

BUILDING PARTNERSHIPS FOR IMPLEMENTING A DECENTRALIZED EHEALTH COLLABORATIVE GOUT CARE MODEL (BRIDGE)



THE UNIVERSITY OF BRITISH COLUMBIA
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Collaboration for
Outcomes
Research and
Evaluation



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01 EXECUTIVE SUMMARY

A model for virtual shared care that involves rheumatology, pharmacy and dietetics has demonstrated success in improving health outcomes for people living with gout. Importantly, its applications can be extended beyond this patient population and be customized to support multidisciplinary care with a variety of health care professionals. The fundamental component of this model is access to a shared electronic medical record (EMR) to support decentralized communication, collaboration, and knowledge sharing among health care professionals.

As we transition to an increased use of virtual care and telehealth, it is important to ensure that patient-centered care continues to be prioritized. The presented model for virtual shared care in gout that uses a shared EMR provides essential insight into how we can optimize health care delivery in this evolving setting.

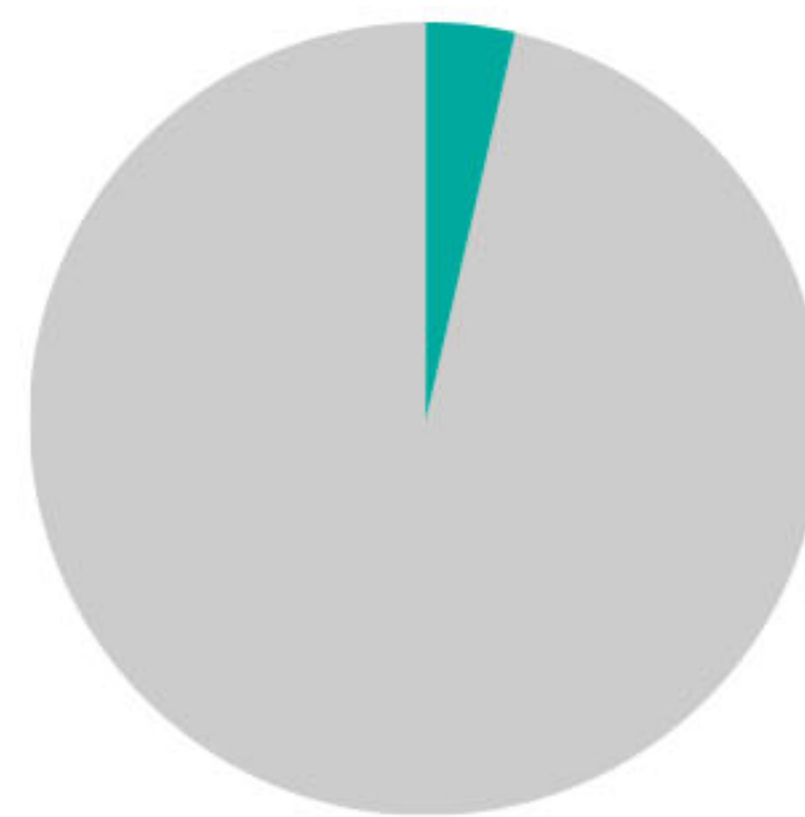


02 BACKGROUND

Gout as a case patient population for multidisciplinary care

Gout is the most common form of inflammatory arthritis and is characterized by elevated serum urate levels that leads to painful flares and joint destruction. Despite gout being an essentially curable disease with the availability of urate lowering therapy, the quality of care for gout is suboptimal.

