



SCALING UP INTEGRATION IN ALBERTA

A PILOT STUDY

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REPORT PREPARED BY

...

Lynn Toon, RN MSc (on behalf of ACTT)

Tanya Barber, MA (EnAct)

June Austin, RN (on behalf of ACTT)

Kylie Kidd Wagner, MSc (ACTT)

Lee Green, MD MPH (EnAct)



ACKNOWLEDGMENT

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Enhancing Alberta Primary Care Research Networks (EnACT) is an infrastructure to support and enhance Alberta's existing practice-based research networks as well as academic and community practitioners conducting primary care research. They are funded by the Alberta Innovates Translational Health Chair Award. This work was in collaboration with the Alberta Medical Association – Accelerating Change Transformation Team (AMA ACTT). EnACT and AMA - ACTT would like to acknowledge the research field team and to thank all the participants for engaging in this important research that seeks to drive Alberta towards an integration health care system.

Research field team members: June Austin, Mia Cavanaugh, Sandee Foss, Angela Johnson, Kylie Kidd Wagner, Bonnie Lakusta, John Lester, Barbra McCaffrey, Sue Peters and Lynn Toon



CONTACTING THE TEAM

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For more information about this research please contact:
Tanya Barber, EnACT Research Coordinator
tkbarber@ualberta.ca or
Kylie Kidd Wagner, AMA - ACTT Research Lead
kylie.kiddwagner@albertadoctors.org



HOW TO CITE THIS WORK

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Toon L, Barber T, Austin J, Kidd Wagner K, Green LA. Scaling Up Integration in Alberta: A Pilot Study. Edmonton, AB: University of Alberta; 2019 October (Unpublished Report). Available from: <https://primarycarere-search.ca/integration.pdf>

SCALING UP

INTEGRATION IN ALBERTA – A PILOT STUDY
SUMMARY AND RECOMMENDATIONS



OBJECTIVE

Improving specialty and primary care integration is a key strategy for reducing unnecessary hospital admissions, readmissions, medical errors, and delays in receiving care.

SO WHAT?

System factors are the root of a high degree of cognitive effort required by both specialists and family physicians working within an environment of unreliability. Restructuring and co-design to facilitate systematic development and coordination of referral processes is needed. Restructuring must focus heavily on consistency and predictability, in order to create reliable processes. Further study is required.

KEY FINDINGS

- Differing mental models between specialty and primary care (i.e., not shared)
- Similar features between specialty and primary care include individual effort rather than system approach resulting in high effort, rework, reliance on mental recall and system two¹ thinking
- Unreliable or non-existent processes

¹System two thinking allocates attention to the effortful mental activities that demand it, including complex computations. Often associated with the subjective experience of agency, choice and concentration. (Kahneman, D. *Thinking Fast and Slow*. New York: Farrar, Straus and Giroux, 2011.) 499 pages.

FINDINGS IN DETAIL

Family physicians' mental models were consistent across participants:

- ambiguity and unreliability were accepted as normal features leading to effortful, time-consuming work
- consensus regarding challenges navigating the referral process, stemming from specialty care (particularly, not knowing what to include in referral to different specialties or individuals within a specialty)

Additionally, family physicians expected patients in spoken and unspoken ways, to track coordination of their own referral.

Specialists' mental models had some variation, but all included:

- a case-by-case approach due to lack of information needed to assess referrals appropriately leading to increased effort
- deliberately accepting all referrals in belief that each patient is qualified to be seen until proven otherwise and/or because it's easier than rejecting the referral; resulting in evaluating each, needing to request further information, thus extending the wait time for the consult

Team members held shared mental models with the physicians they supported, often confirming what we found in the specialist and family physician interviews. Both family physicians and specialists were open to learning and sharing opportunities to improve.

METHOD

Cognitive Task Analysis (CTA) was used, specifically the Critical Decision Method, which focuses on how one decision is made. In this case, sending or accepting referrals. Three family physicians, three specialists and three team members were interviewed.

MENTAL MODELS

Mental Models describe the lens through which individuals make sense of what's happening around them. More than our beliefs and values and dynamic in nature. Determines what we pay attention to, options and possibilities we consider, how we solve problems, make decisions and act. Our mental models are often so implicitly held that we have limited awareness of them and of the ways in which they constrain our thinking.

COGNITIVE TASK ANALYSIS

Set of qualitative tools used to elicit mental models; valuable to represent how people think when working in cognitively complex environments.

