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 well 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 (launched 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).

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-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 characteristics (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:

1) Population health. Quality of care for CKD management in the community

(i) Patient satisfaction: (interviews vs. questionnaires, 1-year post implementation among those how used and did not use the service) using:
- Primary care assessment tool (PCAT), CHI, HQCA

(ii) 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

(iii) 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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