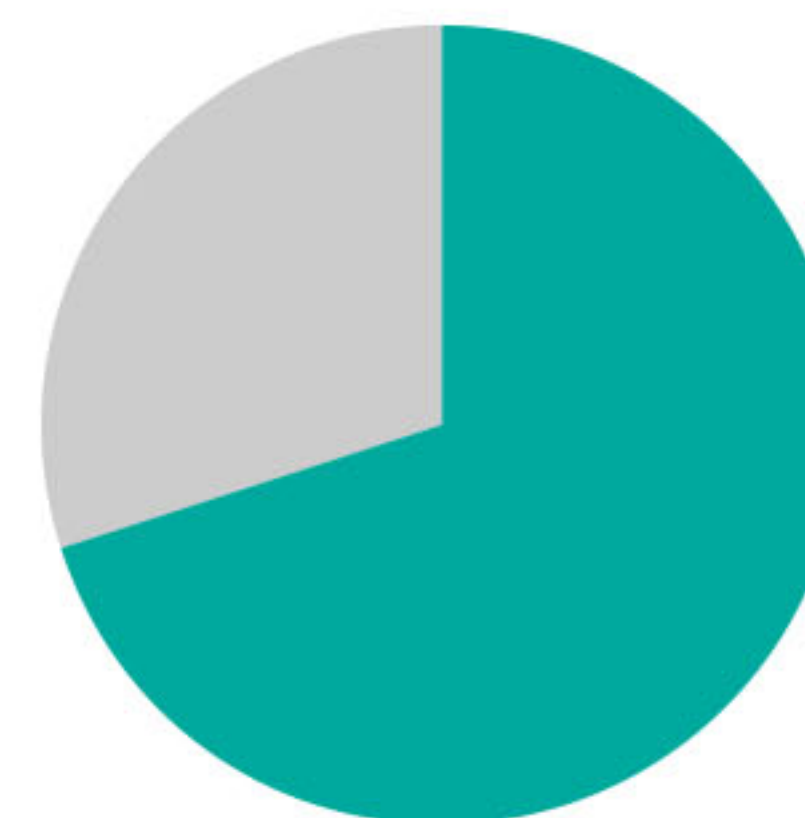
171,165
CASES
OF GOUT IN BC (2012)



3.8%
ESTIMATED
PREVALENCE
IN BC (2012)

<25%
RECEIVING URATE
LOWERING THERAPY

10-46%
TAKE URATE LOWERING
THERAPY AS PRESCRIBED
(ARE 'ADHERENT')



UP TO
70%
DISCONTINUE URATE LOWERING
THERAPY WITHIN THE FIRST YEAR

Gout is the ideal population to evaluate multidisciplinary care models given extensive evidence for undertreatment, availability of effective medication, a clear outcome measure in serum urate levels, and potential roles of other health care professionals.

Rai, S. K., Aviña-Zubieta, J. A., McCormick, N., De Vera, M. A., Shojania, K., Sayre, E. C., & Choi, H. K., 2017. The rising prevalence and incidence of gout in British Columbia, Canada: population-based trends from 2000 to 2012. *Seminars in Arthritis and Rheumatism*, 46(4).

De Vera, M. A., Marcotte, G., Rai, S., Galo, J. S., & Bhole, V., 2014. Medication adherence in gout: a systematic review. *Arthritis Care & Research*, 66(10).

Centralized multidisciplinary care models for gout

Centralized care = health care delivery with health care professionals in the **same** practice setting (i.e., co-located).

Two centralized multidisciplinary care models for gout have been evaluated in the UK and the USA. These models of care require other health care professionals to be in the same location as the rheumatologist and therefore do not include shared EMRs.



Proof of concept study¹:

92% achieving serum urate below 360 $\mu\text{mol/l}$ at 1 year

Randomized controlled trial²:

- 95% of participants in the nurse-led group had serum urate below 360 $\mu\text{mol/L}$ compared with 30% in the usual care group at 2 years
- Estimated cost per QALY gained of £5066 at 2 years, suggesting highly cost effective



Proof of concept study³:

82% achieving serum urate below 6.0 mg/dL

Randomized controlled trial⁴:

- 35% of intervention group had serum urate below 6.0 mg/dL compared with 13% in the control group at 26 weeks
- No economic evaluation

