Value of ehealth in Ontario

Submission to Mr. Ed Clark

October 31, 2016

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Introduction and summary

Thank you for inviting the Association of Family Health Teams of Ontario (AFHTO) to submit our observations on the value of ehealth in Ontario and what is needed to derive even greater value. AFHTO is a not-for-profit association that provides leadership to promote high-quality, comprehensive, well-integrated interprofessional primary care for the benefit of all Ontarians. It is the advocate and resource to support the spread of knowledge and best practice among 180 Family Health Teams (FHTs) and 5 Nurse Practitioner-Led Clinics (NPLCs) serving over one-quarter of Ontario's population, and welcomes all who provide interprofessional comprehensive primary care in Ontario.

This brief report is rooted in the collective goal for Ontario's health system. The *Patients First Action Plan*, states the goal "to make Ontario the healthiest place to grow up and grow old", with objectives to improve access, connect services, inform people to make the right decisions about their care, and protect our universal public health care system by making decisions based on value and quality.

This report briefly summarizes, from AFHTO's perspective:
1. The data and information needs of the key players in achieving this goal
2. In light of these needs, assessment of value that ehealth in Ontario has delivered so far
3. Suggestions for deriving greater value.

Our conclusions are:
- Primary care – the "home" and the coordinator for health care over each person's lifetime – and the primary care EMR are the basic building blocks for the health system and for EHRs.
- Good news:
    - Primary care providers in Ontario's interprofessional teams (including one-quarter of all family physicians) use EMRs and continue to move to higher levels of EMR maturity.
    - EMRs are essential to meaningful measurement and improvement, and higher primary care quality is associated with decreasing total cost of care for patients.
    - Telemedicine and eConsults are huge success stories.
    - Connectivity among providers is critical to primary care coordination. Good progress is being made in the ConnectingOntario projects (cSWO, cNEO, cGTA) – please continue.
    - EMR uptake and connectivity have now set the stage for patient-based ehealth.
- To get much more value from EMRs and connectivity:
    - Stable funding is needed to enable all primary care teams and family physicians to license and maintain their EMRs and upgrade as needed to optimize their role in achieving the objectives to "access, connect, inform and protect".
    - People and processes are essential to reaping the value of EMRs for better care. The Quality Improvement Decision Support (QIDS) Partnerships are a proven model for advancing use of EMRs and data; this model is highly amenable to spread.
    - Build a vision and strategy for patient ehealth to move beyond "pockets" of innovation.
    - With the dissolution of CCACs and intent to embed care coordinators in primary care comes the opportunity to re-think the design of home care information systems to enable primary care providers to carry out their full role in care coordination.
    - Find a way that is acceptable to patients and providers to facilitate data extraction and anonymized aggregation for research, improvement and reporting purposes.

1   Data/information needs

To provide a framework for assessing the value of ehealth in Ontario, the essential data and information needs of key groups are identified below.

For each person in Ontario:
- Manage my health and my health information
- Participate in decisions about my health and my health information
- Address concerns about my health
- Make and manage appointments
- Confidence that all my health care providers know what they need to know about to me to help me achieve my health goals

For primary care providers:
- Clinical utility: support whole-person care in partnership with each patient over the course of their lifetime through better management of data about diagnoses, history, test results, consultation notes
- Coordination of care: as patients need other types of health care (specialists, hospital, home care, immunizations, etc.) at various points in their lives
- Access to expertise: to care for the very wide range of illnesses and conditions in the patient group (e.g. specialist consults and evidence-based guidelines)
- Practice efficiency
- Feedback to support improvement in care for patients

For other health service providers:
- Same concepts as for primary care, but clinical care is for a specific condition or body part or a specific episode of care. Exchange of information with primary care is critical.

For researchers:
- Evidence of efficacy and evaluation of clinical practices and programs
- Practice efficiency (health services research)

For governors and funders:
- Planning: population needs and desired outcomes
- Monitoring: quality, outcomes and value delivered
- Evaluation and investment decisions

2   Assessment of value that ehealth in Ontario has delivered so far

Considering the data and information needs listed above, public skepticism about ehealth investments in Ontario are understandable. Much of the value delivered to date is seen by providers, researchers, governors and funders, but has limited visibility with patients. Some patients are benefiting from advances such as portals into their own EMR, consultations with specialists without having to drive great distances, or the ability to book appointments over the web, but these are pockets of innovation in need of spread.

