



A future vision for primary care research impact... based on my odyssey from researcher to funder

NAPCRG Annual Meeting November 19, 2019

Rick Glazier, MD, MPH, CCFP, FCFP*

* with a little help from my friends

St. Michael's
Inspired Care.
Inspiring Science.

Academic Family
Health Team



UNIVERSITY OF
TORONTO



Data
Discovery
Better Health



INnovations
Strengthening
Primary
Healthcare through
REsearch

Faculty/Presenter Disclosure

- Faculty: Rick Glazier

- Relationships with commercial interests:

- Grants/Research Support: none
- Speakers Bureau/Honoraria: none
- Consulting Fees: none
- Other: none

- Other relationships:

- ICES, St. Michael's Hospital, University of Toronto
- CIHR Institute of Health Services and Policy Research: opinions are my own

Presentation

- **Does primary care research have an impact?**

- on patients, practice or policy?
- on population health?
- on provider education?
- on the health care system?
- on other things?

- **If the impact is not fully realized where are the gaps?**

- do we ask the right questions?
- do we have the right teams?
- are the target audiences engaged?
- when we have solid evidence, why isn't it always taken up broadly?

- **Is there a way forward?**

- new teams, new methods, new paradigms for rapid learning practices and systems

Does primary care research have an impact?

- **Well yes, yes it does!!!**
- **For example:**
 - on patients and practice: sore throat score
 - on population health: colorectal cancer mortality
 - on policy: delisting of low value tests
 - on provider education: patient-centred method
 - on the health care system: e-consult
 - on other things: payment, costs, teams, curricula, providers

Mclsaac WJ, CMAJ 1998;158(1):75-83

Zauber AG, Dig Dis Sci. 2015 Mar; 60(3): 681–691.

<https://www.choosingwisely.org/>

Stewart M. BMJ. 2001; 322(7284): 444–445.

Liddy C. <https://www.champlainbaseconsult.com/>

But often not fully realized

- How many studies have an impact
 - of those presented at this meeting?
 - of those at the previous 46 NAPCRG meetings?
 - of those in major journals?
 - of your own studies?

→ **not all have important impacts**
- What are the key issues/barriers?
 - research is often incremental, builds on previous work
 - game-changing breakthroughs don't happen all the time
 - research can have negative findings, still important but may not change practice
 - need to understand mechanisms, work on measures

→ **fair enough**
- Are there major breakthroughs that won't be sustained or spread?
 - even high value rigorous evidence is often not applied in practice
 - it can take up to 17 years for discoveries to be integrated into practice
 - most major health policies are never evaluated

→ **what's going on? what can be done?**

A short diversion into my own early research trajectory

Illustrating issues of impact

- Trajectory

- practiced as full scope FP in a smaller community for 6 years
- did an MPH and preventive medicine residency at a major US institution
- landed in a Toronto hospital with a research focus on arthritis... and mentorship and funding → did research on arthritis in primary care
- subsequently did work on neighbourhoods, equity, diabetes, HIV/AIDS, walkability
- sequentially changed topics, always after completing substantial work
- published in good journals, good H-index, > 100 publications

- What was the impact of all that work?

- good for academic advancement
- unclear for patients, practice, population health, policy, education, health system
- could have had important impacts but no way to tell
- typical of primary care research?

A short diversion into your research trajectory

Illustrating issues of impact

- Trajectory
 - consider your journey as a researcher
 - the topics you've chosen, the questions you've asked
 - the colleagues and teams you've worked with
 - the grants you've obtained
 - the presentations and publications
- What was the impact of all that work?
 - has it been good for academic advancement?
 - can you say what impact it's had on patients, practice, population health, policy, education, or the health care system?
 - how can you tell?
 - what is your impact story?

My more recent research trajectory

...when I thought I did everything right...

- Trajectory: focused on primary care reform
 - appointed at a leading research institute, program lead
 - had full access to population-based data on new models of care, team-based care, health care utilization
 - access to well-established performance metrics, case-mix methods, costing algorithms
 - fantastic research colleagues, data analysts
 - excellent relationships with policy-makers
 - many studies requested by government, professional organizations, local health authorities
 - always engaged relevant groups prior to publication

- What was the impact of all that work???

A shortish diversion into primary care reform in Canada and Ontario

- Similar drivers as around the world
 - complex multi-morbid aging populations
 - advances in diagnostics and therapeutics
 - increasing specialization
 - decreasing scopes of practice
 - escalating costs
 - recognition of the key role of primary care (Starfield and colleagues)
 - decreasing interest in primary care by medical trainees
- Similar direction of reforms (medical home models)
 - teams, groups
 - governance models and accountability
 - incentives
 - payment reforms eg disease payments, capitation
 - EMRs and related HIT
 - quality improvement supports

Primary Care Transformation – Canada*

TABLE 1
System-level Primary Health Care Initiatives

	BC ^a	AB ^b	SK ^c	MB ^d	ON ^e	QC ^f	NB ^g	PE ^h	NS ⁱ	NL ^j	NT ^k	YT ^l	NU ^m
Inter-professional teams		+			+	+							
Group practices/networks		+			+	+							
Patient enrollment		+			+	+							
Payment/incentive schemes	+	+		+	+	+						+	
Governance	+					+							
Additional providers	FPs ⁿ	+	+		+	+	+	+	+	+		+	+
	Other		+			+							
EMR Implementation ^o	39%	56%	28%	35%	40%	20%	30%	13%	40%	47%	65% ^p	ND	ND
Quality improvement support	+	+	+		+								

Hutchison B, Levesque JF, Strumpf E, Coyle N. Primary health care in Canada: systems in motion. *Milbank Q.* 2011;89(2):256-88. doi: 10.1111/j.1468-0009.2011.00628.x.

Implementation in Ontario

- **Blended capitation**

- age-sex specific capitation payments, basket of services
- 15% fee-for-service billings for in-basket services
- formal rostering
- incentives for severe mental illness, chronic disease management
- performance payments for thresholds of immunizations, cancer screening

- **Free choice of models**

- choice often based on income projections
- fee-for-service, blended fee-for-service, blended capitation