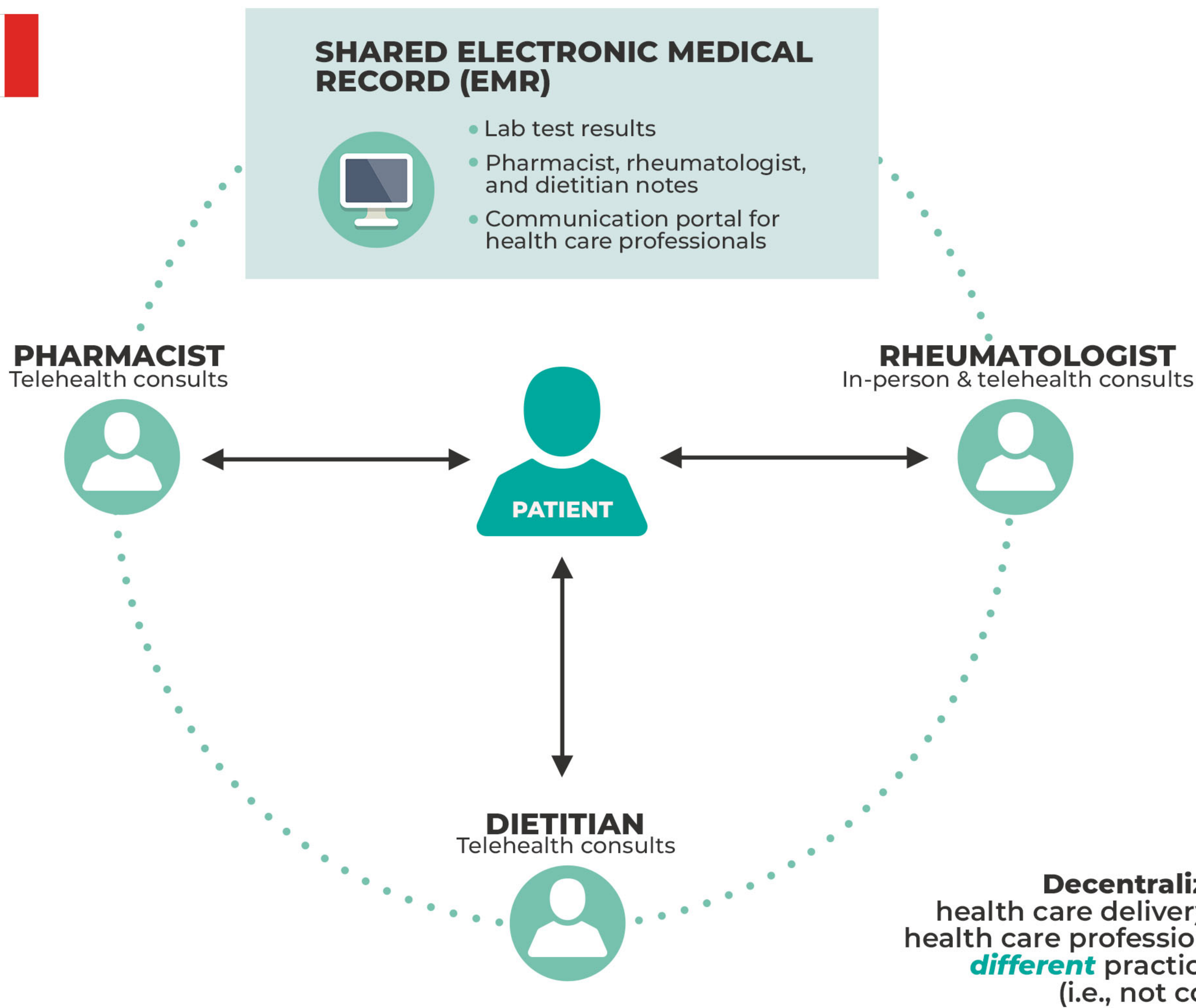
1. Rees, F., Jenkins, W. and Doherty, M., 2013. Patients with gout adhere to curative treatment if informed appropriately: proof-of-concept observational study. *Annals of the Rheumatic Diseases*, 72(6).

2. Doherty, M., Jenkins, W., Richardson, H., Sarmanova, A., Abhishek, A., Ashton, D., Barclay, C., Doherty, S., Duley, L., Hatton, R. and Rees, F., 2018. Efficacy and cost-effectiveness of nurse-led care involving education and engagement of patients and a treat-to-target urate-lowering strategy versus usual care for gout: a randomised controlled trial. *The Lancet*, 392(10156).

3. Goldfien, R.D., Ng, M.S., Yip, G., Hwe, A., Jacobson, A., Pressman, A. and Avins, A.L., 2014. Effectiveness of a pharmacist-based gout care management programme in a large integrated health plan: results from a pilot study. *BMJ Open*, 4(1).

4. Goldfien, R., Pressman, A., Jacobson, A., Ng, M. and Avins, A., 2016. A pharmacist-staffed, virtual gout management clinic for achieving target serum uric acid levels: a randomized clinical trial. *The Permanente Journal*, 20(3).