Given that AFHTO is about interprofessional primary care teams, this submission focuses on the value that this sector has experienced, and the opportunities ahead.

2.1   EMRs provide the critical information needed to drive improvement

EMRs have been implemented across all FHTs and NPLCs. Without an EMR, it is simply not possible to generate the data needed for primary care providers to do two critical things:

- Review their patient population to identify people for whom action is needed, or who may otherwise slip through the cracks (e.g. test results not received; overdue for screening or immunizations; lab values require action)
- Measure and track indicators to improve patient-centered comprehensive primary care

2.2   As quality goes up, health system costs go down

One of the biggest sources of value from EMRs has been the ability to develop and monitor a comprehensive measure of primary care quality that reflects what matters to patients, building patient-centeredness into the core of performance measurement. This, combined with the measure of total health system cost of care for a patient population generated by the Institute for Clinical Evaluative Sciences, upholds findings from interjurisdictional research by Dr. Barbara Starfield, that higher quality of care is associated with lower total cost of care.

The table below presents data submitted by AFHTO member FHTs and NPLCs, taken from EMRs, patient surveys and administrative data, shows that patients served by teams that have high quality scores have lower overall healthcare costs.
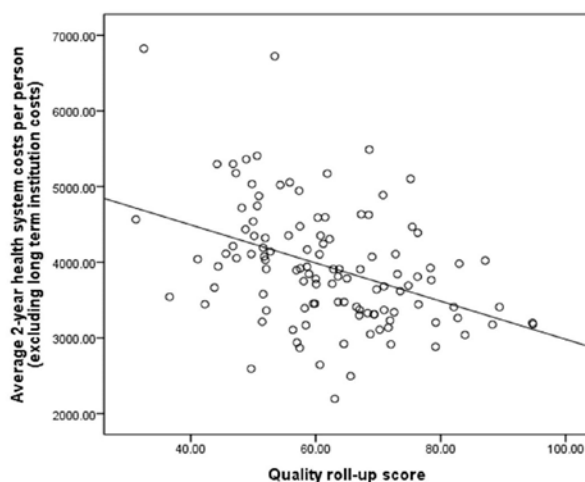
Relationship between average health care costs for each patient in the team and the team's overall quality score

2.3   Investment in people and processes has unlocked the value of EMRs

While implementation of EMRs is clearly necessary for the work described here, it is not sufficient. Until primary care teams were able to access their data efficiently, quality improvement activity floundered because it was so difficult or impossible to measure whether that activity was working.

Two years ago, AFHTO members benefited from an investment of roughly $3M per year for the Quality Improvement Decision Support (QIDS) program. The program consists of about 35 QIDS Specialists employed by FHTs and deployed in QIDS Partnerships supporting roughly 150 FHTs. At the provincial level, it also includes 3.5 staff housed at AFHTO, to coordinate, facilitate and motivate participation, resource development and knowledge exchange.

The core elements include:
- Data to Decisions (D2D): AFHTO members' initiative to measure and use data to improve.
- Communities of practice for the top 5 EMRs (accounting for >80% of teams) which have improved quality of and access to data.
- Communities of Practice for QIDS Specialists and for Interprofessional Health Providers (IHPs), all focused on advancing improvement through measurement.
- Standardized EMR queries developed, tested and released for chronic conditions and other primary care indicators -- for use by ALL primary care providers (ie beyond AFHTO) and now informing OntarioMD's EMR dashboard proof of concept
- Coordination and collaborations across primary care and other partners: to leverage and ensure alignment with work by Health Quality Ontario, eHealth Ontario, OntarioMD, ICES, etc.

Over the 4 iterations of D2D so far, we can see how the QIDS program has enabled:
- Teams to submit data for more of the core indicators
- EMR data quality to improve
- Use of *current* data, not years old, which is critical for quality improvement efforts
- Movement towards measures that are more patient-centred, such as performance relative to individualized targets and care plans.
- The entire team's work to be reflected in performance measurement, now that it is no longer limited to physician billing data.

In addition to improving primary care quality, which is associated with lower cost of care for patients, the use of EMRs and improvement in data quality has the potential to save lives.

