A process analysis on the engagement of patients and providers in defining barriers and facilitators to adoption of e-Consult in Alberta

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Introduction

- There is a room for improvement in the current model of ambulatory kidney care delivery globally.
- There is an emerging trend in the use of Health Information Technologies (HIT) to facilitate care delivery.
- This project focuses on leveraging the solid Alberta HIT infrastructure (**Netcare**) to improve access and quality of ambulatory kidney care through the development of an electronic consultation system (**e-Consult**).

Aim

- We aim to explore the major barriers and facilitators to adoption of the e-Consult tool by patients and their care providers.

Unique challenges in Alberta for optimal ambulatory care delivery

- Vast geography and long travel distance for patients to visit kidney centers mainly located in the cities (**Figure 1**).
- Northern rural communities located far away from nearest kidney centers limiting access to care.
- Data from Alberta kidney disease Network (AKDN) showed a higher Chronic Kidney Disease (CKD) burden in rural communities (**Figure 2**), and less likelihood of access to specialist care (**Figure 3**).
- Increase volume of referrals for kidney specialist since eGFR reporting started in the province (**Figure 4**), and many of the referrals are unnecessary (not meeting defined referral criteria).

Unique opportunities to be leveraged in Alberta

- Province wide Electronic Medical Record (**EMR**) (NetCare) accessible to must care providers even in remote places.
- Existence of will tested management tool targeted to primary care providers (Alberta **CKD pathway**: http://www.ckdpathway.ca/).
- CKD care in Alberta is mostly delivered by PCPs (**Figure 5**) a critical stakeholder for engagement to enhance optimal care.
- Overall there is a **standard criteria for referral** that is globally accepted in nephrology community.

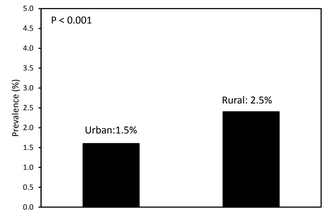
Alberta e-Consult initiative

- The e-Consult model in Alberta (lunched November 2016) involves (two way) direct asynchronous communication between referring physicians (PCPs) and kidney specialists via a **Netcare portal.**
- It helps to coordinate patient management and limit face-to-face visits between patients and nephrologists to situations where such visits are truly required (**Figure 6**).

Figure 1: catchment area of Alberta Kidney Care Programs (NARP & SARP)

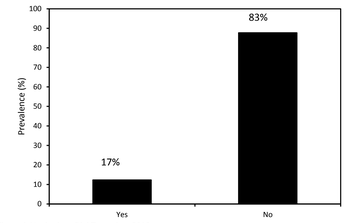
Bello et al, BMJ Open 2017

Figure 2: Prevalence of proteinuria Urban Vs Rural .



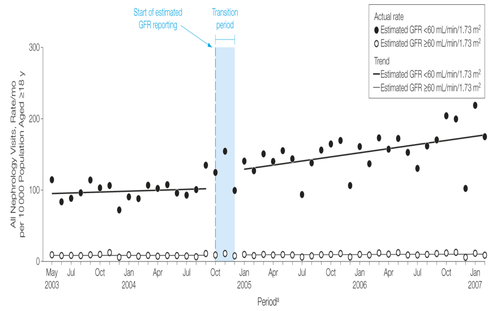
Bello et al, Nephrol Dial Transplant, 2012

Figure 3: proteinuric CKD patients in rural area and access to nephrologist.



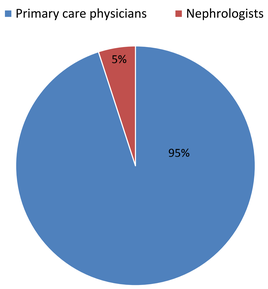
Bello et al, Nephrology Dial Transplant 2012

Figure 4: rate of referral to nephrologists over time



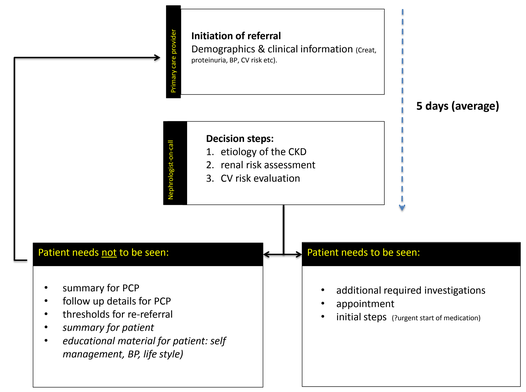
Hemmelgarn et al, JAMA 2010

Figure 5: Concept of e-Consult



Manns et al, Clin J Am Soc Nephrol, 2012

Figure 6: CKD management in Alberta



Branko Braam, 2014

Approach

- We are leveraging a **qualitative study design** using interviews and thematic analytic approach. We will apply the consolidated criteria for reporting qualitative health research (COREQ) as the reporting framework.
- This study is part of a larger integrated, sequential and mixed methods study being conducted in 3 phases.
- In phase 1 we conducted a **focus group study** on patient and provider perspectives on the design and implementation of e-Consult system.
- The focus of this phase is the **post-implementation evaluation** (barriers and facilitators) to the uptake of the e-Consult system among patients and PCPs.
- Participants will be identified using a **purposive sampling approach** from a pool of **PCPs** that have used e-Consult (early adopters) and non-users (PCPs who are yet to use e-Consult in their practice). **Patients** will be identified through their PCPs (CKD patients who have been managed through eConsult).
- We will apply **a stratified sampling approach** for a widespread representation based on experience (years in practice), practice characteristic (solo vs group), and rural/urban location of practice.
- The selected PCPs will be invited via e-mail, fax and/or telephone to participate in the study by individual **semi-structured interviews** (telephone, face to face).
- An interview guide is developed based on a scoping review of relevant literature and in consultation with the research team and other relevant stakeholders.

Evaluation framework

This project evaluation framework is built on the **Quadruple aim**:

a) **Population health**: Quality of care for CKD management in the community

b) **Patient satisfaction**: (interviews vs. questionnaires) using:
- Ambulatory care experience survey (ACES) framework (http://www.hqontario.ca/Portals/0/documents/qi/primary-care/primary-care-patient-experience-survey-en.pdf)
- Primary care assessment tool (PCAT), CIHI, HQCA

c) **Provider satisfaction**: (interviews vs. questionnaires, 1-year post implementation among those how used and did not use the service) using:
- Champlain BASE e-Consult framework,
- HQCA Provider Satisfaction tool

Dimensions to be explored: Leadership & Communication, Time spent, Quality of care, Patient interactions, Compensation, Resources, Acceptance, Retention factors

d) **Cost savings**: economic evaluation of the impact of the system in decreasing health care cost

Implications of this work and alignment with the strategic objectives of the Kidney Health SCN

- This study will explore patients and PCPs perceptions about barriers to and facilitators for adoption of electronic consultation system to facilitate kidney care delivery.
- A clinical innovation with a huge potential in:

a) Enhancing **capacity (knowledge and competence) of PCP** in CKD management that will improve identification of high-risk patients for referral to a kidney specialist and low-risk patients that could be managed by PCPs themselves.

b) Improving **access to specialist kidney care** that can positively impact quality and outcomes for patients living with CKD.

c) Facilitating **evidence based CKD care** and collaboration between PCPs and specialist kidney community.

d) Increasing **efficiency in the process of care** for CKD (eliminating unnecessary referrals, and enhancing timely access for necessary referrals)

e) Reducing **cost of care** for health system as well as patients (e.g. eliminating unnecessary travel for clinical appointment).

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