Virtual shared care: A decentralized multidisciplinary care model for gout in BC supported by shared EMR



EXPERIENCE

Rheumatologist

“Virtual Gout made my gout patient care more efficient. I found the pharmacist and dietitian notes very helpful and I quickly realized that some patients respond better to advice coming from other health care providers. It was fun having this great team that focused on the patient.”

“I found that the virtual gout clinic increased my efficiency in caring for patients with gout. It also provided an opportunity for patient education and led to increased patient “buy-in” with the management plans. Patients were confident in their care and even after the clinic finished, those same patients continued therapy and have been successfully discharged from my rheumatology practice to have long term follow-up with their primary care practitioner.”

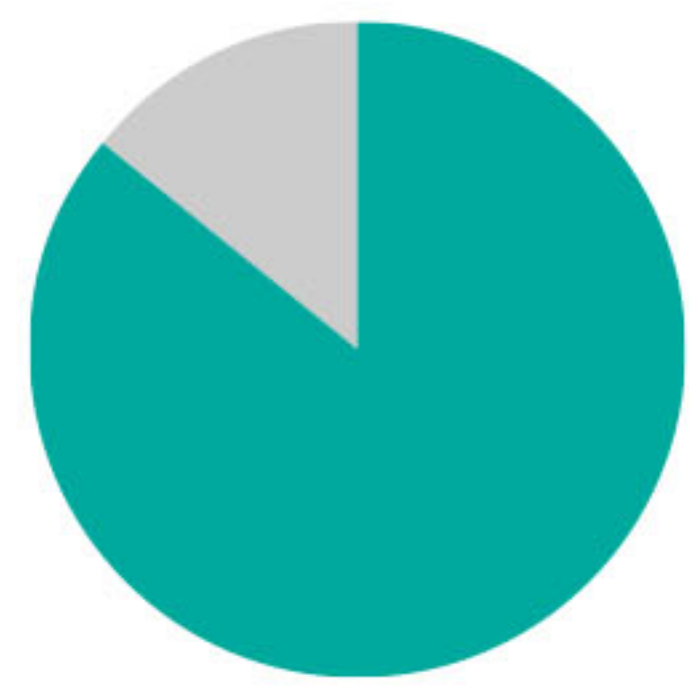
Pharmacist

“The multidisciplinary virtual gout clinic pilot was one of the most fascinating things I have ever participated in. It was amazing to have been able to provide pharmaceutical care to patients virtually in a specialized setting with other health care providers, while being able to share information pertinent to the patient from each provider’s perspectives. I think that at the time, the virtual aspect of care was a bit foreign and perhaps less sophisticated from the patient’s perspective, we interacted only through phone calls and not video calls. Now that the Covid-19 pandemic has forced us all to advance in the digital age, these virtual models of interdisciplinary care would hopefully become a natural progression of health care provision in the future.”

Dietitian

“The information from the shared EMR (patient history, provider notes, and lab results) not only saved time, but enhanced my ability to deliver personalized care. The shared EMR was simple to use and the virtual approach allowed for care to be delivered from any location.”

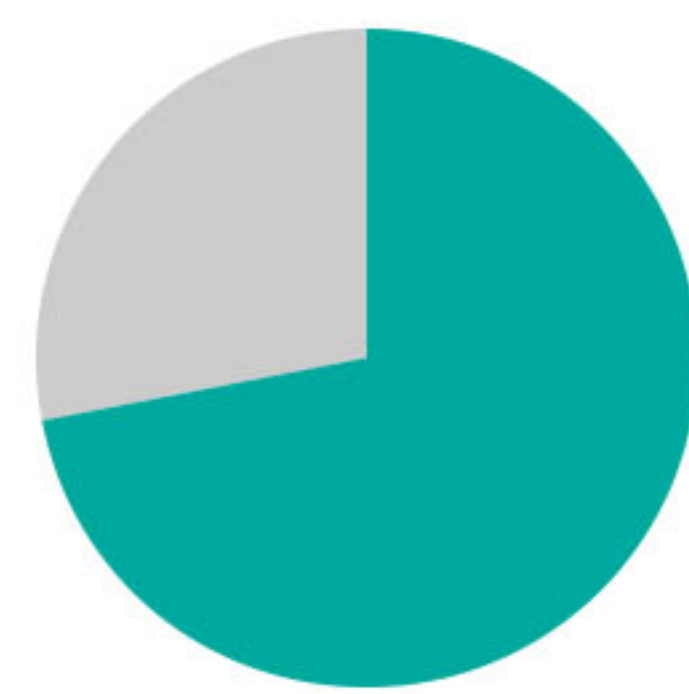
Evaluation of virtual shared care for gout