2.4   EMR usage and maturity: making progress but further to go

While we've seen good progress in EMR usage and maturity, there is still much more value that could be derived. In early 2015 AFHTO partnered with eHealth Ontario to use our experience with the first two iterations of D2D as an opportunity to evaluate the impact of this initiative and examine the role and contribution of EMRs to performance measurement and QI in primary care in Ontario. At that time, study results found that access to good quality EMR data was low, with low maturity in EMR use, and low functionality. Integration with other systems was increasing but still problematic.

Eighteen months and two more iterations of D2D later, we see the continuing increase maturity in EMR use, including data standardization. Teams still have a way to go, and this even moreso for most in the 75% of primary care outside of teams.

2.5   Comprehensive, coordinated care for patients: OTN, eConsults and connectivity

A rapidly growing number of these primary care EMRs are being connected to their local hospitals through Hospital Report Manager, and are therefore able to receive timely discharge data and initiate a timely and appropriate follow-up after hospitalization. Coupled with EMRs that capture all activity by all health professionals in the team, we can now track appropriate follow-ups by any team member in any modality, which can yield much more cost-effective and patient-friendly results than the current measure based on physician billing data.

Through ConnectingOntario projects, this connectivity is expanding to more regions and more types of health providers. This must continue, and as quickly as is feasible.

Technology has also enabled much more timely and cost-effective links with specialists, in particular:
- Use of the Ontario Telemedicine Network (OTN) for remote consults and support to deal with a wide range of conditions such as mental health, dermatology, etc. This has brought a level of care to patients who could not previously access it (with some limitations based on funding model for such consults).
- The growth of eConsults is helping primary care providers deal with less complex cases and ensure necessary tests are done before specialist visits, thereby speeding up care for patients and freeing up time for specialists to deal with more complex cases.

2.6   EMR uptake and connectivity set the stage to empower patients in their health

Most of the ehealth advances so far have not been visible to patients, but are absolutely essential to make groundbreaking advances such as patient-held EMR smart cards. Innovation is taking place – such as patients enabled to enter their data into the EMR from home so their primary care team can track and determine if/when interventions are needed, or patients entering information about their health goals, or patients seeing their own lab results and taking action according to the treatment plan they have worked out with their provider. All these functions are real and happening in small pockets as pilots or research projects. [1]

2.7   Data management: need to extract once and use many

Outside of physician billing data, there is no coordinated infrastructure to collect and use primary care data from EMRs or surveys, and there is no solution on the horizon.

The diagram on the next page depicts the current non-system for flowing, collecting, analyzing and using data. This puts inordinate pressure on primary care providers to collect and report data in multiple ways to multiple sources. It also leaves many gaps in its wake.

There are many different players who hold a piece of this puzzle. For a time, the Ontario Medical Association's i4C proposal looked like a promising solution for collecting and housing data, which could then be used by clinicians and others with appropriate access for improvement and research purposes. Unfortunately, this proposal appears to have stalled or ended, with no clear entity to take it up.

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[1] Examples include: diabetes management portal at the Centre for Family Medicine - http://www.therecord.com/sports-story/2566891-online-tool-for-diabetes-management-helps-patients-and-doctors/ ; Electronic Patient Reported Outcomes (ePRO) Tool - http://www.hsprn.ca/?p=233;