SHARED MENTAL MODELS

Everyone shares the same lens. When mental models are not shared, working together effectively can be markedly impaired without an understanding of why.

RECOMMENDATIONS

- Additional interviews of both family physicians and specialists and teams they work with
- Expansion of study to include patients (and families), and those involved in development of referral processes
- Development of principles for scaling up based on a more complete study of mental models from all involved in development of reliable processes

BACKGROUND & PURPOSE

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Improving integration between specialty and primary care is key to reducing unnecessary hospital admissions, readmissions, medical errors and delays in receiving care^{1,2,3}.

Strong evidence exists to support relational continuity⁴ efforts in primary care, and continuity extends to informational and management continuity through system integration. It is described by the World Health Organization as, “the management and delivery of health services such that people receive a continuum of health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation and palliative care services, through the different levels and sites of care within the health system, and according to their needs throughout the life course”.⁵

Finding scalable principles for integration requires an understanding of the lenses through which specialists and family physicians make sense of the referral and consultation process: how they understand, think about, and approach the work they do and what actions produce what consequences under what conditions. In other words, understanding their mental models of the referral and consultation process.

This pilot study was conducted to glean preliminary findings to inform recommendations for future steps towards improving and developing processes for care management between specialty and primary care.

PROJECT DESIGN & METHOD

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To elicit mental models we used a set of research tools called Cognitive Task Analysis (CTA), specifically the Critical Decision Method (CDM) ⁶. The CDM focuses on how one decision is made: in this case, sending or accepting referrals.

The interviews, were conducted by an interviewer and a note taker. They were roughly one hour in length, audio recorded, and followed a semi-structured interview guide.

Interview audio recordings were transcribed, and each transcript was coded using the “macrocognition” template ^{7,8} by at least two team members. Full team analysis meetings involved constructing mental model representations for each participant. Finally, contrasts and comparisons across participants were compiled and categorized.



MENTAL MODEL

Mental Models describe the lens through which individuals make sense of what's happening around them. More than our beliefs and values and dynamic in nature. Determines what we pay attention to, options and possibilities we consider, how we solve problems, make decisions and act. Our mental models are often so implicitly held that we have limited awareness of them and of the ways in which they constrain our thinking.



COGNITIVE TASK ANALYSIS

Cognitive Task Analysis is a set of tools used to elicit and represent how people think when working in cognitively complex environments. It can be used to understand and improve team functioning in high stakes settings (e.g. aviation, firefighting, ICUs).



MACROCOGNITION

Macrocognitive functions are the crucial processes that individuals and teams carryout each day (e.g. coordination, planning and re-planning, decision making, monitoring and detection, sense making/ learning and managing the unknown).

PARTICIPANTS



We interviewed three specialists and three family physicians. We also interviewed three team members, who worked with either the specialist or family physicians interviewed. The participants were diverse in age (30s-50s), gender (four men and five women), years working in field (3-30 years), and geographic location (four rural, five urban; all southern AB except one).

FINDINGS



Mental models across family physician participants were consistent. They understood the referral process to be effortful, accepting ambiguity and unreliability as normal features of coordinating care with specialists, which resulted in their work being reactive for each patient. There was a consensus that challenges navigating referrals existed, and these were perceived to stem from specialty care. They did not have clear direction of what to include in referrals to different specialties or individuals within a specialty, perceiving that each seemed to want something different. The presence of ambiguity, unreliability and lack of clarity, provides a clear signal that defined, reliable processes do not consistently exist.

There was some variation across specialists' mental models, but all included a case by case approach, as often they did not receive the information needed to assess patient referrals appropriately. This required increased effort on their part and often resulted in accepting all referrals, evaluating each, and then needing to request further information which often extended wait times.

THE LACK OF SYSTEM-BASED APPROACHES TO MAKING AND RECEIVING REFERRALS WAS PROMINENT.

Team members held shared mental models with physicians they supported, often confirming what we found in the specialist and family physician interviews. Reliance on team members to monitor and track the referrals was apparent, with little evidence of formal tracking processes, resulting in high reliance of information and recall held in the memory of team members and physicians.

Common to both family physicians' and specialists' mental models was that they were centered on individual effort, and on an individual-physician rather than systematic responsibility model. The lack of system-based approaches to making and receiving referrals was prominent.