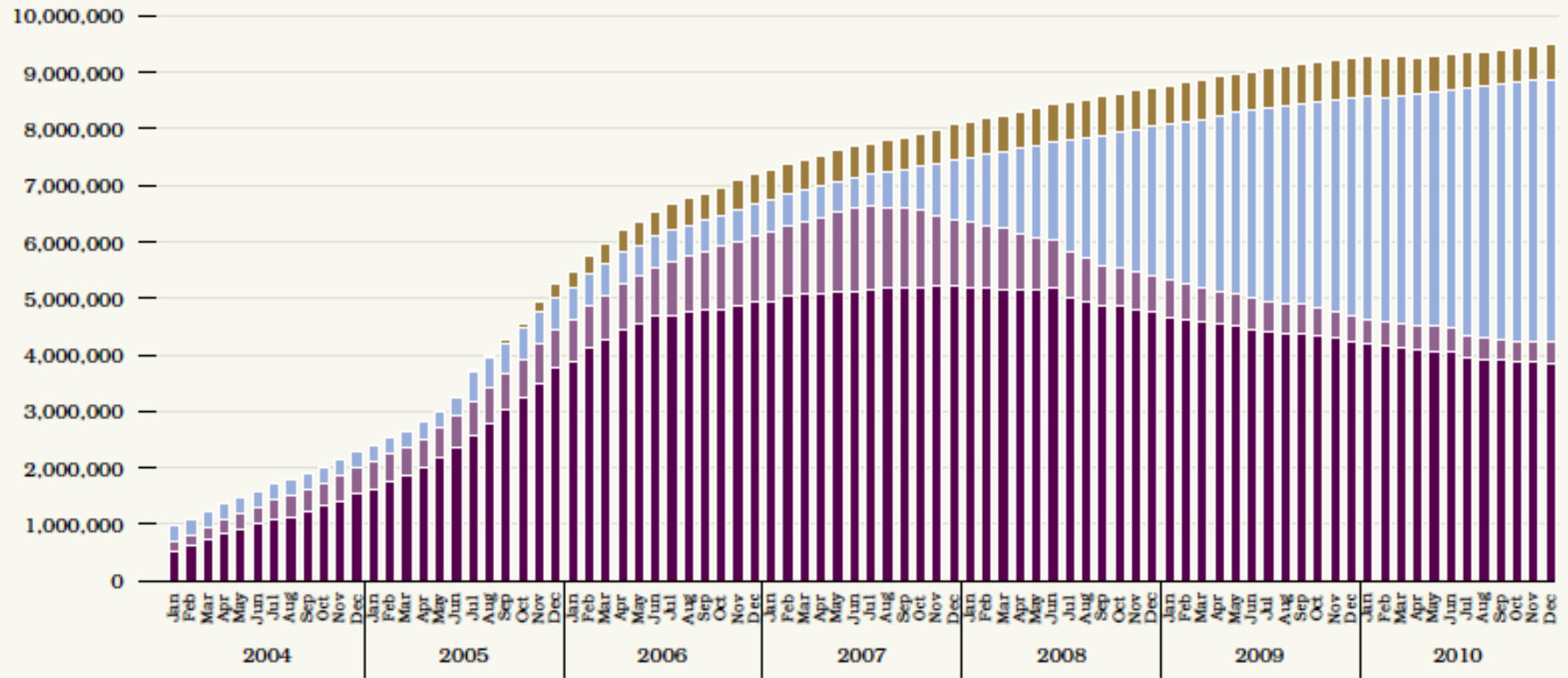
- **Inter-professional teams**

- nurses, nurse practitioners, social workers, pharmacists, dietitians
- only for those in blended capitation or salary

The growth of medical homes in Ontario

EXHIBIT 2 Number of rostered patients in different primary care payment models in Ontario* (excluding Community Health Centres), 2004 to 2010

NUMBER OF ROSTERED PATIENTS



FHG
 FHN
 FHO
 Other

Glazier et al. *Comparison of Primary Care Models in Ontario*. ICES Report

Ontario's alphabet soup

EXHIBIT 1

Primary Care Organizational And Funding Models In Ontario

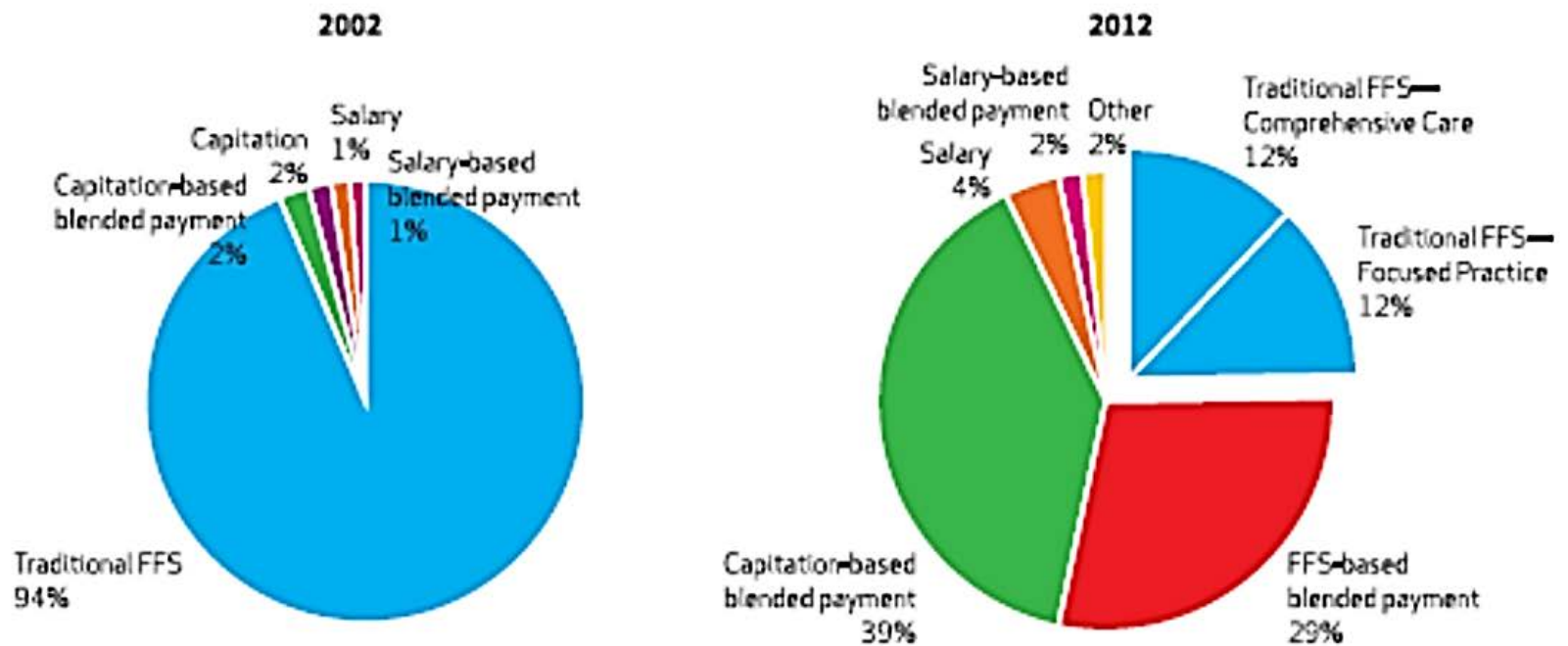
Characteristic	Model (year introduced)						
	Community Health Centre (1979)	Family Health Network (2002)	Family Health Group (2003)	Rural and Northern Physician Group Agreement (2004)	Comprehensive Care Model (2005)	Family Health Team (2005)	Family Health Organization ^a (2007)
Physician reimbursement	Salary	Blended capitation	Blended fee-for-service	Blended salary	Blended fee-for-service	Blended capitation or blended salary	Blended capitation
Targeted financial incentives	No	Yes	Yes	Yes	Yes	Yes	Yes
Formal patient enrollment	No	Yes	Yes	Yes	Yes	Yes	Yes
Minimum group size (physicians)	None	3	3	1	1	3	3
Governance	Community board	Physician-led	Physician-led	Physician-led	Physician-led	Physician-led, community board, or mixed	Physician-led
Interprofessional team members	Yes	Limited	Limited	No	No	Yes	Limited
After-hours care requirements	Yes	Yes	Yes	Yes	Optional	Yes	Yes

•Hutchison B, Glazier RH. Health Affairs 2013;32:695-703

Transformation in Physician Payment

EXHIBIT 2

Distribution Of Ontario Family Physicians, By Payment Model, 2002 And 2012



SOURCES Ontario Ministry of Health and Long-Term Care and Institute for Clinical Evaluative Sciences. **NOTE** FFS is fee-for-service.