2.8   Limitations for researchers, governors and funders:

The ability to collect and use data from sources other than administrative billing data is still very limited. Efforts initiated by researchers, such as the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) or Electronic Medical Record Administrative data Linked Database (EMRALD) collect data from qualifying EMRs from practices that sign up. Unfortunately these efforts are inhibited in part by the capacity of CPCSSN and EMRALD to efficiently extract EMR data and the absence of committed ongoing funding for the projects.   Unfortunately, policy makers and funders must still rely on administrative billing data and appropriate survey data.
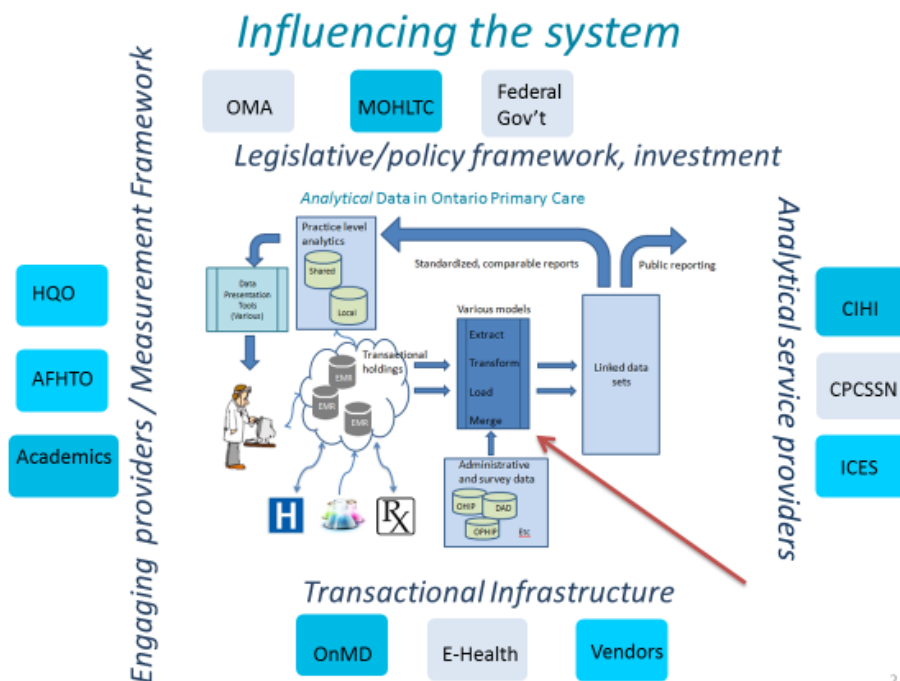
3   Suggestions for deriving greater value

3.1   Strengthen primary care foundation (part 1): stable funding for EMR uptake and use

Primary care and the primary care EMR are the basic building blocks for the health system and for EHRs. Primary care must be at the core of any ehealth strategy.

At present, EMR decision-making and ownership of data is in the hands of over 10,000 single-person corporations known as family doctors. These doctors who work in team settings have, in almost all cases, adopted EMRs. There are a very small number of individual doctors in FHTs who do not use EMRs, however the number is much greater number outside teams.

The decision to adopt, maintain or upgrade an EMR is an individual business decision, made by these individual doctors who may see only cost and disruption and don't see sufficient benefit. As the owner of the EMR and the Health Information Custodian, it is up to each doctor to decide whether to enter data sharing agreements to enable access to other health professionals in the circle of care, or to extract data for improvement or reporting purposes.

Stable funding, and an appropriate method for distributing that funding, is needed to enable and motivate primary care teams and providers to license and maintain their EMRs and upgrade as needed to optimize their role in achieving the objectives to "access, connect, inform and protect".

3.2   Strengthen primary care foundation (part 2): EMR maturity across all primary care

The experience of AFHTO members to date suggests that EMR adoption in itself is not sufficient to drive a focus on quality and/or improve performance. Ontario MD's Peer Leader program has been valuable in helping clinicians to implement and improve their use of EMRs. AFHTO's data suggest that, in addition, people and processes are needed to build a team focus on quality and change behaviours related to performance measurement and QI, to truly release the power and value of EMRs.

The Quality Improvement Decision Support (QIDS) Partnership model has proven its effectiveness and is highly amenable to spread. A draft proposal for doing so is appended.

3.3   Build a vision and strategy for patient-based ehealth

Ontario's Patients First agenda, coupled with the spread of connectivity and mature use of EMRs across primary care, sets the perfect stage for empowering patients through ehealth. Learning from the pockets of innovation, next step is to develop a vision and strategy for the province as a whole.

3.4   Connectivity must support primary care's role to coordinate care

Primary care is the foundation in healthcare that should organize and activate the deployment of healthcare resources. The six associations comprising the Ontario Primary Care Council (OPCC) have identified co-ordination of care as an area of shared focus because of its potential for significant positive impact on patient outcomes, healthcare delivery, and enabling Ontario's Action Plan for Health. Details are presented in OPCC Position Statement on Care Co-ordination in Primary Care.

Bill 41's proposed dissolution of Community Care Access Centres (CCACs) and corresponding intent to embed care coordinators in primary care presents the opportunity to re-think the design of home care information systems. These must be integrated to enable primary care providers to carry out their full role in care coordination.

3.5   Find a way that is acceptable to patients and providers to facilitate data extraction and anonymized aggregation for research, improvement and reporting purposes

The Canadian Institute for Health Information (CIHI) has collected, aggregated and analyzed pan-Canadian health and health system data for over 20 years. Several years ago, its efforts to do so in primary care were stymied then abandoned due to the challenge of multiple EMRs and the notorious difficulties in data extraction. As noted in section 2.6, the OMA's i4C proposal was headed in this direction but has stalled.