Both physician groups were open to learning and sharing opportunities to improve the referral process. The specialists interviewed did have a sense of the time pressures facing family physicians as well as frustrations around patient wait lists; however, in this may be attributable to previous experiences that two had, in working as primary care physicians.

DISCUSSION

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Our analysis revealed that overall, both family physicians and specialists work within a complex and confusing environment with lack of clear processes leading to an undependable, unreliable system; where rework, delays and potential for error exists.

Based on our pilot study it appears that, family physicians and specialists do not have shared mental models. For family physicians, this creates islands of obscurity around specialists and the referral process.

We describe this as a “Kinder Surprise” model. Awareness of a surprise exists for each referral but there is ambiguity as to what it will be, i.e., will the referral be accepted or rejected; are instructions clear, or will the information provided be correct or adequate and will further information be requested? Family physicians are required to incorporate guesswork and variation for each referral made, often not knowing what to include in letters to specialists. This level of “system two” thinking” is high in cognitive effort, incorporates redundant and repetitive work, and heavily relies on a family physician’s tacit knowledge of specialist preferences, gathered over time and experience. Many primary care clinics improvise systems and workarounds to mitigate the risk of patients “falling through the cracks”, requiring diversion of clinic resources to be vigilant.



SYSTEM TWO THINKING

System two thinking allocates attention to the effortful mental activities that demand it, including complex computations. Often associated with the subjective experience of agency, choice and concentration.⁹



“IT’S ALWAYS A MIXED BAG, AND THERE’S REALLY INCONSISTENCIES IN HOW DIFFERENT SPECIALISTS OPERATE, SO IT’S ALWAYS NAVIGATING WHO’S GOING TO CALL THE PATIENT DIRECTLY, WHO’S GOING TO LET US KNOW, WHO ACTUALLY LETS US KNOW WHAT THE APPROXIMATE WAIT TIME IS AND GETS BACK TO US WITHIN A FEW WEEKS”.

[FAMILY PHYSICIAN]

DISCUSSION CON'T

The specialist participants, due to the high number of referrals they receive including those that are incomplete, adopted two approaches to referrals. Firstly, that all patients are qualified to be seen until evidence shows they aren't. Secondly, that it's easier to accept rather than reject referrals and that this prevents patients slipping through the cracks.



"...MY GENERAL POLICY IS THAT IF ANYBODY ASKS AN OPINION OF ME OR A CONSULT OF ME, I SEE THEM. I TURN VERY, VERY FEW REFERRALS AWAY BECAUSE... IF SOMEBODY IS SENDING ME A LETTER ASKING ME TO SEE A PATIENT, THAT THEY WANT MY EXPERTISE... AND MY OPINION ABOUT THE CASE, AND I'M HAPPY TO PROVIDE THAT TO THEM."
[SPECIALIST]



"... AS THE COLLEGE RULES GO, I CAN REJECT A REFERRAL FOR INCOMPLETE, LIKE INCOMPLETE RECORDS, INCOMPLETE HISTORY, INCOMPLETE INVESTIGATIONS, INCOMPLETE IN CONCERN IN TREATMENT... BUT REALISTICALLY ... IT ALMOST TAKES ME LONGER TO DO THAT THAN TO SAY YES I'LL ACCEPT THE PATIENT."
[SPECIALIST]

They also shared the drawback of these approaches, namely having to suspend accepting referrals as a means to manage large waitlists.



"I CAN HONESTLY NOT RECALL WHEN THE LAST TIME WAS THAT I REFUSED TO SEE ANYBODY OTHER THAN... ONCE MY WAIT LIST GROWS TO OVER A YEAR THEN I'LL SHUT THE PRACTICE DOWN AND I WILL NOT ACCEPT ANY FURTHER REFERRALS UNTIL WE'VE MADE SOME HEADWAY."
[SPECIALIST]

Due to inconsistency in modes of communication once referrals have been accepted or seen, we found family physician participants expected patients, in spoken and unspoken ways, to track the coordination of their own referral



"SOME OFFICES ACTUALLY SEND US A NOTICE TO SAY YES WE HAVE RECEIVED YOUR REFERRAL, IT'S AWAITING TRIAGE... AND SOME DON'T AT ALL...SO UNLESS WE INTERFACE WITH THE PATIENT, WE HAVE NO IDEA IF THEY WERE SEEN."
[FAMILY PHYSICIAN]



"THIS IS ONE OF THE PROBLEMS WITH EVERYTHING WE DO IS THERE'S NO CLOSED LOOP, SO PEOPLE COME IN... AND WE HAVE A SIGN ON THE WALL THAT SAYS IF YOU HAVEN'T HEARD BACK...OR YOU'RE NOT FEELING BETTER PLEASE COME BACK..."
[FAMILY PHYSICIAN]

DISCUSSION CON'T

Opportunities to communicate between family physicians and specialists appear to be limited. All three specialist participants used consult letters as a method of feedback to communicate what information might be required for future referrals.

