribers of opioid agonist therapy, need to constantly adapt to the changing patterns of illicit opioid use as they provide treatment and harm reduction support to people who use drugs.

Introduction

Purpose

To highlight the current trends in illicit fentanyl use and preference for fentanyl in BC.

To draw attention to how these trends may impact opioid agonist prescribing practices and harm reduction efforts in primary care.

Methods

This review analyses data from the 2019 Harm Reduction Client Survey administered by the BC Centre for Disease Control.

Survey participants were clients that accessed services at the selected harm reduction supply distribution sites in 20 different communities across BC in 2019. In total, there were 621 participants (aged 19 to 72; 64% identified as male).

Descriptive statistics and multivariable logistic regression describe factors pertinent to the objectives of this study.

Results

Table 1. The illicit opioid(s) used and the route(s) of administration in the last three days as reported by survey participants.

<table>
<thead>
<tr>
<th>DRUG</th>
<th>USED</th>
<th>SMOKED</th>
<th>SNORTED</th>
<th>INJECTED</th>
<th>SWALLOWED</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHADONE</td>
<td>139</td>
<td>22.4%</td>
<td>17</td>
<td>12.0%</td>
<td>1</td>
<td>0.7%</td>
</tr>
<tr>
<td>SUBOXONE</td>
<td>25</td>
<td>4.0%</td>
<td>10</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>DILAUDID</td>
<td>17</td>
<td>2.7%</td>
<td>4</td>
<td>23.0%</td>
<td>5</td>
<td>29.4%</td>
</tr>
<tr>
<td>OXYCODONE</td>
<td>6</td>
<td>1.0%</td>
<td>2</td>
<td>33.3%</td>
<td>5</td>
<td>83.3%</td>
</tr>
<tr>
<td>MORPHINE</td>
<td>70</td>
<td>11.5%</td>
<td>18</td>
<td>26.7%</td>
<td>8</td>
<td>11.4%</td>
</tr>
<tr>
<td>HEROIN</td>
<td>272</td>
<td>43.8%</td>
<td>200</td>
<td>78.5%</td>
<td>19</td>
<td>7.0%</td>
</tr>
<tr>
<td>FENTANYL</td>
<td>283</td>
<td>45.5%</td>
<td>190</td>
<td>67.1%</td>
<td>13</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

Heroin

Fentanyl

Methadone

Oxycodone

Morphine

Hydromorphone

Dilaudid

Syrup

Figure 1. The breakdown of opioid preference amongst participants who reported using illicit opioids.

Table 2. Correlations between opioid preference (fentanyl or heroin) and reported gender, health authority, age, Indigeneity, recent overdose history, and opioid agonist therapy (OAT) use.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N (%)</th>
<th>People who prefer to use heroin</th>
<th>People who prefer to use fentanyl</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>124 (41.9)</td>
<td>68 (54.9)</td>
<td>38 (30.8)</td>
<td>0.127</td>
</tr>
<tr>
<td>Female</td>
<td>198 (58.1)</td>
<td>46 (36.7)</td>
<td>13 (10.1)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;30</td>
<td>46 (14.6)</td>
<td>36 (43.5)</td>
<td>10 (11.5)</td>
<td>0.081</td>
</tr>
<tr>
<td>30-59</td>
<td>73 (23.0)</td>
<td>41 (56.2)</td>
<td>12 (16.3)</td>
<td></td>
</tr>
<tr>
<td>60 or older</td>
<td>102 (32.5)</td>
<td>43 (42.1)</td>
<td>32 (31.1)</td>
<td></td>
</tr>
<tr>
<td>Indigeneity</td>
<td></td>
<td></td>
<td></td>
<td>0.073</td>
</tr>
<tr>
<td>Yes</td>
<td>113 (38.0)</td>
<td>68 (60.3)</td>
<td>26 (23.0)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>53 (17.0)</td>
<td>17 (32.1)</td>
<td>14 (26.4)</td>
<td></td>
</tr>
<tr>
<td>Health Authority</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHA</td>
<td>46 (14.6)</td>
<td>30 (65.2)</td>
<td>16 (34.8)</td>
<td>0.066</td>
</tr>
<tr>
<td>CHL</td>
<td>77 (24.8)</td>
<td>54 (69.9)</td>
<td>15 (20.1)</td>
<td></td>
</tr>
<tr>
<td>NHA</td>
<td>90 (28.7)</td>
<td>50 (55.6)</td>
<td>20 (22.2)</td>
<td></td>
</tr>
<tr>
<td>NNA</td>
<td>41 (13.0)</td>
<td>22 (53.7)</td>
<td>14 (34.2)</td>
<td></td>
</tr>
<tr>
<td>Recent Overdose History</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>101 (32.5)</td>
<td>61 (60.5)</td>
<td>27 (26.7)</td>
<td>0.041</td>
</tr>
<tr>
<td>No</td>
<td>121 (38.5)</td>
<td>52 (43.1)</td>
<td>53 (43.9)</td>
<td></td>
</tr>
<tr>
<td>OAT Accessibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>158 (49.2)</td>
<td>87 (55.3)</td>
<td>71 (45.2)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>162 (50.8)</td>
<td>70 (44.7)</td>
<td>84 (54.8)</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions

Smoking is the commonest route for people who use illicit opioids.

From our survey, preference for fentanyl is proportionally higher amongst younger participants.

We found no significant difference in rates of OAT attempts and discontinuation between people who prefer heroin compared to fentanyl.

Research Implications

1. Physicians should educate patients on risks associated with smoking illicit opioids and advocate for an increase in safer smoking supplies and observed smoking sites.

2. As fentanyl use can be associated with challenging buprenorphine/naloxone induction and patients requiring higher OAT maintenance dose, prescribers may expect to encounter these clinical scenarios more often especially in younger patients.

3. As overall preference for fentanyl grows, more research is needed to develop improved OAT treatment protocols to address the emerging challenges with treating patients who use illicit fentanyl.