With consolidations in EMR offerings and great improvements in data extraction the situation has improved, but no entity has yet emerged that has the capacity and the trust of both patients and providers to fulfill this role. The Ontario Government, as the core funder for most of the entities depicted in the diagram on page 7, could play an important role in solving this dilemma.

4   APPENDIX -- Proposal for advancing measurement, QI support, integration and patient-centredness across primary care

The opportunity to advance *Patients First* priorities

Among the priorities named in the June 2016 report-back on the *Patients First* proposal are:
- Better access and integration of primary care
- Greater equity through sub-regions
- And among the priorities to achieve such improvements, the need to advance performance measurement, quality improvement, technological integration and patient empowerment.

This proposal presents the opportunity to leverage an existing Ministry-funded program that's delivering PROVEN advancements toward these *Patients First* priorities. The Quality Improvement Decision Support (QIDS) program – with about $3 million in funding through the Primary Health Care Branch and provincial coordination through the Association of Family Health Teams of Ontario (AFHTO) – is:
- Demonstrably advancing measurement, the critical pre-requisite for quality improvement, in the care for roughly one-quarter of Ontarians;
- Fostering greater collaboration and coordination among family health teams – an important step in strengthening the relationships and leadership skills needed to integrate care for patients
- Incorporating the patient's perspective via a composite measure of quality that reflects what matters to patients and providers and is related to lower healthcare costs

The QIDS program could be expanded very easily – as is now being done with the addition of 3 more QIDS Specialists to capture all 25 NPLCs – across all of primary care.

Addressing the challenges for spread across Ontario's primary care sector

Primary care in Ontario is delivered through many different forms of funding and service models, supported by a number of different EMRs. The family physician workforce is critical to primary care delivery in Ontario, and for many reasons, can be very challenging to engage on a broad scale. The partnership-model on which the QIDS program is based makes it relevant for *all* disciplines and models (ie beyond FHTs) that provide comprehensive primary care to *all* patients (ie beyond high users). The infrastructure connects QIDS staff (and through them, primary care providers) to each other and the tools and services already available but historically under-utilized by primary care providers. For example, uptake of HQO Primary Care Reports by physicians increased by nearly 50% through interventions with QIDS Specialists and teams -- see figure below. A similar phenomenon is occurring with CCO's Screening Activity Reports.

Physician enrolment: Primary Care Practice Report
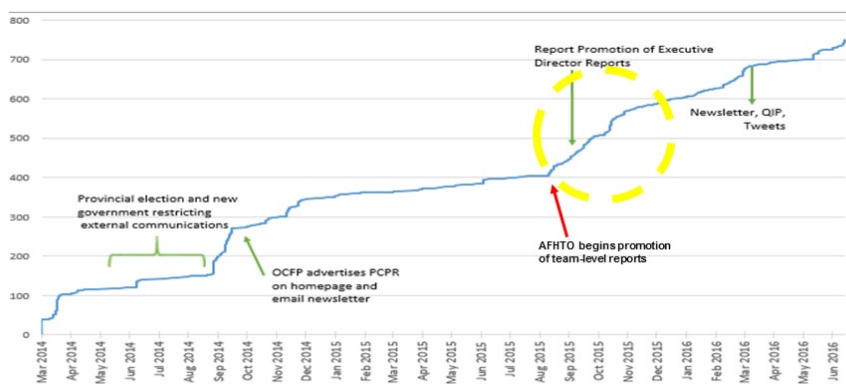
"Local ownership" is a critical ingredient. For each QIDS partnership, a host team is funded to employ a QIDS Specialist. The partnership is fully in charge of hiring and deploying their QIDS Specialist, thereby solidifying their relationship with the physicians and other clinicians they support. Province-wide collaboration, facilitated by the provincial QIDS team housed at AFHTO, accelerates spread through knowledge and resource sharing and project coordination. The infrastructure to make this all possible is described in greater detail below.

Leveraging the existing QIDS infrastructure will increase the return on existing resources (eg OntarioMD Peer Leaders, PCR reports) and additional investments (eg HQO's proposed "Collaboratories"). Attention can be focussed more on supporting improvement, rather than starting again with building the relationships, access to data and general capacity for measurement that are key requirements for improvement. Seeing value for their patients sooner will help clinicians find time to engage in measurement and quality improvement, especially those who have not yet chosen to engage with measurement and QI activities.