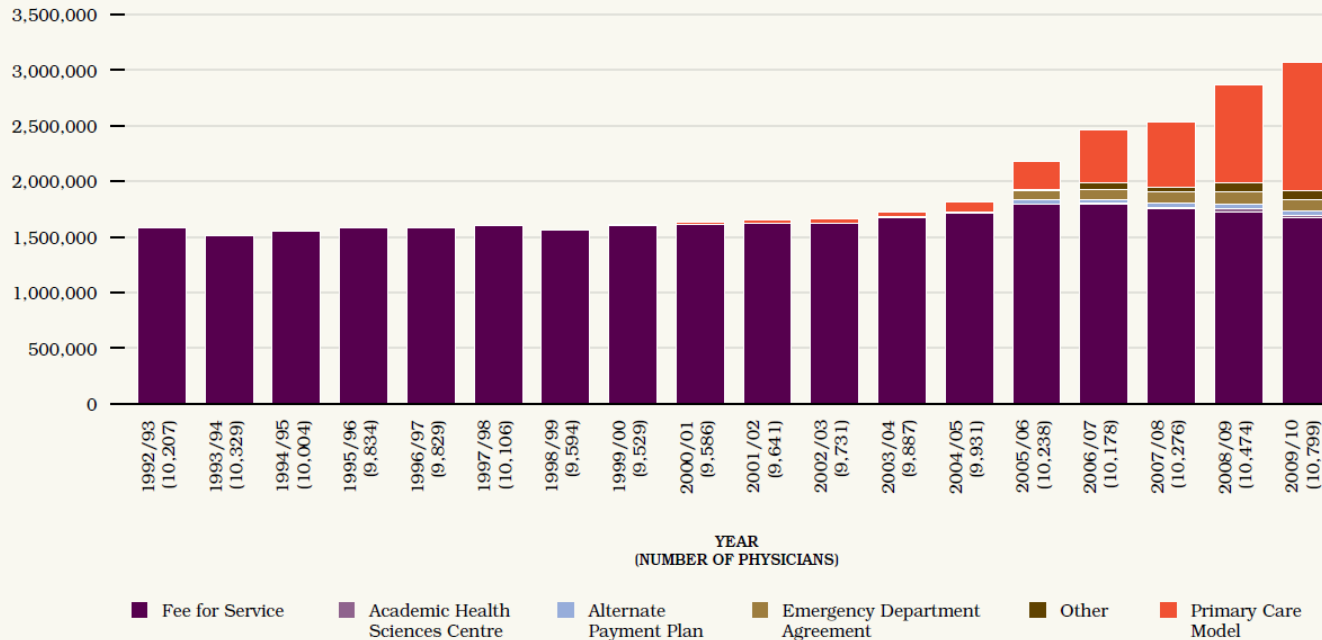
Hutchison B, Glazier R. Health Affairs 2013;32:1-9

Payments

GENERAL PRACTITIONERS/FAMILY PHYSICIANS

EXHIBIT 4.3 Total payments to GP/FPs by payment source, in Ontario, 1992/93 to 2009/10

TOTAL PAYMENTS
(THOUSANDS OF DOLLARS)



What was the impact in Ontario of all this investment and reform in payments, teams?

- **External evaluation**

- commissioned by a third party 4 years after teams formed, without a steering group for the first year and half
- release of the report at the discretion of the Minister, who declined
- report quietly released on the third party's website only after a journalist's freedom-of-information request
- largely supported improved patient and provider experience and improved care in the team model
- was never properly shared with decision-makers, teams, providers or public
- was never used in decision-making

What did the academic research show?

Family Health Teams

- **Inequitable**

- available to 25% of population, not most needy (no case mix adjustment)

- **Effective (but not viewed that way)**

- team-based care associated with greater improvement in quality over time
- team-based care associated with better after-hours care
- team-based care largely cost neutral

- **P4P costly, ineffective**

- incentives for cancer screening and diabetes (never re-visited)

- **Unexpected**

- after-hours requirements associated with increases in ED use
- large 'access bonus' payments went mainly to practices with highest ED use/cost

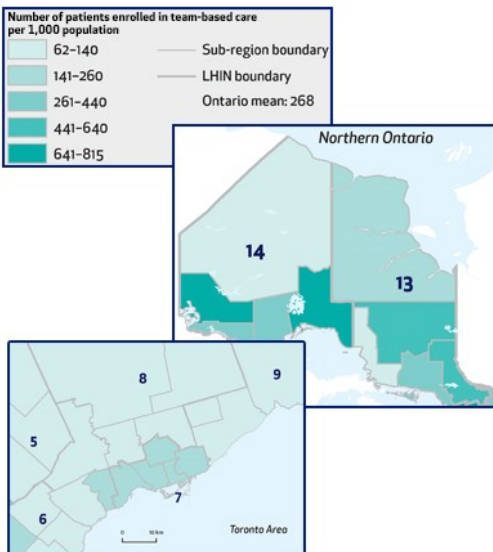
Ontario areas with the highest needs getting the lowest level of care



Report shows that people with low income, recent immigrants and seniors have the most unmet needs for primary care, with the highest areas of need in northern Ontario and major urban centres.

Researchers examined how primary care is provided within Ontario's 14 Local Health Integration Networks (LHINs) and their 76 sub-regions.

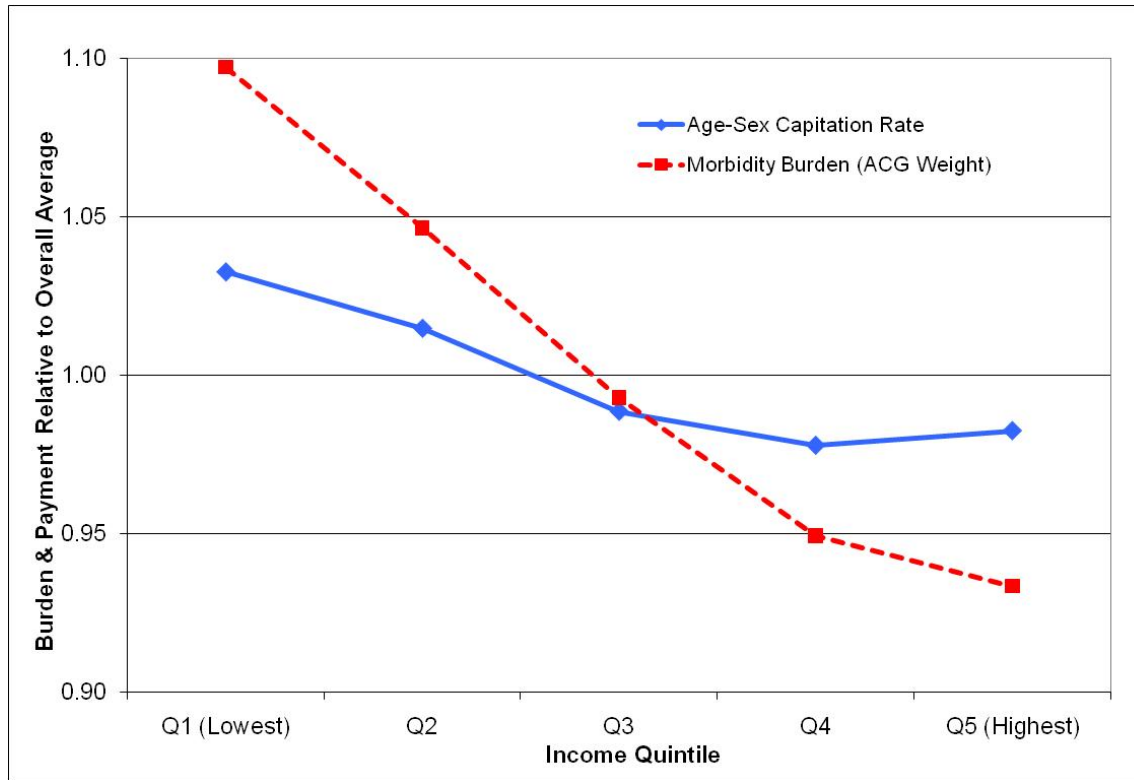
VARIATION IN PRIMARY CARE NEEDS AND USE



Availability of team-based primary care varies 10-fold across Ontario, and six-fold across Toronto.