86%
MALE

MEAN AGE
60.9
YEARS

- **Proof-of-concept study among 35 patients with gout**



72%

of patients achieved target serum urate $<360 \mu\text{mol/L}$ after 1 year

- **On average patients had:**



2.8 ± 1.1 in-person visits with their rheumatologist



3.6 ± 2.7 telephone consults with the pharmacist

- **Collaborative interventions initiated by the pharmacist and/or rheumatologist included:**

- **up-titration** of urate lowering therapy (ULT) for 15 patients
- **discontinuation** of unnecessary medications for 12 patients
- identification of non-adherence and **re-initiation of ULT** for 3 patients
- **renewal by pharmacist** of ULT prescriptions for 4 patients

03 BRIDGE PROJECT OVERVIEW

PROJECT AIMS

- To translate research on virtual shared care for gout to stakeholders
- To gather stakeholders' perspectives on virtual shared care for gout including barriers and facilitators to implementation
- To catalyze efforts for implementation of virtual shared care for gout in BC

TO ENGAGE WITH STAKEHOLDERS AND INFORM FUTURE IMPLEMENTATION, WE:

- Conducted an online survey with Canadian pharmacists
- Hosted a discussion at UBC Rheumatology Rounds that included rheumatologists and other health care professionals across British Columbia
- Had one-on-one interviews with individuals living with gout that participated in the feasibility study



04

STAKEHOLDER PERSPECTIVES: PEOPLE LIVING WITH GOUT

One-on-one semi-structured interviews with 12 individuals who received care through the virtual shared care model for gout revealed four main themes to describe their experience:

Improved knowledge about gout:

“the CT scan that, that she ordered that displayed exactly where the crystals in my feet and my hands was pretty dramatic *(Patient 9, male)*”

“the blood tests, that kind of showed whether it was working or not *(Patient 4, male)*”

Receiving personalized support:

“it was nice having her [pharmacist] check on the blood tests.. and interpreting them, and I remember one in particular where it looked like stuff was going the wrong way, so it was nice having that kind of feedback *(Patient 8, male)*”

Knowing someone cares:

“I felt that somebody really cared who wanted to know how I’m doing *(Patient 3, female)*”

Practical considerations to optimize timing:

“a year ahead when my gout was so extreme before I got referred to a rheumatologist, it would have been a lot more helpful *(Patient 7, female)*”

04

STAKEHOLDER PERSPECTIVES: RHEUMATOLOGISTS

Approximately 65 attendees at UBC Rheumatology Rounds.

Rheumatologists expressed that this virtual model of shared care could be integrated with their current practice and they would be comfortable providing pharmacists access to their EMR.

Barriers to implementation:

- Renumeration of pharmacists or other health care professionals
- Time required by pharmacists or other health care professionals

“Use of the pharmacist is fantastic. It will depend on which community pharmacy and the time that they may have available to assist with this model”

- Alignment among health care professionals on gout education for patients

Strengths:

- Supports patient care by:
 - having pharmacists checking blood tests
 - dietitian providing important diet and lifestyle education

“I think diet and lifestyle is important – gout is more than managing uric acid levels. Patients with gout have metabolic comorbidities such as hypertension, dyslipidemia, etc.”

- Enhanced relationships between pharmacists and rheumatologists

New insights:

- Possibility of **expanding role of nurses** already situated in rheumatology clinics to occupy the role of a pharmacist

“Would implementing the clinic nurse for follow-up calls, instead of relying on the pharmacists (as noted, they are often too busy) be more useful or consistent? Registered nurses also reinforce diet and lifestyle as well as education for the comorbidity risks”

- Nurses could also monitor lab results and communicate to patients using email or telephone calls as needed to emphasize importance of gout management.
- Include pharmacists or other health care professionals that speak many languages to reach more patients
- Could be most beneficial for patients with uncontrolled gout and therefore option to use a targeted approach in offering care

04

STAKEHOLDER PERSPECTIVES: PHARMACISTS

As part of a national survey to ask pharmacists in Canada about their experiences and perspectives on telepharmacy, we also invited participants to respond to specific questions regarding virtual shared care.