However there was a general sentiment, that this lacked effectiveness and, as one specialist participant explained, there are not enough opportunities for family physicians and specialists to engage with one another in an effective manner.



"...SO I RATHER TRY TO TEACH IN MY REFERRAL LETTER THAT I SEND BACK TO THE DOCTOR... FOR EXAMPLE, IF THEY DO SEND SOMEBODY WHO DOESN'T MEET THE CRITERIA I'LL TELL THEM, I'LL SAY THIS IS THE CRITERIA, AND I'LL TELL THE PATIENT AS WELL, THEY KNOW ONCE YOU MEET THOSE CRITERIA PLEASE SEND ME A LETTER BACK AND I'LL BE HAPPY TO REASSESS."

[SPECIALIST]



"... THERE'S NOT AS MUCH SOCIAL INTERACTION ANYMORE. THE OTHER PROBLEM IS THAT THE FAMILY DOCS DON'T TAKE CARE OF THEIR PATIENTS IN HOSPITAL. THEY DON'T HAVE MUCH TO DO WITH THE HOSPITAL SCENE UNLESS THEY'RE ASSISTING... SO WE DON'T COMMUNICATE, WE DON'T PUT A NAME TO THE FACE, THEY DON'T SEE US, HOW WE OPERATE, THEY DON'T HAVE A FEELING OF WHO WE ARE OR WHAT WE CAN DO OR WHAT EACH OF OUR SUB-SPECIALTIES IS."

[SPECIALIST]

Family physicians clearly identified that frustrations exist around both not knowing what information to include and how to include it for each specialty. Specialists identified challenges of receiving incomplete or information-poor referrals. All participants indicated openness to learning and sharing to improve this process. This discovery is not new. Other projects looking at the referral process in Alberta have found similar results. In 2018, two reports [the albertapatients.ca Specialist Referral and Care Experiences Report and the Referral Project Final Report Specialty Care Alliance/Primary Care Alliance (SCA/PCA)] identified gaps in communication and coordination between specialists and family physicians to be completely fragmented or non-existent relationships^{10,11}. The SCA/PCA report also identified, as does our work, a need and desire to establish, build, and maintain relationships between specialty and primary care.

DISCUSSION CON'T

Unfortunately, these infrequent attempts to create new ways of communicating and coordinating care have not included co-design, or considered workflow. The eReferral Evaluation Final Report (2015) ¹², states that family medicine users found e-referral to be more work as it was yet another separate system to use and did not integrate with current EMRs or align with exiting workflow. The SCA/PCA Report (2018) also points out that solutions, such as e-referral and specialist links, were not co-designed with specialty and primary care together but in isolation from one another. And while, the Quality Referral Evolution Working Group (QuRE) has created and distributed at least 8,500 two-sided pocket cards ¹³ to improve communication and streamline the referral process based on best evidence, no participants mentioned using these cards without direct prompting from interviewers.

What is new in our pilot study is a deeper understanding of the lenses through which specialists and family physicians think about and approach this work. For instance, specialists lack awareness around the degree to which other specialists and their prerequisites for referrals are different, and how this increases cognitive effort for family physicians trying to remember variations in preferred information and pre-screening investigations to include, for multiple specialties and individual physicians within specialties. Add to that the infrequency with which family physicians deal with referrals to any particular specialty or individual, and their capacity for recall is most likely further diminished. Furthermore, specialists are not required to navigate the variations in the referral process that family physicians seem to face.

CONCLUSION & RECOMMENDATIONS

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An informal approach to coordination and sense-making and learning between specialty and primary care once existed in Alberta, where interactions were based on shared mental models rooted in established relationships, shared culture, and informal direct communications. But as the province grew, this approach could not be maintained. Unfortunately, no formal process was created to replace or provide opportunities for building shared mental models. Instead, individualised non-system-level solutions have been brought forward, but have not included co-design (namely primary care and specialty physician dialogue) or considered workflow and therefore have not successfully scaled. As the 2015 eReferral Evaluation Final Report pointed out, we need system-level leadership and accountability.