Although the need for primary care was highest in northern Ontario and in major urban centres, enrolment in team-based primary care was low in these areas.

Capitation Payments



- low income practices under-paid relative to need
- high income over-paid

Sibley LM, Glazier RH. Health Policy. 2012;104(2):186-92.

→ **policy response:**

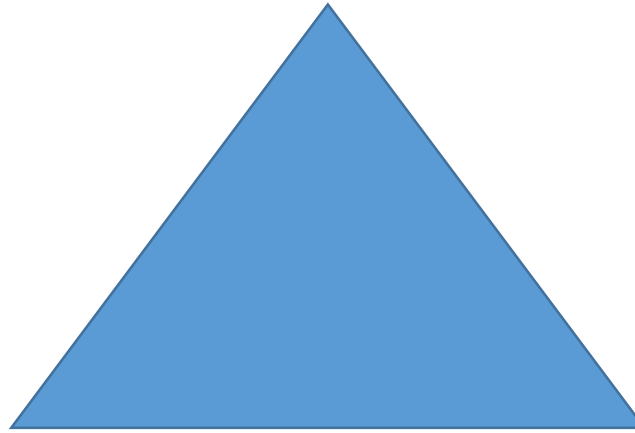
no case-mix adjustment 20 years after initial decisions

→ **impact:**

inequities persist

Policy Paralysis: Case Mix Adjustment

Ministry of Health
too costly, complex

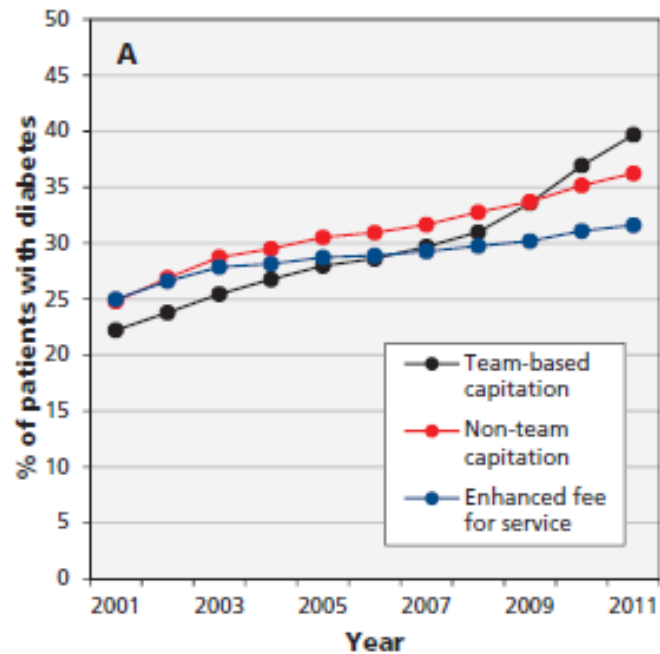


Medical Association
black box,
can be gamed,
cannot take from some
and give to others

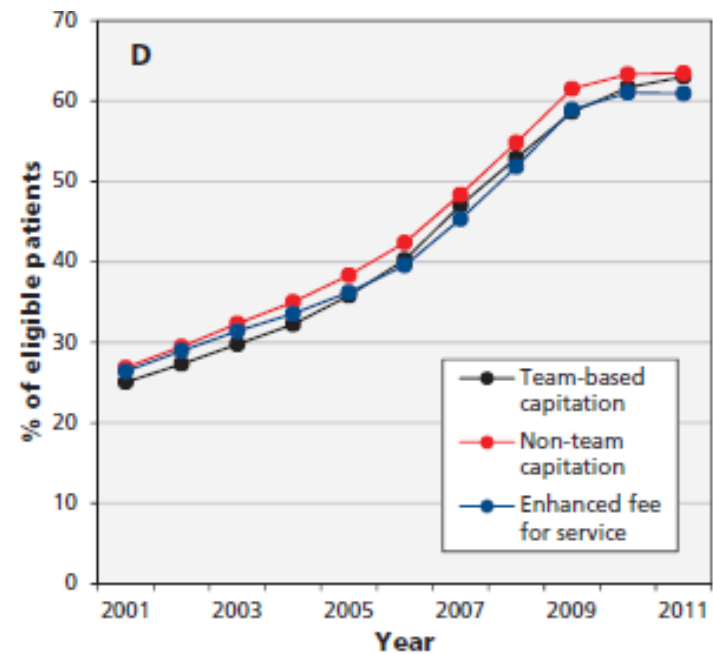
Family Physicians
your measures are wrong,
my patients are different

Family Health Teams and Effective Care

Diabetes processes of care



Colorectal cancer screening



Policy Paralysis: Result for Team-Based Care

	Policy Perception	Evidence
Patient benefits	↓	↑↑
Cost savings	↓	↔
Cost of model	↓	↓
Cost of teams	↓	↔

Result

capitation model capped

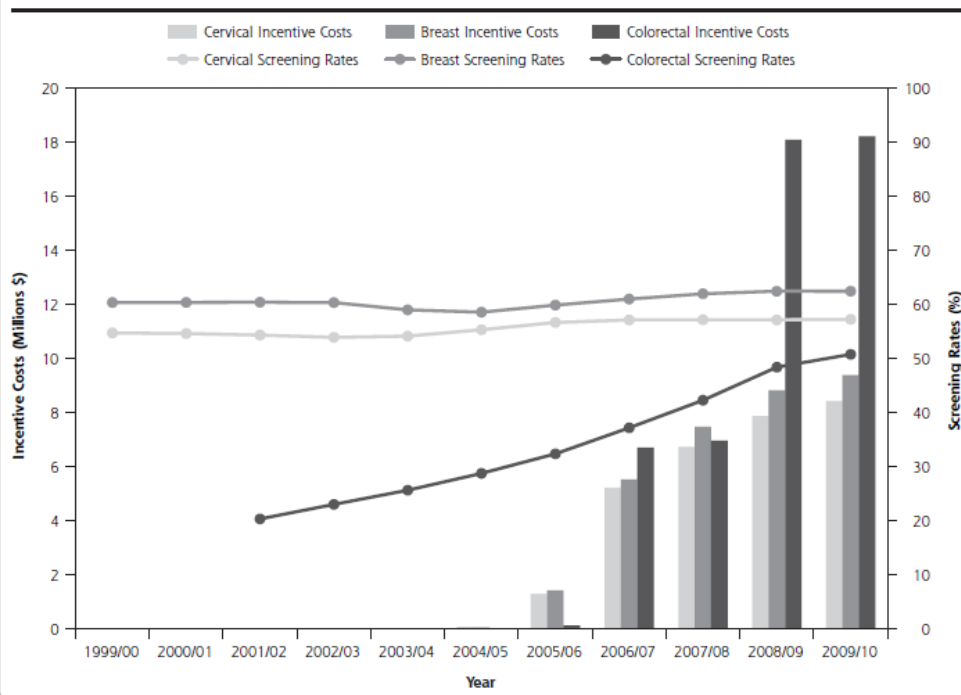
no new teams

75% of population has no access to teams

Pay-for-Performance: Cancer Screening

(up to \$2200 per year for cervix and breast, \$4000 for colorectal)

Figure 1. Age- and sex-standardized cancer screening rates and annual incentive costs from 1990-2000 to 2009-2010.