Participants Characteristics:



98 survey participants



65% female, mean age 38.3 years



54% have been practicing pharmacists for **>10 years**



Participants from 7 provinces;
70% of participants from British Columbia

78% felt this model of shared care would be feasible in their pharmacy

Most important considerations for successful implementation of telepharmacy



74.5% Reimbursement for pharmacists



63.8% Time constraints



63.8% Use of multiple EMR systems by physicians



57.5% Gaining access to patients' EMR



30.9% Privacy and confidentiality

Most important aspects of a shared EMR that would be most useful when managing patients with chronic diseases



83.3% Access to lab test results



69.8% Access to physician notes



66.7% Direct communication with patient's physician



58.3% Platform to facilitate medication change (with physician)



20.8% Ability to renew prescriptions (with physician)

04

STAKEHOLDER PERSPECTIVES: ESSENTIAL CHECKLIST ITEMS

Essential checklist items to deliver virtual shared care in your own setting:

PATIENT

- ☐ Scheduled appointments for virtual care
- ☐ Reminders for prescription refills and lab tests

RHEUMATOLOGIST

- ☐ Supportive EMR provider
- ☐ Interested pharmacist and dietitian who are compensated for their time
- ☐ Educated dietitian and pharmacist

PHARMACIST

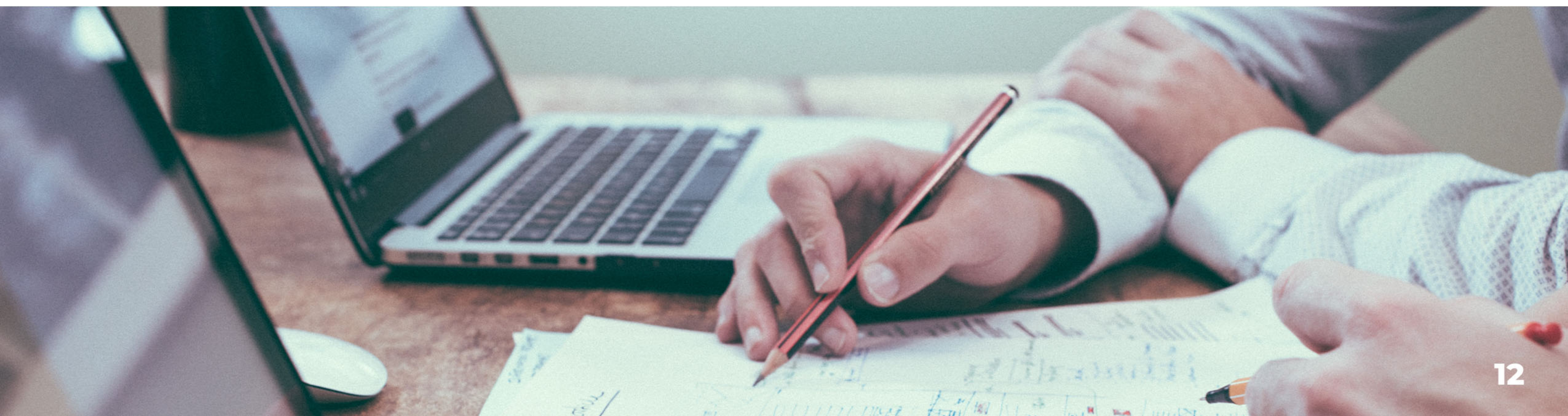
- ☐ Secure internet connection
- ☐ Platform/app for video calls
- ☐ Access to patient records (EMR, prescription, and hospital)
- ☐ Pharmacy module within EMR
- ☐ Collaboration with dispensing pharmacies