System factors are the root of the high degree of cognitive effort currently required by both specialists and family physicians working within an environment of unreliability. Restructuring and co-design to facilitate systematic development and coordination of referral processes is needed.

The particular point that this pilot study highlights is that restructuring must focus heavily on consistency and predictability, in order to create reliable processes.

System factors are the root of the high degree of cognitive effort currently required by both specialists and family physicians working within an environment of unreliability.

Restructuring and co-design to facilitate systematic development and coordination of referral processes is needed.



COORDINATION

One of the macrocognitive functions identified in CTA. Coordination is the process by which two or more people stay “on the same page” or maintain common ground; it is coordination of knowledge work which is broader than communication; it includes both comprehending the communication and acting on it.



SENSEMAKING & LEARNING

Another macrocognitive function identified in CTA. Sense-making and learning is the process by which people give meaning to experience(s); how a group builds an understanding of a process, problem, event, change it faces, how new information is gained and even what new information it needs to gain.

CONCLUSION & RECOMMENDATIONS CON'T

Building informational and management continuity⁴ between the primary medical home clinic, patients and specialty groups within the larger integrated health neighborhood is necessary to support successful referrals. Such that, standardized referral processes and tools are created and family physicians know what criteria apply and what information to provide with referrals, so everyone is receiving and conveying the information required.¹⁴



In addition, patient centered interactions should be encouraged. This would involve explicit inclusion of patients, their families and caregivers, increasing clarity of their responsibility in the referral process, and enabling their active involvement in their care and advocacy.

Further study is required of primary and specialty care physicians and the teams they work with to confirm mental models. Expansion of the study to include patients and those involved in the facilitation and development of referral processes will aide in clarity to develop principles for system wide improvement and scale.

Process reliability is essential to providing good patient care and outcomes. Key features:

Safe: Patients should not be harmed by care that is intended to help them.

Effective: Care should be based on scientific knowledge and offered to all who could benefit, and not to those not likely to benefit.

Patient-Centered: Care should be respectful of and responsive to individual patient preferences, needs, and values.

Timely: Waits and sometimes harmful delays in care should be reduced both for those who receive care and those who give care.

Efficient: Care should be given without wasting equipment, supplies, ideas, and energy.

Equitable: Care should not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socio-economic status.

ADDENDUM TO THE SCALING UP INTEGRATION IN ALBERTA REPORT



Our research team recently completed a CTA study to explore how family physicians, specialists and nurse practitioners approach cirrhosis care in Alberta (N=8 Family Physicians, 9 Specialists, 2 Nurse Practitioners). While this study is not formally linked to the integration pilot study, we felt some of our findings shed light on the referral process in Alberta and needed to be shared. These findings do not change our overall conclusion or recommendations as stated in the Scaling Up Integration report; however, they do change some of our earlier perceptions of the referral process between specialists.

In our original report we describe how family physicians experience uncertainty around whether their referral will be accepted or rejected, whether they will receive information explaining why, or whether they will receive clear instructions on next steps. We have discovered through the cirrhosis study findings that specialists can also experience this uncertainty when referring to other specialists. We also reported a lack of opportunity for effective engagement between specialists and family physicians, however, we found this gap exists between specialists, as well as between specialty nurse practitioners and specialists in cirrhosis care.

In consideration of these findings, we would like to amend our discussion points to acknowledge that there are specialists who are aware of and experience the “degree to which other specialists and their prerequisites for referrals are different” and also have to “navigate the variations in the referral process” (p.11).

Furthermore, while the integration study indicated only family physicians expected patients, in spoken and unspoken ways, to track the coordination of their referral; our work on cirrhosis care revealed that specialists also hold these expectations.

Finally, in both studies, it was evident that relationships between family physicians and specialists and specialists themselves, as well as the importance of information continuity, play a key role in coordination of care.

For further information about the Cirrhosis study please contact Tanya Barber, EnACT Research Coordinator tkbarber@ualberta.ca or Lynn Toon, AMA-ACTT Research Lead lynn.toon@albertadoctors.org

The final report for the Cirrhosis study will also be posted on the EnACT website: www.primarycarere-search.ca

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