- No change in cervix or breast cancer screening
- Net increase of 1.7% per year in colorectal screening after incentives
- Combined annual costs more than \$35 million

Kiran T. et al. Ann Fam Med. 2014 Jul;12(4):317-23

→ policy response:

no changes since inception in early 2000s

Unexpected: Medical Homes and After-Hours Care

Adjusted for age, sex, income, co-morbidity

Outcome	Baseline trend before enrolment in a medical home (95% CI)	Trend after enrolment in a medical home [^] (95% CI)	Overall change in trend after enrolment in a medical home (95% CI)
Emergency Department Visit Rate ^a	-2.8% (-2.9% to -2.7%)	1.4% (1.4% to 1.4%)	4.3% (4.2% to 4.4%)

Requiring after-hours care in all new payment models was associated with an increase in ED use

Kiran et al, forthcoming

Unexpected: Large payment called “Access Bonus”

Bonus lost for outside use (eg walk-in clinics) but not ED visits

By Richard Glazier, Michael E. Green, Eliot Frymire, Alex Kopp, William Hogg, Kamila Premji, and Tara Kiran

DOI: 10.1377/hlthaff.2018.05.272
HEALTH AFFAIRS 38,
NO. 4 (2019): -
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The People-to-People Health
Foundation, Inc.

Do Incentive Payments Reward The Wrong Providers? A Study Of Primary Care Reform In Ontario, Canada

- Payments went mainly to doctors in smaller centres (no walk-in clinics)
 - highest ED visits, highest adjusted costs, lowest after-hours care
- Those with no bonus had highest outside use but also highest inside use

→ **policy response:**

no changes since inception in early 2000s

What impact did the academic research have?

- none yet, but there is hope

- **Inequitable**

- available to 25% of population, not most needy (no case mix adjustment)

- **Effective (but not viewed that way)**

- team-based care associated with greater improvement in quality over time
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- after-hours requirements associated with increases in ED use
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→ **Current evidence was included in submissions to binding arbitration**

→ **Committee forming to work on issues**

Why this digression into Ontario funding and team models?

- my own mea culpa
- understanding that policies can be resistant to change, subject to brief windows of opportunity
- evidence may play a small part in decision-making
- resonance with your research???

→ What is the way forward for research impact?

Sorry (I'm Canadian) but one more digression:

- In January 2019 I was appointed Scientific Director of the CIHR Institute of Health Services and Policy Research
- CIHR = Canadian Institutes of Health Research
- CIHR holds an analogous role to NIH



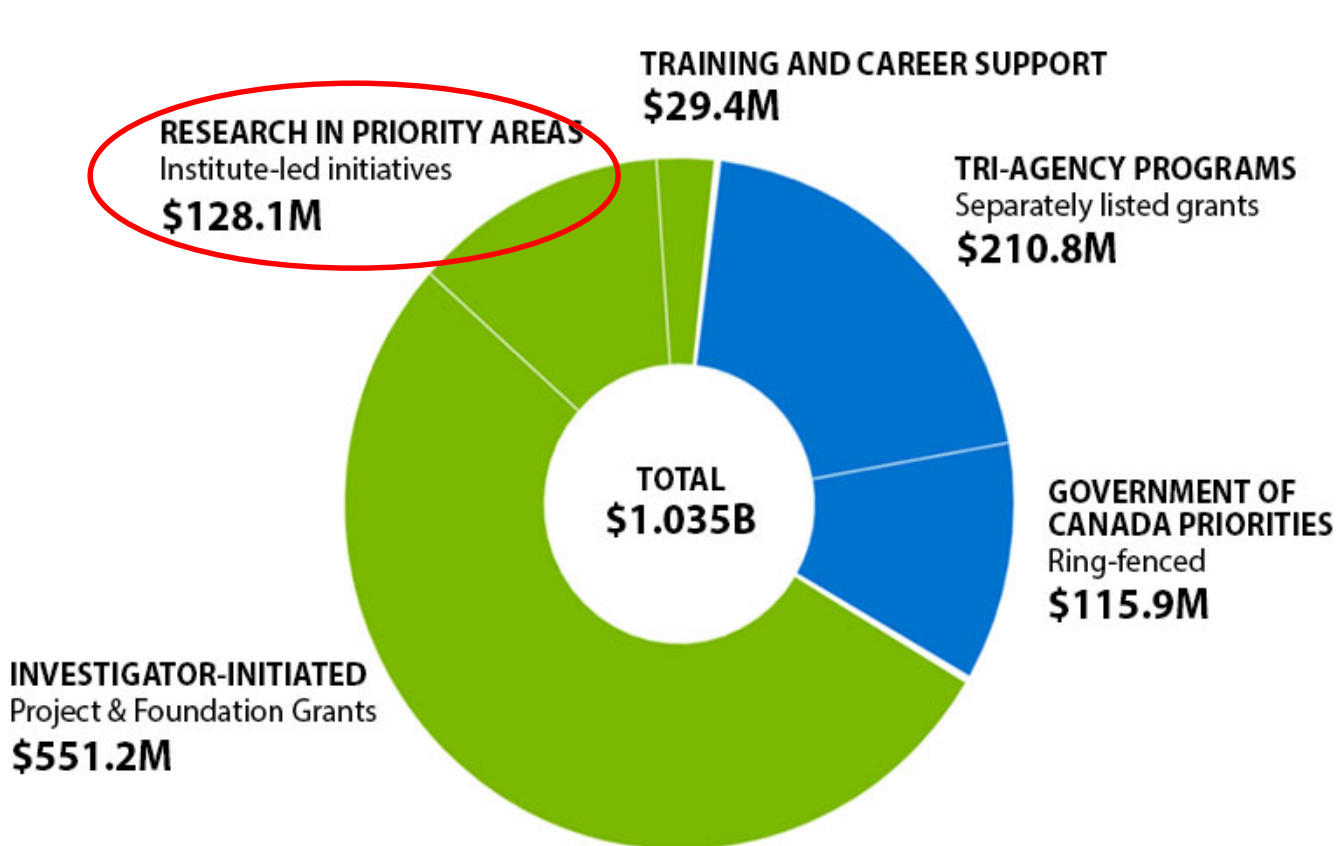
About CIHR

Canadian Institutes of Health Research (CIHR) is Canada's health research investment agency with an annual budget of \$1 billion.

CIHR's mandate is to excel, according to internationally accepted standards of scientific excellence, in the creation of new knowledge and its translation into improved health for Canadians, more effective health services and products and a strengthened Canadian health system.