DIETITIAN

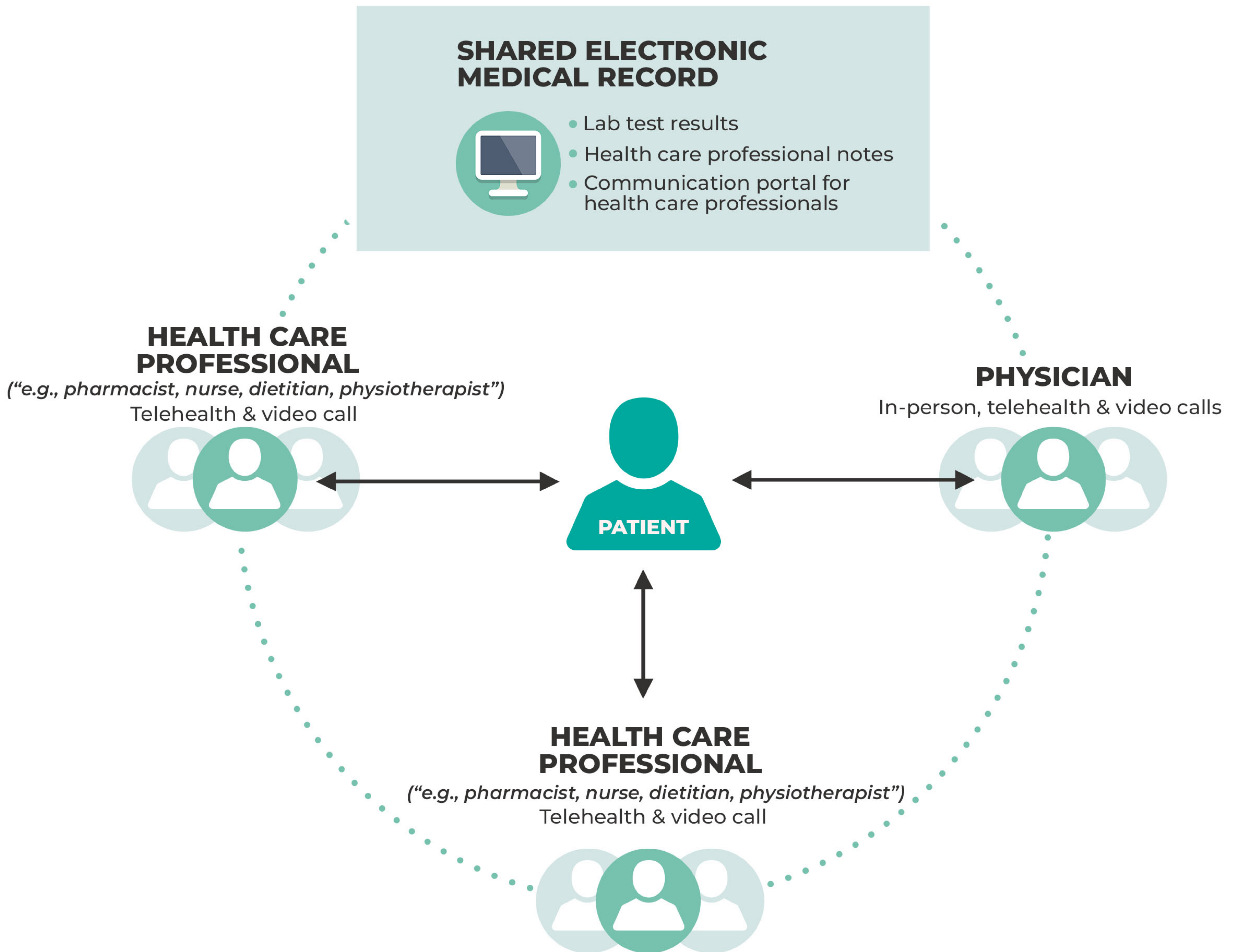
- ☐ Internet and appropriate computer software
- ☐ Telephone or video platform system to conduct patient consults

EHEALTH

- ☐ Ability of EMR to identify patients participating in virtual shared care model
- ☐ Regular audits of EMR access privileges



05 CONCLUSION



Summary and future applications of multidisciplinary virtual shared care

Altogether, a decentralized approach for multidisciplinary virtual shared care enables health care professionals who are not co-located to effectively deliver collaborative and comprehensive patient care. Research and engagement activities demonstrate the acceptability of this model among health care professionals and patients. This model offers the flexibility to be applied in other diseases and can be modified to include any health care professional.

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PROJECT TITLE:

Building partnerships for implementing a decentralized eHealth collaborative gout care model: BRIDGE

PROJECT TITLE:

Collaborative care model involving eHealth to improve treatment adherence and health outcomes of patients with gout

PROJECT TITLE:

Preventing Complications from Inflammatory Skin, Joint and Bowel Conditions (PRECISION)

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