QIDS infrastructure developed through AFHTO

Infrastructure elements relevant to discussions about expansion of measurement and QI support include the following:

- **Clustering of teams into QIDS partnerships**
    o About 150 FHTs have organized themselves into QIDS partnerships in order to share the limited funding for each QIDS Specialist positions (about 35 FTEs)
    o QIDS partnerships collectively cover 2.5 million patients, 1600 physicians and 2000 IHPs across the province
    o Click here for case study on partnerships, what they've achieved and what makes them work

- **Deployment of Quality Improvement Decision Support (QIDS) Specialists across the province**
    o One FHT in each partnership is designated as the host organization to employ the QIDS Specialist for that partnership
    o QIDS partnerships make the hiring decision *locally*
    o This process is now being extended to deploy and support the 3 newly-approved QIDS Specialist positions for NPLCs, with sharing of documents, processes and invitations to participate in QIDS Specialist Communities of Practice.

- **Coordination across the province**
  - Central coordination team (3.5 FTE) is hired by AFHTO
  - Robust QIDS community of practice, with persistently high attendance (approximately 60% of QIDS Specialists) on the teleconference EVERY week for 3 years (and counting!) plus twice-yearly in-person KTE sessions (nearly 100% turnout each time), recently including interprofessional Health Providers (IHPs) and patients
  - [Communities of practice](#) (monthly) for the top 5 EMRs (accounting for 80%+ of teams and likely also providers across Ontario) – also have informal joint problem-solving on at least 5 other EMRs

- **Collaboration across primary care and other partners**
  - Steering committee and sub-committee members: AFHTO members, patients and representatives from OntarioMD, HQO, AOHC, eHealthOntario, CPCSSN, ICES and MOHLTC
  - Joint regional knowledge translation and exchange (KTE) sessions sponsored and/or co-designed and delivered with CCO, HQO and LHIN self-management programs, including presentations from ICES, OntarioMD
  - Cross-appointment of QIDS staff with local HealthLinks
  - Many joint projects: Working with OntarioMD to leverage relationships with QIDS Specialists and other non-physicians to increase physician and team engagement in increasing EMR maturity. Also worked with HQO to design and launch team-level Primary Care Reports (uptake by 70% of teams and nearly 50% increase in individual physician enrolment). Informing CCO's development of a team-level cancer screening report
  - Facilitating recruitment, partnership development and orientation of NPAO's recently funded QI resources, guiding developing of a similar program with Addictions and Mental Health Organizations of Ontario

- **Resources for oversight and HR management**
  - Formal documented partnership and data-sharing agreements
  - QIDS management tools such as job descriptions, work plan guides
  - Central coordination team and formal oversight by [steering committee](#) and 2 sub-committees for measurement and EMR data management, respectively

Evidence of impact of QIDS program

Selected examples of the progress and impact of the QIDS program include:

- Establishment and application of an evaluation framework for monitoring impact of QI support in primary care
- Development of a [comprehensive measure of quality](#) that reflects what matters to patient, [building patient-centeredness into the core of performance measurement](#).
- Demonstration of [relationship between cost and high quality primary care](#) (measured in a way that reflects patient priorities and the comprehensive nature of primary care)
- High level of *voluntary* participation (nearly two thirds of members) in performance measurement ("[Data to Decisions](#)" or what Dr. Danielle Martin called [a "game changer")](#) – 4th iteration in Sep 2016
- [Standardized EMR queries](#) developed, tested and released for chronic conditions and other primary care indicators -- for use by ALL primary care providers (ie beyond AFHTO) and now informing OntarioMD's EMR dashboard proof of concept
- Positive changes in [QI culture and increased QI activity](#) in primary care teams
- [Attention outside of AFHTO](#) through recent/upcoming presentations at Trillium research day, NAPCRG practice based research network, OCFP's Annual Scientific Assembly, CFPC's Family Medicine Forum and PHC branch's Primary Care Rounds, among others

Proposed next steps

Ministry and AFHTO to collaborate in:

- Identifying top prospects for expanding existing QIDS partnerships across their LHIN or subLHIN regions;
- Assessing the further investment in QIDS capacity required to engage a broader scope of primary care providers in these "top prospect" regions;
- Determining evaluation criteria;
- Implementation, evaluation and planning for further spread.