CIHR's Budget

Since 2007-08, CIHR's annual budget has remained relatively stable at approximately \$1 billion. In 2017-18, CIHR invested \$1,035.4M in grants & awards



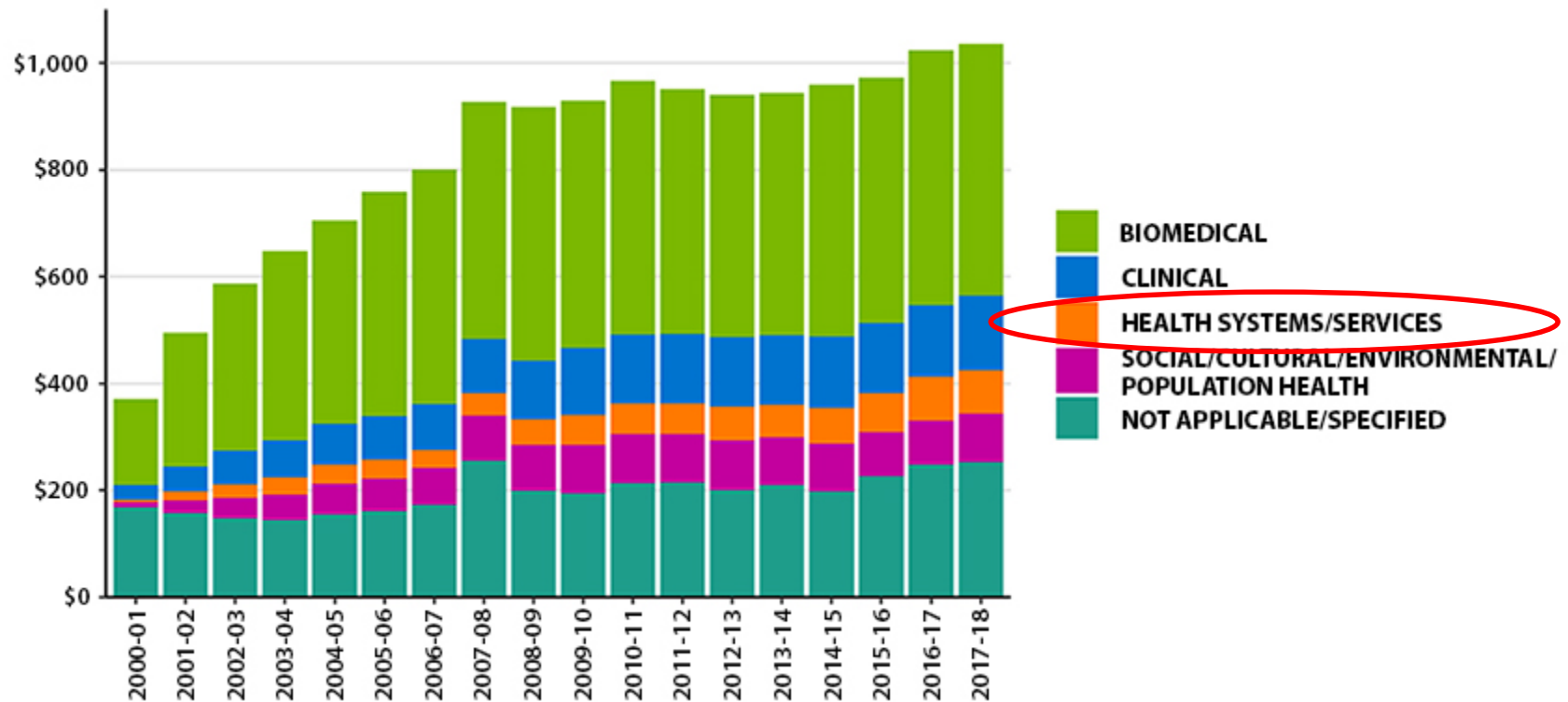
DISCRETIONARY \$708.7M

The discretionary funding category represents the portion of funding over which CIHR has financial management and investment flexibility.

NON-DISCRETIONARY \$326.7M

CIHR's investments through the non-discretionary funding portion of its G&A budget are prescribed by the Government of Canada, therefore, CIHR has very limited authority to use the funding for any purpose other than the one(s) prescribed.

CIHR Investments by Primary Theme Over Time (in millions of dollars)



<http://www.cihr-irsc.gc.ca/e/50218.html>

IHSPR Mandate

The Institute of Health Services and Policy Research (IHSPR) is dedicated to supporting innovative research, capacity-building and knowledge translation initiatives designed to improve the way health care services are organized, regulated, managed, financed, paid for, used and delivered, in the interest of improving the health and quality of life of all Canadians.

Given my own experience with research impact, what do I do now as the country's single largest funder of health services and policy research?*

→ fortunately considerable work has already been done

*many partners: other CIHR institutes, provincial funders, foundations, charities, etc.

Canadian Health Services and Policy Research Alliance (CHSPRA)



Learning Health Systems Working Group

[LEARN MORE](#)

Training Modernization Working Group

[LEARN MORE](#)

Impact Analysis Working Group

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Learning Health System

term coined by Charles Friedman

<http://www.learninghealthcareproject.org/section/background/learning-healthcare-system>

“A Learning Health System is a dynamic healthcare ecosystem in which scientific, social, technological, political and ethical dimensions are aligned, and enable cycles of continuous learning and action to be routinized and embedded across the system, enhancing value in healthcare, through impacts on patients’ care experience, population health and healthcare costs.”



<https://www.chspra.ca/copy-of-impact-analysis-working-gro-2>

Learning Health System

- How far is it from here to there?
- Government decision-making concerning example
- Positive examples: VA, Kaiser, Alberta SCNs
- What is needed?
 - major paradigm shift
 - rapid cycle learning, rapid cycle funding and approvals
 - embedding of researchers, policy-makers and trainees
 - other mechanisms for meaningful partnership/engagement
 - building receptor capacity – research literacy
 - implementation science
 - science of science

Strategies to Build the Learning Health System

Training modernization

“We have to rethink the way we train our PhDs and our postdoctoral fellows. We know that most PhD graduates now work outside traditional academic settings in public, private and not-for-profit organizations and many feel underprepared to make an impact in these organizations. This is a waste of talent, resources and opportunity. The Pan-Canadian Training Modernization Initiative will change this and ensure that Canada’s HSPR PhD graduates are equipped with the rigorous training and the practical experience required to bring profound change to our health system.”



The HSI Fellowship National Cohort (2017 & 2018)



95 fellows (20 PhDs + 75 PDFs)



62 health system host partner organizations



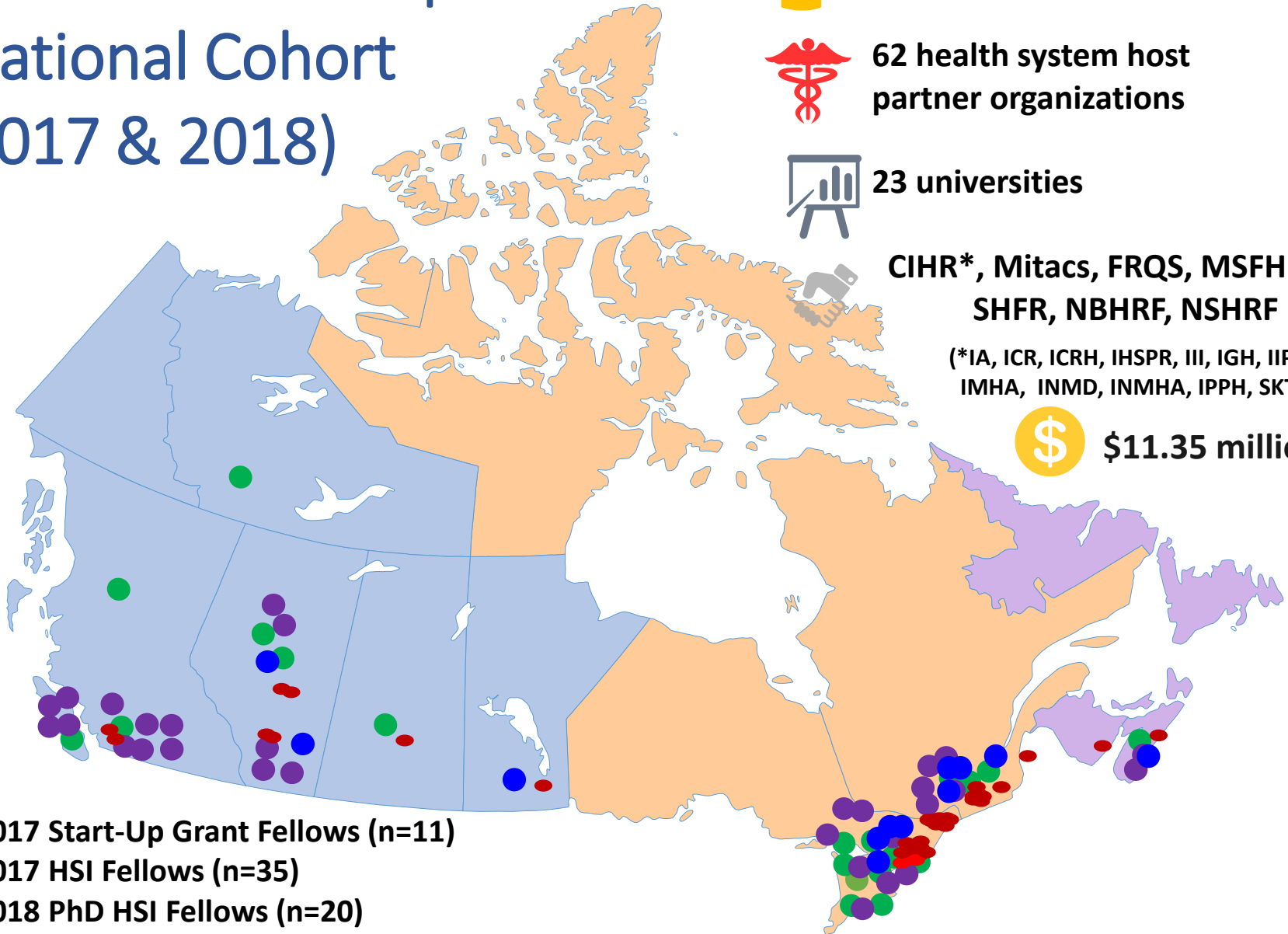
23 universities

CIHR*, Mitacs, FRQS, MSFHR, SHFR, NBHRF, NSHRF

(*IA, ICR, ICRH, IHSPR, III, IGH, IIPH, IMHA, INMD, INMHA, IPPH, SKTE)



\$11.35 million

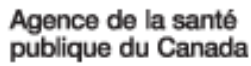
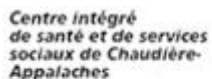
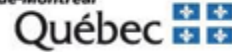
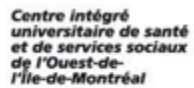


- 2017 Start-Up Grant Fellows (n=11)
- 2017 HSI Fellows (n=35)
- 2018 PhD HSI Fellows (n=20)
- 2018 Post-doc HSI Fellows (n=29)

2018 HSI Fellowship Partners



Health through wellness



Fonds de la recherche en santé



Health System Impact Fellowship: Key Components

Fellowship Stipend

(co-funded with host partner organization)

Dedicated professional development training and research allowance

(to develop enriched core competencies)

Experiential Learning focused on an Impact Goal

(embedded directly within health system organization)

Protected academic time

(for post-doctoral research /doctoral commitments)

Co-supervision and mentorship

(from health system & academic leaders)

National Cohort

(to connect with other fellows & mentors)

Inspired by AcademyHealth's Delivery System Science Fellowships

Strategies to Build the Learning Health System

Impact assessment

“For Health Services Policy Research to impact the health of Canadians, a shared understanding of the desired impacts and those communities affected is required. We need to go back to first principles and investigate how research evidence informs policy and practice and explore the different ways to assess those impacts. Moving forward in any meaningful way requires a shared language and practical tools to help us better assess, demonstrate and communicate the impacts.”



Impact assessment

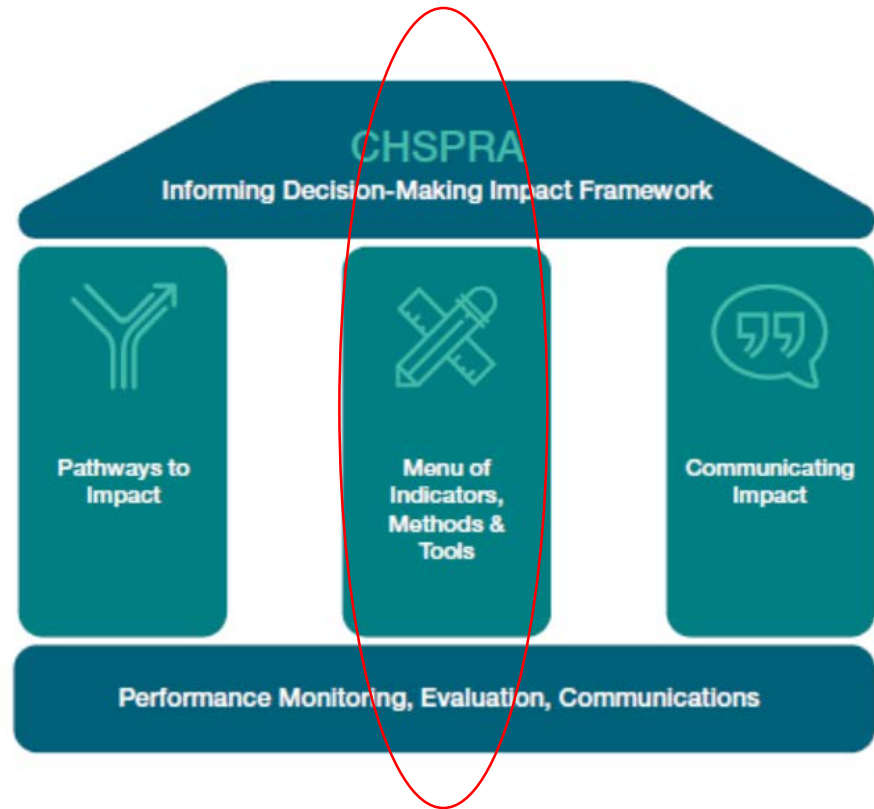
Canadian Health Services and
Policy Research Alliance



Making an Impact:

A shared framework for assessing the impact of health services and policy research on decision-making

PREPARED BY THE IMPACT ANALYSIS WORKING GROUP OF THE CANADIAN HEALTH SERVICES AND POLICY RESEARCH ALLIANCE (CHSPRA)
AUGUST 2016



The core set of 12 indicators prioritized by the Indicator Review Panel listed by their ranking within each section of the Informing Decision-Making Pathways to Impact.



Impact Indicators

Impact Analysis Working Group <https://www.chspra.ca/>

Collective Action to Co-Identify and Support HSPR Focus Area Short Term

- Important problems warranting HSPR attention are co-identified with decision makers [number and description of type of problems].
- Number and type of HSPR funding programs/ projects according to HSPR priority theme areas
- Trend in funding investments over time for HSPR [per cent (%) growth of HSPR funding over time, open and strategic, and by HSPR priority theme areas].

Produce Conditions and Evidence for Translation Short Term

- Number of HSPR projects that include meaningful participation of patients or members of the public as appropriate.
- Number and per cent of policies that cite research evidence
- Number of HSPR researchers engaged in capacity development with end user audiences.

Inform Decisions about HSP Innovations Medium Term

- Research evidence directly informed agenda setting, priority-setting, policy debates, briefings: e.g. invited policy papers and consultancies, information requests by decision-makers, invited meetings and interactions with decision-makers.
- Research directly underpinned policy decision (e.g. legislation, regulation, program, practice, behaviour, service delivery).
- Evidence of participation of researchers in process of making decisions (e.g. participation in policy networks, boards, advisory groups).

Inter-mediate by Target Sectors Medium Term

- Number and per cent of policies with use of HSPR evidence in their development.
- Number and per cent of end users that reported HSPR evidence was useful.
- Number of public service and broader public sector organizations formally requiring use of research to inform HSP (over time).

Large literature on developing impact narratives: stories persuade



Hosted by



Developing effective impact narratives

Jonathan Grant & Alexandra Pollitt

King's College London

PRINCIPLE PARTNER



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Impact considerations for researchers

- If you are developing measures, understanding mechanisms, doing smaller-scale interventions
 - you are probably not thinking of impact
 - but maybe you should be
-
- Who are the measures/mechanisms/interventions for?
 - Have they had input/are they involved?
 - What will be useful?
 - How will it be applied?
 - How can you tell if your research made a contribution?
 - identify your outcomes from the start and build in measures
 - engage end audiences from the start → clinicians, patients, policy-makers

Impact considerations for researchers

- If you are doing larger-scale PBRN research, interventions, data linkage studies, implementation research
 - you are probably thinking of impact
 - did you design for impact?
-
- You have involved the end-users from the start
 - patients, caregivers, clinicians, policy-makers
 - are they real members of the team?
 - do they have a real stake in the outcome?
 - did you engage those responsible for later spread, scale and implementation?
 - You have a theory of causation or logic model linking the intervention/exposure with outcomes
 - are you tracking resource needs for implementation?
 - are you collecting contextual data about what works in local settings?
 - Assuming a successful intervention
 - do you have a business case and strategy for broad implementation from the start?
 - how will you understand considerations for local implementation?

Rewarding Success: Changing the Paradigm of How Research Is Rewarded

HealthcarePapers [18\(3\) October 2019](#) : 41-49.

[Jessica Nadigel and Robyn Tamblyn](#)

Abstract

- Following the movement of other organizations that are experimenting with innovative models of funding, the Canadian Institutes of Health Research partnered with four Canadian provinces to pilot the Rewarding Success Initiative.
- This initiative rewards and incentivizes research teams to develop effective partnerships with health system payers and, together, implement innovative solutions in the health system that will enhance value-based care, health system sustainability and health outcomes.

SPOR Rewarding Success Initiative

CIHR partnered with four Canadian provinces to pilot the Rewarding Success Initiative, which rewards and incentivizes research teams to develop effective partnerships with health system payers and, together, implement innovative solutions in the health system that will enhance value-based care, health system sustainability and health outcomes.

What is 'Rewarding Success'?



- A new funding model to incentivize multidisciplinary teams to partner with health system organizations and payers to improve health outcomes and value for investment
- Motivates key healthcare stakeholders to partner in a different way
- Uses innovative clinical trial methodology that allows for iterative implementation and evaluation
- Allows partners to benefit from savings produced in the healthcare system

Why is Rewarding Success Different?



- High level of involvement from the Ministries of Health and the SUPPORT Units in identifying ideas addressing provincial priorities
- Multi-staged funding opportunity over 6 years
- Research teams partner with healthcare payers who are willing to 'pay back' from the cost savings generated from successful implementation
- All impacts and the value and timing of the pay back are negotiated between the research team and the payer prior to funding

Ending with a future vision

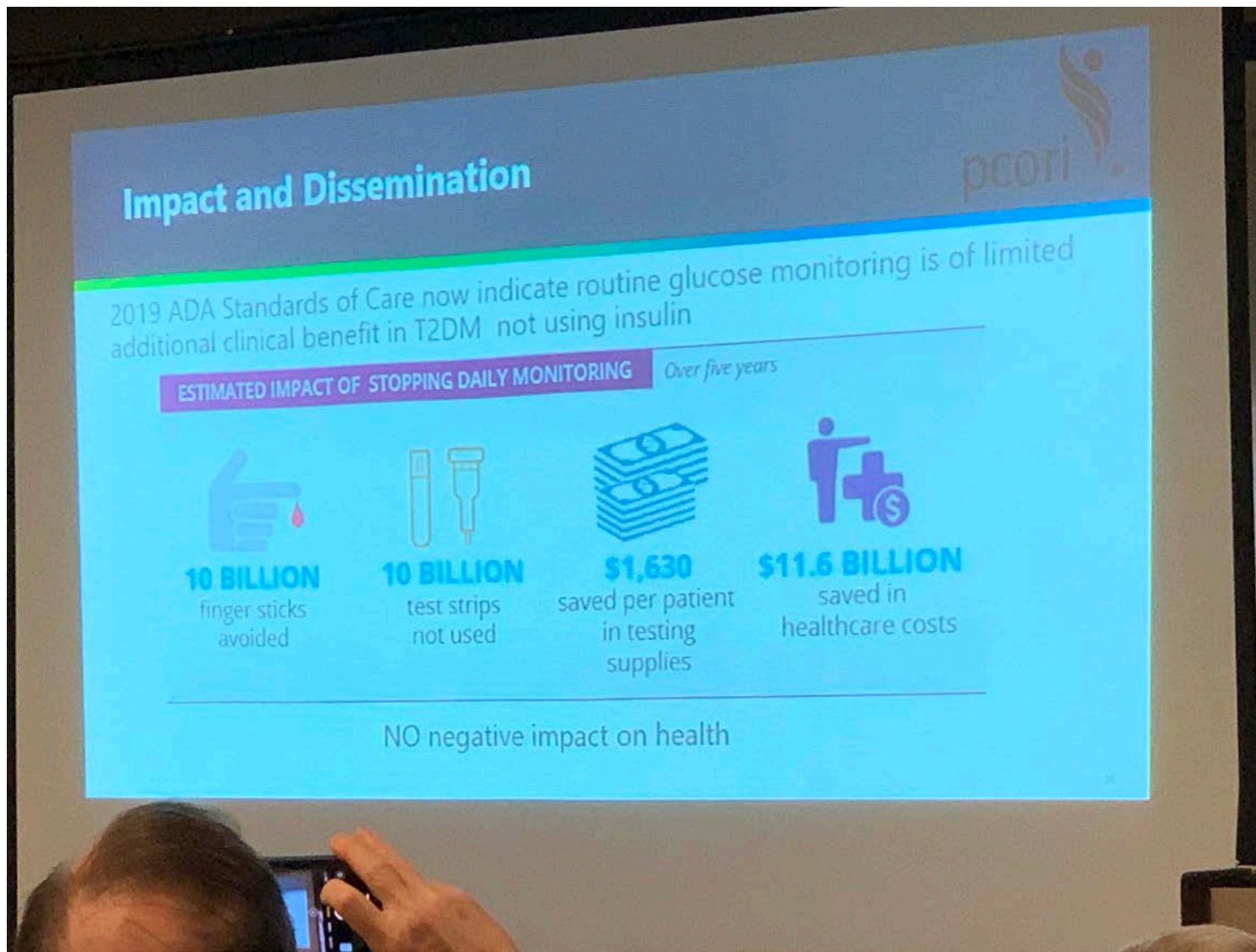
- Future state
 - technology-enabled visits
 - data enabled health care
 - evidence used throughout health care and system policies
 - AI informed decision algorithms for patients providers, systems
 - rapid evaluation and application of evidence
- What roles are left for the human providers?
 - interpret and judiciously apply the algorithms
 - personal relationships and caring
 - understanding beliefs, fears, strengths, supports, values, preferences
 - making decisions in complex adaptive systems, non-linear causal relationships

Ending on a positive, hopeful note

- a colleague developed a patient attribution method for virtual accountable care organizations in Ontario
 - published in 2013 with little interest or uptake
- in 2019, adopted as the attribution model for implementation of province-wide integrated accountable care Ontario Health Teams
- sometime research impact is transformative but delayed

Ending with a question

How long will it take to implement?



Priorities that matter: Share your input



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